NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

BUDGET ESTIMATES

FISCAL YEAR 2007

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CONGRESSIONAL SUBMISSION

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Budget Estimates, Fiscal Year 2007
Congressional Submission

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Exhibit 1 to
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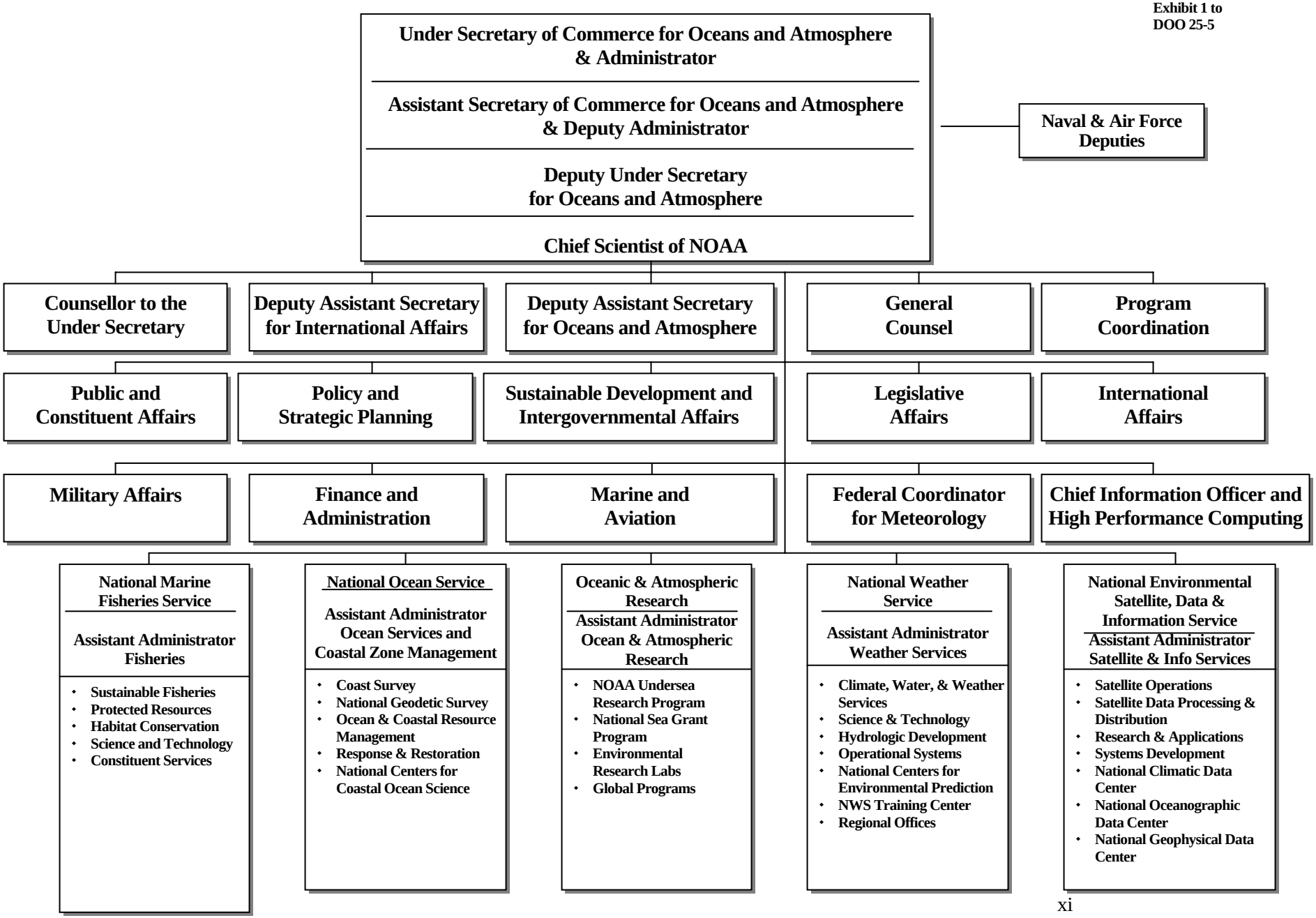

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Line Office Totals *
(Dollar amounts in thousands)

Line Office	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
National Ocean Service	1,152	542,034	1,219	493,151	1,221	358,182	1,227	394,455	6	36,273
National Marine Fisheries Service	2,594	676,515	2,552	667,226	2,552	567,924	2,587	648,988	35	81,064
Oceanic and Atmospheric Research	689	404,106	710	370,241	714	301,027	714	338,273	-	37,246
National Weather Service	4,621	710,989	4,597	746,844	4,597	746,001	4,606	783,446	9	37,445
National Environmental Satellite, Data, and Information Service	598	176,060	717	177,737	717	144,594	717	149,579	-	4,985
Program Planning and Integration	10	2,464	-	-	-	-	-	-	-	-
Program Support	1,945	382,764	1,986	376,783	1,987	347,536	1,996	383,424	9	35,888
Adjustments to Budget Authority	-	(9,730)	-	(11,629)	-	-	-	-	-	-
Total	11,608	2,885,202	11,781	2,820,353	11,788	2,465,264	11,847	2,698,165	59	232,901

The dollars in this table represent budget authority.

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Line Office	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/ Decrease
National Ocean Service	-	-	-	-	-
Operations, Research and Facilities	542,034	493,151	358,182	394,455	36,273
Procurement, Acquisition and Construction	126,627	91,311	4,873	12,673	7,800
Other Accounts	16	(1,000)	1,000	(1,000)	(2,000)
Total NOS	668,677	583,462	364,055	406,128	42,073
National Marine Fisheries Service	-	-	-	-	-
Operations, Research and Facilities	676,515	667,226	567,924	648,988	81,064
Procurement, Acquisition and Construction	31,048	30,444	-	-	-
Other Accounts	118,434	103,150	85,272	85,272	-
Total NMFS	825,997	800,820	653,196	734,260	81,064
Oceanic and Atmospheric Research	-	-	-	-	-
Operations, Research and Facilities	404,106	370,241	301,027	338,273	37,246
Procurement, Acquisition and Construction	9,663	9,369	9,395	10,379	984
Total OAR	413,769	379,610	310,422	348,652	38,230
National Weather Service	-	-	-	-	-
Operations, Research and Facilities	710,989	746,844	746,001	783,446	37,445
Procurement, Acquisition and Construction	89,215	101,399	92,355	98,420	6,065
Total NWS	800,204	848,243	838,356	881,866	43,510
National Environmental Satellite, Data, and Information Service	-	-	-	-	-

Line Office	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/ Decrease
Operations, Research and Facilities	176,060	177,737	144,594	149,579	4,985
Procurement, Acquisition and Construction	731,388	774,483	771,848	884,304	112,456
Total NESDIS	907,448	952,220	916,442	1,033,883	117,441
Program Planning and Integration	-	-	-	-	-
Operations, Research and Facilities	2,464	-	-	-	-
Total Program Planning and Integration	2,464	-	-	-	-
Program Support	-	-	-	-	-
Operations, Research and Facilities	382,764	376,783	347,536	383,424	35,888
Procurement, Acquisition and Construction	63,918	112,537	35,542	20,691	(14,851)
Other Accounts	-	1,645	2,012	2,012	-
Total Program Support	446,682	490,965	385,090	406,127	21,037
Adjustments to Budget Authority	-	-	-	-	-
Operations, Research and Facilities	(9,730)	(11,629)	-	-	-
Procurement, Acquisition and Construction	-	(13,371)	-	-	-
Total BA Adj	(9,730)	(25,000)	-	-	-
Total NOAA Direct Obligations*	4,055,511	4,030,320	3,467,561	3,810,916	343,355

Department of Commerce
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
EXECUTIVE SUMMARY

1. Introduction

In FY 2007, NOAA is requesting $3,684,147,000 in total appropriations, a net increase of $345,355,000, or 10.3% over the current program level. Included in this request is $29,649,000 for adjustments to the current program (ATB)/inflationary increases. Receipt of this funding is extremely important to NOAA's ability to function. Investing in our workforce and ensuring that we have sufficient funds to support our dedicated women and men is one of NOAA's highest priorities. This increase is spread across NOAA's five strategic goals.

This submission provides NOAA with the resources to fulfill its role to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. NOAA is requesting investments in areas that support implementation of the President's agenda including strengthening ecosystem approaches to management, developing an integrated ocean observing system, upgrading platform capabilities (satellites, aircraft, ships), providing adequate compensation and facilities for our people, raising awareness and understanding about oceans and the atmosphere through world class education programs, and implementing the Climate Change Science Plan. This budget ensures that NOAA products and services such as satellite imagery, tornado warnings, navigational charts, fishery stock assessments, hurricane tracking, harmful algal bloom predictions, severe weather forecasts, and coastal zone management that are used every day by millions of Americans throughout the Nation will continue to be provided.

On December 17, 2004, President Bush released the *U.S. Ocean Action Plan*, the administration's response to the September 20, 2004 report from the U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century* that contained the Commission's final recommendations for a new, comprehensive national ocean policy. NOAA's FY 2007 budget request includes approximately $183 million in ocean- and coastal-related funding increases that support implementation of the plan and commission recommendations.

This budget leverages NOAA's most important asset – its people. It does so by applying their knowledge, experience, ingenuity and dedication to the challenges of the 21st century via the integration that flows from NOAA's FY2005-2010 Strategic Plan. The five goals of the plan – protecting, restoring, and managing the use of coastal and ocean resources through ecosystem-based management; understanding climate variability and change to enhance society's ability to plan and respond; providing critical weather and water information; supporting the Nation's commerce with information for safe, efficient, and environmentally sound transportation; and providing critical support to the mission goals – point NOAA towards serving the Nation's

environmental and economic needs. This submission also supports Goal #3 of the Department of Commerce's strategic plan: Observe, protect and manage the earth's resources to promote environmental stewardship.

NOAA will continue to apply proven management approaches to ensure that its resources are used efficiently and effectively, including integration (at both the organizational and systems levels), partnership, and early identification of the essential support requirements implicit in our long-range plans.

FY 2007 Goals

The FY 2007 NOAA budget submission ties directly to our Strategic Plan. The FY 2007 budget was constructed using a process based on the five strategic goals and the 44 programs that constitute them. The result is a budget that recognizes the inter-relationship of the many programs that cut across our product and service lines and that demonstrates the importance of addressing critical environmental issues in a multi-disciplinary manner. Execution of the strategies that this budget supports will be framed within the five fundamental activities that NOAA uses to ensure quality results: 1) *Monitor and observe* the land, sea, atmosphere, and space to create an observational and data collection network that tracks Earth's changing systems; 2) *Understand and describe* how natural systems work together through investigation and interpretation of information; 3) *Assess and predict* the changes of natural systems and provide information about the future; 4) *Engage, advise, and inform* individuals, partners, communities, and industries to facilitate information flow, assure coordination and cooperation, and provide assistance in the use, evaluation, and application of information; and 5) *Manage* coastal and ocean resources to optimize benefits to the environment, the economy, and public safety. A summary of highlights by NOAA Strategic Goal follows.

Ecosystems **$107.6 million increase**

Coastal areas are among the most developed in the Nation. More than half the population lives on less than one-fifth of the land in the contiguous United States. Nationwide, coastal county population is increasing by almost 3,500 people a day. Furthermore, employment in near shore areas is growing three times faster than population. Coastal and marine waters support over 28 million jobs and provide a tourism destination for nearly 90 million Americans a year. The value of the ocean economy to the United States is over $115 billion. The value added annually to the national economy by the commercial and recreational fishing industry alone is over $48 billion. U.S. aquaculture sales total almost $1 billion annually. With its Exclusive Economic Zone of 3.4 million square miles, the United States manages the largest marine territory of any nation in the world.

NOAA has a specific mandate from Congress to be a lead Federal agency in protecting, managing, and restoring coastal and marine resources. To achieve balance among ecological, environmental, and social influences, NOAA has adopted an *ecosystem approach to management*. The approach is collaborative, integrating the concerns, priorities, and expertise of all citizens and sectors in the management of coastal and marine resources. Increased public knowledge of ecosystems and the principles of sustainable development, and the active involvement of the public as stewards for coastal and marine ecosystem issues in their communities, are critical components of this approach. Developed countries such as the United States have a responsibility for stewardship of the marine ecosystem and for setting standards to protect and manage the shared resources and harvests of the oceans.

Believing that it is possible to balance sustainable economic development and healthy functioning marine ecosystems, we seek to provide an example for the rest of the world by comprehensively managing resources of the world's oceans and coasts.

NOAA is requesting an increase of $107.6 million over the current program. This request will enable NOAA to significantly increase our understanding, assessment and prediction of coastal and marine ecosystems, increase the public awareness of scientific and management issues, and implement innovative new management strategies to protect, restore and manage uses of these valuable resources. Some of the specific increases within this goal are 1) $8.0 million for expanded annual stock assessments; 2) $7.0 million for Economics and Social Science Research; 3) $6.0 million for protected species research and management programs.

Climate **$24.1 million increase**

Climate shapes the environment, natural resources, economies, and social systems that people depend upon worldwide. While humanity has learned to contend with some aspects of climate's natural variability, major climatic events, combined with the stresses of population growth, economic growth, public health concerns, and land-use practices, can impose serious consequences on society. The 1997-98 El Nino, for example, had a $25 billion impact on the U.S. economy — property losses were $2.6 billion and crop losses approached $2 billion. Long-term drought leads to increased and competing demands for fresh water with related effects on terrestrial and marine ecosystems, agricultural productivity, and even the spread of infectious diseases. Decisions about mitigating climate change also can alter economic and social structures on a global scale. NOAA delivers reliable climate information in useful ways to help minimize risks and maximize opportunities for decisions in agriculture, public policy, natural resources, water and energy use, and public health. We continue to move toward developing a seamless suite of weather and climate products. Whereas the Weather and Water Goal aims to expand predictive capacity out to two weeks, the Climate Goal addresses predictions on time scales of up to decades or longer.

NOAA is requesting a net increase of $24.1 million over the current program. Some of the specific increases within this goal are 1) $6.0 million for data management and communications for the Integrated Ocean Observing System; 2) $4.0 million for coping with drought - Regional Integrated Sciences and Assessments (RISA) and 3) $2.0 million for developing new climate reanalysis data sets that will improve operational climate prediction.

Weather and Water **$46.1 million increase**

Floods, droughts, hurricanes, tornadoes, tsunamis, wildfires, and other severe weather events cause $11 billion in damages each year in the United States. Weather is directly linked to public health and safety, and nearly one-third of the U.S. economy (about $3 trillion) is sensitive to weather and climate. With so much at stake, NOAA's role in understanding, observing, forecasting, and warning of environmental events is expanding. With our partners, we seek to provide decision makers with key observations, analyses, predictions, and warnings for a range of weather and water conditions, including those related to water supply, air quality, space weather, and wildfires. Businesses, governments, and non-governmental organizations are getting more sophisticated about how to use this weather and water information to improve operational efficiencies, to manage environmental resources, and to create a better quality of life.

NOAA is strategically positioned to conduct sound, scientific research and provide integrated observations, predictions, and advice for decision makers who manage environmental resources, ranging from fresh water supplies to coastal ecosystems to air quality. Realizing that our information and services bridge both weather and climate time scales and local to global spatial scales, we will continue to collect and analyze environmental data and issue forecasts and warnings that help protect health, life and property and enhance the U.S. economy. We recognize that future needs can be met even better by exploring new concepts and applications, and we will invest in robust weather and water research.

NOAA requests an increase of $46.1 million over the current program to serve society's needs for weather and water information. Some of the specific increases within this goal are 1) $12.4 million to strengthen the U.S. Tsunami Warning Network; 2) $3.5 million for frequency conversion for the NOAA Profiler Network; and 3) $2.5 million for the National Weather Service Telecommunication Gateway.

Commerce & Transportation **$19.5 million increase**

NOAA's information products and services are essential to the safe and efficient transport of goods and people at sea, in the air, and on land and waterways, which is crucial to the U.S. economy. The U.S. marine transportation system ships over 95 percent of the tonnage and more than 20 percent by value of foreign trade through U.S. ports, including 48 percent of the oil needed to meet America's energy demands. At least $4 billion is lost annually due to economic inefficiencies resulting from weather-related air-traffic delays. Improved surface weather forecasts and specific user warnings would reduce the 7,000 weather-related fatalities and 800,000 injuries that occur annually from crashes on roads and highways. The injuries, loss of life, and property damage from weather-related crashes cost an average of $42 billion annually. More accurate and timely warning associated with severe weather threats, marine navigational products and services, and improved positioning data can better support the growing commerce on our roads, rails, and waterways through improvements in transportation safety and just-in-time efficiencies.

NOAA requests $19.5 million over the FY 2007 Base to meet mission and mandates, sustain ongoing operations, and be able to meet the needs of the Nation. Some of the specific increases within this goal are 1) $2.0 million for Tide and Current Database; 2) $1.2 million for aviation weather; and 3) $0.7 million for expanding the capacity of the Physical Oceanographic Real Time Systems (PORTS®) and updating tidal currents in critical areas.

Mission Support **$148.1 million increase**

Strong, effective, and efficient support activities are necessary for us to achieve our four Mission Goals. Our facilities, ships, aircraft, environmental satellites, data-processing systems, computing and communication systems, and our approach to management provide the foundation of support for all of our programs. This critical foundation must adapt to an evolving mission and also must support U.S. homeland security by maintaining continuity of operations and by providing NOAA services, such as civil alert relays through NOAA Weather Radio and air dispersion forecasts, in response to national emergencies.

NOAA ships, aircraft, and environmental satellites are the backbone of the global Earth observing system and provide many critical mission support services. To keep this capability strong and current with our Mission Goals, NOAA has requested funding adequate to ensure access to safe and efficient ships and aircraft through the use of both NOAA platforms and those of other agency, academic, and commercial partners.

Leadership development and program support are also essential for achieving our Mission Goals. NOAA is committed to organizational excellence through management and leadership across a "corporate" NOAA. This request supports NOAA's pursuit of state-of-the-art and secure information technology and systems and the availability of right-sized, cost-effective, and safe facilities.

NOAA is requesting an increase of $148.1 million over the FY 2007 Base to fund critical Mission Support programs. Some of the specific increases within this goal are 1) $11.0 million to prepare the NOAA Center for Weather and Climate Prediction (NCWCP); 2) $4.5 million for calibration and temporary berthing for the vessel HENRY B. BIGELOW; 3) $4.1 million for the Hollings and Nancy Foster Scholarships.

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FY 2007 ANNUAL PERFORMANCE PLAN (APP)

The National Oceanic and Atmospheric Administration (NOAA) is a future-minded environmental science agency whose mission is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet the Nation's economic, social, and environmental needs.

Success in a global economy is linked not only to the ability to respond or react to events but to anticipate and forecast them. Moreover, understanding ocean and atmosphere is essential to sustaining the United States' environmental and economic health. As an agency, NOAA aims to become the global leader for integrated management of the oceans and the atmosphere. Millions of people in the United States depend on NOAA's science, service, and stewardship. NOAA monitoring and prediction products such as satellite imagery, tornado warnings, navigational charts, fishery stock assessments, hurricane tracking, El Niño assessment and forecasts, harmful algal bloom predictions, severe weather forecasts, and coastal zone management are essential to the lives of millions of people in the United States. For example, lives, safety, and businesses depend on reliable weather and climate forecasts to minimize disruption in economic activity and everyday life. Accurate predictions of severe weather safeguard both lives and economic structure of communities. A deeper understanding of long-term climate and environmental trends can impact daily activities from the strategic planting of crops to better management of water and energy resources. Coastal communities, representing over thirty percent of the U.S. gross domestic product, depend heavily on sustaining healthy marine habitats and a robust ocean ecosystem.

NOAA's science-based management approach provides a solid foundation for economic growth and a healthy economy. New priorities for global observation systems, international cooperation, and homeland security will improve NOAA's delivery and effectiveness of services for all of its mission goals. Ultimately, NOAA's success will be measured in the quality of information, service, and benefits provided to customers – the American public.

Priorities/Management Challenges

The 21st century poses complex challenges for NOAA. As the new century unfolds, new priorities for NOAA action are emerging in the areas of climate change, freshwater supply, ecosystem management, and homeland security. Every aspect of NOAA's mission – ranging from managing coastal and marine resources to predicting changes in the Earth's environment – faces a new urgency to address intensifying national needs related to the economy, the environment, and public safety.

NOAA's Strategic Plan addresses global emerging trends and guides NOAA business processes to address those trends. Significant reports such as the Preliminary and Final Reports of the U.S. Commission on Ocean Policy and the Strategic Plan for the U.S. Climate Change Science Program cite growing

needs with respect to the oceans, coasts, and response to climate changes. Recommendations in such reports underlie the Strategic Plan, setting a framework for addressing the needs of the Nation today and for tomorrow. The Strategic Plan responds to the President's Management Agenda for a citizen-centered, results-driven organization that serves all Americans every day.

The NOAA Strategic Plan has five goals: four "mission goals" and one "mission support goal." The Strategic Plan sets an agenda to:

Mission Goals --

- Ecosystems: Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.

- Climate: Understand climate variability and change to enhance society's ability to plan and respond.

- Weather and Water: Serve society's needs for weather and water information.

- Commerce and Transportation: Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation.

Mission Support Goal --

- Mission Support: Provide critical support for NOAA's mission.

NOAA's elevation in FY 2003 of ecosystem-based management and climate science to high-priority goals in the Plan is especially noteworthy to meet the challenges of the 21st century. In recent years, extreme drought and flooding conditions in large regions of the Nation have combined to make improved water resources prediction an urgent requirement for NOAA's future weather and climate mission. The Plan's emphasis on the Nation's needs for expanded commerce and economic development directly relates to the Administration's focus on a healthy and growing economy.

The Strategic Plan guides all NOAA's management decisions and provides a consistent framework for Line Office and cross-organizational plans, initiatives, and performance measures to be implemented. Through the plan, NOAA employees and contractors have a better understanding of their role in meeting NOAA's strategic goal.

Unit Cost Measures

The NOAA performance measures for this report relate to the scientific work conducted within the agency. Because of the technical and complex nature of NOAA activities and the impact of biological and other natural conditions, unit cost measures are currently not used in this report. However, NOAA is continuously reviewing its existing performance measures and developing new and more relevant measures.

Program Assessment Rating Tool (PART)

FY 07 PART Programs

For the FY 2007 President's Budget PART assessments were conducted for the Ecosystem Research and Weather and Related Programs.

Ecosystem Research Program – was rated "Adequate" as a result of the OMB PART for FY07. Findings included: 1) The Ecosystem Research Program is designed to address the need for science in support of wise management of ocean and coastal resources. The President's U.S. Ocean Action Plan expressed support for many of these activities, which were also emphasized by two recent blue-ribbon panels, the U.S. Commission on Ocean Policy and the Pew Oceans Commission; 2) Some redundancies exist within components of the Ecosystem Research Program as well as between this program and other Federal efforts. The program was established to try to begin to align different research efforts within NOAA in order to address these redundancies; and 3) Within some of the components of this program, program managers have had difficulty influencing how resources are targeted to ensure that the highest priority science needs are met. This can be an issue for research efforts that are not funded on a competitive basis, such as earmarks and institutional programs such as Sea Grant. In response to these findings, NOAA is 1) assessing the portfolio of research within NOAA's Ecosystem Research Program in order to clarify the role of each of the Program's components and eliminate redundancies; and 2) modifying planning and management processes so that research activities meet the highest priority science needs and provide a balanced response to local, regional, and national issues.

Weather and Related Programs – includes the Local Forecast and Warnings, Space Weather, Hydrology, Geostationary Satellite Acquisition, Polar Satellite Acquisition, and Satellite Services. The Weather and Water Related Programs received a rating of Moderately Effective, and included two major findings: 1) The program has made progress in achieving its long-term goals, particularly in improving accuracy and timeliness of forecasts and warnings. For example, lead times for tornado warnings have increased from 5 minutes in the early 1990s to 13 minutes in 2004; and, 2) One of the satellite programs has experienced significant cost and schedule overruns which were caused by management and technical problems. This program is at least 25% over budget and the satellite launches are delayed by two years. In response to these findings, NOAA is taking the following actions to improve the performance of the program: 1) Investing in technology to improve severe weather warning lead times; and, 2) Instituting quarterly reporting on progress of satellite programs.

Status on implementation of recommendations of previous PART Programs

NOAA is on track to meet the recommendations made on previous PART reviewed programs. Status on implementation of PARTs by year of President Budget Request:

FY 2004

NMFS regulatory programs – NOAA implemented management and organizational changes including: replacement of the performance measures for the Fishery Management and Protected Species Programs; improvement of the efficiency and effectiveness of regulatory operations; decreased policy vulnerability to legal challenges; and reduced regulatory burden on the affected public.

Pacific Coastal Salmon Recovery Fund (PCSRF) – NOAA developed performance measures for the PCSRF which were published in the 2005 Pacific Coastal Salmon Recovery Fund Report to Congress. Performance data will be reported annually in the Report to Congress beginning with 2005 data in the 2006 Report.

National Weather Service – NOAA continues to invest in activities and technology such as various training courses, the NEXRAD Open Radar Data Acquisition, continued implementation of the Advanced Hydrologic Prediction Service, AWIPS Software upgrades, aviation improvements, and climate forecast model upgrades that will help improve outyear performance measure scores. NOAA will continue to put a great emphasis on performance and performance improvement, and continue to establish and review performance measures and milestone objectives through the development of strategic plans and annual operating plans.

FY 2005

Coastal Zone Management Act Programs – NOAA developed a suite of proposed performance measures in response to recommendations regarding the Coastal Zone Management Program and National Estuarine Research Reserve System (NERRS). In addition, eight states participated in a pilot effort to assess data sources and refine the proposed coastal management measures for implementation. In March 2005, NOAA launched implementation of coastal management performance measures among all 34 state coastal management programs. NOAA has developed or is refining a proposed suite of NERRS measures to be finalized this winter.

Nautical Mapping and Charting Program – NOAA is evaluating the viability of research by the United States Merchant Marine Academy to support clear and meaningful linkages between long-term performance measures and annual goals. NOAA is also developing additional metrics to better capture the outcomes and benefits of the program.

FY 2006

Climate Program – NOAA developed an action plan for implementation of PART recommendations that includes consolidating research laboratories and other management changes recommended by the NOAA Research Review Team, as well as developing an internal database for tracking performance and linking it to the budget.

Protected Areas – In response to the PART recommendations, NOAA has revised existing or created new performance measure targets and timeframes that are ambitious, strategic and realistic. NOAA is implementing processes, including bi-annual meetings of Program leadership, to monitor and report on these measures that will ensure that these targets remain ambitious and that performance data is used to improve on the ground management and better address priority management issues.

FY 2007 Program Increases

Program increases are listed under each Performance Goal (see relevant section).

Targets and Performance Summary

Performance Goal for Ecosystems: Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management

Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Target	FY 2007 Target	Comment
Fish Stock Sustainability Index (FSSI)	N/A	N/A	477.5	500.5	510.5	512.5	This is a new measure for FY 2007 and replaces the overfished major stocks measure. NOAA did not report on this measure during FY 2004-2006 and data for those years is provided for context.
Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts	N/A	N/A	37.2	40.2	41.3	40.4	This is a new measure for FY 2007 and replaces the unknown stocks measure and the protected species assessment measure. NOAA did not report on this measure during FY 2004-2006 and data for those years are provided for context. Note that the 2004 number is for the calendar year; the FY 2005 actual transitions to the fiscal year.
Number of Protected Species Designated as Threatened, Endangered or Depleted with Stable or Increasing Population Levels	17	18	24	24	24	26	This is a new measure for use in FY 2006. NOAA did not report on this measure during FY 2002 – 2005 and the data for those years is provided for context. The 2005 actual is an estimate. The change to the FY 2006 target, as reported in the FY 2006 APP, is due to an improvement in the stocks in prior years.

Number of Habitat Acres Restored (Annual/Cumulative)	4,300/ 5,820	5,200/ 11,020	5,563/ 16,583	8,333/ 24,916	4,500/ 29,416	4,575/ 33,991	The target for FY 2006, as reported in the FY 2006 APP, was reduced from 4,575 to 4,500 because requested funds for habitat restoration were reduced.
Annual number of coastal, marine, and Great Lakes ecological characterizations that meet management needs.	New	New	New	New	53	54	This is a new measure for use in FY 2006. FY 2004 and 2005 data are provided for informational purposes. Measure has been reworded and targets have been changed from percentages to annual numbers.
Cumulative Number of Coastal, Marine, and Great Lakes Issue-Based Forecasting Capabilities Developed and Used for Management.	New	New	16	25	31	38	This is a new measure for use in FY 2006. FY 2004 and 2005 data are provided for informational purposes. Measure has been reworded and targets have been changed from percentages to cumulative numbers.
Percentage of Tools, Technologies, and Information Services that are used by NOAA Partners/Customers to Improve Ecosystem-Based Management.	New	New	New	New	New	TBD	Measure will be ready for use in FY 2007.
Number of Coastal, Marine, and Great Lakes Habitat Acres Acquired or Designated for Long-term Protection (Annual)	New	New	New	1,705	200,137	86,046,286	The FY 2007 target includes 84,365,000 acres to be designated as the NW Hawaiian Islands National Marine Sanctuary.

Performance Goal for Climate: Understand climate variability and change to enhance society's ability to plan and respond

Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Target	FY 2007 Target	Comment
U.S. Temperature Forecasts (Cumulative Skill Score Computed Over the Regions Where Predictions are Made)	18	17	17	19	18	19	
Reduce the Uncertainty in the Magnitude of the North American (NA) Carbon Uptake	New	Identified Five Pilot Carbon Profiling Sites and four New Oceanic Carbon Tracks	Established five pilot atmospheric profiling sites. Established one oceanic carbon track; identified two additional oceanic carbon tracks	Reduced Uncertainty of Atmospheric Estimates of NA Carbon Uptake to +/- 0.40 Gt. Carbon per Year	Reduce Uncertainty of Atmospheric Estimates of NA Carbon Uptake to +/- 0.40 Gt. Carbon per Year	Reduce Uncertainty of Atmospheric Estimates of NA Carbon Uptake to +/- 0.38 Gt. Carbon per Year	The FY2005 target of 0.48 Gt Carbon per Year was exceeded due to implementation of new aircraft sites in the Midwest.
Reduce the Uncertainty in Model Simulations of the Influence of Aerosols on Climate	New	New	New	New	Establish 10% improvement in uncertainty in model simulations of how North American aerosols influence climate	Establish 15% improvement in uncertainty in model simulations of how North American aerosols influence climate	The 2006 and 2007 targets have been scaled back, to reflect reduced availability of funding and scope of field studies

Determine the National Explained Variance (%) for Temperature and Precipitation for the Contiguous United States using USCRN Stations	Captured more than 85% of the Annual National Temperature Trend and more than 55% of the Annual National Precipitation Trend for the Contiguous U.S.	Captured more than 95% of the Annual National Temperature Trend and captured 84% of the Annual National Precipitation Trend for the Contiguous U.S.	Captured more than 96% of the Annual National Temperature Trend and more than 90% of the National Annual Precipitation Trend for the Contiguous U.S.	Capture 96.9% of the Annual National Temperature Trend and 91.4% of the Annual National Precipitation Trend for the Contiguous U.S	Capture 96.9% of the Annual National Temperature Trend and 91.4% of the Annual National Precipitation Trend for the Contiguous U.S	Capture 97.2% of the Annual National Temperature Trend and 92.3% of the Annual National Precipitation Trend for the Contiguous U.S	Expansion of the climate reference network is delayed, due to lack of funding beyond current O&M costs. Long-term targets will be delayed until 2010.
Reduce the Error in Global Measurement of Sea Surface Temperature	New	New	New	New	0.5 C	0.4 C	Insufficient funding in FY 2006 for optimal deployment of buoys in data-poor parts of the ocean have delayed the target uncertainty reduction.
Improve Society's Ability to Plan and Respond to Climate Variability and Change Using NOAA Climate Products and Information	New	New	New	New	32 risk assessments / evaluations communicated to decision makers	35 risk assessments/ evaluations communicated to decision makers	

Performance Goal for Weather and Water: Serve society's needs for weather and water information

Measure		FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Target	FY 2007 Target	Comment
Lead Time (Minutes), Accuracy (%), and False Alarm Rate (FAR, %) for Severe Weather Warnings for Tornadoes	Lead Time	12	13	13	13	13	14	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
	Accuracy	76	79	75	75	76	76	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
	FAR	73	76	74	77	75	74	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
Lead Time (Min) and Accuracy (%) for Severe Weather Warnings for Flash Floods	Lead Time	52	41	47	54	48	49	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
	Accuracy	89	89	89	88	89	90	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
Hurricane Forecast Track Error (48 Hour)	Nautical Miles	122	107	94	TBD	111	110	FY 2005 Actual will be available January 2006.
Accuracy (%) (Threat Score) of Day 1 Precipitation Forecasts		30	29	29	29	28	29	

Lead Time (Hours) and Accuracy (%) for Winter Storm Warnings	Lead Time	13	14	15	17	15	15	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
	Accuracy	89	90	91	91	90	90	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
Cumulative Percentage of U.S. Shoreline and Inland Areas that Have Improved Ability to Reduce Coastal Hazard Impacts		8%	17%	17%	28%	32%	39%	NOAA is in the process of developing a more useful measure.

Performance Goal for Commerce and Transportation: Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation

Measure	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Target	FY 2007 Target	Comment
Reduce the Hydrographic Survey Backlog Within Navigationally Significant Areas (square nautical miles surveyed per year)	1,514	1,762	2,070	3,079	2,500	3,000	FY2006 target was reduced to 2500 based on FY2006 final appropriations.
Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity	New	New	New	28	39	49	FY2006 and FY2007 targets have been revised upward to reflect both increased user demand for the relatively new OPUS tool and the availability of more data for trend analysis. This is a new measure for use in FY 2006. FY 2005 target is provided for informational purposes.
Accuracy (%) and False Alarm Rate (FAR) (%) of Forecasts of Ceiling and Visibility (3miles/1000 ft.) (Aviation Forecasts): Accuracy (%) FAR (%)	 45 71	 48 64	 45 65	 46 63	 47 65	 48 64	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.
Accuracy (%) of Forecast for Winds and Waves (Marine Forecasts) Wind Speed Wave Height	 52 68	 57 71	 57 67	 57 67	 58 68	 58 68	The FY 2005 actual was not final in the FY 2005 PAR. The final data is now available and reflected here.

Performance Goal for Mission Support: Provide critical support for NOAA's mission

There are no GPRA measures for the Mission Support goal since the activities of this goal support the outcomes of the Mission goals. NOAA is developing new and improving existing internal management performance measures for the Mission Support Goal.

Resource Requirements Summary
($ in Millions)

Performance Goal for Ecosystems: Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management	**FY 2005 Actual**	**FY 2006 Enacted**	**FY 2007 Base**	**Increase/Decrease**	**FY 2007 Request**
Operations, Research, Facilities					
National Ocean Service	340.4	295.8	217.6	14.4	232.0
National Marine Fisheries Service	675.0	665.7	566.4	80.6	647.0
Oceanic and Atmospheric Research	147.8	126.2	94.3	8.6	103.0
National Weather Service	-	-	-	-	-
NESDIS	9.2	16.7	16.0	1.7	17.7
Program Planning and Integration	-	-	-	-	-
Program Support	-	-	-	-	-
Procurement, Acquisition, and Construction	85.5	62.7	4.9	2.3	7.2
Other-Discretionary and Mandatory	127.3	118.5	93.7	0	93.7
Total, Direct Obligations	1,385.2	1,285.6	993.0	107.6	1,100.6
IT Funding	4.7	8.1	8.1	0.4	8.5
FTE	3,426	3,442	3,445	36	3,481

Resource Requirements Summary
($ in Millions)

Performance Goal for Climate: Understand climate variability and change to enhance society's ability to plan and respond	**FY 2005 Actual**	**FY 2006 Enacted**	**FY 2007 Base**	**Increase/Decrease**	**FY 2007 Request**
Operations, Research, and Facilities					
National Ocean Service	-	-	-	-	-
National Marine Fisheries Service	1.4	1.5	1.5	.5	2.0
Oceanic and Atmospheric Research	176.6	166.1	160.2	17.6	177.8
National Weather Service	56.9	19.7	8.2	0.9	9.1
NESDIS	70.2	51.0	25.6	5.1	30.7
Program Planning and Integration	-	-	-	-	-
Program Support	4.5	3.5	3.5	-	3.5
Procurement, Acquisition, and Construction	6.4	8.9	7.0	-	7.0
Other-Discretionary and Mandatory	-	-	-	-	-
Total, Direct Obligations	316.1	250.6	205.9	24.1	230.1
IT Funding	83.2	78.8	78.8	(12.9)	65.9
FTE	902	611	541	-	541

Resource Requirements Summary
($ in Millions)

Performance Goal for Weather and Water: Serve society's needs for weather and water information	**FY 2005 Actual**	**FY 2006 Enacted**	**FY 2007 Base**	**Increase/Decrease**	**FY 2007 Request**
Operations, Research, and Facilities					
National Ocean Service	40.3	34.6	8.3	3.7	11.9
National Marine Fisheries Service	-	-	-	-	-
Oceanic and Atmospheric Research	62.7	76.2	44.7	10.9	55.6
National Weather Service	642.5	703.4	713.8	35.3	749.1
NESDIS	6.1	8.6	4.7	0.2	4.9
Program Planning and Integration	2.1	-	-	-	-
Program Support	-	0.6	0.6	-	0.6
Procurement, Acquisition, and Construction	98.1	109.2	85.9	(4.0)	81.9
Other-Discretionary and Mandatory	-	-	-	-	-
Total, Direct Obligations	849.7	932.6	858.0	46.1	904.1
IT Funding	176.6	179.3	179.3	47.1	226.5
FTE	4535	4,652	4,727	9	4,736

Resource Requirements Summary
($ in Millions)

Performance Goal for Commerce and Transportation: Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation	**FY 2005 Actual**	**FY 2006 Enacted**	**FY 2007 Base**	**Increase/Decrease**	**FY 2007 Request**
Operations, Research, Facilities					
National Ocean Service	149.0	155.9	125.4	17.9	143.3
National Marine Fisheries Service	-	-	-	-	-
Oceanic and Atmospheric Research	-	-	-	-	-
National Weather Service	10.0	15.4	16.7	1.2	17.9
NESDIS	28.6	10.9	9.1	.4	9.5
Program Planning and Integration	-	-	-	-	-
Program Support	-	-	-	-	-
Procurement, Acquisition, and Construction	-	-	-	-	-
Other-Discretionary and Mandatory	-	-	-	-	-
Total, Direct Obligations	187.6	182.2	151.2	19.5	170.7
IT Funding	8.9	9.6	9.6	.3	9.9
FTE	615	755	753	5	758

Resource Requirements Summary
($ in Millions)

Performance Goal for Mission Support: Provide critical support for NOAA's mission	**FY 2005 Actual**	**FY 2006 Enacted**	**FY 2007 Base**	**Increase/Decrease**	**FY 2007 Request**
Operations, Research, Facilities					
National Ocean Service	2.4	6.9	6.9	.3	7.2
National Marine Fisheries Service	-	-	-	-	-
Oceanic and Atmospheric Research	16.7	1.8	1.8	-	1.8
National Weather Service	-	8.3	7.3	-	7.3
NESDIS	61.8	90.5	89.1	(2.3)	86.8
Program Planning and Integration	-	-	-	-	-
Program Support	366.6	354.2	324.1	35.9	360.0
Procurement, Acquisition, and Construction	895.3	938.8	816.2	114.1	930.4
Other-Discretionary and Mandatory	17.6	18.5	19.3	-	19.3
Total, Direct Obligations	1,362.3	1,418.9	1,264.9	148.1	1,412.9
IT Funding	250.8	264.3	264.3	(1.2)	263.1
FTE	2,368	2,516	2,517	16	2,533

Resource Requirement Summary
($ in Millions)

	FY 2005	FY 2006	FY 2007
Grand Total	Actual	Enacted	Request
Operations, Research, and Facilities			
National Ocean Service	532.1	493.2	394.4
National Marine Fisheries Service	676.4	667.2	649.0
Oceanic and Atmospheric Research	403.8	370.3	338.2
National Weather Service	709.4	746.8	783.4
NESDIS	175.9	177.7	149.6
Program Planning and Integration	2.1	-	~
Program Support	373.2	358.3	364.1
Procurement, Acquisition, and Construction			
National Ocean Service	129.4	91.3	12.7
National Marine Fisheries Service	88.4	30.4	-
NOAA Research	20.6	9.4	10.4
National Weather Service	84.0	101.4	98.4
NESDIS	711.7	774.5	884.3
Program Planning and Integration	-	-	~
Program Support	51.3	112.5	20.7
Other Accounts			
Discretionary			
National Ocean Service	-	-	-
National Marine Fisheries Service	89.3	68.8	67.5
Office of Marine and Aviation Operations	0	1.6	2.0

Resource Requirement Summary
($ in Millions)
(Continued)

	FY 2005	FY 2006	FY 2007
	Actual	Enacted	Request
Mandatory			
National Ocean Service	9.4	1.0	1.0
National Marine Fisheries Service	28.6	37.3	21.4
Program Support	17.6	18.5	19.3
Direct	4,050.7	4,069.9	3,821.2
Reimbursable	242.4	287.4	242.4
Total Funding	4,259.9	4,357.3	4,063.6
IT Funding	524.2	540.1	573.9
FTE			
Direct	11,846	11,976	12,049
Reimbursable	754	815	815
Total	12,600	12,791	12,864

Note:
Other Accounts/Mandatory is a breakout of the NOAA Commissioned Officers Retirement Account.

Performance Goal for Ecosystems: Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management

DOC Strategic Goal 3: Observe, protect, and manage the earth's resources to promote environmental stewardship

General Goal/Objective 3.2: Enhance the conservation and management of coastal and marine resources to meet America's economic, social and environmental needs

Coastal areas are among the most developed in the Nation, with over half of our population living on less than one-fifth of the land in the contiguous United States. At over 230 persons per square mile, the population density of the near shore is three times that of the nation as a whole. That portion of the U.S. economy that depends directly on the ocean is also large, with 2.3 million people employed and over $117 billion in value added to the national economy in 2000. Approximately 89 million people vacation and recreate along U.S. coasts every year. The amount added annually to the national economy by the commercial and recreational fishing industry alone is over $43 billion annually with an additional $1 billion of marine and freshwater aquaculture sales. With its Exclusive Economic Zone of 3.4 million square miles, the U.S. manages the largest marine territory of any nation in the world. Within this context, NOAA works with its partners to achieve a balance between the use and protection of these resources to ensure their sustainability, health, and vitality for the benefit of this and future generations and their optimal contribution to the Nation's economy and society.

NOAA has a unique mandate from Congress to protect, manage, and restore the nation's coastal and resources. To fulfill this mandate, NOAA and our partners contribute world-class information and expertise in oceanography, marine ecology, urban and regional planning, marine archeology, fisheries management, conservation biology, natural resource management, and risk assessment. We have embraced an ecosystem approach to management as the path to ensure balance among ecological and social influences. Our approach to ecosystem management will be incremental and collaborative, integrating the concerns, priorities, and expertise of all citizens and sectors in the management of coastal and marine resources.

Until we attain regional ecosystem approaches to management, NOAA will continue to manage on a smaller, more focused basis (e.g., state, watershed, and species or site-specific.) In the meantime, NOAA will be improving the science, management, and regulatory processes currently available to implement a more comprehensive ecosystem approach to improve management of the Nation's ocean, coastal, and Great Lakes resources. This incremental and collaborative approach also applies to the development of NOAA's ecosystem-based performance measures.

Development of Crosscutting Ecosystem Performance Goal Measures

Over the last year, NOAA identified new performance measures for its ecosystem goal. These measures are being designed to systematically track the effectiveness of NOAA's research and management programs in improving ecosystem health and productivity. They will improve NOAA's ability to: decide whether programs should be continued, improved, expanded, or curtailed; assess the utility of new programs and initiatives; increase and

communicate the effectiveness of program management; and to satisfy NOAA's accountability requirements. Specifically, these new performance measures will inform NOAA's assessment of its efforts to expand ecosystem-based principles and practices that affect the management of large and nested ecosystems. These measures were presented in the FY 2006 APP as under development and four of the five will be ready for use, three in FY 2006 and one in FY 2007, as follows:

- Two of the five measures in FY 2006 APP were" proxy" measures that capture the outcomes of NOAA's work, but fall short of measuring at the ecosystem level. As NOAA develops the science and organizational structure to track performance at the ecosystem level, NOAA will adopt the "ideal" measures, planning and reporting on them in future APPs. In the interim:
    - The proxy measure for ecosystems characterized i.e., *number of ecological characterizations that meet management needs*, has been reworded and is ready for use in FY 2006.
    - The *ecosystem health* measure is not expected to be ready for use in FY 2007 and its proposed proxy measure, *coral reef health*, will not be used; it is a long-term measure and is not a useful GPRA measure. (For an update on the progress to date in developing the ecosystem health measure, see the explanation section of the ecosystem measures.)
- The *tools and technologies* measure has been reworded and its data collection is still under development. Although data is not available at this time, it is planned to be completed in time for use in FY 2007.
- The *forecasting* measure has been reworded and will be ready for use in FY 2006.
- The new habitat measure was proposed in the FY 2006 APP to combine the existing habitat measure i.e., *habitat acres restored*, with *habitat acres acquired or designated for long term protection*; NOAA is continuing to work on how to combine these activities into one measure. Currently, that has not been accomplished, and the concepts will remain as separate measures.

Although the ecosystem health measure is not ready for use, the other new measures are designed to assess progress toward achieving this strategic outcome of the Ecosystem Goal and will be implemented by FY 2007. These new performance measures and others that will be developed over time will give NOAA and its stakeholders an end-to-end analysis of performance for the Ecosystem Goal. Finally, the new measures are interconnected and designed to track NOAA's performance for achieving the greatest impacts.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Protected Resources Research and Management Programs	7	$5,825	$2.828 million of this request will allow the Protected Species program to continue court ordered take reduction planning, complete ESA consultation on Federal actions, develop programmatic NEPA documents for permits and Incidental Harassment Authorizations, revise recovery plans for sea turtles and complete ESA five-year status reviews for marine mammals and sea turtles. This effort will also improve customer service by reducing the time required to complete permit actions. Additionally, specific research will be directed at determining the characteristics of noise experienced by marine animals underwater, measuring the behavioral and auditory effects of exposure to ocean noise, and developing cost effective mitigation measures for ocean noise effects. The remaining $3 million of this request will be used for protected species stock assessments and mortality estimation and for reducing bycatch of protected species in fisheries. Funds will allow NMFS to increase the quantity and improve the quality of stock surveys and assessments that inform regulatory decisions. Imprecise estimates increase the probability that species will be misclassified under the ESA or Marine Mammal Protection Act (MMPA), resulting in increased risk to species, delay of recovery, and additional mitigation measures that pose significant economic losses to the regulated community. Assessments also are critical to implementing the U.S. Ocean Action Plan because they will be used to establish acceptable levels of bycatch of marine mammals and turtles in the Atlantic Ocean and Gulf of Mexico. Currently, the quality of stock assessments for over 200 protected and at-risk marine species is inadequate for management purposes. NMFS will invest additional resources to make assessment information available to managers in order to minimize bycatch of protected species in fisheries and to increase transparency of the decision-making process.	118
Marine Mammals	-	$1,759	This request has two components: 1) *Dolphin Encirclement - $1.259 million.* Increased funds are necessary to fully fund continued long-term monitoring of the Eastern Tropical Pacific dolphins stocks, called for in	125

			MMPA section 304(b). This research includes Population Abundance Monitoring, Long-Term Stress Monitoring, Implementation of the System for Tracking and Verification of Dolphin-Safe Tuna, and Implementation of MMPA Import Requirements for Tuna Harvested in the Eastern Tropical Pacific. 2) *Recovery of Endangered Large Whales - $500,000.* The information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs for endangered large whales. This information will enable NOAA to detect changes in the status of large whales in order to prevent long-term and irreversible damage to these populations. The problems or information gaps to be addressed include: population structure, abundance, migratory patterns, and habitat needs.	
Marine Turtles	-	$650	These funds are necessary to continue research to recover highly endangered sea turtles within the U.S. and internationally. Funds will allow for the protection of the globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles. These funds will support the collection of information on biology and habitats.	128
Other Protected Species	4	$3,153	These funds are critical to recovering those NMFS ESA listed species that do not have a separate program, as well as those species nearing the need for ESA listing (species of concern). Activities supported by this funding include completion of ESA section 7 consultations and implementing recovery programs for hard corals, shortnose sturgeon, Gulf sturgeon, white abalone, Johnson's seagrass, and smalltooth sawfish. These funds will be used to initiate pilot proactive conservation efforts for species nearing the need for listing under the ESA. This pilot program will focus on reducing threats to the species through on-the-ground conservation actions or development of management agreements. This measure will result in cost savings by preventing an ESA listing and thus not having to complete the ESA consultation and permitting requirements for species.	130
Atlantic Salmon	-	$1,445	This request will be used for implementation of the Atlantic salmon recovery plan including research and management activities within NMFS, and to fund recovery activities of the state of Maine. NMFS proposes to use its Atlantic salmon funds to support ongoing research and	133

			recovery efforts geared toward implementing the recovery plan. Examples of NMFS actions include: development of a proposed rule addressing the boundaries of the DPS, based on a stock status review published in FY 2006; convene and serve as a co-chair (with USFWS) of an interagency Recovery Implementation Team with representatives from Federal, State, and local agencies, Tribes, NGO's and the Canadian Government to implement the final recovery plan; an evaluation of the effects of hatchery stocking by the USFWS on Atlantic salmon recovery; evaluations of the interaction of water chemistry, habitat and the transition process for juvenile salmon migrating from rivers to the sea through estuaries. Funds requested will also be provided to the Maine Atlantic Salmon Commission, to facilitate their continued research and management activities in support of the recovery plan. Examples of work accomplished with these funds include: assessments of adult and juvenile salmon populations, evaluations of various stocking practices, studies of adult and juvenile migration, and monitoring water quality in Maine salmon rivers. Funds from the NMFS grant provide up to 64% of Commission monies, and allow the Commission to complete critical recovery work which is not done by any other agency or group.	
Pacific Salmon	-	$9,664	This request includes three components: recovery implementation and management actions; improved scientific advice for Pacific salmon recovery; and response to EPA consultation workload. These efforts are critical to achieving recovery on an expedited timeframe, while at the same time providing good customer service to constituents looking to implement recovery actions, as well as carry out other lawful activities. Without the proposed increase, the program will revert to a program without the resources to provide customer service and the species will suffer from a lack of coordinated local action on recovery.	134
Regulatory Streamlining	7	$2,829	Funds will support the fishery plan development and regulatory analysis, evaluation, and implementation capabilities of the Fisheries Management Program, which encompasses the process of developing fishery management recommendations through their analysis, approval, and implementation. With the implementation of the Regulatory Streamlining Program (RSP), NOAA will improve the quality and	146

			timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. RSP will enable NOAA to efficiently address policy issues early in the regulatory process, rather than later when it becomes difficult to comprehensively address a new and possibly contentious issue. All Regional Fishery Management Councils and NMFS regions will receive support to frontload development, analysis, evaluation, and implementation of fishery management actions. Deliverables will include fishery management plans, plan amendments, implementation regulations (proposed and final rules), annual harvest specifications, and in-season management actions.	
Highly Migratory Species Research in the Gulf of Mexico	-	$3,000	These funds will support Highly Migratory Species Research in the Gulf of Mexico in order to address the research needs for Gulf and Atlantic billfish, tunas, swordfish, and sharks as well as fund the review of the status of the Atlantic white marlin for listing as threatened or endangered under the Endangered Species Act (ESA). In 2001, NOAA Fisheries received a petition to list the severely overfished Atlantic white marlin as threatened or endangered under the ESA. Additional funding for other Gulf of Mexico highly migratory species will enable NMFS to address continuing bycatch concerns for sea turtles and marine mammals in pelagic longline and other fisheries.	148
Catch and Release Mortality Research	-	$1,000	This increase will address priority research needs for estimating discard mortality for both the recreational and commercial sectors. This funding will support needed research for: enhanced onboard monitoring of commercial fishing vessels to obtain accurate information on discarded species including the following: identification of species, total number, survival by depth, and size; enhanced at-sea data collections onboard headboats to obtain complete angler interviews including accurate species identification and counts of discarded catch, the disposition of discarded catch, sizes of all landed and discarded fish, and depth of capture of released fish; additional research and development including development of techniques to monitor long-term survival rates and comparative studies of gear types and practices which may reduce	149

			discard mortality; collaborative field research with states, stakeholders, recreational and commercial fishing industries, and universities to test new techniques to monitor survival rates; laboratory experimental studies to test new methods; tagging studies to provide estimates of long-term survival; and improved outreach and education to all fishery sectors on reducing mortality of released bycatch.	
Expand Annual Stock Assessments - Improve Data Collection	8	$7,550	This request will strengthen stock assessment efforts (fishery resource surveys and assessment analyses) and initiate new ecosystem-based fish stock assessments and fishery-dependent sampling programs in the Gulf of Mexico. NMFS will improve fishery stock assessments by integrating more ecosystem information into mathematical models to reveal trends in biomass, recruitment levels (e.g., the number of young fish entering the stock each year), and exploitation rates. NMFS would initiate new fishery monitoring programs that collect data on landings, discarded bycatch, and life history data (growth, longevity, and mortality) in 2007 and integrate these data streams into scientifically reviewed stock assessment updates to constituents beginning in 2009. Expanding stock assessment capabilities will help address long-standing shortfalls in fisheries management, including: fishery monitoring, fish stock surveys, data management, and more comprehensive assessment models.	151
Economics & Social Sciences Research	-	$6,518	Funds will be used to conduct mandated economic and sociocultural surveys and assessments. Establishment of economic and social monitoring programs in all federally-managed commercial fisheries will enhance NMFS' ability to conduct integrated assessments of these fisheries, resulting in more timely and accurate advice to fishery managers. In addition, it will enable NMFS to assess the economic impacts (e.g., sales, income and jobs) of both fishery management actions and environmental events such as hurricanes, tsunamis, and red tide on fishing communities for all coastal states. These activities also directly support efforts to identify market-based solutions to fishery management issues, an approach that is advocated in both the President's U.S. Ocean Action Plan and the 2005 Economic Report of the President. Overall, these funds will enable NMFS to meet 100% of the economic and sociocultural monitoring goals for all commercial fishery management	154

			plans (32 FMPs), including the commercially important Gulf shrimp and reef fish fisheries; the Pacific Coast, Alaska and Northeast groundfish fisheries; Atlantic sea scallops fishery; and the Atlantic, Gulf of Mexico, Pacific and Western Pacific Highly Migratory Species fisheries.	
Regional Councils and Fisheries Commissions	-	$3,047	These funds will enhance the capacity of the eight Regional Fishery Management Councils (RFMCs) to participate fully in the Regulatory Streamlining Program. This funding will allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans (FMPs) or amendments to current plans to reduce levels of overfishing and overcapacity while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem. Extensive analyses and documentation are required to comply with the Magnuson-Stevens Fishery Conservation and Management Act and other mandates. The requested funding will allow the Councils to conduct the environmental, economic, and other impact analyses required. These analyses will occur sufficiently early in the regulatory process to allow a range of reasonable alternatives to be considered; this "no-surprises" approach will ensure compliance with the procedural requirements of the various mandates. $1,000,000 will be used for RFMCs to develop DAP programs, such as individual fishing quotas (IFQs).	159
Fish Information Networks	-	$2,109	This request funds three state-federal cooperative programs that collect, manage, and disseminate statistical data and information on marine commercial and recreational fisheries off the coasts of Alabama, Florida, Georgia, Louisiana, Mississippi, and Texas. With this request, NMFS will have the capability to increase the quantity of data and improve the quality of statistics that are used to inform regulatory decisions for fisheries management.	161
Survey and Monitoring Projects	-	$1,168	Funds will enable NOAA to administer 3 research and monitoring programs in the Atlantic and Pacific Oceans. This will improve NMFS' ability to: 1) manage West Coast groundfish stocks; 2) estimate the distribution and abundance of bluefin tuna stocks; and 3) continue research on the apparent decline of bluefish stocks in the Atlantic Ocean.	164
Fisheries Oceanography	-	$500	These funds will improve fish stock assessments by investigating the	166

			effects of ocean environmental variability on marine ecosystems and fish populations. The request will enable NMFS to develop new ecological indicators of the effects of environmental variability on living marine resources in the California Current, North Pacific, Gulf of Alaska, Bering Sea, Gulf of Mexico and Northeast U.S. Shelf large marine ecosystems. The Fisheries Oceanography program advances the current state of knowledge of ocean processes by forecasting potential impacts on production, growth, and/or distribution of marine fish, and these forecasts are incorporated into stock assessment and commercial harvest analyses.	
Anadromous Grants	-	$100	Projects funded under the Anadromous Fish Conservation Act of 1965 (AFC) are conducted for the conservation, development, and enhancement of Anadromous fishery resources (those that migrate from salt to fresh water for spawning) including similar species in the Great Lakes and Lake Champlain. This information is used to support management decisions at the state level and under the Magnuson-Stevens Fishery Conservation and Management Act, the Atlantic Coastal Fisheries Cooperative Management Act, and the Striped Bass Act.	168
Enforcement	-	$3,979	The increase in Enforcement and Surveillance will support the need of NOAA's increased Management and Stewardship role addressing investigations and monitoring capabilities within the Northeast Shelf and Gulf of Mexico large marine ecosystems (LMEs). The additional funds for the Cooperative Agreements with states will provide the necessary support and capacity for the states to carry out their enforcement activities in full coordination with NOAA. Approximately ten (10) currently authorized investigative and enforcement support positions will be filled to partially assume the increased workload created by anticipated regulations for General Access Scallop, Recreational Fisheries, Red Snapper IFQ, South Atlantic Snapper/Grouper, Gulf Shrimp, and HMS Species.	172
Observers/Training	2	$3,494	These funds will expand observer coverage in the Gulf of Mexico; initiate observer coverage in priority fisheries nationwide; and support 35,000 observer collection days in the North Pacific. Without observers and observer programs, NMFS would have insufficient data to effectively manage many of the Nation's	178

			economically valuable fisheries. Additional research is needed to better quantify bycatch of red snapper and other species with respect to season, depth, and location. To achieve this goal, an expansion of the observer program coupled with an improved logbook program is needed. NMFS' improvement and expansion of observer programs for many of the fisheries with significant bycatch supports one of the priorities set forth in the President's U.S. Ocean Action Plan - the implementation of a new national bycatch strategy. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Endangered Species Act (ESA) require NMFS to standardize reporting methodologies that minimize bycatch in federally managed fisheries and to protect specific endangered or threatened marine plants and animals, respectively.	
Sustainable Habitat Management	-	$3,698	NOAA Fisheries Service requests 1) $2,800,000 for Habitat Conservation and 2) $899,000 for Refine EFH Designations. 1) NOAA Fisheries estimates that it will cost approximately $2,800,000 per year to implement the new requirements of the hydropower provisions of the Energy Policy Act. These funds are needed to pay the U.S. Coast Guard for use of its Administrative Law Judges, and to augment technical and legal capabilities (attorneys) in NMFS Headquarters and Regional Offices to address the workload generated by the new processes. 2) Incorporating new species/habitat use information and analyses will refine EFH by clarifying the scope and extent of the existing EFH designations. This refined EFH will make EFH designations more accessible to the public and other federal agencies that must consult on impacts to EFH. More refined EFH designations will enable NOAA Fisheries to more effectively target conservation activities. The requested funds will support improved interpretations and analyses of existing habitat information, thereby ensuring that the agency maximizes use of the best available scientific data, complies more rigorously with the Data Quality Act, and generally is less susceptible to litigation risk.	186
Great Lakes Habitat Restoration	-	$1500	These funds will establish a Great Lakes Habitat Restoration Program, emphasizing restoration of NOAA trust resources at the watershed scale within the Great Lakes Areas of Concern. The two primary components	188

			of the Great Lakes Restoration Program will be: 1) the establishment of a cross-NOAA Great Lakes Habitat Restoration Program Office in the region and 2) the coordination of NOAA efforts to focus habitat restoration efforts at the watershed level in the Areas of Concern (AOC) identified under the Great Lakes Water Quality Agreement.	
Open Rivers Initiative	-	$6,000	Funds will establish an initiative to enhance the repair of vital riverine ecosystems, to benefit communities, and to enhance populations of key NOAA trust species in support of Executive Order 13352 which directs federal agencies to promote cooperative conservation in full partnership with state, local governments, tribes and individuals. The program builds on NOAA's capabilities and utilizes a community-based model to remove small dam and river barriers in coastal states. The community-based model catalyzes partnerships at the national and local levels by providing funding, technical assistance, and encouraging volunteer stewardship support to enable citizens to restore lost fish habitat. A significant portion of the $6,000,000 increase will address on-the-ground community-based river enhancements and approximately $1,500,000 will be utilized to support (i.e., assessment and characterization of priority sites, engineering and design, permitting, NEPA, technical assistance and administration) the initiative. Additional support from ORI partners (e.g., industry, non-profit organizations, state and local governments) regularly leverage non-federal to federal funds by a factor of approximately 3:1 to 5:1.	190
Climate Regimes & Ecosystem Productivity	-	$501	This increase will enhance NMFS' ability to monitor changes in these ecosystems through a network of in situ and remote observing systems. By the end of FY 2007, NMFS plans to develop 4 new biophysical indicators linking changes in marine ecosystems to climate variability/change. The development of new climatic-forced biological models will provide accurate predictions on the status of living marine resources in future climates—providing resource managers the knowledge and predictive tools to adapt to the consequences of climate variability and change on marine ecosystems.	195
Computer Hardware and Software	-	$1,383	These funds will cover critical IT infrastructure and connectivity costs for transmitting commercial and recreational fisheries data. Restoring these	198

			funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS' network. These funds will restore NMFS' ability to fund required maintenance contracts on software and to legally maintain software products currently used to support critical mission requirements. In addition, funding will provide support for essential contract staff in Headquarters and Regional sites involved in processing NOAA's scientific and law enforcement data for enterprise applications. These data are central to the stewardship of commercial and recreational fishing and of protected species and their habitats. Restoring these funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS' network.	
Cooperative Research	-	$994	This increase will fund research on Bycatch Reduction Devices (BRDs) and other fishing gear in the Gulf of Mexico. A number of economically important recreational and commercial species of finfish are caught as bycatch in the shrimp fishery. With the use of BRDs, fishermen are able to retain the shrimp catch while allowing the finfish to escape the trawl net. Increased funding will enable NMFS to address the issue of lowering bycatch levels of a number of economically important recreational and commercial species of finfish including red snapper. NMFS' request directly supports efforts to support regional partnership opportunities in the Gulf of Mexico, a strategy that is advocated in the President's U.S. Ocean Action Plan.	198
Information Analyses & Dissemination	-	$626	Requested funds provide the capacity to produce efficient tools for accurate data analyses and timely information dissemination to enable effective decision making. Funds within this line provide the necessary support for NMFS staff to analyze, produce, and disseminate population assessments and other biological, ecological, and oceanographic analyses. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates requirements for data collection, analyses, and dissemination. NMFS has specific roles and responsibilities under MSA that require staff expertise in model development for population dynamics and economic trends, statistical data analyses for stock	200

			assessments, database development and data warehousing, and computer programming. Additional funds enable NMFS to make new investments that improve information technology (IT) information sharing and storing capabilities within six Fisheries Science Centers and six Regional Offices. Additionally, these funds enable NMFS to maintain Data Management systems and policies that are critically needed to support IOOS (Integrated Ocean Observing System); DMAC (Data Management and Communications); and NOAA DMC (Data Management Committee) requirements for data collection, processing, dissemination, archiving, and data sharing.	
Southeast Area Monitoring and Assessment Program (SEAMAP)	-	$3,753	These funds will support SEAMAP's plankton and environmental surveys and will enable NMFS to increase sampling intensity for the Gulf of Mexico. This will improve current estimates of larval mortality as well as analyses of potential economic impacts to commercial and recreational fisheries. NMFS will warehouse all of the biological and environmental data from each SEAMAP survey into the SEAMAP Information System, a distributed data management system administered in conjunction with NMFS' Southeast Fisheries Science Center. NMFS' SEAMAP initiative reflects the Office of Management and Budget and Office of Science and Technology Policy's FY 2007 Research and Development Budget Priorities by placing a high priority on data sharing across platforms and disciplines.	202
Alaska Composite R & D	-	$6,724	These funds support science, research, and management of Alaskan living marine resources by better understanding living marine resources and providing for sustainable and abundance-based harvests. NMFS' support of the Alaska Composite Research and Development line will lead to a better understanding of living marine resources and will provide for sustainable and abundance-based harvests. The interactions of fisheries and marine mammals are the subject of intensive research in many parts of the world, and will be a major focus of research in the North Pacific for many years to come.	206
Aquatic Invasive Species Program	-	$1,506	NOAA will enhance its capability to identify and assess species and pathways that pose the highest invasion danger to our Nation's resources for which NOAA is steward and will develop tools to prevent invasion	311

			by these species and along these pathways.	
Coral Reef Monitoring	-	$737	This increase will restore funds requested in FY 2006 to support the development and maintenance of operational satellite products aimed at near real-time observation, monitoring and forecasting of environmental conditions conducive to deterioration of coral reef health, often resulting from coral reef bleaching events. These products are necessary to comply with Executive Order 13089, the Coral Reef Conservation Act of 2000, and the U.S. Ocean Action Plan, which all direct Federal agencies to use programs and authorities to protect and enhance coral reef ecosystems.	392
Archive, Access, and Assessment	-	$912	This increase is necessary to carry out key data archive, access, and assessment activities, and sustain operations at NOAA's National Data Centers. This funding is necessary to ensure timely and quality service delivery for more than 50,000 users per year from the private sector, academia, and government.	402
Coral Reef Program	-	$962	This increase will be used to augment state and territory grants for implementation of Local Action Strategy (LAS) priority projects. States and territories will use this grant funding to implement LAS strategies that they are unable to fund with existing resources. Specific projects to be implemented by each jurisdiction will depend on the highest priority actions at the time that grant applications are submitted. Match requirements of the grant will ensure that the increase will leverage non-NOAA funds to increase on-the-ground action. The increase will also allow for targeted training and technical assistance to meet LAS-associated needs.	65
Response and Restoration	-	$2,794	This increase will strengthen NOAA's ability to respond to oil and chemical spills and terror incidents; determine damage to natural resources from contaminant releases; protect and restore marine and coastal ecosystems at hazardous waste sites; and work with communities to address critical local and regional coastal challenges.	71
Extramural Research	-	$5,960	This request will allow NOAA to maintain its efforts to fulfill requirements of the recently reauthorized Harmful Algal Bloom Research and Control Act (HABHRCA). Implementation of the Act, which is specified in the President's Ocean Action Plan, authorizes appropriations	83

			to the Secretary of Commerce for research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms (HABs) and hypoxia, of $25,000,000 for fiscal year 2007. Additional funds would help support NOAA's large and longstanding regional research investments to develop harmful algal bloom and hypoxia forecasting and response capabilities. These efforts are largely supported through NOAA's competitive and extramural HAB and hypoxia research programs which have a proven track record of developing the understanding and tools necessary for managers to respond and predict HAB and hypoxia events such as those affecting the New England and Florida coasts this year.	
Coastal Zone Management Grants	-	$2,849	This increase will help to address increasing pressures on coastal areas and resources within these areas, including the need to enhance state and local capacity to address these pressures. The additional funds will support state participation in implementing key actions of the U.S. Ocean Action Plan. In particular, the increase will enable states to improve regional collaboration and planning, and address such critical coastal issues as ensuring that coastal communities reduce vulnerability to the impacts of coastal hazards and improving management of coastal watersheds. Finally, the funds will assist states in implementing the new coastal management performance measurement system developed in response to Congressional direction, the Administration's Performance Management Agenda, and findings of OMB's Program Assessment and Rating Tool review. In FY 2005, state coastal management programs began implementing performance measures under this system, which is designed to measure progress in achieving the objectives of the Coastal Zone Management Act.	90
Coastal Zone Management Act Program Administration	1	$628	This increase will assist with the administration of the Coastal Zone Management Act and support an expanded National Estuarine Research Reserve System that includes a new reserve in Texas. The increase will support NOAA staff working with the new reserve and the associated travel, equipment, training, rent and supplies costs, as well as with state coastal management programs. In addition, the increase will cover printing of revised reserve system information to include the Texas	91

			reserve, and contractual funds to update reserve system plans and performance measures for facilities, land acquisition, research and education to cover the addition of a new reserve.	
National Estuarine Research Reserve System	-	$575	This increase will support an expanded National Estuarine Research Reserve System. The increase will allow NOAA to improve monitoring through a new Texas NERR in the western Gulf of Mexico, which is scheduled for designation in late 2006. This new reserve is located in a biogeographic region that is not currently represented within the System.	92
Marine Protected Areas	-	$650	This increase will support key science and analysis efforts fundamental to meeting NOAA's mandate under Executive Order 13158 to develop an effective national system of marine protected areas built through integrating the sites and capabilities of existing federal, state, and tribal programs. With the requested increase, the Marine Protected Areas (MPA) Center will be able to advance several critical components of the National System of MPAs, including the completion of methodologies and tools to complete a natural and cultural resource characterization and analysis of human uses and impacts on the marine environment for the West Coast as a pilot study; beginning a process to work with stakeholders to use this information to identify priority areas for conservation of significant natural and cultural resources; and partially restore support for public outreach and the MPA Federal Advisory Committee, a diverse group of stakeholders and scientific experts providing advice to the Departments of Commerce and the Interior on National System development.	93

Measure 1a: The Fish Stock Sustainability Index (FSSI)

Explanation of Measure

The Fish Stock Sustainability Index replaces the measure "Number of Overfished Major Stocks of Fish." The index tracks the outcome of building and maintaining fish stocks at productive levels while also capturing the critical components of NOAA's efforts to get to that outcome, i.e., managing fish harvest rates and increasing knowledge about the status of fish stocks. The measure provides a much more complete picture than the old measure of

NOAA's success at fisheries management. The FSSI is calculated by assigning a total score between 0 and 4 to each of 230 priority fish stocks (see below). Each stock receives one point if:

- NOAA has determined whether or not (1) the stock is overfished (one half point) and (2) the stock is subject to overfishing (one half point); i.e., scientific knowledge is available about the stock;
- NOAA's management measures are succeeding at ensuring that fishing does not remove too many fish (i.e., level of fishing mortality does not exceed the threshold for overfishing);
- The stock is managed at an acceptable level (i.e., biomass is above the level defined as overfished for the stock); and
- The stock is rebuilt or is at its "optimal" level, the ultimate long term end state for a stock (i.e., biomass is within 80% of that required to achieve maximum sustainable yield).

The FSSI is computed by summing the scores of the individual stocks. Thus, the highest possible score for each stock is four and for the index it is 920. The long term goal is to achieve a perfect FSSI score, which would mean that all 230 stocks would be known to have near-optimal biomass levels and to be free from overfishing. However, this will likely take up to several decades, in part because of the biological characteristics of certain stocks.

A shorter-term goal, over the next 5 to 10 years, would be to end overfishing on all stocks known to be subject to overfishing. There are currently 43 of these stocks. Ending overfishing yields one FSSI point for each stock, so based on the October 1, 2005 baseline value of 500.5, ending overfishing for all currently overfished stocks would result in a value of 543.5 (assuming everything else remains constant).

The FSSI is based on a set of 230 priority fish stocks selected for their importance to commercial and recreational fisheries. Criteria for selection of stocks include whether they are major stocks (landings greater than 200,000 pounds), whether they are overfished or subject to overfishing, whether they have assessments scheduled, whether they have previously been identified as important, or other factors as appropriate. These stocks represent about 90% of all commercial landings in the U.S. NOAA plans for this set of stocks to be tracked over a 5-year period.

The advantages of the FSSI compared to the "Number of Overfished Major Stocks of Fish" are:
The FSSI measures aspects of both fishing mortality and biomass within a single measure, as opposed to measuring biomass only. Looking at both aspects provides a much more complete picture of the success of NOAA's fishery management program. It will also cause the measure to show more year-to-year movement and to be much more sensitive to changes in funding.

- Stocks included in the FSSI were selected according to their relative importance, whereas previously only major stocks determined to be overfished in 2000 were included. With five times the number of stocks, the new measure includes large portions of the program that were excluded under the old measure.
- The new measure accounts for progress made relative to stocks that are rebuilding or are currently being managed at a sustainable level. As a result, it is a more accurate portrayal of the status of fisheries.

FY 2007 Target

Since the FSSI is a new measure for FY 2007, the target for FY 2006 is provided for informational purposes only.

One of the major thrusts during FY 2006 and 2007 will be implementing the Regulatory Streamlining Project (RSP). The RSP is a fundamental reconsideration and redesign of the regulatory process within NMFS. Pursuant to direction from Congress, the stated goal of RSP is to improve performance, efficiency and accountability. The RSPs will improve the quality and timeliness of plans and regulations, increasing the effectiveness of management measures to end overfishing and rebuild stocks, two key components of the FSSI.

In response to the Bush Administration's Ocean Action Plan, NMFS will work with Regional Fishery Management Councils to promote greater use of market-based systems for fisheries management through programs such as dedicated access privilege (DAP) programs during FY 2006 and 2007. Dedicated Access Privilege programs (DAPs) allocate a share of the resource to individuals, cooperatives, or communities. DAP programs are effective at ending overfishing, a key component of the FSSI, where the overfishing results from "derby fishing" as a result of open access.

Other priorities during FY 2006 and 2007 will include bycatch reduction in all major commercial fisheries, monitoring of the crab rationalization program in Alaska, reauthorization of the Magnuson Stevens Fishery Conservation and Management Act, rebuilding strategies in Georges Bank, cooperation with international fish commissions, and management of highly migratory species such as sharks, white marlin and bluefin tuna.

Program Increase

The following program increases are directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Regulatory Streamlining	7	$2,829	Funds will support the fishery plan development and regulatory analysis, evaluation, and implementation capabilities of the Fisheries Management Program, which encompasses the process of developing fishery management recommendations through their analysis, approval, and implementation. With the implementation of the Regulatory Streamlining Program (RSP), NOAA will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. RSP will enable NOAA to efficiently	146

			address policy issues early in the regulatory process, rather than later when it becomes difficult to comprehensively address a new and possibly contentious issue. All Regional Fishery Management Councils and NMFS regions will receive support to frontload development, analysis, evaluation, and implementation of fishery management actions. Deliverables will include fishery management plans, plan amendments, implementation regulations (proposed and final rules), annual harvest specifications, and in-season management actions.	
Highly Migratory Species Research in the Gulf of Mexico	-	$3,000	These funds will support Highly Migratory Species Research in the Gulf of Mexico in order to address the research needs for Gulf and Atlantic billfish, tunas, swordfish, and sharks as well as fund the review of the status of the Atlantic white marlin for listing as threatened or endangered under the Endangered Species Act (ESA). In 2001, NOAA Fisheries received a petition to list the severely overfished Atlantic white marlin as threatened or endangered under the ESA. Additional funding for other Gulf of Mexico highly migratory species will enable NMFS to address continuing bycatch concerns for sea turtles and marine mammals in pelagic longline and other fisheries.	148
Catch and Release Mortality Research	-	$1,000	This increase will address priority research needs for estimating discard mortality for both the recreational and commercial sectors. This funding will support needed research for: enhanced onboard monitoring of commercial fishing vessels to obtain accurate information on discarded species including the following: identification of species, total number, survival by depth, and size; enhanced at-sea data collections onboard headboats to obtain complete angler interviews including accurate species identification and counts of discarded catch, the disposition of discarded catch, sizes of all landed and discarded fish, and depth of capture of released fish; additional research and development including development of techniques to monitor long-term survival rates and comparative studies of gear types and practices which may reduce discard mortality; collaborative field research with states, stakeholders, recreational and commercial fishing industries, and universities to test new techniques to monitor survival rates; laboratory experimental studies to test new methods; tagging studies to provide estimates of long-term	149

			survival; and improved outreach and education to all fishery sectors on reducing mortality of released bycatch.	
Expand Annual Stock Assessments - Improve Data Collection	8	$7,550	This request will strengthen stock assessment efforts (fishery resource surveys and assessment analyses) and initiate new ecosystem-based fish stock assessments and fishery-dependent sampling programs in the Gulf of Mexico. NMFS will improve fishery stock assessments by integrating more ecosystem information into mathematical models to reveal trends in biomass, recruitment levels (e.g., the number of young fish entering the stock each year), and exploitation rates. NMFS would initiate new fishery monitoring programs that collect data on landings, discarded bycatch, and life history data (growth, longevity, and mortality) in 2007 and integrate these data streams into scientifically reviewed stock assessment updates to constituents beginning in 2009. Expanding stock assessment capabilities will help address long-standing shortfalls in fisheries management, including: fishery monitoring, fish stock surveys, data management, and more comprehensive assessment models.	151
Regional Councils and Fisheries Commissions	-	$3,047	These funds will enhance the capacity of the eight Regional Fishery Management Councils (RFMCs) to participate fully in the Regulatory Streamlining Program. This funding will allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans (FMPs) or amendments to current plans to reduce levels of overfishing and overcapacity while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem. Extensive analyses and documentation are required to comply with the Magnuson-Stevens Fishery Conservation and Management Act and other mandates. The requested funding will allow the Councils to conduct the environmental, economic, and other impact analyses required. These analyses will occur sufficiently early in the regulatory process to allow a range of reasonable alternatives to be considered; this "no-surprises" approach will ensure compliance with the procedural requirements of the various mandates. $1,000,000 will be used for RFMCs to develop DAP programs, such as individual fishing quotas (IFQs).	159
Survey and Monitoring Projects	-	$1,168	Funds will enable NOAA to administer 3 research and monitoring programs in the Atlantic and Pacific Oceans. This will improve NMFS'	164

			ability to: 1) manage West Coast groundfish stocks; 2) estimate the distribution and abundance of bluefin tuna stocks; and 3) continue research on the apparent decline of bluefish stocks in the Atlantic Ocean.	
Enforcement	-	$3,979	The increase in Enforcement and Surveillance will support the need of NOAA's increased Management and Stewardship role addressing investigations and monitoring capabilities within the Northeast Shelf and Gulf of Mexico large marine ecosystems (LMEs). The additional funds for the Cooperative Agreements with states will provide the necessary support and capacity for the states to carry out their enforcement activities in full coordination with NOAA. Approximately ten (10) currently authorized investigative and enforcement support positions will be filled to partially assume the increased workload created by anticipated regulations for General Access Scallop, Recreational Fisheries, Red Snapper IFQ, South Atlantic Snapper/Grouper, Gulf Shrimp, and HMS Species.	172
Cooperative Research	-	$994	This increase will fund research on Bycatch Reduction Devices (BRDs) and other fishing gear in the Gulf of Mexico. A number of economically important recreational and commercial species of finfish are caught as bycatch in the shrimp fishery. With the use of BRDs, fishermen are able to retain the shrimp catch while allowing the finfish to escape the trawl net. Increased funding will enable NMFS to address the issue of lowering bycatch levels of a number of economically important recreational and commercial species of finfish including red snapper. NMFS' request directly supports efforts to support regional partnership opportunities in the Gulf of Mexico, a strategy that is advocated in the President's U.S. Ocean Action Plan.	198
Alaska Composite R & D	-	$6,724	These funds support science, research, and management of Alaskan living marine resources by better understanding living marine resources and providing for sustainable and abundance-based harvests. NMFS' support of the Alaska Composite Research and Development line will lead to a better understanding of living marine resources and will provide for sustainable and abundance-based harvests. The interactions of fisheries and marine mammals are the subject of intensive research in many parts of the world, and will be a major focus of research in the	206

			North Pacific for many years to come.	

Measure 1b: Percentage of Living Marine Resources (LMRs) With Adequate Population Assessments and Forecasts.

Explanation of Measure

This measure replaces the measures "Number of Major Stocks with an Unknown Stock Status" and "Number of Stocks of Protected Species with Adequate Population Assessments." The latter has been incorporated into this new measure as a protected species component. This measure tracks the percent of priority fish stocks and protected species stocks that have adequate population assessments and forecasts available and useful to resource managers. The priority fish stocks consist of 230 stocks selected for their importance to commercial and recreational fisheries. They are the same stocks tracked under the FSSI. Protected species stocks tracked for this measure are those listed under the MMPA and/or ESA, which happen also by coincidence to total 230. There are thus 460 stocks tracked under this measure.

This measure combines the number of stock assessments for priority fish stocks and the number of stock assessments and forecasts for protected species to produce a percentage of LMRs that tracks the scientific basis for supporting and for evaluating the impact of living marine resource management actions. The standard of "adequate" is in reference to improving the level of scientific information on a LMR stock to Tier II as described in the Fisheries and Protected Species Stock Assessment Improvement Plans (SAIPs) developed by the National Marine Fisheries Service. To reach this standard, assessments would have to be based on recent quantitative information sufficient to determine current stock status (abundance and mortality) relative to established reference levels and to forecast stock status under different management scenarios.

FY 2006 and 2007 Targets

Since this is a new measure for FY 2007, the target for FY 2006 is provided for informational purposes only. The FY 2007 target is based on information regarding the level and timeliness of each fish and protected species stock assessment. In FY 2007, we are aiming for 38.5% of a combination of selected fish stocks and protected species stocks to have Tier II stock assessments updated with sufficient timeliness to provide scientifically reliable determinations. To reach the FY 2007 target, six additional stocks of living marine resources (3 fish and 3 protected species) representing an increase of 3.5 percentage points will be raised to a Tier II assessment level, while maintaining the Tier II status of the previously assessed species. Existing assessments must be continually updated to remain current and thus retain their Tier II status. These assessments include monitoring the abundance and biological characteristics of managed fish stocks and protected species, as well as providing required status information and forecasts for each stock.

Program Increase

The following program increase is directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Protected Resources Research and Management Programs	7	$5,825	$2.828 million of this request will allow the Protected Species program to continue court ordered take reduction planning, complete ESA consultation on Federal actions, develop programmatic NEPA documents for permits and Incidental Harassment Authorizations, revise recovery plans for sea turtles and complete ESA five-year status reviews for marine mammals and sea turtles. This effort will also improve customer service by reducing the time required to complete permit actions. Additionally, specific research will be directed at determining the characteristics of noise experienced by marine animals underwater, measuring the behavioral and auditory effects of exposure to ocean noise, and developing cost effective mitigation measures for ocean noise effects. The remaining $3 million of this request will be used for protected species stock assessments and mortality estimation and for reducing bycatch of protected species in fisheries. Funds will allow NMFS to increase the quantity and improve the quality of stock surveys and assessments that inform regulatory decisions. Imprecise estimates increase the probability that species will be misclassified under the ESA or Marine Mammal Protection Act (MMPA), resulting in increased risk to species, delay of recovery, and additional mitigation measures that pose significant economic losses to the regulated community. Assessments also are critical to implementing the U.S. Ocean Action Plan because they will be used to establish acceptable levels of bycatch of marine mammals and turtles in the Atlantic Ocean and Gulf of Mexico. Currently, the quality of stock assessments for over 200 protected and at-risk marine species is inadequate for management purposes. NMFS will invest additional resources to make assessment information available to managers in order to minimize bycatch of protected species in fisheries and to increase transparency of the decision-making process.	118
Marine Mammals	-	$1,759	This request has two components: 1) *Dolphin Encirclement - $1.259 million.* Increased funds are necessary to fully fund continued long-term monitoring of the Eastern Tropical Pacific dolphins stocks, called for in MMPA section 304(b). This research includes Population Abundance	125

			Monitoring, Long-Term Stress Monitoring, Implementation of the System for Tracking and Verification of Dolphin-Safe Tuna, and Implementation of MMPA Import Requirements for Tuna Harvested in the Eastern Tropical Pacific. 2) *Recovery of Endangered Large Whales - $500,000.* The information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs for endangered large whales. This information will enable NOAA to detect changes in the status of large whales in order to prevent long-term and irreversible damage to these populations. The problems or information gaps to be addressed include: population structure, abundance, migratory patterns, and habitat needs.	
Expand Annual Stock Assessments - Improve Data Collection	8	$7,550	This request will strengthen stock assessment efforts (fishery resource surveys and assessment analyses) and initiate new ecosystem-based fish stock assessments and fishery-dependent sampling programs in the Gulf of Mexico. NMFS will improve fishery stock assessments by integrating more ecosystem information into mathematical models to reveal trends in biomass, recruitment levels (e.g., the number of young fish entering the stock each year), and exploitation rates. NMFS would initiate new fishery monitoring programs that collect data on landings, discarded bycatch, and life history data (growth, longevity, and mortality) in 2007 and integrate these data streams into scientifically reviewed stock assessment updates to constituents beginning in 2009. Expanding stock assessment capabilities will help address long-standing shortfalls in fisheries management, including: fishery monitoring, fish stock surveys, data management, and more comprehensive assessment models.	151
Fish Information Networks	-	$2,109	This request funds three state-federal cooperative programs that collect, manage, and disseminate statistical data and information on marine commercial and recreational fisheries off the coasts of Alabama, Florida, Georgia, Louisiana, Mississippi, and Texas. With this request, NMFS will have the capability to increase the quantity of data and improve the quality of statistics that are used to inform regulatory decisions for fisheries management.	161
Survey and Monitoring Projects	-	$1,168	Funds will enable NOAA to administer 3 research and monitoring programs in the Atlantic and Pacific Oceans. This will improve NMFS'	164

			ability to: 1) manage West Coast groundfish stocks; 2) estimate the distribution and abundance of bluefin tuna stocks; and 3) continue research on the apparent decline of bluefish stocks in the Atlantic Ocean.	
Fisheries Oceanography	-	$500	These funds will improve fish stock assessments by investigating the effects of ocean environmental variability on marine ecosystems and fish populations. The request will enable NMFS to develop new ecological indicators of the effects of environmental variability on living marine resources in the California Current, North Pacific, Gulf of Alaska, Bering Sea, Gulf of Mexico and Northeast U.S. Shelf large marine ecosystems. The Fisheries Oceanography program advances the current state of knowledge of ocean processes by forecasting potential impacts on production, growth, and/or distribution of marine fish, and these forecasts are incorporated into stock assessment and commercial harvest analyses.	166
Observers/Training	2	$3,494	These funds will expand observer coverage in the Gulf of Mexico; initiate observer coverage in priority fisheries nationwide; and support 35,000 observer collection days in the North Pacific. Without observers and observer programs, NMFS would have insufficient data to effectively manage many of the Nation's economically valuable fisheries. Additional research is needed to better quantify bycatch of red snapper and other species with respect to season, depth, and location. To achieve this goal, an expansion of the observer program coupled with an improved logbook program is needed. NMFS' improvement and expansion of observer programs for many of the fisheries with significant bycatch supports one of the priorities set forth in the President's U.S. Ocean Action Plan - the implementation of a new national bycatch strategy. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Endangered Species Act (ESA) require NMFS to standardize reporting methodologies that minimize bycatch in federally managed fisheries and to protect specific endangered or threatened marine plants and animals, respectively.	178
Southeast Area Monitoring and Assessment Program (SEAMAP)	-	$3,753	These funds will support SEAMAP's plankton and environmental surveys and will enable NMFS to increase sampling intensity for the Gulf of Mexico. This will improve current estimates of larval mortality as well as analyses of potential economic impacts to commercial and	202

			recreational fisheries. NMFS will warehouse all of the biological and environmental data from each SEAMAP survey into the SEAMAP Information System, a distributed data management system administered in conjunction with NMFS' Southeast Fisheries Science Center. NMFS' SEAMAP initiative reflects the Office of Management and Budget and Office of Science and Technology Policy's FY 2007 Research and Development Budget Priorities by placing a high priority on data sharing across platforms and disciplines.	
Alaska Composite R & D	-	$6,724	These funds support science, research, and management of Alaskan living marine resources by better understanding living marine resources and providing for sustainable and abundance-based harvests. NMFS' support of the Alaska Composite Research and Development line will lead to a better understanding of living marine resources and will provide for sustainable and abundance-based harvests. The interactions of fisheries and marine mammals are the subject of intensive research in many parts of the world, and will be a major focus of research in the North Pacific for many years to come.	206

Measure 1c: Number of Protected Species Designated as Threatened or Endangered under the Endangered Species Act, or as Depleted under the Marine Mammal Protection Act, with Stable or Increasing Population Levels

Explanation of Measure

This measure tracks progress at achieving partial recovery of endangered, threatened or depleted protected species under the jurisdiction of the National Marine Fisheries Service from a baseline of 65 species established as of January 1, 2004. Protected species are defined as all marine mammal stocks (except walruses, polar bears, and manatees) and those domestic non-marine mammal species listed as threatened or endangered under the Endangered Species Act (ESA) that are under the jurisdiction of the National Marine Fisheries Service. Marine mammal species included in this measure are those listed as "depleted" under the Marine Mammal Protection Act, which includes any listed under ESA.

Recovery of threatened, endangered or depleted protected species is very slow and can take decades. While it may not be possible to recover or de-list a species in the near term, progress can be made to stabilize or increase the species. For some, it is trying to stop a steep decline (right whales, stellar sea lions); for others it is trying to increase their numbers/abundance (Ridley turtles). NOAA's protected species management efforts are focused on halting declines and conserving species while still allowing human activities to continue.

FY 2006 and FY 2007 Targets

The FY 2007 target of 26 consists of 11 endangered species and 15 threatened species, up from 10 and 14 respectively in FY 2004, the most recent year for which actual data are available. Of the 65 stocks to which this measure applies, 34 are endangered, 27 are threatened, and 4 are depleted. The two targeted species for 2007 are Ozette Lake sockeye salmon and shortnose sturgeon, which are threatened and endangered, respectively.

Performance towards the FY 2006 and FY 2007 targets is based upon actions that have been taken over the last 5-10 years for Protected Species. Efforts include completion of recovery plans for Pacific salmon in the NMFS Northwest Region, continued impletmation of recovery actions for Pacific salmon through both ESA Pacific salmon recovery funds and grants provided through the Pacific Coastal Salmon Recovery Fund, and improved information gained through updated stock assessments and implementation of monitoring programs.

In FY 2007, NOAA will continue to make specific investments to improve the status of all protected species in order to meet out year performance targets. These specific actions include: Implementing ESA recovery plans, completing ESA consultations on the registration of pesticides by the Environmental Protection Agency, reducing bycatch of marine mammals and sea turtles in fisheries by completing take reduction planning efforts, and implementing ship strike reduction strategies for Right Whales. Improved protected species stock assessments and improved understanding of the effects of ocean noise will help us to make informed management decisions, leading to increased protection for species, while allowing human activities to continue.

Program Increase

The following program increase is directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Protected Resources Research and Management Programs	7	$5,825	$2.828 million of this request will allow the Protected Species program to continue court ordered take reduction planning, complete ESA consultation on Federal actions, develop programmatic NEPA documents for permits and Incidental Harassment Authorizations, revise recovery plans for sea turtles and complete ESA five-year status reviews for marine mammals and sea turtles. This effort will also improve customer service by reducing the time required to complete permit actions. Additionally, specific research will be directed at determining the characteristics of noise experienced by marine animals underwater,	118

			measuring the behavioral and auditory effects of exposure to ocean noise, and developing cost effective mitigation measures for ocean noise effects. The remaining $3 million of this request will be used for protected species stock assessments and mortality estimation and for reducing bycatch of protected species in fisheries. Funds will allow NMFS to increase the quantity and improve the quality of stock surveys and assessments that inform regulatory decisions. Imprecise estimates increase the probability that species will be misclassified under the ESA or Marine Mammal Protection Act (MMPA), resulting in increased risk to species, delay of recovery, and additional mitigation measures that pose significant economic losses to the regulated community. Assessments also are critical to implementing the U.S. Ocean Action Plan because they will be used to establish acceptable levels of bycatch of marine mammals and turtles in the Atlantic Ocean and Gulf of Mexico. Currently, the quality of stock assessments for over 200 protected and at-risk marine species is inadequate for management purposes. NMFS will invest additional resources to make assessment information available to managers in order to minimize bycatch of protected species in fisheries and to increase transparency of the decision-making process.	
Marine Mammals	-	$1,759	This request has two components: 1) *Dolphin Encirclement - $1.259 million.* Increased funds are necessary to fully fund continued long-term monitoring of the Eastern Tropical Pacific dolphins stocks, called for in MMPA section 304(b). This research includes Population Abundance Monitoring, Long-Term Stress Monitoring, Implementation of the System for Tracking and Verification of Dolphin-Safe Tuna, and Implementation of MMPA Import Requirements for Tuna Harvested in the Eastern Tropical Pacific. 2) *Recovery of Endangered Large Whales - $500,000.* The information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs for endangered large whales. This information will enable NOAA to detect changes in the status of large whales in order to prevent long-term and irreversible damage to these populations. The problems or information gaps to be addressed include: population structure, abundance, migratory patterns, and habitat needs.	125

Marine Turtles	-	$650	These funds are necessary to continue research to recover highly endangered sea turtles within the U.S. and internationally. Funds will allow for the protection of the globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles. These funds will support the collection of information on biology and habitats.	128
Other Protected Species	4	$3,153	These funds are critical to recovering those NMFS ESA listed species that do not have a separate program, as well as those species nearing the need for ESA listing (species of concern). Activities supported by this funding include completion of ESA section 7 consultations and implementing recovery programs for hard corals, shortnose sturgeon, Gulf sturgeon, white abalone, Johnson's seagrass, and smalltooth sawfish. These funds will be used to initiate pilot proactive conservation efforts for species nearing the need for listing under the ESA. This pilot program will focus on reducing threats to the species through on-the-ground conservation actions or development of management agreements. This measure will result in cost savings by preventing an ESA listing and thus not having to complete the ESA consultation and permitting requirements for species.	130
Atlantic Salmon	-	$1,445	This request will be used for implementation of the Atlantic salmon recovery plan including research and management activities within NMFS, and to fund recovery activities of the state of Maine. NMFS proposes to use its Atlantic salmon funds to support ongoing research and recovery efforts geared toward implementing the recovery plan. Examples of NMFS actions include: development of a proposed rule addressing the boundaries of the DPS, based on a stock status review published in FY 2006; convene and serve as a co-chair (with USFWS) of an interagency Recovery Implementation Team with representatives from Federal, State, and local agencies, Tribes, NGO's and the Canadian Government to implement the final recovery plan; an evaluation of the effects of hatchery stocking by the USFWS on Atlantic salmon recovery; evaluations of the interaction of water chemistry, habitat and the transition process for juvenile salmon migrating from rivers to the sea through estuaries. Funds requested will also be provided to the Maine Atlantic Salmon Commission, to facilitate their continued research and	133

			management activities in support of the recovery plan. Examples of work accomplished with these funds include: assessments of adult and juvenile salmon populations, evaluations of various stocking practices, studies of adult and juvenile migration, and monitoring water quality in Maine salmon rivers. Funds from the NMFS grant provide up to 64% of Commission monies, and allow the Commission to complete critical recovery work which is not done by any other agency or group.	
Pacific Salmon	-	$9,664	This request includes three components: recovery implementation and management actions; improved scientific advice for Pacific salmon recovery; and response to EPA consultation workload. These efforts are critical to achieving recovery on an expedited timeframe, while at the same time providing good customer service to constituents looking to implement recovery actions, as well as carry out other lawful activities. Without the proposed increase, the program will revert to a program without the resources to provide customer service and the species will suffer from a lack of coordinated local action on recovery.	134
Enforcement	-	$3,979	The increase in Enforcement and Surveillance will support the need of NOAA's increased Management and Stewardship role addressing investigations and monitoring capabilities within the Northeast Shelf and Gulf of Mexico large marine ecosystems (LMEs). The additional funds for the Cooperative Agreements with states will provide the necessary support and capacity for the states to carry out their enforcement activities in full coordination with NOAA. Approximately ten (10) currently authorized investigative and enforcement support positions will be filled to partially assume the increased workload created by anticipated regulations for General Access Scallop, Recreational Fisheries, Red Snapper IFQ, South Atlantic Snapper/Grouper, Gulf Shrimp, and HMS Species.	172
Alaska Composite R & D	-	$6,724	These funds support science, research, and management of Alaskan living marine resources by better understanding living marine resources and providing for sustainable and abundance-based harvests. NMFS' support of the Alaska Composite Research and Development line will lead to a better understanding of living marine resources and will provide for sustainable and abundance-based harvests. The interactions of	206

			fisheries and marine mammals are the subject of intensive research in many parts of the world, and will be a major focus of research in the North Pacific for many years to come.	

Measure 1d: Number of Habitat Acres Restored (Annual/Cumulative)

Explanation of Measure

NOAA restores habitat areas lost or degraded as a result of development and other human activities, as well as specific pollution incidents and sources. Activities are geared toward NOAA trust resources found across the marine environment and supportive of anadromous fish species. The intent of this measure is to summarize or project the geographic area over which ecosystem function has been or will be improved as the direct result of habitat restoration efforts.

FY 2006 and FY 2007 Targets

NMFS participates in a variety of regional and national programs to restore NOAA trust resources and meet the FY 2006 and FY 2007 targets. On a national basis, NMFS directs restoration planning, implementation and monitoring for the Community-based Restoration Program, a program of modest grants for local, partnership-based restoration activities. NMFS serves as the Department of Commerce representative to the Coastal Wetlands Planning, Protection and Restoration Act Task Force, through which the agency undertakes large-scale habitat restoration and protection projects in coastal Louisiana. NMFS serves as the primary source of restoration expertise for the NOAA Damage Assessment and Restoration Program. Working with staff from the National Ocean Service and the NOAA General Counsel's Office, NMFS experts address large-scale oil spills, releases of toxic compounds, and ship groundings to obtain monetary compensation from responsible parties and apply funds to restore or replace injured resources.

Great Lakes Habitat Restoration	-	$1,500	These funds will establish a Great Lakes Habitat Restoration Program, emphasizing restoration of NOAA trust resources at the watershed scale within the Great Lakes Areas of Concern. The two primary components of the Great Lakes Restoration Program will be: 1) the establishment of a cross-NOAA Great Lakes Habitat Restoration Program Office in the region and 2) the coordination of NOAA efforts to focus habitat restoration efforts at the watershed level in the Areas of Concern (AOC) identified under the Great Lakes Water Quality Agreement.	188

Measure 1e: Annual Number of Coastal, Marine and Great Lakes Ecological Characterizations that Meet Management Needs.

This measure was reworded since the FY 2005 APP due to suggestions from the OMB Ecosystem Research Program PART process.

Sound management of coastal and ocean ecosystems requires scientifically-based information on their condition. At the most fundamental level, ecosystem characterization includes identification of the physical location (ecosystem boundaries), spatial extent, socioeconomic, and biological, chemical, and physical characteristics. NOAA's ecological environmental characterizations improve understanding of the history, current state, and future condition of ecosystems. They are cornerstones to ecosystem-based approaches to management and the basis for many coastal and ocean management tools including forecasts, assessments, and management plans.

NOAA will make decisions about what and when to characterize based on major user demand and requirements identified for each major ecosystem by agency and regional stakeholders. Characterization efforts will be prioritized using the following criteria: user community demand and priorities, including those for NOAA management programs; adequacy of indicator; significance of issue; and consequences of management action/ inaction. NOAA will focus on protected areas or areas where NOAA has a clear management mandate, including essential fish habitat, National Marine Sanctuaries, National Estuarine Research Reserves, the Great Lakes, the coastal zone, and coral reef ecosystems. NOAA will work with others to identify key parameters for characterizing their condition and develop assessments of their present "health."

The indicator in this measure is **characterizations that meet management needs.** Management needs, and thus the characterizations required to address them, vary temporally and geographically. Thus, National Marine Sanctuaries, National Estuarine Research Reserves, coral reef ecosystems, the coastal zone, the Great Lakes, Essential Fish Habitats, Ecological Species Units, and unexplored areas will each have different management needs and associated ecological environmental characterizations.

FY 2006 and 2007 Targets

NOAA will conduct 110 ecological environmental characterizations in FY 2006 and 84 in FY 2007 at ecosystem sites that include the following:

- National Marine Sanctuaries (Channel Islands, Cordell Bank, Florida Keys, Flower Garden Banks, Gray's Reef, Northwestern Hawaiian Islands, Monterey Bay, Hawaiian Islands Humpback Whale, Fagatele Bay, Gulf of the Farallones, Monitor, Olympic Coast, Stallwagen Bank, Thunder Bay).
- National Estuarine Research Reserves.
- Coral reef ecosystems (American Samoa, Guam, CNMI, Hawaii, NWHI, Florida, Puerto Rico, USVI, and FAS)
- The coastal zone (e.g., Lake St. Clair and the St. Clair River, Apalachicola Bay, Coastal Southern Maine, Elwha River Watershed, and Coastal Louisiana).
- Great Lakes (Lake Erie, Huron, Superior, Michigan, and Ontario).

- Essential fish habitat.
- Ecological species units.
- Unexplored areas.

Measure 1f: Cumulative number of coastal, marine and Great Lakes issue-based forecasting capabilities developed and used for management.

This measure was reworded since the FY 2006 APP to incorporate suggestions from the OMB PART process. NOAA is developing discrete forecast models that allow resource managers to make decisions based on predicted environmental and socioeconomic impacts related to a particular issue. Managers will use these issue-based forecasts to predict the impacts of a single ecosystem stressor (i.e., climate change, extreme natural events, pollution, invasive species, and land and resource use) and to evaluate the potential of various options to manage those stressors. These forecasts will be based upon field and laboratory studies, existing data, and models predicting environmental conditions under different scenarios. Forecast capabilities will be specific to a geographic area and will be counted for each ecosystem as they become operational – HAB forecasts in the Gulf of Mexico and Gulf of Maine will be counted as two separate forecast capabilities. Similarly, multiple, distinct forecast capabilities could be counted within a single ecosystem (i.e., NOAA may forecast harmful algal blooms (HABs), pink shrimp harvest, and hypoxia in the Gulf of Mexico).

The ultimate goal is for resource managers to routinely use NOAA's forecasts to better manage ecosystem use, condition, and productivity. Progress toward this goal has been documented since 2001 and includes: Eastern Gulf of Mexico and Gulf of Maine harmful algal bloom alerts (2001), pink shrimp harvest and Gulf of Mexico hypoxia forecast model development (2002), transfer of an operational oyster mortality forecast capability to the US Army Corps of Engineers (2003), transfer of an operational Eastern Gulf of Mexico harmful algal bloom alert capability to NOAA's Coastal Services Center (2004), transfer of the Great Lakes Forecasting System to NOAA programs (i.e., National Ocean Service Center for Operational Oceanographic Products and Services and National Weather Service) (2005), and preliminary forecasts for domoic acid in Pacific Northwest razor clams, coral bleaching, oyster mortality, and real-time jellyfish prediction in the Chesapeake Bay.

FY 2006 and 2007 Targets

By the end of FY 2004, the capability to forecast HABs in the Gulf of Mexico was complete. Under the current schema, by 2011, five NOAA ecosystem forecast capabilities will be affecting management decisions. In FY 2006, NOAA will focus on developing and validating forecasts for domoic acid in Pacific Northwest razor clams, coral bleaching, oyster mortality, and real time jellyfish predictions in the Chesapeake Bay, but none of these are expected to be transferred to managers until FY 2008 and beyond. The FY 2007 target is to develop a pink shrimp harvest forecast and transfer it to the North Carolina Department of Fisheries.

Measure 1g: Percentage of tools, technologies, and information services that are used by NOAA partners/customers to improve ecosystem-based management. (Note: Baseline data and targets are under development.)

This measure was reworded since the FY 2006 APP to incorporate suggestions from the OMB PART process. This measure will track NOAA's success in providing tools, technologies, and information services that improve the use and management of coastal, ocean, and Great Lakes ecosystems. This measure will capture a range of products and services that NOAA provides to coastal and marine resource managers. Tracking the accessibility and use of information by target audiences will allow NOAA to identify and expand its most effective programs and products. NOAA partners and customers include federal, state, local and tribal authorities who make decisions that affect the state of resources in the U.S. coastal zone, and other users whose actions impact the condition of coastal ecosystems (e.g., private industry, school children.)

Examples of tools include: coastal population change data, land cover data, benthic habitat maps, and environmental sensitivity index maps. Technologies refer to the transfer of new or underused approaches for addressing coastal management (e.g., remote sensing, biosensors, Automated Underwater Vehicles (AUVs), genetic markers for fishery stocks) and resource development (e.g., culture systems for aquaculture, marine pharmaceuticals). This includes the application of technology to coastal resource management through synthesis, integration, training, and the development of new management tools. Information services would include technical assistance, education materials and curricula, extension and training. Tools or techniques used for modeling or forecasting are measured elsewhere and excluded here.

FY 2007 Target

The measure's baseline data and targets remain under development, and it is planned to be ready for use in FY 2007. NOAA will continue to develop baseline and targets for this measure during FYs 2005 and 2006.

Measure 1h: Number of coastal, marine, and Great Lakes habitat acres acquired or designated for long-term protection. (Note: This is a separate habitat performance measure from the established GPRA measure *number of habitat acres restored,* 1d.)

Since the FY 2006 APP, this measure has been reworded, and scope reduced to not include habitat restoration at this time. Serious habitat degradation is evident throughout the nation's coastal, marine, and Great Lakes areas. Current threats to these habitats include coastal urbanization, fragmentation of habitats, overuse, and impacts of vessel groundings, dredging, and fishing gear on underwater habitats. Habitat restoration (the established GPRA measure, 1d) and long-term protection (this new measure, 1h) are critically needed to help maintain the function of important coastal and marine ecosystems. Under NOAA's legislative mandates, NOAA protects and restores key habitats that provide critical ecosystem functions that support the health of endangered or threatened species, essential fish habitat, as well as provide a number of other societal or economic benefits. NOAA maintains the health of coastal, marine, and Great Lakes habitats by designating and managing important areas for long-term conservation and by providing support to state and local governments to protect additional key habitats by purchasing land from willing sellers.

This *long-term protection* measure tracks the number of acres acquired with NOAA funds by state or local government agencies from willing sellers for long-term protection of important coastal habitats, or the number of acres designated for long-term protection by NOAA or by state partners, such as through the National Marine Sanctuary Program (NMSP) and National Estuarine Research Reserve System (NERRS). The protected acres are the actual number of acres newly protected in a fiscal year. The cumulative total represents acres acquired or designated to date for the NERRS, NMSP, and Coastal and Estuarine Land Conservation Program. The goal for the long-term protection indicator is variable, as the yearly target can vary from hundreds to thousands of acres each year. For example, the initial designation or acquisition for a new reserve or sanctuary may add hundreds of thousands of acres in one year, while in other years acquisition may result in several hundred or thousand acres protected.

The measure does not track NOAA's proactive efforts to educate landowners and inform decision-makers about reducing the number of proposals that degrade or destroy habitat or its reactive efforts to comment on permits requesting development in areas that would have adverse effects on marine and coastal ecosystems.

FY 2006 and 2007 Targets

This measure was under development in FY 2006 APP and targets for acres acquired are for FY 2007 APP. Target numbers for "acres *designated* for long-term protection" have been established based on the planned designation of the Mission Aransas National Estuarine Research Reserve in FY 2006 and planned designation of the Northwest Hawaiian Islands Coral Reef Ecosystem Reserve as the 14th National Marine Sanctuary in FY 2007. NOAA target numbers for "acres *acquired* for long-term protection" are difficult to establish because 1) these projects are competitively selected based on availability of funding and 2) the variability in cost per acre of land make it difficult to estimate acreage based on average cost.

MEASURE UNDER DEVELOPMENT: Percentage of Coastal, Marine and Great Lakes Ecosystems with Improved Ecosystem Health (as Demonstrated by a Suite of Indicators of Ecosystem Health).

The key outcome of NOAA's Ecosystem Goal is "Healthy and productive ocean, coastal, and Great Lakes ecosystems that benefit society". NOAA works to achieve this goal through the execution of numerous legislative mandates, which convey public trust responsibilities to NOAA for the nation's coastal and marine resources. NOAA, other Federal, state, and local government agencies, the private sector, nongovernmental groups and the public influence the desired outcome. To gauge progress toward achieving this goal, NOAA is developing a new performance measure that indicates whether ecosystem health is improving in each of the large ecosystems or sub-ecosystems within its purview.

NOAA has made significant progress toward establishing this measure, but much work remains. For example, NOAA has begun to delineate coastal, marine, and Great Lakes ecosystems at their largest scale. NOAA will continue to develop this regional framework, and in consultation with key stakeholders, will identify sub-ecosystems (encompassing coastal watersheds, marine waters, and Great Lakes environments). Concurrently, NOAA will continue to develop an adaptive suite of indicators of ecosystem health in those regions. Until subecosystems are defined, NOAA will refine its adaptive

suite of indicators of ecosystem health. NOAA will continue to work toward establishing a system for integrated budget and performance management that will give NOAA the verified data needed to track its planned index measure on ecosystem health.

Discontinued Measures

Measure: Number of Overfished Major Stocks of Fish

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Target	45	43	43	40	42	N/A
Actual	45	42	42	42		
Met/Not Met	*	*	*	*		

* The primary reason this measure is being replaced is due to the difficulty of tracking it from year to year. There is poor alignment of the timing between the availability of final information from one year and need to specify targets for the next year. This problem has been further exacerbated by updated stock information that has led to baseline adjustments not related to stock recovery. In retrospect the problem has caused the targets to have inconsequential meaning and the assessment of whether or not a target was met, not particularly informative. The discussion that follows attempts to describe these changes on an annual basis. In sum, two stocks were rebuilt between FY 2002 and FY 2005, and none are planned to be rebuilt in FY 2006.

FY 2002 started with an actual of 46 from FY 2001. The target for FY 2002 was a reduction of one (from 46 to 45). During the year, however, there was a change to the baseline from 46 to 45 (one stock that had been included in the baseline was removed). Since F Y2002 ended with 45 the measure was not met.

FY 2003 started with the actual of 45 from FY 2002. The target for FY 2003 was a reduction of two (from 45 to 43). Once again, however, there was a modification to the baseline (two stocks originally included as separate stocks were determined to be a single stock and combined) resulting in a revised baseline of 44. This effectively made the target 42, but this target was never modified to reflect that change. Two stocks were actually rebuilt in FY 2003 so the actual at the end of the year was 42 and the target was met. (NOTE: The 42 end-of-year actual was erroneously reported as 43 in the Department of Commerce FY 2004 Performance and Accountability Report and as 44 in the FY 2006 Annual Performance Plan).

FY 2004 started with the actual of 42 from FY 2003. The target remained at 43 based on the baseline without the modification from FY 2003. There was no planned reduction for FY 2004. Since FY 2004 ended with an actual of 42, the measure was met.

FY 2005 started with the actual of 42 from FY 2004. The target for FY 2005 was a reduction of one (from the FY 2004 target of 43 to the original FY 2005 target of 42. The 2005 PAR modified the FY 2005 target to 40 to reflect the baseline changes noted above). Since FY 2005 ended with an actual of 42 representing no reduction, the target was not met.

FY 2006 began with an actual of 42. The 2006 target of 42 reflects all currently available information regarding the rebuilding status of the stocks as well as the adjustments to the baseline. There is no planned reduction for FY 2006.

Measure: Number of Major Stocks With an Unknown Stock Status

	FY 2002*	FY 2003*	FY 2004*	FY 2005*	FY 2006*	FY 2007
Target	120	88	84	81	70	N/A
Actual	88	94	77	73		
Met/Not Met	Met	Met	Met	Met		

*The primary reason for this measure being replaced is that it does not have a constant baseline. Since the number of major stocks changes from year to year, many changes in the numbers did not reflect changes in performance.

FY 2002 started with an actual from the previous year of 120. There was no planned reduction for FY 2002. FY 2002 ended with an actual of 88. Of the 32 stock decrease, 30 stocks (net) moved from major to minor, while two stocks (net) moved from unknown to known. Zero were targeted, two were accomplished. Therefore the measure was met.

FY 2003 started with an actual from the previous year of 88. There was no planned reduction for FY 2003. FY 2003 ended with an actual of 94. However, a net of eight stocks moved from minor to major, while a net of two stocks went from unknown to known. Targeted zero, accomplished two. Therefore the measure was met.

FY 2004 started with an actual from the previous year of 94. The target for FY 2004 was a reduction of 4 (from an original estimate of 88 in FY 2003 to 84 in FY 2004). FY 2004 ended with an actual of 77 unknown stocks. Of the 17 stock reduction, a net of 10 stocks were added, removed, or merged into complexes, while 7 stocks moved from unknown to known. Targeted 4, accomplished 7. Therefore the target was met.

FY 2005 started with an actual from the previous year of 77. The target for FY 2005 was a reduction of 4 (from an original estimate of 85 in FY 2004 to 81 in FY 2005). FY 2005 ended with an estimated actual of 73. This estimate is based on four new assessments having been approved during FY 2005. Targeted 4, accomplished 4. Therefore the measure was met.

FY 2006 began with an estimated actual from the previous year of 73. The target for 2006 is a reduction of 3 (from 73 estimated to 70).

Measure: Number of Stocks of Protected Species with Adequate Population Assessments

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Target	N/A	N/A	N/A	N/A	59	N/A
Actual	N/A	N/A	61	57		
Met/Not Met						

Explanation of Discontinued Measures

Number of Overfished Major Stocks of Fish

This measure is being discontinued for three reasons. First, since it focused only on the major stocks that were listed as overfished in the 2000 Report to Congress on the Status of Fisheries, it did not encompass stocks that have become overfished since 2000 and thus did not convey the most up-to-date status of NMFS-managed fish stocks. Second, despite the wording, it focused on those stocks that have not yet been rebuilt to sustainable levels rather than those that remain overfished, which was confusing. Third, by focusing only on overfished status, there were many important aspects of fishery management, in particular reductions in overfishing, that it did not reflect. Because the program more directly influences fishing mortality rates and stock assessments and only indirectly influences biomass levels through controlling fishing mortality, the new measure is a more accurate and timely reflection of program performance while still being outcome oriented.

Number of Major Stocks with an "Unknown" Stock Status

This measure was problematic because it did not have a constant baseline. Due to the definition of a major stock as simply one with more than 200,000 pounds of landings, the list of major stocks changed frequently with new landings data, causing the measure to report changes in numbers that did not correspond to changes in performance. The new measure Percent of Living Marine Resources (LMRs) With Adequate Population Assessments tracks a fixed set of priority fish stocks and thus avoids this problem. It also focuses on the level and quality of scientific information available for each stock rather than on its official status determination, which is a management rather than a scientific decision.

Number of Stocks of Protected Species with Adequate Population Assessments

This measure is a component of the new measure Percent of Living Marine Resources (LMRs) with Adequate Population Assessments, so keeping it as a separate measure would be redundant.

Program Evaluation

Virtually every aspect of National Marine Fisheries Service's fisheries science program is peer reviewed, either internally within NMFS or outside the agency by, for example, the National Academy of Sciences or the National Science Foundation. NMFS also relies on extensive informal networks of university partnerships and laboratories throughout the Nation. Moreover, reviews often occur by opposing parties' scientists in the court system when fisheries management decisions are litigated.

Evaluation efforts include peer reviews of proposals, internal and external reviews of programs, and quarterly reviews of NMFS' overall performance in protected species recovery. Constituent input is an important part of the evaluation process and is solicited regularly through constituent workshops.

NOAA's goal to sustain healthy coasts is the product of more than 25 years of experience helping to understand and manage coastal resources so that their ecological and economic productivity can be fully realized and sustained. Evaluation efforts exist at a variety of levels, from peer reviews of proposals and evaluations of individual projects, to internal and external reviews of entire programs and quarterly reviews of NOAA's overall performance in coastal stewardship areas. Constituent input is an important part of the evaluation process and is solicited regularly through constituent workshops.

Cross-cutting Activities

Intra-Department of Commerce

The National Marine Fisheries Service will focus on reducing overfishing and overcapitalization of U.S. fishery resources by improving stock assessment and prediction, improving essential fisheries habitat, and reducing fishing pressure, including downsizing of fishing fleets. The Department of Commerce, enlisting the support of key bureaus such as the Economic Development Administration, the Minority Business Development Agency, and the National Institute of Standards and Technology, will play a key role in mitigating the impact of these critical resource conservation decisions in the transition to economically sustainable communities.

Other Government Agencies

The Department of Commerce will enlist the support of other federal agencies, such as USDA, the Small Business Administration, and the U.S. Department of Labor, to mitigate the effect of resource conservation decisions.
Over the past year, NMFS has developed innovative partnerships with the states of Maine, Washington, Oregon, and California to promote the recovery of listed and at-risk salmon and steelhead species.

NOAA has leveraged its resources through a variety of effective international, interagency, state, local, private sector, and other partnerships to develop world-class coastal stewardship capabilities. These partnerships are essential to effectively integrate coastal science, assessment, monitoring, education, and management activities.

NOAA provides technical and scientific assistance to a variety of partners involved in protection, monitoring, and restoration of coastal resources. For example, NOAA provides critical information to the U.S. Coast Guard to help the Coast Guard respond to approximately 70 serious oil and chemical spills every year. NOAA also works closely with other agencies, Department of Commerce bureaus, states, local governments, and industry on important cross-cutting activities such as reducing the risks and impacts of natural hazards, protecting and restoring essential fish habitats, reducing runoff pollution, forecasting and preventing harmful algal blooms, and exploring the deep ocean and new uses of the ocean's rich biodiversity.

External Factors and Mitigation Strategies

Various external factors may affect NMFS' ability to reach its targets. The impact of climate, biological, and other natural conditions affect NMFS' efforts to recover protected species and maintain the status of healthy species. In addition, many of NOAA's coastal stewardship activities depend on contributions from multiple partners, particularly states, territories, and other federal agencies. The failure of one or more of these partners to fulfill their cooperative contributions could have very serious consequences on overall efforts. Further, the effect of national and/or local economic conditions may affect NOAA's ability to reach certain targets. Research may identify opportunities to pursue mitigating strategies in some cases.

Performance Goal for Climate: Understand climate variability and change to enhance society's ability to plan and respond

DOC Strategic Goal 3: Observe, protect, and manage the earth's resources to promote environmental stewardship

General Goal/Objective 3.1: Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs

Weather and climate sensitive industries, ranging from finance, insurance, and real estate to services, retail and wholesale trade and manufacturing, directly and indirectly account for about one-third of the Nation's gross domestic product (GDP), or $3 trillion,. Industries directly impacted by weather such as agriculture, construction, energy distribution, and outdoor recreation account for nearly 10 percent of the Nation's GDP. Drought is estimated to result in average annual losses to all sectors of the economy of between $6-8 billion. Given such stresses as population growth, drought, and increasing demand for fresh water, and emerging infectious diseases, it is essential for NOAA to provide reliable observations, forecasts, and assessments of climate, water, and ecosystems to enhance decision makers' ability to minimize climate risks. This information will support decisions regarding community planning, public policy, business management, homeland security, natural resource and water planning, and public health preparedness. In the U.S. agricultural sector alone, better forecasts can be worth over $300 million in avoided losses annually.

To enable society to better respond to changing climate conditions, NOAA, working with national and international partners, will employ an end-to-end system comprised of integrated observations of key atmospheric, oceanic, and terrestrial variables; a scientific understanding of past climate variations and present atmospheric, oceanic, and land-surface processes that influence climate; application of this improved understanding to create more reliable climate predictions on all time scales; and service delivery methods that continuously assess and respond to user needs with the most reliable information possible.

These activities will accelerate the development of a structure and process for improving the relevance of climate science to assist decision-makers in their development of national, regional and sectoral adaptation responses (actions to reduce vulnerability, seize opportunities, and enhance resilience) to variability and long-term changes in the climate, particularly for industry, natural resource and water managers, community planners, and public health professionals.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Integrated Ocean Observing System (IOOS): Global Ocean Observing System for Climate	-	$6,052	Completes 61% of the planned global ocean observing system for climate, which is the global component of the Integrated Ocean Observing System and the ocean component of the Global Earth Observation System of Systems (GEOSS). This request responds to the long-term observational requirements of operational forecast centers, international research programs, and major scientific	250

			assessments.	
NIDIS and Regional Decision Support Partnerships: Coping With Drought	-	$4,000	Develops a focused decision-support research effort to aid risk management in the context of severe, sustained drought, and broader water resources management issues.	253
Explain Climate Conditions to Improve Predictions	-	$2,000	Develops new climate reanalysis data sets that will improve operational climate prediction and improve knowledge of the causes of observed climate variability, whether natural or human- induced.	259
Climate Reference Network	-	$1,161	Enables installation and commissioning of the remainder of the full network of 114 stations for adequate documentation of long-term changes in temperature and precipitation (50-100 years) and a more robust climate record.	271
Earth System Research Laboratory: Regional Air Quality Assessment	-	$2,420	Comprehensive Air Quality (AQ) regional assessments that will characterize atmospheric processes that are key causes of air quality problems. The centerpiece of each assessment is a comprehensive month-long field experiment that will measure many aspects of weather and air quality in a region with serious AQ problems. Each assessment provides both general and region-specific information to air quality decision-makers, including policy-makers at all levels of government, enabling them to develop plans that protect both public health and economic vitality. NOAA's assessments also provide essential information for improving and evaluating numerical models of air pollution that are used to predict unhealthful conditions and evaluate potential policies.	279
Laboratories & Cooperative Institute: Climate Research	-	$1,225	The OAR Laboratories and Cooperative Institutes are an integral part of the interagency Climate Change Science Program, which links the U.S. Global Change Research Program (USGCRP) and the Administration's Climate Change Research Initiative (CCRI). OAR Laboratories and Cooperative Institutes conduct a wide range of research into complex climate systems and how they work. The research aims to improve NOAA's ability to assess climate variability on seasonal to interannual timescales, as well as interdecadal to	242

			centennial timescales and beyond.	
Tornado/Severe Storm Research (Phased-Array Radar).	-	$2,014	NOAA is developing new technologies for forecasting and detecting tornadoes and other forms of severe weather and to disseminate this information to emergency managers, the media, and the general public for appropriate action. Phased-array radar has the potential to significantly extend lead times for tornadoes and other forms of severe and hazardous weather. Faster scan rates can reduce the time it takes to make a complete Doppler radar observation from six minutes to less than one minute. Coupled with artificial-intelligence-based decision-support systems, tornado lead times could be almost doubled from 12 to 22 minutes.	286
National Sea Grant College Program	-	$741	NOAA's National Sea Grant College Program enhances the development, use, and conservation of the Nation's marine and Great Lakes resources through a network of Sea Grant Colleges that conduct education, training, and research in all fields of marine and Great Lakes study. The 30 state Sea Grant programs, located in every coastal and Great Lakes state and Puerto Rico, serve as the core of a dynamic national network of more than 300 participating institutions involving more than 3,000 scientists, engineers, outreach experts, educators and students.	297
Global Climate Observing System	-	$2,743	Supports NOAA's commitment to build an Integrated Global Environmental Observation and Data Management System and provides resources to help build climate observation systems in developing countries throughout the world. This will yield a more robust global record of climate trends.	268
Regional Climate Services	-	$528	Provides climate-sensitive sectors (farmers, utilities, land managers, business owners, energy, re-insurance, weather-risk industry) with climate data and information products and climate forecasts tailored toward regional impacts. This activity forms the backbone of the customer service and information distribution to be leveraged for the National Integrated Drought Information System (NIDIS).	263

National Undersea Research Program	-	$4,990	This will restore NURP's capability to provide state-of-the-art undersea research capabilities that are geographically balanced across the U.S. In FY 2006, NURP maintained minimum support to one East Coast center and, thus, a very limited capability to support undersea research off the Atlantic coast and in the Gulf of Mexico and Caribbean regions. This initiative will allow NURP to fully comply with Congressional mandates and recommendations and serve scientists and the general public by providing cutting-edge undersea research and technologies and will provide managers and stakeholders with tools, technologies, and data to serve as stewards of our Nation's natural resources. NURP will be able to provide such support across both ocean basins in an efficient and cost-effective manner through a balanced set of centers on both East and West coasts.	300
Ocean Exploration Program	-	$1,513	This increase will restore key investments in the Nation's only program dedicated to systematically exploring the world's oceans. It will support NOAA's ability to fulfill its scientific, environmental assessment, and technology development responsibilities. In response to the U.S. Commission on Ocean Policy's recommendations for a National Ocean Exploration Program, the U.S. Ocean Action Plan highlighted the development of a new NOAA vessel dedicated to ocean exploration. In September of 2004, NOAA obtained this vessel, the *Okeanos Explorer*. In addition, OE funding has also been critical for the operations of the University-National Oceanographic Laboratory System (UNOLS) fleet and the National Deep Submergence Facility (NDSF) assets (e.g., ALVIN submersible, JASON ROV) since 2002.	305
High Performance Computing and Communication	-	$6,474	These funds will be used to make major improvements in the NOAA's ability to forecast the Nation's weather and climate, to model ecosystems and the ocean, and to disseminate environmental information. Improvements in the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, and regional and global climate predictions are heavily	319

			dependent on major advances in high-end computing power, advanced information technology, and the availability of environmental data and information.	
Archive, Access, and Assessment	-	$6,700	This increase is necessary to carry out key data archive, access, and assessment activities, and sustain operations at NOAA's National Data Centers. This funding is necessary to ensure timely and quality service delivery for more than 50,000 users per year from the private sector, academia, and government.	402
Climate Database Modernization – Quality Assurance / Quality Control (NC)	-	$275	With this funding, NOAA and the NCDC manage the conversion of historical data records to electronic format and accessibility via the Internet. Basic operational efforts such as processing and keying incoming NOAA records, image access, subscription services and accounts receivable will be supported.	403
Research Supercomputing/Climate Change Computing Initiative	-	$984	Provides critical computing, storage, and analysis capabilities, as well as model development and infrastructure support, for meeting the objectives of the Administration's Climate Change Science Program (CCSP).	558

Measure 2a: U.S. Temperature Forecasts (Cumulative Skill Score Computed Over the Regions Where Predictions are Made)

Explanation of Measure

Accurate temperature forecasts are critical to many sectors of the national economy, including agriculture and energy utilities. This measure compares actual observed temperatures with forecasted temperatures from areas around the country. For those areas of the United States where a temperature forecast (warmer than usual, cooler than normal, near-normal) is made, this score measures how much better the forecast is than the random chance of being correct. Areas where no forecast for surface temperature is made (i.e., areas designated as "equal chance" on the Climate Prediction Center (CPC) seasonal forecast maps) are not included in the computation of the Heidke Skill Score (HSS), the metric used for this measure to compare actual and observed temperatures. It is one of several accepted standards of forecasting in the scientific community. It is calculated as follows:

Heidke skill score: $S = ((c-e)/(t-e)) \times 100$
where c = number of stations correct
and e = number of stations correct by chance = (1/3) x total number of stations in a 3 equal class system
and t = number of stations, total

S is approximately equal to one-half of the correlation between forecast and observations.

The HSS is a function of whether or not a forecast is correct and for how many locations a forecast is made, but does not reward when the forecast is verified by chance. Skill score is based on a scale of -50 to +100. If forecasters match a random prediction, the skill score is zero. Anything above zero shows positive skill in forecasting. Given the difficulty of making seasonal temperature and precipitation forecasts for specific locations, a skill score of 20 is considered quite good and means the forecast was correct in almost 50% of the locations forecasted. Forecasts will likely be better in El Niño years than in non-El Niño years. Reported skill score is a cumulative average over past 48 consecutive 3-month seasons. For example, skill score of 18 reported at the end of FY 2002 is the HSS averaged over 48 surface temperature forecasts from October 1998 to September 2002. Temperatures across the United States will be measured using NOAA's cooperative network maintained by volunteers across the nation. Temperature data is collected and analyzed by NOAA.

In June 2005, NOAA switched to a new method of computing HSS and the new method will be reflected in the reporting of the FY 05 actual (none of the data reported in the summary table has changed). The old technique was done manually, and as such, was subject to occasional human errors. It was calculated using data for major cities, which resulted in the score being disproportionately weighted toward the eastern U.S. The new technique verifies a gridded objective analysis of the forecast field against a gridded analysis of the observed verification field. This treats the entire area of the lower 48 states more fairly and objectively.

2007 Targets

The FY 2006 target score is 18 and is an increase over the target for FY04 of 17. Beyond FY 2006, a gradual increase in performance skill score is expected due to improvements in modeling and research activities.

Specifically, the National Weather Service accelerated implementation of the new Climate Forecast System originally scheduled for FY 2005 to FY 2004, which is expected to yield benefits in the late 2005 or early 2006 time period. NOAA's Climate Prediction (CPC) is leading an effort to spin up a Climate Test Bed which will accelerate the transition of research improvements to operational climate prediction, and has redirected nearly 25% of its federal and contract staff to accelerate improvements in seasonal climate prediction. Increased collaboration with the research climate community is also planned to enhance model diagnostics and testing from the internal and external science communities. In addition, CPC will expand the collaborative forecast process to include more scientists and experimental forecast tools in their operational seasonal forecasts. This targets the best possible prediction expertise and cutting edge science. Other activities include completion of North American Monsoon Experiment (NAME) in FY04, aimed at improving warm-season predictions, and implementing a new training program that provides forecasts that take into account the latest science and technology advances and the use of new seasonal climate tools/products.

Measure 2b: Reduce the uncertainty in the magnitude of the North American carbon uptake

Explanation of Measure

By 2008, NOAA will reduce the uncertainty of atmospheric estimates of the North American carbon uptake by half to +/- 0.3 Gt C per year, assuming a full network of 36 stations has been established and monitored. Several inverse transport models are being used to determine the uncertainty in the North American carbon uptake as the number of carbon dioxide profiling sites is increased. The uncertainty is estimated on an annual basis, to track progress toward the long-term goal. The baseline uncertainty is +/- 0.6 GtC per year (as determined in 2000). Reducing the uncertainty by 50% will allow resolution of the interannual variability in the North American carbon flux and U.S. regional carbon dioxide emissions and uptake.

Carbon dioxide is the most important of the greenhouse gases that are undergoing changes in abundance in the atmosphere due to human activity. On average, about one half of all the carbon dioxide emitted by human activity is taken up by the oceans and the terrestrial biosphere (trees, plants, and soils). These reservoirs of carbon are known as carbon "sinks." However, the variation in the uptake from year to year is very large and poorly understood. A large portion of the variability is thought to be related to the terrestrial biosphere in the Northern Hemisphere, and quite likely North America itself. NOAA needs to assess and quantify the source of this variability if it is to provide scientific guidance to policymakers who are concerned with managing emissions and sequestration of carbon dioxide. This can only be done by making regional-scale measurements of the vertical profile of carbon dioxide across the U.S. which, combined with improved transport models, can be used to determine carbon dioxide sources and sinks on a regional (about 600 mile) scale. This will provide a powerful tool to gauge the effectiveness of carbon management and enhanced sequestration efforts.

Research supporting this measure also ensures a long-term climate observing system that provides an observational foundation to evaluate climate variability and change, and provides the mechanism to support policy and management decisions related to climate variability and change at national and regional scales. More information can be found at http://www.cmdl.noaa.gov/carbonamerica/.

FY 2006 and 2007 Targets

An intensive interagency field campaign in the north-central United States, which began in FY 2005 with the implementation of new aircraft sites in Iowa, Illinois, Nebraska, North Dakota and Wisconsin is planned during the 2006-2007 period to reconcile estimates of regional carbon sources and sinks calculated from atmospheric measurements, with direct estimates utilizing field measurements, land-based carbon inventories, regional geographic information, and remote sensing. The campaign also seeks to attribute sources and sinks of carbon dioxide to ecosystem processes and human activities within the region.

The expansion of the North American observing network of tall tower and aircraft profiling sites is delayed from the original planned deployment due to the enacted funding level. Targets in FY 2006 and FY 2007 remain virtually constant from the FY 2005 actual (+/- 0.4 gigatons C/yr) and achieving the long-term target of +/- 0.3 gigatons C/yr will be delayed until deployment of the planned network is completed.

Measure 2c: Reduce the uncertainty in model simulations of the influence of aerosols on climate

Explanation of Measure

The near-term goal. *By 2007, NOAA observational and theoretical research will reduce the uncertainty in the simulated influence of North American aerosols on climate by 10%.* The baseline for comparison will be the level of uncertainty reflected in the 2001 climate-change assessment of the Intergovernmental Panel on Climate Change (IPCC), which was prepared by the worldwide scientific community. The meeting of the 10% measure will be judged by the findings of the forthcoming 2006/7 IPCC assessment, which will update the understanding of climate change.
The longer-term goal. By 2010, *NOAA observational and theoretical research will reduce the uncertainty in the simulated influence of global aerosols on climate by 40%.* The baseline for comparison will again be the high level of uncertainty reflected in the 2001 climate-change assessment of the IPCC, prepared by the worldwide scientific community. The meeting of this longer-term 40% measure will be judged by the findings of forthcoming IPCC assessments, further updating the understanding of climate change.

Background on the science. Aerosols are liquid or solid particles suspended in the atmosphere. They force changes in the climate system by (i) directly absorbing and scattering of radiation from the sun and (ii) by changing the way clouds reflect back solar radiation. While greenhouse gases warm the atmosphere, aerosols and clouds can both counteract greenhouse gases by reflecting incoming solar radiation and cooling the atmosphere, or, under different conditions, can absorb solar radiation, thus heating the atmosphere. The role of aerosols, clouds, and climate is deemed to be the largest single uncertainty in the prediction of how human activities influence climate change (IPCC, 2001). This GPRA measure addresses the first of the two factors. In later years the second factor will also be included.

NOAA research plan and annual performance measures. To meet the 2007 goal, NOAA has designed a four-step research program. It is complete with annual measures of success of each year's step, plus an overall evaluation of how all four steps contribute to the 2007 goal. *Plan.* (1) The multi-stepped plan began in 2002, scoping out the information needs associated with the climate influence of North American aerosols. (2) In 2003, instruments were developed to fill the North American observational gaps. (3) In 2005, monitoring of the seasonal changes of the aerosols and their climate impact began in one key North American region. (4) In 2006, NOAA will carryout an intensive field campaign using long-existing and newly developed instruments in the Gulf of Mexico region. The results from this field study, monitoring activities, and laboratory-derived data will be used to evaluate the percentage improvement in model simulation of the role of North American aerosols on climate via scattering and absorption of radiation. *Annual Performance Measures.* Annual targets quantitatively score the success of each of the individual research tasks in preceding years. Success in each of these preceding steps is necessary for success in meeting the 10 percent improvement of uncertainty associated with the 2006 goal and the 15% improvement in uncertainty for the 2007 goal.

Outcome and payoffs. The desired outcome is an improved science-vetted set of options for changing the impact of North American aerosols on climate, which can be considered by governments, the private sector, e.g., transportation and energy production, and the public. Reductions in the uncertainties surrounding aerosols relate directly to the confidence with which model simulations can support policy decisions on the climate issue. Furthermore, since

aerosols are also a human-health, air quality issue, there is the opportunity to quantify "win-win" opportunities of how decisions made to improve air quality may also contribute to reduce the forcing of climate change.

FY 2006 and FY 2007 Targets

While 2006 will be the first year this measure is presented in this report, progress toward this near-term goal is already being tracked at the program level. A series of annual research activities from instrument development in FY2003, to field process studies and long-term monitoring of aerosol distributions in FY2004 and FY2005, will be utilized to achieve the FY2006 and FY 2007 goals and further enhance our understanding of how aerosols affect climate.

Measure 2d: Determine the National Explained Variance (%) for Temperature and Precipitation for the Contiguous United States using USCRN Stations

Explanation of Measure

This measure is designed to address the significant shortcomings in past and present observing systems by capturing 98% of the long-term changes in the national annual average surface air temperature and 95% of the long-term changes in the national annual average precipitation throughout the contiguous U.S. using the U.S. Climate Reference Network (USCRN).

Inadequacies in the present observing system increase the level of uncertainty when government and business decision-makers consider long-range strategic policies and plans. The U.S. Climate Reference Network (USCRN), a benchmark climate-observing network, will provide the nation with long-term (50 to 100 years) high quality climate observations and records with minimal time-dependent biases affecting the interpretation of decadal to centennial climate variability and change. Deployment of the U.S. Climate Reference Network is continuing, with stations added over the next several years.

The original full national network implementation plan has been scaled back to ~110 stations deployed across the contiguous U.S., capturing long-term temperature and precipitation trends only at the national level across the lower 48 states, due to lower enacted funding. Given the current and future states of available technologies, the adjusted network distribution provides for the life cycle high performance operations and maintenance of the commissioned stations while maintaining the quality of the data at the highest possible level, given the current and future state of available technologies. The smaller sized network will not be able to achieve the level of monitoring and evaluation of climate variations and trends originally intended at the regional scale. This may be possible if funding for modernizing the Historical Climatology Network (HCN) is made available as a part of the NOAA Environmental Real-time Operational Network (NERON) project.

The USCRN will strengthen the existing climate record through determination of transfer functions between these stations and the instrumentation and stations of other observing networks. This will increase assurance of long-term and bias-free national and global monitoring, including higher-precision,

higher-confidence validation of NOAA's space-based (satellite) measurements and monitoring capabilities. More information can be found at http://www.ncdc.noaa.gov/crn/performancemeasures.html.

FY 2006 and FY 2007 Targets

Due to reduced funding levels in FY 2005 and FY 2006, the deployment of new stations was suspended and available funds used for operations and maintenance (O&M) of commissioned observing stations. All other USCRN related activities, such as developing instrument transfer functions and station normals, were suspended during FY 2005. The percent national explained variance for FY 2006 for the annual average surface air temperature will be 96.9% and for precipitation, 91.4%. Provided funding is enacted at the FY 2007 requested level, the target completion date will be extended from FY 2007 to FY 2010 for completing the deployment of the remainder of the currently planned network of stations across the lower 48 states. In addition, quality control technique improvements will be delayed, and incomplete instrument transfer functions will prevent improvements in the quality and value of other NOAA observations from in situ and remote (satellite based) observing systems, as related to climate monitoring and evaluation of present, past, and future climate variation and change.

Program Increase

The following program increase is directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Climate Reference Network	-	$1,161	Enables installation and commissioning of the remainder of the full network of 114 stations for adequate documentation of long-term changes in temperature and precipitation (50-100 years) and a more robust climate record.	271

Measure 2e: Reduce the error in global measurement of sea surface temperature

Explanation of Measure

This measure is intended to document progress in accurately measuring the global sea surface temperature. The unit of measure is potential satellite bias error (in degrees Celsius) of global sea surface temperature. Bias error is due to a systematic difference between multiple types of observing instrumentation (e.g., satellites and in situ buoys, ships, etc.). The current satellite bias error is 0.6 °C (2005). The long-term goal is to reduce the error to 0.2 °C by FY2008. The maximum allowed bias error has been specified as less than 0.5 °C on a monthly scale for a 5° latitude-longitude box.

The sea surface, covering over 70% of the Earth surface, has a tremendous influence on global climate. It is where the atmosphere responds to the ocean, via the transfer of heat either to or from the atmosphere. Warmer than normal sea surface temperatures in the tropical Pacific is a dominant characteristic of the El Niño phenomenon, and predictive climate models for El Niño must be initialized using the most precise observed surface temperature possible to produce accurate forecasts. Since sea-surface temperature is measured by buoys, ships, and satellites, this performance measure is well-suited as an indicator of the effectiveness of our integrated ocean observing system.

This performance measure also reflects how improvements in ocean observations will decrease the uncertainty in global sea surface temperature measurements, which will ultimately play a role in calculations of the ocean-atmosphere exchange of heat and the heat storage in the global ocean. More accurate estimates of sea surface temperature and ocean heat content will improve our ability to respond to changes in the climate system.

FY 2006 and FY 2007 Targets

The integrated ocean climate observing system is ~53% complete at the end of 2005. Current limitations in accurate measurements of global sea surface temperature include insufficient observing platforms in the global ocean. FY2006 and FY2007 will be dedicated to maintaining current coverage of the global ocean observing network, working toward global coverage and the long-term goal of reduced error in the global measurement of sea surface temperature. The reduction in uncertainty in sea surface temperature is dependent upon the deployment of global drifting buoys and subsequent response of the network as the data are collected. While the target deployment of 1250 buoys was completed in FY 2005, 2006 and 2007 will be dedicated to optimizing the location of the buoys in order to more effectively reduce uncertainty in estimates of global sea surface temperature.

Program Increase

The following program increase is directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Integrated Ocean Observing System	-	$6,052	Completes 61% of the planned global ocean observing system for climate, which is the global component of the Integrated Ocean Observing System and the ocean component of the Global Earth Observation System of Systems (GEOSS). This request responds to the long-term observational requirements of operational forecast centers, international research programs, and major scientific assessments.	250

Measure 2f: Improve society's ability to plan and respond to climate variability and change using NOAA climate products and information

Explanation of Measure

This measure documents our success in working directly with stakeholders to develop and enhance a suite of climate data, monitoring, and prediction products that are valuable to our customers and stakeholders. The unit of measure is: number of risk and impact assessments/evaluations published and communicated to decision makers. The baseline is 28 risk and impact assessments/evaluations published in 2003.

NOAA currently provides state of the art science and discovery information products to a range of decision makers, from water resource managers and regional forecast offices, to national and international assessments, such as the U.S. Climate Change Science Program (CCSP) and the Intergovernmental Panel on Climate Change (IPCC). These information summaries highlight important deliverables such as reducing uncertainty in climate forcing models (e.g., carbon sources and sinks, effects of aerosols on climate), as well as in seasonal, interannual, and decadal climate forecasts. These deliverables form the basis of NOAA's emerging climate products and services. NOAA requires stakeholder input and feedback for product development and improvement. These interactions are facilitated by both interdisciplinary research and NOAA operations, bridging the gap between research and production, and decision makers. By increasing the interactions between NOAA and the users of climate information, NOAA will ensure that climate products and services are reaching the key decision making sectors.

FY 2006 and FY 2007 Targets

NOAA is planning on continuing the development of prototype climate decision support tools and the broadening of decision support partnerships through extramural research grants, and enhancements to the already successful Regional Integrated Sciences and Assessments (RISA) Program and newly established Sector Applications Research Program (SARP). The NOAA Climate Transition Program (NCTP), newly implemented in FY2005, will continue to focus on successful transfers of experimental research and information products into operational settings. NOAA plans to expand RISA into the Alaska region; and through a focus on Coping with Drought will seek to enhance drought impacts research, generate directed drought regional and river basin decision support activities, and transition drought related research tools into operations.

Program Increase

The following program increase is directly related to this performance measure (Dollars in Thousands):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
NIDIS and Regional	-	$4,000	Develops a focused decision-support research effort to aid risk	253

Decision Support Partnership: Coping with Drought			management in the context of severe, sustained drought, and broader water resources management issues.	

Program Evaluation

The NOAA Scientific Advisory Board (SAB), made up completely of private sector, university, and other Federal agency scientists, conducts periodic reviews of the activities of the Office of Oceanic and Atmospheric Research Laboratories and Joint Institutes. The SAB also provides guidance on NOAA's Climate Program. A number of NOAA line offices participate in the activities that support climate research. The National Environmental Satellite, Data, and Information Service (NESDIS) holds management performance reviews several times a year. NWS conducts reviews of the National Centers for Environmental Prediction (NCEP). In addition, programs are evaluated by the National Science Foundation and the National Research Council. NOAA holds annual constituent workshops at which NOAA's seasonal climate forecast efforts are discussed with the community of seasonal-to-interannual climate forecast users, and input is solicited to shape future efforts. NOAA's Climate Program Office, funded in Oceanic and Atmospheric Research's (OAR) Competitive Research Programs line item, is reviewed by international science agencies, universities, and private sector scientists.

Cross-cutting Activities

Other Government Agencies

NOAA works with a wide variety of partners in the area of climate forecasts, including other federal agencies (for example, the Federal Emergency Management Agency and the U.S. Agency for International Development), state and local agencies (for instance, state departments of environmental protection and emergency preparedness managers), academia, foreign government agencies, and international organizations. In preparing for the 1997–98 El Niño, NOAA worked closely with the Federal Emergency Management Agency and state and local officials, greatly improving public preparedness for the severe weather resulting from El Niño.

In 2003, the US government formed the Climate Change Science Program (CCSP) to facilitate the creation and application of knowledge of Earth's global environment through research, observations, decision support, and communication. The DOC, partnering with 12 other Federal agencies, leads this nationwide effort (http://www.climatescience.gov/Library/stratplan2003/default.htm). At NOAA, Climate Goal strategic performance objectives correspond directly to CCSP goals and are managed by NOAA's Climate Goal.

Government/Private Sector

NOAA depends strongly on universities to help accomplish its science objectives through a network of joint and cooperative institutes and universities. NOAA also funds academic researchers through competitive, peer-reviewed programs, namely, OAR's Competitive Research Program (formerly referred to as the Climate & Global Change Program).

External Factors and Mitigation Strategies

Improving our understanding of the natural environment requires advanced infrastructure and therefore continual investment in new technology, such as improved in situ observing systems, supercomputers, and environmental satellites.

Performance Goal for Weather and Water: Serve society's needs for weather and water information

DOC Strategic Goal 3: Observe, protect, and manage the earth's resources to promote environmental stewardship

General Goal/Objective 3.1: Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs

On average, hurricanes, tornadoes, tsunamis, and other severe weather events cause $11 billion in damages per year. Weather, including space weather, is directly linked to public safety and about one-third of the U.S. economy (about $3 trillion) is weather sensitive. With so much at stake, NOAA's role in observing, forecasting, and warning of environmental events is expanding, while economic sectors and its public are becoming increasingly sophisticated at using NOAA's weather, air quality, and water information to improve their operational efficiencies and their management of environmental resources, and quality of life.

NOAA is strategically positioned to conduct sound science and provide integrated observations, predictions, and advice for decision makers to manage many aspects of environmental resources–from fresh water to coastal ecosystems and air quality. Bridging weather and climate time scales, NOAA will continue to collect environmental data and issue forecasts and warnings that help protect life and property and enhance the U.S. economy.

NOAA is committed to excellent customer service. NOAA depends on partners in the private sector, academia, and government to help disseminate critical environmental information. NOAA will work even closer with existing partners and will develop new partnerships to achieve greater public and industry satisfaction with weather, air quality and water information. NOAA will expand services to support evolving national needs, including space weather, freshwater and coastal ecosystems, and air quality predictions throughout the Nation.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Strengthen Tsunami Warning Network	4	$9,920	Sustain the Administration's commitment to strengthen the U.S. Tsunami Warning Program.	352
National Profiler Network Frequency Conversion	5	$3,500	Transfers wind profilers from research to operations and funds a conversion of the radio frequency over which they transmit so that the profilers do not impede search and rescue satellite communications.	356
Florida/Caribbean Hurricane Data Buoy (O&M)	-	$1,400	Funds operation and maintenance of seven new weather data buoys funded/deployed under the FY 2005 Hurricane Supplemental Appropriation for enhanced real time hurricane data observations and storm monitoring in the Caribbean, Gulf of Mexico, and the Atlantic Ocean to support the NOAA hurricane warning and forecast mission.	350

Air Quality Forecasting	-	$2,500	Funds Air Quality Forecasting program deployment schedule for nationwide deployment of ozone forecasts in FY 2009 and for initial PM forecast capability in FY 2012.	355
Sustain Cooperative Observer Program	-	$890	Funds O&M support for NOAA legacy Cooperative Observer program.	356
Pacific Island Compact	-	$50	Provides for support for the five Micronesian Weather Forecast Offices served by the Compact of Free Association.	358
Space Environment Center	-	$3,199	Funds increases for the Space Environment Center to provide real-time monitoring and forecasting of solar and geophysical events, conduct research in solar-terrestrial physics, and develop techniques for forecasting solar and geophysical disturbances.	358
US Weather Research Programs (USWRP)	-	$2,457	Accelerates air quality research for particulate matter forecasts and to expand THORPEX.	358
Advanced Hydrological Prediction Services (AHPS)	-	$1,098	Continues nationwide implementation of AHPS, with deployment at an additional 309 forecast points in these areas planned in FY 2007.	359
Next Generation Weather Radar (NEXRAD)	-	$2,830	Provides increases necessary for continued operations and maintenance for the network of 123 NEXRAD systems.	369
Advanced Weather Interactive Processing System (AWIPS)	-	$3,461	Funds necessary increases for continued operations and maintenance for the network of 169 fielded systems.	369
NWS Telecommunications Gateway	-	$2,500	Implements a telecommunications network solution that resolves an existing single-point-of-failure associated with the NWS Telecommunications Gateway.	370
NOAA Center for Weather and Climate Prediction	-	$11,000	Prepares the NOAA Center for Weather and Climate Prediction (NCWCP) for FY 2008 occupancy and operations.	627
WFO Construction	-	$30	Upgrades and modernizes Alaska and Pacific Region Weather Service Offices, Tsunami Warning Centers, and associated employee housing units to bring the NWS into full compliance with federal law and national and local building codes.	627
National Water Level Program	-	$2,000	The requested increase will rebuild and strengthen the National Water Level Observation Network's (NWLON) ability to provide critical navigation and storm tide information throughout extreme weather and water events. Hurricanes Katrina, Rita and Wilma destroyed a total of nine tide gauges in the Gulf and southern Florida, and	54

			inflicted serious damage across the rest of the NWLON. The funds will re-establish destroyed stations and make other needed system wide repairs. In addition to filling observation gaps, the funds will significantly improve the NWLON's ability to continue operation and provide critical real time data for storm surge forecasts and emergency response throughout a storm's duration by "hardening" stations.	
Archive, Access, & Assessment	-	$152	This increase is necessary to carry out key data archive, access, and assessment activities, and sustain operations at NOAA's National Data Centers. This funding is necessary to ensure timely and quality service delivery for more than 50,000 users per year from the private sector, academia, and government.	402

Measure 3a: Lead Time (Minutes), Accuracy (%), and False Alarm Rate (FAR, %) of Severe Weather Warnings for Tornadoes

Explanation of Measure

The lead time for a tornado warning is the difference between the time the warning was issued and the time the tornado affected the area for which the warning was issued. The lead times for all tornado occurrences within the continental U.S. are averaged to get this statistic for a given fiscal year. This average includes all warned events with zero lead times and all unwarned events. In FY 2005, the percentage of events with a lead time greater than zero was 66 percent. Accuracy is the percentage of time a tornado actually occurred in an area that was covered by a warning. The difference between the accuracy percentage figure and 100% represents the percentage of events without a warning. The false alarm rate is the percentage of times a tornado warning was issued but no tornado occurrence was verified. The false alarm rate was added as a reportable measure in FY 2000, although it had been collected and used internally previously.

FY 2006 and 2007 Targets

The FY 2006 and FY 2007 targets for tornado lead time and FAR have been revised based on analysis of recent trends in performance, combined with impacts of prior fiscal year budget reductions and residual impacts those reductions have had on programs. Specifically the NEXRAD Open Radar Data Acquisition (ORDA) deployment start date was delayed from fall 2004 to fall 2005 due to a FY 2004 budget cut that impacted NWS' ability to meet the accelerated schedule that had been established. The subsequent delay of the deployment of the ORDA super resolution capability from spring 2005 to spring 2008 has also contributed to the revision of targets. The super resolution capability was delayed due the

technical design being more challenging than anticipated, and also due to a NEXRAD tri-agency team decision to deploy the basic ORDA functionality before deploying super resolution.

There are several actions that will lead to tornado warning improvement in FY 2006 and FY 2007. NWS lead time target will gradually increase to 14 minutes by FY 2007 after completion of retrofits of the NEXRAD systems, implementation of new training techniques such as a weather event simulator, and realization of the operational benefits of Advanced Weather Interactive Processing System's five software enhancements, including enhancements to the Mesocyclone and Tornado Vortex Signature Algorithms delivered during FY05. Technological advances and new training techniques have resulted in meeting or exceeding lead time and accuracy goals in recent years. The same training techniques have also led to False Alarm Rate not meeting the goals set in FY 2002, FY 2003 and FY 2004. National emergency manager and media surveys indicate that they can "tolerate" a higher false alarm rate if it results in longer lead times and increased accuracy. Supplemental coverage from FAA radars and enhanced radar algorithms and scan strategies are being incorporated into AWIPS from FY 2005 through FY 2010 to reduce the false alarm rate.

Program Increases

The following program increases are directly related to this performance measure ($K). Note: this increase is related to the GPRA measures only at the Weather Forecast Offices (WFOs) within the National Wind Profiler Network; it does not affect the national GPRA targets. This is explained in more detail in the budget narrative.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
National Profiler Network Frequency Conversion	5	$3,500	Transfers wind profilers from research to operations and funds a conversion of the radio frequency over which they transmit so that the profilers do not impede search and rescue satellite communications.	356

Measure 3b: Lead Time (Minutes) and Accuracy (%) for Severe Weather Warnings for Flash Floods

Explanation of Measure

The lead time for a flash flood warning is the difference between the time the warning was issued and the time the flash flood affected the area for which the warning was issued. The lead times for all flash flood occurrences within the continental United States are averaged to get this statistic for a given fiscal year. This average includes all warned events with zero lead times and all unwarned events. In FY 2005, the percentage of events with a lead time greater than zero was 74 percent. Accuracy is measured by the percentage of times a flash flood actually occurred in an

area that was covered by a warning. The difference between the accuracy percentage figure and 100 percent represents the percentage of events without a warning.

FY 2006 and 2007 Targets

The FY 2006 and 2007 targets for the Flash Flood accuracy were adjusted based on analysis of performance and budget reductions in recent fiscal years. NWS expects to improve both flash flood lead-time and accuracy over the next several years through the implementation of new Advanced Hydrologic Prediction Service (AHPS) flash flood decision assistance tools. However, the FY 2005 enacted budget delayed the implementation of forecaster-requested enhancements to the operational AHPS Flash Flood Monitoring and Prediction (FFMP) decision assistance tool, and this will have residual effects in FY 2006 and FY 2007, which is why the goals have been revised. Critical flash flood operations related training to field staff will also be delayed in FY 2005 and in FY 2006, which contributes to the goal revision. The implementation of NEXRAD Open Radar Data Acquisition (ORDA), originally scheduled to begin in the fall of 2004, began in FY 2005 due to a FY 2004 budget cut that impacted NWS' ability to meet the accelerated schedule that had been established. The goal of ORDA is to provide precipitation estimates on a much smaller grid, giving forecasters many more points to average for the basin rainfall. The larger number of points for averaging the rainfall will deliver more precise precipitation input for forecasting flash floods. Also, in FY 2006 Distributed Modeling will be installed into the AWIPS baseline software. This will introduce a level of specificity to the hydrologic modeling that will take advantage of the smaller grid precipitation estimates provided by ORDA and improve the precision of flash flood forecasting. By FY 2007, improvements to precipitation estimates in mountainous areas will be added which will also improve the precision of forecasting in areas that have historically been difficult due to lack of data. Lead time and accuracy should be improved by these new capabilities.

Measure 3c: Hurricane Forecast Track Error (48 Hours)

Explanation of Measure

The public, emergency managers, government institutions at all levels in this country and abroad, and the private sector use NOAA hurricane and tropical storm track forecasts to make decisions on life and property. This goal measures the difference between the projected location of the center of these storms and the actual location in nautical miles (nm) for the Atlantic Basin. The goal is computed by averaging the differences (errors) for all the 48-hour forecasts occurring during the calendar year. This measure can show significant annual volatility. Projecting the long-term - trend, and basing outyear goals on that trend, is preferred over making large upward or downward changes to the goals each year.

FY 2006 and 2007 Targets

Based on an analysis of recent performance and long-term trends, the FY 2006 and FY 2007 targets for hurricane track forecast error have been lowered. Based on observed data from 1987 – 2004, a new trend line for performance has been calculated, and targets have been adjusted according to the new trend line. The average track error is projected to decrease due to improvements in observations, hurricane forecast models, aircraft upgrades, supporting data and computer infrastructure, and by conducting research within the U.S. Weather Research Program (USWRP) that will be transferred to NOAA NWS forecast operations. Specifically, the first generation Hurricane Weather Research Forecast model assessment will occur in during the 2006 hurricane

season and will make use of advanced observations for large-scale atmosphere (winds, moisture and temperature observations) and oceans, and NOAA will install additional marine buoys at high priority sites in the Caribbean and Atlantic Ocean which will provide an early warning system of marine observations in the open ocean. In addition, ten Air Force C-130 aircraft will be equipped with Stepped Frequency Microwave Radiometers in late FY 2005 which will provide more accurate observations of surface winds.

Measure 3d: Accuracy (%) (Threat Score) of Day 1 Precipitation Forecasts

Explanation of Measure

This performance measure tracks the ability of the weather forecasters of NOAA's Hydrometeorological Prediction Center to predict accurately the occurrence of one inch or more of precipitation (rain or the water equivalent of melted snow or ice pellets) twenty-four hours in advance across the contiguous U.S. This measure was originally, "Accuracy of 3-day Forecast of Precipitation." The measure has been revised to reflect a more representative and accurate means of measuring the performance for this strategic goal. Through this measure, the HPC focuses on relatively heavy amounts of precipitation, usually a half inch or more in a 24-hour period (short-term flood and flash flood warnings), because of the major safety and economic impacts such heavy precipitation can have in producing flooding, alleviating drought, and affecting river navigation.

The HPC began providing quantitative precipitation forecasts (QPFs) in 1961. These forecasts indicate how much precipitation is expected across the United States, not just whether it will rain or snow. The HPC began making QPFs through two days into the future in 1965 and through three days in 2000. The HPC has tracked the accuracy of these forecasts very carefully over the years using a metric with the statistical name of "threat score" or equivalently "critical success indicator". This accuracy metric ranges from 0 percent, indicating no skill, to 100 percent for a perfect forecast. In verifying the accuracy of a forecast of 1 inch or more of precipitation for day 1 (the next 24 hours), for example, the HPC first determines everywhere in the U.S. where an inch or more actually fell and was observed by rain gauges. On a given day this occurs only over a very small percentage of the country (although a 1 inch or more precipitation event is significant for the inhabitants of that particular area). The HPC then compares these observed areas of at least 1 inch of precipitation with the forecasted areas of at least 1 inch, counting only those points in the United States where HPC forecasted and observed at least an inch as being an accurate forecast. (These points are called "hits".) Thus, if HPC forecasts 1 inch to fall at the point representing Washington, DC, and it observed only 3/4" actually had fallen in that specific area, the forecast is then rated as a "miss", even if an inch of rain was observed to have fallen at the points nearby representing the area of Fairfax City, Virginia, or the area of Upper Marlboro, Maryland. The overall accuracy score for the country for that particular day 1 forecast is then determined by dividing the total number of correctly forecast points (hits) by the total number of points where HPC had either forecast at least 1 inch of liquid precipitation or 1 inch of liquid precipitation had actually occurred. Thus this measure takes into consideration those areas where 1 inch or more of precipitation was correctly forecast, where it was forecasted but did not occur, and where it occurred but had not been forecasted. In summary, to earn a high accuracy score, HPC has to forecast the time, place, and amount of precipitation very well.

Regarding the quality control of the forecast and verification processes, HPC forecasters work under the supervisory control of the Senior Branch Forecaster (SBF), who is responsible for the quality and content of all products issued during the shift. The day 1 forecast is prepared by the SBF, who works closely with the day 2-3 forecaster to ensure consistent forecast products.

The forecasts from complex computerized weather prediction models are the forecasters' starting point upon which they improve by applying their experience and scientific knowledge. The forecasters make their predictions on meteorological workstations. Approximately two days after the day 1 forecast has been made, the SBF verifies the precipitation forecasts. Another SBF serves as his or her verification assistant as needed. These verifying SBFs make sure data necessary for the verification are available, including the human forecasts and the observed precipitation observations. The observations of precipitation are collected by the NWS from several thousand locations around the U.S.

On a meteorological workstation, the verifying SBF displays a graphic of the precipitation observations with contour lines drawn to indicate the amounts of precipitation wherever it has been observed over the U.S. The verifying SBF then reviews this graphic to ensure there are no noticeable errors or large numbers of missing precipitation data. As required, the verifying SBF corrects observational errors on the graphic and supplements missing data areas based on radar information. Once satisfied with the quality of the observed precipitation graphic, the verifying SBF runs various workstation programs that provide needed calculations, save the information, and print out a copy of the statistics and graphics generated.

With each passing day, a similar procedure is followed. Once all forecasts for the month have been verified, the verifying SBF runs a computer program on workstation (called QPFV) that calculates the monthly values for threat score, equivalent threat score, bias, probability of detection, and false alarm rate for various precipitation thresholds (0.5, 1.0, 2.0, 3.0, 4.0, 5.0, and 6.0 inches), saves this information on workstation QPFV, and prints out a copy of the monthly statistics. Workstation QPFV data are backed up once a month to two places – tape and another workstation. Information in the fundamental verification database is write protected and can only be modified or deleted under one user account, which is under the control of a GS-13 meteorologist, whose primary job is not forecasting but techniques development. This account is password protected.

Several important points should be noted. First, although the accuracy scores are low with respect to perfection, the accuracy is clearly high enough to be of major utility to America's decision makers. As indicated by the numerous requests for HPC's precipitation products, especially in times of hardship, the Federal Emergency Management Agency (FEMA), Army Corps of Engineers, the media, and farmers among others all rely heavily on NOAA forecasts to decide how to proceed.

Secondly, the scores are continuing to improve in accuracy. The metrics from the last 40 years indicate the day 2 forecasts of at least one inch of precipitation in 2004 had similar skill to the day 1 forecasts in 1985, and HPC's day 3 forecasts in 2004 were as accurate as the day 2 forecasts in 1995.

FY 2006 and 2007 Targets

NOAA has an intensive effort internally and with its partners to improve the accuracy of its numerical weather prediction models, as well as enhance the global observing system providing the foundation for observations needed by these models. During the next several years, NOAA will implement several numerical weather prediction model enhancements aimed at improving heavy precipitation forecasts.

In addition, NOAA delivered and installed an upgrade to its Central Computer System in 2004 and began operational implementation in January 2005 that is improving the delivery of products to the field and providing system users with enhanced productivity. Investments are also being made to expand the Hydrometeorological Testbed at the HPC in FY 2006 for the purpose of improving precipitation prediction. This will include assessing scientific breakthroughs and new techniques to identify advanced, real-time, data analysis and forecast techniques, numerical forecast models and methods, observational systems, and climate-water-weather linkages that could significantly improve the forecast guidance which are necessary to improving quantitative precipitation forecasts through seven days. New training and forecast tools are also planned over the next couple of years. The combination of these activities will lead to improvements in Quantitative Precipitation Forecasts over the course of the next decade.

Measure 3e: Lead Time (Hours) and Accuracy (%) of Winter Storm Warnings

Explanation of Measure

A winter storm warning provides NOAA customers and partners advanced notice of a hazardous winter weather event that endangers life or property, or provides an impediment to commerce. Winter storm warnings are issued for winter weather phenomena like blizzards, ice storms, heavy sleet, and heavy snow. This performance indicator measures the accuracy and advance warning lead time of winter storm events. Improving the accuracy and advance warnings of winter storms enables the public to take the necessary steps to prepare for disruptive winter weather conditions**.**

FY 2006 and FY 2007 Targets

The performance indicator measuring the accuracy and advance warning lead time of winter storm events will rise to 90 percent accuracy and 15 hours lead time in FY 2006 and FY 2007. These advancements will be attributed to improvements in numerical weather prediction, super computer upgrades, the use of ensemble modeling forecasting techniques, and local training initiatives.

Measure 3f: Cumulative Percentage of U.S. Shoreline and Inland Areas that Have Improved Ability to Reduce Coastal Hazard Impacts

Explanation of Measure

This measure tracks improvements in NOAA's ability to assist coastal areas with estimating the risks of natural hazards in U.S. coastal regions. Activities are underway to develop a coastal risk atlas that will enable communities to evaluate the risk, extent, and severity of natural hazards in coastal areas. The risk atlas will help coastal communities make more effective hazard mitigation decisions to reduce the impacts of hazards to life and property. Currently, many coastal communities make major decisions on land use, infrastructure development, and hazard responses without adequate information about the risks and possible extent of natural hazards in their area. Through the coastal risk atlas, NOS, with other Federal and state agencies, will provide a mechanism for coastal communities to evaluate their risks and vulnerabilities to natural hazards for specific U.S. coastal regions and improve their hazard mitigation planning capabilities.

FY 2006 and 2007 Targets

NOAA began working to expand phase II of the Coastal Risk Atlas to other areas within FEMA Region IV (North Carolina, South Carolina, Georgia, Florida, Alabama, and Mississippi) during FY 2003. This expansion will not result in an increase to the target for FY 2004, but results in an increase in FY 2005. The completion of the expansion in FY 2005 will increase the cumulative total to 26,778 miles of the total shoreline, 97,128, or 28 percent. This increase will consist of 2,344 mile of shoreline for Georgia and 7,721 miles of shoreline for Louisiana. An evaluation at the end of the phase II expansion will determine the feasibility of continued expansion of the Coastal Risk Atlas beyond FY 2005. If continued expansion is deemed feasible, efforts will focus on adding Oregon and Texas to the Coastal Risk Atlas. This increase will consist of 1,357 of shoreline for Oregon (53 of the total 1,410 miles of shoreline for Oregon has previously been attributed towards this measure in FY 2001) and 3,359 miles of shoreline for Texas. For 2007, the coastal risk atlas will be expanded to include Maryland and Virginia.

Program Increases

The following program increase is directly related to this performance measure ($K):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Coastal Storms	-	$1,653	This request supports regional expansion of NOAA's Coastal Storms Program. It will continue support for developing products and services for Southern California, such as an online, Geographic Information System based tool to help emergency and coastal managers identify key hazards for the region and tools available to address them (e.g., hazard	63

			mitigation planning); a seamless topographic-bathymetric database that will greatly enhance understanding of erosion and inundation due to storm surge and tsunamis; and an assessment of the ecological impacts of storm-water driven non-point source pollution in the region. The increase will also allow NOAA to begin initial efforts for the Gulf of Mexico. This will include identifying regional needs and potential partners, including a regional partner to lead outreach and training for the region.	

Program Evaluation

NOAA's vision for FY 2006 is to provide significantly improved short-term warning and forecast products and services that enhance public safety and the economic productivity of the Nation. While it is difficult to see the improvements on an annual basis because of the scientific nature and seasonal variations of weather events, historical trends have shown that NOAA continues to improve the accuracy and advance warning lead time of severe weather hazards.

Program evaluations at NWS Field Offices are conducted annually. Quality control procedures are followed to ensure the highest reliability of gathered data and weather products. The National Academy of Sciences is also involved in program analysis and evaluation processes on a national level.

Cross-cutting Activities

Intra-Department of Commerce

NOAA works closely with the National Institute of Standards and Technology and the Economic Development Administration on the Federal Natural Disaster Reduction initiative, which focuses on reducing the costs of natural disasters, saving lives through improved warnings and forecasts, and providing information to improve resiliency to disaster.

Other Government Agencies

NOAA also works closely with other agencies such as the Federal Emergency Management Agency, the Corps of Engineers, the Bureau of Reclamation, the Department of Defense, as well as state and local governments to complement their meteorological services in the interest of national security. NOAA works closely with the U.S. Coast Guard to disseminate marine weather warnings and forecasts and works directly with

the Federal Aviation Administration on aviation forecasts and with the National Aeronautics and Space Administration on launch forecasts and solar forecast effects.

Government/Private Sector

Weather and climate services are provided to the public and industry through a unique partnership between NOAA and the private meteorological sector. NOAA provides forecasts and warnings for public safety, and the private sector promotes dissemination of forecasts and tailors basic information for business uses.

External Factors and Mitigation Strategies

A number of factors unique to the atmospheric sciences must be considered when reviewing the performance measures for this goal. The primary factor to consider is the natural variation of this goal related to annual fluctuations in meteorological conditions. Another factor concerns the damage to critical equipment (for example, supercomputer fire and satellite outages) that can affect daily operations for extended periods, even though numerous safety measures and backup procedures are in place.

Although the performance measures for this goal may improve, the impact on society may not be obvious because of factors beyond our control. For example, hurricane warnings may become more accurate, but because of the increase in population along the coastlines, the deaths, injuries, and/or damage estimates may increase.

Improving our understanding of the natural environment requires advanced infrastructure and therefore continual investment in new technology such as supercomputers and environmental satellites.

NOAA relies on its partners in the media, private sector, and the state and local emergency management community to disseminate weather warnings.

Performance Goal for Commerce and Transportation: Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation

DOC Strategic Goal 3: Observe, protect, and manage the earth's resources to promote environmental stewardship

General Goal/Objective 3.2: Enhance the conservation and management of coastal and marine resources to meet America's economic, social and environmental needs

Safe and efficient transportation systems are crucial economic lifelines for the Nation. NOAA's information products and services are essential to the safe and efficient transport of goods and people at sea, in the air, and on land and waterways. More accurate and timely warnings associated with severe weather threats, marine navigation products and services, and improved positioning data can better support the growing commerce on our road, rail, and waterways through improvements in transportation safety and just-in-time efficiencies. For example, the U.S. Marine Transportation System (MTS) ships over 95 percent of the tonnage and more than 20 percent by value of foreign trade through America's ports, including 48 percent of the oil needed to meet U.S. energy demands. Merchandise trade valued at over $729 billion moved by maritime vessels between U.S. and foreign seaports in 2002. Container shipments increased 86 percent between 1992 and 2002. Every year, 134 million passengers are ferried to work and other destinations on U.S. waterways, along with 5 million cruise ship passengers. Better aviation weather information could significantly reduce the $5 billion that is lost through economic inefficiencies as a result of weather-related air traffic delays. Improved surface forecasts and specific user warnings would likely reduce the 7,000 weather-related fatalities and 800,000 injuries annually from vehicle crashes.

As U.S. dependence on surface and air transportation grows over the next 20 years with significant increases in the volume of land transportation and the projected doubling of maritime trade, better navigation, and weather information will be critical to protect lives, cargo, and the environment. NOAA is committed to improve the accuracy of its marine forecasts, provide advanced electronic navigational charts and real-time oceanographic information, and maintain a precise positioning network that mariners need to navigate with confidence. Consistent, accurate, and timely positioning information derived from NOAA's positioning services is critical for air and surface activities such as aircraft landings and improving the safety and efficiency of road and rail delivery.

NOAA partners in the academic, government, and private sectors are essential to realizing this goal. Improved NOAA information will enable the private weather sector to provide better weather-related forecasts and information to their clients for improved efficiencies. NOAA will work with the Federal Aviation Administration and the private sector to reduce the impacts of weather on aviation without compromising safety. Reducing the risk of marine accidents and oil spills, better search and rescue capabilities, and other efficiencies that can be derived from improved navigation and coastal and ocean information and services could be worth over $300 million annually around the Nation's coasts. NOAA will work with port and coastal communities, and with Federal and state partners, to ensure that port operations and development proceed efficiently and in an environmentally sound manner. On land, improvements in weather information will be used more effectively to reduce the $42 billion annual economic loss and the 500 million vehicle hour delays attributed to weather-related crashes.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Hydrographic and Shoreline Data Efficiencies	1	$1,000	Improve the accuracy of data acquisition and accelerate the delivery of navigation information to the maritime community for safe, efficient, and environmentally sound marine transportation. Reduces the amount of time it takes to collect hydrographic data, process it, apply it to the chart, and disseminate the chart to mariners.	37
Navigation Response Teams	2	$1,810	This increase will allow NOAA to maintain and expand the regional component of its Navigation Response Teams (NRTs). The requested increase will allow NOAA to fully staff, train, and implement NRTs 5, 6, and 7, and begin building NRT 8 in FY 2007. The increase request will restore contract support and FTE for full staffing, as well as some funds for NRT launch maintenance and routine equipment replacement. Eight regional NRTs will fulfill the requirement for an adequate distributed capacity to respond within 24 hours to incidents in all contiguous U.S. ports.	36
National Vertical Transformation Tool Database (VDatum)	2	$2,000	Enables NOAA to expand the National VDatum models to approximately 20% of the contiguous U.S. in FY 2007, reaching 100% coverage by 2011. The requested funds will be used to contract for tidal and geophysical modeling expertise, the design and construction of a Web-accessible multi-resolution database, temporary tide gauge installations around the country, and GPS referencing equipment to validate the models. Two FTE are requested to provide modeling expertise across different program areas (oceanographer, geodesist), as well as contract oversight.	35
Physical Oceanographic Real Time System® (PORTS)	-	$715	The increase will enable NOAA to maintain the existing thirteen PORTS® as well as continue expanding the system. With the requested increase, NOAA will fully support contracts that provide watchstanders for the 24x7 quality control of real time data, conduct data management system operation and maintenance, support development and integration of new technology and products, continue ongoing software development and maintenance, and other infrastructure maintenance activities associated with PORTS.	55
Socioeconomic Analysis	-	$300	With the requested increase, NOAA will contract with independent research firms to systematically collect, compile and analyze new or existing data from industry, academia and other Federal, state or local agencies relating to the national socioeconomic benefit of NOAA's Commerce and Transportation-goal related	38

			programs. Using a consistent, rigorous, and scientifically defensible methodology, this approach will generate information about the social and economic effects, benefits, and costs of NOAA programs, information and services. NOAA will use these analyses to prioritize products/services/uses, as well as to identify areas requiring more focused research into economic benefits and social science information to meet future user needs.	
Electronic Navigational Charts	-	$1,890	With this increase, NOAA will continue the planned incremental investment in the effort to provide full contiguous electronic navigational chart (ENC) coverage of U.S. waters. This increase will allow NOAA to build an additional 70 ENCs, as well as maintain the entire suite of 620 in continuous maintenance.	39
Aviation Weather	-	$1,200	Expands a multi-year effort to improve aviation weather services. Will enable procurement and fielding of 75 additional water vapor sensors as part of an Integrated Upper Air Observing system, and transition additional products to a digital environment.	359

Measure 4a: Reduce the Hydrographic Survey Backlog within Navigationally Significant Areas (square nautical miles surveyed per year)

Explanation of Measure

NOAA conducts hydrographic surveys to determine the depths and configurations of the bottoms of water bodies, primarily for U.S. waters significant for navigation. This activity includes the detection, location, and identification of wrecks and obstructions with side scan and multi-beam sonar technology and the Global Positioning System (GPS). NOAA uses the data to produce traditional paper, raster, and electronic navigational charts for safe and efficient navigation. In addition to the commercial shipping industry, other user communities that benefit include recreational boaters, the commercial fishing industry, port authorities, coastal zone managers, and emergency response planners. Ships traversing our coastal waters rely on charts based on sounding data that are more than 50 years old in many places. NOAA has identified approximately 510,000 square nautical miles of the U.S. Exclusive Economic Zone as navigationally significant and in need of resurvey. Since 1994, NOAA has focused primarily on surveying and reporting its accomplishments in the highest priority areas, many of which carry heavy commercial traffic, are less than 30 meters deep, and change constantly. However, this critical area constitutes only a small portion (8 percent) of the entire navigationally significant area used by large commercial vessels and recreational boaters. NOAA's surveying activities balance in-house resources with private sector contracts and use the latest full-bottom coverage sounding technologies to survey the nation's coastal areas for navigation.

Weather, mechanical failure, and level of surveying difficulty are variables for both NOAA and its contractors, and therefore variances from the targets of +/- 50 square nautical miles per vessel are to be expected in a normal field season.

FY 2006 and FY 2007 Targets

FY 2006 Target for Hydrographic Survey Miles Acquired was reduced to 2,500 based on FY 2006 final appropriations, which separately funded contract hydrographic surveys and a time charter vessel in lieu of all turnkey contract dollars. Based on prior experience, NOAA estimates the procurement for a contract using a dedicated vessel will take the better part of FY 2006, and said vessel will not likely perform in FY 2006. The contract and vessel should be on track to acquire 3,000 survey miles in FY 2007.

Program Increases

The following program increase is directly related to this performance measure ($K):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Address Survey Backlog/ Contracts	-	$10,487	The requested increase will allow NOAA to maintain its planned FY 2007 survey schedule to collect and process approximately 3000 square nautical miles of hydrographic data. NOAA will contract the requested funds for hydrographic data acquisition using Brooks Act Architect and Engineering procedures. This increase will allow NOAA to collect approximately 500 additional square nautical miles of data (+20%) in FY 2007.	42

Measure 4b: Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity

Explanation of Measure

This new measure in FY 2006 tracks the progress of NOAA's Geodesy Program in facilitating the capacity of state and local governments and the private sector to utilize accurate positioning information. (The word "fully" was added to the measure in the FY 2007 APP to better distinguish between enabled and substantially enabled.) NOAA will track county level use of its Online Position User service (OPUS), submitted accepted bluebook data, county scorecard submissions, and identification of county representatives and State Advisors/Coordinators to determine how well state and local governments and the private sector are enabled with accurate positioning capacity. Assessing state and local government and private sector usage at the county level is the most appropriate geographic unit. County-level assessments offer entire U.S. coverage and an existing infrastructure for addressing spatial issues.

The level of capacity varies across the nation. This variation is measured as deficient, substantially enabled, and fully enabled. Deficient capacity to conduct accurate positioning indicates that the county has not demonstrated it has the NOAA-enabled infrastructure, tools, and local capacity needed for accurate positioning. Substantially enabled capacity to conduct accurate positioning indicates the county has demonstrated it has the NOAA-enabled infrastructure, tools, and local capacity needed for accurate positioning. Fully enabled capacity indicates the county has validated NOAA-enabled infrastructure, tools, and local capacity needed for accurate positioning. This is indicated by having local interaction through, for example, a submitted and accepted OPUS project for inclusion in the NOAA's geodetic integrated database.

FY 2006 and FY 2007 Targets

Respectively, the targets for FY 2006 and FY 2007 will be 39 percent and 49 percent of U.S. Counties rated as fully enabled or substantially enabled. In other words, the targets for FY 2006 and FY 2007, respectively, will be 37 percent and 44 percent of U.S. Counties rated as substantially enabled and 2 percent and 5 percent of U.S. Counties rated as fully enabled. FY 2006 and FY 2007 targets have been revised upward to reflect both increased user demand for the relatively new OPUS tool and the availability of more data from which to determine performance trends. Greater demand for OPUS is the result of effective outreach efforts and increased partner funding for new Continuously Operating Reference Stations (CORS) from which OPUS solutions are derived.

Measure 4c: Accuracy (%) and False Alarm Rate (FAR) (%) of Forecasts of Ceiling and Visibility (3 Miles/1000 Feet) (Aviation Forecasts)

Explanation of Measure

This measure originally covered "1/4 mile/200 feet." Conditions of a 200-foot ceiling and one quarter mile visibility are components of the FY 2002 and earlier performance measure accuracy and false alarm rate percentages. However, these conditions are rare events. Because of the infrequency of these conditions, the performance measure poorly captured the operational impact of NWS aviation forecasts. The NWS decided that a better criterion of performance is an aviation performance measure based on a 1000-foot ceiling and three miles of visibility for both accuracy and false alarm rate, and is related to Instrument Flight Rules (IFR) conditions.

In accordance with the NWS strategic plan, this measure was added in FY 2000 to reflect a segment of customers that had not been represented in other performance measures. Visibility and cloud ceiling forecasts are critical for the safety of aircraft operations. Accurately forecasting the transition between Visual Flight Rule and IFR conditions significantly improve general and commercial aviation flight planning capabilities, improving both flight safety and efficiencies.

FY 2006 and 2007 Targets

NWS expects to see continued improvement of aviation forecasts for low ceiling and visibility. However, the FY 2006 target for accuracy has been lowered due to a delay in receiving the FY 2006 budget authority, which will delay the procurement and installation of new water vapor sensors until the end of 2006, and due to residual effects in reductions to FY 2005 training. Once the water vapor sensors are installed, NWS expects to see an impact on performance, and the FY 2007 target remains unchanged. The FY 2006 target for FAR has been lowered (improved) due to greater than anticipated results from the newly deployed AWIPS Aviation Forecast Preparation System, and COMET Distance Learning Aviation Course 1. Continued improvement in aviation forecasts will be accomplished through the implementation of an improved observational sensing strategy, higher resolution forecast models, and improved guidance tools integrated into AWIPS and the Aviation Forecast Preparatory System for our meteorologists to focus on this forecast challenge.

Program Increases

The following program increase is directly related to this performance measure ($K):

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Aviation Weather	-	$1,200	Expands a multi-year effort to improve aviation weather services. Will enable procurement and fielding of 75 additional water vapor sensors as part of an Integrated Upper Air Observing system, and transition additional products to a digital environment,.	359

Measure 4d: Accuracy (%) of Forecast for Wind Speed and Wave Height (Marine Forecasts)

Explanation of Measure

This measure was originally a "combined accuracy forecast for marine wind and wave." The measure has been revised to reflect the individual wind speed and wave height components. This performance indicator measures the accuracy of wind and wave forecasts, which are important for marine commerce.

In accordance with the NWS strategic plan, this measure was added in FY 2000 to reflect another segment of customers (marine) that had not been represented in other performance measures. The FY 2005 and FY 2006 goals have been updated to reflect recent performance and reductions in ongoing NWS training, operations, and research funding in the FY 2005 enacted budget. Loss of funding for marine training workshops will directly affect partnering opportunities to bring in marine experts outside NWS and NOAA to help train in marine meteorology. Partnerships

make it possible for NWS to develop cost-effective expansion of the marine observation network and growth in research (i.e., GLERL wave model). Loss of research partnerships and fewer observations will translate into weaker scores.

FY 2006 and 2007 Targets

Based on analysis of recent performance, budget constraints and prior year training reductions, the FY 2006 and FY 2007 targets for marine forecasts have been revised. Budget and training reductions from FY 2005 will have residual effects into the first and second quarters of FY 2006, impacting FY 2006 performance. NWS will continue to improve marine forecast (wind speed and wave height) accuracy through the implementation of higher resolution models on AWIPS, enhanced observation networks, and expanded training for marine forecasting. More advanced smart tools applied to digital wind data should improve wave height forecasts. NWS partnerships with boating organizations (such as U.S. Power Squadron) have yielded more marine observations that can be displayed as plots on AWIPS. Future releases and upgrades to AWIPS Interactive Forecast Preparation System software used by NWS forecasters for forecasts and warnings will help NOAA attain outyear goals. The marine Professional Development Series effort continues, with three modules already on-line and six more expected on-line by the end of FY 2006.

Program Evaluation

NOAA's goal to promote safe navigation is evaluated at a variety of levels, from peer reviews of products, papers, and projects, to internal and external reviews of entire programs and quarterly reviews of NOAA's overall performance in navigation products and services. Constituent input is an important part of the evaluation process and is solicited regularly through constituent workshops.

From 1992 to 1996, a number of National Research Council Marine Board studies examined the nautical charting program and its transition into the digital era. NOAA incorporated study recommendations on areas such as reducing the survey backlog, implementing new digital production techniques, and delivering new electronic chart products to the program. The Hydrographic Services Improvements Act of 1998 provided Congress and NOAA an opportunity to evaluate NOAA's capabilities for acquisition and dissemination of hydrographic data, develop standards and formats for hydrographic services, and contract for the acquisition of hydrographic data. NOAA now contracts out over 50 percent of its annual critical area hydrographic survey requirements while maintaining Federal competence and expertise with existing and developing surveying technologies. NOAA is currently studying its contracting policy with a target date of April 2006 for publishing revisions.

In 1998, Congress authorized the Height Modernization study to evaluate the technical, financial, legal, and economic aspects of modernizing the national height system with GPS. The study demonstrated the significant benefits to the Nation in terms of dollars and lives saved associated with GPS technology, and it led to current development of the vertical component of the National Spatial Reference System. In 1999, NOAA completed an assessment of its tidal currents program to develop guidelines for future current surveys to update U.S. reference stations for the Tidal Current Tables. The September 1999 Report to Congress that assessed the U.S. Marine Transportation System (MTS) further articulated the need for coordinated Federal leadership to achieve the MTS vision of becoming the world's most technologically advanced, safe, efficient,

globally competitive, and environmentally responsible system for moving goods and people. NOAA's navigation safety support functions underwent substantial review to identify opportunities for greater integration among Federal agencies. More recently, the 2003 National Academy of Sciences Report on establishing a *Geospatial Framework for the Coastal Zone*, the Transportation Research Board's 2004 examination of the Federal Role in the Marine Transportation System, the 2004 U.S. Commission on Ocean Policy report and the U.S. Ocean Action Plan have guided NOAA's approach to integrating and delivering its Navigation Services programs.

Cross-cutting Activities

Intra-Department of Commerce

In partnership with the Technology Administration and National Telecommunications and Information Administration within the Department of Commerce and other civil agencies from all civil departments, NOAA participates on the Interagency GPS Executive Board, which with the Department of Defense jointly manages the GPS satellite program as a national asset. Now a dual-use system heavily employed by civilian and commercial sectors, GPS is a global information utility that the United States has committed to provide free to the world for use as the international standard for navigation, positioning, and timing.

Other Government Agencies

NOAA works closely with agencies such as the Department of Transportation (DOT), the U.S. Coast Guard, and the U.S. Army Corps of Engineers in support of Marine Transportation System goals and objectives to identify and improve navigation services for maritime commerce while preserving navigation and environmental safety. NOAA and DOT also cooperate on the development of the Nationwide Differential GPS System, which employs NOAA's Continuously Operating Reference Stations to enable highly accurate GPS positioning in three dimensions across the nation. This system benefits from a multipurpose cooperative effort among government, academia, and the commercial sector and supports numerous NOAA objectives and activities. In addition, NOAA and DOT's Federal Highways Administration are partnering to improve road weather forecasts for surface transportation, and NOAA is participating in the Next Generation Air Transportation System Joint Planning & Development Office with the Federal Aviation Administration and other agencies to improve aviation weather for efficiency gains and safety improvements. NOAA's navigation and weather for transportation services also play a role in emergency and Homeland Security preparation and response.

External Factors and Mitigation Strategies

Weather has a significant impact on the promotion of safe navigation activities. Both in-house and contract hydrographic survey schedules can be affected by adverse weather conditions and equipment failure, as can aerial photography flights scheduled for shoreline photogrammetry. Storm damage frequently renders water-level stations inoperable, affecting surveying capabilities and real-time observations of water levels and currents so critical to safe navigation.

Natural disasters such as earthquakes and hurricanes can elevate the need to survey an area because of shoreline changes or obstruction accumulation; man-made impacts such as shifts in shipping patterns, newly regulated shipping lanes, port expansions, or wrecks will also impact NOAA's survey schedule. Finally, in addition to mission activities, NOAA ships and aircraft provide immediate response capabilities for unpredictable events such as search and recovery efforts after the TWA Flight 800 and Egypt Air Flight 990 crashes; damage assessments after major oil spills such as the Exxon Valdez and the grounding of the New Carissa off the Oregon coast in 1999; and severe hurricanes, most recently Isabel in 2003, Charlie and Ivan in 2004, and Dennis in 2005. NOAA mitigates these impacts with backup plans for relocating assets to other projects, or by reassessing survey schedules.

Performance Goal for Mission Support: Provide critical support for NOAA's Mission

DOC Strategic Goal 3: Observe, protect, and manage the earth's resources to promote environmental stewardship

Strong, effective, and efficient support activities are necessary for us to achieve our Mission Goals. Our facilities, ships, aircraft, environmental satellites, data-processing systems, computing and communication systems, financial and administrative offices, and our approach to management provide the foundation of support for all of our programs. This critical foundation must adapt to evolving mission needs and, therefore, is an integral part of our strategic planning. It also must support US homeland security by providing NOAA services, such as civil alert relays through NOAA Weather Radio and air dispersion forecasts, in response to national emergencies. NOAA ships, aircraft, and environmental satellites are the backbone of the global Earth observing system and provide many critical mission support services. To keep this capability strong and current with our Mission Goals, we will ensure that NOAA has adequate access to safe and efficient ships and aircraft through the use of both NOAA platforms and those of other agency, academic, and commercial partners. We will work with academia and partners in the public and private sectors to ensure that future satellite systems are designed, developed, and operated with the latest technology. In addition, safe and adequate facilities and state-of-the-art information technology are essential to the improvement of NOAA's operations and service delivery. NOAA's long-range facility planning and comprehensive maintenance planning are underway with the goal to ensure right-sized, cost-effective, and safe facilities.

To achieve our Mission Goals, we must also commit to organizational excellence through management and leadership across a "corporate" NOAA. We will provide effective administrative, financial, and information technology services that enable us to deliver effective products and services. We will continue to improve the policy, programmatic, and managerial functions that support our Mission Goals. Our administrative and finance programs will ensure effective communication inside and outside NOAA, and efficient management of our assets, business processes, and financial resources.

Program Initiative	FTE	Funding Request	Anticipated Impact	Location in the Budget
Under Secretary and Associate Offices	2	$2,737	Provides dedicated, on-site legal support services for NOAA's activities in the Pacific Islands Region, particularly the Western Pacific Fishery Management Council as well as the NOAA Ocean Service in connection with National Marine Sanctuaries matters.	433
NOAA Wide Corporate Services and Agency Management	-	$8,959	Provides increases for NOAA Wide administrative support services.	441
IT Security	-	$2,050	Provides support for NOAA to implement, operate and maintain the NOAA enterprise level IT security architecture.	445

Ernest F. Hollings Scholarship Program	-	$3,700	Provides scholarships and program administration to improve coordination of NOAA's higher education activities directed at strengthening the future NOAA workforce.	448
Dr. Nancy Foster Scholarship Program	-	$400	Provides scholarships and program administration to improve coordination of NOAA's higher education activities directed at strengthening the future NOAA workforce.	450
Facilities Management and Modernization Program	-	$9,395	Provides crucial funding for new and planned facility repair and maintenance projects to address facility conditions affecting either employee safety or mission-operational readiness.	455
Environmental Compliance and Safety	-	$1,687	Provides funding to maintain a safe and environmentally-compliant work environment as required by Federal, state and local laws, and address the backlog of environmental cleanup projects.	458
Maritime Crew Safety and Rotation	--	$800	To enable NOAA to enhance safety aboard NOAA vessels. NOAA's fleet has experienced a high turnover rate; this program will use positions throughout the fleet to improve time off availability for personnel with the goal of curtailing the departure of well-trained personnel. The principal intent of crew safety-training and rotation is to provide sufficient manpower in order to safely navigate; to conduct safe operations; to respond to potential emergencies (i.e., fire, accidents, etc.); and to provide adequate maintenance for the NOAA Fleet.	469
G-IV Instrumentation	-	$680	To support the G-IV instrumentation upgrade the NOAA G-IV aircraft is being modified by adding extensive instrumentation in order to provide data to the National Weather Service (NWS) Hurricane Weather Research and Forecasting (HWRF) computer model. This instrumentation will provide the operational and maintenance support required to operate and maintain the instrumentation on the aircraft, process and transmit the data from the aircraft, and receive, conduct quality control, format, and submit the data for assimilation into the HWRF model.	486
Operations and Maintenance of New NOAA Vessels	-	$4,100	NOAA requests an increase of 0 FTEs and $4,100,000 for the additional operational needs of NOAA's new vessels. These ships are newer additions to NOAA's fleet over the last two years and have fuel, supply, and crew needs that cannot be absorbed in NOAA's current budget.	472
FSV #3 Operations	7	$400	For first-year operation of NOAA's third vessel in a four-vessel construction contract. FSV 3 will join the Alaska and North East FSVs in providing high-quality series surveys and data collection for the NOAA Fisheries Southeast Science Center	475

			Mississippi Laboratory. FSV 3 is scheduled to be delivered fourth quarter, FY 2007. The vessel will be homeported in Pascagoula, Mississippi.	
Maintenance Differential for NOAA Ships	-	$2,893	The newer additions to NOAA's fleet have higher costs for maintenance, repairs and spare parts that can not be absorbed in NOAA's current budget. By stocking the vessels with spare parts, disruptions in scientific cruises due to early returns to homeports or detours to other piers for unexpected repairs will be averted.	479
FSV #3 Maintenance	-	$99	For first-year maintenance of NOAA's third vessel in a four-vessel construction contract FSV 3 will join the Alaska and North East FSVs in providing high-quality series surveys and data collection for the NOAA Fisheries Southeast Science Center Mississippi Laboratory. FSV 3 is scheduled to be delivered fourth quarter, FY 2007. The vessel will be homeported in Pascagoula, Mississippi.	480
FSV Construction	-	$13,800	To complete construction of the third Fishing Survey Vessel and continue construction of FSV 4. The continued construction of these FSVs will enable NOAA to acquire acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions including surveys using many different methods of fishing and physical and biological oceanography.	637
Hydro Survey Launch Construction	-	$2,400	Funds provide for the construction of two fully instrumented Hydrographic Survey Launches. These survey launches will significantly increase the capacity of the NOAA fleet to collect hydrographic data. Survey launches are a force multiplier that contributes to the reduction of NOAA's backlog of Navigationally Significant areas. New survey launches with greatly improved reliability, handling, and speed will enhance hydrographic data collection rates.	643
HENRY B. BIGELOW Calibration	7	$3,500	Funds the cost associated with operating ALBATROSS IV with the ship it will eventually replace it with, Henry B. BIGELOW. Funding will be required to meet the 18-month overlap requirement to calibrate ground fish surveys. This overlap will be performed to maintain the consistency and continuity of stock assessments time-series data. It is imperative to replace the capabilities of existing platforms with new vessels and technologies that are calibrated with older vessels by performing side-by-side surveys.	640
Temporary Berthing of BIGELOW	-	$1,000	Addresses berthing issues associated with delivery of NOAA's second new FSV, HENRY B. BIGELOW. Funding is needed to provide temporary berthing of BIGELOW while the agency analyzes homeporting options for this new FSV.	645

NPOESS	-	$20,278	NOAA's share of the converged NOAA/DoD/NASA NPOESS program that will replace the NOAA POES program. Continue development and production of the NPOESS instruments, including the Visible Infrared Image radiometer (VIIRS), the Conical Microwave Imager Sounder (CMIS), the Cross-track Infrared Sounder (CrIS), the Ozone, Mapping and Profiler Suite (OMPS), the Aerosol Polarimetry Sensor (APS), and the Space Environmental Sensing Suite (SESS).	600
GOES	-	$104,039	Continue the procurement of spacecraft, instruments, launch services, and ground systems equipment necessary to maintain an uninterrupted flow of environmental data to users. GOES data supports: cloud images and precipitation estimates for hurricanes; sea surface temperature products for locating commercial and sport fish as well as protected marine species; weather information to emergency managers in times of severe weather and during other disasters; new research products, such as ocean surface currents, that support both ecosystems management and safety of marine navigation; primary information in the Nation's Climate Reference Network; images of the U.S. and adjacent ocean areas to enable the detection of hurricanes and other major weather events; data collection from remote fixed observing platforms such as buoys and rain gauges for use in numerical weather prediction models and flood/drought assessments; a means to obtain quantitative environmental data such as temperature, moisture, wind, radiation and solar energy particle flux for use in weather predictions, hydometrological flux, climate long term trending, ecosystems management, commercial economic gain, and transportation safety; and unique monitoring capabilities that support air, land, and marine transportation.	591
Archive, Access, & Assessment	-	$274	This increase is necessary to carry out key data archive, access, and assessment activities, and sustain operations at NOAA's National Data Centers. This funding is necessary to ensure timely and quality service delivery for more than 50,000 users per year from the private sector, academia, and government.	402

There are no GPRA measures for the Mission Support goal since the activities of this goal support the outcomes of the Mission goals. NOAA is developing new and improving existing internal management performance measures for the Mission Support Goal.

NOAA Data Validation and Verification

NOAA's Budget Office coordinates an annual review of the performance data to ensure that it is complete and accurate. During this process, significant deviations from projected targets, if any, are discussed with the appropriate NOAA Line Office so that changes or corrections can be made to help meet NOAA's performance goals. The actual validation process is conducted by individual NOAA Line Offices. The verification aspects depend on individual Line Office. For oceans and fisheries-related measures, stock assessments and reviews (internal, and/or peer) are common. For weather related measures, the verification process is, among other things, through comparison of predicted weather to the actual event. For the climate-related measures, verification is through, among other things, quality control of data. Satellite data are compared with on site data to help validate data accuracy.

Performance Measure	Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken
Measure 1a: The Fish Stock Sustainability Index (FSSI)	Stock assessments and status determinations	Quarterly	NMFS Stock Information System (SIS)	Results will be reported monthly in a signed memo from the Fishery Management Program Manager to the NMFS Chief Financial Officer and are housed and made available on an intranet site managed by the NMFS Office of Management and Budget; monthly reporting on performance to NOAA Deputy Under Secretary	Results can only be reported when the SIS is updated with new information from the field	
Measure 1b: Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts	Stock assessments reports and ESA status reviews	Quarterly	NMFS Stock Information System (SIS) and Excel spreadsheet maintained by NMFS's Office of Protected Resources	Results will be approved by the NMFS Chief Science Advisor and reported monthly in a signed memo from the Ecosystem Observations Program Manager to the NMFS Chief Financial Officer and are housed and made available on an intranet site managed by the NMFS Office of	Results can only be reported when the SIS is updated with new information from the field	Discussions are ongoing to include protected species in the NMFS Stock Information System

				Management and Budget; monthly reporting on performance to NOAA Deputy Under Secretary		
Measure 1c: Number of protected species designated as threatened, endangered, or depleted with stable or increasing population levels	MMPA stock assessment reports and ESA status reviews	Annual	Excel spreadsheet maintained by NMFS's Office of Protected Resources	Results are reported monthly in a signed memo from the Protected Species Program Manager to the NMFS Chief Financial Officer and are housed and made available on an intranet site managed by the NMFS Office of Management and Budget; monthly reporting on performance to NOAA Deputy Under Secretary	MMPA stock assessment reports are updated only once a year and ESA status reviews are updated only every one to five years depending on priority and fund availability	Discussions are ongoing to include protected species in the NMFS Stock Information System
Measure 1d: Number of acres of coastal habitat restored (annual/cumulative)	Interim and final progress reports from each project	Quarterly	The Restoration Center Database (RCDB)	Results are reported monthly in a signed memo from the Habitat Program Manager to the NMFS Chief Financial Officer and are housed and made available on an intranet site managed by the NMFS Office of Management and Budget; monthly reporting on performance to NOAA Deputy Under Secretary	Data is primarily provided by grantees	None
Measure 1e: Annual number of coastal, marine, and Great Lakes ecological characterizations that meet management needs.	Characterizations focus on ecosystem sites: National Marine Sanctuaries, National Estuarine	Annual	Metadata from all contributing sources to the measure is maintained by managers for the Coastal and	Results are reported monthly to the Ecosystems Research Program (ERP) Program Manager and NOAA Chief Financial Officers; monthly reports on performance data are	NOAA focuses on protected areas or areas where NOAA has a clear management mandate. NOAA works to identify key	

	Research Reserves, coral reef ecosystems, the coastal zone, Great Lakes, essential fish habitat, ecological species units, and unexplored areas.		Marine Resources and Ecosystem Research Programs and stored in an Excel database with limited access. The final performance data reported in monthly, quarterly, and annual performance reports is managed in a secure NOS database for annual milestones and annual and long-term performance measures. Changes to reporting data require approval by the NOS administrator (managed by an e-mail workflow approval system).	submitted to the NOAA Deputy Under Secretary	parameters for characterizing their condition and develop assessments of their present health. Characterizations from all contributors are being tracked in this new measure in addition to criteria defining the indicator of what meets management needs for each ecosystem site because characterizations vary temporally and geographically.	

Measure 1f: Cumulative Number of Coastal, Marine, and Great Lakes Issue-Based Forecasting Capabilities Developed and Used for Management.	NCCOS/ GLERL/SG	Annual	Metadata from all contributing sources to the measure is managed by the Ecosystem Program Manager and stored in an Excel spreadsheet with limited access. The final performance data reported in monthly, quarterly, and annual performance reports is managed in a secure NOS database for annual milestones and annual and long-term performance measures. Changes to reporting data require approval by the NOS administrator (managed by an e-mail workflow	Results are reported monthly to the Ecosystems Research Program (ERP) Program Manager and NOAA Chief Financial Officers; monthly reports on performance data are submitted to the NOAA Deputy Under Secretary	Forecasting capabilities under development focus on 1) habitat impacts from different types of human activity, such as land use; 2) recovery of ecosystem function once habitat restoration efforts have been implemented; and 3) NOAA Fisheries models that predict resource sustainability, such as for managed fisheries and protected species.	NOAA will prioritize its effort in developing new forecast capabilities and facilitating their transition to operational status based on: user community priorities, including those for NOAA management program; adequacy of data; significance of issue; and consequences of management action/inaction.

			approval system).			
Measure 1g: Percentage of tools, technology, and information services that are used by NOAA partners/customers to improve ecosystem based management.	Under Development	Under Develop-ment	Under Development	Under Development	Under Development	Under Development
Measure 1h: Number of Coastal, Marine, and Great Lakes Habitat Acres Acquired or Designated for Long-term Protection (Annual/Cumulative)	The cumulative total represents data on acres from the National Estuarine Research Reserve (NERRS) Program; National Marine Sanctuaries Program; and the Coastal and Estuarine Land Conservation Program.	Annual	Metadata from all contributing sources to the measure is managed by the Coastal and Marine Resources Program Manager and stored in an Excel spreadsheet with limited access. The final performance data reported in monthly, quarterly, and annual performance reports is managed in a	Results are reported monthly to the contributing NOAA program (Coastal and Marine Resources Program (CMRP) and NOAA Chief Financial Officers for approval; monthly reports on performance data are submitted to the NOAA Deputy Under Secretary.	The goal for the long-term protection indicator is variable, as the yearly target can vary from hundreds to thousands of acres each year. For example, the initial designation or acquisition for a new reserve or sanctuary may add hundreds of thousands of acres in one year, while in other years acquisition may result in several hundred or thousand acres protected. Other limitations are the timeliness of	Since this measure does not capture all NOAA's activities to protect habitat, NOAA seeks to expand the measure in the future. NOAA is looking at the feasibility of tracking data based on acres acquired at time of funding and separately at acres acquired at the time of completion to compare and

			secure NOS database for annual milestones and annual and long-term performance measures. Changes to reporting data require approval by the NOS administrator (managed by an e-mail workflow approval system).		reporting by grant recipients, accuracy of conversion from hectares to acres for some data, and the time delay between funding and completion.	track the two sets of data.
Measure 2a: U.S. temperature – skill score	Forecast data, observations from U.S. Weather Forecast Offices, and from a cooperative network maintained by volunteers across the nation	Monthly	NWS's National Centers for Environmental Prediction	NOAA performs quality control on the observed data (for example, error checking, elimination of duplicates, and inter-station comparison) both at the CPC and U.S. Weather Forecast Office level. In June 2005, NOAA has also implemented an objective verification procedure to minimize the impact of human errors in the computation of skill score; monthly reporting on performance to NOAA Deputy Under Secretary	Because of natural (and unpredictable) variability of climate regimes, the skill score can fluctuate considerably from one season to another. For example, for the periods influenced by a strong ENSO forcing, GPRA measure tends to be high. Lower scores occur during the periods when ENSO is in its neutral phase.	None
Measure 2b: Reduce the Uncertainty in the	NOAA's Global Carbon Cycle	Annual	NOAA's Earth System Research	Quality assurance and calibration against known	Number of tall tower/aircraft sites and	None

Magnitude of the North American Carbon Uptake	Research Program		Laboratory	standards performed by NOAA	our ability to incorporate these data into advanced carbon models	
Measure 2c: Reduce the Uncertainty in Model Simulations of the Influence of Aerosols on Climate	NOAA's Atmospheric Composition and Climate Program	Annual	NOAA's Earth System Research Laboratory	Quality assurance and comparisons against 2001 international assessments by leading experts in the aerosol-climate community	Number of monitoring sites for vertical distribution of aerosols, process studies that include intensive field campaigns and laboratory based data, and our ability to include these in global models	None
Measure 2d: Determine the Actual Long-term Changes in Temperature and Precipitation Over the United States	NOAA's National Climatic Data Center	Monthly	NOAA's National Climatic Data Center	Monte Carlo simulations based on operation stations; monthly reporting on performance to NOAA Deputy Under Secretary	Number of stations commissioned in the Climate Reference Network	None
Measure 2e: Reduce the Error in Global Measurement of Sea Surface Temperature	NOAA's Office of Climate Observations	Quarterly	Pacific Marine Environmental Laboratory	Quarterly reporting mechanism on uncertainty in sea surface temperature measurements; quarterly reporting on performance to NOAA Deputy Under Secretary	Number of deployed observing platforms in the global ocean	None
Measure 2f: Improve society's ability to plan and respond to climate variability and change using NOAA climate products and information.	NOAA's Office of Global Programs	Annual	NOAA's Climate Program Office	Annual examination of grants awarded and research activities undertaken that result in various outputs (e.g. peer review publications, workshops) showing	Challenge of systematically collecting research-based outputs showing evidence of interactions with stakeholders to	None

				evidence of research-based interactions with decision makers	communicate risks of climate variability and change and to develop means of coping with impacts.	
Measure 3a: Lead time (minutes), accuracy (%), and false alarm rate (FAR, %) of severe weather warnings for tornadoes	National Weather Service (NWS) field offices	Monthly	NWS headquarters and the Office of Climate, Water, and Weather Services (OCWWS)	Verification is the process of comparing the predicted weather to reported event. Warnings are collected from every NWS office, quality controlled, and matched to confirmed tornado reports. Reports are validated by WFOs using concise and stringent guidelines outlined in NWS Instruction 10-1605. From these data, verification statistics are computed. OCWWS monitors monthly performance throughout the NWS, and the regional headquarters monitor performance within their respective regions. All data is reported on to NWS and NOAA leadership on a monthly basis.	Only confirmed tornado reports are used to verify tornado warnings. Radar reports are not used. If a tornado occurs but is not reported, it doesn't go into the database for verification. Therefore, it is possible for tornadoes to be under-reported, especially in sparsely populated areas. While long-term performance has shown a steady increase in forecast accuracy, inter-annual scores tend to fluctuate due to varying weather patterns from year to year. Some weather patterns are more difficult to forecast than others. Forecasters perform better during large	Review all warnings and storm data after each event to learn from past experiences. Use the information learned to improve forecast skill and product quality in the future.

					outbreaks due a high level of situational awareness, well defined tornadic radar images, and increased confidence based on tornado reports which verify warnings during these large scale events. These three factors lead to longer lead times, higher accuracy, and lower false alarm rates. The peak level of tornadic activity occurs April through June each year. A secondary peak activity time period is October and November in the southeastern United States.	
Measure 3b: Lead Time (Minutes) and Accuracy (%) for Severe Weather Warnings for Flash Floods	National Weather Service (NWS) field offices	Monthly	NWS headquarters and the Office of Climate, Water, and Weather Services (OCWWS)	Verification is the process of comparing the predicted weather to reported event. Warnings are collected from each NWS office, quality controlled, and matched to confirmed flash flood reports. Reports are validated by WFOs using concise and stringent guidelines outlined in NWS	While long-term performance has shown a steady increase in forecast accuracy, inter-annual scores tend to fluctuate due to varying weather patterns from year to year. Some weather patterns are more difficult to forecast	Review all warnings and storm data after each event to learn from past experiences. Use the information learned to improve forecast skill and product

				Instruction 10-1605. OCWWS monitors monthly performance throughout the NWS, and the regional headquarters monitor performance within their respective regions. All data is reported on to NWS and NOAA leadership on a monthly basis.	than others. Typically, 1st and 2nd Quarters have higher lead times, while the 3rd and 4th Quarters, during the convective season, bring the annual average down. Spring/summer mesoscale events (e.g., thunderstorms) are more difficult to predict than larger synoptic scale systems; hence lower scores are expected in the 3rd and 4th quarters.	quality in the future.
Measure 3c: Hurricane Track Forecasts Error (48 Hours)	NWS/Tropical Prediction Center (TPC)	Annual	TPC	Hurricane storm verification is performed for hurricanes, tropical storms, and tropical depressions regardless of whether these systems are over land or water. The TPC issues track and intensity forecast throughout the life of a hurricane. The actual track and intensity are verified through surface and aircraft measurements. NOAA calculates the average accuracy of the TPC track and intensity forecasts for the Atlantic	Verification of actual track and intensity versus forecast is very accurate. However, actual annual scores vary up to 20% in some years due to the type and location of the hurricane events. Some types of systems can be more accurately forecasted than others. For example, hurricanes that begin in the northern sections of the hurricane	NOAA will report on the tracking of forecasts at 24, 48 and 72-hour intervals.

				basin at the end of each hurricane season. Reported errors are for hurricane and tropical storm stages only because of a more limited historical verification record for tropical depressions. All data is reported on to NWS and NOAA leadership on an annual basis.	formation zone tend to be much harder to accurately forecast. Out-year measures depend on a stable funding profile and take into account new satellites, improved forecast models, new and continued research activities of the U.S. Weather Research Program (USWRP), and investments in critical observing systems	

Measure 3d: Accuracy (%) (Threat Score) of day 1 precipitation forecasts	The Hydrometeoro-logical Prediction Center and state agencies	Monthly	World Weather Building	The Hydrometeorological Prediction Center has produced Quantitative Precipitation Forecasts since the early 1960s and has kept verification statistics related to the Quantitative Precipitation Forecast program since that time. HPC forecasters work under the supervisory control of the Senior Branch Forecaster (SBF), who is responsible for the quality and content of all products issued during the shift. The SBF having the additional duty of 24 hour precipitation forecast verification verifies the precipitation forecasts. All data are examined for accuracy and quality control procedures are applied, as described in the Description of Measure section. Verification is the process of comparing the predicted precipitation amounts to the observed amounts over the conterminous U.S. All data is reported on to NWS and NOAA leadership on a monthly basis.	The 40-year record of performance indicates there can be considerable variation in the performance measure from year to year. This variation is heavily dependent on the variation of weather regimes over the course of a year and from year to year. Scores are usually lower, for example, in years with considerable summertime precipitation not associated with tropical cyclones.	NOAA will implement planned weather observation and numerical modeling improvements along with ongoing research projects. The Hydrometeorolo gical Test Bed will be expanded to accelerate the transition of research advancements into the operational prediction of precipitation.

Measure 3e: Lead Time (Hours) and Accuracy (%) of Winter Storm Warnings	National Weather Service (NWS) field offices	Quarterly	The regional headquarters, NWS headquarters and the Office of Climate, Water, and Weather Services (OCWWS)	Verification is the process of comparing predicted weather to a reported event. Warnings are collected from each NWS office, quality controlled, and matched to confirmed winter storm reports. Reports are validated by WFOs using concise and stringent guidelines outlined in NWS Instruction 10-1605. OCWWS monitors monthly performance throughout the NWS, and the regional headquarters monitor performance within their respective regions. All data is reported on to NWS and NOAA leadership on a quarterly basis.	While long-term performance has shown a steady increase in forecast accuracy, inter-annual scores tend to fluctuate due to varying weather patterns from year to year. Some weather patterns are more difficult to forecast than others.	Review all warnings and storm data after each event to learn from past experiences. Use the information learned to improve forecast skill and product quality in the future.
Measure 3f: Cumulative percentage of U.S. shoreline and inland areas that have improved ability to reduce coastal hazard impacts	National Ocean Service (NOS) Coastal Services Center, National Satellite, Data and Information Service (NESDIS) National Coastal Data Development	Quarterly	NOS and NESDIS will collect information, conduct assessments, and store data.	This measure tracks the cumulative percent of shoreline and inland areas with improved ability to reduce the impact of coastal hazards. In the past, the types of projects included in the reported results differed from one year to the next; therefore, the potential for counting a	This measure tracks the development and implementation of the Coastal Risk Atlas as an indicator of improved ability to identify the extent and severity of coastal hazards. Reaching these targets are will depend on the	None

	Center and other federal and state agencies			portion of the shoreline more than once existed. For example, one year a project may improve an area's ability to reduce the impacts of hurricanes, and then another year a separate project may improve the same area's ability to reduce the impacts of another coastal hazard such as inland flooding. To avoid confusion, this measure currently only tracks the development and implementation of the Coastal Risk Atlas. All data used in the Coastal Risk Atlas are quality controlled and the risk assessment methodologies have been peer reviewed; quarterly reporting on performance to NOAA Deputy Under Secretary	activities of other federal and state agencies with management responsibilities in this area.	
Measure 4a: Reduce Hydrographic survey backlog within navigationally significant areas (square nautical miles surveyed per year)	Progress reports on data collected from hydrographic survey platforms	Monthly	National Ocean Service maintains hydrographic survey performance data at NOAA's Office of Coast Survey Hydro Surveys	National Ocean Service applies its established verification and validation methods. The measure has a +- 50 square nautical mile variance. Targets are set annually based on resources available; monthly reporting on performance to NOAA	NOAA-owned ships and contractor survey assets can be affected by changes in vessel availability or condition. Weather can also affect scheduled surveys.	National Ocean Service maintains hydrographic survey performance data at NOAA's Office of Coast Survey Hydro Surveys

			Division.	Deputy Under Secretary		Division.
Measure 4b: Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity (Goal: Increase percentage of counties rated as substantially or fully enabled, with the infrastructure, tools, and demonstrated local capacity for accurate positioning, from 25.34% in 2004 to 92% in 2011).	NOAA's Online Position User Service (OPUS)	Monthly	Automated database at National Ocean Service	NOAA will validate a County's capacity for local positioning through direct coordination with localities, such as OPUS project acceptance by NOAA. By assessing the user needs of county surveyors, counties, and their associations, through successive limited distributions of a county scorecard, NOAA will validate that the Geodesy Program is meeting local positioning needs; monthly reporting on performance to NOAA Deputy Under Secretary.	OPUS Customer data is limited and will be expanded through Paperwork Reduction Act-approved surveys of customers who use the OPUS web site for precision positioning.	Analyze OPUS e-mail domain names to categorize and inventory OPUS users. Validate OPUS web site hits as a measure of use and benefit. Conduct a socio-economic analysis to validate OPUS benefits and who OPUS users are. Develop schema based on census data for scaling counties by area, population, and economic activity. Develop "county-based accurate positioning scorecard" with our partners.
Measure 4c: Accuracy (%) and FAR (%) of Forecasts of Ceiling and Visibility (Aviation Forecasts)	NWS field offices	Monthly	NWS headquarters and OCWWS	Forecasts and observations are collected from each airport for which the NWS issues a forecast. The OCWWS stores and	Due to the large volume of data gathered and computed, documentation for	Forecasters within each WFO will continue to monitor their

				quality controls all data, compares forecasts to observations, and computes verification statistics. Forecasters within each WFO are able to stratify verification statistics to his/her personal scores on specific days to learn from recent experience. WFO managers regularly monitor forecast performance. The regional headquarters and the OCWWS monitor performance monthly for their respective management areas. All data is reported on to NWS and NOAA leadership on a monthly basis.	this measure cannot be finalized until well into the following fiscal year. Out-year measures depend on a stable funding profile and take into account improved use of the WSR-88D, new satellites, improved forecast models, new and continued research activities of the USWRP, investments in critical observing systems, and implementation of AWIPS. Inter-annual scores tend to fluctuate due to varying weather patterns. Some patterns are more difficult to forecast than others. Year to year variability is plus or minus 3 percent for both Accuracy and FAR. Typically, 3rd and 4th quarter scores during the convective	recent past forecast performance to learn from experience. The regional headquarters and the OCWWS will continue to monitor performance monthly for their respective management areas.

					season have lower accuracy scores and increased FARs than the 1st and 2nd Quarter cool season months.	
Measure 4d: Accuracy (%) of Forecast for Winds and Waves (Marine Forecasts)	NWS field offices	Monthly	The NWS and the National Centers for Environmental Prediction's Ocean Modeling Branch	Verification is the process of comparing the predicted weather with the actual event. Forecasts and observations are collected from each marine zone for which the NWS issues a forecast. The OCWWS stores and quality controls all data, compares forecasts to observations, and computes verification statistics. WFO managers regularly monitor forecast performance. The regional headquarters and the OCWWS monitor performance monthly for their respective management areas. All data is reported on to NWS and NOAA leadership on a monthly basis.	Due to the large volume of data gathered and computed, documentation for the accuracy of forecast for wind and waves cannot be finalized until well into the following fiscal year. Out-year measures depend on a stable funding profile and take into account improved use of the WSR-88D, new satellites, improved forecast models, new and continued research activities of the USWRP, investments in critical observing systems, and implementation of AWIPS. Inter-annual scores tend to fluctuate due to varying weather	NOAA will deploy enhanced versions of AWIPS, upgrade new forecast models, implement new wave forecast models, and improve communication and dissemination techniques to marine users.

					patterns. Some patterns are more difficult to forecast than others. Marine wind speed and wave height forecasts scores naturally vary (accuracy +/- 4% per year) due to fluctuations in the number of extreme events measured over NWS marine areas per year.	

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Approp.	Budget Authority	Direct Obligations
FY 2006 Estimate	12,262	11,781	2,732,607	2,801,849	2,861,027
less: Carryover	-	-	-	-	(59,178)
less: Terminations	-	-	(412,075)	(412,075)	(412,075)
plus: Restoration of Rescissions	-	-	30,440	30,440	30,440
less: Recoveries of prior year obligations	-	-	(11,000)	(11,000)	-
plus: 2007 Other Adjustments to Base	-	7	14,970	25,728	25,728
FY 2007 Base	12,262	11,788	2,354,942	2,434,942	2,445,942
plus: 2007 Program Changes	65	59	232,901	232,901	232,901
FY 2007 Estimate, ORF	12,327	11,847	2,587,843	2,667,843	2,678,843

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Navigation Services	Pos/BA	600	144,002	600	149,218	600	120,205	606	140,107	6	19,902
	FTE/OBL	495	142,484	608	151,241	608	120,205	613	140,107	5	19,902
Ocean Resources Conservation and Assessment	Pos/BA	410	245,352	431	210,885	431	114,776	431	126,445	-	11,669
	FTE/OBL	485	237,676	416	214,457	418	114,776	418	126,445	-	11,669
Ocean and Coastal Management	Pos/BA	216	152,680	208	133,048	208	123,201	209	127,903	1	4,702
	FTE/OBL	172	151,908	195	139,321	195	123,201	196	127,903	1	4,702
Total: National Ocean Service	Pos/BA	1,226	542,034	1,239	493,151	1,239	358,182	1,246	394,455	7	36,273
	FTE/OBL	1,152	532,068	1,219	505,019	1,221	358,182	1,227	394,455	6	36,273
Protected Species Research and Management	Pos/BA	723	175,530	737	145,039	741	122,428	755	144,924	14	22,496
	FTE/OBL	648	175,269	646	146,885	646	122,428	657	144,924	11	22,496

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Research and Management	Pos/BA	1,798	297,873	1,766	282,408	1,736	265,746	1,766	291,662	30	25,916
	FTE/OBL	1,214	295,512	1,422	286,959	1,422	265,746	1,444	291,662	22	25,916
Enforcement and Observers / Training	Pos/BA	253	70,347	256	72,675	254	73,224	256	80,697	2	7,473
	FTE/OBL	261	71,852	249	82,448	249	73,224	251	80,697	2	7,473
Habitat Conservation & Restoration	Pos/BA	107	53,248	111	46,629	111	28,698	111	39,896	-	11,198
	FTE/OBL	123	53,077	235	47,459	235	28,698	235	39,896	-	11,198
Other Activities Supporting Fisheries	Pos/BA	-	79,517	-	70,177	-	48,104	-	55,361	-	7,257
	FTE/OBL	348	80,700	-	71,479	-	48,104	-	55,361	-	7,257
Alaska Composite Research and Development	Pos/BA	-	-	-	50,298	-	29,724	-	36,448	-	6,724
	FTE/OBL	-	-	-	50,298	-	29,724	-	36,448	-	6,724
Total: National Marine Fisheries Service	Pos/BA	2,881	676,515	2,870	667,226	2,842	567,924	2,888	648,988	46	81,064
	FTE/OBL	2,594	676,410	2,552	685,528	2,552	567,924	2,587	648,988	35	81,064
Climate Research	Pos/BA	355	177,311	368	169,584	368	163,442	368	181,151	-	17,709
	FTE/OBL	337	174,921	351	170,499	354	163,442	354	181,151	-	17,709
Weather and Air Quality Research	Pos/BA	185	50,890	185	67,570	190	36,796	190	41,230	-	4,434
	FTE/OBL	176	50,407	180	67,993	184	36,796	184	41,230	-	4,434
Ocean, Coastal, and Great Lakes Research	Pos/BA	172	146,826	176	126,676	171	94,347	171	102,976	-	8,629
	FTE/OBL	148	149,818	166	128,191	163	94,347	163	102,976	-	8,629
Information Technology, R&D,	Pos/BA	15	29,079	15	6,411	15	6,442	15	12,916	-	6,474

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
and Science Education	FTE/OBL	28	28,707	13	6,780	13	6,442	13	12,916	-	6,474
Total: Oceanic and Atmospheric Research	Pos/BA	727	404,106	744	370,241	744	301,027	744	338,273	-	37,246
	FTE/OBL	689	403,853	710	373,463	714	301,027	714	338,273	-	37,246
Operations and Research	Pos/BA	4,596	624,252	4,593	661,780	4,593	659,202	4,605	687,856	12	28,654
	FTE/OBL	4,430	622,639	4,415	668,432	4,415	659,202	4,424	687,856	9	28,654
Systems Operation & Maintenance (O&M)	Pos/BA	184	86,737	184	85,064	184	86,799	184	95,590	-	8,791
	FTE/OBL	191	86,789	182	85,171	182	86,799	182	95,590	-	8,791
Total: National Weather Service	Pos/BA	4,780	710,989	4,777	746,844	4,777	746,001	4,789	783,446	12	37,445
	FTE/OBL	4,621	709,428	4,597	753,603	4,597	746,001	4,606	783,446	9	37,445
Environmental Satellite Observing Systems	Pos/BA	428	101,460	431	106,769	431	99,515	431	97,670	-	(1,845)
	FTE/OBL	356	101,003	414	108,609	414	99,515	414	97,670	-	(1,845)
NOAA's Data Centers & Information Services	Pos/BA	315	74,600	315	70,968	315	45,079	315	51,909	-	6,830
	FTE/OBL	243	74,871	303	71,920	303	45,079	303	51,909	-	6,830
Total: National Environmental Satellite, Data, and Information Service	Pos/BA	743	176,060	746	177,737	746	144,594	746	149,579	-	4,985
	FTE/OBL	599	175,874	717	180,529	717	144,594	717	149,579	-	4,985
Program Planning and Integration	Pos/BA	10	2,464	-	-	-	-	-	-	-	-
	FTE/OBL	8	2,137	-	-	-	-	-	-	-	-
Total: Program Planning and	Pos/BA	10	2,464	-	-	-	-	-	-	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Integration	FTE/OBL	8	2,137	-	-	-	-	-	-	-	-
Corporate Services	Pos/BA	1,070	169,068	1,155	176,575	1,154	178,180	1,157	191,926	3	13,746
	FTE/OBL	973	176,470	1,000	178,882	1,001	178,180	1,003	191,926	2	13,746
NOAA Education Program	Pos/BA	-	18,292	-	37,514	-	15,212	-	19,312	-	4,100
	FTE/OBL	12	17,247	-	38,495	-	15,212	-	19,312	-	4,100
Facilities	Pos/BA	-	33,281	-	10,849	-	11,927	-	23,009	-	11,082
	FTE/OBL	18	33,220	-	11,204	-	11,927	-	23,009	-	11,082
Marine Operations & Maintenance and Aviation Operations	Pos/BA	731	144,549	731	133,341	731	122,895	736	129,855	5	6,960
	FTE/OBL	942	144,113	986	134,304	986	122,895	993	129,855	7	6,960
Total: Program Support	Pos/BA	1,801	365,190	1,886	358,279	1,885	328,214	1,893	364,102	8	35,888
	FTE/OBL	1,945	371,050	1,986	362,885	1,987	328,214	1,996	364,102	9	35,888
Rescission of unobligated balances	Pos/BA	-	-	-	(11,629)	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-	-
Other adjustments for BA	Pos/BA	-	(4,865)	-	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-	-
Total: Adjustments to Budget Authority	Pos/BA	-	(4,865)	-	(11,629)	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-	-
Total	Pos/BA	12,168	2,872,493	12,262	2,801,849	12,233	2,445,942	12,306	2,678,843	73	232,901

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
	FTE/OBL	11,608	2,870,820	11,781	2,861,027	11,788	2,445,942	11,847	2,678,843	59	232,901

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corp Retirement Pay (Mandatory)
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Approp.	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	-	18,504	18,504
plus: Adjustments to base	-	-	-	818	818
FY 2007 Base	-	-	-	19,322	19,322
plus: 2007 Program Changes	-	-	-	-	-
FY 2007 Estimate	-	-	-	19,322	19,322

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA Corps Retirement Pay (Mandatory)	Pos/BA	-	17,574	-	18,504	-	19,322	-	19,322	-	-
	FTE/OBL	-	17,518	-	18,504	-	19,322	-	19,322	-	-
Total: Program Support	Pos/BA	-	17,574	-	18,504	-	19,322	-	19,322	-	-
	FTE/OBL	-	17,518	-	18,504	-	19,322	-	19,322	-	-
Total	Pos/BA	-	17,574	-	18,504	-	19,322	-	19,322	-	-
	FTE/OBL	-	17,518	-	18,504	-	19,322	-	19,322	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	11,608	2,870,820	11,781	2,861,027	11,788	2,445,942	11,847	2,678,843	59	232,901
Total Obligations	**11,608**	**2,870,820**	**11,781**	**2,861,027**	**11,788**	**2,445,942**	**11,847**	**2,678,843**	**59**	**232,901**
Adjustments to Obligations:										
Cash Refund	-	(146)	-	-	-	-	-	-	-	-
Recoveries	-	(16,245)	-	-	-	(11,000)	-	(11,000)	-	-
Unobligated balance, adj. SOY	-	(41,113)	-	(59,178)	-	-	-	-	-	-
Unobligated balance, EOY	-	59,177	-	-	-	-	-	-	-	-
Total Budget Authority	**11,608**	**2,872,493**	**11,781**	**2,801,849**	**11,788**	**2,434,942**	**11,847**	**2,667,843**	**59**	**232,901**
Financing from Transfers:										
Transfer from P&D	-	(65,000)	-	(67,000)	-	(77,000)	-	(77,000)	-	-
Transfer from CZMF	-	(2,960)	-	(3,000)	-	(3,000)	-	(3,000)	-	-
Transfer to FFPA	-	246	-	1,972	-	-	-	-	-	-
Transfer to/from Dept of Interior	-	4,500	-	-	-	-	-	-	-	-
Transfer from Pacific Salmon	-	(89)	-	(67)	-	-	-	-	-	-
Transfer to PAC	-	366	-	-	-	-	-	-	-	-
Transfer from PAC	-	(1,842)	-	(1,147)	-	-	-	-	-	-
Transfer from DOD/NAVY	-	(18,000)	-	-	-	-	-	-	-	-
Net Appropriation	**11,608**	**2,789,714**	**11,781**	**2,732,607**	**11,788**	**2,354,942**	**11,847**	**2,587,843**	**59**	**232,901**

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corp Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Mandatory Obligation	-	17,518	-	18,504	-	19,322	-	19,322	-	-
Total Obligations	**-**	**17,518**	**-**	**18,504**	**-**	**19,322**	**-**	**19,322**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, lapsed	-	56	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**17,574**	**-**	**18,504**	**-**	**19,322**	**-**	**19,322**	**-**	**-**
Financing from Transfers:										
NOAA Corps Retirement Pay (Mandatory)	-	(17,574)	-	(18,504)	-	(19,322)	-	(19,322)	-	-
Net Appropriation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	2,870,820	2,861,027	2,445,942	2,678,843	232,901
Mandatory Obligation	17,518	18,504	19,322	19,322	-
Reimbursables	242,444	287,442	242,444	242,444	-
Total Obligations	3,130,782	3,166,973	2,707,708	2,940,609	232,901
Adjustments and Obligations:					
Federal funds	(181,788)	(186,444)	(186,444)	(186,444)	-
Non-Federal Sources	(54,435)	(56,000)	(56,000)	(56,000)	-
Cash Refund	(146)	-	-	-	-
Recoveries	(16,245)	-	(11,000)	(11,000)	-
Unobligated balance, adj. SOY	(41,113)	(59,178)	-	-	-
Unobligated balance, EOY	59,177	-	-	-	-
Unobligated balance, start of year - adj. Reimbursable	(51,219)	(44,998)	-	-	-
Unobligated balance, end of year -adj. Reimbursable	44,998	-	-	-	-
Unobligated balance, lapsed	56	-	-	-	-
Total Budget Authority	2,890,067	2,820,353	2,454,264	2,687,165	232,901
Financing from Tranfers:					
Transfer from P&D	(65,000)	(67,000)	(77,000)	(77,000)	-
Transfer from CZMF	(2,960)	(3,000)	(3,000)	(3,000)	-
Transfer to FFPA	246	1,972	-	-	-
Transfer to/from Dept of Interior	4,500	-	-	-	-
NOAA Corps Retirement Pay (Mandatory)	(17,574)	(18,504)	(19,322)	(19,322)	-
Transfer from Pacific Salmon	(89)	(67)	-	-	-
Transfer to PAC	366	-	-	-	-
Transfer from PAC	(1,842)	(1,147)	-	-	-

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Transfer from DOD/NAVY	(18,000)	-	-	-	-
Net Appropriation	2,789,714	2,732,607	2,354,942	2,587,843	232,901

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Adjustments		
Restoration of FY 2006 Unobligated Balance Rescissions	-	11,629
Terminations	-	(412,075)
Restoration of FY 2006 rescissions	-	30,440
Technical Adjustment - PAC to ORF	-	1,000
Subtotal, Adjustments	-	(369,006)
Financing		
Deobligations	-	(11,000)
Subtotal, Financing	-	(11,000)
Other Changes		
Annualization of Jan., 2006 Pay Raise	-	4,662
2007 Pay raise	-	17,423
Payment to Working Capital Fund	-	290
Full year costs of positions financed in part-year in FY 2006	7	485
OMAO Wage Marine overtime on NOAA ships	-	96
Civil Service Retirement System (CSRS)	-	(1,737)
Federal Employees Retirement System (FERS)	-	5,946
Thrift Savings Plan	-	496
Federal Insurance Contribution Act (FICA) - OASDI	-	1,372
Health insurance premiums	-	4,652
Employee Compensation Fund	-	560
Per diem	-	565
Mileage	-	102
Rental payments to GSA	-	935
Printing and reproduction	-	64

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
NARA Storage and maintenance costs	-	(76)
Working Capital Fund	-	234
CBS (Commerce Business Systems)	-	384
Other Services	-	11,683
Transportation of Things	-	241
Rental payments to others	-	286
Comm., Util., and misc.	-	896
Supplies and Materials	-	1,561
Equipment	-	618
Grants	-	488
NWC Norman, OK – OAR	-	770
Fuel costs - NMAO	-	2,827
Subtotal, Other Changes	7	55,823
Less:		
Less: Absorption	-	(42,724)
Subtotal, Less:	-	(42,724)
Total, Changes to Base	7	(366,907)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

		FTE	Amount
Adjustments:			
Restoration of FY 2006 unobligated balances rescissions of .28% contained in P.L. 109-108.		0	11,629,000
Terminations		0	(412,075,000)
Restoration of FY 2006 across-the-board rescissions of 1% contained in P.L. 109-148.		0	30,440,000
In 2007 $1,000,000 will be transferred from PAC WFO Construction to ORF Program Support Facilities.		0	1,000,000
Financing:			
In 2007, NOAA expects to realize recoveries of prior year obligations of $11,000,000. This amount will be used to offset the budget authority in 2007.		0	(11,000,000)
Other Changes:			
Pay Raises		0	22,375,000
Full-year cost of 2006 pay increase and related costs: A pay raise of 3.1% was effective January 1, 2006.			
Total cost in 2007 of 2006 pay raise	13,836,000		
Less amount funded in 2006	(9,174,000)		
Amount requested in 2007 to provide full year cost of 2006 pay increase.	4,662,000		

Department of Commerce
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Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

2007 pay increase and related costs:
A general pay raise of 2.2% is assumed to be effective January 1, 2007.

Total cost in 2007 of pay increase		23,230,000
Less amount not funded in 2007		(5,807,000)
Total cost of January 2007 pay increase		17,423,000
Payment to Working Capital Fund		290,000
Total, adjustment for 2007 pay increase		17,713,000

Full-year cost in 2007 of positions financed for part-year in 2006		7	484,985

An increase of $484,985 is required to fund the full-year cost in 2007 of positions financed for part-year in 2006. The computation follows:

Annual salary of new positions in 2007	24	2,081,337
Less 5 percent lapse	(1)	(104,067)
Full-year cost of personnel compensation	23	1,977,270
Less personnel compensation included in the 2007 budget	(16)	(1,603,102)
Cost of personnel compensation in 2006	7	374,168
Adjustment for 2007 pay raise (.022 x .75 x 374,168)		6,175
Add'l amount required for personnel compensation	7	380,343
Benefits		104,642
Total adjustments-to-base	7	484,985

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

OMAO Wage Marine overtime on NOAA ships		0	96,000
An increase of $96,000 is required to cover the cost of overtime for OMAO's Wage Mariners in 2007.			
Total cost in 2007 of Wage Marine overtime	128,000		
Less amount not funded in 2007	(32,000)		
Total cost of January 2007 pay increase	96,000		
Civil Service Retirement System (CSRS)		0	(1,737,443)
The number of employees covered by the Civil Service Retirement System (CSRS) continues to drop as positions become vacant and are filled by employees who are covered by Federal Employees Retirement System (FERS). The estimated percentage covered by CSRS will drop from 30.5% in 2006 to 27.7% in 2007 for regular and from 10.6% in 2006 to 5.4% in 2007 for law enforcement employees. Contribution rates will remain the same.			
Regular:			
2007 $867,522,000 x .277 x .07	16,821,252		
2006 $867,522,000 x .305 x .07	18,521,595		
Subtotal	(1,700,343)		
Law Enforcement:			
2007 $9,513,000 x .054 x .075	38,528		
2005 $9,513,000 x .106 x .075	75,628		
Subtotal	(37,100)		
Total adjustment to base	(1,737,443)		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

Federal Employees Retirement System (FERS)		0	5,946,521
The number of employees covered by the FERS continues to rise as employees covered by CSRS leave and are replaced by employees covered by FERS. The estimated percentage of payroll for employees covered by FERS will rise from 69.5% in 2006 to 72.3% in 2007 for regular. The estimated percentage of payroll for law enforcement employees covered by FERS will increase from 89.4% in 2006 to 94.6% in 2007. The contribution rates for regular employees will increase from 10.7% in 2006 to 11.2% in 2007. The contribution rate for law enforcement employees will increase from 22.7% in 2006 to 23.8% in 2007.			
Regular:			
2007 $867,522,000 x .723 x .112	70,248,461		
2006 $867,522,000 x .695 x .107	64,513,274		
Subtotal	5,735,187		
Law Enforcement:			
2007 $9,513,000 x .946 x .238	2,141,883		
2006 $9,513,000 x .894 x .227	1,930,549		
Subtotal	211,334		
Total adjustment to base	5,946,521		
Thrift Savings Plan		0	495,706
The cost of agency contributions to the Thrift Savings Plan will also rise as FERS participation increases. The contribution rate is expected to remain at 2%.			

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

Regular:			
2007 $867,522,000 x .723 x .02	12,544,368		
2006 $867,522,000 x .695 x .02	12,058,556		
Subtotal	485,812		
Law Enforcement:			
2007 $9,513,000 x .946 x .02	179,986		
2006 $9,513,000 x .894 x .02	170,092		
Subtotal	9,894		
Total adjustment to base	495,706		
Federal Insurance Contribution Act (FICA)		0	1,371,569
As the percentage of payroll covered by FERS rises, the cost of OASDI contributions will increase. In addition, the maximum salary subject to OASDI tax will rise from $92,175 in 2006 to $96,150 in 2007. The OASDI tax rate will remain 6.2% in 2007.			
Regular:			
2007 $867,522,000 x .723 x .9689 x .062	37,678,139		
2006 $867,522,000 x .695 x .973 x .062	36,372,222		
Subtotal	1,305,917		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

Other			
2007 $25,309,000 x .723 x .9689 x .062	1,099,218		
2006 $25,309,000 x .695 x .973 x .062	1,061,120		
Subtotal	38,098		
Law Enforcement:			
2007 $9,513,000 x .946 x .9689 x .062	540,604		
2006 $9,513,000 x .894 x .973 x .062	513,050		
Subtotal	27,554		
Total adjustment to base	1,371,569		
Health insurance premiums		0	4,652,000
Effective January 2006, NOAA's contribution to Federal employees' health insurance premiums increased by 8%. Applied against the 2006 estimate of $58,156,000, the additional amount required is $4,652,480.			
Employees Compensation Fund		0	560,000
Effective January 2006, NOAA's contribution to Federal employees' compensation fund will increase by $560,000.			

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

Mileage rate increase	0	102,160
Effective February 2005, the General Services Administration raised the mileage rate from 37.5 cents to 40.5 cents per mile, a 8% rate increase. This percentage was applied to the 2006 estimate of $1,277,000 to arrive at an increase of $102,160.		
Per diem increase	0	565,488
Effective January 2005, the General Services Administration raised per diem rates. This increase resulted in a 1.4% increase to this bureau. This percentage was applied to the 2006 estimate of $40,392,000 to arrive at an increase of $565,488.		
Rental payments to GSA	0	934,725
GSA rates are projected to increase 1.50% in 2006. This percentage was applied to the 2007 estimate of $62,315,000 to arrive at an increase of $934,725.		
GPO Printing	0	63,774
GPO has provided an estimated rate of 1.6%. This percentage was applied to the 2006 estimate of $3,543,000 to arrive at an increase of $63,774.		
NARA Storage & maintenance costs	0	(76,000)
The estimated cost of NARA storage and maintenance for 2006 is projected to decrease by $76,000.		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

Working Capital Fund	0	234,000
An increase of $234,000 is required for Working Capital Fund for 2007.		
CBS	0	384,000
An increase of $384,000 is required for the Commerce Business System.		
General Pricing Level Adjustment	0	15,285,292
This request applies OMB economic assumptions for FY 2007 to object classes where the prices the government pays are established through the market system. Factors are applied to transportation of things ($241,434); rental payment payments to others ($286,444); communications, utilities and miscellaneous charges (excluding postage) ($896,282); other contractual services ($11,682,484); supplies and materials ($1,560,690) and equipment ($617,958).		
Grants	0	488,189
Grants are projected to increase 3.3% in 2007. This percentage was applied to the 2006 estimate of $14,793,612 arrive at an increase of $488,189.		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
JUSTIFICATION OF CHANGES TO BASE
(Dollar amounts in thousands)

NOAA National Weather Center – OAR	0	770,000
For amortized construction costs and net rent cost increases associated with the new National Weather Center (NWC) at the University of Oklahoma. NOAA will relocate its National Severe Storms Laboratory, Norman Weather Forecast Office, Storm Prediction Center, Warning Decision Training Branch and NEXARD Radar Operations Center's Application Branch to the NWC.		
Fuel costs - OMAO		
To fund increases in fuel costs for ship and aircraft operations.	0	2,827,451
Subtotal, Other Changes	7	55,823,417
Absorption	0	(42,724,000)
Total Adjustments to Base	7	(366,906,583)

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NATIONAL OCEAN SERVICE
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Navigation Services	144,002	149,218	120,205	140,107	19,902
Ocean Resources Conservation and Assessment	245,352	210,885	114,776	126,445	11,669
Ocean and Coastal Management	152,680	133,048	123,201	127,903	4,702
TOTAL	542,034	493,151	358,182	394,455	36,273
FTE	1,152	1,219	1,221	1,227	6

For FY 2007, NOAA requests an increase of $36,273,000 and 6 FTE for a total of $394,455,000 for the National Ocean Service (NOS) Operations, Research and Facilities account.

The National Ocean Service (NOS) is the primary Federal agency working for the nation through the observation, measurement, assessment, and management of the nation's coastal and ocean areas, as well as conducting response and restoration activities to protect vital coastal resources. An estimated 154 million people lived in coastal counties in 2004. Although coastal population growth has generally reflected the same rate of growth as the entire nation since 1980, the limited land area of coastal counties is increasingly strained by the density of the population growth. This increasing density, coupled with the fast-growing economy of coastal areas, makes the task of managing coastal resources increasingly difficult, especially with the nation's coastal population expected to increase by more than 6 million by 2008 and 11 million by 2015 (*Population Trends Along the Coastal United States: 1980-2008*).

As a national leader for coastal stewardship, NOS promotes a wide range of research activities to create the strong science foundation required to advance the sustainable use of our coastal systems. NOS provides improvements in the quality, quantity, geographic distribution, and timeliness of ocean and coastal observations. Observations by NOS assets and NOS partners are critical components of the Nation's Integrated Ocean Observing System, as well as fundamental contributors to the Global Earth Observation System of Systems. NOS mapping, charting, geodetic, and oceanographic activities build on marine and coastal observations collected to increase the efficiency and safety of maritime commerce, support coastal resource management and address coastal flooding and water quality concerns. NOS protects and restores coastal resources injured by releases of oil and other hazardous materials.

NOS also manages marine sanctuaries and, in partnership with the coastal states, helps manage the Nation's valuable coastal zones and nationally significant estuarine reserves. NOS helps federal, state, local, and international managers build the suite of skills needed to protect, restore, and use coastal ecosystems by providing technical assistance, process and technical skill training, and other capacity building activities.

NOS has three subactivities: Navigation Services, Ocean Resources Conservation and Assessment, and Ocean and Coastal Management.
The objectives of the Navigation Services subactivity are to:

- Build, Maintain, and Deliver a Nautical Charting Database
- Update Nautical Surveys
- Define the National Shoreline
- Develop the National Spatial Reference System
- Provide Real-Time Observations and Forecasts of Water Levels, Tides, and Currents

To achieve these objectives, NOAA conducts activities in several program areas within the Office of Coast Survey, the National Geodetic Survey, and the Center for Operational Oceanographic Products and Services. NOAA also represents these programs on the Interagency Committee for the Marine Transportation System. This committee was recently reestablished as a cabinet-level committee by the President's U.S. Ocean Action Plan.

The objectives of the Ocean Resources Conservation and Assessment subactivity are to:

- Establish the framework through which the authorities of Federal and state agencies can be focused to protect and restore coastal resources.
- Recommend management actions to minimize the cumulative effects of coastal development on natural resources, especially NOAA's trust resources.
- Conduct research to define the nature and extent of human activities and conditions that threaten the health and productivity of the Nation's coastal resources.
- Conduct damage assessments to support negotiated settlements and litigation for recovering funds for restoration of injuries to NOAA's trust resources.
- Apply scientific expertise to mitigate the effects of human activities and facilitate environmental recovery, and undertake actions to restore ecosystem functions and resource values.
- Develop a Federal/state capability to research, monitor, assess, and predict coastal ecosystem structure and function to detect changes, evaluate management strategies, and identify actions to effectively manage threats to ecosystem health.
- Develop means for valuing non-market ecological resources and clarify the causes and significance of ecosystem changes.
- Facilitate the development and transfer of tools and technology that provide more effective mechanisms to protect, restore and use coastal ecosystems.
- Improve public understanding of functions and values of coastal ecosystems and enhance public access to information on coastal environmental quality and health risks from pollutants.

- Support NOAA's and the Nation's obligations under international treaties and conventions, and increase effectiveness of international programs for coastal environmental science and technology, integrated coastal zone management, and sustainability of coastal resources.

This subactivity contains the programs managed by the National Centers for Coastal Ocean Science (NCCOS), the Office of Response and Restoration (ORR), the Coastal Services Center (CSC) and the Cooperative Institute for Coastal and Estuarine Technology (CICEET), co-administered by NOS' Office of Ocean and Coastal Resource Management and the University of New Hampshire. The goals of this subactivity use the authorities established in the Clean Water Act, Coastal Zone Management (CZM) Act, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA/Superfund), Oil Pollution Act, National Coastal Monitoring Act, Marine Protection Research and Sanctuaries Act, Harmful Algal Bloom and Hypoxia Research and Control Act, Estuaries Restoration Act, Coral Reef Conservation Act, and other legislation to protect, conserve, and restore natural resources and the environmental quality of the Nation's coastal ecosystems.

The objectives of the Ocean and Coastal Management subactivity are to:

- Maintain and improve the quality and utility of the Nation's coastal lands and waters through a national network of Federally-approved, coordinated, and supported state management programs.
- Maintain the balance between resource protection and coastal-dependent economic activity.
- Provide technical assistance to states in the development, implementation, and improvement of state CZM programs and estuarine research reserves.
- Identify areas of the marine environment of special national significance due to their resource or human-use values.
- Develop the framework for a national network of marine protected areas.
- Support and coordinate scientific research on, and monitoring of, resources in protected areas.
- Coordinate the development of information, tools, strategies, and guidance to enhance and expand the protection of marine protected areas.
- Conduct a comprehensive, coordinated program of conservation and management of special marine areas.
- Enhance public awareness and understanding of the marine environment.
- Facilitate public/private uses of the resources of special marine areas compatible with resource protection.

To achieve these objectives, NOAA conducts activities in several program areas within the Office of Ocean and Coastal Resource Management, the Marine Protected Areas Center and the National Marine Sanctuary Program Office.

In addition, NOS contributes significantly to achieving two of NOAA's Strategic Plan Mission Goals: Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation, and Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management. While these two goals capture much of the National Ocean Services' activities, NOS also supports and makes important contributions to NOAA's other mission goals: Understand climate variability and change to enhance society's ability to plan and respond, Serve society's needs for weather and water information, and Mission Support.

Research and Development Investments:

The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) for NOAA's R&D programs, and leads to NOAA budget proposals that reflect the R&D investment criteria.

Significant Adjustments-to-Base (ATBs):

NOAA requests a net increase of 2 FTE and $416,000 to fund adjustments for National Ocean Service activities. This increase includes funds for inflationary adjustments for labor and non-labor, as well as rescissions that are restored from the FY 2006 Appropriation. Also included is an internal transfer of $612,000 to OMAO to fund NOAA Corps Officer positions that benefit NOS.

From Office	Line	To Office	Line	Amount
NOS	Mapping & Charting Base	OMAO	NOAA Corps	- $340,000
NOS	Geodesy Base	OMAO	NOAA Corps	- $68,000
NOS	Marine Sanctuary Program Base	OMAO	NOAA Corps	- $204,000

In addition, NOAA proposes to elevate three important NOS staff offices to program office status. This realignment will improve NOAA's effectiveness in meeting its ocean and coastal responsibilities and bring NOS programs closer to its customers and end-users. In accordance with the goals of the President's Management Agenda, this realignment enables the organization to further improve front-line service delivery. This proposal does not require any additional funds or FTE to be implemented. NOAA proposes to:

Elevate the National Marine Sanctuary Program (NMSP) from division level to program office status. The NMSP has entered the 21st century with increasingly more resource management challenges and growing national and international emphasis on marine protected areas. Currently, the National Marine Sanctuaries staff office is under the NOS Office of Ocean and Coastal Resource Management. The NMSP is a direct Federal management and regulatory program with distinct authorizing legislation. This realignment will position the NMSP to move forward effectively into a growing era of responsibility.

Elevate the Center for Operational Oceanographic Products and Services (CO-OPS) from a staff office to program office status. With this elevation, CO-OPS becomes a focal point for NOS environmental monitoring and prediction in support of NOAA's contribution to the Global Ocean Observing System. This will allow CO-OPS to improve product lines by providing focused areas of expertise such as engineering, oceanography, field support etc. which can applied to all CO-OPS programs.

Elevate the Coastal Services Center (CSC) from a staff office to program office status. The mission, scope of activities, and operations of the CSC have expanded over the last several years, requiring a new organizational structure which reflects its national influence and responsibilities. Elevation to program office will provide the status needed to better and more consistently integrate activities across NOAA for other core capabilities.

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Subactivity: Navigation Services
Line Item: Mapping & Charting

GOAL STATEMENT:

NOAA's National Ocean Service (NOS) will reduce the risks to life, property and the coastal environment and enhance NOS' role of coastal stewardship by providing a comprehensive set of products and services to meet the Nation's need for accurate and up-to-date marine navigation information.

BASE DESCRIPTION:

NOAA's Mapping and Charting Program is carried out by the Office of Coast Survey. Established by President Thomas Jefferson in 1807, the Coast Survey celebrates its 200th anniversary this year as the oldest scientific organization in the U.S., with a long history of supporting and facilitating maritime commerce. Today, it continues to support safe and efficient transportation in U.S. waters by delivering navigation products to meet the needs of vastly larger ships carrying people, cargo and hazardous materials. NOAA collects, manages, and maintains a variety of marine data important to navigators, including the nature and form of the coast, the depths of the water, general character and configuration of the sea bottom, locations of dangers to navigation, the rise and fall of the tides, and locations of aids to navigation. These data enable NOAA to construct and maintain the national suite of 1,000 nautical charts, and develop other products such as the Coast Pilot publication, which is a series of books that supplement the nautical charts with valuable information difficult to portray on a chart (e.g. channel descriptions, ice conditions, pilotage). These products support commercial shipping, the fishing industry, U.S. Navy deployment and Coast Guard Homeland Security operations, state and local governments, and recreational boaters throughout the United States. The Mapping and Charting Program also conducts research and development activities to improve the accuracy, efficiency, and productivity of data collection, chart compilation and chart production.

The Mapping and Charting Line Item consists of five primary program elements. Each program element within the Mapping and Charting Line directly supports NOAA's Commerce and Transportation, Weather and Water, and Ecosystems goals. The Mapping and Charting Line Item also includes grant funding for the Joint Center for Hydrographic Excellence (JHC) at the University of New Hampshire, which operates in partnership with NOS. The program serves as a learning center for government and private sector hydrographers, as well as a research and development center for new hydrographic technologies and applications. The JHC is a national center for expertise in ocean mapping and hydrographic sciences.

Program Assessment and Rating Tool (PART): NOAA's Mapping and Charting program was reviewed with OMB's PART during the FY 2005 budget process. As a result, NOAA's Mapping and Charting program continues to develop meaningful long-term outcome and improved efficiency measures.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

NAUTICAL CHARTING PROGRAM

The Nautical Charting Program is carried out by NOS' Office of Coast Survey (OCS). NOAA is responsible for surveying and charting U.S. and territorial waters to the limits of the Exclusive Economic Zone (EEZ), an area of about 3.4 million square nautical miles. NOAA is authorized by the Coast and Geodetic Survey Act of 1947 to provide nautical charts and products for safe maritime commerce. Title 33 of the Code of Federal Regulations requires NOAA charts be carried on all self-propelled vessels greater than 1600 gross tons. Nautical charts and related navigation publications are the basic tools for marine navigation, ocean operations, and marine resources planning and management. NOAA's digital nautical charting products, such as Electronic Navigational Charts (ENCs), serve as the basic information component required to operate new electronic navigation systems that can meet demands for greater protection of life, property, and the environment, as well as significantly improve the efficiency of maritime commerce. Products like NOAA's ENCs give the user more complete and valuable information than the paper chart, and can provide much greater accuracy than existing chart products. More than just a picture, ENCs are essentially a database of chart features that can be intelligently processed and displayed by electronic charting systems. An ENC displayed by an electronic charting system, when combined with input from other sources such as GPS and real-time oceanographic data, is able to warn of hazards to navigation and situations where the vessel's current track will take it into danger. The U.S. Coast Guard will promulgate regulations for electronic chart carriage in U.S. waters in 2007.

HYDROGRAPHIC SURVEY PROGRAM

The Hydrographic Survey Program is also carried out by OCS. The program addresses the critical hydrographic surveys needed in U.S. waters. These hydrographic surveys provide the most basic data for the production of nautical charts. Coastal and ocean hydrographic data are also fundamental components of the Nation's Integrated Ocean Observing System. NOAA is responsible for surveying and charting U.S. and territorial waters to the limits of the EEZ, an area of about 3.4 million square nautical miles. In 1994, NOAA identified approximately 510,000 square nautical miles of the U.S. Exclusive Economic Zone as navigationally significant and in need of resurvey. Since that time, NOAA has focused primarily on surveying in the highest priority areas, many of which carry heavy commercial traffic, are less than 30 meters deep, and change constantly. These characteristics significantly increase the risk to marine transportation. However, this critical area constitutes only a small portion (8%) of the entire navigationally significant area used by large commercial vessels and recreational boaters. NOAA's surveying activities employ the latest full bottom coverage sounding technologies to survey the nation's coastal areas for navigation. NOAA utilizes private contractors to supplement its internal resources to conduct hydrographic data collection. All funding for the operation and maintenance of NOAA's hydrographic survey vessels is requested by NOAA's Office of Marine and Aviation Operations.

MARINE MODELING AND GEOSPATIAL TECHNOLOGY PROGRAM

OCS also carries out the Marine Modeling and Geospatial Technology Program, as the research and development focal point for NOAA's mapping and charting work. The program studies advancements in the cartographic, hydrographic, and oceanographic systems used by NOAA to provide products and services for the coastal marine community, particularly in support of safe and efficient navigation and the utilization and protection of the coast. The program develops techniques and methods for the analysis, simulation and accurate real-time prediction of oceanographic, atmospheric and water quality parameters. Projects include estuarine and port modeling and forecasting, coastal modeling and forecasting, and operational data resources. These models are an important contributor to the utility of a national Integrated Ocean Observing System, because they provide the capacity for data integration. The program also develops techniques and technology for improving nautical charts, providing vector data for marine Geographic Information Systems, efficiently and accurately measuring depths, shoreline and bottom characteristics, and locating underwater hazards. Efforts include bathymetric/topographic projects, vector electronic chart standards development, technology advances in shallow-water multibeam and high-speed high-resolution side-scan sonars, and on-the-fly Global Positioning System (GPS) for settlement and squat determination and vertical control of hydrographic surveys.

NAVIGATION SERVICES PROGRAM

Finally, OCS connects with stakeholders through the Navigation Services Program. This Program provides a focal point for customer requests and associated responses on charting issues, conducts fast-response hydrographic surveys to verify chart changes and accuracies, and maintains the Coast Pilot, a supplemental aid to the nautical chart. NOAA Navigation Managers are regionally based representatives who resolve charting and navigation questions, educate constituents on emerging charting technologies and their uses, and solicit feedback on NOAA's navigation products and services from the commercial maritime industry. This face-to-face contact improves NOAA’s response to customer needs and issues. NOAA’s Navigation Response Teams (NRTs) are another crucial means of connecting with the maritime community. These teams have proven their worth in a number of ways. Established under the guidelines of the Hydrographic Services Improvement Act of 1998, the NRTs are designed to be fully mobile regional survey teams. The NRTs conduct ENC validation surveys, chart discrepancy and shoreline boundary examinations using diving operations, data collection, and mapping support capabilities. Because NRTs operate and are on call 365 days a year, at any hour, they also provide a critical emergency response role for stakeholder survey requests following natural or man-made disasters. NOAA’s NRTs perform post-hurricane surveys to ensure safety of navigation and resumption of maritime commerce, survey in the wake of maritime accidents to locate cause and debris, and support Homeland Security efforts through the testing of equipment and the supply of sea bottom data for the Defense Technology Support Working Group, U.S. Coast Guard, and U.S. Navy Mine Counter Measures. NOAA deployed four of its NRTs to the Hurricane Katrina/Rita/Wilma response in order to locate hazards to navigation and re-open impacted ports to maritime commerce and recovery efforts.

COASTAL MAPPING PROGRAM

The Coastal Mapping Program is carried out by NOS' National Geodetic Survey (NGS). The primary objective of the program is to define the national shoreline in support of nautical charting, although the program performs a number of other activities with important applications. The national shoreline is the delineation of the 95,000 miles of U.S. shoreline on a map or in a digital database. Since it is the official U.S. shoreline, measurements must be accurate, consistent, and up-to-date. The national shoreline provides the critical baseline data for defining America's marine territorial limits, including its EEZ, and for the geographic reference needed to manage coastal resources and many other uses. These shoreline data are considered authoritative when determining the official shoreline for the United States. The Hydrographic Services Improvement Act of 1998 provides NOAA with explicit authority to promulgate national standards for all information acquired for nautical charting purposes, which includes shoreline. NOAA recommends that critical portions of the national shoreline around port areas be redefined on a 5-year cycle (a 10-year cycle is recommended for other areas). Products of the Coastal Mapping Program are essential to NOAA's nautical charting program and other environmental programs dealing with the coastal zone.

PROPOSED LEGISLATION:

NOAA will work with Congress to pass the Ocean and Coastal Mapping Integration Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Navigation Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Mapping & Charting					
Mapping & Charting Base (CT)	27,233	38,350	36,729	41,839	5,110
Mapping & Charting Base (WW)	-	-	1,879	1,879	-
Seacoast Science Center (COA)	493	-	-	-	-
Joint Hydrographic Center	7,492	7,397	7,424	7,424	-
Marine Modeling & Geospatial Technology	1,084	-	-	-	-
Hydrographic Surveys	1,282	-	-	-	-
Electronic Navigational Charts	4,239	4,241	4,238	6,128	1,890
Nautical Charting	6,406	-	-	-	-
Navigational Services	1,858	-	-	-	-
Shoreline Mapping	2,413	2,415	2,424	2,424	-
Shoreline Mapping-Chesapeake Bay	986	-	-	-	-
Shoreline Mapping-Aerial	986	-	-	-	-
Payment to OMAO	2,753	-	-	-	-
Address Survey Backlog/Contracts	18,727	20,711	20,686	31,173	10,487
Address Survey Backlog-EEZ Outer Continental Shelf Ocean Bottom Claims	2,168	2,170	-	-	-
Address Survey Backlog-Gulf of Alaska	2,463	3,451	-	-	-
Address Survey Backlog-North Pacific	986	-	-	-	-
Address Survey Backlog-North Pacific Maritime Boundary Line	986	-	-	-	-
MS/LA Digital Coast	789	986	-	-	-
Vessel/Time Charter	1,971	11,687	-	-	-
Dune System Assessment & Shoreline Change Analysis	-	493	-	-	-
Coastal Environemental Mapping Consortium	-	789	-	-	-
River Studies	-	740	-	-	-
Subtotal: Mapping & Charting	85,315	93,430	73,380	90,867	17,487
TOTAL	85,315	93,430	73,380	90,867	17,487
FTE	246	318	318	323	5

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Mapping and Charting (5 FTE and +$5,110,000): An increase of $5,110,000 and 5 FTE, for a total of $41,839,000, is requested to improve NOAA's service delivery to users of marine navigation information. The increase will support NOAA Navigation Response Team (NRT) emergency response capability, the expansion of the National Vertical Datum Transformation Tool, and a reduction in the time it takes to collect, process, and deliver new navigation data to the mariner.

The 2005 hurricane season – particularly Hurricanes Katrina and Rita – highlighted the reliance of the maritime community on NOAA products and services. The NRTs worked for months after the Gulf storms passed, surveying the waters to re-open ports to maritime commerce and facilitate relief and recovery operations. The damage to New Orleans also highlights the need to implement the National Vertical Datum Transformation Tool, or VDatum, to help establish accurate heights for rebuilding levees to adequately protect against a Category 3 or better storm surge. Finally, the rapid changes in water depths, island configurations, and hazards to navigation in the Gulf emphasize the importance of delivering updated navigation data into the hands of mariners as quickly as possible. Hydrographic and shoreline data are the most critical and time-sensitive elements of a nautical chart. Technology advances in data acquisition have created a situation wherein NOAA is able to collect more data than can be processed and applied to charting products in a timely manner. This request for additional investments in hydrographic and shoreline processing and chart application operations will improve the balance between NOAA's capacity to acquire data and its capacity to process that data. The proposed areas of study contribute to NOAA's efforts to: build an Integrated Ocean Observing System (IOOS); modernize ocean data and information systems, and support marine commerce and transportation; and support the President's Ocean Action Plan with respect to IOOS and improving the U.S. Marine Transportation System (MTS).

Statement of Need

MTS users rely on NOAA for navigation products and services to operate in a safe, efficient and environmentally sound manner. The observations that NOAA collects to build its products are also backbone datasets for many other real-world and scientific uses. Storm surge, tsunami modeling, hurricane evacuation route planning, habitat restoration, harmful algal bloom modeling to warn of health risks – a host of coastal and ocean-related activities rely heavily on NOAA's navigation data to protect and improve our lives and the coastal environment.

Supporting safe maritime commerce is NOAA's primary mapping and charting requirement. A fundamental lifeline for the nation's economy, the MTS is growing rapidly. From 1990 to 2003, the value of U.S. international merchandise trade increased an average 6% annually, from $889 billion to about $2 trillion (in current dollars). The MTS carried 78% of this trade by weight and 41% by value in 2003, more than any other transportation mode. In fact, two-thirds of all goods purchased in the U.S. come to us via the MTS. These statistics translate into increased commercial ship traffic in all U.S. ports, particularly major ports like Los Angeles/Long Beach, Houston, and New York. Transport of hazardous cargo such as oil, chemicals and liquified natural gas is on the rise as our demand for energy increases.

Vessels in use today have deeper drafts that exceed the depths of many of our ports and harbor channels at lower tides. As these risk factors grow, MTS stakeholders state repeatedly that their highest priority is the need for accurate, timely and reliable navigation information to give a complete picture of the dynamic environment in which they operate.

NOAA's mapping and charting responsibilities include defining the National Shoreline and surveying and charting the 3.4 million square nautical miles of the U.S. Exclusive Economic Zone (EEZ). These responsibilities were first established in 1807 by Thomas Jefferson, and later by the Coast and Geodetic Survey Act of 1947, which requires that NOAA "provide charts and related information for the safe navigation of marine … commerce." As the nation's dependence on the MTS grows, better navigation information protects lives, cargo and the environment. It is crucial for mariners to know where and when changes occur in the Nation's ports, harbors, waterways, and offshore waters to help prevent accidents and groundings. Reducing these risks can be achieved, in part, by improving the navigation information that NOAA provides to the nation.

Proposed Actions

VDatum (2 FTE and +$2,000,000): NOAA requests $2,000,000 and 2 FTE to implement the National Vertical Datum Transformation Tool database, or VDatum. This tool supports NOAA's requirement to acquire hydrographic and shoreline data for nautical charting products and to continually improve surveying and data delivery techniques. VDatum will benefit NOAA's modernization efforts in shoreline measurement and hydrographic surveying for navigation safety. In addition, the tool will enable the blending of geospatial datasets among federal/state/local agencies and academia that currently cannot be shared due to disparate reference datums. In places like New Orleans and the Gulf, where the vertical reference system was rendered obsolete by the hurricanes, an accurate VDatum tool is critical to rebuilding adequate protections against certain strength storms.

A datum is the reference level to which geospatial data is gathered. NOAA collects its hydrographic data to a vertical datum of Mean Lower Low Water (MLLW) and shoreline data to Mean High Water (MHW) in the interest of charting for safe maritime commerce and transportation. However, geospatial data is routinely collected at a variety of vertical reference datums for different purposes by other parts of NOAA and many other agencies and entities. FEMA, for example, received $200M in 2005 and again in 2006 from Congress to collect shoreline data for the purpose of improving flood hazard mapping. Without the ability to correct the vertical datum reference, this wealth of shoreline information is currently unusable to NOAA's charting program. The American taxpayer is poorly served by numerous agencies collecting data that could serve multiple missions but for differing standards of data collection.

To address this problem, NOAA has developed VDatum, a revolutionary vertical datum transformation tool. VDatum translates geospatial data between vertical reference systems and removes the most serious impediments to data sharing. This allows for the easy and accurate transformation of elevation data from one vertical datum to another. VDatum gives NOAA and other mapping agencies the ability to seamlessly integrate geospatial data for numerous critical applications to the benefit of the U.S. public. For example, NOAA, USGS, FEMA, the National Geospatial-Intelligence Agency, and state mapping agencies can share and integrate elevation data for applications such as Homeland Security and natural disaster preparedness.

Developing VDatum to combine onshore and offshore data in a seamless geodetic framework was the primary recommendation of a 2003 National Academy of Sciences report titled A Geospatial Framework for the Coastal Zone that assessed national needs for coastal mapping and charting.

Likewise, the efficiencies and accuracies that could result from kinematic GPS systems cannot occur without National VDatum to transform the data obtained using the Global Positioning System reference system to the appropriate vertical datums required by law for specific data types. To improve the efficiency and accuracy of a hydrographic survey and eliminate the need for time-consuming activities such as tide gauge installation, vessel settlement and squat corrections, and inefficient post-survey-processing, one can use VDatum to transform GPS-referenced depth soundings to MLLW "on the fly," or while out surveying on the vessel. To not only efficiently derive shoreline from topographic LIDAR (which is now being collected by numerous agencies), but also to derive a shoreline that is more consistently and accurately defined than by any previous measurement technique, one needs VDatum to transform the LIDAR data to the MHW datum.

The requested increase will enable NOAA to transition VDatum from successful demonstration projects in areas such as Tampa Bay, Delaware Bay and South East Louisiana, to a national scale. Airborne, land, and marine platforms will be able to exploit GPS technology for vertical location, fuse GPS height with other remote sensing technologies, and map the national coastline, both above and below water, with greater ease and accuracy. The tool will also improve the efficiency and accuracy of hydrographic surveys for nautical charts by eliminating the need for time-consuming water level corrections and post-processing. VDatum models have multiple uses in addition to mapping. For example, models recently developed for Puget Sound are being used for tsunami inundation applications. They also support sea level rise impact studies and more accurate storm surge inundation maps. In New Orleans and surrounding areas, as new levees are built and old ones are repaired to meet the safety needs of the residents and structures, VDatum will help determine that a levee is at the correct and accurate height.

With the requested increase, NOAA will expand the National VDatum models to approximately 20% of the contiguous U.S. in FY 2007, reaching 100% coverage by 2011. The requested funds will be used to contract for tidal and geophysical modeling expertise, the design and construction of a Web-accessible multi-resolution database, temporary tide gauge installations around the country, and GPS referencing equipment to validate the models. Two FTE are requested to provide modeling expertise across different program areas (oceanographer, geodesist), as well as contract oversight.

Navigation Response Teams (2 FTE and +$1,810,000): NOAA requests an increase of $1,810,000 and 2 FTE to maintain and expand the regional component of its Navigation Response Teams (NRTs). The requested increase will allow NOAA to fully staff, train, and implement NRTs 5, 6, and 7, and begin building NRT 8 in FY 2007. The increase request will restore contract support and FTE for full staffing, as well as some funds for NRT launch maintenance and routine equipment replacement. Eight regional NRTs will fulfill the requirement for an adequate distributed capacity to respond within 24 hours to incidents in all contiguous U.S. ports.

NRTs support critical ENC field verification, emergency response activities associated with natural and man-made disasters, support to National Homeland Security activities, and Marine Transportation System constituent requirements. These teams have proven their worth time and again for rapid response surveys of U.S. ports and waterways to reopen ports for relief, recovery, and the restoration of commerce after hurricanes and maritime accidents.

NRT contributions during the response and recovery efforts following the devastating Hurricanes Katrina, Rita and Wilma were widely acknowledged by maritime community stakeholders such as the American Association of Port Authorities and the U.S. Coast Guard. NOAA's response capability is currently compromised by having only six of the planned eight teams up and operating.

The six existing teams are distributed along the Northeast and Southeast Atlantic, the West Coast and Puget Sound, the Great Lakes, and the eastern Gulf of Mexico. NOAA assembled equipment for NRT 7 through an innovative partnership with the Department of Defense technology Support Working Group to test sonar systems for use in Homeland Security assessments. NRT 7 is slated to fill the mid-Atlantic gap. Ports in this area contribute significantly to the economy of the country and homeland security; the largest Navy base in the world is located in Hampton Roads, Virginia. NRT 8 will operate in the central and western Gulf. The charting requirements of the western Gulf have not been addressed in years by NOAA field units. This area is part of the petroleum and chemical products corridor of the country. Spills or other interruptions to cargo movement in this area will significantly impact the nation's environment and economy.

The additional NRTs are also essential to support rotations in and out of a stricken area. As NOAA learned with Hurricane Katrina, the duration of the response required that teams move in and out to avoid exhaustion and health issues from 18-hour days in rough conditions. All NRT personnel were used in this response. If another incident had happened somewhere else in the country, the NRT response capability would not have been there to assist. It is easy to imagine a scenario where NOAA is responding to a major hurricane in 2006, and an oil tanker hits an obstruction in Puget Sound. Without the NRT 7/8 capability, NOAA could not man both incidents adequately.

Hydrographic and Shoreline Data Efficiencies (1 FTE and +$1,000,000): NOAA requests an increase of $1,000,000 and 1 FTE to develop and operationalize data collection and processing improvements for hydrographic and shoreline data. NOAA's observations and remote sensing work fuel many MTS products and services, but uneven advancement of resources in some parts of the program now necessitates growth in others to smooth the pipeline that puts this information into the hands of users. Recent technology advancements in data acquisition have created a situation wherein NOAA is able to collect more data than can be processed and applied to charting products in a timely manner. For example, the ability to collect hydrographic data has outstripped the program's capacity to collect shoreline data that is also needed to update the same nautical charting products. Rapid and accurate processing of hydrographic data is the key to future success in nautical charting, as emerging technologies acquire terabytes of data per year. Implementing technology improvements now will eliminate the processing backlog and allow data to be collected and processed more efficiently for identifying dangers to navigation.

With the requested funds, NOAA will invest approximately $560,000 in data management research and technology development to improve the speed and accuracy of data acquisition, and accelerate the delivery of navigation information to the maritime community for safe, efficient, and environmentally sound marine transportation. NOAA will begin to operationalize its research into the benefits of new technologies and delivery mechanisms such as geographic information systems and web-based interactive programs. For example, NOAA is currently developing a prototype Automated Tide Window web-based tool to optimize shoreline data collection flight times.

Eliminating the need for case-by-case determinations of high and low water, the Automated Tide Window will provide direct access to tide information via the Internet and will result in time savings for the flight crew and support personnel, as well as more efficient use of the plane.

Approximately $200,000 will be used to improve shoreline data updates by procuring commercial satellite shoreline imagery for change analysis. Satellite imagery is a valuable tool for identifying where significant shoreline change has occurred and new data collection is needed. $240,000 will be used to procure and deploy GPS-enabled buoys to improve the collection of hydrographic data. This effort will reduce the time required to post-process hydrographic data for tide correctors, thereby accelerating delivery of the survey for application to the chart by up to 10 days per survey— a 5% improvement over the delivery time.

Socioeconomic Analysis (0 FTE and +$300,000)*:*

NOAA requests an increase of $300,000 to analyze its efforts in supporting the nation's commerce with information for safe, efficient and environmentally sound transportation. The increase will enable NOAA to study the socioeconomic value of its products and services in order to validate its requirements and responsibilities, better articulate and quantify the benefits of its programs, and more effectively prioritize NOAA's resource investments.

Industry, public, and government entities involved with commerce and transportation depend on a wide range of NOAA information, products and services. These include NOAA's navigation products and services; weather information for air, marine and surface transportation; positioning capabilities; emergency response to oil/chemical spills and natural disasters; and commercial remote sensing licensing. NOAA knows that these programs provide value to the nation – they help save lives and property, protect the environment and support the economy – but NOAA has not effectively quantified that value, nor can it articulate well the extent to which users rely on these services. Data on the economic value and utility of NOAA's suite of "Commerce and Transportation" goal products and services will help NOAA to set funding priorities and better allocate taxpayer resources.

With the requested increase, NOAA will contract with independent research firms to systematically collect, compile and analyze new or existing data from industry, academia and other Federal, state or local agencies relating to the national socioeconomic benefit of NOAA's Commerce and Transportation-goal related programs. Using a consistent, rigorous, and scientifically defensible methodology, this approach will generate information about the social and economic effects, benefits, and costs of NOAA programs, information and services. NOAA will use these analyses to prioritize products/services/uses, as well as to identify areas requiring more focused research into economic benefits and social science information to meet future user needs.

Benefits

Funding the VDatum request will result in VDatum coverage for the contiguous U.S. by 2011 to support more efficient mapping, multi-purpose use of existing datasets, and improved rebuilding of infrastructure dependent on accurate heights. The investment in data collection and processing will improve the accuracy of data acquisition, and accelerate the delivery of navigation information to the maritime community for safe, efficient, and environmentally sound marine transportation.

Currently it takes over 15 months to collect hydrographic data, process it, apply it to the chart and disseminate the chart to mariners. NOAA's goal is to make the process more efficient such that new data moves to navigation products within 3 months by 2013. A complement of eight NOAA NRTs will ensure adequate response to the surveying emergencies in the nation's ports and waterways, in order to keep maritime traffic moving, and commerce flowing.

The primary function of NOAA's mapping and charting data is to support safe and efficient marine navigation, but it also supports multiple NOAA missions and applications, and provides basic data for engineering, scientific and other commercial and industrial activities. NOAA's hydrographic data is incorporated into the Integrated Ocean Observing System strategy with bathymetric data for marine and coastal areas. In addition, the data addresses the International Hydrographic Organization objective of safety in navigation and the protection of the marine environment. By collecting data more efficiently, NOAA will be better able to meet these requirements.

Performance Goals and Measurement Data
This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs. It supports the NOAA Strategic Goal to "Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation." The increase will provide NOAA with new technologies that will improve the collection of mapping and charting data, allow for quicker distribution of information to the maritime community and support the following performance measures.

Performance Goal: Commerce and Transportation **Performance Measure:** Average number of days from hydrographic survey data acquisition to navigation product delivery	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	460	440	400	360	320	280
With Increase	--	--	380	320	260	180
Performance Measure: Cumulative percentage of continental U.S. (coastal areas) included in the National VDatum database						
Without Increase	8%	10%	12%	14%	16%	18%
With Increase	--	--	20%	40%	60%	80%

Electronic Navigational Charts (0 FTE and +$1,890,000): NOAA requests an increase of $1,890,000 for a total of $6,128,000 for Electronic Navigational Charts (ENCs) to continue the planned incremental investment in the effort to provide full contiguous ENC coverage of U.S. waters.

NOAA's role in providing the Nation with safe navigation tools is more important than ever, given the rapid growth of the U.S. Marine Transportation System (MTS). As the Nation's dependence on the MTS grows, better navigation information is critical to protect lives, cargo and the environment. It is crucial for mariners to know where and when changes occur in the nation's ports, harbors, waterways, and offshore waters to help prevent accidents and groundings. Reducing these risks would, in part, be achieved by improving the navigation information that NOAA provides to the Nation. GPS technology has advanced to such a degree that mariners are now able to plot their positions on a traditional nautical chart to a degree of accuracy that oftentimes far surpasses the accuracy of the soundings and features on the chart itself.

Statement of Need

NOAA's mapping and charting responsibilities include defining the National Shoreline and surveying and charting the 3.4 million square nautical miles of the U.S. Exclusive Economic Zone (EEZ). These responsibilities were first established in 1807 by Thomas Jefferson, and later by the Coast and Geodetic Survey Act of 1947, which requires that NOAA "provide charts and related information for the safe navigation of marine … commerce." As the nation's dependence on the MTS grows, better navigation information protects lives, cargo and the environment. It is crucial for mariners to know where and when changes occur in the Nation's ports, harbors, waterways, and offshore waters to help prevent accidents and groundings. Reducing these risks can be achieved, in part, by improving the navigation information that NOAA provides to the nation.

Supporting maritime commerce is NOAA's primary mapping and charting requirement. A fundamental lifeline for the nation's economy, the MTS is growing rapidly. From 1990 to 2003, the value of U.S. international merchandise trade increased an average 6% annually, from $889 billion to about $2 trillion (in current dollars). The MTS carried 78% of this trade by weight and 41% by value in 2003, more than any other transportation mode. In fact, two-thirds of all goods purchased in the U.S. come to us via the MTS. These statistics translate into increased commercial ship traffic in all U.S. ports, particularly major ports like Los Angeles/Long Beach, Houston, and New York. Transport of hazardous cargo such as oil, chemicals and liquified natural gas is on the rise as our demand for energy increases. Vessels in use today have deeper drafts that exceed the depths of many of our ports and harbor channels at lower tides. As these risk factors grow, MTS stakeholders state repeatedly that their highest priority is the need for accurate, timely and reliable navigation information to give a complete picture of the dynamic environment in which they operate.

Proposed Actions

At current funding levels, NOAA can maintain only the existing 550 ENCs – only about half of the number required to provide coverage equivalent to NOAA's traditional paper chart suite. The priority is to keep all existing ENCs in continual maintenance rather than to build new ENCs; thus NOAA will stop building ENCs in FY 2006, so that the existing 550 ENCs will not fall behind. Mariners will be able to use ENCs to navigate in the major seaports, but not between them. This increase will allow NOAA to recommence building ENCs in FY 2007, for a total of 620 built and maintained, in order to provide seamless coverage between ports. By 2007, when the U.S. Coast Guard is slated to promulgate electronic chart carriage regulations, NOAA will have 90 percent of all U.S. commercial waters covered by ENCs.

At the requested funding level, NOAA should achieve complete Electronic Navigational Chart coverage for the nation in FY 2010. This funding level will allow NOAA to keep the full chart suite under continuous cartographic maintenance. 100% of the additional funds would be used for ENC maintenance and verification activities.

Benefits

ENC's represent a major step forward in providing chart data to mariners for safe navigation in U.S. ports and waterways. They give the user more complete and valuable information than the paper chart, and can provide much greater accuracy than existing chart products. More than just a picture, ENCs are essentially a database of chart features that can be intelligently processed and displayed by electronic charting systems. An ENC displayed by an electronic charting system, when combined with input from other sources such as GPS and real-time oceanographic data, is able to warn of hazards to navigation and situations where the vessel's current track will take it into danger. These highly advanced and accurate digital navigation tools are in demand by mariners to support the electronic bridges now on board ships. NOAA's ENCs are available for free download on NOAA's website at nauticalcharts.noaa.gov.

ENC data may also be used in geographic information systems for a multitude of applications beyond navigation, including port planning, port security, habitat mapping and coastal zone management. In FY 2004 NOAA released a version of the ENC designed for non-navigation users such as coastal zone managers. This version translates the ENC data to a GIS-friendly format so that the resulting product can be used for a variety of non-navigational purposes that involve geospatial analyses.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs. It supports the NOAA Strategic Goal to "Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation." The increase will provide NOAA with the capacity to maintain more Electronic Navigational Charts to support the maritime community and the following performance measure.

Performance Goal: Commerce and Transportation **Performance Measure:** ENCs comparable to paper chart suite in continual maintenance (cumulative)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	510	550	550	550	550	550
With Increase	--	--	620	710	840	1000

Address Survey Backlog/Contracts (0 FTE and +$10,487,000): NOAA requests $10,487,000, for a total of $31,173,000 to maintain its planned FY 2007 survey schedule to collect and process approximately 3000 square nautical miles of hydrographic data. Specifically, this shift in resources consolidates funds into the Address Survey Backlog line in order to ensure a more efficient and effective Vessel Time Charter program . Funds are requested in this line so the program has the flexibility to address surveying needs and the type of contracts required to support it.

Statement of Need

NOAA's mapping and charting responsibilities include defining the National Shoreline and surveying and charting the 3.4 million square nautical miles of the U.S. Exclusive Economic Zone (EEZ). These responsibilities were first established in 1807 by Thomas Jefferson, and later by the Coast and Geodetic Survey Act of 1947, which requires that NOAA "provide charts and related information for the safe navigation of marine … commerce." As the nation's dependence on the MTS grows, better navigation information protects lives, cargo and the environment. It is crucial for mariners to know where and when changes occur in the Nation's ports, harbors, waterways, and offshore waters to help prevent accidents and groundings. Reducing these risks can be achieved, in part, by improving the navigation information that NOAA provides to the nation.

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NOAA is responsible for surveying and charting U.S. and territorial waters to the limits of the Exclusive Economic Zone (EEZ), an area of about 3.4 million square nautical miles. Because the scope of mapping the entire EEZ is so far beyond NOAA's current capacity, NOAA has evaluated the EEZ to determine which areas are navigationally significant (approximately 510,000 square nautical miles), and of these, which are the top priority for surveying. NOAA has focused primarily on surveying in the highest priority areas, many of which carry heavy commercial traffic, are less than 30 meters deep, and change constantly. Given NOAA's current capacity, it will take over 12 years to survey the most critical areas just once. These critical areas constitute only a small portion (8%) of the navigationally significant area of the U.S. EEZ used by large commercial vessels and recreational boaters. Many mariners rely on outdated or incomplete charting information in navigationally significant areas. NOAA's current capacity to survey the highest priority areas falls well short of national needs for new, highly accurate full-bottom coverage data to support safe navigation.

Proposed Actions

NOAA will contract the requested funds for hydrographic data acquisition using Brooks Act Architect and Engineering procedures. This increase will allow NOAA to collect approximately 500 additional square nautical miles of data (+20%) in FY 2007. The request will fund turnkey contracts for data acquisition, and does not include funding for a vessel time charter. Turnkey contracts have proven to be the most effective and efficient mechanism for NOAA to complement its in-house capacity to collect hydrographic data.

Benefits

Hydrographic survey data is the foundation of NOAA's nautical charts, as well as a basic parameter of our national Integrated Ocean Observing System. NOAA is working to reduce the backlog of charted areas in need of survey, and to improve the accuracy of the data collected. NOAA effectively uses contract and in-house resources to survey U.S. waterways for safe maritime transit. Ninety-five percent of America's non-NAFTA trade moves through the marine transportation system. The combination of high vessel traffic, hazardous cargo, and ships operating close to the ocean bottom make accurate navigation information ever more essential for the safety of lives, property and the environment. Requested funding provides critical survey data to directly enhance the safety of mariners, the public, and the Nation's economy.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs. It supports the NOAA Strategic Goal to "Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation." The increase will provide NOAA with the capacity to collect mapping and charting data to improve the accuracy and reliability of navigation information distributed to the maritime community. The increase supports the following performance measure.

Performance Goal: Commerce and Transportation **Performance Measure:** Reduce the hydrographic survey backlog within navigationally significant areas (snm per year)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	3079	2500	2500	2500	2500	2500
With Increase	--	--	3000	3100	3100	3100

TERMINATIONS FOR 2007:

The following programs have been terminated in FY 2007: EEZ Outer Continental Shelf Ocean Bottom Claims ($2,170,000); Alaska Surveys, Current and Tide Data ($3,451,000); MS/LA Digital ($986,000); Vessel Time Charter ($11,687,000) ; Dune System Assessment and Shoreline Change Analysis ($493,000); Coastal Environmental Mapping Consortium ($789,000); River Studies ($740,000).

Subactivity: Navigation Services
Line Item: Geodesy

GOAL STATEMENT:

Within the United States and its territories, anyone should be able to obtain centimeter level accuracy in positions (latitude, longitude, and height) anywhere, anyplace, anytime.

BASE DESCRIPTION:

The mission of the NOAA Geodesy Program is to evolve and deliver the nation's foundation of reference for positioning activities to support public safety, economic prosperity, and environmental well being. NOAA's Geodesy Program is carried out by the National Geodetic Survey (NGS), which manages the National Spatial Reference System (NSRS) – the national coordinate system that specifies latitude, longitude, height, scale, gravity, and orientation throughout the nation. NSRS must continually evolve to meet the growing demand for more accurate, timely, and consistent positioning services. The Geodesy Line Item can be grouped into five major overlapping program elements: Permanent Network infrastructure, Continuously Operating Reference Stations (CORS) support, Height Modernization, Data Access and Outreach, and Tool and Model Development. Each program element within the Geodesy Line directly supports NOAA's Commerce and Transportation Goal.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PERMANENT NETWORK

A major component of NSRS is a network of permanently marked points including the Federal Base Network (FBN), the Cooperative Base Network, and the User Densification Network. These networks form a crucial foundation for all geographically referenced activities conducted in the U.S.

NOAA's primary network responsibility is the development of the national geodetic framework, the FBN. NOAA is committed to establishing, observing, monitoring, and maintaining a very high-accuracy, four-dimensional network of monumented stations at a 1 degree by 1 degree (75 km to 125 km) nominal spacing throughout the U.S. and its territories. The network contains additional stations as needed in areas of crustal motion in support of Federal aircraft navigational requirements. The goal of the FBN is to supply the highest level accuracies of geodetic latitudes, longitudes, and heights to benefit all users of positioning services.

NATIONAL CORS

NOAA collects and distributes GPS observational data from a nationwide network of permanently operating GPS receivers. The CORS System, consisting of these stations, a central data facility and a mirror-site in Boulder, CO, make observational data available over the Internet from the network presently consisting of over 500 GPS receivers, with 100% of the conterminous U.S. being within 200 km of at least one CORS. The primary objective of National CORS is to provide local users with ties to the NSRS for post-processing position determination. CORS stations have been positioned, three dimensionally, at the 1-to 3-centimeter level (1/2 to 1 1/2 inches), and are used to greatly improve the accuracy of users' GPS positioning activities through the use of Differential GPS (DGPS) techniques. National CORS primarily serves the surveying, civil engineering, and geographic information system communities for locating, building, monitoring, and maintaining the nation's physical infrastructure in support of the broader national economy.

The US Department of Transportation operates the Coast Guard Maritime DGPS and the Nationwide DGPS. Both systems are used for transportation and navigation and both systems are incorporated into the National CORS network. NOAA, through National CORS, provides the integrity monitoring for these systems, helping to ensure their reliability for real-time transportation applications.

HEIGHT MODERNIZATION

Height Modernization is an NGS-led effort to enhance the vertical aspect of NSRS through the establishment of accurate, reliable heights using GPS technology in conjunction with traditional leveling, gravity work, and remote sensing information. Height Modernization can provide better access to accurate and consistent height data at the local level. Applications that benefit include:

- Sea level rise monitoring,
- Coastal erosion rates,
- Floodplain mapping,
- Storm surge modeling,
- Subsidence and uplift monitoring,
- Pollution trajectory modeling,
- Navigation: under-keel and under-bridge clearance,
- Precision agriculture,
- Structural monitoring: bridges, dams, and buildings,
- Intelligent transportation systems, and
- Surveying and mapping.

NOAA administers the national Height Modernization program through four cornerstone states: California, Wisconsin, Louisiana, and North Carolina (partnering with South Carolina).

In NOAA's plan for national implementation of Height Modernization, these four states will serve as regional leaders for nationwide expansion of the Height Modernization program. Establishing one regional center to serve several states with common issues will establish the program management structure that is more likely to optimize the resources, technology, and benefits.

To fully expand Height Modernization nationwide is an enormous undertaking that will take many years. The task cannot be carried out entirely by the Federal Government. NOAA has been implementing Height Modernization since 1999 through collaboration with state governments, local partners, the private sector, and other federal agencies. NOAA has determined that rather than implementing Height Modernization on a state-by-state basis, a regional approach is preferable for a number of reasons. Many of the elevation issues addressed by Height Modernization are regional in nature. Issues such as coastal and riverine flooding in the Mid-Atlantic, tectonic movement along the West Coast, post-glacial rebound and improved efficiencies of intermodal transportation in the Great Lakes, and subsidence along the Gulf of Mexico, reach across state boundaries to affect entire geographical regions. A regional approach is also a more efficient use of both NOAA and partner funds and workforce.

NSRS TOOLS AND MODELS

NOAA's NGS develops standards, specifications, guidelines, and best practices for the surveying and positioning industry, as well as a variety of models describing geophysical and atmospheric phenomena that affect spatial measurements. These tools and models are crucial to scientific and commercial positioning activities.

NSRS DATA ACCESS AND OUTREACH

NOAA's NGS archives and provides access to geodetic control, shoreline, and aeronautical survey data from its own surveys and from cooperating organizations. These data are made available via the Internet on a full time basis. As part of its technology transfer efforts, NGS conducts a series of workshops and constituent forums in various parts of the country. NGS also manages the State Geodetic Advisor Program, which is a cost-sharing program that provides a liaison between NOAA and the host state to guide and assist the state's geodetic and surveying programs. This program covers over half the states, and responds to the states' desire to improve their surveying techniques to meet Federal standards and specifications.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Navigation Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Geodesy					
Geodesy Base	20,004	20,016	22,029	21,729	(300)
National Spatial Reference System	1,971	1,943	-	-	-
Height Modernization Regional Expansion - NGS Implementation	247	230	231	231	-
Height Modernization Regional Expansion - AL	-	1,943	-	-	-
Height Modernization Regional Expansion - CA	493	920	924	924	-
Height Modernization Regional Expansion - NC	986	920	924	924	-
Height Modernization Study - MS	591	591	-	-	-
Height Modernization Regional Expansion - SC	-	461	462	462	-
Height Modernization - TX	739	740	-	-	-
Geodetic Survey - AL	1,971	-	-	-	-
Geodetic Survey - AZ	-	494	-	-	-
Geodetic Survey - LA	490	-	-	-	-
Geodetic Survey - KY	493	493	-	-	-
Geodetic Survey - WI	2,957	2,959	-	-	-
Geodetic Survey - WA	493	-	-	-	-
TOTAL	31,435	31,710	24,570	24,270	(300)
FTE	147	183	183	183	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Geodesy Base (0 FTE and -$300,000): NOAA requests a one-year decrease of $300,000 to fund higher priority projects.

TERMINATIONS FOR 2007:

The following programs have been terminated in FY 2007: Height Modernization Study, MS ($591,000); Height Modernization Regional Expansion Texas ($740,000); Geodetic Survey, WI ($2,959,000); Height Modernization Regional Expansion, AL ($1,943,000); Geodetic Survey, KY ($493,000); Geodetic Survey, AZ ($494,000).

Subactivity: Navigation Services
Line Item: Tide & Current Data

GOAL STATEMENT:

Provide the navigation community with access to real-time data and predictions of current speed and direction, water levels, and meteorological data (wind speed and direction, gusts, barometric pressure, etc.) to enable safer and more efficient vessel routing, flood warnings, emergency response operations to spills of hazardous materials, homeland security, and for real-time control of harbor maintenance dredging.

BASE DESCRIPTION:

The Tide and Current Data Program (TCDP) is a significant component of the integrated, comprehensive suite of NOAA information products required by the maritime community to ensure safe and efficient navigation, homeland security, improve oil and other hazardous material spill response, and support coastal resource management. NOAA is statutorily authorized to collect, analyze, and provide datums related to tide and water levels. The Act of August 6, 1947 (61 STAT, 787) 33 U.S.C. §§ 883 a-f authorizes collection and dissemination of water level data; Section 883a authorizes NOAA to conduct "Hydrographic ... tide and current observations;" Section 883b authorizes NOAA "to analyze and predict tide and current data, and process and publish data, information, compilations, and reports." The TCDP is operated by the Center for Operational Oceanographic Products and Services (CO-OPS). Observations and predictions of water levels and currents are collected, quality controlled, and distributed to the marine transportation community and other users. The Tide and Current Data Line Item is composed of four primary program elements, each of which contributes to NOAA's Commerce and Transportation Goal and Weather and Water Goal.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

NATIONAL WATER LEVEL PROGRAM

CO-OPS operates and maintains the National Water Level Observation Network (NWLON), a system of 187 long term observation stations located in U.S. coastal areas, the Great Lakes, and U.S. Territories and possessions. Information from the NWLON ranges from the high frequency content in the record (tsunamis and storm surge) to the long-term content (sea level trends and lake level trends). It provides vertical reference datums for all marine boundary applications, for national shoreline and nautical chart products, for coastal construction, dredging, for habitat restoration projects and for hurricane evacuation route planning. The NWLON system provides a nation-wide capability for storm surge monitoring, and serves as an observing system for the NOAA Tsunami Warning System. Some of the record stretch over 1.5 centuries and represent some of the longest geophysical records in the U.S. The data are becoming increasingly valuable to climate change researchers.

CO-OPS performs quality assurance procedures on the data from NWLON stations, computes tidal and Great Lakes datums and predicts tides for all U.S. coastal areas. NWLON is a critical underpinning for tools such as the Physical Oceanographic Real-Time System (PORTS®) and also serves as a federal backbone for the Integrated Ocean Observation System. NOAA is in the process of enhancing all of the NWLON stations to provide real-time data. Data collected by the NWLON supports all four of NOAA's Strategic Mission Goals.

NATIONAL CURRENT PROGRAM

NOAA and its predecessor agencies have been collecting information on the currents in various ports and harbors, and the Gulf Stream, since the mid 1800's. The Coast and Geodetic Survey first published tidal current predictions for the use by mariners in 1890 for the East Coast and 1898 for the West Coast. The program is presently operated by NOAA's Center for Operational Oceanographic Products and Services. NOAA's tidal current prediction tables are used by the largest ship operators down to the fishing industry, and the small recreational boater, kayakers, and wind surfers. Updated, accurate predictions are essential for these users to support safe and efficient navigation and for fishers to determine best catch times. In addition, accurate measurements of the currents are essential to test oil spill response strategies and provide onsite response to an emergency spill. The data are used to fine tune strategies and verify current trajectories for models.

PHYSICAL OCEANOGRAPHIC REAL TIME SYSTEMS (PORTS®)

Physical Oceanographic Real Time Systems (PORTS®) is a decision support tool that integrates and disseminates real-time environmental observations, forecasts and other geospatial information. In partnership with local port authorities, pilot associations, the U.S. Coast Guard, the U.S. Army Corps of Engineers, the U.S. Navy, academia, and others, PORTS® has been implemented in various bays and harbors in the U.S. to measure and disseminate water levels, currents, salinity, winds, and atmospheric pressure to various users. PORTS® is a cost-sharing program requiring local partners to bear the cost of installation, operation and maintenance of the sensor systems. This recognizes the local benefits of such systems. NOAA's responsibility is to provide the basic oceanography and design for the systems, as well as the ongoing quality control of the real time data. Thirteen PORTS® (Tampa, New York, San Francisco, Narragansett Bay, Chesapeake Bay, Anchorage, Soo Locks (MI), Los Angeles/Long Beach, Delaware Bay, Houston/Galveston, Tacoma, New Haven, and Columbia River) are currently operating around the U.S. These PORTS® service 39 U.S. seaports through which 42% of U.S. cargo by tonnage transits on an annual basis. PORTS® information is used by mariners, port authorities, and the shipping industry to support safe and efficient navigation. Access to accurate real-time water level data and model forecast guidance allows U.S. port authorities and maritime shippers to make sound decisions regarding maximizing tonnage (based on available bottom clearance), and limiting passage times, without compromising safety.

OPERATIONAL FORECAST MODELS PROGRAM

CO-OPS also operates nowcast and forecast models, typically in conjunction with PORTS®, that provide short term water level and other environmental forecasts that enable better planning and decision making, particularly for vessel transits.

Historically, mariners in the United States have had only NOAA's Tide and Tidal Current Prediction Tables to depend on for the best estimate of expected water levels and currents at a given time in the future. While these tables provide accurate predictions of the astronomic tide, they do not account for a number of other physical factors that can affect water levels, such as wind, air pressure, and river flow. NOAA has developed and is currently operating three dimensional hydrodynamic models which take such variables into account, and are able to forecast water levels and currents up to 24 hours in advance. Operational Systems currently exist for the Chesapeake Bay, the Port of New York / New Jersey, Houston/Galveston, the St. John's River, and for Lakes Erie and Michigan. NOAA's models of oceanographic and atmospheric conditions, which are provided through PORTS®, provide crucial advance data for re-routing of vessel traffic, port conditions forecasts, and low visibility navigation to keep traffic moving and prevent congestion or delays in other less affected areas. Marine modeling also supports predictions of the oceanic and atmospheric dispersion of hazardous materials to protect people and the environment.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Navigation Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Tide & Current Data					
Tide & Current Data Base (CT)	18,401	18,161	22,027	22,742	715
Tide & Current Data Base (WW)	-	-	228	2,228	2,000
PORTS (CT)	2,938	1,479	-	-	-
Great Lakes NWLON	1,971	1,972	-	-	-
Alaska Current & Tide Data	1,479	-	-	-	-
National Water Level Observation Network	2,463	2,466	-	-	-
TOTAL	27,252	24,078	22,255	24,970	2,715
FTE	101	107	107	107	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Tide and Current Data (0 FTE and +$2,715,000): NOAA requests an increase of $2,715,000 for a total of $24,970,000, to improve and expand the delivery of real time and forecasted navigation information through the National Water Level Program (NWLP) and the Physical Oceanographic Real Time Oceanographic System (PORTS®) Program. Accurate, reliable, and timely information is critical to ensure that marine transportation at U.S. ports is safe and efficient, thus enhancing commerce and economic growth, and protecting the environment from marine accidents that can spill hazardous materials and cause other damage. Through the NWLP, NOAA provides water level data, predictions and vertical control (tidal datums) to support safe marine navigation by users of the US Marine Transportation System (MTS). Data provided by the National Water Level Observation Network (NWLON), the observing component of the NWLP, is also critical for protecting life and property by improving NOAA storm surge forecasts and emergency response efforts when hurricanes, tsunamis and other extreme events threaten the Nation's coastal areas. Tidal datums provided by the NWLON are an essential vertical reference for ensuring that coastal infrastructure (such as levees) is constructed to elevations adequate for flood inundation levels, and are particularly critical for recovery efforts. PORTS® is a cost shared partnership program that provides MTS users with access to quality controlled real time oceanographic and meteorological data critical for safe and efficient navigation. PORTS® is a decision support tool that integrates and disseminates real-time environmental observations, forecasts and other geospatial information.

This investment is one of the high priority investments required for NOAA's implementation of the Integrated Ocean Observing System (IOOS) as the coastal and open ocean component of the Global Earth Observing System of Systems (GEOSS). Combined with other like-identified IOOS investments across NOAA, it is part of NOAA's strategy to provide initial benefits of an integrated ocean observing system, focusing on enhancing key observational capabilities throughout NOAA, and our ability to provide customers with enhanced coastal data and information.

Statement of Need

The US Coast and Geodetic Survey Act of 1947 mandates that NOAA collect tide and current data to support safe and efficient marine navigation. The 1999 Assessment of the Marine Transportation System report provided to Congress by the interagency Marine Transportation System Task Force noted that the highest priority for MTS stakeholders was the need for accurate, reliable, and timely navigation information. The Hydrographic Services Improvement Act Amendments of 2002 provided that NOAA "shall, subject to the availability of appropriations, design, install, maintain, and operate real-time hydrographic monitoring systems to enhance navigation safety and efficiency." The Nation's commerce, which passes through our seaports, is an economic lifeline of our country. More than 95% of U.S. overseas trade by volume and 37% by value, including nine million barrels of imported oil daily, transits through our seaports. Over 98% of the over 2.3 billion tons passes through the top 150 (out of almost 300) U.S. seaports. Increasingly, U.S. seaports are becoming chokepoints in our Nation's intermodal transportation system. Mariners need decision support tools that provide them with a complete understanding of the physical environment in which they operate.

Proposed Actions

National Water Level Program (+$2,000,000): The requested increase of $2,000,000 will rebuild and strengthen the National Water Level Observation Network's (NWLON) ability to provide critical navigation and storm tide information throughout extreme weather and water events. Hurricanes Katrina, Rita and Wilma destroyed a total of nine tide gauges in the Gulf and southern Florida, and inflicted serious damage across the rest of the regions' NWLON. NOAA's storm tide observing capacity was totally destroyed in the state of Mississippi and seriously degraded across Florida, Alabama, Texas and Louisiana. The funds will re-establish destroyed stations and make other needed system wide repairs. In addition to filling observation gaps, the funds will significantly improve the NWLON's ability to continue operation and provide critical real time data for storm surge forecasts and emergency response throughout a storm's duration by "hardening" stations. Hardening a station involves elevating and strengthening the underlying support platform so that extreme water levels do not destroy the station or exceed sensor heights. The only two (out of thirty two) existing hardened NWLON stations in the Gulf (Dauphin Island, Alabama and Grand Isle, Louisiana) successfully operated and provided critical data through both Katrina and Rita despite being outer coast stations exposed directly to the brunt of wind and wave action.

With the requested funding NOAA will:

- Fill observation gaps at nine Gulf Coast locations in FY 2007 ($450,000 for observing equipment and supplies, $950,000 for contracts): The requested funds would utilize local contract services to construct nine hardened NWLON stations to fill critical observation gaps left by the hurricanes and repair other damaged stations.
- Harden existing Gulf Coast NWLON stations ($600,000 for contracts): The requested funds would utilize local contract services to harden up to eight additional NWLON stations by constructing elevated strengthened platforms and relocating equipment to them.

Physical Oceanographic Real Time System® (+$715,000): The requested increase will allow NOAA to maintain and continue expanding the cost shared PORTS® program with local partners such as port authorities, pilot associations, the U.S. Coast Guard, the U.S. Army Corps of Engineers, the U.S. Navy, academia, and others. Thirteen PORTS® have been implemented in various bays and harbors in the U.S. to measure and disseminate quality controlled real time water levels, currents, salinity, winds, air gap (bridge clearance) and atmospheric pressure to users. Access to accurate real-time water level data allows U.S. port authorities and maritime shippers to make sound decisions regarding vessel safety, maximize tonnage (based on available bottom clearance), and limit passage times, without compromising safety. The thirteen PORTS® provide access to real time data to 39 of the Nation's top 150 seaports; these 150 ports transit over 99% of the Nation's cargo (by tonnage) on an annual basis. The increase will enable NOAA to maintain the existing thirteen PORTS® as well as continue expanding the system. A number of ports important to the transport of vital energy supplies to the Nation, such as New Orleans, Louisiana, Port Arthur, Texas and Cherry Point, Washington have expressed strong interest in establishing PORTS®.

With the requested increase, NOAA will fully support contracts that provide watchstanders for the 24x7 quality control of real time data, conduct data management system operation and maintenance, support development and integration of new technology and products, continue ongoing software development and maintenance, and other infrastructure maintenance activities associated with PORTS®.

Benefits

In a typical large port, the shipping and port industries alone may have an economic impact of approximately $12 billion dollars to the local economy. The safe and efficient transit of the ever-larger and deeper draft vessels in our Nation's constricted ports and harbors relies on accurate and timely navigation tide and current data. Knowledge of accurate tides and currents can help vessels avoid groundings, collisions, and allisions with stationary objects such as bridges, rocks, docks, etc. The economic and environmental consequences of a marine accident, particularly when hazardous materials are spilled, can run into the millions or even billions of dollars as evidenced by the *Exxon Valdez.*

Accurate and timely navigation data can be used to increase the efficiency of ship transits, as well as reduce the risk of economic and environmental impacts. Accurate water levels can enable vessels to optimize how much cargo is loaded – or not loaded. The ability to load just one extra foot of cargo based on available depth can increase revenues ranging from the tens to the hundreds of thousands of dollars depending on the cargo and vessel size per transit (each additional foot of draft available to commercial ships has estimated revenue ranging from $36,000 to $288,000 per transit).

Alternatively, accurate water levels can allow the decision to be made to not load additional cargo and transit port on schedule. Moreover, many ships approach or even exceed the channel depths at low tide, thus must delay their transit until periods of higher predicted tides. Estimates for an idle ship are reported to be on the order of $72,000 per day. A recent economic benefit study performed for the Tampa Bay PORTS® identified the presently realized quantifiable benefit to be between $4.4 to $7.0 million per year and noted this is a lower bound on total benefits since not all uses of PORTS® data can be quantified. Accurate tidal current predictions improve transit efficiency by allowing schedules to be aligned with, instead of against, current flows. Accurate tidal current predictions can help vessels conserve on fuel, as well as maintain schedule, a critically important factor with today's overcrowded dockside space.

Performance Goals and Measurement Data

By enabling increased efficiency of the U.S. marine transportation system, this increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase supports the Commerce and Transportation Performance Goal and the Performance objective "Enhance navigational safety and efficiency by improving information products and services" and the following performance measures.

Performance Goal: Commerce and Transportation **Performance Measure:** Increase the number of NWLON stations to fill observation gaps (cumulative)	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	187	196	196	196	196	196
With Increase	--	--	200	205	210	215
Performance Measure: Number of NWLON stations hardened to survive extreme events (per year)						
Without Increase	0	0	0	0	0	0
With Increase	--	--	8	10	10	8
Performance Measure: Increase the number of top 150 US seaports with access to quality controlled real time data for safe and efficient navigation.						
Without Increase	39	39	TBD*	TBD*	TBD*	TBD*
With Increase	--	--	46	50	50	50

* Criteria are being developed to determine which PORTS® would be terminated in the event funding is not restored in FY 2007. A PORTS® may service more than one seaport, therefore the number of seaports that would no longer have access to PORTS® data will depend on which PORTS® are terminated.

TERMINATIONS FOR 2007:

The following program has been terminated in FY 2007: Great Lakes NWLON ($1,972,000).

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Subactivity: Ocean Resources Conservation and Assessment
Line Item: Ocean Assessment Program (OAP)

GOAL STATEMENT:

NOAA's National Ocean Service (NOS) promotes healthy coastal ecosystems by ensuring that economic development in coastal areas of the U.S. is managed in ways that maintain biodiversity and long-term productivity necessary for sustained use. Working in partnerships with Federal and State agencies NOAA provides coastal managers with the scientific understanding, information, products and services needed to balance the environmental, social, and economic goals of coastal communities and NOAA.

BASE DESCRIPTION:

Several NOS programs are located within the Ocean Assessment Program Line Item, including NOAA's Coastal Services Center, the NOAA Coral Reef Program, NOAA's Coastal Storms Program, and the Cooperative Institute for Coastal and Estuarine Environmental Technology.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

COASTAL SERVICES CENTER

The NOAA Coastal Services Center's (Center) mission is to build capacity for informed decision making about our coasts. The Center conducts its mission under several authorities, including 16 U.S.C. 1456c, which authorizes NOAA to provide coastal managers with technical assistance. The Center's primary customers are the Nation's coastal managers, including natural resource managers, planners, and emergency officials. The Center provides services, products, and expertise to this community that would otherwise be unavailable or unaffordable. By doing so, the Center is effectively "buying down" the cost of improving state and local coastal management programs, thereby enabling more effective and targeted implementation of the Coastal Zone Management Act. Partnerships between the Center and state and local coastal management organizations and their partners give rise to more than 100 projects each year. These projects produce new tools and approaches that often can be applied nationwide. The Center has developed a collaborative strategy, building effective working relationships not only across NOAA but also with other federal mission agencies.

In developing projects, the Center focuses on issues identified as important to the coastal resource management community—including hazards, habitat, the national spatial data infrastructure, coastal growth, and ocean and coastal observing systems. Customer requirements for programs and activities are determined through statutory guidance, direct interactions, needs assessments, surveys, evaluations, prototyping, CONOPS processes, competitive analysis, and partnering. Projects and activities must be 1) customer oriented; 2) focused on results; 3) undertaken in partnership; and 4) national in scope, yet local in approach. The Center is composed of employees from throughout the bureau, and the Center's annual operating plan is coordinated among all of NOAA's Line Offices.

The Center's functional areas of expertise include coastal management; access to information and technology; data development, integration and management; geographic information systems; remote sensing; technical assistance and training; and capacity building. The Center also leads the NOS-wide coordination of the Pacific Services Center in Hawaii, which brings NOS services to the State of Hawaii and other U.S. Pacific flag islands territories, and is deploying assets to other coastal areas to support and enhance NOAA's regional interactions and delivery of products and services. The Center is co-coordinating the Coastal Storms Program, a cross-NOAA Line Office effort, with the National Weather Service, and is working with multiple NOAA, interagency, and non-federal partners to help establish a combined regional and national framework and sustained capacity for an Integrated Ocean Observing System.

CORAL REEF PROGRAM

The NOAA Coral Reef Conservation Program implements priority actions to fulfill the Coral Reef Conservation Act and the U.S. Coral Reef Task Force's National Action Plan to Conserve Coral Reefs. NOAA is undertaking a series of activities to reduce human impacts on coral reefs and restore reef environments. The rapid decline and loss of these valuable marine ecosystems has significant social, economic, and environmental consequences in the U.S. and around the world. With government and non-government partners, the program supports a wide variety of priority activities including mapping and monitoring of reef ecosystems, support for state/territorial coral reef management, improved management of reef fisheries and implementation of coral reef marine protected areas.

Coral reefs are some of the most biologically rich and economically valuable ecosystems on Earth. These biologically complex ecosystems have great economic, social and cultural importance to the U.S. and other countries. They provide a wide variety of valuable products and services including:

- economic stability and food security for millions of people;
- chemicals and pharmaceuticals that contribute to improved human health;
- environmental services such as shoreline protection and climate change mitigation;
- areas of natural beauty and biodiversity; and
- significant sources of revenue and employment through tourism and other industries.

The global value of products and services from coral reef ecosystems has been estimated at over $300 billion. Coral reef ecosystems and their products and services are now seriously threatened by a variety of human impacts and environmental factors. Key threats include: over-exploitation and destructive fishing practices; pollution and sedimentation associated with urban development, deforestation and agriculture; habitat loss resulting from dredging and shoreline modification; vessel groundings and other direct physical impacts; invasive species; disease outbreaks; and impacts associated with climate change such as coral bleaching.

COASTAL STORMS

The Coastal Storms Program will harness and leverage NOAA and community resources to reduce the adverse impacts of coastal storms by developing improved and integrated products and services that address specific state/local decision-maker needs. The Coastal Storms Program brings NOAA-wide expertise, products, and services to specific regions to address challenges unique to those regions. Efforts to integrate existing product service lines to meet unique needs are also included. Targeted geographies include the St. John's water management district in northeast Florida, the coastal portion of the Lower Columbia River watershed, and the Southern California Bight. The specific issues addressed are determined by regional needs as articulated by users. Commonalities are emerging in observations, modeling, outreach, risk and vulnerability, and decision-maker needs assessments among pilot regions.

COOPERATIVE INSTITUTE FOR COASTAL AND ESTUARINE ENVIRONMENTAL TECHNOLOGY

The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) was established in 1997 as a partnership between the University of New Hampshire (UNH) and NOAA. The mission of CICEET is to provide the scientific basis for understanding and reversing the impacts of coastal and estuarine degradation through the development and application of environmental technologies and methods. CICEET operates in partnership with the National Estuarine Research Reserve System, which enables research to be conducted at controlled, relatively undisturbed sites. CICEET works with coastal managers to select projects relevant to their technology needs and transfer technology when completed.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean Resources Conservation and Assessment	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Ocean Assessment Program (OAP)					
Ocean Assessment Program Base (ECO)	22,003	8,176	-	-	-
Coastal Observation Technology System	2,146	-	-	-	-
Coastal Ocean Research & Monitoring Program	2,438	493	-	-	-
NOAA ICOOS	7,392	7,397	-	-	-
NOAA/UNH Joint Ocean Observing Technology Center	3,942	1,972	-	-	-
Gulf of Alaska Ecosystem Monitoring Program	1,971	1,676	-	-	-
Gulf of Maine Observing System	1,873	493	-	-	-
Long Island Sound Observing System	986	986	-	-	-
Central Gulf of Mexico Observing System (USM)	1,971	1,972	-	-	-
So Cal Coastal Ocean Observing System (Scripps)	1,479	1,480	-	-	-
Center for Integrated Marine Technologies	-	2,022	-	-	-
Alliance for Coastal Technologies	2,463	2,959	-	-	-
Center for Coastal Ocean Observation and Analysis	2,463	2,466	-	-	-
Carolina Coastal Ocean Observing and Prediction System	2,463	2,022	-	-	-
Wallops Ocean Observation Project	1,971	1,972	-	-	-
Coastal Ocean Monitoring Network for West Florida	739	-	-	-	-
Coastal Storms	2,463	1,233	1,221	2,874	1,653
Cook Inlet Coastal Monitoring and Habitat	986	986	-	-	-
Coastal Services Center (ECO)	22,672	19,725	14,508	14,508	-
Coastal Services Center (WW)	-	-	4,950	4,950	-
Digital Earth Model - MS	-	2,959	-	-	-
Pacific Coastal Services Center	2,218	4,438	-	-	-
Seacoast Science Center	986	-	-	-	-
EE Jusi Environmental Institute	739	-	-	-	-
Coastal Change Analysis	493	493	-	-	-
Lake Pontchartrain	1,479	1,972	-	-	-

Subactivity: Ocean Resources Conservation and Assessment	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
CREST	444	986	-	-	-
CI-CORE	2,463	2,466	-	-	-
Aquatic Research Consortium MS	2,463	2,466	-	-	-
Coop Institute for Coastal and Estuarine Enviro Tech	6,702	6,706	6,643	6,643	-
Hawaii Coral Reef Initiative	1,479	1,480	-	-	-
Nat'l Coral Reef Institute - Florida	986	986	-	-	-
Coral Reef - Puerto Rico	493	493	-	-	-
Coral Reef	24,643	24,656	24,740	25,702	962
National Fish and Wildlife Foundation - NFWF	689	690	-	-	-
Ocean Health Initiative	17,742	4,931	-	-	-
Monterey Bay Watershed	493	-	-	-	-
White Water to Blue Water	-	986	-	-	-
Oregon Ocean Observing	-	493	-	-	-
SURA Coastal Ocean Observing System	-	2,466	-	-	-
National Maritime Center	-	1,972	-	-	-
Lake Erie Monitoring	-	494	-	-	-
Louisiana Long Term Estuary Assessment	-	986	-	-	-
TOTAL	146,933	121,149	52,062	54,677	2,615
FTE	210	65	65	65	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Coastal Storms (0 FTE and +$1,653,000): NOAA requests an increase of $1,653,000, for a total of $2,874,000, to support regional expansion of NOAA's Coastal Storms Program. 71% ($7B) of annual U.S. disaster losses occur in coastal areas because of dense populations living in the paths of strong storms. The Coastal Storms Program's mission is to harness and leverage NOAA and community resources to reduce the adverse impacts of coastal storms by developing improved and integrated products and services that address specific state/local decision-maker needs. The Coastal Storms Program utilizes a phased regional implementation strategy and provides products and services tailored to meet regional needs. Specific products include integrated oceanographic and meteorological observations, forecast models, on-line decision support tools, and regionally based outreach and training.

The Coastal Storms Program completed its first pilot in Northeast Florida in early FY 2005 and is currently working in the coastal Lower Columbia River region of the Pacific Northwest and the Southern California Bight. Products and services for the Pacific Northwest will be completed in FY 2006.

Statement of Need

As demonstrated by the devastating impacts of Hurricanes Katrina and Rita in 2005, coastal communities need improved, robust products and services to help them plan for, respond to, and recover from coastal storms. Economic losses from Hurricane Katrina are expected to exceed $125B due to the impacts of storm surge, flooding and wind associated with the storm (Source: Risk Management Solutions, Newark, CA). Faced with increasing vulnerability of coastal communities, coastal and emergency managers have expressed a need for comprehensive, timely and accessible information to aid in making decisions at critical times. NOAA's Coastal Storms Program meets this need by reaching out across NOAA's organizational lines to provide a suite of products that help coastal communities increase their resilience to coastal storms. These products are developed in close coordination with regional partners and, in many cases, in collaboration with them. As a result, regional needs are met and NOAA resources are significantly leveraged with resources from federal, state, and local partners. The Coastal Storms Program's first regional effort took place in the St. Johns River Water Management District of Northeast Florida and was successfully completed in early FY 2005. Regional stakeholders have found the Coastal Storms Program's products to be very useful. For example, Trailer Bridge, an ocean shipping service, noted that "Decisions as to whether we can make safe approaches to the St. John's entrance channel and even dodging the most recent Tropical Storm Edouard are all better due to the proximity of [the Coastal Storms Program buoy]." Authorities and policy guidance related to the Coastal Storms Program include the Coastal Zone Management Act of 1972, the Inland Flood Forecasting and Warning System Act of 2002, the Coastal and Geodetic Survey Act of 1947, the Hydrographic Services Improvement Act of 1998, NOAA's 5-Year Research Plan, and the National Response Plan administered by FEMA.

Proposed Actions

With the requested funds, NOAA will continue the development of products and services for the Southern California Bight and begin initial efforts for the Northern Gulf of Mexico. Specific actions include the following:

- Continue support for developing products and services for Southern California (Approx. $1,533,000). Examples include an online, Geographic Information System based tool to help emergency and coastal managers identify key hazards for the region and tools available to address them (e.g., hazard mitigation planning); a seamless topographic-bathymetric database that will greatly enhance understanding of erosion and inundation due to storm surge and tsunamis; and an assessment of the ecological impacts of storm-water driven non-point source pollution in the region. Product development for Southern California began in FY 2005.
- Begin initial efforts for the Gulf of Mexico. This will include identifying regional needs and potential partners, including a regional partner to lead outreach and training for the region. (Approx. $120,000)

Benefits

The requested funds will ensure that NOAA is able to meet its commitments to Southern California and provide a robust suite of products for the region that will help address a wide range of storm related issues, including erosion, water quality, and flooding. Expectations for NOAA and the Coastal Storms Program among regional partners in California are high. Completing the products for this region in a timely fashion is critical. Expanding the Coastal Storms Program to the Gulf of Mexico will help ensure that this devastated region will have a greater ability to plan for, respond to, and recover from future hurricanes and tropical storms, particularly in addressing issues related to storm surge and coastal flooding.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs," under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." This increase will support NOAA's Strategic Plan Goal to "Serve Society's Needs for Weather and Water Information.," and the following performance measure.

Performance Goal: Weather and Water **Performance Measure:** Number of regions in which capacity was built to address coastal storm related hazards.	**FY 2005**	**FY 2006**	**FY2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without increase	1	2	2	3	3	3
With increase	--	--	2 (1 additional in progress)	3 (1 additional in progress)	3 (1 additional in progress)	4 (1 additional in progress)

Coral Reef Program (0 FTE and +$962,000): NOAA requests an increase of $962,000 and 0 FTE for a total of $25,702,000, to improve the condition of coral reefs. The increase will be used to augment state and territory grants for implementation of Local Action Strategy (LAS) priority projects. Local Action Strategies (LAS) have been developed in all seven coral reef jurisdictions – Florida, Hawaii, Guam, U.S. Virgin Islands, American Samoa, Puerto Rico, and the Commonwealth of the Northern Mariana Islands – to address high-priority focus areas for coral reef conservation. Six focus areas, fisheries management and over-fishing, land-based sources of pollution, recreational overuse, lack of public awareness, climate change and coral bleaching, and disease, were identified as priority for all jurisdictions. In addition, several jurisdictions identified additional focus areas of particular concern to those jurisdictions.

Statement of Need

In order to translate broad national goals into on-the-ground action, the U.S. Coral Reef Task Force (USCRTF) initiated the Local Action Strategy (LAS) process to develop local conservation initiatives with measurable results in each of the seven U.S. states and territories with coral reefs. The strategies are locally driven roadmaps for collaborative and cooperative action among federal, state or territory and nongovernmental partners to address specific threats to coral reef ecosystems. Each LAS includes a range of projects designed to meet particular objectives for managing these threats. The goals and objectives of the LAS are linked to those found in the U.S. National Action Plan to Conserve Coral Reefs, which was produced and adopted by the USCRTF in 2000. The following six focus areas were identified and prioritized by the USCRTF for local action: fisheries management and over-fishing, land-based sources of pollution, recreational overuse, lack of public awareness, climate change and coral bleaching, and disease. Additional focus areas were included by some jurisdictions to address key local threats to coral health, including invasive species in Hawaii and population pressure in American Samoa. Using the six priority USCRTF focus areas as a guide, Florida, Hawaii, Guam, U.S. Virgin Islands, American Samoa, Puerto Rico, and the Commonwealth of the Northern Mariana Islands led development of specific LAS for each of the locally relevant threats. Applying a collaborative decision-making process based on local needs, concerns, and capacities, each jurisdiction worked with a variety of partners to create strategies containing projects designed to address a particular issue.

Proposed Actions

- The requested increase will be used to augment existing state and territory grants for implementation of LAS priority projects. States and territories will use this grant funding to implement LAS strategies that they are unable to fund with existing resources. Specific projects to be implemented by each jurisdiction will depend on highest priority actions at the time that grant applications are submitted. Match requirements of the grant will ensure that the increase will leverage non-NOAA funds to increase on-the-ground action.
- In addition, the increase will allow for targeted training and technical assistance to meet LAS-associated needs. State and territorial staff do not always have a complete skill set to implement all strategies. Training and technical assistance will provide staff at all levels with increased skill sets to allow them to better address all aspects of coral reef management and protection, the benefits of which will last far beyond implementation of any particular strategy.

Benefits

The requested funds will improve coral reef management and protection in all seven coral reef jurisdictions. Funding implemented at the local level not only helps to preserve coral reef resources directly, it engages local communities in that process. This local engagement increases the efficacy of coral management actions, as it allows a broader range of individuals (not just those particularly employed in management positions) to understand the needs for and mechanisms of coral reef protection.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs," under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." This increase supports NOAA's Strategic Plan goal, "to protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management," and the following performance measure.

Performance Goal: Ecosystems **Performance Measure:** Number of Local Action Strategy projects implemented to improve coral reef management efforts.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	70	70	70	70	70	70
With Increase	--	--	95	95	95	95

TERMINATIONS FOR 2007:

The following programs, or portions thereof, have been terminated in FY 2007: NOAA ICOOS ($7,397,000); Alliance for Coastal Technologies ($2,959,000); Center for Integrated Marine Technologies ($2,022,000); UNCW Coastal Ocean Research and Monitoring Program ($493,000); Gulf of Maine Observing System ($493,000); Alaska Ocean Observing System ($1,676,000); Long Island Sound Observing System ($986,000); Gulf of Mexico Observing System-USM ($1,972,000); Center for Coastal Ocean Observation and Analysis ($2,466,000); Carolina Coastal Ocean Observing and Prediction System ($2,022,000); Wallops Ocean Observation Project ($1,972,000); So Cal Coastal Ocean Observing System-Scripps ($1,480,000); Oregon Ocean Observing System ($493,000); SURA Coastal Ocean Observing System ($2,466,000); NOAA/UNH Joint Observing Technology Center ($1,972,000); Ocean Assessment Program ($8,176,000); Aquatic Research Consortium ($2,466,000); CI-CORE ($2,466,000); Cook Inlet Coastal Monitoring and Habitat ($986,000); Coastal Services Center ($1,041,000); Pacific Coastal Services Center ($3,538,000); Mississippi Digital Earth ($2,959,000); Coastal Change Analysis ($493,000); Hawaii Coral Reef Initiative ($1,480,000); Florida Coral Reef ($986,000); Coral Reef – Puerto Rico ($493,000); Cooperative Institute for Coastal and Estuarine Environmental Technology ($64,000); National Fish and Wildlife Foundation ($690,000); Lake Pontchartrain ($1,972,000); CREST ($986,000); Whitewater to Bluewater ($986,000); Ocean Health Initiative ($4,931,000); Maritime Center of the Gulf ($1,972,000); Lake Erie Monitoring ($494,000); Louisiana Long Term Estuary Assessment ($986,000).

Subactivity: Ocean Resources Conservation and Assessment
Line Item: Response and Restoration

GOAL STATEMENT:

The Office of Response and Restoration (OR&R) responds to threats in order to protect and restore coastal resources.

BASE DESCRIPTION:

NOAA responds to approximately 100 significant oil or chemical spills each year as scientific advisors to the U.S. Coast Guard, and provides solutions to cleanup agencies that protect and restore coastal resources at more than 200 hazardous waste sites each year along the nation's ocean and Great Lakes coasts. When oil or hazardous substances threaten or injure coastal and marine resources, NOAA and other state and federal natural resource trustees are responsible for ensuring that cleanup actions protect those resources from further injury; for assessing and recovering natural resource damages to restore the injured resources; and for seeking compensation on behalf of the public for the loss of services that the natural resources provided. NOAA's authorities for responding to threats to the nation's trust resources derive from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) and the Oil Pollution Act of 1990 (OPA). NOAA's Office of Response and Restoration (OR&R) implements CERCLA and OPA requirements by providing interdisciplinary scientific response to releases of oil, chemicals, and contaminants; protecting and restoring NOAA trust resources; and extending core expertise to address critical local and regional coastal challenges. OR&R's three primary program elements contribute NOAA's Strategic Plan Mission Goals to Support the Nation's commerce with information for safe, efficient, and environmentally sound transportation, and Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

EMERGENCY RESPONSE PROGRAM

OR&R's interdisciplinary scientific response team responds to oil and chemical spills and other emergencies. It is a key part of the NOAA Emergency Response Program. The team provides scientific advice to support of federal response efforts. OR&R scientists forecast the movement and behavior of spilled oil and chemicals, evaluate the risk to natural resources, and recommend protection priorities and appropriate cleanup actions. OR&R strengthens the nation's response capabilities by conducting research and monitoring in areas impacted by spills, developing software and technical guidance, and passing on these tools and expertise via local, national, and international training programs.

OR&R field staff are co-located with regional U.S. Coast Guard offices to ensure close cooperation and coordination for planning and responding to spill events and other emergencies. In addition to maintaining a highly prepared response team that coordinates on-scene scientific activities and provides scientific support for operational decisions during oil or hazardous material spills or other threats, OR&R supports local communities in developing and evaluating oil and hazardous materials response plans, fulfills trustee responsibilities as the Department of Commerce Regional Response Team representative, serves as the Department of Commerce's representative on the National Response Team (NRT), and chairs the NRT's Science and Technology Committee.

HABITAT PROGRAM

OR&R assessment, protection, and restoration activities carry out NOAA's trust mission as part of the agency's Habitat Program. OR&R regional coordinators, scientists, and economists work in partnership with government agencies, the public, and industry to:

- Provide technical advice on ecological risk, contaminated sediments, Brownfields, and remedial issues to accelerate natural resource recovery and community and waterfront revitalization.
- Assess impacts to NOAA trust resources by collecting data and conducting studies to determine whether coastal resources have sustained injury.
- Develop cooperative settlements to resolve liability for that damage.
- Plan for restoration and determine how much restoration is required for each injury.
- Work with co-trustees, responsible parties, and communities to implement resource restoration.

To improve protection of trust resources and to advance the field of restoration, OR&R develops and tests new approaches, techniques, and procedures for improved and cost-effective protection and cleanup strategies, damage assessment and remediation, and restoration of trust resources. This knowledge is passed on to other natural resource trustees, coastal managers, and decision-makers through training, technical assistance, and decision-making tools that promote planning—and so efficiencies in protection, clean up, and restoration--within a watershed management context.

To improve protection of trust resources and to advance the field of restoration, OR&R develops and tests new approaches, techniques, and procedures for improved and cost-effective protection and cleanup strategies, damage assessment and remediation, and restoration of trust resources. This knowledge is passed on to other natural resource trustees, coastal managers, and decision-makers through training, technical assistance, and decision-making tools that promote planning—and so efficiencies in protection, clean up, and restoration--within a watershed management context.

Another significant arena of activity is through OR&R's partnership with the NOAA Fisheries Service Restoration Center and General Counsel under the Habitat program. This partnership, known as the Damage Assessment and Restoration Program (DARP) allows NOAA to approach harm to coastal trust resources in an integrated way. During the past decade, DARP injury scientists, economists, restoration specialists, and attorneys have provided expertise and leadership to restore wetlands, fisheries, wildlife, and human uses of these resources.

This program also supports NOAA-wide activities mandated by the Estuary Restoration Act of 2000. NOAA works with other partners to implement a national estuary habitat restoration strategy designed to ensure a comprehensive approach towards habitat restoration projects. NOAA's activities include the development of scientifically sound monitoring protocols and standards for coastal habitat restoration projects. In addition, NOAA is developing restoration databases that provide quick and easy access to accurate and up to date information regarding all projects funded under the Estuary Restoration Act of 2000, as well as information on projects throughout the country that meet the standards established as a part of the Act for monitoring and data collection to provide scientists and resource managers with information critical to successful estuary habitat restoration efforts.

PRIBILOF ISLANDS CLEANUP

Under The Fur Seal Act, The Pribilof Environmental Restoration Act, and the Pribilof Islands Transaction Act, NOAA is responsible for conducting environmental restoration on designated properties, and for transferring those properties to the native Aleuts when restoration is complete. NOAA performs site characterizations, assesses the magnitude and extent of the contamination, evaluates the risk to human health and the environment, and develops corrective action plans for environmental restoration. Site cleanup includes removal of debris, disposal of barrels containing hazardous materials, treatment of petroleum contaminated soils, and ground water monitoring.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean Resources Conservation and Assessment	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Response and Restoration					
Response and Restoration Base (ECO)	11,238	10,454	6,218	9,012	2,794
Response and Restoration Base (CT)	-	-	7,309	7,309	-
Coastal Protection and Restoration	395	-	-	-	-
Estuary Restoration Program	1,183	1,184	1,188	1,188	-
Damage Assessment Program	2,250	2,959	-	-	-
Mitigating Coastal Development Impacts/MS State Univ.	986	986	-	-	-
Marine Wildlife Noise Impacts/Univ of RI	98	493	-	-	-
Marine Debris	4,928	3,945	-	-	-
Marine Debris Removal-Alaska	1,183	1,233	-	-	-
Marine Debris Removal SC	197	-	-	-	-
Hazardous Materials Response Program	1,595	-	-	-	-
Aquatic Resources Environmental Initiative	4,928	4,438	-	-	-
Vieques	986	986	-	-	-
Center for Marine Spill Response Project	1,971	2,959	-	-	-
Pribilof Islands Cleanup and Economic Development	6,899	6,903	6,927	7,227	300
TOTAL	38,837	36,540	21,642	24,736	3,094
FTE	101	112	112	112	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Response and Restoration (0 FTE and +$2,794,000): NOAA requests an increase of $2,794,000, for a total of $16,321,000, to strengthen NOAA's ability to respond to oil and chemical spills and terror incidents; determine damage to natural resources from contaminant releases; protect and restore marine and coastal ecosystems at hazardous waste sites; and work with communities to address critical local and regional coastal challenges. This increase will restore NOAA's response and restoration capacity.

Statement of Need

NOAA responds to approximately 100 significant oil or chemical spills each year as scientific advisors to the U.S. Coast Guard under the National Contingency Plan. NOAA also provides solutions to cleanup agencies that protect and restore coastal resources at more than 200 hazardous waste sites each year along the nation's ocean and Great Lakes coasts. When oil or hazardous substances injure coastal and marine resources, NOAA and other state and federal natural resource trustees are responsible for ensuring that cleanup actions protect those resources from further injury; for assessing and recovering natural resource damages to restore the injured resources; and for seeking compensation on behalf of the public for the loss of services that the natural resources provided. NOAA's authorities for responding to threats to the nation's trust resources derive from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) and the Oil Pollution Act of 1990 (OPA). NOAA implements CERCLA and OPA requirements by providing scientific response to releases of oil, chemicals, and contaminants; protecting and restoring NOAA trust resources; and extending core expertise to address critical local and regional coastal challenges. NOAA also provides scientific support during incidents of national significance (i.e. Hurricanes Katrina and Rita) under the National Response Plan and Homeland Security Directives 5 and 8. At current funding levels, NOAA is unable to adequately respond to pollution incidents and incidents of national significance, and carryout NOAA's restoration mission.

Proposed Actions

The requested funds will increase NOAA's current capacity to respond to oil and chemical spills and incidents of national significance; conduct natural resources damage assessments from contaminant releases; protect and restore marine and coastal ecosystems at hazardous waste sites; and work with communities to address critical local and regional coastal challenges. The increase will rebuild NOAA's ability to apply its unique suite of response and restoration expertise, which has been diminished by two consecutive years of reduced funding. The requested funds will:

- Increase NOAA's current capacity to respond to oil and chemical releases and other hazards threatening coastal environments and communities. NOAA supports oil and chemical spill response operations with the timely and relevant scientific recommendations required to reduce the environmental harm and economic cost of emergencies. OR&R forecasts the movement of pollution events, evaluates the risk to natural and public resources, and recommends cleanup actions to expedite cost-effective response that reduces the environmental harm and economic costs. This increase will allow NOAA to fund critical response and restoration contracts, restoring NOAA's ability to effectively respond to emergency pollution accidents and terrorist attacks involving chemical contaminants.

- Increase NOAA's current capacity to protect and restore marine and coastal ecosystems at hazardous waste sites. NOAA protects and restores NOAA trust resources at hazardous waste sites by providing technical assistance and solutions that protect and enhance recovery of coastal resources, their supporting habitats, and human health. This increase will allow NOAA to provide technical support to state, tribal and federal co-trustees, investigate the risk and potential injury to NOAA trust resources, and develop strategies to protect and restore coastal and marine resources at 130 - 150 hazardous waste sites (NOAA currently provides technical support at approximately 100 hazardous waste sites).

- Increase NOAA's current capacity to carry out natural resource assessments of coastal and marine habitats impacted from releases of oil or other hazardous materials. These damage assessments allow NOAA to address the most significant threats to NOAA trust resources, and work with those responsible for the harm to restore the resources or obtain compensation to pay for the restoration. NOAA has restored thousands of acres of wetlands, streams that support anadromous fish, mangroves, and other vital habitat and the services they provide to the public and ecosystem. NOAA currently has significant participation in 25-30 priority natural resource damage assessment cases. This increase will allow NOAA to achieve significant progress toward completing 5 more natural resource damage assessments or cases settled to recover funds for restoration of coastal resources.

- Increase pre and post-spill planning and coordination and training for national preparedness and response. This increase will allow NOAA to provide training for emergency responders, conduct exercises across the country to promote preparedness by testing policies and plans and training personnel, and conduct research to develop tools and techniques to improve response efficiency, increase scientific accuracy, and decrease harm to life, property, and the environment.

- Develop tools and training for coastal managers and spill responders to improve the nation's ability to prepare for and respond to releases of oil, chemicals, and contaminants, and to restore degraded coastal resources. NOAA develops a wide range of tools, including Watershed Database and Mapping Projects, risk assessment guidelines, Habitat Equivalency Analysis, and Environmental Sensitivity Index maps. These tools and training transfer NOAA's technical expertise to other government agencies and the private sector to improve the nation's ability to protect and restore coastal and marine resources. Coastal managers and spill responders use these decision-support tools to improve emergency response and the overall protection and restoration of the nation's natural resources. Without this increase, NOAA will be unable to produce any Watershed Database or Environmental Sensitivity Index products or make improvements and incorporate new scientific developments into existing products.

- Increase NOAA's current capacity to conduct emergency response, resume training and participation in preparedness drills, clean up contaminated sites, and perform restoration work in the Great Lakes Region and Pacific Islands. Activities in these regions were curtailed due to constraints of the FY 2006 budget. The requested increase will allow NOAA to fulfill activities specified in the U.S. Ocean Action Plan and the Presidential Directive for the Great Lakes.

Benefits

Coastal, marine and Great Lakes habitats, including rivers and estuaries, are an indispensable part of our nation's natural resources and sustain a significant portion of the U.S. economy. These habitats are components of complex ecosystems beginning inland at the headwaters of streams and extending seaward. The degradation and loss of these habitats affects the viability of important natural resources valued by the Nation. NOAA plays a vital role in the protection and restoration of habitats that support NOAA trust resources, and are essential to the long-term health and sustainability of coastal and marine ecosystems and the communities that depend on them.

NOAA works with other state, tribal, and federal co-trustees to assess risk and harm to coastal resources from oil and chemical releases, evaluates and recommends actions to prevent further harm, and restores degraded trust resources and the services they provide. NOAA also provides coastal managers and decision makers with technical guidance and tools that promote the protection, restoration and stewardship of the nation's ocean, coastal and Great Lakes ecosystems.

Thousands of incidents occur each year in which oil or chemicals are released into the coastal environment. Oil and chemical spills into our coastal waters can harm people and the environment and cause substantial disruption of waterways with potential widespread economic impacts. The Nation's dependence on the Marine Transportation System (MTS) creates an ongoing need to efficiently develop preparedness and response actions that reduce the risks of spills and minimize the impact on commerce and the environment when spills do occur. Enhancing preparedness and response capabilities will help ensure that U.S. ports and waterways, and the people who live near them, are secure and economically viable.

Federal, State, and local agencies across the country call on and rely on NOAA's support in oil and chemical spills and other emergencies that threaten life, property and trust resources. NOAA's expertise is critical to prevent further harm, restore adverse effects on natural resources, aid planning and response decision-making. NOAA provides the required prevention, preparedness, response, and recovery actions associated with these events. As the nation focuses on preventing, preparing for, and responding to a broad array of emergencies and terrorist threat scenarios, NOAA works in collaboration with other NOAA offices, federal agencies, and community-level responders, to provide critical information and services for prevention, preparedness, response, and restoration.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs," under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." This increase supports the NOAA Ecosystems GPRA performance measure "Number of acres of habitat restored" and the following performance measures.

Performance Goal: Ecosystem **Performance Measure:** Number of hazardous waste sites where assessments or cleanup plans address risks to NOAA trust resources (annual)	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without increase	14	7	7	7	7	7
With increase	--	--	12	12	12	12
Performance Goal: Ecosystem **Performance Measure:** Technical guidance and assistance provided to NOAA partners, federal action agencies, and resource decision makers						
Without increase	170	100	100	100	100	100
With increase	--	--	150	150	150	150
Performance Goal: Commerce and Transportation **Performance Measure:** Capacity to Respond: Number of areas with acceptable capacity to respond to spills and other environmental hazard incidents in our national coastal areas						
Without increase	26	26	26	24	20	20
With increase	--	--	28	31	34	37

Pribilof Islands Environmental Cleanup, Long-term monitoring, and Property Transfer (0 FTE and +$300,000): NOAA requests an increase of $300,000 for a total of $7,227,000 to continue clean-up operations on the Pribilof Islands. Completion of the cleanup activities is approaching, with over 94% of the contaminated sites now addressed. The funds requested in FY 2007 are necessary for NOAA to fulfill the Federal government's obligation to decontaminate these islands, and transfer the land back to the native population. NOAA is responsible for performing environmental cleanup and restoration activities related to past commercial fur sealing on the Pribilof Islands in Alaska's Bering Sea. In addition, State of Alaska Public Law requires groundwater monitoring as long as the water is either above maximum contaminant levels, or risk-based levels previously agreed to via a risk assessment. While the State has no definitive rule defining the maximum period of groundwater monitoring, NOAA anticipates the State will require monitoring on both islands for up to 23 years (FY2008 - FY2030).

Statement of Need

Under The Fur Seal Act, The Pribilof Environmental Restoration Act, the Pribilof Islands Transaction Act, and a Two Party Agreement with the State of Alaska, NOAA is responsible for conducting environmental restoration on designated properties and for transferring those properties to the native Aleuts when restoration is complete. NOAA performs site characterizations, assesses the magnitude and extent of the contamination, evaluates the risk to human health and the environment, and develops corrective action plans for environmental restoration. Since 1999 the NOAA Office of Response and Restoration has made significant progress in restoring the contaminated sites for which NOAA is legally liable on the Pribilof Islands. Approximately 94% of the cleanup has been completed; yet several challenging sites on St. George Island remain to be remediated including the removal of fuel floating on the water table at certain sites.

Proposed Actions

To ensure the on time completion of remediation efforts, NOAA will continue progress towards remediating the remaining sites on St. George Island. NOAA will also continue to involve the local communities in the decision-making and environmental restoration process by holding quarterly Restoration Advisory Board (RAB) meetings during the FY 2007 field season. The RAB has become a significant component of the community involvement activities in the Environmental Restoration Program at the Islands as it serves a twofold purpose: 1) the RAB provides a forum through which representatives of the community, installation, and regulatory agencies discuss and exchange information regarding the Environmental Restoration Program at the Islands and 2) the RAB gives the stakeholders the opportunity to participate in the cleanup process and make their views known to decision-makers.

Benefits

These funds will assist NOAA in fulfilling its legal obligation to complete cleanup on the Pribilof Islands and subsequently transfer properties to the native Aleuts and further allow NOAA to continue holding much valued Restoration Advisory Board meetings. NOAA expects to complete cleanup activities on the islands by 2008 at the requested funding level.

Performance Goals and Measurement Data

This increase will support the NOAA strategic objective to “Provide critical support to NOAA’s mission” and the following performance measure.

Performance Goal: Facilities Mission Support **Performance Measure:** Percent completion of environmental restoration on the Pribilof Islands in cooperation with the Alaska Department of Environmental Conservation.	**FY 2005**	**FY2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without increase	94%	98%	98%	99%	100%	N/A
With increase	--	--	99%	100%	N/A	N/A

TERMINATIONS FOR 2007:

The following programs have been terminated in FY 2007: Marine Debris ($3,945,000); Aquatic Resources Environmental Initiative ($4,438,000); Center for Marine Spill Response ($2,959,000); Marine Debris Removal, AK ($1,233,000); Mitigating Coastal Development Impacts ($986,000); Marine Wildlife Noise Impacts ($493,000); Vieques ($986,000).

Subactivity: Ocean Resources Conservation and Assessment
Line Item: National Centers for Coastal Ocean Science

GOAL STATEMENT:

NOAA's National Ocean Service (NOS) will conduct and support monitoring, research, assessment, and assistance for the range of NOAA's coastal stewardship responsibilities. Through the National Centers for Coastal Ocean Science, NOS provides a sound scientific and applied basis for effective coastal management decisions and conducts the high-quality science needed to predict the potential impacts of multiple stressors on coastal ecosystems and living resources.

BASE DESCRIPTION:

NOAA's National Centers for Coastal Ocean Science (NCCOS) provide national leadership in ocean, coastal, and Great Lakes science by conducting research, monitoring, and assessments to build the strong scientific foundation essential for sustainable use of coastal resources. NCCOS supports NOAA's coastal mission and builds better linkages among coastal programs of NOS by developing and maintaining a broad base of scientific experts and science capabilities through both intramural and extramural research. Coastal ecosystems are subjected to a variety of stressors including climate change, extreme natural events, invasive species, land and resource use, and pollution. As a focal point for coastal resource research within NOAA, NCCOS' activities primarily support NOAA's Strategic Plan Mission Goal to Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management. Through its research into the effects of climate change and freshwater inflow on coastal ecosystems, NCCOS also contributes to NOAA's goals to Understand climate variability and change to enhance society's ability to plan and respond, and Serve society's needs for weather and water information.

As part of NOS, NCCOS is governed by statutes defining the national oceans policy and much of NCCOS research responds to its legal mandates, including the new Oceans and Human Health Act, the reauthorized Harmful Algal Bloom and Hypoxia Research and Control Act, and the Great Lakes Task Force Executive Order. As part of NOAA's Ecosystem Goal Team and Ecosystem Research Program, NCCOS conducts integrated assessments and ecological forecasts at a regional scale to inform ecosystem-based management.

NCCOS is comprised of four research centers: The Center for Coastal Monitoring and Assessment (CCMA), the Center for Coastal Fisheries Habitat Research (CCFHR), the Center for Coastal Environmental Health and Biomolecular Research (CCEHBR), and the Center for Sponsored Coastal Ocean Research (CSCOR). Each center brings unique and complementary expertise and capabilities to address critical coastal resource issues. NCCOS also includes the Hollings Marine Laboratory, the Kasitsna Bay Laboratory, and the Cooperative Oxford Laboratory.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

COASTAL MONITORING AND ASSESSMENT (Silver Spring, MD)

Through monitoring, applied research, and assessment programs, NCCOS' Center for Coastal Monitoring and Assessment (CCMA) evaluates the environmental quality of U.S. coastal, estuarine, and Great Lakes areas and the ecosystem consequences of current and potential anthropogenic stresses on these areas. CCMA monitors toxic contaminants, nutrients, and related properties in biota, water, and sediments at over 300 sites through the National Status and Trends program. The data are used to evaluate the environmental quality at each site, to detect changes, and to determine associated biological effects of chemical contaminants. CCMA also conducts programs in applied research, monitoring, biogeography, and assessment to determine: the distribution of anoxia/hypoxia; the occurrences and environmental relationships of harmful algal blooms (HABs); and the biodiversity, habitat and other ecological characteristics of U.S. estuarine, coastal, and Great Lakes areas.

COASTAL FISHERIES AND HABITAT RESEARCH (Beaufort, NC and Kasitsna Bay, AK)

NCCOS' Center for Coastal Fisheries Habitat Research (CCFHR) in Beaufort, North Carolina has been a focal point for coastal habitat and fisheries research for nearly a century. The Center's research efforts are focused on estuarine processes, nearshore ocean ecosystems, biological productivity, dynamics of reef fishery resources, harmful algal blooms, and the effects of anthropogenic influence on resource productivity. Results of the Center's research are utilized by coastal managers at the Federal, state, and local level to address important environmental issues, such as controversial permit applications, environmental litigation, and the development of effective management policies.

A new CCFHR facility in Kasitsna Bay, AK is improving the capacity of NCCOS researchers to identify the stressors affecting the condition of the sub-arctic ecosystem of Kachemak Bay, determine the processes by which they act, identify their short- and long-term impacts, and forecast future conditions with and without management intervention. Research priorities are based on management-driven information needs as identified by resource managers, scientists, and other key stakeholders.

COASTAL ENVIRONMENTAL HEALTH AND BIOMOLECULAR RESEARCH (Charleston, SC and Oxford, MD)

The Center for Environmental Health and Biomolecular Research (CCEHBR) in Charleston, South Carolina, conducts applied research programs to: develop methods to characterize and detect marine biotoxins and harmful algal blooms (e.g., *Pfiesteria*) and identify hazards to marine resources and seafood consumers; develop and implement new techniques for field assessment of environmental quality and marine ecosystem health; improve detection and measurement of contaminants and evaluation of their significance to marine species and their habitats; and understand the factors linking land use in the coastal zones with the distribution and effect of environmental contaminants on living marine resources and habitats. The CCEHBR Resources Forensics program supports law enforcement agencies by providing technical support and analyses for cases involving protected, threatened, or endangered species, consumer fraud, violation of fisheries closures, and illegal taking of game fish. Identification analyses are used to prosecute illegal activities such as importing and selling sea turtle eggs and meat, selling illegal game fish, and fishing during closure periods, as well as determination of wild versus cultured marine animals.

The Cooperative Oxford Lab in Oxford, MD is affiliated with CCEHBR and provides scientific information required to resolve important issues related to the health of coastal ecosystems. The Oxford Lab specializes in shellfish pathology and habitat restoration research. Scientists investigate the role of disease in the distribution, abundance, marketability, and edibility of marine animal resources, determine the influence of natural and man-made environmental factors on the occurrence and persistence of diseases, and explore the use of marine animal health as an indicator of environmental health. The Oxford laboratory is the only Federal aquatic research facility on the Chesapeake Bay.

HOLLINGS MARINE LAB (Charleston, SC)

The Hollings Marine Laboratory (HML), located in Charleston, SC, provides science and biotechnology applications to sustain, protect, and restore coastal ecosystems, emphasizing linkages between oceans and human health. HML was formed to integrate the knowledge of marine scientists with that of the medical community. Technologies developed for human health are being applied to better understand and assess the state of marine ecosystems, and to examine the interrelationships between human health and marine environmental health. By applying genomics techniques to define gene sequences that indicate immune responses and disease resistance in marine organisms to various stressors, scientists can make connections between biochemical changes, organism responses, and ecosystem alterations. HML scientists are also developing faster and cheaper indicators of physiological and ecosystem health for use in monitoring and evaluating the status of ecosystems and organisms of interest. Other studies examine the biomolecular effects of different chemical contaminants resulting from human activities. HML was established as a Joint Project Agreement between NOAA, the National Institute of Standards and Technology, the South Carolina Department of Natural Resources, the University of Charleston, SC, and the Medical University of South Carolina.

SPONSORED COASTAL OCEAN RESEARCH (Silver Spring, MD)

The Center for Sponsored Coastal Ocean Research (CSCOR) addresses emerging coastal ocean issues across NOAA's mission responsibilities. CSCOR supports competitive, peer-reviewed, interdisciplinary research investigations with finite life cycles conducted on a regional scale over a 3-5 year period. Funded subject areas, as well as corresponding funding levels, vary from year to year over these life cycles. These operating principles were incorporated into the design for the program to ensure the timeliness and relevance of its research in addressing coastal ocean mandates across the agency. The program relies upon established processes that reflect the requirements and advice of both the management and science communities in setting its priorities to ensure the utility and credibility of its research.

CSCOR coordinates NOAA's research efforts on a number of issues critical to effective coastal resource management. Research funded by CSCOR is designed to improve our ability to forecast the ecological effects of ecosystem stressors to support coastal management decisions. Major ecosystem studies on the joint impact of climate and harvesting on marine populations in the Gulf of Maine, the Pacific Northwest coastal waters, and the coastal Gulf of Alaska are being conducted as the United States component of the Global Ocean Ecosystems Dynamics initiative. The program also seeks to understand the biological, physical, and chemical processes that regulate HABs in major ecosystems like the Gulf of Maine, Chesapeake Bay, and Florida's Gulf Coast, while developing methods to prevent, control and mitigate the impacts of HABs. Land and resource use research focuses on the poorly understood impacts of population shifts to U.S. coastal regions, including habitat modification, nutrient and toxic chemical inputs, and fresh water diversions.

CSCOR funded research efforts were integral to the formulation of the Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico, and CSCOR research will aid in determining the impact of mitigation efforts proposed under the Action Plan.

PROPOSED LEGISLATION:

NOAA will continue to work with Congress to reauthorize the Nonindigenous Aquatic Nuisance Prevention and Control Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean Resources Conservation and Assessment	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: National Centers for Coastal Ocean Science					
National Center for Coastal Ocean Science (NCCOS)	-	-	31,231	31,231	-
Extramural Research	-	9,862	9,841	15,801	5,960
Extramural Research	3,942	-	-	-	-
Center for Coastal Environmental Health & Biomolecular Base	14,786	14,794	-	-	-
LUCES & high salinity estuaries (Baruch)	986	-	-	-	-
Oxford, MD	4,436	4,438	-	-	-
Oxford, MD Extramural Research	1,971	-	-	-	-
Subtotal: Center for Coastal Environmental Health & Biomolecular Rsch	26,121	19,232	-	-	-
CCFHR Base	5,667	5,921	-	-	-
Extramural Research	1,971	-	-	-	-
Subtotal: Center for Coastal Fisheries Habitat Research	7,638	5,921	-	-	-
CCMA Base	5,914	5,656	-	-	-
Extramural Research	1,971	-	-	-	-
Subtotal: Center for Coastal Monitoring & Assessment	7,885	5,656	-	-	-
Center for Sponsored Coastal Ocean Research	3,647	3,649	-	-	-
Coastal Ocean Research Grants (HAB/Pfisteria/GLOBEC)	5,421	-	-	-	-
NCCOS Headquarters	4,928	4,931	-	-	-
Marine Env Health Research Lab - MEHRL	3,942	3,945	-	-	-
TOTAL	59,582	53,196	41,072	47,032	5,960
FTE	174	239	241	241	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Extramural Research (0 FTE and +$5,960,000): NOAA requests an increase of $5,960,000 for a total of $15,801,000 for extramural coastal and ocean research grants. This request will allow NOAA to maintain its efforts to fulfill requirements of the recently reauthorized Harmful Algal Bloom Research and Control Act (HABHRCA). Implementation of the Act, which is specified in the President's Ocean Action Plan, authorizes appropriations to the Secretary of Commerce for research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms (HABs) and hypoxia. Additional funds would help support NOAA's large and longstanding regional research investments to develop harmful algal bloom and hypoxia forecasting and response capabilities. These efforts are largely supported through NOAA's competitive and extramural HAB and hypoxia research programs which have a proven track record of developing the understanding and tools necessary for managers to respond and predict HAB and hypoxia events such as those affecting the New England and Florida coasts this year.

Statement of Need

HAB and hypoxic events (severe oxygen depletion) are widely recognized as some of the most complex phenomena currently challenging management of aquatic and marine ecosystems. Virtually every coastal state has reported recurring blooms, and a recent national assessment revealed that over half of our Nation's estuaries experience hypoxic conditions. Impacts have included the devastation of critical coastal habitats, loss of economically and culturally vital shellfish resources, illness and death in populations of protected marine species, and serious threats to human health posed by algal toxins. Just one harmful algal bloom event can cost tens of millions of dollars to local coastal economies, and the total costs associated with HABs over the past few decades have been conservatively estimated at over $1 billion. This year has been particularity problematic with extreme harmful algal bloom events along the New England Coast (the largest recorded in New England waters since 1972 forcing shellfish closures from Maine to Rhode Island) and off the west coast of Florida (causing respiratory distress, marine mammal mortalities and widespread hypoxia in bottom waters killing vast areas of coral reefs), in addition to the recurring "dead zone" in the Gulf of Mexico with its nutrient management implications for 31 states and a watershed that encompasses greater than 40% of the conterminous U.S..

Proposed Actions

Scientific understanding of HAB and hypoxic events has progressed significantly since the early 1990's, but major impediments still remain for prediction, control and mitigation of these complex phenomena. The requested funds will 1) help to maintain and strengthen the suite of NOAA competitive, peer-reviewed programs focused on HAB and hypoxia research; 2) accelerate the development and transition to operations of tools and forecasts for the prediction, control, and mitigation of HABs and hypoxia; and 3) facilitate the assessment of and response to HAB and hypoxia events. Funding would support extramural efforts, conducted through the following programs, to address the needs specified above and mandated by HABHRCA:

- **Ecology and Oceanography of Harmful Algal Blooms** – ECOHAB seeks to understand the causes and dynamics of HABs; develop forecasts of HAB growth, movement, landfall, and toxicity; and develop new detection methodologies for HABs and their toxins. Projects selected for support must successfully compete in a rigorous external, peer-review process that ensures a high-level of scientific merit. This program has served as an international model that has fostered similar programs globally.
- **Monitoring and Event Response for Harmful Algal Blooms** – MERHAB assists States and Tribes in their response to current threats from harmful algal blooms by forging working partnerships between leading government, public, and private entities in an impacted region. Through MERHAB, researchers and managers are transferring technology for pro-active detection of algal cells and toxin to improve the efficiency and effectiveness of coastal monitoring programs. This competitive research program provides our nation's best attempt to help States and Tribes protect vital resources and safeguard human health from HABs.
- **Gulf of Mexico Ecosystems and Hypoxia Assessment** – NGOMEX, through its competitive, peer-reviewed monitoring, observational, experimental and modeling studies, is improving the understanding and predictions of the hypoxic "dead" zone over the Louisiana continental shelf, including impacts to commercially important species. These efforts are providing critical information by providing assessments and predictions of the hypoxic zone, information sought by the public and regional management entities.
- **Coastal Hypoxia Research Program** – CHRP seeks to build upon NOAA's long-term investment in understanding and predicting the causes and consequences of the large seasonal hypoxic zone over the Louisiana continental shelf and to expand efforts on hypoxia in other regions. Competitively funded research efforts will focus on development of predictive models, determination of estuary susceptibility to nutrient loading, retrospective analyses and assessing the impact of hypoxia on key living resources. This research will provide resource managers with new tools, techniques and information for making informed decisions and assessing alternative management strategies that have broad relevance nation-wide.
- **Ecological Forecasting Program** – ECOFORE focuses on the development and transition of forecasts from the research and development stage to routine operational forecasts for the management community in support of ecosystem-based management. This program provides a dedicated and competitive source of funding for ensuring the most promising research results, models and tools from ongoing programs take the final step toward providing sustained, accurate, and relevant forecasts for local, state, and federal resource managers. Funded projects are required to have end users of the developed products involved in the efforts from the beginning, thus helping to ensure user relevance.

Benefits

NOAA and our Federal, state, and academic partners have made considerable progress in the scientific understanding, detection, monitoring, assessment, and prediction of HABs and hypoxia in coastal ecosystems. These advances are helping coastal managers undertake short- and long-term efforts to prevent and mitigate the detrimental effects of these phenomena on human health and on valuable coastal resources. The recent reauthorization of HABHRCA will ensure continued development and delivery, through a suite of research programs, of regionally-specific detection and analysis methods, coupled biological-physical models, enhanced state and local government HAB monitoring capacity in both marine and freshwater environments and new methods for prevention, control and mitigation.

These truly interdisciplinary studies are helping to advance the state of the science and also lead to results with direct application to needs of state coastal resource and public health managers, a perfect example of the coordinated, holistic, ecosystem-based studies required to implement NOAA's strategic plan goal of ecosystem-based management. HABHRCA research activities are closely tied to the NOAA plan for successful expansion of operational HAB forecasting systems around the US coast to include the Pacific Northwest, California Coast, Gulf of Mexico, Chesapeake Bay, and Gulf of Maine. HABHRCA research is also developing and delivering the biological components key to making developing regional ocean observing systems relevant to coastal resource and public health managers.

NOAA's continued support of the extramural research community through the competitive and peer-reviewed research sponsored by the programs above will insure that NOAA is bringing the best scientific expertise to bear on these two high priority national issues. Federal and academic scientists compete on an equal footing for support, and collaborative programs between Federal and academic researchers are encouraged. Through these programs, NOAA is able to combine the best science in the agency with the best in the research community (including universities, non-profit laboratories, and institutions) to leverage resources and undertake ecosystem-scale research to improve predictions in the coastal ocean.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs," under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

TERMINATIONS FOR 2007:

Portions of the following programs have been terminated in FY 2007: Center for Coastal Environmental Health and Biomolecular Research ($7,140,000); Oxford, MD ($2,908,000); Center for Sponsored Coastal Ocean Research ($1,263,000); NCCOS Headquarters ($779,000), Marine Environmental Health Research Lab ($114,000).

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Subactivity: Ocean and Coastal Management
Line Item: Coastal Management

GOAL STATEMENT:

The goal of the Coastal Zone Management Act (CZMA) of 1972, as amended, (16 U.S.C. 1451 et seq.), administered by NOS' Office of Ocean and Coastal Resource Management (OCRM), is to ensure the rational use and conservation of the lands and waters of the Nation's 35 coastal and Great Lakes states and territories. OCRM provides financial and management assistance to 34 coastal states and territories, enabling them to: (1) develop and implement comprehensive coastal resource management programs; (2) undertake new and innovative projects to enhance management and protection of the coastal zone; and (3) establish and manage estuarine research reserves to protect estuarine areas for long-term research and education, and support coastal decision-making. OCRM also administers NOAA's implementation of Executive Order 13158, which has the following goals: (1) to develop a national system of marine protected areas (MPAs) and (2) to improve the stewardship of existing MPAs.

BASE DESCRIPTION:

The nation's coastal and ocean areas represent some of its most ecologically and economically important regions. Congress recognized this fact in 1972 when it passed the CZMA. This act created a national framework for coastal protection through the Coastal Zone Management program and National Estuarine Research Reserve System. Executive Order 13158 recognized the importance of these areas as well, by directing the federal government to significantly strengthen and expand the national system of marine protected areas (MPAs), working closely with state, territorial, local and tribal trustees and other stakeholders.

NOS' OCRM supports this national framework and provides leadership to balance the use and protection of the nation's coasts and oceans. All programs administered by this Office directly support NOAA's Strategic Plan Mission Goal to **"**Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management."

Program Assessment and Rating Tool (PART): A significant portion of NOAA's Coastal Management program was reviewed with OMB's Program Assessment and Rating Tool (PART) during the FY 2005 and 2006 budget processes. NOAA is on track in meeting OMB's PART recommendations, including developing meaningful long-term measures. The program has developed a suite of measures, which will be phased in for implementation beginning in FY 2005. In addition, the National Estuarine Research Reserve program continues to integrate with NOAA's research programs by ensuring that the Graduate Research Fellowship Program's focus areas are aligned with NOAA's strategic plan, and by developing links between its environmental monitoring programs and the Nation's Integrated Ocean Observing System.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

CZM GRANTS

The purpose of the national Coastal Zone Management (CZM) Program is to maintain and improve the quality and utility of the nation's coastal lands and waters through a national network of federally-approved, coordinated, and supported state management programs that seek to maintain the balance between the needs of resource protection and coastal-dependent economic activity. This program recognizes the significance of coastal resources to our nation's population and economy and promotes improved management of these important assets. Federal matching funds are provided through cooperative agreements to support state staff and community projects that address the broad spectrum of coastal management issues ranging from habitat conservation and protection of life and property from coastal hazards, to urban waterfront and port revitalization (Section 306/306A CZMA).

NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM (NERRS)

NERRS (Section 315 CZMA) is a national network of estuarine protected areas representing the diverse biological and physical characteristics of estuarine systems of the United States. Reserves are owned and operated by state agencies or universities and serve as local, regional, and national sources of technical information and testing grounds for the improvement of coastal resource management. As of FY 2004, there are 26 designated reserves in 21 states and territories covering over one million acres of estuarine lands and waters, with an additional site in the designation process (Texas).

CZM PROGRAM ADMINISTRATION

The programs described above, CZM Grants and NERRS, are administered with the resources provided in the budget for CZM Program Administration. In addition to the processing of over 100 grant awards each year, OCRM staff carry out numerous critical functions necessary to execute these programs. These functions include:

- Providing management assistance to states in the development, implementation, and improvement of state CZM program and estuarine research reserves;
- Reviewing federal agency actions for compliance with the federal consistency provisions of Section 307 of the CZMA;
- Conducting outreach and education activities concerning coastal issues;
- Conducting programmatic evaluations of each state CZM program and NERR every three to five years;
- Analyzing national issues and trends in coastal resource management;
- Providing policy guidance and assistance to states on interpretation of CZMA requirements, as well as those of other federal statutes and programs, and;

- Administering outstanding loans and repayments to the Coastal Zone Management Fund from the Coastal Energy Impact Assistance Program.

MARINE PROTECTED AREAS (MPA) PROGRAM

NOAA's MPA Program, in coordination with the Department of the Interior, fills a long-standing need for objective science, analysis and tools that support the effective and equitable use of MPAs for diverse conservation and management objectives. The MPA Center's primary goal is to work with MPA managers and stakeholders to develop a representative national system of MPAs to more effectively conserve and protect our significant areas of natural and cultural marine heritage. Moreover, the Center coordinates the work of these disparate federal, state and tribal MPA programs to address conservation goals that could not be accomplished by individual programs. With a small headquarters in Silver Spring, MD, the MPA Center has regional and scientific support in Boston, Massachusetts, and Monterey and Santa Cruz, California. A diverse MPA Federal Advisory Committee (MPAFAC) -- including representatives of industry, user groups, scientists, and others -- was established in 2003 to provide advice on the establishment and management of MPAs. The MPAFAC recently released their consensus report supporting the Center's effort to develop an effective national system of MPAs, and providing valuable guidance on the goals, components, functions and development of the system.

PROPOSED LEGISLATION:

NOAA will continue to work with Congress to reauthorize the Coastal Zone Management Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean and Coastal Management	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Coastal Management					
CZM Grants	66,039	66,080	63,297	66,146	2,849
CZMA Program Administration	6,604	6,607	6,977	7,605	628
National Estuarine Research Reserve System	16,165	16,175	16,231	16,806	575
Nonpoint Pollution Implementation Grants	2,957	2,959	-	-	-
Marine Protected Areas	2,957	1,480	1,478	2,128	650
Baldwin Educational Program	-	986	-	-	-
TOTAL	94,722	94,287	87,983	92,685	4,702
FTE	53	55	55	56	1

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Coastal Zone Management (CZM) Grants (0 FTE and +$2,849,000): NOAA requests an increase of $2,849,000 for a total of $66,146,000 to address increasing pressures on coastal areas and resources within these areas, including the need to enhance state and local capacity to address these pressures. The additional funds will support state participation in implementing key actions of the U.S. Ocean Action Plan. In particular, the increase will enable states to improve regional collaboration and planning, and address such critical coastal issues as ensuring that coastal communities reduce vulnerability to the impacts of coastal hazards and improving management of coastal watersheds. Finally, the funds will assist states in implementing the new coastal management performance measurement system developed in response to Congressional direction, the Administration's Performance Management Agenda, and findings of OMB's Program Assessment and Rating Tool review. In FY 2005, state coastal management programs began implementing performance measures under this system, which is designed to measure progress in achieving the objectives of the Coastal Zone Management Act.

Statement of Need

The coastal zone continues to be an economic engine for the Nation, as well as home to some of the Nation's most valuable natural resources. At the same time, these areas are facing increasing pressures from population growth and resource use. State and local coastal management programs are at the forefront of safeguarding the economic and environmental health of these areas.

The program requires additional resources to respond to increasing coastal pressures and competing demands for limited space within the coastal zone for working waterfronts, coastal recreation, and protection of important habitats and land features, such as wetlands, dunes and floodplains.

Proposed Actions

In FY 2007, the Administration proposes to increase the amount of CZM grant funding that is awarded competitively under Sections 306A and 309. Increased competition and funding flexibility will enable the coastal management program to better focus available resources on significant national issues. During the current year, emphasis will be placed on developing resilient coastal communities and supporting regional coastal and ocean management initiatives. The Administration plans to double the amount of competitively awarded funding this year (compared to FY 2005), and will work towards having 50 percent of CZMA funding awarded through a competitive process by FY 2009. NOAA plans to collaborate with its state partners to develop a process by which the goal can be met. NOAA will continue to actively support the Gulf rebuilding efforts through this program.

Benefits

This increase will result in improved regional collaboration and management; local communities that are better prepared for, and more resilient to the impacts of coastal hazards; and continued enhancement and implementation of the performance measurement system.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase supports NOAA's Ecosystem Performance Objective to, increase in the number of acres protected by setbacks, buffers or public ownership to direct development away from areas vulnerable to hazards. Progress towards this measure is directly related to the capacity of state CZM programs.

Coastal Zone Management Act Program Administration: (+1 FTE and +$628,000): NOAA requests $628,000 and 1 FTE, for a total of $7,605,000 to administer the Coastal Zone Management Act and support an expanded National Estuarine Research Reserve System that includes a new reserve in Texas. The increase will support NOAA staff to work with the new reserve and the associated travel, equipment, training, rent and supplies costs, as well as with state coastal management programs. When new reserves are designated, it is important that NOAA be able to provide technical assistance in research, monitoring, education, and resource stewardship to give new reserve programs a solid start. In addition, the increase will cover printing of revised reserve system information to include the Texas reserve, and contractual funds to update reserve system plans and performance measures for facilities, land acquisition, research and education to cover the addition of a new reserve.

National Estuarine Research Reserve System (0 FTE and +$575,000): NOAA requests an increase of $575,000 for a total of $16,806,000 to support an expanded National Estuarine Research Reserve System. The increase will allow NOAA to improve monitoring through a new Texas NERR in the western Gulf of Mexico, which is scheduled for designation in late 2006. This new reserve is located in a biogeographic region that is not currently represented within the System.

Statement of Need

The Coastal Zone Management Act directs NOAA to establish a system of research reserves that are representative of the various biogeographic regions and subregions around the coastal U.S. These areas are protected for long-term research and education in order to provide coastal managers with information about natural and human-induced changes to estuaries to support better resource management decisions. Reserve education programs provide hands-on learning experiences for students and teachers and a way to engage the community in learning about their estuary. In FY 2006, a reserve is scheduled for designation in Texas. This increase is necessary in order to fund operations at the new reserve without negatively impacting important research and education programs across the remaining 26 reserves.

Proposed Actions

NOAA will proceed with plans to designate the Texas Reserve as the 27th National Estuarine Research Reserve late in FY 2006 in partnership with the State of Texas. NOAA will work with the state to lay the groundwork for implementing system-wide monitoring, research, education and training programs in FY 2007 with the requested increase. This increase will provide operational funds to support education, stewardship and research programming at the new Reserve. Specifically, funding will provide equipment and staffing support for physical and biological monitoring to implement the NERRS System-wide Monitoring Program. It will also support implementation of NERRS education and coastal training programs at the reserve, as well as stewardship programming to support NERRS strategic goals and objectives.

Benefits

This increase will expand the research, observing, and education capabilities of the reserve system into a new biogeographic region without an impact to other research, education and training programs within the Reserve System. It will improve the availability of monitoring, research, and education programs in the community in which the reserve is located, as well as filling a gap in these programs within estuarine types across the nation.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase supports NOAA's Ecosystem Performance Objective to, "Increase the number of regional coastal and marine ecosystems delineated with approved indicators of ecological health and socioeconomic benefits that are monitored and understood."

Marine Protected Areas (0 FTE and +$650,000): NOAA requests an increase of $650,000 for a total of $2,128,000 to support key science and analysis efforts fundamental to meeting NOAA's mandate under Executive Order 13158 to develop an effective national system of marine protected areas built through integrating the sites and capabilities of existing federal, state, and tribal programs. With the requested increase, the Marine Protected Areas (MPA) Center will be able to advance several critical components of the National System of MPAs, including the completion of methodologies and tools to complete a natural and cultural resource characterization and analysis of human uses and impacts on the marine environment for the West Coast as a pilot study; beginning a process to work with stakeholders to use this information to identify priority areas for conservation of significant natural and cultural resources; and partially restore support for public outreach and the MPA Federal Advisory Committee, a diverse group of stakeholders and scientific experts providing advice to the Departments of Commerce and the Interior on National System development.

Statement of Need

Executive Order 13158 was created to address the need identified by scientists and others for an effective, representative, National System of MPAs. The Executive Order established the MPA Center to lead this effort, coordinating across agencies, levels of government, and stakeholders. Key to the success of this endeavor are MPA Center-led activities to analyze the existing collection of MPAs and the hundreds of authorities under which they operate; increase the scientific understanding of effective MPA design; and develop tools to enhance MPA management and planning. The requested funds are critical for supporting the capabilities needed to fulfill this mission. Without these funds, the MPA Center will lose momentum on developing the National System, and the long-term credibility of and support for NOAA's leadership on MPAs will be diminished.

Proposed Actions

With the increase, NOAA will advance the West Coast MPA pilot project in California, Oregon and Washington by working with federal and state agencies to: complete the development of methods and the acquisition of data for characterizing important habitats and resources in the pilot area; develop and test a shared marine cultural resources information database; develop and pilot a method for documenting patterns and impacts of human uses; and begin the assessment of gaps in protection among existing MPAs.

The MPA Center will also hold a limited number of forums around the nation for stakeholders to meaningfully discuss and provide comments on the draft framework for the National System of MPAs; hold meetings of the MPA Federal Advisory Committee to provide expert advice on MPA science, planning and implementation; and build on MPA Center coordination and technical assistance successes among partners in the New England and West Coast regions (e.g. States, Fishery Management Councils, etc) by maintaining Regional Coordinator positions in each region.

Benefits

The U.S. has long used marine protected areas to manage and conserve some of our most important ocean areas. By meeting the long-standing need for more effective, objective, science-based and inclusive approaches to MPA design and management, NOAA will provide an invaluable service to all sectors and stakeholders in the U.S. who are interested in, or affected by marine protected areas and who have a stake in a legacy of healthy and sustainable ecosystems. Specifically, the requested increase will result in: new tools, methods, and processes to bring together scientific information and stakeholder input to identify priority conservation areas that can be applied nationwide; an analysis of the extent and effectiveness of existing place-based management measures within the context of ecosystem-based management; better leveraging of active state MPA planning efforts on the west coast with ongoing federal efforts to link science and management initiatives; and a regionally-based MPA coordination and planning process that ensures stakeholder participation, as recommended by the MPA Federal Advisory Committee.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

TERMINATIONS FOR 2007:

The following programs, or portions thereof, have been terminated in FY 2007: CZMA Grants ($2,117,000); Nonpoint Pollution Control Implementation Grants ($2,959,000); Baldwin Education Program ($986,000).

Subactivity: Ocean and Coastal Management
Line Item: Ocean Management (Marine Sanctuary Program)

GOAL STATEMENT:

The goal of the National Marine Sanctuaries Act (NMSA), as amended, (16 U.S.C. 1431 et seq.), administered by the National Marine Sanctuary Program (NMSP), is to designate, manage, and protect areas of the marine environment which possess conservation, recreational, ecological, historical, research, educational or aesthetic qualities which give them special national significance. The primary purpose of the NMSA is resource conservation and protection.

BASE DESCRIPTION:

In the Ocean Management Line Item, NOAA administers the National Marine Sanctuary System under authority of the NMSA. There are 13 designated national marine sanctuaries: Monitor (NC), Channel Islands (CA), Gray's Reef (GA), Gulf of the Farallones (CA), Fagatele Bay (AS), Cordell Bank (CA), Florida Keys (FL), Flower Garden Banks (TX/LA), Gerry Studds Stellwagen Bank (MA), Monterey Bay (CA), Olympic Coast (WA), Thunder Bay Underwater Preserve (MI) and Hawaiian Islands Humpback Whale (HI). The sanctuaries range in size from one-quarter square mile in Fagatele Bay to over 5,300 square miles in Monterey Bay, which is one of the largest marine protected areas in the world. Together, these sanctuaries encompass over 18,000 square miles of waters and marine habitats. In addition, the NMSP administers and manages the 131,818 square miles Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve that is undergoing the sanctuary designation process. The special habitats of the sanctuaries include deep ocean and near-shore coral reefs, live bottom, whale migration corridors, deep sea canyons, areas of deep water upwelling, submerged banks that rise close to the ocean surface, kelp forests, and sea grass beds. With the increasing environmental pressures on our nation's coastal areas, the importance of maintaining a system of marine protected areas is evident. The National Marine Sanctuary System is increasing our knowledge and understanding of complex marine ecosystems. NOAA's sanctuaries help monitor both human and natural changes in the environment that can help us preserve our marine environments.

To support all of these functions, the NMSP has implemented a Small Boat Program, to ensure the safe and efficient operations of the small boats, including maintenance. An inventory of all small boats, incorporating a record of safety inspections, operators, licenses, and safety classes, is also maintained. in accordance with the NOS Small Boat Policy. To address the increased requirement for new or replacement boats, the Program also is implementing the recommendations identified in its "Small Boat Requirements Study" (November 2005).

The National Marine Sanctuary System exemplifies NOAA's Strategic Plan Mission Goal to Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management. Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

NATIONAL MARINE SANCTUARY PROGRAM (NMSP)

The NMSP operates and coordinates the nation's system of marine sanctuaries. Individual sanctuary offices are responsible for the daily operation of a wide variety of education, research, monitoring and management programs. The activities that each site undertakes include: development, implementation, and systematic review of comprehensive management plans to protect these unique areas; development and implementation of local research and monitoring programs to better understand the resources and potential impacts on those resources; development and implementation of cultural resource programs to survey and inventory resources to ensure their long-term protection; development and implementation of education and outreach activities to inform the public about the value of marine resources and how human activities can impact the marine environment; enforcement of sanctuary regulations; permitting of otherwise prohibited activities to allow valuable research and education activities; management of volunteer programs that monitor and educate on marine resources; and management of citizen advisory councils to ensure that each sanctuary is responsive to community needs. In addition, each site is engaged in a number of partnership relationships with other federal agencies, state agencies, local universities, and other local institutions.

Programmatic oversight, guidance, and support from the headquarters office ensure that the sites function as a coordinated system. Headquarters functions include the development of programmatic initiatives, such as system-wide research, monitoring, cultural resource, education, and outreach programs; policy development; budget development and tracking; legislative and regulatory initiatives; review and revisions of management plans; development and designation of new sites; and overall guidance and program direction. These functions ensure that the NMSP is an integrated system that has greater national impact than the sum of the individual site actions.

PROPOSED LEGISLATION:

NOAA will continue to work with Congress to reauthorize National Marine Sanctuaries Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean and Coastal Management	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Ocean Management (Marine Sanctuary Program)					
Marine Sanctuary Program Base	50,319	35,160	35,218	35,218	-
Marine Sanctuary Foundation / Ocean Activity Fund	4,928	-	-	-	-
Northeast Hawaiian Islands Rsrch / HI Institute of Marine Biology	1,479	2,220	-	-	-
Northwest Straits Citizens Advisory Commission	1,232	1,381	-	-	-
TOTAL	57,958	38,761	35,218	35,218	-
FTE	119	140	140	140	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No program changes are proposed for FY 2007.

TERMINATIONS FOR 2007:

The following programs have been terminated in FY 2007: Northwest Straits Citizens Advisory Commission ($1,381,000); Northeast Hawaiian Islands Research / HI Institute of Marine Biology ($2,220,000).

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

National Ocean Service	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Commerce and Transportation										
Commerce and Transportation	606	152,003	608	155,876	608	125,407	613	143,309	5	17,902
Total CT	606	152,003	608	155,876	608	125,407	613	143,309	5	17,902
Ecosystems										
Ecosystems	597	342,825	611	295,804	613	217,570	614	231,988	1	14,418
Total ECO	597	342,825	611	295,804	613	217,570	614	231,988	1	14,418
Mission Support										
Mission Support	-	6,899	-	6,903	-	6,927	-	7,227	-	300
Total MS	-	6,899	-	6,903	-	6,927	-	7,227	-	300
Weather and Water										
Weather and Water	-	40,307	-	34,568	-	8,278	-	11,931	-	3,653
Total WW	-	40,307	-	34,568	-	8,278	-	11,931	-	3,653
Total National Ocean Service	1,152	542,034	1,219	493,151	1,221	358,182	1,227	394,455	6	36,273

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Ocean Service		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Navigation Services											
Mapping & Charting	Pos/BA	307	85,315	307	93,430	307	73,380	313	90,867	6	17,487
	FTE/OBL	246	83,731	318	94,739	318	73,380	323	90,867	5	17,487
Geodesy	Pos/BA	175	31,435	175	31,710	175	24,570	175	24,270	-	(300)
	FTE/OBL	147	31,898	183	31,848	183	24,570	183	24,270	-	(300)
Tide & Current Data	Pos/BA	118	27,252	118	24,078	118	22,255	118	24,970	-	2,715
	FTE/OBL	101	26,855	107	24,654	107	22,255	107	24,970	-	2,715
Total: Navigation Services	Pos/BA	600	144,002	600	149,218	600	120,205	606	140,107	6	19,902
	FTE/OBL	495	142,484	608	151,241	608	120,205	613	140,107	5	19,902
Ocean Resources Conservation and Assessment											
Ocean Assessment Program	Pos/BA	236	146,933	69	121,149	69	52,062	69	54,677	-	2,615
(OAP)	FTE/OBL	210	145,507	65	122,779	65	52,062	65	54,677	-	2,615
Response and Restoration	Pos/BA	115	38,837	115	36,540	115	21,642	115	24,736	-	3,094
	FTE/OBL	101	32,893	112	37,883	112	21,642	112	24,736	-	3,094
National Centers for Coastal	Pos/BA	51	59,582	247	53,196	247	41,072	247	47,032	-	5,960
Ocean Science	FTE/OBL	174	59,276	239	53,795	241	41,072	241	47,032	-	5,960
Total: Ocean Resources	Pos/BA	410	245,352	431	210,885	431	114,776	431	126,445	-	11,669
Conservation and Assessment	FTE/OBL	485	237,676	416	214,457	418	114,776	418	126,445	-	11,669
Ocean and Coastal Management											
Coastal Management	Pos/BA	76	94,722	72	94,287	72	87,983	73	92,685	1	4,702

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	FTE/OBL	53	95,255	55	99,279	55	87,983	56	92,685	1	4,702
Ocean Management (Marine Sanctuary Program)	Pos/BA	140	57,958	136	38,761	136	35,218	136	35,218	-	-
	FTE/OBL	119	56,653	140	40,042	140	35,218	140	35,218	-	-
Total: Ocean and Coastal Management	Pos/BA	216	152,680	208	133,048	208	123,201	209	127,903	1	4,702
	FTE/OBL	172	151,908	195	139,321	195	123,201	196	127,903	1	4,702

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Navigation Services

Title		Grade	Number	Annual Salary	Total Salaries
Physical Scientist	non-locality	11	1	50,541	50,541
Geodesist	Silver Spring, MD	11	1	52,468	52,468
Oceanographer	Silver Spring, MD	11	1	52,468	52,468
Physical Scientist	Chesapeake, MD	11	1	50,541	50,541
Physical Scientist	non-locality	9	1	41,772	41,772
Physical Scientist	Silver Spring, MD	11	1	52,468	52,468
Physical Scientist	Silver Spring, MD	11	1	52,468	52,468
Total			7		352,726
Less Lapse	25%		-2		(88,182)
Total full-time permanent (FTE)			5		264,545
2006 Pay Adjustment (3.1%)					8,201
2007 Pay Adjustment (2.2%)					6,000
Total					278,746

Personnel Data	Number
Full-time permanent	5
Other than full-time permanent	0
Total	5
Authorized Positions	
Full-time permanent	7
Total	7

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

Title		Grade	Number	Annual Salary	Total Salaries
Program Specialist	Silver Spring, MD	11	1	50,593	50,593
Total			1		50,593
Less Lapse	25%		0		(12,648)
Total full-time permanent (FTE)			1		37,945
2006 Pay Adjustment (3.1%)					1,176
2007 Pay Adjustment (2.2%)					861
Total					39,982

Personnel Data	Number
Full-time permanent	1
Other than full-time permanent	0
Total	1
Authorized Positions	
Full-time permanent	1
Total	1

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Senior Executive Service	279
11.9	Total personnel compensation	279
12	Civilian personnel benefits	51
12.3	FICA	12
21	Travel and transportation of persons	340
22	Transportation of things	4
23.3	Communications, utilities and miscellaneous charges	10
25.1	Advisory and assistance services	10,788
25.2	Other services	5,962
26	Supplies and materials	491
31	Equipment	2,265
99	Total Obligations	20,202

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Navigation Services

	Object Class	2007 Decrease
21	Travel and transportation of persons	(30)
25.1	Advisory and assistance services	(170)
25.2	Other services	(100)
99	Total Obligations	(300)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean Resources Conservation and Assessment

	Object Class	2007 Increase
21	Travel and transportation of persons	426
22	Transportation of things	43
23.1	Rental payments to GSA	150
23.3	Communications, utilities and miscellaneous charges	92
24	Printing and reproduction	5
25.1	Advisory and assistance services	500
25.2	Other services	2,744
25.3	Other purchases of goods and services from Govt accounts	175
25.5	Research and development contracts	48
26	Supplies and materials	286
31	Equipment	140
41	Grants, subsides and contributions	7,060
99	Total Obligations	11,669

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Ocean Service
Subactivity: Ocean and Coastal Management

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	40
11.9	Total personnel compensation	40
12	Civilian personnel benefits	11
21	Travel and transportation of persons	90
23.3	Communications, utilities and miscellaneous charges	5
24	Printing and reproduction	5
25.1	Advisory and assistance services	638
25.2	Other services	439
26	Supplies and materials	45
31	Equipment	5
41	Grants, subsides and contributions	3,424
99	Total Obligations	4,702

NATIONAL MARINE FISHERIES SERVICE
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Protected Species Research and Management	175,530	145,039	122,428	144,924	22,496
Fisheries Research and Management	297,873	282,408	265,746	291,662	25,916
Enforcement and Observers / Training	70,347	72,675	73,224	80,697	7,473
Habitat Conservation & Restoration	53,248	46,629	28,698	39,896	11,198
Other Activities Supporting Fisheries	79,517	70,177	48,104	55,361	7,257
Alaska Composite Research and Development	0	50,298	29,724	36,448	6,724
TOTAL	676,515	667,226	567,924	648,988	81,064
FTE	2,594	2,552	2,552	2,587	35

For FY 2007, NOAA requests an increase of $81,064,000 and 35 FTE for a total of $648,988,000 for the National Marine Fisheries Service (NMFS) Operations, Research and Facilities account.

NOAA is responsible, in partnership with other Federal agencies and State and local governments, for managing the Nation's coastal zone and protected areas; planning for, mitigating, and responding to hazardous events; restoring degraded habitats; protecting ocean, coastal, and Great Lakes resources; ensuring wise and appropriate use of ocean, coastal, and Great Lakes resources; and providing advice, technical tools, information, and training to coastal residents, communities, and other decision makers and users of ocean, coastal, and Great Lakes areas. NOAA is also responsible for protecting, restoring, and managing species listed under the Endangered Species Act and Marine Mammal Protection Act, as well as their habitats, and for managing and rebuilding fish stocks to population levels that will support economically viable and sustainable harvest opportunities.

To accomplish these longer-term objectives, NOAA will invest in improving our understanding of ecosystems; identifying regional ecosystems; developing ecosystem health indicators; and applying new methods of governance to establish the necessary knowledge, tools, and capabilities to fully implement an ecosystem approach to management of coastal, ocean, and Great Lakes resources. The following are strategies for implementing the ecosystem goal's objectives:

- Engage and collaborate with our partners to achieve regional objectives by delineating regional ecosystems, forming regional ecosystem councils, and implementing cooperative strategies to improve regional ecosystem health.

- Manage uses of ecosystems by applying scientifically sound observations, assessments, and research findings to ensure the sustainable use of resources and to balance competing uses of coastal and marine ecosystems.

- Improve resource management by advancing our understanding of ecosystems through better simulation and predictive models. Build and advance the capabilities of an ecological component of the NOAA global environmental observing system to monitor, assess, and predict national and regional ecosystem health, as well as to gather information consistent with established social and economic indicators.

- Develop coordinated regional and national outreach and education efforts to improve public understanding and involvement in stewardship of coastal and marine ecosystems.

- Engage in technological and scientific exchange with our domestic and international partners to protect, restore, and manage marine resources within and beyond the nation's borders.

NMFS Mission Overview:

NOAA's National Marine Fisheries Service (NMFS) is responsible for the management and conservation of living marine resources within the U. S. Exclusive Economic Zone (EEZ). NMFS also provides critical support, scientific, and policy leadership in the international arena and plays a key role in the management of living marine resources in coastal areas under State jurisdiction. NMFS implements international agreements on conservation and management measures through science-based conservation and management actions aimed at sustaining long-term use and promoting the health of coastal and marine ecosystems. The result is maximized benefits to the Nation from the use of living marine resources. Programmatic authority for fisheries management, species protection, and habitat conservation activities are derived primarily from the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Sustainable Fisheries Act (SFA), Marine Mammal Protection Act (MMPA), and Endangered Species Act (ESA). Other acts provide additional authority for enforcement, seafood safety, habitat restoration, and cooperative efforts with States, interstate fish commissions, and other countries. All of these activities rely on a strong scientific and research competency to support the challenging public policy decision process associated with NMFS' stewardship responsibility.

Work is conducted by NMFS field elements with oversight, review, and direction by NMFS headquarters in Silver Spring, Maryland. The field structure consists of six Regional Offices, each with a Science Center that conducts research and directs the work carried out by the other laboratories and satellite/special purpose facilities in that region.

Major NMFS facilities are located at the following sites:

Northeast:	Regional Office - Gloucester, MA Science Center - Woods Hole, MA Major Laboratories - Milford, CT; Narragansett, RI; J.J. Howard, Sandy Hook, NJ Satellite/Special Purpose Facilities - Smithsonian (National Systematics Lab), Washington, DC
Southeast:	Regional Office - St. Petersburg, FL Science Center - Miami, FL Major Laboratories - Beaufort, NC; Galveston, TX; Panama City, FL; Pascagoula, MS Satellite/Special Purpose Facilities - Stennis Space Center (Bay St. Louis, MS)
Southwest:	Regional Office - Long Beach, CA Science Center - La Jolla, CA Major Laboratories - Santa Cruz, CA Satellite/Special Purpose Facilities - Pacific Grove, CA
Northwest:	Regional Office - Seattle, WA at Sand Point Science Center - Seattle, WA at Montlake Satellite/Special Purpose Facilities - Manchester, WA; Mukilteo, WA; Pasco, WA; Newport, OR; Hammond, OR
Alaska:	Regional Office - Juneau, AK Science Center - Seattle, WA at Sand Point Major Laboratories - Auke Bay, AK; Kodiak, AK Satellite/Special Purpose Facilities - Little Port Walter, AK
Pacific Islands:	Regional Office – Honolulu, HI Science Center – Honolulu, HI

Research and Development Investments

The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) into NOAA's R&D programs, and leads to NOAA budget proposals that reflect the Administration's R&D investment priorities.

Significant Adjustments to Base:

NOAA requests a net increase of $4,557,000 and 0 FTE to fund adjustments to base across all accounts in the National Marine Fisheries Service activities. With this increase program totals will fund the estimated FY 2007 Federal pay raise of 2.2 percent and annualize the FY 2006 pay raise of 3.1 percent. Program totals will provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Services Administration. The above amount includes a transfer of $28,000 to the Office of Marine and Aviation Operations within Program Support.

NOAA requests the following transfers between line offices for a net change to NOAA of zero.

From Office	Line	To Office	Line	Amount
NMFS	Fisheries Research and Management Base	OMAO	NOAA Corps	-$28,000

The $28,000 transferred to OMAO partially funds NOAA Corps Officer positions that benefit NMFS.

Subactivity: Protected Species Research and Management
Line Item: Protected Species

GOAL STATEMENT:

Provide accurate and timely information and analyses for the conservation of the Nation's living marine resources, and implement and monitor living marine resource management measures to recover protected species in support of the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management." The ultimate desired outcome is to recover and sustain all protected species (i.e., all ESA-listed species and all marine mammal populations) to be fully functioning components of their ecosystems. The Protected Species Program (PSP) administers the conservation and management activities that support this outcome. The Ecosystem Observations Program (EOP) and Ecosystem Research Program (ERP) support the PSP by providing the monitoring, assessment, and management-directed research needed for management.

BASE DESCRIPTION:

Base activities support the objective to "enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan goal to "observe, protect, and manage the Earth's resources to promote environmental stewardship."

The Protected Species Program (PSP) is responsible for the conservation of species through implementation of the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), and other statutes and international treaties and conventions. Protected species are defined as all marine mammal stocks under MMPA, and all marine and anadromous species listed as threatened or endangered under the ESA. The PSP administers the conservation and management activities, and the Ecosystem Observations Program (EOP) and Ecosystem Research Program (ERP) support the PSP by providing the monitoring, assessment, and management-directed research needed for management.

Protected Species Science

Protected species science is administered by the EOP and ERP and conducted by the NMFS Regional Science Centers. The EOP is responsible for surveys and assessment, while the ERP is responsible for management-directed research. Activities consist of scientific investigation and research for the science-based protection, recovery, and conservation of protected living marine resources, including understanding the dynamics of protected living marine resources within their ecosystems and the environment. NMFS specifically investigates the status of protected species populations and the potential impacts of human activities (e.g., commercial fishing, commercial and military shipping, hydroelectric dams and power plants, polluted effluents, ocean dumping, dredging, and logging) on protected species.

Protected species science focuses on three main areas: surveys, assessments, and management-directed research. Surveys involve the systematic gathering of information on species, including regional densities and overall abundance, seasonal distributions and movements, and sources of human-related mortality and serious injury. Assessments use surveys and other information to develop "status of stocks" assessments in the short term; over the long term they use time series of those assessments and predictive statistical modeling methods to forecast protected species population trends in the context of conservation actions and natural environmental factors. Management-directed research focuses on specific questions concerning the effects of human activities on protected species and the resources on which they depend. This research may include more detailed information on habitat use; spatial and temporal distributions; and biological, behavioral, and environmental effects.

Surveys. NMFS uses vessel, aircraft, and remote sensing platforms to obtain fundamental information to support protected species management. Systematic, statistically based surveys collect information on the seasonal distribution of, and habitat types used by, protected species. Additional information collected in conjunction with surveys related to life history (e.g., growth rates, sex and age structure of the population, age of sexual maturity, age-specific birth and death rates, and longevity) allow scientists to assess the status of protected species populations more completely than if they relied on abundance and trend information alone. In recent years, newly developed passive acoustic detection methods have demonstrated the potential for significantly augmenting traditional visual-based surveys by allowing the expansion of surveys in time and space, during conditions of poor visibility, and at night. Autonomous sensing devices (e.g., acoustic recorders) enable cost-effective detection of protected species in habitats and areas not suited to traditional surveys (e.g., polar seas and open ocean during winter) and at minimal risk to human safety. Acoustic monitoring also gathers information on the sources and intensities of ocean noise to which protected species are exposed in the regions they inhabit. Biomolecular genetics and modern approaches to stock identification and stock structure provide data necessary to distinguish population stocks and management units of protected species in support of appropriate and prudent listing determinations.

Assessments. Status of stocks assessments and analyses of population trends over time provide the biological basis for management actions to effectively recover and conserve protected species and minimize the impacts of human activities under Section 7 of the Endangered Species Act (ESA). NMFS is responsible for undertaking timely assessments of the listed species protected under the Marine Mammal Protection Act (MMPA) and the ESA. Depleted species must be assessed annually, ESA-listed species must be assessed at five-year intervals, and nonlisted species must be assessed at regular intervals to track population trends. Assessments inform management on the status of protected species populations and the effects of regulatory actions (e.g., seasonal area closures, bycatch reduction measures, and ocean noise reduction) designed to mitigate harm to and improve the status of protected species.

Management-directed research. Several emerging issues affect the recovery and wellbeing of protected species and require scientifically based information to support development of meaningful mitigation and regulatory actions. Among these emerging challenges are reducing bycatch in commercial fisheries, reducing the threat of commercial shipping vessel collisions with large whales, and evaluating the effects of anthropogenic ocean noise on protected species.

Management-directed research programs expand and implement novel research and analyses to: 1) identify and quantify the effects of anthropogenic and natural factors on protected species populations and the variability of these effects over time and space; 2) identify and evaluate options for management tools to be used in a wide variety of issues relating to protected species management; and 3) conduct ecosystem and habitat research (e.g., environmental change, food requirements, and habitat requirements) to support an ecosystem approach to protected species management.

Protected Species Conservation and Management

The PSP shares the responsibility for implementing the ESA and MMPA with the Department of the Interior's Fish and Wildlife Service. To describe the division of responsibilities in general terms, the Department of the Interior is responsible for the conservation of terrestrial and aquatic (freshwater) organisms and NOAA is responsible for conservation of living marine resources, which includes most marine mammals, most marine and anadromous fish (both commercially valuable and nonharvested species), turtles at sea, and species of marine invertebrates and plant life. The PSP is charged with three main tasks: pursuing proactive conservation efforts, formally listing species in need of protection, and recovery and conservation of species once they are listed.

Proactive conservation efforts help species that are approaching the need for listing under the ESA and MMPA. Species in this category are referred to as "species of concern" or "candidate species." Because the prescriptive measures of the ESA and MMPA can prove costly, proactive conservation often is more cost-effective than recovering a population once it is listed.

Listing of species. Once a species has become threatened or endangered under the ESA, the PSP is responsible for formally **listing** the species and designating its critical habitat. Currently, 53 domestic marine species are ESA-listed:

- 13 marine mammals
- 8 sea turtles
- 1 Atlantic salmon
- 26 Pacific salmon
- 5 other protected species

The PSP manages 167 marine mammal stocks under the MMPA—of these stocks, six have been identified as depleted.

After the formal listing process is completed, the bulk of the program's work is on **conservation and recovery**. This involves management and planning to remove or minimize human impacts and provide for population increase to functional levels, much of it in concert with Federal, State, tribal, local, international, and private partners.

The PSP also coordinates outreach and education activities, and international activities related to protected species. This work cuts across all program sectors, from proactive efforts to recovery. The PSP's recovery and conservation capability can be further divided into the following specific program activities.

Recovery planning and implementation. ESA recovery plans and marine mammal conservation plans are being developed or updated for all ESA-listed species and for all marine mammals designated as depleted under MMPA. NMFS recently developed guidance for recovery planning efforts to ensure that all recovery plans meet the requirements of the ESA. Recovery plans are key to informing management decisions under ESA section 7 and for analyzing the effects of scientific research and enhancement permits. As recovery plans are completed, NMFS works with Federal, State, and local agencies and the public to implement recovery actions.

Partnerships with States, tribes, and local entities. The PSP administers agreements with States (and Territories) under section 6 of the ESA and provides limited funding in the form of grants to implement conservation actions in these States for listed, recently de-listed, and candidate species. Funding may support the development and implementation of management strategies, scientific research, or public outreach and education activities. NMFS currently has section 6 agreements with 11 States, and the PSP is actively working to develop additional agreements. NMFS has also entered into agreements with West Coast States and tribes to implement the Pacific Coastal Salmon Recovery Fund (PCSRF). The PSP administers the PCSRF by coordinating development of performance measures and preparing an annual report to Congress on funded activities. Under the MMPA, the PSP has entered into agreements with Alaska Native groups regarding the management of harvested marine mammal stocks in Alaska; these cooperative agreements provide funding for cooperative management. The PSP also works to develop Habitat Conservation Plans under the ESA with non-Federal entities wishing to receive permission to incidentally take listed species as part of otherwise lawful activities. Currently these efforts are focused on Pacific salmon and they are being expanded to other species.

Federal agency consultations. The greatest amount of PSP resources are spent on ESA section 7 consultations. Section 7 of the ESA requires Federal agencies, in consultation with the Secretaries of Commerce and of the Interior, to ensure that any action they fund, authorize, or undertake is not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat that has been designated for such species. In addition to conducting section 7 consultations, the PSP performs training, quality control, and guidance development. The PSP is required to complete consultation with action agencies under strict timeframes. These demands are especially high for consultations on the registration of pesticides and Clean Water Act criteria and the PSP requires resources to keep up with an increased demand for these consultations. The PSP has invested heavily in efficiency improvements through streamlining agreements and the use of programmatic consultations.

Marine animal health and stranding response. PSP's Marine Animal Health and Stranding Response program coordinates response activities through a stranding network, using funds from the Prescott Grant program; administers the National Marine Mammal Tissue Bank; and maintains databases for tracking marine mammal tissue and stranding response activities.

Fishery interactions. This PSP activity reduces the impact of commercial and recreational fisheries on protected species. Efforts include management of the NMFS Tuna/Dolphin program, MMPA fishery registration and authorization, MMPA take reduction planning, and take reduction of sea turtles in fisheries.

Permitting and take authorizations. PSP issues permits related to direct and indirect take of listed species under sections 4(d) and 10 of the ESA and sections 101, 104, and 118 of the MMPA. An increased demand for permits has been accompanied by a need to improve the quality of National Environmental Policy Act (NEPA) analysis related to permit actions. This permitting activity applies to the entire public, unlike ESA section 7 that applies only to Federal activities. Adequate resources for permit processing and analysis will ensure NOAA's ability to provide timely public service with minimal disruption and risk of lawsuits.

PROPOSED LEGISLATION:

The Administration will work with Congress to reauthorize the Marine Mammal Protection Act, P.L. 103-238, and the Endangered Species Act (ESA), P.L. 100-478.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Protected Species Research and Management	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Protected Species					
Protected Species Base	26,266	25,741	25,992	31,817	5,825
Atlantic Salmon	5,183	4,375	4,405	5,850	1,445
Pacific Salmon	45,170	56,341	56,752	66,416	9,664
Marine Turtles	14,943	13,438	8,996	9,646	650
Marine Mammals	81,504	40,212	21,351	23,110	1,759
Other Protected Species	2,464	4,932	4,932	8,085	3,153
TOTAL	175,530	145,039	122,428	144,924	22,496
FTE	648	646	646	657	11

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Protected Species Research and Management Programs (+7 FTE and $5,825,000): NOAA requests an increase of $5,825,000, for a total of $31,817,000, for Protected Species Research and Management Programs: $2,825,000 and 2 FTE for Marine Mammals, Sea Turtles, and Other Protected Species/Endangered Species Act (ESA) and $3,000,000 and 5 FTE for Protected Species Stock Assessments and Mortality Estimation.

Marine Mammals, Sea Turtles, and Other Protected Species/Endangered Species Act (ESA) - $2,825,000. ***Take Reduction Planning, ESA Consultations, Permitting, and Recovery of Marine Mammals and Sea Turtles***. To meet requirements of the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA), NMFS must complete take reduction planning, recovery planning, ESA section 7 consultations, permitting, and mandatory ESA 5-year status reviews. This request will allow the Protected Species Program to continue court-ordered take reduction planning, complete ESA consultation on federal actions, develop programmatic NEPA documents for permits and Incidental Harassment Authorizations, revise recovery plans for sea turtles, and complete ESA 5-year status reviews for marine mammals and sea turtles. This increase will fund $1,300,000 of the $5,000,000 in activities funded through the FY 2006 congressionally enacted Marine Mammal Initiative to continue marine mammal permitting, take reduction planning, and recovery planning and implementation.

Statement of Need

The ESA and MMPA require that the Protected Species Program conserve and recover protected species through ESA listings, MMPA take reduction planning, ESA recovery planning, ESA consultations, and implementation of actions that reduce the highest priority threats to species survival and recovery. The Protected Species Program is requesting additional funding to carry out these efforts because current funding is inadequate to address even the highest priority needs of the program.

Proposed Actions

NMFS will meet its responsibilities the MMPA and ESA by undertaking the following actions:

- Implement, under court settlement, take reduction planning efforts for the Atlantic Trawl and Pelagic Longline Take Reduction Teams. The program has funded this effort over the past 2 years using funds from the Marine Mammal Initiative. The request will continue these efforts and allow the program to complete take reduction planning efforts in these two areas in 2011.

- Complete 5-year status reviews for marine turtles and marine mammals. More than 5 years have passed since the ESA listing status was reviewed for all marine turtles and many marine mammals. Increased funding will allow the program to review the status of species and revise ESA listing designations if appropriate.

- Initiate recovery plans for newly listed marine mammals and revise marine turtle recovery plans. Because Southern Resident Killer Whales were listed as threatened under the ESA in 2005, increased funding will be used to complete recovery planning efforts for this species. Increased funding will also be used to initiate revisions to marine turtle recovery plans for the Atlantic, which have not been revised since 1992.

- Continue improvements to the marine mammal permitting process. Requested funds would be used to continue efforts to improve the marine mammal permitting process that were funded under the Marine Mammal Initiative in FY 2005 and FY 2006. These efforts include additional contract support for completion of permits, completion of programmatic NEPA documents on research permits, and completion of associated ESA section 7 consultations on permit actions.

Benefits

The requested funding will allow the Protected Species Program to maintain and improve current efforts at addressing the core mandates of the program. Without the increase the program will be under increased litigation risk for inadequate permitting and lack of implementation of take reduction planning efforts. This effort will also improve customer service by reducing the time required to complete permit actions.

Ocean Noise Effects – Rising levels of ocean noise and their potential effects on marine species, particularly on protected species, has become a significant emerging issue in marine conservation. Sources of ocean noise include natural events (e.g., earthquakes) and anthropogenic activities (e.g., seismic exploration, military sonars, and commercial shipping). Research on human and non-human species indicates that some levels of sound and chronic exposure to sound may affect health, reproduction, behavior, and survival. Recent strandings of marine mammals suggest there may be a relationship between some anthropogenic sound sources and these stranding events.

Statement of Need

NOAA's effort to fully comply with the MMPA and ESA requirements for managing human noise impacts on marine animals is impeded by the lack of information about noise and its effects to meet the terms of these acts without either over-regulating noise-makers or risking litigation. Underwater noise is a relatively new and unstudied topic. New information is needed in the following categories: (1) the amount of and trend in ocean noise, (2) what noise animals experience, (3) what effects noise exposure has on them, and (4) mitigation measures needed to reduce noise exposure. Several NOAA entities have combined forces to design a broad and proactive program to investigate these four issues, incorporate the resulting information into agency management capabilities, and develop education and outreach programs. This integrated program meets NOAA's legal mandate and complements, but does not duplicate, acoustics programs run by other entities.

Proposed Action

NMFS will meet its responsibilities for managing human noise impacts on marine animals by undertaking actions in the following three general areas:

- **Determine Noise Characteristics Experienced by Marine Animals** – We have a limited ability to identify the characteristics of human noise received by marine animals and to predict its effects on their populations. Although acoustic integration models can predict these effects, the models require data inputs on the following subjects: (1) acoustic databases generated by the Global Ocean Noise Observing System (GONOS), (2) surveys of animals for numbers and densities, (3) depth distributions of many species measured by conventional time-depth recorders (noise exposure varies with depth), and (4) the kinds of behavioral responses animals make when exposed to sound. The survey techniques used to obtain population data will be improved by adding passive acoustic detection methods, and will be expanded in number and space.

- **Measure Behavioral and Auditory Effects of Noise Exposure on Marine Animals** – Concomitant with the first item above, the program will fund research on the effects of noise on individual animals. Science-based criteria have been developed that define the physical and behavioral impacts on individual marine mammals resulting from single acoustic exposures. However, the criteria for some animal groups are based on extrapolations from other animal groups. These extrapolations result in sections of the criteria being poorly supported and vulnerable to legal challenge. Directed laboratory and field research on the effects of noise on marine animal behavior and hearing will be conducted to fill these data gaps.

Data on individuals are required to successfully model the effects of noise on populations, for conservation of populations, and for the improvement of NOAA acoustics policy guidelines. Similar noise exposure criteria for fish and marine turtles, long-term exposure of individuals, and exposures of entire habitats will be developed over time. Each set of noise exposure criteria will require specific research to fill data gaps.

- **Develop Cost-Effective Measures for Mitigating Noise Impacts** – Agency policy guidelines for acoustic exposure will provide the agency with a logical and systematic approach to mitigating noise impacts. In addition, existing mitigation measures—such as ramp-up procedures for intense sound onset, nighttime shutdown procedures for seismic operations, and analyses of the effectiveness of acoustic harassment devices—need validation through field experiments. New visual and acoustic detection technologies will be developed to improve the detection of marine animals around intense human noise activities.

Benefits

The benefits of this initiative are twofold: (1) completion of the research will help determine acceptable exposure criteria for marine mammals leading to improved conservation; and (2) improved research will lead to the most cost-effective criteria for the noise producers while still protecting marine mammals. Presently, criteria must be developed using the precautionary approach that ensures protection of marine mammals regardless of the quality of the information available.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management," and the FY 2007 GPRA measure, "Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39
Number of species with known impacts from fisheries for which mortalities have been reduced to acceptable levels						
Without Increase	117	118	119	124	126	127
With Increase	117	118	119	124	126	127
The time (days) necessary to obtain a scientific research/enhancement permit or incidental take authorization under the MMPA/ESA						
Without Increase	180	190	190	190	190	190
With Increase	180	190	180	165	155	145
Program output metric: Listed species with specific research directed at anthropogenic noise effects						
Without Increase	1	1	1	1	1	1
With Increase	6	6	6	6	6	6

Protected Species Stock Assessments and Mortality Estimation - $3,000,000. NMFS requests an increase of $3,000,000, for a total request of $31,817,000, for the Protected Resources Research and Management Programs line item. The increase will be used for protected species stock assessments and mortality estimation and for reducing bycatch of protected species in fisheries. The requested increase will allow NMFS to increase the quantity and improve the quality of stock surveys and assessments that inform regulatory decisions. These assessments provide timely, reliable, and precise estimates of distribution, abundance, and mortality for listed species. Imprecise estimates increase the probability that species will be misclassified under the ESA or MMPA, resulting in increased risk to species, delay of recovery, and additional mitigation measures that pose significant economic losses to the regulated community.

Assessments also are critical to implementing the U.S. Ocean Action Plan because they will be used to establish acceptable levels of bycatch of marine mammals and turtles in the Atlantic Ocean and Gulf of Mexico. Currently, the quality of stock assessments for over 200 protected and at-risk marine species is inadequate for management purposes. NMFS will invest additional resources to make assessment information available to managers in order to minimize bycatch of protected species in fisheries and to increase transparency of the decision-making process.

This increase will fund $2,000,000 of the $5,000,000 in activities funded through the FY 2006 congressionally enacted Marine Mammal Initiative to continue marine mammal stock assessment improvement efforts.

Statement of Need

Under the mandates of the MMPA and the ESA, NMFS must regularly evaluate the status of protected species. In addition, these laws prohibit the taking of protected species unless a specific exception is granted (usually through a permit or authorization) for a particular activity that may affect any protected species. These authorizations require NMFS to assess the impacts of the activity on protected species and their habitats in the context of other anthropogenic and natural factors that may affect the species. Therefore, timely, accurate, and precise biological information is needed to enable NMFS to determine the status of each stock or population and to design effective and efficient conservation programs to promote their recovery.

During the past decade, protected species stock assessment mandates have increased because of changes in how protected species management and science are conducted. These changes include increased international and domestic interest in observing systems; improved mapping capability; advent of ecosystem approaches; demands by courts and the public for greater precision, scientific certainty, and transparency in decisions; increased litigation by nongovernmental organizations to pursue policy and management agendas; expanding interest by executive branch leadership in partnerships among federal agencies; and completion of the comprehensive NOAA Requirements Planning and Program Review (2002). In court challenges NOAA's actions often are found to be "arbitrary and capricious," owing to the reality that the "best available" information on protected species is insufficient to support the proposed mitigation actions and/or permit requirements. In their rulings, courts often point to the need for greater accuracy and precision of scientific information, clear measures of scientific uncertainty surrounding these data, and transparency in the information on which management decisions are based.

To address and meet its mandates, NMFS must improve the quantity and quality of its protected species stock assessment data and analyses. NMFS must pursue a requirements-based program to increase and improve its protected species stock assessment activities in the context of broad-based, integrated ecosystem investigations. This requirements-based program is encompassed in the development of "A Requirements Plan for Improving Understanding of the Status of U.S. Protected Species" (Protected Species Stock Assessment Improvement Plan, SAIP). This plan outlines the actions needed to move protected species stock assessments for marine mammals and turtles to a Tier II (adequate) level. The major limiting factors for completing improved assessments are ship and aircraft time to complete surveys, contract personnel to carry out observations on ships and aircraft, and NOAA personnel to complete the analysis and assessment of species information. These needs represented the highest priority gap within the Protected Species surveys and assessments capability for the Ecosystem Observations Program.

Proposed Action

Protected Species Surveys and Assessments Nationally and in the Gulf of Mexico Ecosystem. With this increase, NMFS will improve its capabilities in two specific areas: overall national capacity to complete stock assessments, and implementation of specific actions needed to implement an ecosystem approach to management in the Gulf of Mexico ecosystem.

- Overall national capacity to implement the Protected Species SAIP will be improved through maintenance of support for survey and assessment activities nationwide. Marine Mammal stock assessment activities funded under the marine mammal initiative in FY2006 are supported by this request. Without this increase the number of adequate protected species assessments will decline even further from current levels. The survey effort will consist of $900,000 in ship and aircraft contract support, and $1.2 million in contractor support to perform observations, complete subsequent assessments, and make information readily available to managers. Without the requested funding, the program will not maintain current efforts and will see a net decrease of 27 protected species stocks having adequate assessments through 2010.

- Protected species survey and assessment efforts will be increased in the Gulf of Mexico ecosystem in order to implement NOAA's ecosystem approach to management. Starting in FY 2007, NOAA will implement a 3-year rotating survey and assessment effort to characterize marine mammal stocks in the Gulf of Mexico. This effort will include an annual survey that will focus on Gulf-wide observations of abundance in the first year, biopsy sampling and stock identification in the second year, and collection of detailed oceanographic data and prey density information in the third year. The collected information will be used to develop spatially explicit models of abundance and seasonal distribution for management purposes. This additional information will be gathered by increasing the frequency of observations ($400,000 for ship and aircraft contract support) and by improving the quality of assessment documents through analysis of existing datasets ($250,000 for salaries and related expenses, and $250,000 for contractor services). The requested increase will also fund additional staff and contract support to analyze existing state and federal datasets on non-marine mammal protected species to improve the quality of assessments in the Gulf of Mexico. This effort will improve survey and assessment efforts for 10 protected species populations, with fully adequate assessments completed by 2010.

Benefits

The goal of improving the stock assessment program is to provide sufficient reliable scientific information for NMFS to make protected species management and regulatory decisions. Such a decision-making process will allow Americans to enjoy maximum benefits while ensuring that the uses of these resources do not have significant adverse impacts on protected species.

As stock assessments improve, managers will be increasingly able to address the cumulative and indirect effects of various human activities and natural environmental variability on protected species.

The requested increase will provide needed resources and reduce the need to promulgate conservative, costly, and sometimes burdensome mitigation measures on constituents.

Performance Goals and Measurements Data:

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management," and the FY 2007 GPRA measure, "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

The expansion of stock assessment resources will directly affect this measure by improving the quality and quantity of surveys and the resulting assessment documents.

Performance Goal 3: Ecosystem Performance Measurements Percentage of Protected Species with Adequate Population Assessments and Forecasts[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	27.4%	25.7%	25.7%	20.4%	16.1%	13.9%
With Increase	27.4%	25.7%	25.7%	24.8%	24.8%	27.0%

1. This is a subset of the GPRA measure "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

Marine Mammals (0 FTE and $1,759,000) – NOAA requests an increase of $1,759,000, for a total of $23,110,000, for the Marine Mammals line item. This request has two components: dolphin encirclement and recovery of endangered large whales.

Dolphin Encirclement – $1,259,000. Increased funds are necessary to fully fund continued long-term monitoring of the Eastern Tropical Pacific dolphins stocks, called for in MMPA section 304(b). This research includes population abundance monitoring, long-term stress monitoring, implementation of the system for tracking and verification of Dolphin-Safe Tuna, and implementation of MMPA import requirements for tuna harvested in the Eastern Tropical Pacific.

Statement of Need

Under Sec. 304(b) of the MMPA, NMFS is required to conduct research to support the International Dolphin Conservation Program (IDCP). This research is integral to the IDCP because NMFS is the primary provider of information on the Eastern-Tropical Pacific (ETP) dolphin stocks for the IDCP. In addition to completing the population abundance monitoring cruise, in FY 2007 NMFS will start a cruise to determine the stock structure of coastal spotted dolphins. Current data support the hypothesis that there are multiple stocks of coastal spotted dolphins, although they are currently managed as a single stock. As a single stock, these dolphins were classified as depleted under the MMPA, and no full assessment has been done. This cruise will further clarify the number of stocks and their boundaries, as well as the current abundance of each, and it is essential for meeting our mandated responsibilities. Given the number of permits needed from Central American countries, NMFS has already begun to work with the Department of State and the Parties of the IDCP to promote this cruise as an international dolphin research project. This will allow us to forge partnerships with other countries and build their capacity to collect data on their dolphin stocks.

Without this budget increase, NMFS will not be able to maintain the tuna-tracking and verification program, which ensures that tuna sold as "dolphin-safe" meets that standard. Without appropriate staffing and site inspection, NMFS will be not able to meet its obligations under the Dolphin Protection Consumer Information Act. In addition, the tuna-tracking program provides valuable data to numerous Regional Fisheries Management Organizations, such as the International Commission on the Conservation of the Atlantic Tunas (ICCAT).

In addition, NMFS is appealing litigation concerning the dolphin-safe label. On August 9, 2004, the 9th Circuit Court ruled against NMFS in *Earth Island v. Evans*, citing that NMFS had poor data to make the management decision to change the definition of dolphin-safe tuna. Without increased funds for the population abundance monitoring cruise, the coastal spotted cruise, and the tuna-tracking program, NMFS will be vulnerable during this appeal as well as during any future litigation.

Proposed Action

This increase will allow NMFS to complete the population abundance monitoring cruise and begin the coastal spotted dolphin cruise. These cruises will provide new data on dolphin stocks that will allow us to ensure that stock mortality limits in the ETP fishery are appropriate. NMFS will also continue the tuna-tracking and verification program to ensure that cans of tuna bearing the dolphin-safe label truly are dolphin-safe.

Benefits

By fulfilling our obligations under Sec. 304(b) of the MMPA and the IDCP, NMFS will be able to better manage the ETP dolphin stocks, continue to ensure that tuna labeled as dolphin-safe is in fact dolphin-safe, and reduce the likelihood of litigation.

Recovery of Endangered Large Whales – $500,000. The information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs for endangered large whales. This information will enable NOAA to detect changes in the status of large whales in order to prevent long-term and irreversible damage to these populations. The problems or information gaps to be addressed include: population structure, abundance, migratory patterns, and habitat needs. This initiative began in FY 2003 with a modest program focusing on humpback whales, but was not funded in FY 2004. The program was continued in FY 2005 and FY 2006.

Statement of Need

Twenty-three stocks of eight species of large whales are listed as endangered or threatened under the ESA or listed as depleted under the MMPA. During the past 30 years, only the Eastern North Pacific Gray Whale population has been removed (i.e., delisted) from the ESA's List of Endangered and Threatened Wildlife because it was deemed recovered. A number of additional whale stocks may have also recovered, but stock assessment information to confirm this is lacking. NMFS has insufficient Protected Species funds to assess the status of large whales relative to their recovery under the MMPA and ESA. Basic information necessary to evaluate a population's recovery—such as abundance estimates and trends, population structure, and knowledge of their habitat—is lacking. This information can be acquired with relatively small, focused investments in field and laboratory research.

Proposed Action

This initiative will benefit large whale recovery efforts by both the United States and the International Whaling Commission (IWC) because it will establish a funding base to determine the stage of recovery of numerous populations of large whales and initiate innovative sampling and analytical methods that will provide information on the status and trends of whale populations and their habitat requirements. Restoration of full funding will allow expansion of the research into the remaining five species of large whales.

Benefits

Continuation of this initiative will provide the information to scientifically determine whether other species have recovered and are candidates for down-listing or delisting. If these stocks have not yet recovered, the information collected and techniques implemented will improve stock assessments and our understanding of population recovery needs.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management," and the FY 2007 GPRA measures, "Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels" and "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39

Performance Goal 3: Ecosystem Performance Measurements Percentage of Protected Species with Adequate Population Assessments and Forecasts[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24.8%	25.7%	25.7%	20.4%	16.1%	13.9%
With Increase	24.8%	25.7%	25.7%	24.8%	24.8%	27.0%

1. This is a subset of the GPRA measure "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

Marine Turtles (0 FTE and $650,000) – NOAA requests a net increase of $650,000, and a total of $9,646,000, for Marine Turtles.

ESA Sea Turtles – $650,000. These funds are necessary to continue research to recover highly endangered sea turtles within the United States and internationally. Funds will allow for the protection of the globally imperiled populations of green, hawksbill, olive ridley, loggerhead, and leatherback sea turtles. These funds will support the collection of information on biology and habitats.

Statement of Need

Six species of sea turtles inhabit U.S. waters and all are federally listed as either endangered or threatened. The Pacific leatherback is among the most critically endangered species in the world, with recent estimates of extinction occurring within a few decades. The Pacific loggerhead and certain subpopulations of the Atlantic loggerhead are also seriously imperiled.

The most profound threats to these species are incidental capture in commercial fisheries and directed harvest in certain areas of their range. Other threats, such as nesting habitat degradation, marine habitat degradation, and vessel strikes continue to hamper their recovery. Recovery Plans have been completed for all listed sea turtles and the NMFS sea turtle program focuses on implementation of those plans.

Proposed Action

The increase will allow NMFS to begin to implement the Atlantic / Gulf of Mexico Strategy to Reduce Bycatch of Sea Turtles in State and Federal Fisheries. The Strategy goals are (1) to conserve and recover sea turtles, (2) to evaluate the significance of bycatch by gear type, (3) to develop and implement conservation measures to reduce sea turtle bycatch, and (4) to authorize fishery takes consistent with Endangered Species Act mandates. Activities will include:

- **Gear Research** – Continue research on scallop dredge modifications and fishing practices to reduce sea turtle bycatch in scallop dredge gear and continue development and testing of pound net leader modifications to reduce loggerhead and Kemp's ridley bycatch in pound net leaders, while minimizing risk to leatherback turtles.

- **Characterization of Fisheries in the State Waters** – Provide support to states for completion of reports characterizing fisheries in their state (fully describing fishing gears, fishing effort, observer effort, sea turtle interactions and relevant regulations).

- **Implement Gear Based Conservation Measures in State Waters** – Work with states to implement gear based measures based on findings from characterization reports.

Benefits

Currently, there is little federal activity in state waters to protect sea turtles and few states have sufficient regulations. Implementing this strategy will allow NMFS to work towards implementing gear based solutions, not just fisheries based solutions. Reduction in the incidental capture of sea turtles in fishing operations has also been identified as a priority in all sea turtle recovery plans in the Atlantic.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

It also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management, and the FY 2007 GPRA measures, "Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels", and "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39

Other Protected Species (Marine Fish, Plants, and Invertebrates) (4 FTE and + $3,153,000) – NOAA requests an increase of $3,153,000, a total of $8,085,000 for Other Protected Species (Marine Fish, Plants, and Invertebrates). The funding is critical to recovering those NMFS ESA listed species that are not funded under a separate program, as well as those species nearing the need for ESA listing (Species of Concern). Activities supported by this funding include proactive conservation efforts, listings, section 7 consultations, and implementing recovery programs for species of concern, newly listed species, and hard corals, shortnose sturgeon, Gulf sturgeon, white abalone, Johnson's seagrass, and smalltooth sawfish.

Statement of Need

The Other Protected Species Program manages and supports recovery of 61 species marine listed under the Endangered Species Act, as well as 43 species of concern, many of which are former candidates for listing. The species managed and conserved under the Other Protected Species line are not included within other directed funding efforts, such as the Pacific Salmon line or the Marine Mammal or Sea turtle funding. Without adequate funding under the Other Protected Species line, NMFS would be forced to undertake more conservative management approaches, and thus increase the likelihood of negative interactions with other stakeholders, as well as delays in implementing existing species recovery plans (e.g. Johnson's seagrass, white abalone, Gulf and Shortnose sturgeon), development of recovery plans for the proposed listings of green sturgeon and Acropora corals, and loss of opportunity to collect critical data on species and their habitats.

Proposed Action

NMFS will meet its responsibilities to ESA listed marine, fish, plants, and invertebrates by undertaking actions in the following six general areas:

- **Proactive Conservation Efforts for Species** – These funds will be used to increase pilot proactive conservation efforts for species nearing the need for listing under the ESA. This pilot program focuses on reducing the risk of extinction for species by reducing threats to the species through on-the-ground conservation actions and development of management agreements. This measure will result in cost savings by preventing ESA listings and reducing the need for ESA consultation and permitting for species. On average, NOAA spends approximately $5 million per year on fulfilling consultations, permitting and recovery requirements for each listed species. The pilot project is developing a performance measurement system for the program to determine the success of proactive conservation efforts.

- **Smalltooth sawfish –** Work with state agencies and private partners, especially in Florida, to reduce, monitor, and minimize impacts from incidental capture in state recreational and commercial fisheries (e.g. through developing conservation plans and incidental take permits); continue studies of sawfish habitat use to assess important habitat requirements and identify areas that may require special management and/or protection; work with federal and state agencies, and local communities, especially in Florida, to protect and restore mangrove and other nursery habitats; develop a population viability analysis for smalltooth sawfish to improve downlisting and delisting thresholds; convene meetings of the smalltooth sawfish recovery implementation team to ensure recovery actions are coordinated and carried out

- **Shortnose, Gulf, and green sturgeons (assuming green sturgeon proposed listing is made final in 2006) –** Work with states to reduce, monitor, and minimize impacts from incidental capture in state recreational and commercial fisheries (e.g. through developing conservation plans and incidental take permits); continue and expand studies of sturgeon habitat use to assess critical habitat requirements and identify areas that may require special management and/or protection; work with federal agencies and states to improve water quality, especially dissolved oxygen levels in warmer areas. Work with federal agencies and states to improve fish passage at hydropower facilities; establish recovery team to develop (for green sturgeon) and revise (shortnose and Gulf sturgeons) recovery plans; create and support recovery implementation team(s) to ensure recovery actions are coordinated and carried out.

- **White abalone –** Continue work to develop a viable captive breeding program for white abalone, including: 1) expanding research to identify outplanting areas, 2) improving husbandry techniques, and 3) revising disease management protocols; continue and expand monitoring to identify remaining aggregations of white abalone and to facilitate collection of broodstock for captive breeding program; continue and expand studies of white abalone habitat use to assess critical habitat requirements and identify areas that may require special management and/or protection; work with California to reduce/eliminate poaching and to reduce incidental capture of white abalone; improve cooperation with Mexico to coordinate white abalone research, monitoring, and management efforts.

- **Johnson's seagrass –** Continue work with federal agencies and Florida to improve water quality in Johnson's seagrass critical habitat and other important habitats; continue work with federal agencies and Florida to reduce impacts from coastal development (e.g. building of docks and marinas); expand research to understand reproductive biology and water quality tolerances of Johnson's seagrass; continue and expand efforts to monitor the status and recovery of Johnson's seagrass.

- **Elkhorn and Staghorn corals (assuming proposed listing is made final in 2006) –** Develop recovery plan for listed corals and establish an interagency recovery implementation team; work with federal, state, territorial, and local entities to reduce threats from physical damage (e.g. ship groundings, damage from anchors and fishing gear, diver interactions, construction activities); continue and expand research on the causes for the decline of listed corals, especially coral diseases and impacts from large-scale environmental conditions (e.g. ocean temperature, African dust storms); continue and expand coral monitoring and mapping efforts; work with federal, state, territorial, and local entities to improve water quality in areas inhabited by listed corals.

Benefits

By funding activities for conservation, management, and recovery of listed species, which are not funded elsewhere within NMFS, the Other Protected Species line allows NMFS to meet its statutory obligations under ESA. In addition, by addressing critical data gaps for these species, and by completing recovery plans with stakeholder buy-in, NMFS can make decisions about future priorities for species conservation and management using "best available commercial and scientific data" as required by the ESA. Failure to collect these data and complete these recovery plans forces NMFS to act very conservatively in management decisions, which may result in negative interactions with, and legal challenges from, stakeholders for many of these species.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management, and the FY 2007 GPRA measures, "Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels", and "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39

Atlantic Salmon (0 FTE and $1,445,000) – An increase of $1,445,000, for a total of $5,850,000, is requested for Atlantic salmon. This request will be used to implement the Atlantic salmon recovery plan, including research and management activities within NMFS, and to fund recovery activities of the State of Maine.

Statement of Need

Atlantic salmon from the Gulf of Maine Distinct Population Segment (DPS) were jointly listed as endangered by the U.S. Fish and Wildlife Service (FWS) and NMFS in 2000. A draft recovery plan was released by both agencies late in 2004, and was finalized in December 2005. Both NMFS and the State of Maine (through the Maine Atlantic Salmon Commission) have begun implementation activities based on the recovery plan.

As part of the recovery planning process, three key information gaps were identified by NMFS and our partner agencies: (1) where and when salmon migrate in both fresh and saltwater systems; (2) the essential habitat necessary for adult spawning and juvenile rearing; and (3) determining the genetically linked critical adaptive traits for successful salmon populations to increase fitness and survival. The draft recovery plan also outlined four general action types: (1) liming/fertilization of streams and rivers to increase basic productivity; (2) predation management, focused on reducing predators for emerging juvenile salmon; (3) alternative stocking strategies to reduce the risk to genetic diversity from hatchery fish; and (4) habitat modifications/manipulation to increase/restore the habitat types most needed by Atlantic salmon.

Proposed Action

This increase will support ongoing research and recovery efforts geared toward implementing the recovery plan. Examples of NMFS actions include: develop a proposed rule addressing the boundaries of the DPS, based on a stock status review published in FY 2006; convene and serve as a co-chair (with FWS) of an interagency Recovery Implementation Team with representatives from federal, state, and local agencies, Tribes, NGOs, and the Canadian Government to implement the final recovery plan; evaluate the effects of hatchery stocking by the FWS on Atlantic salmon recovery; and evaluate the interaction of water chemistry, habitat, and the transition process for juvenile salmon migrating from rivers to the sea through estuaries. Funds requested will also be provided to the Maine Atlantic Salmon Commission to facilitate their continued research and management activities in support of the recovery plan. Examples of work accomplished with these funds include: assessments of adult and juvenile salmon populations, evaluations of various stocking practices, studies of adult and juvenile migration, and monitoring water quality in Maine salmon rivers. Funds from the NMFS grant provide up to 64% of Commission monies and allow the Commission to complete critical recovery work not done by any other agency or group.

Benefits

By continuing to implement the recovery plan and gathering critical data on life history and ecological requirements of Atlantic salmon, NMFS will be able to better meet its regulatory requirements under the ESA with regard to this species. Specifically, NMFS will be able to implement recovery strategies using the "best available commercial and scientific information." As data is collected and analyzed and as the recovery plan is implemented, NMFS will be able to focus its resources on the most critical federal needs, while ensuring that local, state, federal, tribal, and nongovernmental stakeholders remain engaged in the recovery process. Provision of funding to the Maine Atlantic Salmon Commission allows NMFS to leverage its funding to bridge critical data gaps and management strategies that NMFS either cannot meet on its own or that are most appropriately handled at the state level.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan Goal of, "Observe, protect, and manage the Earth's resources to promote environmental stewardship." The increase also supports the NOAA Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management," and the FY 2007 GPRA measures, "Percentage of Living Marine Resources with Adequate Population Assessments and Forecasts" and "Number of Threatened, Endangered, and Depleted stocks/species with stable or increasing populations."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39

Pacific Salmon (0 FTE and $9,664,000) – NOAA requests an increase of $9,664,000, for a total of $66,416,000, for Pacific salmon. This request includes three components: recovery implementation and management actions; improved scientific advice for Pacific salmon recovery; and response to EPA consultation workload.

Recovery Implementation and Management Actions

Statement of Need

The ESA Pacific salmon program is required to conduct ESA listings, develop recovery plans, issue research, enhancement, and incidental take permits, develop habitat conservation plans, complete ESA section 7 consultations, and implement recovery actions for Pacific salmon.

The program is currently not able to achieve its requirements to complete habitat conservation planning, ESA section 7 consultations, and recovery implementation. This lack of ability to achieve conservation and recovery actions will further delay the overall recovery of these species.

Proposed Actions

NMFS will meet its responsibilities to recovery implementation and management actions by undertaking actions in the following three general areas:

- *Habitat Conservation Planning* – Funds will be used to ensure the successful devlopment and implementation of Habitat Conservation Plans for Pacific salmon. These plans are a cornerstone of efforts to conserve ESA listed species on non-Federal lands. They are essential to the recovery of Pacific slamon as a majority of existing and potential high quality salmon habitat occurs on private lands. Implementation of these efforts also contributes to the Administration's efforts to promote Cooperative Conservation with private landowners.

- *ESA section 7 consultations* – Over the past 4 years, the protected species program has worked to reduce the backlog of ESA consultations and improve the timeliness of consultations with other Federal entities. Consultations vary widely in complexity and controversy and have required increased resources to respond to demands by Congress, the courts, the public, and litigation from nongovernmental organizations and industry. These demands include greater precision, scientific certainty, and transparency in the decision-making process. At their most complex, formal consultations can now take several months or years and can become the centerpiece of extensive legal challenges. Without increased support for consultations, the program will revert to a point where consultations are continually delayed and constituents are continually unhappy with the pace of the effort.

- *Recovery Implementation with local partners* – In FY 2007, the Protected Species program will be implementing recently completed recovery plans for Puget Sound and the Lower Columbia River. The full implementation of these plans relies on a cooperative effort from local partners. The Protected Species Program will help guide recovery efforts and provide expert advice to those looking to implement recovery actions. Increased funding will allow the program to track the performance of recovery implementation efforts and monitor the success of recovery plan implementation.

Benefits

The items above provide a solid foundation for Pacific salmon recovery on the West Coast. These efforts are critical to achieving recovery on an expedited timeframe, while at the same time providing good customer service to constituents looking to implemrnt recovery actions, as well as carry out other lawful activities. Without the proposed increase, the program not have the resources to adequate provide customer service and the species will suffer from a lack of coordinated local action on recovery.

Improved Pacific Salmon Science Support

Statement of Need

Increased effort and funding in FY 2007 will be focused on predicting ocean survival of Pacific salmon, evaluating management actions, improving research on the effects of hatcheries on salmon recovery, and evaluations of the cost efffectiveness of various recovery actions.

Proposed Actions

NMFS will meet its responsibilities to improved Pacific salmon science support by undertaking actions in the following four general areas:

- *Predictors of Salmon Survival in the Ocean* – Predictors of how ocean conditions affect salmon survival are needed to improve harvest guidelines and to assess effectiveness of restoration and recovery activities in freshwater habitats. Physical and biological metrics will be integrated into an index of 'ocean condition' that will be related to low, average, or high returns of salmon. This will no longer make the ocean a "black box" in management decision-making.

- *Evaluation of Management Actions on Salmon Production and Survival using New Technologies* – Recent advances in fish tagging and tracking technology will dramatically improve evaluation of the efficacy of restoration actions at a watershed and provincial level. This information will provide critical new information on salmon life history and survival and may radically alter our estimates of salmon response to restoration. This new information could affect policy and greatly improve future management of Pacific salmon recovery.

- *Hatcheries Research* – The long-term genetic impact on wild fish fitness due to hatchery supplementation is one of the most critical uncertainties in salmon recovery planning. A long-term research project will be started to directly measure the rate of genetic domestication that occurs due to hatchery breeding and rearing. The answer to this question is essential to understand the benefits and risks of hatchery supplementation to improve depleted populations.

- *Cost-effectiveness of salmon and steelhead recovery actions* – There is a significant gap in data on the economic costs and biological effects of recovery actions for ESA listed salmon. Data necessary to assess the cost-effectiveness of those actions, including harvest reductions, hatchery reforms, modifications to hydropower facilities and operations, and habitat restoration and protection, will be collected. This project is essential to facilitate recovery planning and the results will be incorporated into recovery planning implementation documents.

Benefit

The increased information will be directly used by managers to improve recovery actions and focus recovery efforts on those actions with the highest likelihood of success. Salmon managers will be better able to: predict ocean abundance and develop improved harvest and protection strategies; improve prioritization of restoration projects; understand the benefits and risks of hatchery supplementation, and focus limited resources on those actions with the highest benfit and lowest cost.

Section 7 Consultations - Environmental Protection Agency (EPA) Pesticide Court Decision Workload – This increase will be used for necessary costs to meet court-ordered time lines to conduct ESA section 7 consultations with EPA. These consultations are required by rulings on pesticide lawsuits in California, Oregon, Idaho, and Washington State. Other lawsuits are pending. NMFS can generally complete a draft biological opinion of average complexity in 135 days. Because pesticide consultations are relatively new, and often very complex, NMFS estimates that initial development of draft biological opinions on pesticides may take significantly longer.

Statement of Need

Until recently, EPA did not conduct section 7 consultations on the actions they funded, authorized, or carried out pursuant to the Clean Water Act (CWA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In 2002, EPA initiated consultation with NMFS on its registration or re-registration of several pesticides in response to legal challenges in the States of Washington and California. In response to these legal challenges, and in the interest of preventing future legal challenges, EPA plans to routinely consult with NMFS on its registration and re-registration of pesticides. These requests have added 48 formal and 22 informal consultations in FY 2005, and are expected to add about 50 formal and 100 informal consultations to NMFS' existing, annual workload.

The pesticide consultation workload represents a significant increase to NMFS. Pesticide consultations are extremely complex and require specialized technical expertise (e.g., toxicology), which NMFS currently lacks. The proposed increase would allow NMFS to obtain toxicological expertise and fund additional research to address data gaps. The increase will allow senior Section 7 biologists to be dedicated full-time to write and coordinate Biological Opinions with the assistance of toxicologists, spatial analysts, and junior staff biologists. Existing staff capacity is not adequate to absorb the new pesticide workload without creating significant impacts to other consultation programs.

The actions flowing from the administration of FIFRA will result in a new and significant increase in NMFS' consultation workload. In addition, NMFS' section 7 consultations with EPA have historically been among the most complex, owing to the chemical and toxicological expertise required and the amount of legal and political controversy surrounding these issues.

To address this increased consultation workload and ensure that the results of NMFS' consultations can withstand rigorous legal challenge, NMFS must increase the number of consulting biologists, their technical expertise, and the amount of toxicological expertise available in NMFS Science Centers. As a result, more financial support will be required for NMFS to respond to the entire increased workload associated with these consultations.

Proposed Actions

With the requested increase, NMFS will increase its capacity in three specific areas: (1) overall capacity to respond to the increased consultation workload; (2) overall capacity to conduct risk assessments of environmental pollutants; and (3) overall capacity to acquire, evaluate, and produce data and information associated with the chemistry and toxicology of environmental pollutants, the impact of pollutants on aquatic ecosystems, and the physiological responses of living marine resources to those pollutants. The increases requested will allow NMFS to:

- Hire additional consulting biologists and train existing personnel to increase national capacity to conduct section 7 consultations with EPA's Office of Water and Office of Pesticide Programs and complete biologically sound and legally defensible section 7 consultations and consultation products (biological opinions and concurrence letters). A portion of these increases will cover the additional secretarial and records management personnel who will be needed to complete these consultations in compliance with applicable law.

- Hire additional environmental toxicologists and animal physiologists to increase the national capacity available in NMFS' Science Centers to provide the expertise necessary to support the National, Regional, and Field Office consultations with EPA on pesticide registrations.

- Collaborate with other NOAA programs, other federal agencies, industry, nongovernmental organizations, and academia to gather, evaluate, integrate, and synthesize the available data and other information on the chemistry and toxicology of environmental pollutants, the impact of pollutants on aquatic ecosystems, and the physiological response of living marine resources to those pollutants.

Benefits

Increasing NMFS' capacity to conduct and complete these consultations with EPA will allow NMFS to fulfill its statutory mandates and, by reducing the impact of water pollution on threatened and endangered species, these consultations will make substantial contributions to the recovery of threatened and endangered species.

Performance Goals and Measurement Data

The increase for ESA Pacific Salmon will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship" and the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an

ecosystem approach to management." Specifically, the increase supports the Ecosystem Performance Goal and GPRA measure, "Number of protected species designated as threatened, endangered or depleted with stable or increasing population levels."

Performance Goal: Number of Protected Species listed as threatened, endangered, or depleted with stable or increasing population levels	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	24	24	26	29	33	39
With Increase	24	24	26	29	33	39
Performance Goal: Number of consultations with EPA	**FY 2005**	**FY 2006**	**FY 2007[1]**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase (# Consultations completed/ # Active Consultation Requests)[2]	3/56	3/221	3/320	3/482	3/644	3/806
With Increase (# Consultations completed/ # Active Consultation Requests)[2]	3/56	3/221	25/320	25/460	25/600	25/740

1. With the funds requested in FY 2007, NOAA will be able to complete approximately 20% of the consultation requests. The funding will support the highest-priority consultations.
2. Assumes new requests for formal consultation will be submitted to NOAA at the current rate. This rate could change due to a variety of circumstances.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Marine Mammals ($18,883,000), Marine Turtles ($4,468,000), Pacific Salmon (salmon management activities - $197,000).

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Subactivity: Fisheries Research and Management
Line Item: Fish

GOAL STATEMENT:

Provide accurate and timely information and analyses on the biological, ecological, economic, and social aspects of the Nation's fisheries resources and develop, implement, and monitor living marine resource management measures to support the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

BASE DESCRIPTION:

The Ecosystem Observation Program (EOP), through the Office of Science and Technology, administers NOAA's National Marine Fisheries Service (NMFS) fisheries science programs. EOP works in conjunction with NMFS Regional Fisheries Science Centers and utilizes research vessels and aircraft to support science-based conservation and management activities for the Nation's fisheries and protected living marine resources. Specific research activities include monitoring and assessing fish stocks and protected species populations; monitoring anthropogenic and natural stressors on marine ecosystems; and collecting economic and sociological data on commercial and recreational fishing communities. EOP collects, manages, stores, and disseminates data on the status of living marine resources and their environments.

NMFS' research efforts use scientific data to improve and expand our assessments and management of living marine resources and the human environment. NMFS' research focuses on the connectivity of living and non-living resources within a determined ecosystem. This ecosystems approach to management (EAM) relies upon research and analyses that integrate biological, socio-economic, environmental, and oceanographic data into predictive models that improve the Nation's forecasting capabilities for fisheries management. NMFS' use of EAM increases the ability to make scientifically-sound management decisions that are less prone to risk and more likely to succeed. Improved scientific analyses ensure that constituents receive the most accurate and complete analyses, thereby fostering a constructive public stewardship process.

One of the NMFS' core functions is to research and assess the status of harvested fish and protected marine and anadromous species (i.e., species that migrate from the oceans to breed in fresh water). Stock assessments for these living marine resources focus on various biological processes, including predator-prey relationships, mortality and growth rates, age and gender structure, distribution, and migration. NMFS collects and analyzes these indices to effectively manage over 900 fish stocks and over 230 protected species stocks (marine mammals, sea turtles, and other protected species). These activities provide scientifically sound analyses to fisheries managers, decision makers and stakeholders managing the Nation's resources. NMFS' stock assessments, critical components of living marine resource management, ensure that the Nation has a scientific basis for managing sustainable, robust, and productive fisheries and recovery programs for protected species.

In addition to stock assessments, NMFS also collects socio-economic, commercial, and recreational fisheries data to understand human uses and impacts on ecosystems. These surveys enable NMFS to develop options to manage fisheries for both biological and economic growth and sustainability. NMFS provides information, analyses, and recommendations on the status of stocks and the effects of current and potential management regulations to Regional Fishery Management Councils, States, interstate commissions, and international treaty regulatory bodies. Technological and methodological enhancements allow for improved integration of data on fishing effort, catch, participation, and on any economic or cultural characteristics of commercial and recreational fisheries. Integration of these socio-economic indices into NMFS' forecasts will allow for improved baseline data that managers from all sectors can utilize to make better informed decisions. NMFS' assessments are crucial for the successful development of market-based systems for fisheries management, such as individual fishing quotas.

NMFS' fishery research programs also support living marine resource research by establishing links with industry. For example, the Observer Program deploys personnel to collect catch and non-target bycatch data from U.S. commercial fishing and processing vessels. This cooperative research allows industry to participate in NMFS' scientific activities, thereby using the fishermen's unique knowledge and expertise to create a valuable knowledge base.

NMFS' scientists continue to improve the Nation's forecasting and predictive capabilities by broadening the scope of measurements and synthesis used in their research (e.g., oceanographic metrics, economic indices, industry and community profiles, seafood consumption data, and public valuation of ecosystem services). Incorporating environmental, social, and economic analyses into living marine resource assessment and forecasting models enable NMFS to predict, monitor, and evaluate the human impacts of our stewardship decisions.

NOAA's Fisheries Management Program (FMP) applies ecosystem approaches to conserving and managing sustainable fisheries within the broad ecosystem structure defined by jurisdictions of the Regional Fishery Management Councils (Councils), the Atlantic Highly Migratory Species Program, state, interstate and international fisheries. The central focus of the FMP is to maintain and restore productive stocks important to commercial, recreational, tribal, and subsistence fisheries. Coastal and marine fisheries form an integral component of the Nation's heritage and economy. The elimination of overfishing and the rebuilding of overfished stocks through sustainable fisheries management are essential to increasing the long-term economic and social benefits to the Nation.

Commercial and recreational marine fisheries are an important source of economic revenue and jobs. Commercial landings by U.S. fishermen were 9.5 billion pounds and were valued at $3.3 billion in 2003. Overall, it is estimated that the commercial fishing industry contributed $31.5 billion (in value added) to the U.S. Gross National Product. U.S. recreational fishermen took an estimated 82 million fishing trips, and harvested 195 million fish weighing 263 million pounds. In total, U.S. consumers spent an estimated $61.2 billion for fishing products in 2003.

Management of fisheries requires coordination and consistency among National Marine Fisheries Service (NMFS) headquarters offices, the regional offices, Congress, and the Councils. The FMP develops legislative proposals; reviews, comments and works with the Congress on new bills; provides technical drafting assistance to Congress; and, interprets and evaluates the implications of new legislation. The FMP ensures that NOAA's fishery management activities comply with over a dozen legislative and policy drivers. For example, The Magnuson-Stevens Fisheries

Management and Conservation Act (MSA) serves as the primary authority for fisheries management in the EEZ. The MSA establishes authority within the U.S. Department of Commerce, through NMFS and the eight Councils, for management of U.S. fishing operations. The MSA requires that all fishery management plans and their amendments comply with the ten national standards. The MSA creates unique challenges for fishery managers. It provides special status for Councils and imposes strict timelines for review and implementation of Council submissions. The Regulatory Streamlining Project is a fundamental redesign of the regulatory process within NMFS. The goal of RSP is to improve performance, efficiency and accountability.

Domestic fisheries within the U.S. Exclusive Economic Zone (EEZ) (3-200 nautical miles offshore) of the United States are managed regionally by eight Councils. Atlantic highly migratory species (e.g., tunas, sharks, swordfish, and billfish) are managed directly by the FMP. The FMP partners with the Interstate Marine Fisheries Commissions (Commissions) and states to manage coastal marine fisheries. Councils, their advisory bodies, the Commissions, and states meet regularly during the year to conduct a transparent decision making process for recommending fishery management actions. These bodies and the FMP are charged with developing and implementing Dedicated Access Privilege (DAP) programs and addressing overfishing, bycatch, essential fish habitat, and rebuilding issues through the development of fishery management plans and amendments. Before final action is taken, comprehensive ecological and socioeconomic analyses are prepared and presented at public hearings and Council, Advisory Panel, and Commission meetings.
While Councils may recommend fishery management actions, NMFS approves proposed management programs and implements the required Federal regulations. The six regions facilitate and expedite the approval and implementation of fishery management plans and amendments, including the preparation of analytical documents and management of other activities in support of rulemaking (e.g., implementing regulations, inseason actions, permits, etc.) for fisheries and fishery trade activities managed by the FMP under multiple authorities. The FMP considers comments from private sector organizations (commercial and recreational fishing organizations, environmental groups, fishers, general public, etc.) regarding management of U.S. commercial and recreational fisheries activities. The FMP also partners with the Interstate Marine Fisheries Commissions and states to manage coastal marine fisheries through regulatory analysis, evaluation and implementation.

The FMP builds cooperative partnerships to strengthen marine fisheries management and conservation at the state, interregional, and national levels. To accomplish this goal the FMP provides national policy and oversight for interactions with more than 30 coastal states and island territories/commonwealths, 3 Interstate Marine Fisheries Commissions and national groups. The FMP implements and oversees the distribution of grants for two national (Interjurisdictional Fisheries Act, Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act, Atlantic Striped Bass Conservation Act) programs. The FMP works closely with the Atlantic States Marine Fisheries Commission to develop and implement cooperative State-Federal fisheries regulations, under the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act.

The FMP promotes the economic sustainability of fishermen and fishing communities and provides for healthy seafood and security. This is an important contribution to the Nation’s economy and society. The FMP provides for improvements in the fishing fleet and shoreside processing operations, reductions in overcapacity in fisheries, and a voluntary seafood inspection service to assure compliance with all applicable food regulations.

The National Seafood Inspection Laboratory provides analytical laboratory, data management, regulatory compliance risk analysis, and information transfer expertise to support the Department of Commerce's National Seafood Inspection Program. The seafood inspection program provides voluntary services such as sanitation evaluation, product inspection and certification, auditing of food quality and safety programs, and training. Approximately 10% of the industry uses NOAA services and one-fifth of the seafood consumed in the U.S. is inspected by the seafood inspection program.

The FMP is responsible for the conservation and management of transboundary fish stocks such as salmon, straddling and shared fish stocks, and highly migratory species including tunas, sharks, swordfish, and billfish. Consequently, an ability to participate in negotiations of international agreements as well as to provide and coordinate support for the U.S. commissioners on international commissions for living marine resources is required. FMP formulates strategies and positions on fishery trade for bilateral and multilateral negotiations and participates as the Department's fishing industry sector staff, providing technical expertise and negotiating skills to reduce barriers to trade of fish and fishery products. Given opportunities to expand trade and competitiveness, and the use of trade measures to support conservation objectives, FMP provides policymakers with the best information possible to form decisions and evaluate their impact.

The NOAA Aquaculture Program, a matrix-managed program, is led by the National Marine Fisheries Service (NMFS) in collaboration with the National Ocean Service (NOS), Office of Oceanic and Atmospheric Research (OAR), and National Environmental Satellite, Data, and Information Service (NESDIS). The Aquaculture base activities, funded under the Fisheries Research and Management Programs line item, support the program objectives of: (1) collaborate with partners to increase production of marine species and associated products through commercial aquaculture; (2) improve resource management capabilities through the application of aquaculture technology to replenish marine resources; (3) provide a regulatory framework for marine aquaculture including the U.S. Exclusive Economic Zone (EEZ); (4) contribute to public understanding and appreciation of the role of aquaculture as a vital national food source; and (5) demonstrate a well-managed and environmentally sound system of "place-based" aquaculture principles and practices that may be adopted world-wide.

In the context of a growing domestic aquaculture industry, the regulatory and administrative responsibilities of NOAA's Aquaculture Program will increase significantly. Currently, NOAA has mandates and authorities for aquaculture under the National Aquaculture Act of 1980 and the Magnuson-Stevens Fishery Conservation and Management Act (MSA). NOAA also has aquaculture permit regulatory review responsibilities under the Endangered Species Act, the Marine Mammal Protection Act, MSA and the National Marine Sanctuary Act. The national Offshore Aquaculture Act, submitted to Congress on June 7, 2005 will require NOAA to design and implement a regulatory program for the EEZ permit applications of enacted

PROPOSED LEGISLATION:

The Administration will work with Congress to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act, P.L. 104-297.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Fisheries Research and Management	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Fish					
Anadromous Grants	1,971	1,972	1,980	2,080	100
Fisheries Research and Management Base	123,209	123,347	124,791	131,620	6,829
American Fisheries Act	6,037	-	-	-	-
Interjurisdictional Fisheries Grants	2,464	2,554	2,565	2,565	-
Economics & Social Science Research	4,041	4,043	4,011	10,529	6,518
Expand Annual Stock Assessment – Improve Data Collection	20,501	24,457	24,550	32,100	7,550
Fisheries Information Network/Data Collection	21,970	21,249	20,075	22,184	2,109
Fisheries Oceanography	-	493	490	990	500
Fisheries Statistics	12,587	12,596	12,801	12,801	-
National Standard 8	984	986	996	996	-
Product Quality and Safety	7,392	6,631	6,767	6,767	-
Reduce Fishing Impacts on Essential Fish Habitat (EFH)	493	493	499	499	-
Reduce Bycatch	3,745	2,761	2,782	2,782	-
Regional Council and Fisheries Commissions	24,641	25,051	23,265	26,312	3,047
Salmon Management Activities	27,747	24,135	26,119	24,214	(1,905)
Survey and Monitoring Project	23,877	14,579	14,055	15,223	1,168
Other fisheries-related projects	16,214	17,061	-	-	-
TOTAL	297,873	282,408	265,746	291,662	25,916
FTE	1,214	1,422	1,422	1,444	22

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Fisheries Research and Management: (+7 FTE and $6,829,000): NOAA requests an increase of 7 FTE and $6,829,000 in net increases above the base for the Fisheries Research and Management: $2,829,000 for Regulatory Streamlining and Modernization, $3,000,000 for Highly Migratory Species Research, and $1,000,000 for Catch and Release Mortality Research.

Regulatory Streamlining and Modernization (+7 FTE's and $2,829,000). NOAA will add additional staff, and the Regional Fishery Management Councils will receive additional support, dedicated to the development and review of regulations within timeframes required by law. The additional support will allow NMFS and the Councils to frontload development, analysis, evaluation, and implementation of fishery management actions. This increase will improve the quality and timeliness of the regulatory processes that affect fisheries at the state and local level by reducing the time required for consultations, permits and other regulatory requirements. NOAA will also develop and maintain an electronic rulemaking system to speed up the processing of rules and regulations and increase public participation. Improved quality and timeliness of regulatory processes combined with policy development will result in better-managed stocks and decreased litigation.

Statement of Need

NMFS works closely with Regional Fishery Management Councils, states, other federal agencies, and numerous constituencies to implement regulations for the management of sustainable fisheries; recovery and protection of endangered and threatened species, including marine mammals; and conservation of marine habitat.

NMFS regulatory activities account for 50% (by number) of Department of Commerce annual rulemakings—fourth among federal agencies in the number of regulations issued. In 2004, NMFS was successful in 93% of its legal challenges—an increase from a 45% success rate between 1997 through 2001. However, legal activities require intensive inputs of funding and personnel to produce analyses that will withstand legal challenge. To implement the law as intended, it is imperative that NOAA succeeds in withstanding legal challenges.

NMFS needs additional capacity to complete thorough and timely regulatory analyses and reviews within time frames required by applicable laws, particularly in the Regional Offices. Regulations issued by NMFS affect not only marine resources but also the people, businesses, and communities associated with these resources. This regulatory workload is complex and leads to frequent legal challenges. Extensive analyses and documentation are required to comply with the Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, Administrative Procedure Act, National Environmental Policy Act, Regulatory Flexibility Act, Paperwork Reduction Act, Coastal Zone Management Act, and various Executive Orders.

The RSP was created at the request of Congress. In 2002, a National Academy of Public Administration (NAPA) report gave recommendations to NMFS for regulatory improvements, and the RSP seeks to continue implementing NAPA's suggested improvements. (Press release on the NAPA report is available at http://www.napawash.org/resources/news/news_07_26_02.html).

Proposed Actions

NOAA will use the increase to support national oversight and NOAA-wide integration at NMFS headquarters and regional oversight and technical assistance at the field level. NOAA will coordinate fishery management action development and impacts with other federal activities, as appropriate.

Benefits

NOAA will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Proposed Performance Goals and Measurement Data:

This measure is proposed as a replacement for the overfished major stocks measure above.

Performance Goal: Ecosystems **Performance Measure**: Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Highly Migratory Species Research (+0 FTE and $3,000,000): NMFS requests 0 FTE and $3,000,000 for Highly Migratory Species (HMS) Research to Support Gulf of Mexico fisheries within the Fisheries Research and Management Program Line. This increase will address priority research needs for Gulf and Atlantic billfish, tunas, swordfish, and sharks as well as fund the review of the status of the Atlantic white marlin for listing as threatened or endangered under the Endangered Species Act (ESA).

Background: In 2001, NMFS received a petition to list the severely overfished Atlantic white marlin as threatened or endangered under the ESA. The stock is currently estimated to be 12 percent of Bmsy (biomass corresponding to maximum sustainable yield) and fishing mortality rates are more than 8 times higher than Fmsy (the fishing mortality rate that gives rise to the maximum sustainable yield). The United States has been a conservation leader at the International Commission for the Conservation of Atlantic Tunas and successfully negotiated a rebuilding program for white marlin, as well as overfished blue marlin; however, these recommendations have not stopped the stock declines. After completing a status review of the species in 2002, NMFS determined that listing was not warranted, but did note the serious decline of the species and the intention to review the status of the species again in 2007. Bycatch in domestic and international pelagic longline fisheries was identified in the status review as a primary source of mortality for billfish. Research needs for other Gulf of Mexico highly migratory species include life history characteristics for numerous shark species, gear research to reduce bycatch of protected species and bluefin tuna in longline fisheries, and post-release mortality information in commercial and recreational fisheries.

Statement of Need

Additional funding will enable the Agency to better understand the biology (age and growth, gender, and maturity determination), conduct tagging studies, improve data collection programs, find ways to reduce bycatch and post-release mortality, and/or protect spawning sites of white marlin. These activities will directly support the upcoming review process, help improve the status of the species, and hopefully prevent an ESA listing. Additional funding for other Gulf of Mexico highly migratory species will enable NMFS to address continuing bycatch concerns for sea turtles and marine mammals in pelagic longline and other fisheries.

Proposed Actions

- Atlantic White Marlin Status Review ($150,000) – NMFS request will support a better understand the biology, support the status review process, find ways to reduce mortality, and/or protect spawning sites of white marlin.

  Biological studies ($650,000) – NMFS will conduct research on age and growth, gender and maturity determination, and spawning site identification of white marlin and other billfish.

  Tagging studies: ($600,000) – NMFS will deploy conventional and pop-up satellite tags, and use spatial analysis/GIS tools, to determine billfish movement and migration patterns.

  Data collection programs ($500,000) – NMFS will develop and augment recreational and commercial HMS data collection programs to improve fisheries statistics on fishing effort, catches, landings, and discard estimates for billfish and other HMS.

Bycatch Reduction of HMS Species ($800,000) – NMFS will design, test, and implement gear modifications and fishing practices to reduce bycatch of white marlin, sea turtles, and other HMS.

Reduce post-release mortality ($300,000) – NMFS will research fishing methods, gear modifications, and handling protocols to reduce the mortality of white marlin, other billfish, sea turtles, and other HMS that are released.

Benefits

Additional funding will enable NMFS to better understand the biology, find ways to reduce mortality, and/or protect spawning sites of white marlin in direct support of the upcoming status review process, and hopefully help improve the status of the species and prevent an ESA listing. Additional funding will also enable NMFS to improve estimates of post-release mortality and improve management of all highly migratory species in the Gulf of Mexico.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Performance Goal: Ecosystems **Performance Measure:** Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Catch and Release Mortality Research (+0FTE and $1,000,000): NMFS requests 0 FTE and $1,000,000 for Catch and Release Mortality Research to support Gulf of Mexico fisheries within the Fisheries Research and Management Program Line. This increase will address priority research needs for estimating discard mortality for both the recreational and commercial sectors.

Background:

Regulations to end over-fishing such as size, bag, and trip limits, often result in increased numbers of regulatory discards. For example, size limits are designed to protect spawning individuals or those that have not yet had a chance to grow to marketable size and/or breed. If under- or over-sized fish are caught, they must be discarded. Many discarded fish die from the capture-and-release process and discard mortality can account for a significant portion of the total mortality in some fisheries. Consequently, information on discarded fish and their survival is increasingly important to stock assessments. Estimates of release mortality rates are based on experimentation, logbooks, observer studies, and anecdotal information.

Statement of Need

While there has been research directed at estimating discard mortality for both the recreational and commercial sectors, fishers perceive that NMFS' estimates are either too high or too low. As stocks rebuild under restrictive management regimes, discards of caught fish, particularly those caught on recreational hook and line gear, can far exceed the landed portion of the total catch. Therefore, it is critical that estimates of release mortality are as accurate as possible. In some recreational fisheries, estimates of discard mortality can exceed the annual Total Allowable Catch due to the very high catch rate, restrictive harvest limits, and potentially incorrect estimates of the release mortality rate. Onboard monitoring can track the fish species that are released and record their disposition (floating or swiming away), and obtain depth of capture information. These types of data could be used to determine species-specific estimates of depth related mortality that could be included in stock assessments. In addition, this information will allow critical evaluation of the success of management measures such as minimum size limits intended to reduce mortality and increase yields.

Proposed Actions

This funding will support needed research for:

- enhanced onboard monitoring of commercial fishing vessels to obtain accurate information on discarded species including the following: identification of species, total number, survival by depth, and size;
- enhanced at-sea data collections onboard headboats to obtain complete angler interviews including accurate species identification and counts of discarded catch, the disposition of discarded catch, sizes of all landed and discarded fish, and depth of capture of released fish;
- additional research and development including development of techniques to monitor long-term survival rates and comparative studies of gear types and practices which may reduce discard mortality;
- collaborative field research with states, stakeholders, recreational and commercial fishing industries, and universities to test new techniques to monitor survival rates;
- laboratory experimental studies to test new methods;
- tagging studies to provide estimates of long-term survival; and
- improved outreach and education to all fishery sectors on reducing mortality of released by catch.

Benefits

Fishing groups have been critical of the use of size limits in fisheries such as red snapper. Technology, such as circle hooks and better venting techniques, can potentially improve the survival rates of discards. Research into gear technology and improved handling and release methods are needed to maximize fishery yields and avoid closures. Beyond research, outreach and education are needed to inform fishers of equipment (e.g., circle hooks, release gear) and methods (e.g., venting techniques, proper handling and release techniques) that reduce release mortality.

Performance Goals and Measurement Data

Increase the percentage of living marine resources with adequate assessments.
Increase the FSSI.

This measure is proposed as a replacement for the overfished major stocks measure above.

Performance Goal: Ecosystems **Performance Measure:** Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Expand Annual Stock Assessments – Improve Data Collection (+ 8 FTE and $7,550,000): NMFS requests 8 FTE and $7,550,000 for a total request of $32,100,000 to strengthen stock assessment efforts (fishery resource surveys and assessment analyses) and to initiate new ecosystem-based fish stock assessments and fishery-dependent sampling programs in the Gulf of Mexico. NMFS will improve fishery stock assessments by integrating more ecosystem information into mathematical models to reveal trends in biomass, recruitment levels (e.g., the number of young fish entering the stock each year), and exploitation rates. NMFS will initiate new fishery monitoring programs that collect data on landings, discarded bycatch, and life history data (growth, longevity, and mortality) in 2007 and integrate these data streams into scientifically reviewed stock assessment updates to constituents beginning in 2009.

Managing the nation's marine fisheries at sustainable harvest rates — and rebuilding depleted fish stocks — requires the best available scientific information to implement sound management and conservation actions, while maintaining economic opportunities for recreational and commercial fishermen. NMFS' stock assessment activities provide the technical basis for setting annual catch quotas and are an integral component of the President's U.S. Ocean Action Plan which advocates the wider implementation of dedicated access privileges, including individual fishing quotas (IFQ).

NMFS' assessments provide input for national reports such as the A*nnual Report to Congress on the Status of U.S. Fisheries* and *Our Living Oceans*. Improved fish stock assessments will provide direct technical guidance for managing the harvest rates of key fish species. The improved ecosystem context for these assessments will ensure that these recommendations are responsive to changing factors such as climate, ocean temperature, currents, and pollution. Furthermore, the initiative provides a knowledge base for NMFS to work with regional Fishery Management Councils to promote the use of a market-based system for fisheries management; such a market-based system will likely require a higher level of precision in assessment forecasts.

Statement of Need

Dedicated multiyear actions to improve the collection, management, and use of fisheries data were recognized in two recent reports: *Improving the Collection, Management, and Use of Marine Fisheries Data* (National Research Council, 2000) and *Improving Fish Stock Assessments* (National Research Council, 1998). NMFS responded to the recommendations in these reports in 2001 with the Marine Fisheries Stock Assessment Improvement Plan (SAIP). The SAIP recommends improving the quality of NMFS' stock assessment programs and emphasizes the need for the agency to foster partnerships and cooperative research programs with other agencies, private foundations, universities, commercial and recreational fishing organizations and individuals, and environmental groups.

Expanding stock assessment capabilities will help address long-standing shortfalls in fisheries management, including: fishery monitoring, fish stock surveys, data management, and more comprehensive assessment models. Stock assessment efforts involve analyzing the data to determine the status of fish populations. Without investments in staff and program improvements, NMFS cannot provide the comprehensive and additional data necessary to support new fish stock assessments, which are vital to ecosystem approaches to fishery management.

Proposed Actions

This request will enable more timely, accurate and comprehensive monitoring and assessment of fish stocks in support of NOAA's fishery management decisions. NMFS' *Marine Fish Stock Assessment Improvement Plan* (2001) recommends the minimum goal of adequate assessments for all major fish stocks and a longer-term goal of assessments that incorporate ecosystem information (i.e., Tier II and Tier III assessments, respectively). This request responds to the U.S. Ocean Commission's recommendation that NMFS implement ecosystem-based management practices and coordinate the development of regional ecosystem assessments.

Efforts include:

- *Fish Stock Surveys and Assessments in the Gulf of Mexico ($3,000,000)*– Assessment efforts include conducting surveys to collect information on the abundance and distribution of fish stocks and their associated ecosystems, and analyzing the data to determine the effects of fishing on fish populations.

These funds will be used to expand survey activities in the Southeast Fisheries Science Center with more charter vessel days at sea, enhance program infrastructure supporting data collection and analysis, and develop more comprehensive assessment models for at least three stocks in the Gulf of Mexico. NMFS will identify the stocks by reviewing data acquired from surveys currently in progress (FY 2005-2006) coupled with new information available from existing surveys. These activities will provide an expanded set of biological data and associated ecosystem, environmental, and habitat conditions.

- *Fishery Monitoring in the Gulf of Mexico ($1,750,000)* – Monitoring programs collect data on landings, fishing effort, discarded bycatch, and life history data (growth, longevity, and mortality). NMFS will enhance existing monitoring programs by collecting data on the location of fishing activities and the co-occurrence of different species in the Gulf of Mexico commercial and recreational fisheries. NMFS will use the requested funds to improve existing fishery-dependent data management systems (e.g., equipment purchases and expansion of sampling activities) and to develop new modes of disseminating expanded data sets to constituents and policy makers (e.g., computer programming and technical support).

- *Southeast Data, Assessment, and Review process (SEDAR) ($500,000)* – Continued expansion of critical peer-review programs such as the Southeast Data, Assessment, and Review process (SEDAR) provides an opportunity for broad participation of scientists and fishers in the assessment process. This ensures that assessments are comprehensive and incorporate the best available scientific information. SEDAR provides the best opportunities for stakeholder participation and ensures the transparency of the assessment process. Enhanced stakeholder participation increases acceptance of management measures that may be necessary to address overfishing. Improved assessment capabilities are also very important to achieving the President's U.S. Ocean Action Plan goal of moving toward an ecosystem-based approach to management of ocean and coastal resources.

- *Strengthen Living Marine Resource Monitoring ($2,000,000)* – This effort provides additional charter vessel days-at-sea and funds other operational costs to regional Fisheries Science Centers for expanded fishery resource surveys, restores cutbacks in historical survey effort, and partially offsets rapid increases in annual fuel costs for current surveys. It continues operational development of the Fisheries Scientific Computer System (FSCS), a project to automate at-sea data collections and error checks for fishery-independent surveys, linking biological and physical data streams.

- *National Stock Assessment Initiatives ($300,000)* – These initiatives sustain enhancements for increased faculty and graduate student support, national workshops to evaluate and develop ecosystem assessment methods, advanced sampling technology acquisition, and the Center of Independent Experts.

Benefits

This investment will demonstrate that a focused, integrated effort on specific ecosystems will improve the assessment of specific ecosystem components (i.e., fish stocks) and will provide a more comprehensive and holistic assessment of the entire ecosystem. When integrated with the results from other program capabilities (i.e., ecosystems research, socioeconomic research, habitat, and protected resources), NMFS stock assessment research will provide a comprehensive understanding of living marine ecosystems to meet the environmental, economic, and public safety needs of the United States.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Economics & Social Sciences Research (+ 7 FTE and $6,518,000): NMFS requests 7 FTE and $6,518,000 for a total request of $10,529,000 to conduct mandated economic and sociocultural surveys and assessments. Establishment of economic and social monitoring programs in all federally-managed commercial fisheries will enhance NMFS' ability to conduct integrated assessments of these fisheries, resulting in more timely and accurate advice to fishery managers. In addition, it will enable NMFS to assess the economic impacts (e.g., sales, income and jobs) of both fishery management actions and environmental events such as hurricanes, tsunamis, and red tide on fishing communities for all coastal states.

Statement of Need

These activities also directly support efforts to identify market-based solutions to fishery management issues, an approach advocated in both the President's U.S. Ocean Action Plan and the 2005 Economic Report of the President. Overall, these funds will enable NMFS to meet 100% of the economic and sociocultural monitoring goals for all commercial fishery management plans (32 FMPs), including the commercially important Gulf shrimp and reef fish fisheries; the Pacific Coast, Alaska, and Northeast groundfish fisheries; Atlantic sea scallops fishery; and the Atlantic, Gulf of Mexico, Pacific, and Western Pacific Highly Migratory Species fisheries.

With landings valued at over $3.7 billion in 2004, the nation's commercial fisheries provide a significant source of income and employment in the fishing and seafood processing, wholesale, and retail sectors. But a number of fisheries are characterized by overcapacity and increasingly restrictive harvest regulations to rebuild stocks and reduce bycatch . Increasingly, dedicated access privileges (DAPs, which include individual fishing quotas, community quotas, fishing cooperatives, and area-based quotas) are being supported as a market-based solution for reducing overcapacity and improving the economic and environmental performance of commercial fisheries. Solutions like DAPs will increase the long-term sustainability of these fisheries and the fishing communities that depend upon these resources. Implementation requires assessments of economic performance—including profits, employment, and purchasing patterns—to understand the potential forecasted risks to seafood markets and community employment, and impacts on shoreside firms.

Likewise, other market-based incentives are being advocated to improve economic performance and, in some cases, improve resource protection. For example, economists are evaluating ecolabeling programs as a means for fishermen to achieve higher market prices for catch with reduced or no bycatch. This approach encourages fishermen to adopt harvest practices that result in less bycatch. For example, for the financially strained Gulf shrimp fleet, which has watched market prices fall by 60% from 2000–2003 under pressure from imports, an ecolabeling program may offer a way to differentiate Gulf harvests from imports while simultaneously reducing bycatch of sea turtles. NMFS will be able to assess the feasibility of using ecolabeling programs by increasing the amount of economic data on harvest practices and targeting strategies.

More generally, this investment in economic and sociocultural monitoring and assessments ensures that conservation standards are achieved at the lowest cost to society. By assessing the cost and benefits of proposed management options and existing policies, policymakers can monitor the long-term economic and social welfare of coastal communities as well as the economic viability of the Gulf commercial fishing fleets; seafood processor and wholesale sectors; retail markets; and other sectors (e.g., recreational anglers, coral reef divers, etc.). In addition, the investment supports legal mandates for cost-benefit analysis of regulatory actions required under Executive Order 12866, the Magnuson-Stevens Act (particularly National Standards 1, 5, 7, 8, and 9), the Regulatory Flexibility Act, the Marine Mammal Protection Act, the Endangered Species Act, and the National Environmental Policy Act. Furthermore, this initiative reflects the FY 2007 Research and Development Budget Priorities of the Office of Management and Budget and Office of Science and Technology Policy by addressing the societal impacts of science and technology and supporting technological innovation that spurs economic competitiveness.

Proposed Action

This investment will enhance NMFS' ability to conduct integrated assessments of stewardship decisions. Once integrated with results from other program elements (stock assessments and protected resources), the Ecosystem Observation Program will achieve a degree of comprehensive analysis that is unprecedented.

Efforts include:

- *Commercial Fisheries Economic Surveys & Assessments ($2,500,000)* – NMFS' request will support the collection of economic data for 32 commercial fishery management plants (FMPs), including instituting new economic data collection programs for 20 FMPs. These surveys will enable NMFS to conduct integrated assessments of benefits derived from the marine resource; assess the economic effects of large-scale environmental events such as hurricanes, hypoxia and red tide; and evaluate the costs and benefits from proposed management options, including adopting market-based management approaches such as DAPs .

- *Sociocultural Surveys & Assessments ($1,100,000)* – NMFS will expand sociocultural surveys and community profiling in all coastal states, with initial emphasis focusing on the Gulf of Mexico area impacted by Hurricanes Katrina and Rita. Assessments will cover labor trends, community dependence on fishing and other marine resource–dependent industries, and household migration patterns into and out of coastal communities.

- *Recreational Fisheries Surveys & Assessments ($720,000)* – While recreational anglers took 84 million trips in 2004, NMFS conducts economic surveys of this important sector only on an *ad hoc* basis. The request will support routine collection of recreational angling expenditure data and routine assessment of economic impacts (e.g., sales, income and jobs) of recreational angling on the economy.

- *National Surveys & Assessments (800,000)* – NMFS' request will support a series of national surveys, including a seafood consumption survey, which will provide critically needed information on seafood markets. Additional focus areas include consumer benefits from seafood, potential mercury risks, wholesale and retail surveys, and a national employment survey on commercial fishing.

- *Regional Economic Surveys & Assessments ($800,000)* – This will support NMFS' efforts to collaborate on data collection with state and federal agencies to assess the direct and indirect impacts (e.g., sales, income, and jobs) of marine-related activities on local, state and national economies.

- *Ecosystem Surveys & Assessments ($598,000)* – Ecosystem assessments will initially focus on conducting integrated assessments of both the short- and long-term economic effects of marine protected areas in all six NMFS regions. Ongoing assessments of the cost effectiveness of habitat and protected species decisions will also be conducted. In addition, ecosystem valuation surveys will be conducted to better understand societal use patterns and preferences for marine resources.

Benefits

NMFS will be able to identify and consider the social and economic consequences of fisheries management actions on fishing communities. In addition, this program will enable NMFS to identify market-based approaches for achieving conservation goals and reduce the risk of court challenges due to incomplete economic analyses of Gulf of Mexico living marine resources.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Economic and Social Sciences Research Program indirectly supports the following performance measures:

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Salmon Management Activities (–$1,905,000): NMFS requests a decrease of $1,905,000 in programs from the overall Salmon Management Activities line item. This decrease has two components: Columbia River and Pacific Salmon Treaty.

Columbia River (+0 FTE and –$500,000): The request of $24,214,000 for Salmon Management Activities includes $16,522,000 for Columbia River activities. These funds provide support for the the Mitchell Act, which supports 18 hatcheries in Washington and Oregon that produce about 77 million salmonid smolts and fry for conservation and harvest. Production from these hatcheries provides for commercial, recreational, and treaty Indian fisheries in Washington, Oregon, Alaska, and Canada.

Pacific Salmon Treaty (+0 FTE and –$1,405,000): The request of $24,214,000 for Salmon Management Activities includes $5,595,000 for Pacific Salmon Treaty activities under the Pacific Salmon Treaty between the United States and Canada, signed January 28, 1985. It establishes the U.S. contingent to the treaty's commission and to the three regional panels. The treaty upholds our treaty obligation with Canada to cooperate on enhancing programs that result in sound conservation and management of Pacific salmon and provides for optimum production of the shared Pacific salmon resource. The Pacific Samon Treaty Act also addresses such matters as federal jurisdiction, the adoption of regulations, and enforcement. This Act also repealed the Sockeye Salmon (or Pink Salmon) Fishing Act, and abolished the International Pacific Salmon Fisheries Commission.

Statement of Need

Total requests for these programs are adequate to ensure the numbers of hatchery salmon are available for mitigation. The overall strategy of this program is to recover these stocks.

Proposed Actions

The Pacific Salmon Treaty funding is primarily used by NMFS and the states of Alaska, Washington, Oregon, and Idaho to provide personnel support to the Pacific Salmon Commission's technical committees and conduct a broad range of salmon stock assessment and fishery monitoring programs to produce information required to implement Pacific Salmon Treaty provisions. These programs are carried out in fisheries and rivers located from Southeast Alaska south to Oregon, including the Columbia River. Many programs are planned and carried out cooperatively with Canada, as the salmon stocks migrate through and are caught in the fisheries of both countries.

The Mitchell Act program funds will be used to support 18 hatcheries in Washington and Oregon that produce about 77 million salmonid smolts and fry for conservation and harvest. Production from these hatcheries provides for commercial, recreational, and treaty Indian fisheries in Washington, Oregon, Alaska, and Canada. The production in some facilities is for conservation purposes with adaptive rearing and placement of fry and smolt in the streams to supplement ESA-listed stocks.

Funds support the operation of approximately 750 irrigation diversion screens and 45 fish ladders in the Columbia Basin portion of Oregon, Washington, and Idaho to provide passage and protection for adult and juvenile salmonids. Funds also support the annual operation and maintenance of 18 hatcheries in the Columbia Basin operated by the Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Yakama Tribe.

Regional Councils and Fisheries Commissions (0 FTE and $3,047,000): NMFS requests an increase of $3,047,000 and 0 FTE for Regional Councils and Commissions. This request covers two components.

Regional Councils (+$2,047,000): With this funding, NMFS will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. The improvements in the regulatory process obtained through this funding will reduce the legal challenges to NOAA regulatory actions. This funding will allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans (FMPs) or amendments to current plans to reduce levels of overfishing and overcapacity while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem.

Dedicated Access Privilege (DAP) Programs (+$1,000,000): Of the $3,047,000 increase, $1,000,000 will be used for RFMCs to develop DAP programs, such as individual fishing quotas (IFQs). Development of DAP programs requires significant resources for economic analysis and design of programs for eligibility determination, permit issuance, and fishery monitoring. These funds will be made available on a competitive basis to support Councils with projects that advance DAP systems.

DAP programs such as IFQs provide many benefits. They end the "race for fish" inherent in open-access fisheries, which leads to overcapitalization and overfishing. They contribute to safer fisheries, as vessel operators can choose not to fish in bad weather without fear that the quota will be taken by someone else. They increase the availability of high-quality fresh fish and improve economic performance of the fishery. The U.S. Commission on Ocean Policy recommended increasing use of DAP programs in fishery management, and the Administration supports their use. Since 1990, NMFS and the Regional Fishery Management Councils have implemented DAPs in eight fisheries. NMFS's goal is to work with the Regional Councils to double the number of fisheries with DAP Programs by 2010, which supports the U.S. Ocean Action Plan to increase the use of market based systems for fisheries management.

Statement of Need

These funds are needed to increase the capacity of the RFMCs and provide for their implementation of the Regulatory Streamlining Program. This funding is necessary to allow the RFMCs to analyze a greater range of alternatives as they develop new Fishery Management Plans to reduce levels of overfishing and develop and maintain rebuilding plans for overfished stocks, while taking into consideration the impacts of their proposed actions on other components of the marine ecosystem.

The work of the RFMCs directly supports NOAA strategic goals for marine environment ecosystem based management, and is a necessary complement to NOAA's work. Without this increase, it will be difficult to produce adequately coordinated and comprehensive fishery management plans. This will put NOAA at an increased risk for litigation, and could also lead to fishery stock declines over time.

Proposed Actions

NOAA will use the increase to support national oversight and NOAA-wide integration at NMFS headquarters and regional oversight and technical assistance at the field level. NOAA will coordinate fishery management action development and impacts with other federal activities, as appropriate. NMFS will also be able to work with the Councils to develop, implement, and operate more DAP programs, which will help improve economic performance and safety in those fisheries.

Benefits

With this funding, NMFS will improve the quality and timeliness of regulatory processes and policy development for its Fishery Management Program through comprehensive impact analyses, full and timely consideration of all relevant issues, and compliance with all applicable laws and procedures. With funding for the development and implementation of DAPs, NMFS will be able to increase the availability of high-quality fresh fish and improve the economic performance of the fishery. Increasing use of DAPs will also help end the "race for fish" inherent in open-access fisheries, increasing safety in those fisheries.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." It also supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Performance Goal: Ecosystems **Performance Measure:** Increase the Fish Stock Sustainability Index (FSSI)	FY2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Fisheries Information Networks (+ 0 FTE and $2,109,000): NMFS requests a net increase of 0 FTE and $2,109,000 for the Fisheries Information Networks line. Of this request, $1,000,000 is for the Gulf Fisheries Information Network (Gulf FIN) program; $1,033,000 is for the Marine Fisheries Initiative Network (MARFIN) program; and $$75,000 is for the Fisheries Information System program. NMFS' request will support the collection, management, and dissemination of statistical data and information on marine commercial and recreational fisheries off the coasts of Alabama, Florida, Georgia, Louisiana, Mississippi, and Texas. With this request, NMFS will have the capability to increase the quantity of data and improve the quality of statistics that are used to inform regulatory decisions.

Statement of Need

Although considerable progress has been made in the collection of fishery statistics, the continuing changes in the nature and status of marine commercial and recreational fisheries, and the increasingly complex management regimes are creating ever-increasing demands for more comprehensive, accurate, and timely data. It is becoming more important to develop more comparability and consistency among states in the methods used to monitor commercial fisheries landings. The need for survey efforts that collect more data and produce more timely statistics on recreational fishing impacts was highlighted in the report of the U.S. Commission on Ocean Policy: "Despite the economic and ecological impacts of recreational fishing, much less data are collected in this area than for commercial fisheries…although existing survey methodology is adequate for the long-term tracking of recreational fishing trends; it has proven less useful for in-season management." The President's U.S. Ocean Action Plan responded to this section, stating that the Administration would work to further leverage data acquisition for fishery management purposes. Additional funding to improve and expand NMFS' data collection efforts would be a major step toward improving relations with the recreational fishing community and improving federal fisheries management. This initiative places a high priority on understanding complex biological systems such as the Gulf of Mexico and Southeast Atlantic marine ecosystems.

Proposed Action

Gulf Fisheries Information Network (Gulf FIN). Gulf FIN is a state-federal cooperative program that collects, manages, and disseminates statistical data and information on fisheries in the Gulf of Mexico and Atlantic coast of Florida. Gulf FIN provides scientifically-sound information on catch, effort, and participation to managers responsible for the conservation and management of fisheries resources in the Southeast region.

Gulf FIN efforts will include:

- *$350,000* to support the expansion of standard commercial fisheries "trip ticket" dealer reporting programs in Texas and Mississippi. The "trip ticket" system enables NMFS to collect landing data from commercial fishing trips. In the other southeast states, seafood dealers report landings to their respective state agencies and the state agencies then provide a consistent set of data to NMFS. An expanded "trip ticket" system will result in the capability to provide commercial data for all of the FIN states.

- *$50,000* to support pilot testing of new survey methods for recreational shore and private/rental boat fishing effort that are based on sampling of participant lists developed from state angler licensing/registration programs. These new survey methods would increase state-level participation in the Gulf FIN program.

- *$200,000* to support development and implementation of a specialized sampling survey program to collect more precise recreational fishery catch statistics for highly migratory species (tunas, swordfish, billfishes, and sharks).

- *$125,000* to support development and implementation of economic surveys of commercial shrimp fisheries. The surveys would enable NMFS to address data gaps in social and economic data that is required to meet present and future fishery management challenges.

- *$125,000* to support expansion of at-sea sampling surveys to obtain more precise catch and release statistics for headboat fishing.

- *$150,000* to support expansion of biological sampling programs to collect data needed to more accurately assess size and age distributions of commercial and recreational fisheries landings.

Marine Fisheries Initiative Network (MARFIN)

MARFIN is a competitive grant program that provides financial assistance for research and development projects that optimize the use of fisheries in the Gulf of Mexico and off the South Atlantic states of North Carolina, South Carolina, Georgia, and Florida. Research priority areas involving the U.S. fishing industry (recreational and commercial), focus on fishery biology, resource assessment, socioeconomic assessment, management and conservation, selected harvesting methods, and fish handling and processing. MARFIN projects provide answers for fishery needs covered by the NMFS Strategic Plan, particularly those goals relating to: rebuilding over-fished marine fisheries; maintaining currently productive fisheries; and integrating conservation of protected species and fisheries management. Of this $1,033,000 request, $33,000 will support core MARFIN activities; $250,000 will support Northeast activities and $750,000 will support red snapper research in the Gulf of Mexico.

The Fisheries Information System (FIS)

The FIS program collects data on participation, effort, and catch; and integrates it with fishery-dependent observer, economic, and sociocultural information into a State/Federal information network. The FIS will provide more complete information on fishery impacts and enhance the accessibility of that information for stock assessment scientists, fishery managers, and the public. This program provides flexible and user-friendly reporting between NMFS, state agencies, fishery management councils, the interstate marine fisheries commissions, and the commercial and recreational fishing industries.

FY 2007 efforts include:

- *Applications Development/Expansion ($75,000)* – NMFS will improve the quality, timeliness, and accessibility of fisheries information by expanding implementation of standardized electronic reporting and transaction systems and by continuing to identify and implement standard best practices for data quality control, statistical estimation, and information management. This particular funding amount will be used to implement standardized electronic dealer reporting of commercial fishery landings data in one more state.

Benefits

Managing fish stocks at sustainable harvest rates is a key factor in rebuilding depleted fish stocks and achieving optimal benefits from the fisheries, and it requires accurate and timely monitoring of fishing impacts. NMFS will be able to provide comprehensive and timely fisheries statistics needed for stock assessments as identified by NMFS' Stock Assessment Improvement Plan (SAIP). The request would improve the sampling and statistical precision of recreational fishery catch monitoring surveys; would increase the comprehensiveness and timeliness of commercial fishery harvest monitoring; and would speed integration of state/federal fisheries information into regional/national networks that enhance its accessibility for stock assessment scientists, fishery managers, and the public.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Gulf FIN Program supports the following performance measure.

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

Survey and Monitoring Projects (0 FTE and + $1,168,000) – NMFS requests a net increase of $1,168,000 to the FY 2007 base for a total of $15,223,000 to enable NOAA's ability to administer 3 research and monitoring programs in the Atlantic and Pacific Oceans.

Statement of Need

Bluefin Tuna Tagging
The International Convention for the Conservation of Atlantic Tunas (ICCAT) is a multi-national cooperative management body that provides scientific information and management recommendations for stocks of Atlantic tunas and tuna-like species in international waters. NMFS uses the tagging devices to improve the mapping of habitats used by highly migratory species such as bluefin tuna.

Bluefish / Striped Bass- Rutgers University
With input from the fishing industry and academia, NMFS has developed a program plan and has established priority research areas on the decline of Atlantic bluefish. The Bluefish-Striped Bass Dynamics Research Program supports a focused approach on understanding bluefish dynamics, as determined by management and fishing community needs.

West Coast Groundfish
The West Coast groundfish fisheries have been subject to court action. NMFS requires effective real-time monitoring of recreational fishery quotas for landings and bycatch of groundfish species currently managed by the Pacific Fishery Management Council.

Proposed Action

Bluefin Tuna Tagging ($850,000) – NMFS request these funds to continue tagging activities currently related to bluefin tuna research. The request will enable NMFS to improve estimations on the abundance and distribution of bluefin tuna. NMFS can use the tagging data in combination with catch data from U.S. pelagic longline observer logbooks to reduce incidental catch mortalities in tuna spawning grounds in the Gulf of Mexico.

Bluefish / Striped Bass ($37,000) – Since 1997, NMFS has served as a partner to Rutgers University's Institute of Marine and Coastal Sciences in administering the Striped Bass-Bluefish Research Program. This request will enable scientists to continue research on the factors governing the apparent decline in bluefish abundance along the Atlantic coast.

West Coast Groundfish ($281,000) – This request will maintain NMFS' capabilities in monitoring and estimating discards of overfished fish stocks in the West Coast groundfish fisheries.

Benefits

The request for the Survey and Monitoring line will improve NMFS' ability to: 1) manage West Coast groundfish stocks; 2) estimate the distribution and abundance of bluefin tuna stocks; and 3) continue research on the apparent decline of bluefish stocks in the Atlantic Ocean.

Performance Goals and Measurement Data

NMFS request will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Survey and Monitoring Projects indirectly program supports the following performance measures:

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Fisheries Oceanography (+ 0 FTE and $500,000): NMFS requests an increase of $500,000 for a total of $990,000 to improve fish stock assessments by investigating the effects of ocean environmental variability on marine ecosystems and fish populations. The request will enable NMFS to develop new ecological indicators of the effects of environmental variability on living marine resources in the California Current, North Pacific, Gulf of Alaska, Bering Sea, Gulf of Mexico and Northeast U.S. Shelf large marine ecosystems. The Fisheries Oceanography program advances the current state of knowledge of ocean processes by forecasting potential impacts on production, growth, and/or distribution of marine fish, and these forecasts are incorporated into stock assessment and commercial harvest analyses.

Statement of Need

Ocean conditions, which vary on time scales from days to decades, have profound effects on the productivity of ecosystems and fish stocks. This has significant implications for fisheries management. In classical fisheries stock assessment models, recruitment (the addition of young fish to the fishable population) is considered to vary randomly about a single long-term level. In reality, recruitment varies non-randomly according to observable changes in ocean conditions. Fisheries research has demonstrated that these variable ocean conditions can be incorporated into stock assessments by correlating environmental indices (indicators) to population or recruitment indices. A fundamental goal of this program is to link these environmental indices to fish production and to provide a way to make predictions about the underlying mechanisms forming the basis of the observed relationship.

Long-term changes in the ocean environment also cause fundamental shifts in the suitability of habitats occupied by fish. Such shifts may not only cause changes in the distribution of animals, but may also affect the reproductive capacity of adults or the survival of offspring for many years. Such fundamental changes in ocean structure and concomitant changes in the underlying biological productivity of fish species have much longer-term economic and ecological impacts. For example, high-value species may be replaced by low-value species, thereby affecting the economic sustainability of fishing communities. High-energy food items for marine mammals may be replaced by low-energy food items, consequently affecting the underlying reproductive success of the marine mammals and reducing population sizes.

The development of environmental indicators that incorporate a variety of seemingly disparate measurements from biology, oceanography, and meteorology can be used to forecast the type and duration of change. In this manner, indicators can provide technical guidance for managing the harvest rates of key fish species as directed by the Magnuson-Stevens Act (particularly National Standards 1, 2, 4, 5, and 9) and support an ecosystem approach to marine resource management as called for by the U.S. Ocean Action Plan and NOAA's Strategic Plan.

Proposed Action

This investment will improve NMFS' ability to develop indicators for important fish stocks, resulting in environmental indices that are correlated with important population measures (e.g., reproductive success, biomass, recruitment success). For example several derived environmental phenomena (e.g., sea surface temperature, the strength of the California Current estimated from coastal sea level, and satellite-derived chlorophyll-a concentrations) may all, individually or collectively, be correlated with historical California sardine biomass or recruitment. Thus these phenomena can be used in a predictive model to help assess sardine stock size and set sardine harvest policy.

Efforts will include:

- Indicator Development ($325,000) – The request will support continued research and development of indicators for commercially important fish stocks including pollock, hake, sablefish, sardine, haddock, and salmon.
- Ecosystem Status Report ($85,000) - NMFS will develop and publish a California Current Ecosystem Status Report that includes multiple indicators of California Current fish stocks as well as system-wide trends in environmental conditions. The report will be used by the Pacific Fisheries Management Council and other fisheries management organizations to improve harvest advice based on knowledge of ocean conditions.
- Environmental Indicators and Stock Assessments ($90,000) – NMFS will support a contract to develop improved quantitative methods of incorporating environmental variability in fisheries stock assessments. The contract will include support for a workshop between NMFS stock assessment scientists and fisheries oceanographers to improve stock assessment models using environmental information.

Benefits

Fisheries oceanography products provide essential information on ecosystem characteristics and the effects of environmental variability on marine ecosystems, thus leading to more accurate stock assessments and better living marine resource management. Knowledge of decadal and basin-scale environmental variability and its impacts on fisheries productivity is essential to effective fisheries management. Without the applied fisheries oceanography products that this line item supports, NMFS' ability to understand and predict shifts in ocean conditions and resulting shifts in fish stocks productivity will be reduced.

These studies will be of immediate benefit to stock analysts in evaluating the oceanographic and environmental factors associated with current-year assessments and harvest quotas. The information provided by the development and testing of environmental indicators will help improve stock assessments and management by forecasting short- and long-term variability in fish availability or reproductive success for incorporation into management plans or responses to constituent and stakeholder concerns.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Fisheries Oceanography program indirectly supports the following performance measures:

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Anadromous Grants (0 FTE and $100,000) – NOAA requests and increase of $100,000 for Anadromous Grants. Projects funded under the Anadromous Fish Conservation Act of 1965 (AFC) are conducted for the conservation, development, and enhancement of Anadromous fishery resources (those that migrate from salt to fresh water for spawning) including similar species in the Great Lakes and Lake Champlain. This information is used to support management decisions at the state level and under the Magnuson-Stevens Fishery Conservation and Management Act, the Atlantic Coastal Fisheries Cooperative Management Act, and the Striped Bass Act.

The amount of funds that may be used to finance projects varies. For most projects Federal funds account for 50 percent of the cost, but Federal funds can support up to 66.66 percent of the cost when two or more states cooperate, and up to 90 percent Federal funding can be made available when the project supports an interstate or a Federal Fisheries Management Plan. State fishery agencies, colleges, universities, private companies, and other non-federal interests in 31 states bordering the oceans or the Great Lakes and Lake Champlain may participate under the AFC. All projects must be coordinated with and cleared through the state fishery agency concerned. Authorized are investigations, engineering and biological surveys, research, stream clearance, construction, maintenance and operations of hatcheries and devices and structures for improving movement, feeding and spawning conditions.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Regional Councils and Fish Commissions ($1,874,000), Fish Information Networks ($1,149,000), Survey and Monitoring Projects ($690,000), Other Fisheries Related Projects ($17,061,000).

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Subactivity: Enforcement and Observers / Training
Line Item: Enforcement

GOAL STATEMENT:

Provide a comprehensive program for the protection of the Nation's living marine resources through the enforcement of a variety of Federal laws and regulations**.** The primary objective of the NOAA Enforcement Program is to assure compliance with the laws and regulations promulgated to conserve and protect our Nation's living marine resources. Enforcement activities support the NOAA Ecosystems goal to "protect, restore, and manage the use of coastal and ocean resources through ecosystem approach to management."

BASE DESCRIPTION:

NOAA Enforcement Program services involve three primary capabilities: investigations, monitoring (which includes conducting patrols, and inspections), and outreach and education. NOAA special agents and officers detect, deter, investigate, and document for prosecution any violations of Federal laws and regulations under the Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Endangered Species Act, Lacey Act, and other Federal statutes and international agreements relating to living marine resources. Some of the current monitoring capabilities of the NOAA Enforcement Program include the management of the vessel monitoring system program (VMS), which significantly increases the ability to monitor and enforce closed areas for protection of endangered species, critical habitat, and rebuilding and maintenance of sustainable fisheries.

The Cooperative Enforcement Program expands the enforcement resources available to address this mission through joint cooperative enforcement agreements (JEA's) with marine resource enforcement agencies of coastal states and U.S. territories. NOAA's Office of Law Enforcement holds joint enforcement agreements (JEA's) with 21 coastal states and four U.S. territories. This program provides land-based patrols, near-shore vessel patrols, and some offshore vessel patrols. While the Office for Law Enforcement is currently authorized to employ 157 Special Agents and 20 Enforcement Officers assigned to 53 offices in the coastal United States and U.S. territories, the Cooperative Enforcement Program makes available more than 2,000 state and territorial enforcement personnel to support NOAA's Enforcement Program. The work performed by the state and territorial agencies under these agreements not only augments the Federal enforcement effort, but also supports enforcement missions of U.S. states and territories.

PROPOSED LEGISLATION:

NOAA, together with the Administration, will work with Congress to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson Act), P.L. 104-297; the Marine Mammal Protection Act (MMPA), P.L. 103-238; and the Endangered Species Act (ESA), P.L. 100-478.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Enforcement and Observers / Training	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Enforcement					
TOTAL	45,824	49,500	49,922	53,901	3,979
FTE	191	188	188	188	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Enforcement (+0 FTE and $3,979,000): NOAA requests an increase of $2,268,000 for Enforcement and Surveillance and a $1,711,000 increase for Cooperative Agreements with States for a total Enforcement request of $53,901,000. The increase in Enforcement and Surveillance will support the need of NOAA's increased Management and Stewardship role addressing investigations and monitoring capabilities within the Northeast Shelf and Gulf of Mexico large marine ecosystems (LMEs). The additional funds for the Cooperative Agreements with states will provide the necessary support and capacity for the states to carry out their enforcement activities in full coordination with NOAA.

Statement of Need

The Enforcement and Surveillance increase is needed to provide for the cost of labor (additional enforcement and support staff) and required support infrastructure (equipment, communications costs, travel, etc) required to fill currently authorized but vacant positions to address current and new regulations expected in FY 2007. NOAA and the Fishery Management Councils decisions to expand regulations to protect NOAA's trust resources require additional support in the form of enforcement services. Current plans in the Northeast Region (Northeast Shelf LME) and Southeast Region (Gulf of Mexico LME) call for new regulations to control fishing effort. Specifically, an Individual Fishing Quota (IFQ) program is under development in the Gulf of Mexico Red Snapper Fishery. It is expected to be implemented during FY 07 and to affect up to 2,500 vessels. In the Northeast Shelf LME, a planned VMS requirement in the open access fishery may affect up to 2,000 vessels. The result of these new regulations in both LME's will be an increase in VMS monitoring and dockside inspections resulting in an increase of monitoring and investigative workload. The increase of funds will allow for the filling of vacant positions, increasing the capacity for investigations, monitoring and enforcement support activity.

The requested increase of $1,711,000 in Cooperative Agreements with states will allow the expansion of the program to address additional monitoring requirements of current and expected regulations. The advent of the Red Snapper IFQs in the Gulf of Mexico during FY 07 will increase the need for enforcement monitoring which can be enhanced by State enforcement partners.

Proposed Action

Enforcement and Surveillance
Approximately ten currently authorized investigative and enforcement support positions will be filled to partially assume the increased workload created by anticipated regulations for General Access Scallop, Recreational Fisheries, Red Snapper IFQ, South Atlantic Snapper/Grouper, Gulf Shrimp, and HMS Species. By adding dedicated analysts to support enforcement operations, investigative effectiveness will improve because investigators and enforcement officers will be freed from most investigative analysis and their resources will be better focus on the most egregious cases. The expanded investigative and analytical capacity is expected to increase efficiencies within NOAA's homeland security program while supporting the Department of Homeland Security (DHS) efforts and the homeland security and commercial fishing regulation activities of the U.S. Coast Guard.

Cooperative Agreements with States
Agreements will be proposed with Gulf States to assume direct responsibilities related to the Red Snapper IFQ enforcement program. Other programs will be expanded based on regional priorities.

Benefits

The requested increase in the Enforcement and Surveillance base will allow NMFS Enforcment Program to address the increased workload of the new regulations in the Northeast Region (Northeast Shelf LME) and Southeast Region (Gulf of Mexico LME). At the same time the efficiency, effectiveness, and capacity of the Investigations Capability and the Monitoring Capability will be improved.

The requested increase in the Cooperative Enforcement program with states will provide essential enforcement services to address the Red Snapper IFQ and expand other State and U.S. Territorial enforcement support services based on regional priorities.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental needs." It also supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Performance Goal: *Ecosystem* **Performance Measure:** *Increase the Number of Overfished Major Stocks and Number of protected species designated as threatened, endangered or depleted with stable or increasing population levels.*	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Lower Level Measure: Increase enforcement capacities to investigate violations, number of investigations conducted.						
Without Increase	2824	3110	3110	3110	3110	3110
With Increase	2824	N/A	3310	3310	3310	3310

TERMINATIONS FOR FY 2007: None.

Subactivity: Enforcement and Observers / Training
Line Item: Observers & Training

GOAL STATEMENT:

Collect accurate and high-quality data on standardized fisheries, protected species, and environmental parameters from commercial and recreational fishing vessels to better assess impacts of fishing activities and regulations on living marine resources and fishing communities in order to support the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.".

BASE DESCRIPTION:

Since 1972, NOAA's National Marine Fisheries Service (NMFS) has deployed fishery observers to collect catch and bycatch data from U.S. commercial fishing and processing vessels. Observers have monitored fishing activities on all U.S. coasts, collecting data for a range of conservation and management issues. Observers are fishery biologists deployed at-sea onboard commercial fishing vessels to collect data and information on fishery catch and bycatch (i.e. the incidental capture of unintended fish species and protected species). This includes information on fishing practices, vessel and gear characteristics, fishing locations and times, environmental conditions on the fishing grounds, compliance with fishing regulations, and, for some fisheries, socioeconomic data. Observers also collect biological samples, and may assist in fish tagging and tag recovery, or special data collections for stock assessment programs.

Nearly 40 fisheries are monitored by observer programs each year, and the data they collect are often the best means to gather current information on fisheries status. Without these programs, many fisheries would lack sufficient data for effective management. The authority to place observers on commercial fishing and processing vessels operating in particular fisheries is provided either by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) or the Marine Mammal Protection Act (MMPA).

Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)
The Magnuson-Stevens Act authorizes the placement of observers to collect information needed for fishery management and conservation. In addition, the Act requires that all fishery management plans establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery. Fishery observers are one of the most reliable methods for reporting bycatch and are a critical component of the reporting methodologies required in several fisheries with known levels of bycatch.

- The information collected by fishery observers ensures that Fishery Management Plans are consistent with the requirement for a standardized bycatch reporting methodology. Observer programs also provide data for fishery managers to ensure that national standards for fishery conservation and management identified in Section 301 of the Magnuson-Stevens Act are met.

- National Standard 1: “Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.”
- National Standard 2: “Conservation and management measures shall be based upon the best scientific information possible.”
- National Standard 9: “Conservation and management measures shall, to the extent practicable, (a) minimize bycatch and (b) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.”

Marine Mammal Protection Act (MMPA)
MMPA Section 118 governs the incidental taking of marine mammals in the course of commercial fishing operations. It states that the immediate goal shall be to reduce the incidental mortality or serious injury of marine mammals to insignificant levels approaching mortality and serious injury rates of zero. To achieve that goal, Section 118(d) directs NMFS to deploy observers on fishing vessels or remote vessels to monitor incidental mortality and serious injury of marine mammals during commercial fishing operations.

Section 118 describes the duties of observers, establishes guidelines for the distribution of observers among fisheries and among vessels within a fishery, and establishes priorities for the placement of observers. Observers are mandatory for fishermen participating in Category I and II fisheries (fisheries that have frequent or occasional incidental mortalities or serious injuries of marine mammals, respectively), and are voluntary for fishermen participating in Category III fisheries (fisheries that have a remote likelihood or no known incidental mortality or serious injury of marine mammals). Section 118 also directs NMFS to develop and implement take reduction plans for marine mammal stocks that interact with Category I or II fisheries. These plans shall include an estimate of marine mammals incidentally killed or seriously injured each year during the course of commercial fishing operations. Onboard fisheries observers are the most reliable source of this information.

Endangered Species Act (ESA)
ESA requires the Federal Government to protect and conserve species and populations that are endangered or threatened with extinction. Federal or State actions that may impact endangered species, such as permitted fishing operations, must be minimized. Endangered species taken as bycatch in fishing operations include sea turtles, Pacific salmon, seabirds, and marine mammals. Observers monitor impacts and certify that takes of endangered species do not exceed the authorized incidental take limit. Observer data are also used to prepare recovery plans, and for marine species these plans generally include a requirement to reduce incidental capture of protected species in commercial fishing operations. Fisheries may be restricted or terminated if they impose mortality rates on protected species that impede the recovery of the listed population.

NMFS implements observer programs in each of its six regions. In addition, improvements in data collection, observer training, and the integration of observer data with other research are coordinated by the Office of Science and Technology in NMFS headquarters. Collectively, the regional programs and the headquarters office comprise the National Observer Program, which supports observer programs and increases their contribution to NMFS overall goals.

PROPOSED LEGISLATION:

NOAA, together with the Administration, will work with Congress to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act, P.L. 104-297, and the Marine Mammal Protection Act, P.L. 103-238.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Enforcement and Observers / Training	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Observers & Training					
TOTAL	24,523	23,175	23,302	26,796	3,494
FTE	70	61	61	63	2

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Observers / Training (+ 2 FTE and $3,494,000): NMFS requests 2 FTE and a net increase of $3,494,000 for a total request of $26,796,000 to expand observer coverage in the Gulf of Mexico; initiate observer coverage in priority fisheries nationwide; and support 35,000 observer collection days in the North Pacific. Fisheries observers are trained professionals who monitor and record catch data from U.S. commercial fishing vessels and processing facilities. Fisheries observers provide the most reliable and unbiased source of catch, bycatch, and discard data in over 40 of the nation's fisheries. In addition, observers collect critical information on threatened and protected species, including marine mammals, sea birds, and sea turtles.

Statement of Need

NMFS' stock assessments depend on observer data to refine catch rate estimates of finfish by geographic area and season. Without observers and observer programs, NMFS would have insufficient data to effectively manage many of the nation's economically valuable fisheries. Additional research is needed to better quantify bycatch of red snapper and other species with respect to season, depth, and location. To achieve this goal, an expansion of the observer program coupled with an improved logbook program is needed.

NMFS' improvement and expansion of observer programs for many of the fisheries with significant bycatch supports one of the priorities set forth in the President's U.S. Ocean Action Plan—the implementation of a new national bycatch strategy. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Endangered Species Act (ESA) require NMFS to standardize reporting methodologies that minimize bycatch in federally managed fisheries and to protect specific endangered or threatened marine plants and animals.

South Atlantic / Gulf Shrimp Observers

The shrimp trawl fishery is one of the nation's most economically valuable fisheries. In 2004, Gulf region landings were the nation's largest with 256.9 million pounds valued at $376,181,426. However, the shrimp trawl fishery has one of the highest bycatch rates for sea turtles. Six out of the seven species of turtles—loggerhead, leatherback, green, hawksbill, Kemp's ridley, and olive ridley— are found in U.S. waters and are protected under the ESA and MSA. Observers assist in sea turtle recovery efforts by evaluating the effectiveness of turtle excluder devices (TED), bycatch reduction devices that restrict a turtle's accidental entry into a shrimp otter trawl.

National Observer Program

A total of 84 fisheries were identified as requiring observer coverage in the NMFS report *Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs* (2004). NMFS has initiated observer programs in 42 fisheries—16 of which are considered to be pilot sampling programs. Current funding levels are insufficient to provide adequate observer coverage for all priority fisheries, and observer programs are non-existent in many of these fisheries. Additional funding is required to provide adequate observer coverage in order to monitor bycatch levels in these fisheries and provide information for stock assessment and management purposes.

North Pacific Marine Resource Observers and North Pacific Groundfish Observer Programs

In an average year, observers complete 35,000 data collection days aboard vessels and at processing plants in North Pacific fisheries. Coverage is mandatory for certain fisheries. To meet coverage requirements, industry participants must contract directly with permitted observer providers. Industry costs for obtaining mandatory coverage exceed $13,000,000 annually. NMFS is responsible for training and briefing the observers, providing safety and sampling equipment, and monitoring all data quality control and management functions. The program maintains offices in Dutch Harbor and Kodiak, Alaska, to provide field assistance to observers. Information from the observer program is essential for in-season management of groundfish fisheries, as this activity is based on near real-time observer reports, and for monitoring compliance with fishing regulations. The data are critical for stock assessment and quota setting.

Proposed Actions

This investment will enhance NMFS' ability to conduct integrated assessments of stewardship decisions.

Of this request, $1,000,000 will enhance NMFS' capability to monitor catch, bycatch, and discard rates of finfish species such as red snapper and protected species (e.g., sea turtles) in the Gulf of Mexico. Specific efforts include:

- *Expand Observer Coverage ($600,000)* – This request will support increases in the number of days at sea (DAS) for observer coverage in the shrimp trawl fishery and initiation of observer programs in the red snapper and reef fish fisheries for a total of 833 DAS.

- *Observer Training ($50,000)* – With this request, NMFS will recruit and train approximately five observers to supplement increases in target coverage levels for the shrimp trawl, red snapper, and reef fish fisheries.

- *Outreach and Education ($50,000)* – The request will enable NMFS to conduct outreach activities that encourage fishermen in the Gulf of Mexico fisheries to participate in federal observer programs. Efforts include dissemination of flyers, establishing and strengthening port agent contacts with fishermen, and conducting safety inspections for vessels that berth observers.

- *Shrimp Fishery Bycatch Data ($150,000)* – Expansion of observer coverage in the shrimp trawl fishery will enable NMFS to integrate the latest bycatch information with data sets from existing observer programs. The request will enhance NMFS' ability to collect fishing effort information from electronic logbooks, which will increase the accuracy of bycatch estimates in existing impacted bycatch species stock assessments.

- *Red Snapper and Reef Fish Fishery Bycatch Data ($150,000)* – NMFS is not able to integrate Catch Per Unit Effort data collected from paper logbooks in these fisheries. The request supports the integration of bycatch information and mortality estimates of undersized target species into stock assessments for the red snapper and reef fish fisheries.

Of this request, $985,000 will support activities in the North Pacific. Specific efforts include:

- *Support Activities for the North Pacific* – This request will allow the Alaska Fisheries Science Center to conduct training and briefing for observers, provide observer safety and sampling equipment, and maintain data quality control and management functions that support the industry-funded North Pacific observer program. Because observer coverage is mandatory, NMFS must carry out these functions to ensure that required data are collected by industry-funded observers in the Alaskan groundfish fisheries. In addition, to support ongoing observer coverage requirements, NMFS will use funds to prepare observers and provide data necessary for maintaining several new management programs to be implemented in 2007.

Of this request, $1,530,000 will support observer activities nationwide. Specific efforts include:

- *Expand Observer Coverage ($1,500,000)* – NMFS will support implementation of observer coverage in eight fisheries at pilot sampling levels and expansion of observer coverage in fisheries currently at low observer coverage levels. If funded, this request will provide a total of 1,250 observed days at sea (DAS). The request also will support outreach to fishermen required to carry observers, training, data quality procedures, and data management activities.

Benefits

NMFS' observer data will provide a comprehensive understanding of marine systems to meet the environmental, economic, and public safety needs of the nation.

South Atlantic / Gulf Shrimp Observers

The proposed increases in observer coverage in the shrimp trawl, red snapper, and reef fish fisheries will improve the estimation of bycatch for all three fisheries. The reef fish bottom long-line fishery is considered to have high bycatch vulnerability to fishes. However, current observer data sets have limited utility in adequately quantifying the amount of bycatch that occurs. The impacts of bycatch on fish stocks are included in traditional stock assessments whenever estimates of bycatch are available. For example, bycatch by the shrimp fishery has been included in red snapper stock assessments for many years. Incorporation of bycatch information from other fisheries in stock assessments is often less than adequate due to lack of time series estimates for bycatch. Enhanced observer coverage is an essential part of improving stock assessments in the Exclusive Economic Zone of the Southeastern United States.

North Pacific Marine Resource, North Pacific Groundfish, and National Observer Programs

The requested support for the North Pacific observer program will improve the estimation of bycatch and allow integration of bycatch data into stock assessments to improve the evaluation of stock status and development of management strategies. NMFS' request for observer coverage in priority fisheries nationwide will improve the estimation of bycatch and allow bycatch data to be integrated into stock assessments, thereby improving the evaluation of stock status and development of management strategies.

Performance Goals and Measurement Data

The Observers / Training Program supports the following performance measure.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

TERMINATIONS FOR FY 2007: None.

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Subactivity: Habitat Conservation & Restoration
Line Item: Habitat Conservation

GOAL STATEMENT:

Conduct a habitat program to maintain high economic and ecological productivity of the Nation's living marine resources and support the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan Goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management".
Base activities in the Habitat Program support the objective to "enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Plan goal to "observe, protect, and manage the Earth's resources to promote environmental stewardship."

BASE DESCRIPTION:

The Habitat Conservation & Restoration subactivity is an integral part of the NOAA Habitat Program, a program committed to protecting and restoring coastal and estuarine habitats vital to NOAA trust resources, improving the data and techniques to accomplish these ends, and enhancing the interests and abilities of citizens to play active roles in these endeavors. Achieving these goals will require strengthening internal and external partnerships; leveraging resources available to government, the private sector, academic institutions, and individual citizens; and applying up-to-date information together with the best available science to produce management decisions that support sustainable or expanding productive coastal and estuarine habitats.

Sustainable Habitat Management

Efforts relating to Sustainable Habitat Management integrate research and management to provide scientific advice for use in permit, licensing, and management activities by (1) working directly with permit and license seekers, before paperwork is filed, to review the environmental acceptability of preliminary concepts; (2) consulting with Federal agencies on the impact to habitat of proposed actions; (3) supporting Regional Fishery Management Councils and interstate commissions in developing positions on specific projects; (4) increasing overall habitat conservation awareness within Federal, state, and local agencies; and (5) improving programs that gather, transfer, and use data on habitats and biological diversity.

Habitat protection activities are the first step in ensuring the long-term survival and health of fishery resources and the habitats that support them. Habitat protection also is integral to ensuring healthy regional ecosystems and the host of societal benefits derived from robust, productive coastal and estuarine habitats. Among the most basic tools in NOAA's habitat protection kit is consultation—working with Federal action agencies and their constituents to ensure that proposed actions posing threats to marine, coastal, and estuarine habitats are undertaken in a manner that prevents, minimizes, or compensates for adverse effects.

NOAA uses a streamlined consultation process to provide recommendations for construction projects, applications for dredging and filling wetlands, licenses for hydroelectric power plant operation, waste discharge permits, energy proposals, and other Federal funding and permit activities. The program also coordinates agency efforts to designate essential fish habitat (EFH) and evaluate the effects of fishing activity on EFH.

Each year, NOAA's National Marine Fisheries Service (NMFS) regional offices and headquarters provide technical comments on about 8,000 individual actions (preapplication discussions, permit applications, license renewals, environmental analyses, management plans, and draft policies and guidance, and others). Collectively, this work reflects stewardship responsibilities under nearly a dozen Federal authorities and represents a major effort to protect marine, estuarine, and riverine habitats that support NOAA trust resources. As an example of the magnitude of this effort, the Southeast Regional Office (covering North Carolina to Texas, Puerto Rico and the U.S. Virgin Islands) responds to about 4,500 requests each year A sample of 400 permits and license applications from this workload in FY2003 would have affected about 53,400 acres of habitat. Technical comments provided by the Southeast Region's Habitat Conservation Division influenced more than 90% of the total acres proposed for action. This success rate on habitat protection reflects the value of NOAA science and management recommendations offered to state and Federal decision makers, as well as NOAA's proactive efforts at educating the development community and conveying proper management applications. The extent of the acreage involved within one NOAA region highlights the importance of NOAA's habitat protection activities towards sustaining the health of trust resources.

NOAA also uses its expertise to influence decisions at the ecosystem or watershed level, where protection and restoration successes can be more lasting and profound. Utilizing a regional ecosystem approach to management, evidenced in Habitat's Chesapeake Bay and the Great Lakes programs, regional research is coupled with on-the-ground conservation with the assistance of local partners to enhance watersheds and coastal systems. These efforts provide large-scale benefits to resources and to our goals of no net habitat loss, increased yields, streamlined efficiencies, and sustained societal benefits.

Fisheries Habitat Restoration

Efforts relating to Fisheries Habitat Restoration provide financial support, technical expertise, and coordination for habitat restoration and research. The NOAA Restoration Center oversees activities under this line item through three major programs: Community-based Restoration Program (CRP); the Damage Assessment, Remediation and Restoration Program (DARRP); and Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) Program.

The Community-based Restoration Program (CRP) catalyzes partnerships at the national and local level to put into place the funding, technical assistance, and volunteer support to enable citizens to conduct and monitor the progress of coastal and estuarine fish habitat restoration. A model for community collaboration, partnership building, and interagency cooperation, CRP partners with grassroots groups to encourage hands-on citizen participation in restoration projects. This participation fosters long-term stewardship of the Nation's coastal and marine resources. The power behind CRP is its ability to build partnerships that leverage funding and emphasize volunteer involvement to restore the diverse habitats crucial to the economic well-being of the recreational and commercial fishing industries. This highly successful national effort encourages partnerships with industry, nonprofit organizations, and state and local governments and has regularly leveraged non-Federal funding to Federal funds by factors of 3:1 to 5:1.

Through DARRP legal settlements, NOAA claims damages for injuries to marine resources resulting from oil spills, hazardous releases, ship groundings, or other human-induced environmental disturbances. The NOAA Restoration Center staff administers the portion of DARRP that directs the planning, implementation, and monitoring of case-specific programs to restore NOAA trust resources after successful settlement of natural resource damage claims. Responsible parties provide funds or conduct projects to restore, replace, or acquire the equivalent of the injured resources.

Because the degree of wetland loss in Louisiana is so severe that it threatens the safety of its citizens, local traditions and cultures, economy, and environment, the CWPPRA program was enacted in 1990. CWPPRA is a multi agency reimbursable program administered by the Army Corps of Engineers. As member of this multi-agency Federal and state effort, the NOAA Restoration Center has administered approximately $10 million each year in reimbursements for on-the-ground restoration that has benefited thousands of acres of threatened wetlands and marine habitat. NOAA Restoration Center staff is actively involved with all aspects of the restoration process, from site selection and engineering/design to monitoring and maintenance.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Habitat Conservation & Restoration	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Habitat Conservation					
Sustainable Habitat Management	19,910	21,796	15,062	18,760	3,698
Fisheries Habitat Restoration	33,338	24,833	13,636	21,136	7,500
TOTAL	53,248	46,629	28,698	39,896	11,198
FTE	123	235	235	235	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Sustainable Habitat Management (+0 FTE and $3,698,000): NOAA Fisheries Service requests an increase of $3,698,000, including $2,800,000 for Habitat Conservation and $899,000 for Refine EFH Designations for a total request of $18,760,000.

Statement of Need:

The NOAA Fisheries Service hydropower program, works to protect and restore anadromous and catadromous fish and their habitats by promoting fish passage and other protection, mitigation, and enhancement measures at hydropower projects under the provisions of the Federal Power Act. The hydropower provisions of the Energy Policy Act of 2005 impose new requirements on the NOAA Fisheries Service hydropower program. Specifically, the Energy Policy Act requires Department of Commerce (DOC), along with Department of the Interior (DOI) and U.S. Department of Agriculture (USDA), to jointly establish a 90-day trial-type hearings process for the agencies' prescriptions (DOC and DOI) and conditions (DOI and USDA). The hearings will resolve disputed issues of material fact with respect to conditions or prescriptions for inclusion in hydropower licenses issued by the Federal Energy Regulatory Commission under the Federal Power Act. In addition the agencies most implement separate procedures for evaluating fish passage alternatives.

The Magnuson Stevens Act requires that Fishery Management Plans describe and identify essential fish habitat (EFH) and that adverse impacts from fishing and non-fishing activities to EFH be avoided, minimized, and/or mitigated. These habitat protection measures are intended to be one component of an overall strategy for achieving sustainable fisheries. In 1998 and 1999 NOAA identified and described EFH for the first time based on information available at the time.

Since then, new information has become available on habitat used and distribution among habitat types by various species and life history stages. In addition, new analytical approaches using more sophisticated models and mapping techniques are available to analyze the data. It is necessary to update EFH particularly on a regular basis to assure it reflects the best scientific data available.

Proposed Action:

NOAA Fisheries estimates that it will cost approximately $2,800,000 per year to implement the new requirements of the hydropower provisions of the Energy Policy Act. We request an increase of $2,800,000 in FY07 to accommodate these needs. The $2,800,000 per year is necessary to pay the U.S. Coast Guard for use of its Administrative Law Judges, and to augment technical and legal capabilities (attorneys) in NMFS Headquarters and Regional Offices to address the workload generated by the new processes.

NOAA Fisheries seeks an $899,000 increase in FY07 to support specific activities aimed at refining the 1998 and 1999 EFH designations. Specifically, this funding would support mapping and modeling activities that would enable NOAA Fisheries to better synthesize existing EFH information. In addition, this funding would support basic research to distinguish the importance of habitat used by managed species.

Benefits:

Anadromous and catadromous fish are important from an economic (commercial, recreational, or subsistence fisheries, or as prey for managed species) and environmental (ecosystem connectivity, and health) perspective. Since hydropower project licenses last 30-50 years, it is critical that NOAA Fisheries address the needs of anadromous and catadromous fish during the timeframe for each individual relicensing. Project relicensings provide opportunities for ecosystem restoration and species recovery in affected rivers and watersheds, often with direct implications to harvests. NOAA Fisheries needs to be able to implement the hydropower provisions of the Energy Policy Act in order to continue to exercise its mandate to provide for passage of anadromous and catadromous fish, including threatened and endangered species such as salmon, around hydropower projects.

Incorporating new species/habitat use information and analyses will refine EFH by clarifying the scope and extent of the existing EFH designations. This refined EFH will make EFH designations more accessible to the public and other federal agencies that must consult on impacts to EFH. More refined EFH designations will enable NOAA Fisheries to more effectively target conservation activities. The requested funds will support improved interpretations and analyses of existing habitat information, thereby ensuring that the agency maximizes use of the best available scientific data, complies more rigorously with the Data Quality Act, and generally is less susceptible to litigation risk. The agency has made considerable investments in specific efforts to refine EFH, particularly in the Northeast. The requested increase will enable the agency to bring these efforts to completion, thereby avoiding a loss of investment made in previous fiscal years.

Performance Goals and Measurement Data
This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of, "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase will support NOAA's Goal, "Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management". The measure listed below directly supports the Habitat Program's stream miles performance measure. In addition, these activities directly support the Habitat Program's Energy Policy Act milestone.

Performance Goal 3: Ecosystem Performance Measurements: Number of fishway prescriptions.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	0	0	0	0
With Increase	N/A	N/A	10	10	10	10

Performance Goal 3: Ecosystem Performance Measurements: Number of Fishery Management Plans revised with updated EFH.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	6	0	0	0	0
With Increase	N/A	N/A	6	6	6	6

PROGRAM CHANGES FOR FY 2007:

Fisheries Habitat Restoration (+0 FTE and $7,500,000): The NOAA Fisheries Service requests an increase of $7,500,000 including $6,000,000 to fund the Open Rivers Initiative with the goal of restoring stream miles of fish habitat and $1,500,000 to establish a Great Lakes Habitat Restoration Program for a total request of $21,136,000. River restoration and conservation will be attained through the modification or removal of structures (e.g. dams, barriers, culverts) that have outlived their useful purposes and pose safety hazards to the neighboring communities.

Great Lakes Habitat Restoration (+0 FTE and $1,500,000) NOAA Fisheries Service requests an increase of $1,500,000 to establish a Great Lakes Habitat Restoration Program, emphasizing restoration of NOAA trust resources at the watershed scale within the Great Lakes Areas of Concern.

Statement of Need:

The Great Lakes are North America's freshwater seas and one of the Nation's most important aquatic resources from an economic, geographic, international, ecological and societal perspective. Their restoration, protection and sustainable use are a matter of national priority. On May 18, 2004, Executive Order 13340 was signed creating the Great Lakes Interagency Task Force to help establish a regional collaboration of national significance for the Great Lakes. The Task Force brings together ten agencies including DOC to work on restoring the Great Lakes. NOAA's program will focus on restoring Great Lakes aquatic resources, with an emphasis on commonly occurring lake-wide problems such as providing technical support to assist in the remediation of contaminated sediment and the presence of persistent contaminants and the loss of high quality fish and wildlife habitat.

Proposed Action:

The Great Lakes Habitat Restoration Program will mobilize NOAA's restoration assets and use an ecosystem approach towards restoring Great Lakes' natural resources. The ecosystem approach to restoration is instrumental in identifying the sources of the problems (e.g., contaminated sediments), identifying an optimal restoration strategy and its intended benefits, evaluating the socio-economic consequences, and monitoring the success of the restoration effort in achieving its goal(s). To properly monitor the effectiveness of NOAA's Great Lakes Habitat Restoration Program, the program has identified a program performance measure (i.e., acres restored per year (NOAA GPRA measure)). The Great Lakes Restoration Program will incorporate all project information and monitoring results into the National Estuary Restoration Inventory (NERI) to monitor and document success of restoration at meeting goals for lake-wide ecosystem quality. Additionally, the Great Lakes Restoration Program will provide the necessary outreach, facilitation and technical assistance to stakeholders and communities participating in the restoration activities.

Benefits:

The two primary components of the Great Lakes Restoration Program will be: 1) the establishment of a cross-NOAA Great Lakes Habitat Restoration Program Office in the region and 2) the coordination of NOAA efforts to focus habitat restoration efforts at the watershed level in the Areas of Concern (AOC) identified under the Great Lakes Water Quality Agreement. It is expected that a community-based grant process for Great Lakes communities will provide for partnerships and additional funds from other federal agencies, states and local municipalities of an additional $4 million to $8 million. Overall, this program will develop a strong NOAA presence and leadership in habitat restoration within the Great Lakes region.

Performance Goals and Measurement Data:

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of, "Observe, protect, and manage the Earth's resources to promote environmental needs."

This increase will support NOAA's Goal, "Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management". Specifically, the increase supports the NOAA GPRA measure, "Number of Habitat Acres Restored" by targeting NOAA expertise and partnerships in the Great Lakes through establishing a cross-NOAA Great Lakes Habitat Restoration Program Office, and the coordination of NOAA efforts to focus habitat restoration efforts at the watershed level in the AOC, in conjunction with strong partnerships with a wide range of other agencies and customers.

GPRA Performance Goal: Number of Acres of Habitat Restored	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	8333	4500	4500	4500	4500	4500
*With Increase	-	-	4575	4575	4575	4575

* The number of acres of habitat restored will increase by 75 acres with the requested increase of $1.5M for the Great Lakes Restoration Program.

Open Rivers Initiative (+0 FTE and $6,000,000): The NOAA Fisheries Service requests an increase of $6,000,000 to fund the Open River Initiative with the goal of restoring stream miles of fish habitat.

Statement of Need:

To support Executive Order 13352 which directs federal agencies to promote cooperative conservation in full partnership with state, local governments, tribes and individuals, NOAA requests an increase of $6,000,000 to establish an initiative to enhance the repair of vital riverine ecosystems, to benefit communities, and to enhance populations of key NOAA trust species.

Over two million small dams block the passage of migratory fish in U.S. streams and rivers. Dams provide numerous benefits for modern society, but they also contribute to the habitat and water quality degradation occurring in estuaries, deltas, and river environments. While most U.S. dams serve their intended functions, many no longer provide the benefits for which they were built. Still others have outlived their planned life expectancy and present known public safety hazards and liability risks to owners of the structures. There are other barriers to fish passage as well. "Perched" culverts, whose downstream ends sit too high above the stream, block fish passage. Culverts that are too narrow, too steep, or collapsed can present impassible obstacles for migratory fish trying to reach their spawning grounds. The Open Rivers Initiative (ORI) is expected to provide an economic boost for communities, enhance public safety, and improve populations of NOAA trust resources such as striped bass, Atlantic and shortnose sturgeon, Atlantic and Pacific Salmon.

Proposed Action:

The ORI, a competitive grant program builds on NOAA's capabilities and utilizes a community-based model to remove small dam and river barriers in coastal states. The community-based model catalyzes partnerships at the national and local levels by providing funding, technical assistance, and encouraging volunteer stewardship support to enable citizens to restore lost fish habitat.

A significant portion of the $6,000,000 increase will address on-the-ground community-based river enhancements and approximately $1,500,000 will be utilized to support (i.e., assessment and characterization of priority sites, engineering and design, permitting, NEPA, technical assistance and administration) the initiative. Additional support from ORI partners (e.g., industry, non-profit organizations, state and local governments) regularly leverage non-federal to federal funds by a factor of approximately 3:1 to 5.1. Using a community-based model, NOAA has removed more than 80 dams and stream blockages, opening 700 miles of high quality river habitat for migratory fish.

NMFS will incorporate all ORI project information and monitoring results into the National Estuary Restoration Inventory (NERI) to monitor and document success of restoration at meeting goals. Additionally, the ORI will provide the necessary outreach, facilitation and technical assistance to stakeholders and communities participating in the repair of riverine ecosystems.

Benefits:

These restoration projects provide significant environmental improvements (e.g., opening access to spawning habitat and improving water quality) and offer noteworthy economic and societal benefits. They create new opportunities for recreational fishing, river rafting, and kayaking; provide cost savings by eliminating the need for dam repairs; and remove safety and liability risks associated with outdated structures. Removing dams and other barriers requires substantial time and effort because of environmental, safety, and socio-cultural considerations. All barrier removal projects benefit from a collaborative process that engages a wide array of partners, including municipalities, state government, and private owners. Partnerships help build the tools, confidence, and interest required to achieve successful river restoration projects.

Performance Goals and Measurement Data:
This increase will support the President's Ocean Action Plan and the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of, "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase will support NOAA's Goal, "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management". Specifically, the increase supports the Ecosystem Goal's Corporate Measure and the Habitat Program's performance measure, "Stream miles made accessible for ocean, coastal, and Great Lakes resources".

Performance Goal: Stream miles made accessible (miles per year).	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	199 (actual)	150 (target)	150	150	150	150
*With Increase	N/A	N/A	900	900	900	900

Performance Goal: Number of Dams modified.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	6 (actual)	N/A	0	0	0	0
With Increase (Annual/Cumulative)	N/A	N/A	30	30/60	30/90	30/120

Performance Goal: Hours of coastal community participation associated with habitat protection, restoration, education and outreach (hours per year).	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	193,494 (actual)	100,000 (target)	100,000	100,000	100,000	100,000
With Increase	N/A	N/A	105,000	105,000	105,000	105,000

* The number of stream miles made accessible (miles per year) will increase by 750 with the requested increase of $6.0M for the Open Rivers Initiative.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Sustainable Habitat Management ($6,904,000), Fisheries Habitat Restoration ($11,162,000).

Subactivity: Other Activities Supporting Fisheries
Line Item: Other Activities Supporting Fisheries

GOAL STATEMENT:

Provide accurate and timely information and analyses for the conservation of the Nation's living marine resources to support the National Oceanic and Atmospheric Administration (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

BASE DESCRIPTION:

"Other Activities Supporting Fisheries" includes items that cross multiple NMFS programs and therefore do not fit under one specific subactivity. Activities funded include computer hardware and software, cooperative research, information analysis and dissemination, Alaska fishery management and habitat conservation projects, the National Environmental Policy Act (NEPA), and facilities maintenance.

Cooperative research. One of the larger programs classified under "Other Activities," cooperative research enables commercial and recreational fishermen to become involved in collecting fundamental fisheries information to support the development and evaluation of management options. Through cooperative research, industry and other stakeholders can partner with NMFS and university scientists in all phases of the research program-- planning the survey/statistical design, conducting research, analyzing data, and communicating results. The information collected through cooperative research programs assists scientists and managers by supplementing the data currently collected through Federal research programs. This information improves the information base for single species, multi-species, and ecosystem assessment models and ultimately improves the evaluation of stock status and the management of fishery resources. Cooperative research covers a wide range of study areas, including fishery-dependent data, species life history, conservation engineering, species abundance and distribution, habitat, and socioeconomic impacts.

National Environmental Policy Act. The Agency's ecosystem-based approaches to management will increase the need for NEPA expertise, given the analytical complexity of this management task. NEPA Coordinators frequently identify program actions that require new or more comprehensive NEPA analyses. NOAA assists the eight Regional Fishery Management Councils with implementing NEPA and offers training programs for agency staff with NEPA implementation duties.

Southeast Area Monitoring & Assessment Program (SEAMAP). SEAMAP is a state/federal/university cooperative program for the coordinated collection, management, and dissemination of fishery-independent data (data that does not depend on reporting by the fishing industries) in the Southeastern United States. It is composed of three operational units: SEAMAP-Southeast Region, SEAMAP-South Atlantic, and SEAMAP-Caribbean.

Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines cooperatively established by the Gulf States Marine Fisheries Commission and the National Marine Fisheries Service's Southeast Regional Office. SEAMAP surveys are extremely important because they provide scientific data that is critical to resolving marine resource conservation issues in Gulf of Mexico, South Atlantic and U.S. Caribbean fisheries.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Other Activities Supporting Fisheries	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Activities Supporting Fisheries					
Antarctic Research	1,446	1,448	1,467	1,467	-
Center for Marine Education and Research (MS) (moved to MM & Sea Turtles)	2,957	-	-	-	-
Chesapeake Bay Studies	3,449	3,452	1,906	1,906	-
Climate Regimes & Ecosystem Productivity	1,478	1,478	1,483	1,984	501
Computer Hardware and Software	3,335	1,972	1,972	3,355	1,383
Cooperative Research	19,173	19,232	9,423	10,417	994
Information Analyses & Dissemination	17,686	17,461	17,758	18,384	626
Magnuson –Stevens (MSA) Implementation off Alaska	7,018	-	-	-	-
Marine Resources Monitoring, Assessment & Prediction Program (MarMap)	1,232	839	842	842	-
National Environmental Policy Act (NEPA)	2,957	7,890	7,956	7,956	-
NMFS Facilities Maintenance	-	3,945	3,960	3,960	-
Southeast Area Monitoring & Assessment Program (SEAMAP)	1,366	1,365	1,337	5,090	3,753
Other Projects	17,420	11,095	-	-	-
TOTAL	79,517	70,177	48,104	55,361	7,257
FTE	348	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Climate Regimes & Ecosystem Productivity (+ 0 FTE and $501,000): NMFS requests an increase of $501,000 for a total of $2,000,000 to improve the understanding and prediction of climate variability and change on major U.S. marine ecosystems in the Bering Sea and Gulf of Alaska. This increase will enhance NMFS' ability to monitor changes in these ecosystems through a network of in situ and remote observing systems. By the end of FY 2007,

NMFS plans to develop 4 new biophysical indicators linking changes in marine ecosystems to climate variability/change. The development of new climatic-forced biological models will provide accurate predictions on the status of living marine resources in future climates—providing resource managers the knowledge and predictive tools to adapt to the consequences of climate variability and change on marine ecosystems.

Statement of Need

Managing marine ecosystems in consideration of climate variability and change depends on understanding the sensitivity of these systems to climate. Predicting the probable consequences of climate variability and change on Alaska's living marine resources and delivering the knowledge and predictive tools to resource managers is essential to NMFS' mission of enhancing the Nation's ability to plan and respond to climate variability and change.

Lack of available data is a major constraint-—without sufficient data, researchers cannot develop timely biophysical indicators and models that support management and policy actions. There is also the need to further the understanding of the linkages between climate forcing and ecological responses. By coupling observations with information from retrospective and process studies, this project will generate the necessary foundation for understanding climate–ecosystem relationships.

The Climate Regimes & Ecosystem Productivity program:

- contributes to the development of indices and assessment tools used by the North Pacific Fishery Management Council – required for analyses on Total Allowable Catches in Alaskan marine fisheries;
- supplies indices to the North Pacific Marine Science Organization for use in the North Pacific Ecosystem Status Report; contributes to the development of climate-forced models – improves NMFS' recruitment predictions and stock assessments of Alaskan fisheries; and provides environmental and ecosystem data via the internet – supports the President's Management Agenda by supporting E-government strategic goals.

Several reports recognize that scientific findings on climate variability require further development and improved integration with non-climatic knowledge to better serve society's needs. The 2003 Strategic Plan for the U.S. Climate Change Science Program (CCSP) identified several research priorities related to climatic variability and change, such as developing predictive models on threshold responses of ecosystems and species, collecting long-term data sets to track changes in seasonal cycles of productivity, and creating predictive management tools such as ecological forecasting models. The North Pacific Marine Science Organization (PICES) Study Group's 2005 Fisheries and Ecosystem Responses to Recent Regime Shifts Report and NOAA's Strategic Plan for FY 2006–FY 2011, "New Priorities for the 21st Century," identified the same limitations with current climate model projections and reiterated the recommendations listed in the CCSP report.

Proposed Actions

Climate Regimes and Ecosystem Productivity - $500,000 A sound ecosystem approach to management requires understanding how climate fluctuations affect the ecosystem. Climate variability and change can profoundly impact natural environments, and the effects can be large and far-reaching. NMFS will conduct this project on a regional scale (i.e., within the fisheries-rich ecosystems of the Gulf of Alaska and southeast Bering Sea) and these studies will improve the understanding of climate–ecosystem relationships and their controlling mechanisms. Efforts include:

- funding a post-doctoral fellow to directly incorporate climate into stock assessment models;
- integrating sea-ice data into an ocean circulation model required to examine effects of climate on currents that impact living marine resources;
- enabling the expansion of the Bering Climate web page to include the Gulf of Alaska, as requested by the North Pacific Fisheries Management Council;
- participating on Bering Sea groundfish cruises to collect critical summer ecosystem observations;
- fully implementing real-time data communication with Bering Sea biophysical moorings and near real-time delivery of data products to stakeholders via the Internet; and
- deploying additional satellite-tracked drifters to examine how climate forcing affects circulation.

Benefits

These studies will improve the understanding of climate–ecosystem relationships and their controlling mechanisms. These capabilities will provide the latest predictive tools to living marine resource managers and decision makers, enabling more scientifically informed decisions in climate-sensitive marine ecosystems and supporting the President's U.S. Ocean Action Plan recommendation for an integrated approach to oceans management.

The request will increase NMFS' ability to provide resource managers the knowledge and predictive tools to adapt to the consequences of climate variability and change on marine ecosystems, thereby improving the management of Alaskan fisheries (e.g., pollock, cod, halibut, salmon, and crab), valued at over $1 billion per year. The targeted marine ecosystems are among the most productive in the world. They contain unique marine habitats that, in addition to supporting large populations of commercially valuable finfish and shellfish, support diverse populations of forage fishes and abundant marine mammals and birds. These ecosystems also support economically important recreation and tourism.

Performance Goals and Measurement Data

This increase will support the Department of Commerce objective to "advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal to "observe, protect, and manage the Earth's resources to promote environmental stewardship."

Performance Goal: Climate Performance Measure: Increased number of ecological forecasts and living marine resource assessments used by managers that incorporate indices of climate variability and change.	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Without Increase	0	1	1	1	2	3	4
With Increase	0	1	1	2	3	4	6

Computer Hardware and Software (+0 FTE and $1,383,000) – NMFS requests an increase of $1,383,000 for a total of $3,383,000 for Computer Hardware and Software. This increase will restore funds to the prior year funding level.

Statement of Need

An increase of $1,383,000 will cover critical IT infrastructure and connectivity costs for transmitting commercial and recreational fisheries data. Restoring these funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS' network.

Proposed Actions

These funds will restore NMFS' ability to fund required maintenance contracts on software and to legally maintain software products currently used to support critical mission requirements. In addition, funding will provide support for essential contract staff in Headquarters and Regional sites involved in processing NOAA's scientific and law enforcement data for enterprise applications. These data are central to the stewardship of commercial and recreational fishing and of protected species and their habitats.

Benefits

Restoring these funds will allow for the essential maintenance of crucial security hardware and software used for preventing and monitoring security risks and vulnerabilities to NMFS' network.

Cooperative Research (+ 0 FTE and $994,000): NMFS requests a net increase of 0 FTE and and $994,000 for Cooperative Research. Of this increase, $1,000,000 is for the Southeast Cooperative Research program to fund research on Bycatch Reduction Devices (BRDs) and other fishing gear in the Gulf of Mexico. A number of economically important recreational and commercial species of finfish are caught as bycatch in the shrimp fishery. With the use of BRDs, fishermen are able to retain the shrimp catch while allowing the finfish to escape the trawl net. Increased funding will enable NMFS to address the issue of lowering bycatch levels of a number of economically important recreational and commercial species of finfish including red snapper. NMFS' request directly impacts efforts to support regional partnership opportunities in the Gulf of Mexico, a strategy that is advocated in the President's U.S. Ocean Action Plan.

Statement of Need

NMFS supports a fishing gear research program that has worked cooperatively with the shrimp industry to address the issue of turtle bycatch in an economically feasible manner. The next issue to be addressed is finfish bycatch by shrimp trawls. One of these species, red snapper, is a premier sportfish that is classified by NMFS as overfished. Red snapper is currently under a long-term rebuilding plan.

Additional funding for cooperative research with the shrimp industry is critical to designing new BRDs to achieve bycatch reduction levels of red snapper and other overfished species. This work can be completed as part of the larger NMFS Fisheries National Bycatch Strategy, and addresses the U.S. Ocean Action Plan. This initiative reflects the FY 2007 Administration Research and Development Budget Priorities by addressing the societal impacts of science and technology and supporting technological innovation that spurs economic competitiveness.

Proposed Action

The request will supplement the existing cooperative research program administered by NMFS Southeast Fisheries Science Center. Efforts will include:

1. *Bycatch Reduction Device Testing Protocols ($750,000)* – Additional funding will address the need to develop more efficient methods to certify finfish bycatch reduction devices. NMFS will direct the funds towards BRD development and testing through cooperative research arrangements. Current devices have not been deemed effective in minimizing bycatch of finfish. Innovative designs and more thorough in-field testing will improve the efficacy of BRDs certified for use in the shrimp trawl fishery. New protocols will benefit both the recreational and commercial fishing communities.

2 *Quantification of Bycatch Rates ($250,000)* – NMFS is committed to enhancing methods for estimation of fleet-wide bycatch levels in the shrimp trawl fishery. The request will improve statistical research by ensuring that extrapolation of the results from individual trawl bycatch surveys to the fleet are statistically valid. NMFS will develop accurate and precise statistical methods that will account for the total range of conditions found in all major fishing areas. Once NMFS determines the prevailing conditions in the fishery, scientists can use the data to estimate the number of fishery observers needed to collect bycatch information. NMFS' improvement and expansion of the Southeast Cooperative Research program supports one of the priorities set forth in the President's U.S. Ocean Action Plan — the implementation of a new national bycatch strategy.

Benefits

Because bycatch levels are so high, management measures in the directed commercial or recreational fishery alone will not be able to rebuild the stock without addressing the bycatch issue. NMFS request will: (1) speed recovery of red snapper stocks; (2) reduce the likelihood of closure of recreational and commercial fisheries; and (3) mitigate further litigation. Bycatch reduction achieved through cooperative research in an economically feasible manner would address concerns of the shrimp industry and recreational fishermen.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Information Analyses and Dissemination (+ 0 FTE and $626,0000): NMFS requests 0 FTE and $626,000 in net increases above the FY 2007 base, for a total request of $18,330,000. NMFS' request provides the capacity to produce efficient tools for accurate data analyses and timely information dissemination to enable effective decision making. Funds within this line provide the necessary support for NMFS staff to analyze, produce, and disseminate population assessments and other biological, ecological, and oceanographic analyses.

Statement of Need

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates requirements for data collection, analyses, and dissemination. NMFS has specific roles and responsibilities under MSA that require staff expertise in model development for population dynamics and economic trends, statistical data analyses for stock assessments, database development and data warehousing, and computer programming. Additional funds enable NMFS to make new investments that improve information technology (IT) information sharing and storing capabilities within six Fisheries Science Centers and six Regional Offices.

Additionally, these funds enable NMFS to maintain Data Management systems and policies that are critically needed to support IOOS (Integrated Ocean Observing System); DMAC (Data Management and Communications); and NOAA DMC (Data Management Committee) requirements for data collection, processing, dissemination, archiving, and data sharing.

Proposed Action

This line supports NMFS economists who conduct economic models and analyses and statistical data analyses. Other biological, ecological, and oceanographic analyses, models, and assessments are also supported by these funds. Biologists, economists, oceanographers, statisticians, and operations researchers conduct scientific investigations on the data collected and report their findings to policy makers and decision makers. Computer programmers will create the population models, databases, and geo-spatial data warehouses required for long-range management of the integrated data sets and models. These analyses will use models of population dynamics and risk assessments to formulate policy options for fisheries management. Data are analyzed and used in computer models to forecast changes in resource abundance required for long-range management.

Requested funds will maintain continued support of mathematical and statistical analyses that integrate resource survey data (funded under Fisheries Research and Management line), commercial and recreational data collections (funded under Fish Statistics line), and population biology studies (funded under Fisheries Research and Management) into sophisticated population models.

Benefits

NMFS data management initiatives provide basic analysis tools and reports for scientists, stakeholders, and decision makers. NMFS' Scientific Publications Office (SPO) publishes and disseminates peer-reviewed NMFS publications that advance fisheries science and conservation issues. SPO's activities provide visibility for NOAA scientific research through respected publications such as the *Fishery Bulletin*, *Marine Fisheries Review*, and NOAA's Technical Memorandum Series.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Information Analyses & Dissemination program indirectly supports the following performance measures.

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

Southeast Area Monitoring and Assessment Program (+ 0 FTE and $3,753,000): NMFS requests 0 FTE and $3,752,000 for the Southeast Area Monitoring and Assessment Program (SEAMAP) program. This increase will fund surveys for groundfish, reef fish, Fall and Summer shrimp stocks, and Spring and Fall plankton — an important food source for fish. NMFS will also conduct environmental surveys on temperature, salinity, dissolved oxygen, turbidity, and chlorophyll abundance. NMFS will warehouse all of the biological and environmental data from each SEAMAP survey into the SEAMAP Information System, a distributed data management system administered in conjunction with NMFS' Southeast Fisheries Science Center.

Statement of Need

SEAMAP is a State/Federal/university program for collection, management and dissemination of fishery-independent data for supporting the sustainable use of commercially and recreationally valuable finfish stocks in the southeastern United States. NMFS is working with other Federal, State and local agencies to monitor and assess the impacts of Hurricanes Katrina and Rita on marine resources and infrastructure in the Gulf of Mexico—these activities represent the first step in ensuring the sustained economic recovery in the Gulf Region.

NOAA will direct over half of the SEAMAP funding to the Gulf of Mexico to: 1) assess additional environmental impacts from the restoration and/or the construction and operation of new oil and natural gas facilities needed to off-set current hurricane-related shortfalls in energy; and 2) assess the distribution/health and status of key fishery species, including eggs and larvae. Assessing and responding to hurricane-based environmental impacts has attained even greater economic importance, given the already existing and extensive hypoxic (low oxygen) region in the Gulf—a constant threat to the Gulf commercial and recreational fishing sectors.

SEAMAP surveys are extremely important because they provide sound scientific data that are critical to resolve issues with the location and operation of open-loop liquefied natural gas (LNG) terminals. Open-loop systems run warm Gulf seawater through an open-rack vaporizer system to reconvert super-cooled LNG (-256 degrees Fahrenheit) into a gas. There is only limited SEAMAP data upon which to base assumptions and estimates regarding the impacts of water uptake (entrainment), thermal shock, pressure shock, or mechanical/chemical exposure on ichthyoplankton and crustacean assemblages. NMFS requires additional SEAMAP data to strengthen the current models related to estimating open-loop terminal impacts.

SEAMAP data is also very important in a broader sense to achieving both NOAA and the President's U.S. Ocean Action Plan goal of improving management of the Nation's marine and coastal resources with ecosystem-based approaches. NMFS' SEAMAP initiative reflects the FY 2007 Administration Research and Development Budget Priorities by placing a high priority on data sharing across platforms and disciplines. Information from the SEAMAP activities is provided to user groups for research or study through three complementary systems: the SEAMAP Information System, the SEAMAP Archiving Center and the SEAMAP Invertebrate Plankton Archiving Center.

Proposed Action

SEAMAP efforts will include ichthyoplankton surveys. The request will support Spring and Fall surveys for ichthyoplankton in the Gulf of Mexico. Ichthyoplankton includes fish eggs, newly hatched eggs, and young fish, and adults of small fish. The objectives of the Spring plankton survey are to collect ichthyoplankton samples to estimate the abundance and distribution of Atlantic bluefin tuna larvae. NMFS will also collect environmental data at each ichthyoplankton survey station. NMFS will conduct Fall plankton surveys to collect ichthyoplankton samples to estimate abundance and define the distribution of eggs, larvae, and small juveniles of reef fishes, particularly king and Spanish mackerel and red snapper.

Benefits

SEAMAP provides guidance, personnel, and contributes scientifically sound information for the enhancement and protection of the marine resources in the Gulf of Mexico. Additional SEAMAP data will not only strengthen the current models related to estimating open-loop terminal impacts, but will also provide for better baselines and monitoring of the impacts of the construction and operation of the terminals on living marine resources. SEAMAP's plankton and environmental surveys will enable NMFS to increase sampling intensity for the Gulf of Mexico thereby improving current estimates of larval mortality as well as analyses of potential economic impacts to commercial and recreational fisheries.

Performance Goals and Measurement Data

This increase will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007:Chesapeake Bay Studies ($1,545,000), Cooperative Research ($9,862,000), Other Projects ($11,095,000).

Subactivity: Alaska Composite Research and Development
Line Item: AK Composite Research and Development Program

GOAL STATEMENT:

Provide accurate and timely information and analyses on the biological, ecological, economic, and social aspects of Alaska's fisheries resources and develop, implement, and monitor living marine resource management measures to support the National Oceanic and Atmospheric Administration's (NOAA) Strategic Plan goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

BASE DESCRIPTION:

The FY 2006 conference agreement created a new initiative titled the Alaska Composite Research and Development Program under the Alaska Composite Research and Development subactivity that represents a combination of Alaskan programs, projects and activities that were individually itemized in previous budgets. NOAA, the State of Alaska, and our Alaskan partners—Alaska Native organizations, academia, and non-governmental organizations—will conduct scientific and management activities to ensure future sustainable and abundance-based harvests of these living marine resources. Furthermore, the program will continue longstanding efforts to monitor the recovery of select pinniped and marine mammal species such as Steller sea lions and beluga whales.

The FY 2006 Conference Agreement recognized that the North Pacific had no groundfish fisheries listed as overfished, in part due to the constant monitoring and research that this funding provides. Alaska fisheries landings, in 2004, made up 55% of total U.S. landings by weight (5.36 billion pounds), and accounted for over 32% of the total value ($1.17 billion). Two of the Nation's top three fishing ports, in terms of highest dollar value for commercial landings, are in Alaska. In 2004, Dutch Harbor-Unalaska moved the most fish of any port--886.4 million pounds for a total dollar value of $155 million. Kodiak, Alaska, was not far behind generating $91 million for 312.6 million pounds of fish landed.

This new initiative reflects the Office of Management and Budget and Office of Science and Technology Policy's FY 2007 Research and Development Budget Priorities by supporting technological innovation that spurs economic competitiveness. Alaska's fisheries management requires data and research on over 900,000 square miles of ocean within the Exclusive Economic Zone off Alaska's coast. These funds are critical to provide data collection, analysis and further resource development of these fisheries. Equally important, the Alaska Composite Research and Development Program will provide continued economic opportunity for the State of Alaska and its numerous coastal communities.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Alaska Composite Research and Development	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: AK Composite Research and Development Program					
TOTAL	-	50,298	29,724	36,448	6,724
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Alaska Composite Research and Development Program (0 FTE and +$6,724,000) – NMFS requests a net increase of 0 FTE and $6,724,000 from the FY 2007 base for a total of $36,448,000 to support science, research, and management of Alaskan living marine resources. NMFS' request includes long-standing support for the co-management of Alaska Native marine mammals, grants for marine mammal, finfish and crustacean research, and monitoring and survey activities for groundfish.

Statement of Need

The FY 2006 *Science, State, Commerce , Justice, and Related Agencies Appropriations Act* enacted funding for a new budget line titled the Alaska Composite Research and Development Program that focused upon Alaska fisheries and marine mammals. The appropriations bill enacted a significant consolidation of the NMFS budget resulting in the realignment of approximately 50 budget lines into a single PPA (Program, Project, or Activity) for the conservation and management of Alaska fisheries and marine mammals.

The Commerce, Justice, Science Subcommittee of the Senate Appropriations Committee recognized that Alaska fisheries management requires data and research on over 900,000 square miles of ocean within the Exclusive Economic Zone off Alaska's coast. These funds are critical to provide data collection, analysis and further resource development of these fisheries in order to provide continued economic opportunity for the State and its numerous coastal communities. These funds are critical to provide data collection, analysis and further resource development of these fisheries in order to provide continued economic opportunity for the State of Alaska and its numerous coastal communities.

Proposed Action

The FY 2007 President's Request focuses on NMFS' core responsibilities including essential assessment surveys and management actions on fish, crabs, and protection and conservation of marine mammals under the Marine Mammal Protection Act. In the past, NMFS has actively collaborated with other entities in Alaska (independent research institutions, the State of Alaska, the North Pacific Fisheries Management Council, the fishing industry, Alaska coastal communities, and other stakeholders) to conduct marine mammal and crustacean research, monitor Alaska groundfish and salmon stocks, encourage community involvement in the co-management of native marine species, sponsor commission participation at international meetings such as the International Whaling Commission. The FY 2007 President's Request does not seek funding for non-essential Congressionally-directed budget lines that cover administrative services to industry and community commissions. Funds willl go to the Alaska Regional Office and Alaska Fisheries Science Center to conduct assessment and management activities for Alaska finfish (pollock and other groundfish, halibut/sablefish), crustaceans (crab), and salmon. Two of the Nation's top four fishing ports, in terms of highest dollar value for commercial landings, are in Alaska. Base funds will also support assessment and conservation activities for Alaska whales, seals and sea lions. The remaining $6,969,000 will be provided to the state of Alaska, Non-Governmental Organizations, and Alaska native partners for research and co-management activities.

Benefits

The North Pacific has no fisheries listed as endangered, in part due to the constant monitoring and research that this funding provides. NMFS' support of the Alaska Composite Research and Development line will lead to a better understanding living marine resources and will provide for sustainable and abundance-based harvests. The interactions of fisheries and marine mammals are the subject of intensive research in many parts of the world, and will be a major focus of research in the North Pacific for many years to come.

Performance Goals and Measurement Data

The total request of $36,448,000 will support the objective "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal to "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the NOAA Goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

The Alaska Composite Research and Development Program indirectly supports the following performance measures:

Performance Goal 3: **Ecosystem Performance Measurements** Percentage of Fish Stocks with Adequate Population Assessments and Forecasts.[1]	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase *Assumes level funding at FY 2006 request*	55.7%	57.0%	55.2%	54.1%	53.0%	52.0%
With Increase to SLMR and Gulf of Mexico	55.7%	57.0%	55.2%	56.1%	55.0%	53.9%

[1] This is a component of the NMFS GPRA measure Percentage of Living Marine Resources (LMR) with Adequate Population Assessments and Forecasts.

This is a new measure for FY 2007.

Performance Goal: *Ecosystems* **Performance Measure:** *Increase the Fish Stock Sustainability Index (FSSI)*	**FY2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	500.5	510.5	512.5	514.5	516	530.5
With Increase	500.5	510.5	512.5	514.5	516	544

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: AK Composite Research and Development ($18,969,000).

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

National Marine Fisheries Service	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	-	1,478	-	1,478	-	1,483	-	1,984	-	501
Total C	-	1,478	-	1,478	-	1,483	-	1,984	-	501
Ecosystems										
Ecosystems	2,594	675,037	2,552	665,748	2,552	566,441	2,587	647,004	35	80,563
Total ECO	2,594	675,037	2,552	665,748	2,552	566,441	2,587	647,004	35	80,563
Total National Marine Fisheries Service	2,594	676,515	2,552	667,226	2,552	567,924	2,587	648,988	35	81,064

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Protected Species Research and Management											
Protected Species	Pos/BA	723	175,530	737	145,039	741	122,428	755	144,924	14	22,496
	FTE/OBL	648	175,269	646	146,885	646	122,428	657	144,924	11	22,496
Total: Protected Species Research and Management	Pos/BA	723	175,530	737	145,039	741	122,428	755	144,924	14	22,496
	FTE/OBL	648	175,269	646	146,885	646	122,428	657	144,924	11	22,496
Fisheries Research and Management											
Fish	Pos/BA	1,798	297,873	1,766	282,408	1,736	265,746	1,766	291,662	30	25,916
	FTE/OBL	1,214	295,512	1,422	286,959	1,422	265,746	1,444	291,662	22	25,916
Total: Fisheries Research and Management	Pos/BA	1,798	297,873	1,766	282,408	1,736	265,746	1,766	291,662	30	25,916
	FTE/OBL	1,214	295,512	1,422	286,959	1,422	265,746	1,444	291,662	22	25,916
Enforcement and Observers / Training											
Enforcement	Pos/BA	248	45,824	248	49,500	248	49,922	248	53,901	-	3,979
	FTE/OBL	191	46,481	188	56,912	188	49,922	188	53,901	-	3,979
Observers & Training	Pos/BA	5	24,523	8	23,175	6	23,302	8	26,796	2	3,494
	FTE/OBL	70	25,371	61	25,536	61	23,302	63	26,796	2	3,494
Total: Enforcement and Observers / Training	Pos/BA	253	70,347	256	72,675	254	73,224	256	80,697	2	7,473
	FTE/OBL	261	71,852	249	82,448	249	73,224	251	80,697	2	7,473
Habitat Conservation & Restoration											
Habitat Conservation	Pos/BA	107	53,248	111	46,629	111	28,698	111	39,896	-	11,198
	FTE/OBL	123	53,077	235	47,459	235	28,698	235	39,896	-	11,198

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Total: Habitat Conservation & Restoration	Pos/BA	107	53,248	111	46,629	111	28,698	111	39,896	-	11,198
	FTE/OBL	123	53,077	235	47,459	235	28,698	235	39,896	-	11,198
Other Activities Supporting Fisheries											
Other Activities Supporting Fisheries	Pos/BA	-	79,517	-	70,177	-	48,104	-	55,361	-	7,257
	FTE/OBL	348	80,700	-	71,479	-	48,104	-	55,361	-	7,257
Total: Other Activities Supporting Fisheries	Pos/BA	-	79,517	-	70,177	-	48,104	-	55,361	-	7,257
	FTE/OBL	348	80,700	-	71,479	-	48,104	-	55,361	-	7,257
Alaska Composite Research and Development											
AK Composite Research and Development Program	Pos/BA	-	-	-	50,298	-	29,724	-	36,448	-	6,724
	FTE/OBL	-	-	-	50,298	-	29,724	-	36,448	-	6,724
Total: Alaska Composite Research and Development	Pos/BA	-	-	-	50,298	-	29,724	-	36,448	-	6,724
	FTE/OBL	-	-	-	50,298	-	29,724	-	36,448	-	6,724

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Protected Species Research and Management

Title			Grade	Number	Annual Salary	Total Salaries
Fisheries Research Scientist	HQ		13	1	81,723	81,723
Fisheries Research Scientist	HQ		13	2	74,782	149,564
Fisheries Research Scientist	AKC		11	1	57,583	57,583
Fisheries Research Scientist	HQ		11	1	52,468	52,468
Fisheries Research Scientist	NEC		13	1	83,406	83,406
Fisheries Research Scientist	NWC		13	1	82,073	82,073
Fisheries Research Scientist	PIC		13	1	79,064	79,064
Fisheries Research Scientist	SEC		13	1	82,372	82,372
Fishery Biologist	HQ		13	1	74,782	74,782
Fishery Biologist	HQ		13	1	74,782	74,782
Fishery Biologist	NER		11	1	53,604	53,604
Fishery Biologist	SEC		13	1	75,291	75,291
Fishery Biologist	SER		11	1	52,826	52,826
Fishery Biologist	SWR		11	1	55,033	55,033
Total				15		1,054,571
Less Lapse		25%		-4		(263,643)
Total full-time permanent (FTE)				11		790,928
2006 Pay Adjustment (3.1%)						24,519
2007 Pay Adjustment (2.2%)						17,940
Total						833,387

Personnel Data	Number
Full-time permanent	11
Other than full-time permanent	0
Total	11

Authorized Positions

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Full-time permanent	15
Total	15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Fisheries Research and Management

Title		Grade	Number	Annual Salary	Total Salaries
			0	-	-
Computer Specialist	HQ	9	1	47,390	47,390
Computer Specialist	HQ	14	1	88,369	88,369
Computer Specialist	HQ	12	1	68,722	68,722
Economist	NWC	13	1	75,136	75,136
Economist	PIC	13	1	72,035	72,035
Economist	SEC	13	2	75,291	150,582
Economist	SWC	13	1	78,437	78,437
Fish Management Specialist	AKA	14	1	85,123	85,123
Fish Management Specialist	NER	14	1	90,281	90,281
Fish Management Specialist	NWR	14	1	88,788	88,788
Fish Management Specialist	PIR	14	1	85,123	85,123
Fish Management Specialist	SER	14	1	85,123	85,123
Fish Management Specialist	SWR	14	1	92,689	92,689
Fisheries Research Scientist	NEC	13	1	76,400	76,400
Fisheries Research Scientist	NWC	11	1	52,717	52,717
Fisheries Research Scientist	NWC	13	1	75,136	75,136
Fisheries Research Scientist	PIC	11	1	50,541	50,541
Fisheries Research Scientist	PIC	13	1	72,035	72,035
Fisheries Research Scientist	SEC	13	1	75,291	75,291
Fisheries Research Scientist	ST	13	1	74,782	74,782
Fisheries Research Scientist	SWC	13	1	78,437	78,437
Fisheries Research Scientist	SWC	11	1	55,033	55,033
Social Scientist	AKC	12	1	63,184	63,184
Social Scientist	NER	12	1	64,246	64,246
Social Scientist	NWC	12	1	63,184	63,184
Social Scientist	PIC	12	1	60,576	60,576

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Social Scientist	SWC		12	1	65,960	65,960
Specialist	ST		13	1	74,782	74,782
Total				29		2,110,102
Less Lapse		25%		-7		(527,526)
Total full-time permanent (FTE)				22		1,582,577
2006 Pay Adjustment (3.1%)						49,060
2007 Pay Adjustment (2.2%)						35,896
Total						1,667,532

Personnel Data	Number
Full-time permanent	22
Other than full-time permanent	0
Total	22
Authorized Positions	
Full-time permanent	29
Total	29

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Marine Fisheries Service
Subactivity: Enforcement and Observers / Training

Title			Grade	Number	Annual Salary	Total Salaries
Fish Biologist	AKC		7	1	35,620	35,620
Fish Biologist	NEC		7	1	36,219	36,219
Fish Biologist	SEC		7	1	35,693	35,693
Total				3		107,532
Less Lapse		25%		-1		(26,883)
Total full-time permanent (FTE)				2		80,649
2006 Pay Adjustment (3.1%)						2,500
2007 Pay Adjustment (2.2%)						1,829
Total						84,978

Personnel Data	Number
Full-time permanent	2
Other than full-time permanent	0
Total	2
Authorized Positions	
Full-time permanent	3
Total	3

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Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Protected Species Research and Management

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	1,320
11.9	Total personnel compensation	1,320
12.1	Civilian personnel benefits	296
21	Travel and transportation of persons	84
23.3	Communications, utilities and miscellaneous charges	2,000
25	Other contractual services	9,460
26	Supplies and materials	4
31	Equipment	51
41	Grants, subsides and contributions	9,281
99	Total Obligations	22,496

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Fisheries Research and Management

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	2,601
11.9	Total personnel compensation	2,601
12.1	Civilian personnel benefits	670
21	Travel and transportation of persons	149
23.3	Communications, utilities and miscellaneous charges	2,500
25	Other contractual services	10,196
26	Supplies and materials	209
31	Equipment	548
41	Grants, subsides and contributions	10,948
99	Total Obligations	27,821

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Fisheries Research and Management

	Object Class	2007 Decrease
25	Other contractual services	(953)
41	Grants, subsides and contributions	(952)
99	Total Obligations	(1,905)

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Enforcement and Observers / Training

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	105
11.9	Total personnel compensation	105
12.1	Civilian personnel benefits	24
21	Travel and transportation of persons	9
25.1	Advisory and assistance services	1
25.2	Other services	3,695
31	Equipment	9
41	Grants, subsides and contributions	3,630
99	Total Obligations	7,473

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Habitat Conservation & Restoration

	Object Class	2007 Increase
21	Travel and transportation of persons	25
25.1	Advisory and assistance services	878
25.2	Other services	3,199
31	Equipment	12
41	Grants, subsides and contributions	7,084
99	Total Obligations	11,198

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Other Activities Supporting Fisheries

	Object Class	2007 Increase
25.2	Other services	3,629
41	Grants, subsides and contributions	3,628
99	Total Obligations	7,257

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Marine Fisheries Service
Subactivity: Alaska Composite Research and Development

	Object Class	2007 Increase
23.3	Vessel charter	1,700
25.2	Other services	4,184
41	Grants, subsides and contributions	840
99	Total Obligations	6,724

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OCEANIC AND ATMOSPHERIC RESEARCH
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Climate Research	177,311	169,584	163,442	181,151	17,709
Weather and Air Quality Research	50,890	67,570	36,796	41,230	4,434
Ocean, Coastal, and Great Lakes Research	146,826	126,676	94,347	102,976	8,629
Information Technology and R&D	29,079	6,411	6,442	12,916	6,474
TOTAL	404,106	370,241	301,027	338,273	37,246
FTE	689	710	714	714	0

For FY 2007, NOAA requests a total of $338,273,000 for the Office of Oceanic and Atmospheric Research Operations, Research and Facilities (ORF), a net increase of $37,246,000.

The primary center for research and development within NOAA is the Office of Oceanic and Atmospheric Research (OAR), also referred to as NOAA Research. The major research themes are Climate Research; Weather and Air Quality Research; Ocean, Coastal and Great Lakes Research; and Information Technology, Research and Development (R&D). The goal of Climate Research is the greater understanding of the climate system to improve predictions on subseasonal through decadal time scales. The goal of Weather and Air Quality Research is to better understand and forecast atmospheric events that endanger lives and property. The goal of Ocean, Coastal and Great Lakes Research is to develop innovative management tools through a better understanding of our ocean and Great Lakes habitats and resources. The goals of Information Technology, Research and Development, and Science Education are to accelerate the adoption of advanced computing, communications, and information technology throughout NOAA and to provide science education to help expand the pool of potential future scientists and researchers for industry, academia, and government.

NOAA Research's FY07 Budget request reflects a revised structure of its climate activities. This simplified structure is composed of five line items under the Climate Research subactivity: Laboratories & Cooperative Institutes, Competitive Research Program, Climate Operations, Climate Data & Information, and Other Partnership Programs.

These line items encompass activities formerly described under Laboratories & Cooperative Institutes, Climate and Global Change, Climate Observations & Services (including the Climate Change Research Initiative), Arctic Research, and Other Partnership Programs. This structure clarifies and better aligns research activities with their appropriate executing offices.

NOAA Research operates through a national network of OAR laboratories and other OAR and university-based research programs. Accordingly, the OAR budget activity is managed through these organizational components - OAR Research Laboratories and Cooperative Institutes, NOAA Climate Program Office, National Sea Grant College Program, Office of Ocean Exploration and Research, Office of Weather & Air Quality, and the NOAA High-Performance Computing and Communications Program. The National Undersea Research Program has been combined with Ocean Exploration, and the Arctic Research Office is now part of the Climate Program Office. With this diverse research "tool kit," OAR provides national and international leadership on critical environmental issues and addresses environmental R&D needs of internal NOAA customers, states, industry, the Department of Commerce, and other Federal agencies.

NOAA Research Laboratories and Cooperative Institutes

OAR's seven laboratories and thirteen cooperative institutes are charged with the mission of advancing scientific understanding of the Earth we all share. The research conducted at the laboratories is divided into three sub-activities: (1) Climate Research, which has the mission of monitoring and understanding the Earth's climate system to predict both the potential long-term changes in global climate as well as shorter-term climate variations that are of societal and economic importance; (2) Weather and Air Quality Research, where researchers strive to provide the Nation with more accurate and timely warnings and forecasts of various high-impact weather and air quality events, such as storms and elevated levels of ozone and aerosols (particulate matter), all of which may disrupt economic productivity, impact human health, or cause loss of life and property; and (3) Ocean, Coastal, and Great Lakes Research, where the research serves to increase our understanding of coastal and marine processes for the purpose of predicting, monitoring, and mitigating the effects on ecosystems of not only climate change but also other environmental and ecosystem changes (e.g., invasive species).

The NOAA Research Laboratories administer and manage OAR programs, emphasizing theoretical and analytical studies, laboratory experiments, and field observations. The primary purpose of OAR's research is to improve NOAA services and to provide the basis for improved decision making by policymakers and the public. The OAR laboratories collaborate closely with thirteen university-based cooperative institutes and sponsor research through contracts and grants with other universities, state and Federal agencies, and private enterprises. The seven laboratories are:

Air Resources Laboratory (ARL) is headquartered in Silver Spring, MD, with divisions in Oak Ridge, TN; Research Triangle Park, NC; Idaho Falls, ID; Las Vegas, NV. ARL carries out research on processes that affect the quality of the atmosphere. These processes include the transport, transformation, and removal of trace substances through wet and dry deposition and the exchange between the atmosphere and biological and non-biological surfaces as field crops and structures. ARL's field and laboratory studies lead to the development of air quality simulation models. The Laboratory provides scientific advice to NOAA and other government agencies to assist with emergency preparedness for environmental problems such as nuclear mishaps, volcanic eruptions, and homeland security issues.

ARL climate research studies the biogeochemical cycles of trace substances and their effects and interactions with the radiative balance at the earth's surface. ARL operates research-grade measurement stations where the exchange of carbon dioxide and water vapor between the air and the biosphere is directly measured. ARL focuses not only on the development of deterministic models to describe the relevant processes, but also on the often-dominant role of random variability that cannot be explained by current understanding. Research in all of these areas involves physical and numerical studies, leading to the development of specialized models. The laboratory provides scientific advice to elements of NOAA and other government agencies on climate issues, and on the role of natural variability.

ARL weather and air quality research conducts physical and numerical studies of the processes affecting the quality of the atmosphere, primarily related to transport, transformation, and removal of trace substances, and uses these results to develop improved air quality forecast and assessment models. Research and develop efforts include physical and numerical studies, leading to the development of air quality simulation models for regulatory and policy purposes, and increasingly for forecasting; and improvement of understanding of processes that influence air quality, such as complex terrain, local meteorological conditions, and long-range transport; the Real-time Environmental Applications and Demonstration system (READY) as a mechanism for external users to gain access to ARL's suite of air quality forecast products; and providing relevant scientific advice to elements of NOAA and other government agencies, including those associated with homeland security.

Atlantic Oceanographic and Meteorological Laboratory (AOML) in Miami, FL, conducts research in oceanography, tropical meteorology, atmospheric and oceanic chemistry, and acoustics. AOML seeks to understand the physical and biological characteristics and processes of the ocean and the atmosphere, both separately and as a coupled system. AOML scientists study hurricanes, ocean current and temperature structures, ocean/atmosphere chemical exchanges, coral reefs, and the coastal ocean. This is accomplished by using research ships and aircraft, satellite remote sensing techniques, numerical and statistical models, radar, acoustics, and drifting buoys.

The principal focus of AOML is to contribute scientific research that may ultimately lead to improved prediction and forecasting of tropical cyclones and severe weather, better use and management of marine resources, better understanding of the factors affecting both climate and environmental quality, and improved ocean and weather services for the nation.

AOML climate research provides and interprets oceanographic data and conducts research relevant to decadal climate change and coastal ecosystems. This research includes the dynamics of the ocean, its interaction with the atmosphere, and its role in climate and climate change. On a global scale, AOML scientists, in conjunction with the PMEL and CMDL are studying the exchange of CO2 between the ocean and the atmosphere and its effects on global warming and climate change. This research is conducted through numerous open ocean cruises aboard NOAA's research vessel, the NOAA Ship *Ronald H. Brown.* AOML hosts NOAA's Global Ocean Observing System Center (GOOS Center), which uses expendable probes and other equipment to provide ocean surface and sub-surface data to NOAA's National Centers for Environmental Prediction (NCEP) in support of seasonal to interannual climate forecasts, as well as data for decadal-scale climate research.

AOML weather and air quality research is NOAA's primary component for research on hurricanes. Their aims are to improve the understanding and prediction of hurricane track and intensity change through directed research and the transfer of research results to the operational hurricane forecast components of NOAA. Research and transition efforts include:

- The annual hurricane field program, supported by the NOAA Aircraft Operation's Center research/reconnaissance aircraft;
- Analysis of data from field programs;
- Theoretical and numerical modeling studies of hurricanes;
- Preparation of storm surge atlases and wind field diagrams;
- Assessment of interannual and decadal hurricane trends;
- Providing critical assistance to the NWS Tropical Prediction Center's forecast improvement; and
- Active participation in and support of the Joint Hurricane Testbed.

AOML ocean, coastal, and Great Lakes research scientists gather, analyze, and report coastal ocean data on land-based sources of pollution and their potential environmental impacts to the coastal environment. Scientists work in cooperation with other NOAA Line Offices, other federal, state, and local authorities, including the EPA and U.S. Army Corps of Engineers, to maximize research knowledge for use in economically and environmentally important projects in the coastal ocean such as the South Florida Ecosystem Restoration Program. AOML conducts research by monitoring coral reef ecosystems and using the data to make predictions. The Coral Reef Watch Program seeks to accomplish NOAA's goal of ecosystem forecasting and management by improving understanding of the reef ecosystem. Initiation of comprehensive long-term *in situ* coral-reef monitoring stations is intended to provide information essential for sound management decisions, and long-term planning. AOML also generates oceanographic data and conducts research relevant to decadal climate change and coastal ecosystems, such as ocean-atmosphere interactions and its role in climate and climate change. With a diverse scientific staff of physical, chemical, biological, and geological oceanographers, AOML is able to use multi-disciplinary approaches to improve NOAA's management activities.

Earth System Research Laboratory (ESRL) in Boulder, CO, represents a combination of climate and weather research capabilities aimed at undertaking the complex, interdisciplinary research increasingly needed to achieve scientific and technological breakthroughs in today's modern world, including understanding the roles of gases and particles that contribute to climate change, providing climate information related to water management decisions, improving weather prediction, understanding the recovery of the stratospheric ozone layer, and developing air quality forecast models.

ESRL has the collective goal of observing and understanding the Earth system and developing products through a commitment to research that will advance the National Oceanic and Atmospheric Administration's (NOAA's) environmental information and services on global-to-local scales. ESRL achieves this goal through its four major divisions:

Chemical Sciences Division provides the chemical-process measurements, analyses, and understanding that are needed for the Earth System Research Laboratory to address NOAA's Climate Goal (Climate Forcing) and Weather and Water Goal (Air Quality), with the aim of improving NOAA's abilities (i) to predict changes in climate, the stratospheric ozone layer, and air quality, and (ii) to deliver related science information products that address societal and policy needs.

Global Monitoring Division continuously monitors atmospheric gases, particles, and radiation across the globe to determine trends influencing climate change, ozone depletion, and baseline air quality, and to communicate the findings in usable and understandable forms.

Global Systems Division incorporates new findings in atmospheric, oceanic, and hydrologic sciences, these systems are designed to improve our understanding of climate and weather at all time scales through new observation techniques, innovative diagnostic and predictive models, advanced computational analysis, and leading-edge workstation display technology.

Physical Science Division addresses physical science questions with short- and long-term societal and policy relevance within NOAA's Climate and Weather and Water Goals, while conducting the physical process research necessary so that ESRL can help provide the nation with a seamless suite of information and forecast products ranging from short-term weather forecasts to longer-term climate forecasts and assessments.

Geophysical Fluid Dynamics Laboratory (GFDL) in Princeton, NJ, conducts cutting-edge research on many topics of great practical value, including weather and hurricane forecasts, El Niño prediction, stratospheric ozone depletion, and global warming. GFDL's goal is to understand and predict Earth's climate and weather, including the impact of human activities on climate.

GFDL's *Climate Research* mission is to conduct research to better understand natural climate variability and anthropogenic climate changes via the development and improvement of global climate models. GFDL also works cooperatively in NOAA to provide expert assessments of changes on regional, national, and global climate. To achieve its mission, GFDL conducts comprehensive long lead-time climate research fundamental to expanding the scientific understanding of the physical and chemical processes governing the behavior of the atmosphere and oceans. This research leads to state-of-art global climate models which provide a suite of climate products for decision support by policy makers. To ensure the maintenance of its climate modeling capability, GFDL supports a very large, scalable computer system that provides critical computing, storage, and analysis capabilities, as well as model development and infrastructure support. This computing program allows NOAA to leverage the world-class research staff at GFDL to advance the Nation's climate program working together with the inter-agency and academic research community.

Weather and Air Quality Research at GFDL is engaged in comprehensive long lead-time research fundamental to NOAA's mission. The goal of the Laboratory's atmospheric research is to expand the scientific understanding of the physical processes governing the behavior of the atmosphere as a complex fluid system. This system can then be modeled mathematically and their phenomenology studied by computer simulation methods. The need for short-term warning and forecast product covers a broad spectrum of environmental events, which have lifetimes ranging from several minutes to several weeks.

Efforts at GFDL are centered on the development of comprehensive numerical global climate models and the frameworks in which the models are embedded. These numerical models are used in the prediction of "short-term" atmospheric phenomena such as hurricanes and coastal storms, but may also be used to study longer-term events such as the climatology of storm tracks over the oceans. The research conducted at GFDL can be developed and transitioned to NOAA operations of numerical models used in the prediction of short-term atmospheric phenomena, including tornadoes, hurricanes, and coastal storms.

Great Lakes Environmental Research Laboratory (GLERL) is located in Ann Arbor, MI, and has a field facility in Muskegon, MI. Under the Ocean, Coastal, and Great Lakes Research line item, GLERL conducts integrated, interdisciplinary environmental research in support of resource management and environmental services in coastal and estuarine waters, with a primary emphasis on the Great Lakes. The laboratory performs field, analytical, and laboratory investigations to improve understanding and prediction of biological and physical processes in estuaries and coastal areas and their interdependencies with the atmosphere and sediments. GLERL emphasizes a systems approach to problem-oriented research to develop environmental service tools.

National Severe Storms Laboratory (NSSL) in Norman, OK, conducts *Weather and Air Quality* research to improve the accuracy and timeliness of forecasts and warnings of hazardous weather events such as blizzards, ice storms, flash floods, tornadoes, and lightning. NSSL accomplishes this goal through a balanced program of research to:

- Advance the understanding of weather processes;
- Improve forecasting and warning techniques;
- Development of operational applications;
- Transfer of knowledge, techniques, and applications to the NWS and other agencies;
- Development of the NEXRAD Doppler weather radar, the cornerstone Doppler radar network now operated by NWS offices across the United States, and the development of new radar technologies (e.g., dual-polarization and phased array radar); and
- Conduct field programs that use mobile, *in situ*, and remote observational capabilities to collect data that support theoretical research.

Pacific Marine Environmental Laboratory (PMEL) in Seattle, WA, carries out interdisciplinary scientific investigations in oceanography, marine meteorology, and related subjects. PMEL focuses on coastal and open-ocean observations and modeling to improve: (1) our understanding of the physical, biological, and geochemical processes operating in the world oceans and (2) environmental forecasting capabilities and other supporting services for marine commerce and fisheries. PMEL also supports an undersea observation and research program (VENTS) in Newport, OR.

Climate research at PMEL focuses on coastal and open ocean observations in support of prediction of the ocean environment on daily through decadal time scales. Studies are conducted to improve our understanding of the complex physical and geochemical processes operating in the world oceans, define the forcing functions and the processes driving ocean circulation and the global climate system, and improve environmental forecasting capabilities and other supporting services for marine commerce and fisheries. The internationally known laboratory conducts El Niño research which has improved climate forecasts leading to reduced loss of life and property.

The focus of PMEL's *weather and air quality* activities is to support the NWS tsunami warning centers by conducting research and development on the improvement of tsunami forecasting. NOAA develops and transfers PMEL's research results to NWS to improve forecast abilities and modeling which provides valued information to decision makers. The Tsunami Project seeks to mitigate tsunami hazards in Hawaii, California, Oregon, Washington, and Alaska through improved tsunami warnings using state-of-the-art instrument systems developed by the Laboratory's Engineering Development Division. The goal of this project is to reduce fatalities, damage, and losses caused by these natural hazards.

Ocean, Coastal, and Great Lakes Research at PMEL consists of the following ocean research programs:

- Fisheries Oceanography Coordinated Investigations (FOCI) is a collaborative research effort by scientists at PMEL and the Alaska Fisheries Science Center to improve the prediction of valuable fish (e.g. Pollock) and shellfish stocks in the Gulf of Alaska and the Bering Sea for the Alaska Regional Fisheries Councils. Forecasts of these changes provide North Pacific fisheries managers with the best available information necessary for allocating fish landings by commercial fishermen.
- The Vents Program, established in 1984, conducts research on the oceanic impacts and consequences of submarine volcanoes and hydrothermal venting. The program focuses on understanding the chemical and thermal effects of venting along the northeast Pacific Ocean seafloor spreading centers, which provides the foundation for prediction of the global-scale impact of seafloor hydrothermal systems on the ocean.

Cooperative Institutes - OAR has developed "cooperative institute" research partnerships with academic and scientific institutions dedicated to oceanic and atmospheric research. The Cooperative Institutes, also referred to as "the University Programs" are formal, long-term collaborations established under a MOU/MOA with NOAA. By design, most of the Institutes are co-located with one or more NOAA facilities to promote scientific exchange and technology transfer. The primary purpose of each Institute is to bring together the diverse resources of a research university or institution, one or more OAR laboratories, and other branches of NOAA to develop and maintain a center of excellence in research.

The OAR Cooperative Institutes include:

CIASTA	Cooperative Institute for Atmospheric Sciences and Terrestrials Applications - Desert Research Institute of the University and Community College System of Nevada, Las Vegas and Reno, NV
CICAR	Cooperative Institute for Climate Applications and Research, Columbia, NY
CICOR	Cooperative Institute for Climate and Ocean Research – Woods Hole Oceanographic Institution, Woods Hole, MA
CIFAR	Cooperative Institute for Arctic Research - U. of Alaska, Fairbanks, AK
CILER	Cooperative Institute for Limnology and Ecosystems Research - U. of Michigan, Ann Arbor, MI
CIMAS	Cooperative Institute for Marine and Atmospheric Studies - U. of Miami, Miami, FL
CIMMS	Cooperative Institute for Mesoscale Meteorological Studies, U. of Oklahoma, Norman, OK
CIRA	Cooperative Institute for Research in the Atmosphere - Colorado State U., Fort Collins, CO
CIRES	Cooperative Institute for Research in Environmental Sciences - U. of Colorado, Boulder, CO
JIMAR	Joint Institute for Marine and Atmospheric Research - U. of Hawaii, Honolulu, HI
JIMO	Joint Institute for Marine Observations - Scripps Institution of Oceanography, U. of California-San Diego and La Jolla, CA
JISAO	Joint Institute for the Study of the Atmosphere and Oceans - U. of Washington, Seattle, WA
AOSRP	Atmospheric and Oceanic Sciences Research Program at Princeton University; Princeton, New Jersey

NOAA's Climate Program Office (CPO) - NOAA's Climate Program encompasses activities formerly described within the Office of Global Programs and Climate Observations and Services Program, and Arctic Research Office. OAR's activities within the CPO are executed by multiple line offices (OAR, NESDIS, NWS), as well as through sponsored research conducted by our external partners. The goal of NOAA's CPO is to understand climate variability and change to enhance society's ability to plan and respond. This goal is being achieved in OAR through the development of integrated ocean and atmospheric observing systems, research into the forcings and feedbacks contributing to changes in the Earth's climate, improved climate predictive capability from weeks to decades, and the development of climate products and services to enhance decision making capabilities across all sectors of society. In addition, CPO serves as the focal point for NOAA's research activities in the Arctic, Bering Sea, North Pacific, and North Atlantic regions: represents NOAA on the Interagency Arctic Research Policy Committee: leads U.S. involvement in the international Arctic Monitoring and Assessment Program: and provides a point of contact between NOAA and the Cooperative Institute for Arctic Research and the International Arctic Research Center, both at the University of Alaska Fairbanks.

National Sea Grant College Program - Congress established the National Sea Grant College Program in 1966 to enhance the development, use, and conservation of the Nation's marine and Great Lakes resources. The legislation establishes a network of Sea Grant Colleges to conduct education, training, and research in all fields of marine study. It also directs that grants and contracts may be awarded to: “any individual; any public or private corporation, partnership, or other association or entity (including any Sea Grant College, Sea Grant Institute or other institution) or any State, political subdivision of a State, or agency or officer thereof" [PL 105-160]. The National Sea Grant College Program Office is located in Silver Spring, MD.

Currently there are 30 State Sea Grant programs located in virtually every U.S. coastal and Great Lakes state. Most Sea Grant programs include multiple campuses of different universities across the state.

The **Office of Ocean Exploration and Research** is comprised of the National Undersea Research Program and the Ocean Exploration Program.

National Undersea Research Program - Scientists funded by the National Undersea Research Program (NURP) conduct wide-ranging research investigations in such areas as the causes behind depletion of fisheries, the impacts of commercial fishing activity on critical habitats, and the role of undersea volcanism in coastal hazards. This program also conducts mandated studies of underwater diving techniques and equipment suitable for protection of human safety and improvement in diver performance. In FY 2006, the program is comprised of two regional National Undersea Research Centers focused on Hawaii and the Pacific, and Alaska and Polar Regions. Due to new funding levels in FY 2006, a headquarters office in Silver Spring, MD., and an east coast center, including the Aquarius Undersea Laboratory, were maintained at minimal levels.
Ocean Exploration Program – NOAA is the only Federal Agency with a dedicated Ocean Exploration Program. This program supports exploration in unknown and poorly known ocean areas, and applies 10% of the yearly budget to marine exploration and science-based education. The Ocean Exploration program works with other NOAA programs and federal agencies, as well as the academic community to identify and prioritize areas of the world's oceans that need to be explored, then funds interdisciplinary science-based exploratory missions and education activities through a peer-review process. The program works with the results obtained from these missions to further NOAA's research and marine management objectives as outlined in the NOAA Strategic Plan. The program provides direct support to several multidisciplinary expeditions per year, facilitates across NOAA program office to develop and apply data management tools and techniques to appropriately organize, archive, and disseminate data and information collected during expeditions. In FY2005 the program supported 43 projects and in FY2006 it is expected the program will support 23. There are four key objectives to the program:

- Explore unknown and poorly known areas of the ocean;
- Map the physical, geological, biological, chemical, and archaeological aspects of the oceans;
- Develop new sensors and systems for ocean exploration to regain U.S. leadership in marine technology; and
- Connect in innovative ways to stakeholders to improve the literacy of learners of all ages with respect to ocean issues.

In FY 2005 Congress directed the Department of Defense to provide NOAA with a T-AGOS class vessel and funding to convert the ship into a platform to be dedicated to NOAA Ocean Exploration missions. The ship is currently undergoing conversion, which is scheduled for completion late FY 2007. Once tested and ready for operation, the new vessel will support missions that meet the above objectives, and will complement ocean exploration missions being conducted on other vessels in other ocean basins.

Office of Weather & Air Quality - The goal of Weather and Air Quality Research programs is to: (1) provide the Nation with more accurate and timely warnings and forecasts of: (a) weather events, particularly high-impact weather events, which disrupt economic productivity and cause loss of life and property, (b) air quality, particularly ozone and aerosol (particulate matter) that impact human health, cause crop damage, and affect private sector operational planning for power generation; and (c) solar disturbances and their terrestrial effects, including hazards to satellites and disruptions of communications, navigation, and utility systems and (2) provide the scientific basis for developing public policy tools for air quality by: (a) improving the understanding and characterization of air quality (i.e., aerosol, ozone, VOC, NOx, and SOx); (b) improving air quality sensor technology to structure the monitoring network; and (c) developing and prototyping air quality models to forecast air quality and to perform diagnostic analysis of air quality episodes.

High Performance Computing and Communications - The Office of High Performance Computing and Communications (HPCC) supports a number of objectives in NOAA's Strategic Plan, primarily through support of IT research targeted at improving NOAA's mission and services and science education to improve global understanding of science with emphasis on the environment. The purpose of the HPCC program is to make major improvements in the Nation's ability to forecast the weather and climate and to disseminate environmental information. At the same time the program is aimed at stimulating modernization of NOAA's computationally intensive services through the use of evolving high performance computing and high-speed networking technologies. Through this program, NOAA participates as a "mission" agency in the Interagency Working Group on Information Technology Research and Development. Improvements in the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, and regional and global climate predictions are heavily dependent on major advances in high-end computing power, advanced information technology, and the widespread availability of environmental data and information. Timely and responsive dissemination of NOAA's services and information requires full use of modern network and communications technologies.

Support for the NOAA Strategic Plan

OAR's activities support three Mission Goals in the NOAA Strategic Plan:

- Protect, Restore, and Manage the Use of Ocean and Coastal Resources Through an Ecosystem Approach to Management;
- Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond; and
- Serve Society's Needs for Weather and Water Information.

Activities also support NOAA's Mission Support Goal to Provide Critical Support for NOAA's Mission.

The NOAA Climate Program was rated "Moderately Effective" under the **Program Assessment Rating Tool (PART)** conducted in FY 2004. The assessment found that the program is relatively strong and has undertaken steps to improve program management and focus on results. Additional findings included: (1) NOAA Climate coordinates with other Federal agencies through the Climate Change Science Program; (2) Deficiencies in the management of NOAA's laboratory activities as identified by the NOAA Research Review Team; (3) Need to better integrate performance into budget decisions; and

(4) Program has appropriate long-term goals and annual measures which demonstrate progress. In response to these findings, NOAA has sent forward a proposal for consolidating its Boulder laboratories and implementing other management changes as recommended by the Review Team. NOAA is also developing an internal data base for tracking performance and linking it to the budget. Finally, the NOAA Ecosystem Research Program has undergone a PART review was rated "Adequate". There are two follow-up actions to be taken; (1) Assess the portfolio of research within NOAA's Ecosystem Research Program in order to clarify the role of each of the Program's components and eliminate redundancies; (2) Modify planning and management processes so that research activities meet the highest priority science needs and provide a balanced responseto local, regional, and national issues.

Research and Development Investments

The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) for NOAA's R&D programs, and leads to NOAA budget proposals that reflect the R&D investment criteria.

Significant Adjustments-to-Base (ATBs): NOAA requests an increase of 0 FTE and $6,203,000 to fund adjustments for NOAA Research activities. Within this increase, program totals will fund inflationary adjustments for labor and non labor.

Included in the above amount is $1,520,000 for amortized construction costs and net rent cost increases associated with the new National Weather Center on the South Campus of the University of Oklahoma. Based upon the February 2006 Beneficial Occupancy Date (BOD) of the National Weather Center (NWC), NOAA is relocating its National Severe Storms Laboratory (NSSL), Norman Weather Forecast Office (WFO), Storm Prediction Center (SPC), Warning Decision Training Branch (WDTB) and NEXARD Radar Operations Center's (ROC) Application Branch to the NWC. This amount represents the FY 2006 NOAA requirement to fund the new building. The net total full-year requirement will be $2.29M, beginning in FY 2007.

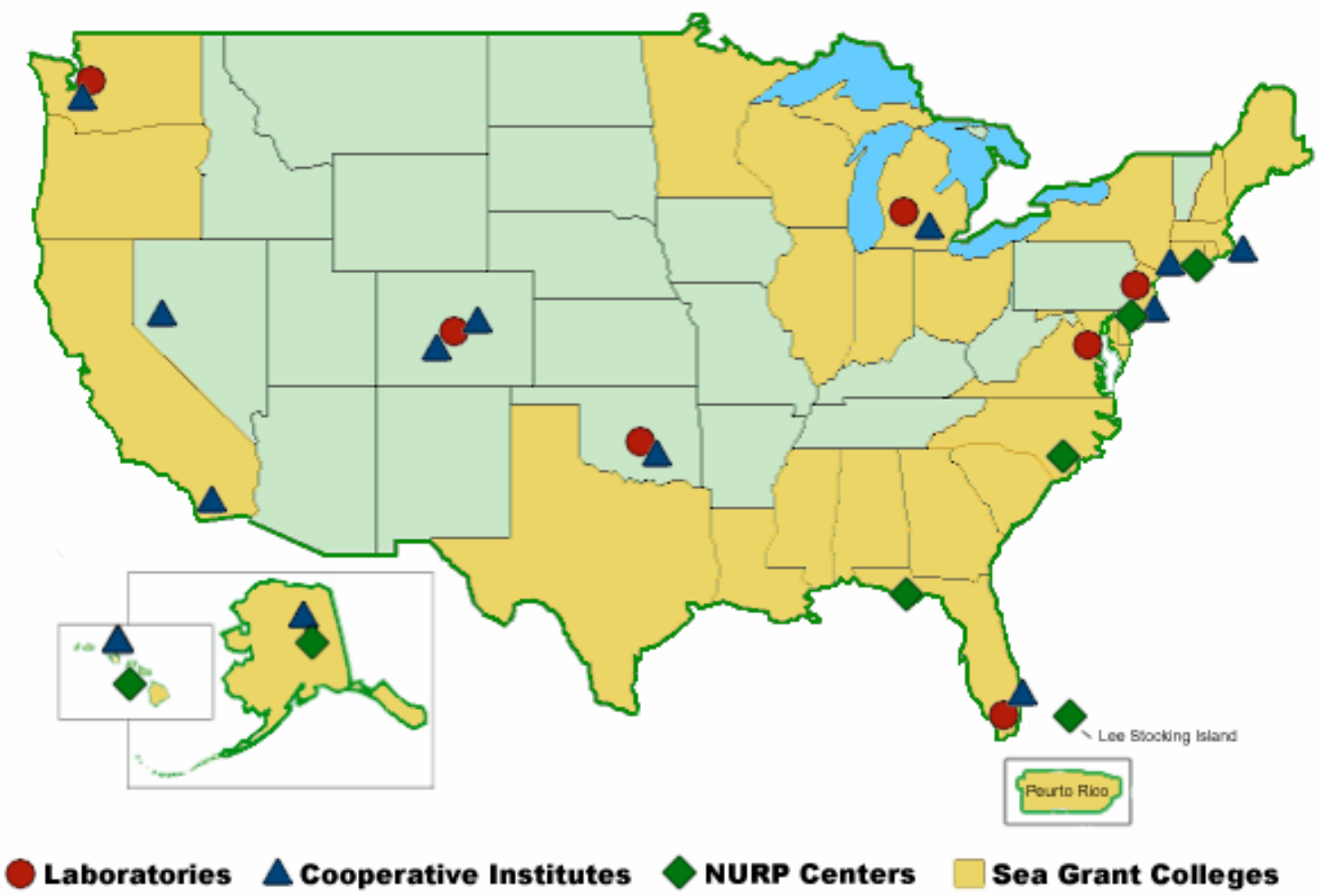
NOAA Research also requests the following transfers between line offices for a net change to NOAA of zero.

From Office	Line	To Office	Line	Amount
OAR	Laboratories & Joint Institutes	OMAO	NOAA Corps	-$80,000
OAR	Ocean Exploration	OMAO	NOAA Corps	-$80,000
NWS	TAO / PIRATA Arrays (research)	OAR	Competitive Research	+$3,000,000

The $160,000 transferred to OMAO completes the full year funding for two NOAA Corps Officer positions that benefit OAR ($40,000 had been transferred in FY 2006). Also, NOAA has accepted the FY 2006 Congressional transfer of $14,407,000 for EPP/MSI Program from the OAR budget to the NOAA Program Support budget.

Finally, OAR is internally transferring $497,000 from the Labs and Cooperative Institutes Line Item in the Ocean, Coastal, and Great Lakes Research Subactivity to the Labs and Cooperative Institutes Line Item in the Weather and Air Quality Research Subactivity to consolidate ESRL remote sensing research under the Coasts, Estuaries, & Oceans component of NOAA's Strategic Plan for Weather and Water. This internal transfer has no net effect on the overall level of funding within OAR or NOAA.

The map below shows the locations of OAR Laboratories, National Undersea Research Centers, Cooperative Institutes, and Sea Grant College States.



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Subactivity: Climate Research
Line Item: Laboratories & Cooperative Institutes

GOAL STATEMENT:

The goal of the Climate Laboratories and Cooperative Institutes is to develop a more comprehensive understanding of atmospheric and oceanic processes that drive and respond to changes in climate over a variety of spatial and temporal scales through sustained monitoring and research. This research will lead to better understanding and prediction of climate variability and change and help the Nation respond to the risks and opportunities associated with global climate change.

BASE DESCRIPTION:

The OAR Laboratories and Cooperative Institutes are an integral part of the interagency Climate Change Science Program, which links the U.S. Global Change Research Program (USGCRP) and the Administration's Climate Change Research Initiative (CCRI). OAR Laboratories and Cooperative Institutes conduct a wide range of research into complex climate systems and how they work. The research aims to improve NOAA's ability to assess climate variability on seasonal to interannual timescales, as well as interdecadal to centennial timescales and beyond. NOAA researchers strive for consistent and uninterrupted monitoring of the Earth's atmosphere and ocean that can give us clues about long-term changes in the global climate. The data collected worldwide by NOAA researchers aids our understanding of, and ability to forecast changes in, complex climatic systems. Using sophisticated computer systems, NOAA researchers work on the numerical modeling of climate systems, which improves the accuracy of climate forecasts. NOAA's strategy is to: (1) acquire the essential data; (2) develop diagnostic and predictive models related to changes in the equatorial oceans; and (3) establish the relationship of those changes to widespread climate variations through data analysis and modeling.

These base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Climate Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Laboratories & Cooperative Institutes					
Laboratories & Cooperative Institutes (C)	65,148	45,843	43,823	44,968	1,145
Laboratories & Cooperative Institutes (MS)	1,774	1,775	1,803	1,848	45
Laboratories & Cooperative Institutes (WW)	1,413	1,415	1,436	1,471	35
TOTAL	68,335	49,033	47,062	48,287	1,225
FTE	211	248	248	248	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Laboratories & Cooperative Institutes (+0 FTE and $1,225,000): NOAA requests an increase of 0 FTE and $1,225,000 to continue its current research operations and activities.

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Climate Research Laboratories and Cooperative Institutes, ($3,001,000)

Subactivity: Climate Research
Line Item: Competitive Research Program

GOAL STATEMENT:

NOAA's Competitive Climate Research Program sponsors focused scientific research, within eleven elements, aimed at understanding how society can best adapt and respond to climate variability and change. Researchers coordinate activities that jointly contribute to improved predictions and assessments of climate variability over a continuum of timescales ranging from seasonal to decadal and beyond.

BASE DESCRIPTION:

NOAA's Competitive Climate Research Program is an integral part of the interagency U.S. Climate Change Science Program (CCSP), which incorporates the U.S. Global Change Research Program (USGCRP) and the Administration's Climate Change Research Initiative (CCRI). The program addresses an important aspect of global change - understanding the global climate system - and advances research and assessment activities designed to address the interface between scientific information and society's various decision-making needs. Current research activities are organized across the following elements within two main components, Research and Major Observing Systems:

A. Research Programs

The **Atmospheric Composition and Climate Program (ACCP)** pursues two overall research objectives: (1) to improve the predictive understanding of the radiative forcing of the climate system by aerosols (airborne fine particles) and by chemically-active greenhouse gases, such as tropospheric ozone, and (2) to better characterize the recovery of the stratospheric ozone layer and its role in climate change. The integrated research activities that address these objectives involve instrument development, global observations, laboratory studies, and theoretical modeling by NOAA and extramural partners. Another significant component of the ACCP is the extramural component of the CCRI ***Aerosol-Climate Interactions.*** Details of this research are described below.

The **Climate Change Data and Detection (CCDD)** program element ensures that the data needed to understand the climate system is available for analysis. The data and resultant products extend the existing long-term climate record and serve as essential input for predictive models. In addition, CCDD provides support for documenting variations in climate on time scales ranging from seasonal to decadal and beyond. Support is also provided for the analysis of observed climate variations and identifying causes that are consistent with Earth's long-term climate history.

The **Climate Dynamics and Experimental Prediction (CDEP)** program element supports NOAA's efforts towards improved global climate predictions on seasonal to interannual timescales through the Applied Research Centers (ARCs), which help develop and support climate services through a program of applied research, development, and experimental applications. The end-result is a coordinated suite of critical contributions to the predictions and assessments of climate variability and regional assessments and applications produced by NOAA's Climate Prediction Center (CPC) and the International Research Institute for Climate Prediction (IRI).

CDEP also supports the development of new climate reanalysis data sets and the capability to deliver explanations of the causes for observed climate variability and change in coordination with Weather-Climate Research described under the Labs & Cooperative Institute line item, above. This effort represents a key NOAA contribution to the CCSP goal of improving knowledge of the Earth's past and present climate and environment, including its natural variability, and improves understanding of the causes of observed variability and change.

The ultimate goal of the **NOAA Climate Variability and Predictability (CVP)** program element is to develop skillful predictions of climate variability and change on seasonal to multi-decadal time scales and regional spatial scales for optimal use in resource planning and policy decision making. The scientific objective of the NOAA CVP program is to understand the mechanisms of major climate variability and change on seasonal to decadal and longer time scales, including the thresholds and non-linearities of abrupt climate change, and to develop the predictive capability for these climate processes. An initial focus of the leading large-scale phenomena includes the El Nino-Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), Tropical Atlantic Variability (TAV), Arctic Oscillation/North Atlantic Oscillation (AO/NAO), the Meridional Overturning Circulation (MOC) and the American Monsoon systems. CVP research approaches include development of observational, theoretical, and computational means to understand and predict climate variability and change and making enhanced predictions, where feasible.

The **Climate Prediction Program for the Americas (CPPA)** element seeks to improve operational intra-seasonal to interannual climate and hydrologic forecasting. CPPA seeks to i) improve the understanding and model simulation of ocean, atmosphere and land-surface processes through observations, data analysis, and modeling studies; ii) determine the predictability of climate variations on intra-seasonal to interannual time scale, including predictability of the continental-scale monsoon systems across the Americas; iii) advance NOAA's operational climate forecasts, monitoring, and analysis systems; and iv) develop climate-based hydrologic forecasting capabilities and decision support tools for water resource applications.

The **Global Carbon Cycle (GCC)** program element seeks to improve our ability to predict the sources and sinks of anthropogenic CO2 and future atmospheric CO2 concentrations using a combination of atmospheric and oceanic global observations, process-oriented field studies, analysis, and modeling. The GCC program is a part of the interagency Carbon Cycle Science initiative of the Climate Change Science Program. GCC research addresses priorities identified in the U.S. Carbon Cycle Science Plan (1999), the North American Carbon Plan (2002), and the Ocean Carbon and Climate Change Plan (2004). The goal of GCC research is to aid in the achievement of NOAA's climate forecasting goals, including the advancement of our understanding of the global carbon cycle and its role in regulating climate.

NOAA's Climate Transition Program (NCTP) is a proposal-driven program that supports the transition of well-developed research and prototype decision products, processes and policy tools that will expand regional decision makers' (e.g., private sector, agriculture, state, and local government) use of climate information in their operational settings. These transition products and tools are the result of the research community, through programs such as SARP and RISA, investigating the climate information needs of decision makers and responding with user-relevant, place based applications. The program requires structured partnerships between operational staff, decision makers, and prototype developers; the program also requires an extension component to ensure effective use of the application by decision makers.

Specifically, this program responds to user/decision maker requirements, provides a mechanism for embedding research in a sustainable mode into operations; develops a deliberate bridge for research to applications; increases scientific and operational capacity; supports interactive learning; results in products that have value to regional/local climate-sensitive decision-making processes; adapts as the demand for climate services increases; and produces products that with modification, could be applied to other research sectors.

The **Regional Integrated Sciences and Assessments (RISA)** program supports integrated, place-based research across a range of social, natural, and physical science disciplines to expand decision-makers' (e.g., private sector, agriculture, state, and local government) options in the face of climate change and variability at the regional level. It does this in a manner that is cognizant of the context decision-makers function within and the constraints they face in managing their climate sensitive resources. RISA possesses three distinct qualities: (1) fostering interdisciplinary research and assessment synthesis; (2) improving our understanding of and bridging the gap among climatic, environmental and societal interactions on various temporal and spatial scales; and (3) contributing to regional decision support and climate information service. A successful RISA program requires innovative and embedded long-term partnerships among a spectrum of interested parties including Federal, State, Native, regional, local and private entities. The program relies heavily on consolidating the results and data from ongoing NOAA-OGP disciplinary program elements, already funded in a region, into an integrated framework.

The **Sector Applications Research Program (SARP)** replaces and refocuses activities formerly supported by Health and Human Dimensions and Environment, Science, and Development. The Sector Applications Research Program's (SARP) main goals are to provide new knowledge important to the identification and reduction of vulnerability to climate variability and change through: improved knowledge of the impacts of climate on society specifically in economically, ecologically, and socially important sectors (e.g., coastal, water resources agriculture, health, etc.); enhanced use of forecast information; increased understanding by scientists and policy makers of the needs of stakeholders currently working with the impacts of a changing climate; and a better understanding of society's ability to plan for and adapt to future uncertainties. SARP is built upon the evolution and successes of NOAA's Human Dimensions of Global Change; Environment, Science and Development; and Climate Variability and Human Health Programs. SARP is an interdisciplinary program, which promote social science methodologies and scientific findings required to build a knowledge base that addresses climate impact and adaptation uncertainties for stakeholders within sectors most at-risk. Specifically, SARP: (1) funds research projects that provide a better understanding of the impact of climate variability on specific sectors recognizing the role of complex societal and environmental interactions; (2) creates stronger sector communities by operating as a focal point for researchers, policy makers and decision makers to aggregate, evaluate and set evolving requirements for new knowledge critical to decision making; and (3) translates the results of the research and interactions regarding decision making needs and capacities to relevant programs within the NOAA Climate Office such as RISA, NCTP and CPPA and to other programs within the Agency that would benefit from this research such as Sea Grant and the National Weather Service.

The role of the **Arctic Research Program (ARP)** is to improve forecasts of temperature, precipitation, and storms across Alaska and the mainland U.S., and support improvements in forecasting and planning for energy needs, growing seasons, hazardous storms and water resources, as well as provide for better management of Alaskan and Arctic resources.

This will be accomplished by: 1) creating an effective climate observing system focused on the U.S. region of the Arctic to allow for regional-scale climate change detection and developing models capable of predicting Arctic climate change; 2) creating and analyzing Arctic physical and biological data sets designed to detect climate change, validating satellite observations, improving and initializing models, and support decision-making; and 3) through partnerships, developing Arctic-wide observing and modeling capability to detect and assess Arctic-wide change and impact, and determining how Arctic processes affect North American and global climate systems. The achievement of these tasks will help to assess climate change in the Arctic; the most well known of which is general warming illustrated by the loss of sea ice and glacier mass, thawing of permafrost, and other temperature-related phenomena. These changes affect every part of the Arctic environment and have significant impacts on society.

Weather-Climate Research activities (previously funded under CO&S as Weather-Climate Connection and Climate Data & Information sub-activities). During El Niño, shifts in the Pacific storm track affect the paths of storms approaching the U.S. west coast, and influence weather across the entire country. This activity seeks to understand the relationship between sub-seasonal tropical variability and changes in the frequency, location and intensity of extreme weather events over the U.S. Observational and modeling efforts document the pattern of variations in tropical rainfall on weekly to monthly time scales as well as air-sea interactions in both tropical systems and in mid-latitude oceanic and land-falling storms. An improved historical reanalysis dataset will substantially reduce uncertainty in historical climate variations and improve the analysis and detection of interannual-to-decadal variability and trends in weather and climate in the 20th century. OAR climate attribution research will enable NOAA to better interpret causes of observed climate variability, which is crucial for meeting the climate information needs of policy-makers on regional climate issues, including major droughts, floods, prolonged warm or cold conditions, climate trends and extremes, and multi-decadal variability. Weather-Climate Research activities culminate in transferring research and observational advances into operational practices at NWS/NCEP Climate Prediction Center.

Climate Modeling Center activities (formerly funded under CCRI). Climate models are essential tools for synthesizing observations and theory to investigate how the system works and how it is affected by human activities. The continued development and refinement of computational models capable of simulating past and future conditions of the Earth system are crucial for developing capabilities to provide more accurate projections of future change. The Climate Modeling Center will enable the Geophysical Fluid Dynamics Laboratory to take the national lead in the systematic production of model-based products developed in consultation with stakeholders to document, understand, and assess the impacts of climate variability and change on the U.S. that can be used for policy and business decisions.

Aerosol-Climate Interactions, Clouds & Climate Change research (formerly funded under CCRI). Aerosols and tropospheric ozone play unique, but poorly quantified, roles in the atmospheric radiation budget. This research focuses on attaining a better understanding of the absorption and scattering of radiation by aerosols (fine airborne particles) and the associated heating and cooling roles in the climate system. Goals are to: (1) establish new and augment existing in-situ monitoring sites, in and down wind of major population areas (e.g., Asia, Eastern North America, and South America) to determine temporal and spatial distributions, trends, and aerosol chemical and radiative properties and (2) develop integrated models used to study regional patterns, evaluate our understanding of source and sink processes, and project future distributions.

In collaboration with NPOESS, the program will evaluate and advance the development of algorithms and establish the appropriate in-situ measurements for the calibration and validation of the NPOESS data. In addition, this research will address the development of better decision-support tools which will improve the linkage between sources of emissions of compounds that directly or indirectly contribute to climate-relevant aerosols, which impact climate radiative forcing.

B. Observing Systems

The **Office of Climate Observation (OCO)** is establishing and maintaining the sustained global ocean observing system necessary for climate research and prediction as well as the long-term monitoring system necessary for climate change detection and attribution. NOAA's ocean climate contributions provide the major U.S. contribution to the Global Component of the U.S. Integrated Ocean Observing System. All of NOAA's contributions to the global ocean observing system are managed internationally in cooperation with the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (WMO: World Meteorological Organization. IOC: Intergovernmental Oceanographic Commission of the United Nations Educational, Science, and Cultural Organization). This international observation network is based on a set of core observations (e.g., temperature, surface wind stress, salinity, sea level, CO2), consisting of both in situ and remotely sensed measurements that have been identified in national and international reports as needed to satisfy research and operational climate requirements. Initial investments in the ocean observing system include:

- ***Argo Floats:*** These floats, together with satellites, will initiate the oceanic equivalent of today's operational observing system for the global atmosphere. This is an international effort with 14 nations plus the European Union currently providing floats.

- ***Surface Drifting Buoys*:** Sea surface temperature is the single most important ocean parameter for the global heat, water, and carbon cycles. A global array of 1,250 surface drifting buoys is maintained by NOAA and 14 international partners to calibrate satellite observations and reduce errors in global measurement of this critical ocean climate parameter. The drifters also measure surface currents globally and provide critical sea surface data under hurricanes to help improve hurricane landfall projections.

- ***Tide Gauge Stations**:* Sea level rise is one of the most immediate impacts of climate change. NOAA in cooperation with 64 nations is implementing the Global Climate Observing System (GCOS) sea level reference network of 170 tide gauge stations. The stations report in near-real-time and are also used for the tsunami warning system and other marine services.

- ***Tropical Moored Buoys**:* The Earth's tropics are the ocean's major capacity for heat exchange with the atmosphere. The Pacific El Niño influences global climate and weather. Together with international partners, NOAA is working to instrument all three tropical oceans – the Pacific, Atlantic, and Indian Ocean.

- ***Ocean Reference Stations:*** NOAA, in cooperation with the National Science Foundation and international partners, is implementing a sparse global network of ocean reference station moorings, expanding from the present three pilot stations to a permanent network of 16 by 2010. These have been a cornerstone of decadal-to-centennial documentation of changes in ocean properties designed to improve seasonal-to-interannual forecasting by providing calibration/validation data for remote sensing of surface flux fields. This network also monitors ocean transports to identify changes in circulation that could provide possible indications of abrupt climate change.

- ***Ships of Opportunity (SOOP):*** The global atmospheric and oceanic data from ships of opportunity have been the foundation for understanding long-term changes in marine climate and are essential input to climate and weather forecast models.

- ***Ocean Carbon:*** Projecting decadal to centennial global climate change is closely linked to assumptions about feedback effects between the ocean and atmosphere related to sequestering of carbon in the ocean and additional input of carbon dioxide into the atmosphere. The SOOP fleet and NOAA in cooperation with the National Science Foundation and international partners are implementing an ongoing ocean carbon inventory surveying the globe once every ten years which will be supplemented by autonomous carbon dioxide sampling instruments added to the moored arrays .

- ***Arctic Ocean Fluxes:*** Over the past 20 or more years, significant changes have been noted in the Arctic, such as thawing of permafrost, earlier break-up of ice on rivers, and thinning of the ice cover on the Arctic Ocean. NOAA is joining with other Federal agencies and international collaborators to begin a long-term effort to quantify the flux of fresh water from the Arctic to the North Atlantic. The initial steps will be made through deployment of moorings at critical locations in the Arctic.

- ***Dedicated Ships:*** Ocean research vessels from NOAA and university partners are essential elements of the support infrastructure necessary to sustain the ocean observing system. The dedicated ships provide: 1) the highest quality reference data sets, 2) the platforms for the ocean carbon surveys, and 3) platforms for deployment of the moored and drifting buoys and the Argo floats.

- ***Data Management, Data Assimilation and Analysis:*** A robust and scalable Data Management and Communications (DMAC) infrastructure is essential to the vision of a sustained ocean observing system. Standards and protocols are essential to enable interoperability across all global and coastal ocean observing systems. Data must be retained and made available for analyses and for assimilation into models to understand and forecast climate change, and for efficiently managing observing system operations and improvements. Thus, the advancement of assimilation techniques and the scientific analysis of ocean data are also important components of the observing system.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs."

Under the new FY2007 OAR budget structure, the Competitive Research line item now includes those former Climate Observations & Services (CO&S) and Climate Change Research Initiative (CCRI) programs, including:

Baseline Observatories (previously funded under CO&S). These funds are used to maintain and expand operations at NOAA's manned Global Atmospheric Baseline Observatories, which measure up to 250 different atmospheric parameters relevant to the study of climate change and ozone depletion at: Barrow, Alaska; Mauna Loa, Hawaii (since 1957); Cape Matatula, American Samoa; and South Pole, Antarctica (also since 1957), and for operations at NOAA's Baseline Air Quality station at Trinidad Head, California. These observations are critical to the collection and continuity of the world's longest atmospheric data time series, supplying information on: 1) the state and recovery of the ozone layer, 2) global carbon dioxide and other trace gases impacting the global climate, and 3) the quality of the air entering the west coast of the U.S. These data are used for assessments of atmospheric change that are valuable for environmental policy.

Carbon Cycle Atmospheric Observing System and other carbon cycle/carbon monitoring activities (previously funded under both CO&S and CCRI). The U.S. scientific community coordinates its carbon cycle activities through an integrated interagency effort that aims to quantify, understand, and project the evolution of global carbon sources and sinks in order to better predict future climate. As part of this multi-agency effort, NOAA has begun a network of airborne and tall-tower based sampling sites over North America. This sampling program will complement local-scale process research managed by other agencies and provide an estimate of the magnitude of regional terrestrial sinks on a continental scale. This monitoring program will provide decision-makers, resource managers, and the American public with solid, quantitative information on the role of the U.S. as both a source and a sink for carbon. The information gathered will be useful for international negotiations and identifying regions where mitigation activities are most needed or would have the most impact. Similarly, projections of climate change and the scenarios used to inform assessments will be improved; and additional insight into the societal risks of climate change and human efforts to mitigate climate change will be derived. Recent advancements in the program include expansion of a pilot program using small aircraft and tall towers to profile carbon gases. With input from other agencies, this program forms the foundation for routine spatial carbon “maps” and periodic “State of the Carbon Cycle” reports that will keep scientists and policy-makers abreast of progress in understanding the North American carbon cycle.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Climate Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Competitive Research Program					
Competitive Research Program	99,349	110,587	113,660	125,712	12,052
TOTAL	99,349	110,587	113,660	125,712	12,052
FTE	-	99	102	102	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA requests 0 FTE and $12,052,000 to further NOAA's national and international commitments to the U.S. Climate Change Science Program, the National Integrated Drought Information System, and the U.S. Integrated Ocean Observing System.

Integrated Ocean Observing System for Climate (IOOS): Global Ocean Observing System for Climate (+0 FTE and +$6,052,000):
NOAA requests an increase of 0 FTE and $6,052,000 to continue building the global component of the U.S. IOOS, which is the major U.S. contribution to the Global Ocean Observing System (GOOS) and the Global Earth Observation System of Systems (GEOSS); NOAA's Climate Program is the principal U.S. contributor to the global baseline ocean observing system. In 2007, NOAA, in cooperation with national and international partners, will make incremental advancements across all ocean observing networks with emphasis on these priority areas: (1) ocean circulation to monitor for possible indications of abrupt climate change, and for monitoring the climate's influence on marine ecosystems; (2) ocean storage of carbon in support of National policy decisions; and (3) oceanic contributions to the global water cycle especially in support of drought early warning and diagnostics. This request responds to the long-term observational requirements of the operational forecast centers, international research programs, and major scientific assessments. This investment is one of the high priority investments required for NOAA's implementation of IOOS as the ocean component of GEOSS in response to the U.S. Ocean Action Plan. Combined with other like-identified IOOS investments across NOAA, it is part of NOAA's strategy to provide initial benefits of an integrated ocean observing system.

Statement of Need

The United Nations Framework Convention on Climate Change (UNFCCC) has called upon the nations of the world for urgent action to complete global coverage by the ocean observation networks. Without urgent action to address this need, the parties will lack the information necessary to effectively plan for and manage their response to Earth's changing climate.

The system put in place for climate will also support global weather prediction, global and coastal ocean prediction, comprehensive marine hazard forecast and warning systems (e.g. tsunami), marine environmental monitoring, transportation, naval applications, homeland security, and many other non-climate users. This increase is part of NOAA's multi-year phased program plan to build the required global system as described in the Office of Climate Observation write-up, above. This increase will advance the ocean system to 61 percent complete.

Proposed Actions: Incremental advancements across all networks will be undertaken in FY 2007 in direct response to the U.S. Climate Change Science Program and the Integrated Ocean Observing System Development Plan. Priorities for system advancement:

- Reduce the uncertainty in estimates of changes in the carbon inventory in the global ocean. The exchange of carbon dioxide between the atmosphere and ocean is a major factor in the global carbon cycle. The immediate plan will be to add autonomous carbon dioxide sampling instrumentation to the moored arrays and ships of opportunity to analyze seasonal variability and long-term trends in carbon exchange between the ocean and atmosphere.
- Resolve the uncertainties in sea level change and sea surface temperature. Sea level change has the most direct societal impact and sea surface temperature is the single most important variable in the heat, carbon, and water cycles. The immediate plan will be to complete the global subset of tide gauge stations for altimeter calibration and long-term trends identified as the ocean climate reference network. The real time reporting capability being implemented at these stations makes them equally important as a contribution to the international tsunami warning system.
- Document the ocean's heat storage and transport to identify where anomalies enter the ocean, how they move and are transformed, and where they re-emerge to interact with the atmosphere. The immediate plan will be to advance the implementation of a global network of ocean reference stations to provide validation points for climate forecast and projection models, monitor key locations in the ocean for signs of possible abrupt climate change, and enhance data collection from ships of opportunity, completing a subset of high accuracy lines to be frequently repeated and sampled at high resolution for systematic upper ocean and atmospheric measurements. Additionally, the 2005 hurricane season tragically demonstrated the need for better understanding and forecasting of hurricane development; NOAA will equip a subset of special hurricane drifters (drifting data buoys) with upper ocean temperature chains to be air-deployed directly in the path of approaching hurricanes to measure the ocean's heat energy potential.
- Document changes in the ocean's contributions to the global water cycle. With increasing world population and the changing climate, global distribution of fresh water is rapidly become one of the most important natural resource concerns. Our understanding of the water cycle is limited by our knowledge of oceanic evaporation and precipitation over the ocean – 70% of the earth's surface. The immediate plan will be to instrument the global arrays of moored and surface drifting buoys and ships of opportunity for measurement of sea surface salinity which is a direct indicator of the ocean's evaporation and precipitation.
- Augment current activities to establish a national, sustainable Data Management and Communications (DMAC) standards infrastructure including ongoing standards development that will lead to interoperable data access and dissemination across observing systems. The immediate plan will be to establish a long-term data and product server to continue the server function that was established as an element of the Global Ocean Data Assimilation Experiment (GODAE). The GODAE experiment ends in 2007. The server capability must be continued in support of sustained earth observation.

Note: The President's budget transfers $3,000,000 from NWS base to OAR base in 2007 for advancement of the tropical morred buoy network – TAO/PIRATA enhancements and the Indian Ocean expantion. Funding for TAO/PIRATA ongoing operations remain in NWS base. However, this $3,000,000 for expansion of the observing system is subtracted from NWS and added to OAR for management by OCO in advancing the science-guided development of the Global Component of the Integrated Ocean Observing System. This is not a net increase to the observing system, but is a transfer of funding from one line to another.

Benefits

NOAA's Climate Goal seeks "a predictive understanding of the global climate system on time scales of weeks to decades with quantified uncertainties sufficient for making informed and reasoned decisions." The only way to quantify the uncertainties in the climate system is through accurate Earth observation, including rigorous data stewardship. The ocean occupies over 70 percent of the Earth's surface–achieving global coverage by the ocean systems, and rigorously assessing system performance are essential to understanding and predicting the Earth's climate variability and change. Over the past decade, the investments made by NOAA and our national and international partners (e.g., Global Climate Observing System, Data Buoy Cooperation Panel, JCOMM) have provided unprecedented global views of the Earth as a set of complex, interacting systems. Advancing the ocean systems toward global coverage will allow NOAA to:

- Monitor and analyze long-term ocean variability, providing information needed for society to anticipate and adapt to changes in the Earth's climate system;
- Assess oceanic carbon inventories to assist decision makers in establishing long-range policy for adapting to climate change;
- Monitor and forecast sea level change for essential engineering and land use decisions in coastal regions; and
- Improve initial conditions (i.e. the present state of the ocean) in climate models for enhanced seasonal forecasting and better immediate-term economic and management decision making.

This program change implements the first steps towards realizing global coverage by the surface and subsurface ocean observing systems and its successful completion will directly enhance the development of internally consistent climate data sets, help make improved use of existing observation efforts by many users, and reduce overall costs of maintaining separate and sometimes incompatible data management infrastructures. Through this integrating approach, future NOAA investments will not only improve tools and capabilities, but will also enhance the services provided to NOAA's diverse national and international user communities.

Performance Goals and Measurement Data

This request directly helps to meet NOAA's strategic performance objective to describe and understand the state of the climate through integrated observations, analysis and data stewardship under the NOAA mission goal "Understand Climate Variability and Change to Enhance Society's Ability to Plan and respond" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental

stewardship." The request also addresses the Climate Change Science Program's goal to expand observations, monitoring, and data/information system capabilities and increase confidence in our understanding of how and why climate is changing.
Specifically, this increase supports the following performance measures:

Performance Goal: Climate **Performance Measure:** Increased percentage of global in situ ocean observing system implementation	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	55%	55%	55%	55%	55%	55%	55%
With Increase	55%	55%	61%	63%	66%	71%	76%
Performance Measure: Percent of NOAA Observing Systems as identified in NOAA's Observing System Architecture (NOSA) meeting IOOS DMAC interoperability standards for metadata, data discovery, and retrieval							
Without increase	5	10	15	20	25	30	40
With increase	5	10	15	25	40	60	90%
Performance Measure (GPRA): Reduce the Error in Global Measurement of Sea Surface Temperature (degrees C)							
Without increase	0.6°C	0.5°C	0.5°C	0.5°C	0.5°C	0.5°C	0.5°C
With increase	0.6°C	0.5°C	0.4°C	0.3°C	0.2°C	0.2°C	0.2°C

Note: Draft IOOS DMAC Standards published in May 2004.

National Integrated Drought Information System and Regional Decision Support Partnerships: Coping with Drought (+0 FTE and $4,000,000):
NOAA requests an increase of 0 FTE and $4,000,000 to develop a focused decision-support research effort to aid risk management in the context of severe, sustained drought, and broader water resources management issues. Water resources management is the pathway through which climate affects ecosystems management, including coastal challenges, public health concerns and agricultural productivity. In FY 2007, NOAA will sponsor integrated, problem-focused research and research-to-operations transition projects addressing the effects of drought on society and economically productive sectors of the US economy and the expressed needs of regional decision makers as they confront the challenges of drought planning, mitigation and efforts to incorporate climate variability over years to decades into their planning processes. A deeper understanding of the specific information needs of local and regional decision makers, as well as an appreciation for addressing outcomes in terms of the overall well-being of affected communities, are much needed contributions to a national climate service. Structured feedback from this research, as well as a defined mechanism for incorporating research into operational climate services, are expected to result in more widespread use of climate information and will be critical to building an end to end climate service.

This investment will be implemented through the RISA Program, SARP, and the NOAA Climate Transition Program, drawing heavily on collaborations from other parts of NOAA, such as NWS and NESDIS. Specifically, the initiative will: (1) provide the resources for a RISA Drought Initiative to build upon and highlight the experience gained throughout the RISA network of researcher-practitioner collaborations over the last 5+ years of the severe, sustained drought in the western US; (2) identify, via a sector-based impacts research effort, the economic and social effects of drought (across and outside the US) through methods compatible with the short and long-term data and information needs of policy and decision makers; and (3) meet user requirements for the development of end-stage climate information tailored for specific decision needs associated with operational activities. NOAA's emerging climate services will ultimately be better documented, tested, evaluated, and improved. This request will provide resources to respond to the challenges of such practical issues as the re-licensing of dams, reservoir management challenges, ecosystem restoration initiatives, and a host of other complex and competing water-resource allocation issues.

Statement of Need

Due to population growth, drought will become an increasingly important issue as water demand increases. Important components of addressing this issue in the context of climate services is to: (1) develop a framework for organizing scientific content that meets technical and scientific standards and (2) ensure clear communication of new products and information to the public. This investment represents a strong effort on the part of NOAA to respond in an organized, visible fashion to drought problems. The experience of the drought in the West and studies of the origins, patterns, and projections of drought in the context of climate variability and change, offer a unique opportunity for NOAA's emerging climate services to channel innovative scientific research developed through climate process studies via a decision support research framework and a clear methodology for transition to operations of these research-based, user-driven tools. Such a framework will be essential to the formidable task of building capacity for drought preparedness, as well as fulfilling goals within the NOAA Strategic Plan and the Administration's Climate Change Science Program (CCSP) strategic plan by identifying the need for relevant climate information and sustained services; research efforts will also directly address the recommendations made by the National Research Council (NRC)'s Board on Atmospheric Sciences and Climate's (BASC) 2001 study, A Climate Services Vision: First Steps Toward the Future, which calls for building a robust U.S. climate service.

NOAA's increasing interest in supporting decisions sensitive to climate, the continuing drought conditions in the Western United States, the interest of U.S. Congress in drought issues (e.g., discussions regarding the National Drought Preparedness Act), the national interest in NIDIS, and the progress of several NOAA Climate Program research, transition, and delivery efforts all point to an opportune time for NOAA to work to synthesize diverse efforts in understanding decision-making and drought across timescales of concern to water allocation. The approach used in this prototype activity will be transferable to other sectors (e.g. coastal management, energy management).

Proposed Actions

A. RISA Initiative ($1,800,000)

- **Enhanced RISA research capacity ($800,000):** The success of the existing RISA teams has resulted in a research demand in other regions of the U.S. (e.g. Southern Great Plains, Great Lakes, Mid-Atlantic). For example, a scoping meeting clearly showed the value of establishing a RISA in the Southern Great Plains; particularly for managing water resources in rapidly depleted aquifers with potentially devastating affects to agriculture (RISA:Enhancing Decision-Making Through Integrated Climate Research, Southern Great Plains, 2004). The bulk of this program change request would be used to award one new competitive RISA award. RISA's sustained interaction with stakeholder communities needs to be evaluated on an ongoing basis. A portion of the request would be made available to fund a limited number of evaluation studies to document and/or quantify the results of the RISA process in terms of influencing decisions and the resulting social and economic consequences.

- **Targeted Cooperative Funding ($1,000,000):** Climate sensitive issues such as drought will require coordinated research across multiple regions of the U.S as well as coordinated activities across federal and state agencies. A climate service, as it develops, will require a research network that can address issues of concern within a region but also speak to issues at the multi-region, national and international levels. Building on research and tools developed within individual regions (e.g., downscaling climate information for watershed planning, ecosystem restoration, crop modeling or coastal planning), climate information would have a much greater impact on these management issues across the U.S. if two or more RISA teams worked together to advance the methodology and insights from research and tool development for transferability across geographic regions. This request will enable RISA teams across the US to focus and enhance their research and stakeholder interaction in support of local and regional entities preparing for and addressing the impacts of drought. Specifically, funding will support: 1) research and product development that integrate a range of climate information (e.g. paleoclimate records, decadal trends, current observations), models (e.g. climate, hydrology, ecology), forecasts (e.g., 3-month climate outlooks), and projections on seasonal through decadal timescales into management and planning models for water supply, farming, ranching, forests and ecosystems restoration, with the goal of aiding decision makers in their ability to cope with drought; 2) inter-RISA capacity to advance methodology and insights from research and tool development for transferability across geographic regions. Products and innovations from this integrated research will also be used as input to state and regional drought planning, and would have the potential for transition into operational entities (both within and outside of NOAA) through the NOAA Climate Transition Program (NCTP).

B. Drought Impact Initiative ($1,200,000) will support:

- **Drought Impacts Research ($950,000).** This effort will fund new research into the socioeconomic impacts of drought and its cycles, and current and potential coping mechanisms for reduction of vulnerability to drought. It has been widely recognized that an essential element in moving from ad-hoc response to drought preparedness and mitigation is more sophisticated drought impacts information. These resources would be directed to such areas as: economic analyses of the cost of drought (including the effects of collective mitigation efforts); studies of institutional constraints and innovations in the area of drought preparedness; and specific data and information needs related to reducing vulnerability to drought impacts. Improved understanding of the impacts of drought and the pathways of impacts would result in recommendations for improved monitoring,

reporting, and assessing the cost of drought, all of which will help to improve mitigation strategies. New drought impact insights and information are distinctly called for in NIDIS as part of an overall strategy for moving to improved preparedness: a National Drought Impacts Reporting Strategy. Furthermore, impacts methodologies and findings will provide a critical contribution to efforts across NOAA's climate services elements – from NCEP to CDC and NWS field offices – to improve the development of a range of web-based visualization and information products intended to provide accessible information on drought indices.

2. **A Prototype for Directed Drought Regional Decision Support ($250,000).** This effort will assemble the collective work of researchers funded competitively through NOAA and other agencies to provide a comprehensive examination of drought decision support and water management in a river basin. In the case of the Colorado River Basin, modern-day water management decisions are based upon the Colorado River Basin Compact, which was signed by seven Colorado River Basin states over 80 years ago. The Compact is based on water flow values that are not representative in today's drought conditions and does not include provisions to deal with shortages due to drought. Given increases in population growth in such states as Utah, Colorado, and Arizona as well as increased water needs by the energy and agricultural sectors, many states are currently investigating ways that the Compact might be modified. These states are also concerned about drought conditions today, the continuing impacts of climate variability, and the implications of water usage in the future. With this funding request, NOAA will convene a committee of regional experts (including a range of key partners) to produce a study of an individual river basin(s) contributing to the broader efforts to improve Basin management. At the end of this prototype activity, which should take approximately 18 months, the committee will provide an inventory of relevant research performed within and outside of the region, a synthesis of the present use of climate information, an accounting of gaps in information and approach, and a formal report detailing recommendations for future opportunities and activities.

C. NOAA Climate Transition Program ($1,000,000)

In FY 2007, NCTP will begin to partner with other NOAA programs to provide improved climate services to the operational and policy communities. Drought is a topic of prime concern for several other programs in FY 2007, specifically, SARP, RISA, and the Office of Climate, Water and Weather Services within the NWS. For example, preliminary discussions have already been held with NOAA's Office of Hydrologic Development for a potential joint announcement. The possibility of partnerships with programs in other agencies will be explored for future activities. Additional funding would allow the research, education, and outreach efforts put forth by these programs to effectively be delivered and used by the operational community in subsequent years. The NCTP Program will request of all awardees an evaluation of the economic effect of new operational information in their given settings. Three simultaneous occurrences also make this year prime for NCTP expansion: (1) increased impetus of the NIDIS, which states that the development, integration and maintenance of "a suite of drought decision support and simulation tools is fundamental for the success of NIDIS" ; (2) focused interest and activity in state drought task force planning and the need for additional tools to respond to triggers that set these plans into action; and (3) expanded capacity and interest of NWS state and local offices allowing more capability for making climate forecasts operational through NCTP activities.

Benefits

The goal of this investment is to produce climate service products designed to be best used by local, state, and regional decision makers in sectors affected by drought. The initiative serves water resource managers, farmers, forest managers, public health officials, and state and federal agencies responsible for ecosystem restoration in their capacity to cope with drought including estimating the costs of droughts as well as the social and economic benefits of using climate impacts information. "Spending a little up front to plan for drought will save states and the federal government billions in the long run" (Rep. Alice Hastings, NIDIS Plan, 2004). The evolution of cross-region RISA activity, evaluation, and regional expansion proposed above, will help to frame the architecture of NOAA's emerging Climate Services in a manner that links research findings and tools directly to providing relevant, timely, and useful climate information to meet the NOAA Climate Program's goals for Regional Decision Support. An evaluation of the economic impact of new operational information and/or services will fulfill an increasing need for NOAA to better document the value of our investments. Finally, the expansion of NCTP will help to fill a critical gap in developing an end-to-end climate service.

Performance Goals and Measurement Data

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal, "Observe, protect, and manage the Earth's resources to promote environmental needs." This investment supports the 100% requirements identified by the Regional Decision Support Program of the NOAA Climate Mission Goal.

Performance Goal: Climate **Performance Measure:** Improve ability of society to plan and respond to climate variability and change using NOAA climate products and information	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	28	32	32	32	34	35	35
With Increase	28	32	35	37	41	44	47

Performance Goal: Climate **Performance Measure:** Increased number of instances where climate information is integrated into prototype decision support tools or management systems	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	5	5	5	5	5	5	5
With Increase	5	5	5	7	9	11	11

Performance Goal: Climate **Performance Measure[2]:** Increased number of RISA teams to conduct region-specific integrated research in collaboration with stakeholders	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	8	9	9	9	9	9	9
With Increase	8	9	10	10	10	10	10

2 Number indicates total number of RISA teams sponsored

Performance Goal: Climate **Performance Measure:** Increased transition of decision support research to operational settings	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	0	0	1	3	1	3	3
With Increase	0	0	1	3	4	7	10

Explaining Climate Conditions to Improve Predictions (+0 FTE and $2,000,000): NOAA/OAR is requesting an increase of 0 FTE and $2,000,000 to develop new climate reanalysis data sets and the capability to deliver explanations of the causes for observed climate variability and change. This effort represents a key NOAA contribution to the CCSP goal of improving knowledge of the Earth's past and present climate and environment, including its natural variability, and improve understanding of the causes of observed variability and change. This work will enable NOAA, as the lead agency, to deliver a high priority interagency CCSP synthesis product in 2-4 years: "Reanalyses of historical climate data for key atmospheric features. Implications for attribution of causes of observed change." This program component supports NOAA's Mission Goal to "Understand climate variability and change to enhance society's ability to plan and respond."

This program is required to deliver the reference data set for verification and calibration of prediction components, which are crucial for meeting NOAA's GPRA performance measure for U.S. Seasonal Temperature Forecast Skill. It also provides the mechanism for ingesting and assimilating all GEOSS data sources into an official historical reference system, which replaces a system using 15 year old technology.

Background: NOAA lacks adequate capacity to provide global climate analyses that are required to describe major features of 20th Century climate and the capacity to address the causes of observed regional climate variations that are crucial to informing policy decisions. The first-generation reanalyses, based on mid-1990's models, lack adequate spatial resolution and contain known deficiencies which limit their usefulness for identifying climate trends and assessing causes of observed change. Advances in models, improved data assimilation methods, and new data sources make it desirable and feasible for NOAA to develop and continually update global reanalyses datasets. An assessment of the causes of observed changes will complement the data set development and enable NOAA to meet CCSP synthesis product requirements.

Proposed Actions: Developing improved climate reanalyses and attribution capabilities requires strong links among NOAA's observational, research, and operational prediction efforts. This program enhancement will establish the capacity to produce consistent and continually updated climate analysis data sets; to expand climate services through the delivery of regular and systematic explanations of the state of the climate system; and to advance understanding and predictions of climate extremes for proactive decision-making.

Activities at NESDIS' National Climatic Data Center will provide new, quality-controlled data products that will serve as crucial observational input for an historical reanalysis. Observational data sets will be constructed with at least once-daily temporal resolution and will include land and marine surface pressure observations calibrated to account for time-varying measurement practices for the period 1893 to present. These data will be extracted from a variety of sources, including the Integrated Surface Hourly land station database, which will be expanded with newly digitized US observations, and newly available data from international partners. These data will be quality controlled and metadata will include estimated errors and corrections for time-varying observation practices.

NWS' National Centers for Environmental Prediction (NCEP) will implement an improved global climate reanalysis system that will be used to quality control upper air data from 1948 to present and bias correct input data to reduce spurious climate trends due to changes in observing systems. NCEP will also assess the effects of changes in the observations to determine the best reanalysis strategy; maintain, improve and implement the climate reanalysis. Finally, NCEP will provide real-time diagnostics to correct problems as they occur, and support the necessary computing infrastructure.

OAR reanalysis activities will extend the current reanalysis period (1948-present) to provide a model reanalysis data set that covers the entire 20th Century. This effort will build on reanalysis research indicating that large-scale aspects of climate variability and change can be developed from surface pressure observations using advanced ensemble data assimilation techniques. This historical reanalysis will vastly improve upon existing hand-drawn analyses. This dataset will substantially reduce uncertainty in historical climate variations and improve the analysis and detection of interannual-to-decadal variability and trends in weather and climate in the 20th Century. OAR climate attribution research will provide NOAA with a greatly improved capability to interpret causes of observed climate variability and, therefore, will be crucial to serve the climate information needs of policy-makers for explanations of current and evolving regional climate conditions. A major focus will be to develop capabilities to attribute causes of regional climate events, such as major droughts, floods, prolonged warm or cold conditions, climate trends and extremes, and multi-decadal variability.

Initial funding for the Explaining Climate Conditions to Improve Predictions Program is:

- $300,000 to NESDIS/NCDC for three contractors to support production of new quality-controlled data products and long term archive and access to the climate reanalysis suite.
- $700,000 for five NWS Environmental Modeling Center and Climate Prediction Center contractors to establish an infrastructure for the development, maintenance, and distribution of the climate reanalysis suite and develop climate attribution products at NCEP
- $150,000 for NWS to augment the disk storage to allow for routine production of NWS and OAR reanalysis datasets on the NCEP backup computing facility.
- $450,000 at OAR for four Climate Diagnostics Center affiliated Joint Institute investigators to develop climate attribution products and to construct an historical reanalysis extending from 1893-present.
- $400,000 for OAR's Office of Global Programs to support extramural research on reanalysis and climate attribution.

Benefits:

- New quality controlled data products for use in the next generation reanalysis.
- Production and dissemination of improved climate reanalysis data products for accurately assessing climate variability, detecting climate change and regional trends in climate extremes.
- Fulfillment of NOAA's commitment to the CCSP goals, and specifically, to deliver the interagency CCSP priority synthesis and assessment products.

- New diagnostic and analysis tools to link the behavior of climate and forcing mechanisms in a physically consistent manner.
- Regular and systematic explanations of past, current, and evolving climate conditions, including the detection and explanation of regional trends and multi-year variability.
- Enhanced climate prediction capabilities that will enable regional and national decision makers and resource managers to better plan for impacts of climate extremes, variability, and change.

Performance Goals and Measurement Data:

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the Climate Performance Goal. These activities provide the foundation for future climate research and are related to the work that will be necessary to achieve the following outcome: "A predictive understanding of the global climate system on time scales of weeks to decades with quantified uncertainties sufficient for making informed and reasoned decisions." By conducting the data reanalysis, NOAA will be better positioned to be able to describe and explain climate variability and change.

Performance Goal: Climate **Performance Measure:** Extend climate analyses and reanalyses to include earlier and later time periods (metric: number of years (extended back from present) included in the surface-observation based historical climate reanalysis)	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	68	69	70	71	72	73	74
With Increase	68	69	81	93	105	117	130

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Competitive Research Program ($328,000).

Subactivity: Climate Research
Line Item: Climate Operations

GOAL STATEMENT:

The goal of NOAA's Climate Operations is to provide accurate and timely climate information/forecasts to best serve the public and private sector which will be achieved via improved climate forecasts on timescales from subseasonal through interannual and beyond.

BASE DESCRIPTION:

Seasonal and interannual climate variability impact life and property on local, regional, and global scales. Since societal impacts from climate variability and change extend down to sub-seasonal time scales, connections between climate and extreme weather events must be identified. The establishment of climate/weather links will improve the forecast timing and location of extreme weather events thereby minimizing their impacts on the lives and property of U.S. inhabitants. Activities funded under Climate Operations include Operational Forecasts. This is a primary mission of NOAA to provide improved forecasts on subseasonal through interannual timescales and beyond. This will be achieved by improving model performance, developing new forecast designs, and upgrading existing datasets. The end-result will be the ability to produce and disseminate operational forecast products to private industry and the public resulting in the preservation of life and property.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "observe, protect and manage the Earth's resources to promote environmental needs."

Under the new FY2007 OAR budget structure, the Climate Operations line item remains as defined in the FY 2006 budget, including operational climate activities funded under former CO&S lines: Regional Assessments Education and Outreach, Climate Data and Information, and Weather-Climate Connection.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Climate Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Climate Operations					
Climate Operations	-	363	358	886	528
TOTAL	-	363	358	886	528
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Regional Climate Services (+0 FTE and $528,000): NOAA requests an increase of 0 FTE and $528,000 to sustain climate services operations at the national and regional levels. Through this capability, NOAA will provide America with operational service outlets and customer interfaces for climate data and information products and climate forecasts and their regional and local impacts. This activity also forms the backbone of the customer service and information distribution to be leveraged for the National Integrated Drought Information System (NIDIS), meets future requirements encompassed in the White House Subcommittee on Disaster Reduction Grand Challenge on Drought, and directly supports the decision support aspects of the Administration's Climate Change Science Program (CCSP). The activity will continue to provide NOAA customers – farmers, utilities, land managers, business owners, energy, re-insurance, weather risk industry, and decision makers – with the ability to assess climate variability and make informed decisions to mitigate impacts of extreme climate events, such as droughts and El Nino. For example, the Pacific ENSO Applications Center (PEAC) in Honolulu will continue to improve climate products and services for the western Pacific islands and Hawaii.

Statement of Need

Climate and its variability and change currently are key topics of intense interest and concern for scientists, the general public, the media, and economic sectors, such as energy and reinsurance. From speculation about changes in hurricane frequency and strength to persistence of drought, particularly in the West, there is a critical need for the U.S. to ensure that its investment in climate research, data, information, and predictions can be used to evaluate and mitigate the identified impacts of climate.

Climate services operations meet the basic climate service needs of NOAA's customers and partners. It is a point where the NOAA investment in climate observations and research pay-off in terms of operationally supported and delivered products, predictions, and other services. The vision and execution of this exercise is consistent with and necessary for the Administration's CCSP and consistent with recommendations made by the National Research Council in a 2001 report (*A Climate Services Vision*) which calls for:

- Creating user-centric functions within agencies;
- Ensuring a strong and healthy transition of U.S. research accomplishments into predictive capabilities that serve the nation;
- Developing regional enterprises designed to expand the nature and scope of climate services; and
- Enhancing the understanding of climate through public education.

Proposed Actions

Restored support for the program in FY 2007 will continue to equip national and regional climate program managers with resources necessary to interact with national, regional, and state decision makers to enhance the usability and utility of climate products and services. It will continue NOAA's commitment to education through training its workforce in issues of climate services for addressing variability and change. It will ensure that forecast enhancements at the local level already begun will make it into operations, and will continue to provide a conscience for the U.S. climate observing system, necessary for determining and evaluating climate change. Additionally, support for the program will ensure that NOAA engages and leverages partners, including other federal agencies, to accomplish climate services nationwide in a cost-effective manner.

Efforts include:

- Training program ($188,000): Develop residence, online, and distance learning modules that will equip national, regional, and local climate services providers and partners with the tools they need to ensure that NOAA climate products and data services are efficiently and optimally used, and that forecasts are properly and easily explained. This activity is preparing to provide expanded training in drought to provide field support for NIDIS, when it is implemented, which can be leveraged by NOAA, partners, and other state and federal agencies involved in NIDIS.

- Enhanced web tools and forecast product development ($270,000): Continue to provide enhanced services through the Internet, including access to NOAA climate data, information, predictions, and services. Continue to augment forecasts at the local levels in the form of seasonal precipitation outlooks at 4,000 stations across the U.S. and for a suit of local ENSO-based impacts forecasts to be issued during an El Niño or La Niña event.

- Sustained customer interaction ($70,000): The primary responsibility of climate services has been to ensure that NOAA climate products are readily accessible, well understood, and optimally used by customers, decision makers, and the general public at the local, regional, and national levels. This includes stakeholder interaction for product improvements, soliciting requirements for new products and services, and ensuring that NOAA's observing systems are operated to maintain the integrity of the climate record.

Benefits

The desired outcome of this activity is to continue to assist the U.S. in mitigating the $3 trillion of the national economy that is susceptible to impacts of weather and climate and to be positioned to provide enhanced services for pressing future environmental concerns, should resources allow. This activity has, and will continue to offset losses and leverage positive impacts from climate events such as El Nino ($4 billion loss, $25 billion total impact during the 1997-1998 event, *NOAA Economic Statistics 2004*), drought ($6-8 billion annually, *NOAA Economic Statistics 2004*), and will continue to provide information and support activities such as USDA drought disaster declarations and FEMA disaster declarations, such as hurricanes (each totaling billions of dollars each year - especially noticeable this past year in the wake of Hurricane Katrina). NOAA's National Weather Service is the logical federal agency positioned to lead this activity because of its long history of providing these, and similar, services and its unique and expansive nation-wide infrastructure of regional and local offices and extensive partner support.

Performance Goals and Measurement Data

This increase will support the Department of Commerce goal "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." It addresses the Climate Change Science Program goal "Explore the uses of and identify the limits of evolving knowledge to manage risks and opportunities related to climate variability and change." It also addresses the NOAA goal "Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond." Specifically, this increase directly supports the DOC/NOAA Climate Goal and is being considered for integration into an FY 2008 GPRA performance measures for NOAA Climate Regional Decision Support.

Performance Goal: Climate **Performance Measure:** NOAA's NWS regions with supported climate services programs	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	6	0	0	0	0	0	0
With Increase	6	0	6	6	6	6	6

Subactivity: Climate Research
Line Item: Climate Data & Information

GOAL STATEMENT:

NOAA's Climate Data and Information Program manages the Nation's resource of global climatological in-situ and remotely sensed data and information to promote global environmental stewardship; to describe, monitor and assess the climate; and to support efforts to predict changes in the Earth's environment. This effort requires the cooperation of national and international meteorological services for the acquisition, quality control, processing, summarization, dissemination, and preservation of a vast array of climatological data.

BASE DESCRIPTION:

The primary goal of climate observing networks is to assemble, develop, and communicate data and information about the trends and predictions of climate and weather events to public and private sector decision makers (e.g., energy, agriculture, state and local officials). To accomplish this goal, NOAA must develop the required infrastructure which addresses: (1) improving access and data management activities with, large-volume climate databases supplied by satellite and ground-based instruments; (2) implementation of operational updates to NOAA's long-term ocean and atmospheric reference data sets; and (3) improving the performance of the observational network consisting of the U.S. Surface Hourly, Upper-Air, and Buoy Networks. The following activities are funded under the Climate Data and Information line item:

- The **U.S. Climate Reference Network** (USCRN) (previously funded under CO&S) provides baseline, high-quality surface observations of air temperature and precipitation in order to detect long-term changes in climate through a robust climate record. The Climate Reference Network is an integral component of NOAA's plans for IOOS and contributes to the integrated GEOSS. USCRN observations will provide benchmark measurements for an improved National climate and weather monitoring network. CRN data already serve over 100,000 users each year from government, academia, and the private sector. Full implementation of the network of reference stations, will fulfill the ultimate goal of routinely explaining at least 95% of national annual average precipitation variance and 98% of national annual average temperature variance for the contiguous U.S. The network is currently 52% complete (58 commissioned out of 110 planned stations); full implementation of the network is slated for 2009.

- **Data and Information Products**: The improvement in the quality and integrity of observed datasets is fundamental to our Nation's and the global climate and weather monitoring programs. Early detection and remediation of network problems that can adversely affect the quality of data records and diminish our ability to evaluate climate variability and change will be provided through NOAA's Observing System Monitoring Program. This will alert Observing System Managers in near real time to problems that in the past have been discovered long after the data became part of the historical archive, and thus too late to take immediate corrective action.

- **Global Climate Atmospheric Observing System:** Under the new FY 2007 OAR budget structure, the Climate Data and Information line item remains as defined in the FY 2006 budget with one additional change. In addition to climate activities funded under former CO&S lines: Regional Assessments Education and Outreach, Climate Data and Information, and Climate Reference Network, the Climate Data and Information line item now includes the Global Climate Atmospheric Observing System.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Climate Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Climate Data & Information					
Climate Data & Information	3,942	2,401	2,362	6,266	3,904
TOTAL	3,942	2,401	2,362	6,266	3,904
FTE	-	4	4	4	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Global Climate Observing System (+0 FTE and $2,743,000): NOAA requests 0 FTE and $2,743,000 to support activities under NOAA's Cross-Cutting Priority for the 21st Century, "Develop an Integrated Global Environmental Observation and Data Management System". The U.S. Global Climate Observing System (GCOS) project has tremendous synergy with NOAA's desire to invest in needed climate quality observations globally and encourage other national and international investments to provide a comprehensive observing system in support of climate assessments and forecasts. Furthermore, U.S. GCOS is a central NOAA and U.S. project that proactively seeks to increased number of partnerships that promote regional, and local cooperation in global (land and open/coastal ocean regions) observations and data management programs. This activity is in direct alignment with NOAA's corporate practice of developing Effective Strategic Partnerships and Integrated Information Services. U.S. GCOS is a key driver for supporting a sustained global infrastructure of complementary in situ and data management and access subsystems, adequate to accurately document the state of the climate system on a global basis that would provide necessary inputs to enable more reliable climate predictions and projections. U.S. GCOS activities are significant contributors to the US IEOS and the GEOSS strategic plans.

Statement of Need

The users of GCOS data include the United Nations Framework Convention on Climate Change (UNFCCC), the International Panel on Climate Change (IPCC) researchers who utilize GCOS data as key input for their assessments that are intended for high-level government policymakers for making decisions related to mitigating the effects of climate change. GCOS has been identified as the formal climate component of the Global Earth Observation System of Systems (GEOSS) and is thus directly related to the societal benefit entitled "Understand, Assess, Predict, Mitigate, and Adapt to Climate Variability and Change".

The U.S. Department of State Climate Change Office supports the U.S. GCOS effort as it has been a key activity in a number of climate bi-lateral agreements entered into by the U.S. U.S. GCOS is critical to fulfilling some key U.S. commitments to the UNFCCC and is in line with President Bush's June 2001 Rose Garden speech where he stated that ***"…national and international bodies have "identified the building of a global observing system to monitor climate as being crucial to improving our understanding of the science of climate change."*** The President went on to state that, ***"the United States will provide resources to help build climate observation systems in developing countries throughout the world."*** GCOS is formally recognized under the UNFCCC as the sustainable climate observing network, and GCOS occupies a prominent role in the US National Climate Action Report 3 published in 2002 and the soon-to-be published Climate Action Report 4 in 2005, and has been lauded by the UNFCCC as a superior program. Finally, U.S. GCOS provides will be provide key support to the Gleneagles G-8 July 2005 Summit where the U.S. signed on to a resolution related to global climate observations and monitoring.

Proposed Actions:

- Retrofit GCOS Upper Air Network (GUAN) sites in developing nations, the provision of expendable equipment (e.g., radiosondes and balloons) as well as the installation of new reference GCOS Surface Network (GSN) sites in developing nations and unique climate regimes is at the core of the U.S. GCOS program. This portion of the project has been instrumental in decreasing the number of silent global stations, increased the number of climate reports, helped in rescuing valuable paper data records for addition to the global climate data bases, and in spearheading the need for new reference stations in order to get a better picture of essential variables associated with climate change.
- Continue serving as the GCOS Lead Center for GSN at NCDC, a critical role in the data management of the various global GCOS networks; monitoring the health of the GSN and GUAN networks, vital to ensuring possible problems with data quality are caught and fixed early ensuring that historical data sets retain their integrity; and participating in global assessments of climate as performed by the Intergovernmental Panel on Climate Change.
- Support the Pacific Islands Regional GCOS Program as well as its sister program the Pacific Islands Regional Global Ocean Observing Program have proven to be invaluable in furthering the goals of maintaining a sustainable and robust regional observing program in an important region to climate both based on the fact that due to its geographic there is sparse data in the region, as well as the fact that the Pacific region is the home to major global oscillations such as El Niño and the Pacific Decadal Oscillation that have major impacts on the U.S. climate.
- Continue support to other associated GCOS activities involving the data quality and calibration of global datasets involving precipitation chemistry, solar radiation, regional precipitation networks, as well as support for GCOS related research activities such as the African Monsoon Multidisciplinary Analysis (AMMA) project and basic support for the international GCOS secretariat.

Benefits

This project supports the U.S. leadership role in implementing a sustained, globally deployed system of 1,000 GSN and 150 GUAN stations. The U.S contribution to this global network, a part of the larger GEOSS, is: a) the installation of 75 new GSN reference stations in lesser developed nations to include 25 high elevation Climate Reference Network quality stations in Africa, South America, and Europe and b) installation and/or upgrades to 75 GUAN stations in lesser developed nations to include; 40 GUAN sites serving as reference stations with high quality reference radiosondes running in dual mode; 3 new Global Atmosphere Watch (GAW) observatories in the Asia Pacific region; 5 new ozonesonde stations in developing nations; 2 Dobson Ozone Regional Calibration Centers in South America and Africa; 1 stratospheric water vapor observing site operating in the Southern Hemisphere; upgrades at 11 existing GAW observatories in developing nations; CO2 flask sampling from a ship plying the western Pacific; 13 in situ water level stations in Africa. The goal is that all the U.S. supported GUAN and GSN will adhere to the NRC and GCOS Climate Monitoring Principles.

Performance Goals and Measurement Data

This increase will support, restores support, to one of NOAA's primary mission goal objectives to, "Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond." U.S. GCOS spearheads NOAA's effort to lead a cross-cutting priority for the 21st Century by Integrating Global Environmental Observations and Data Management. Officially recognized as part of the climate component of the GEOSS effort chaired by Admiral Lautenbacher, this U.S. GCOS increase directly contributes to the U.S. efforts and role as a leader in implementing and integrating vital global earth observations and data management. The U.S. GCOS performance measures table from the FY08-12 COA Program PBA is provided in the table below.

Performance Measure & Unit of Measure	FY05	FY06	FY07	FY08	FY09	FY10	FY11
GSN explained variance (%) for temperature (developing world)	5	10	15	20	25	30	35
Without Increase	5	0	0	0	0	0	0
GUAN stations (%) meeting GCOS requirements (developing world)	5	10	15	20	25	30	35
Without Increase	5	0	0	0	0	0	0
GUAN Stations installed (cumulative)	4	8	12	16	20	24	28
GUAN Stations Without Increase	4	0	0	0	0	0	0
GSN Stations Installed cumulative	4	8	12	16	20	24	28
GSN Stations Without Increase	4	0	0	0	0	0	0

Climate Reference Network (+0 FTE and $1,161,000): The **Climate Reference Network** (CRN) provides baseline, high quality observations of surface air temperature and precipitation in order to detect long-term changes in climate through a robust climate record. The climate reference network is an integral component of NOAA's plans for an Integrated Surface Observing System (ISOS) and directly contributes to the USGEO Integrated Earth Observing System (IEOS). CRN stations provide benchmark measurements used to improve the quality of measurements from other ground, airborne, and satellite based observing platforms. CRN data serves over 100,000 users each year from government, academia, and the private sector. Funding will provide the means to complete the installation and commissioning of the remainder of the full network of 114 stations, as well as provide adequate life cycle operations and maintenance. The requested funding will enable NOAA to continue towards completing its plan for the full implementation of the network, 114 benchmark stations strategically placed across the National, to tracking more than 95% of national annual precipitation variability and 98% of annual temperature variability.

Statement of Need

The CRN observations are a critical source of information that produces climate data sets that are derived in part from NOAA's, NASA's, and international satellites. These data are merged together to enable scientists to track changes in temperature, precipitation, global cloud cover and other essential climate variables, a fundamental to reducing uncertainty in the understanding of climate today and required for many energy and water related applications. The funds will be used to transform complex data on cloud properties, surface albedo, ice, reflectance, radiance, and temperature into common data formats such as GIS and in publications such as Local Climate Data that are widely requested and used by the private sector and the public. The CRN supports NOAA's Observing System Monitoring Program which provides early warnings of network problems that can adversely affect our ability to track variations and changes in climate. It alerts Observing System Managers to problems that in the past have been discovered too late to take corrective action. Funding enables NOAA to reinstitute routine monitoring for the NWS Cooperative Observer Network, the GCOS Upper Air Network, the GCOS Surface Network, and the observations from the new U.S. Upper Air System. All these observing systems are fundamental to our Nation's climate monitoring program and the U.S. contribution to the GEOSS.

Proposed Actions

- Complete OT&E for the 3 installed stations placed into "hibernation" mode due to lack of funding to complete commissioning process.
- Deploy and commission additional CRN CONUS stations until the full network of 114 stations are operational achieving the end state performance measures by the end of FY 09.
- Preclude potential loss of already approved sites: FY 04 and 05 signed site license agreements – SLAs for sites that have delayed more than two years (due to budget cuts in FY 05).

Contributing activities

- Expanded the number of stations that contribute to drought monitoring and extreme events in cooperation with Canada and Mexico.
- Railway transportation research on climatic impacts with Canada.
- After FY 09, all stations installed and operational, provide follow-on instrumentation for National Integrated Drought Information System (relative humidity and soil moisture/temperature).
- Expand real-time support for surface (road and rail) transportation.
- Implement daily operational process that use CRN observations as benchmark ground truth for monitoring and evaluating the performance of satellite sensors and improve the quality and utility of satellite observations.

Benefits

This project provides rapid return on investment when considering the support provided too many sectors of the Nation's economy, especially those that are most sensitive to climate and weather variability. The observations support critical decisions in planning infrastructure to withstand and benefit from climate variations have value that is recognized by the public and by managers. Specific examples of CRN users and associated benefits include:

- The private sector (such as the energy and tourist industries) that need high quality climate data in near-real time to monitor atmospheric conditions that directly impact their company's financial health.
- Utility managers, such as water managers, who need the observations for better planning during periods of drought.
- Climate scientists who are studying and/or monitoring the climate for evidence of variability and change.
- Weather forecasters to improve their forecast accuracy which would result in saving lives and property.
- Society and the economy all benefit due to better forecast accuracy helping protect lives and property, and better monitoring and understanding of the climate for strategic planning.

USCRN provides direct benefits and linkages to at least six societal benefits outlined in USGEO. Examples include:

- Understand the Effects of Environmental Factors on Human Health and Well Being.
- Understand, Assess, Predict, Mitigate & Adapt to Climate Variability & Change.
- Monitor and Manage Energy Resources.
- Protect and Monitor Water Resources.
- Improve Weather Information, Forecasting, and Warning.
- Support Sustainable Agriculture and Combating land Degradation.

Performance Goals and Measurement Data

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this network provides the most reliable and highest quality source of observations to assess climate variability and change and to support private sector and public in designing and plans to accommodate observed variability. The distribution and quality of the observations also provide benchmark observations for satellite calibration and validation over a wide spectrum of climates in the U.S. Most of the National average annual variability in temperature (98%) and precipitation (95%) will be accounted for when completed.

Increase Requested

Performance Measure & Unit of Measure	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
% Explained Var. for temperature (CONUS)	96.9	97.0	97.2	97.6	98.0	98.0	98.0
% Explained Var. for precipitation (CONUS)	91.4	91.4	92.3	93.7	95.1	95.1	95.1
# Installed stations (cumulative total)	72	75	91	107	114	114	114

Subactivity: Climate Research
Line Item: Other Partnership Programs

GOAL STATEMENT:

The strength of NOAA Research is that it does not operate in isolation but rather in partnership with a multitude of external experts in its fields of research. These partnerships extend to other parts of NOAA; other Federal, state, and local government entities; universities; and industry. The contribution of the unique strengths of each partner greatly enhances the accomplishments of NOAA Research.

BASE DESCRIPTION:

Other Partnership Programs contains various programs appropriated by Congress. NOAA Research manages these programs in a manner that leverages their objectives in concert with NOAA's mission responsibilities and requirements.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Climate Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Partnership Programs					
Central CA Ozone Study	247	-	-	-	-
East Tennessee Ozone Study	296	296	-	-	-
Climate System Research Center	739	740	-	-	-
Intl Council for Local Environmental Initiatives	492	-	-	-	-
Climate and Environmental Change	2,438	-	-	-	-
Univ of AL Huntsville Climate Research	986	986	-	-	-
Abrupt Climate Change Research	487	247	-	-	-
Drought Research Study	-	986	-	-	-
Coastal Vulnerability to Climate Change	-	1,480	-	-	-
Center for Urban Environmental Research	-	986	-	-	-
Advanced Study Institute for Environmental Prediction	-	1,479	-	-	-
TOTAL	5,685	7,200	-	-	-
FTE	6	-	-	-	-

PROGRAM CHANGES FOR FY 2007:

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Other Partnership Programs ($7,200,000); East Tennessee Ozone Study ($296,000); Climate System Research Center ($740,000); University of Alabama-Huntsville Climate Research ($986,000); Abrupt Climate Change Research ($247,000); Drought Research Study ($986,000); Coastal Vulnerability to Climate Change ($1,480,000); Center for Urban Environmental Research ($986,000); Advanced Study Institute for Environmental Prediction ($1,479,000).

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Subactivity: Weather and Air Quality Research
Line Item: Laboratories & Cooperative Institutes

GOAL STATEMENT:

NOAA's Weather and Air Quality Research Programs are conducted towards fulfillment of two goals: (1) to provide the Nation with more accurate and timely warnings and forecasts of: (a) weather events, particularly high-impact weather events that disrupt economic productivity and cause loss of life and property, and (b) air quality, particularly ozone and aerosols (particulate matter) that impact human health and (2) to provide the scientific basis to develop public policy for air quality.

BASE DESCRIPTION:

The Weather and Air Quality Research objectives for the laboratories and cooperative institutes are to provide theoretical frameworks, remote sensing technologies, and scientific understanding to: (1) develop and assess new, cost-effective atmospheric observing systems; (2) develop data acquisition, management, analysis, and display systems; (3) develop and verify numerical models and other techniques to provide prediction guidance for all types of weather, particularly high-impact events; and (4) transfer research results to both aid the research and policy communities and improve operational warnings and forecasts. Included in the four activities are: daily and extreme weather forecasts; air quality forecasts; and crosscuts of weather, air quality, and climate change.

Improved forecasts and warnings require more frequent and higher-density observations, faster communications, and better local data-handling systems. NOAA has implemented a major capital investment that substantially upgrades its ability to collect weather data. In support of this modernization effort, research is needed to improve the spatial and temporal resolution of remote observations of the atmosphere and to integrate the resulting data into descriptions of the atmosphere for use in weather forecasting research and operations. The primary research activities currently include:

- Development of dual-polarization, phased-array, and multi-frequency Doppler radars and passive radiometers to study convective storms, in order to improve rainfall estimates, to detect damaging winds and tornadoes;
- Improvement of short-range (1-12 hour) forecasting by the development and evaluation of new local data system technologies and techniques;
- Incorporation of satellite-observed wind profile data into forecast models to determine whether the accuracy of weather forecasts is improved;
- Transition hurricane model and forecast decision aide improvements to operations;
- Development and transition to operational use air quality forecasting capabilities to include additional key pollutants (e.g., particulate matter) and extend forecast lead times;
- Identification and policy-relevant explanation of key atmospheric causes of serious air pollution problems;
- Accelerate improvements in medium range (3-14 day) numerical weather prediction;

- Development of improved atmospheric profiling systems to continuously measure vertical profiles of wind speed and direction, temperature, and humidity using ground and satellite-based remote sensing; and
- Development of advanced light detecting and ranging systems and infrared Doppler multi-frequency radars as research tools to improve our knowledge of atmospheric winds, turbulence, aerosols, and moisture processes.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

Previously, the LIDAR research activity at the Earth Systems Research Laboratory (ESRL) /Physical Sciences Division was carried under the Laboratories and Cooperative Institutes line item of the Ocean, Coastal, and Great Lakes subactivity. However, that work subsequently has been identified as being more closely aligned with the Coastal Estuaries and Oceans (CEO) program in the Weather and Water Goal via discussions between the scientists and managers involved in this program and the affected strategic goal and program leads. Accordingly, the resources for this research activity are being transferred in base to the Laboratories and Cooperative Institutes line item in the Weather and Air Quality Research budget subactivity. This will co-locate ESRL's LIDAR research with its other CEO activities already carried under this line item.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Weather and Air Quality Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Laboratories & Cooperative Institutes					
Laboratories & Cooperative Institutes	34,278	35,641	35,838	38,258	2,420
NOAA Joint Institute for Northern Gulf of Mexico	-	2,959	-	-	-
TOTAL	34,278	38,600	35,838	38,258	2,420
FTE	167	178	182	182	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Earth System Research Laboratory: Regional Air Quality Assessments (+ 0 FTE, +$2,420,000): NOAA requests an increase of 0 FTE and $2,420,000 for a series of comprehensive Air Quality (AQ) regional assessments that will characterize atmospheric processes that are key causes of air quality problems. The centerpiece of each assessment is a comprehensive month-long field experiment that will measure many aspects of weather and air quality in a region with serious AQ problems. Each assessment provides both general and region-specific information to air quality decision-makers, including policy-makers at all levels of government, enabling them to develop plans that protect both public health and economic vitality. NOAA's assessments also provide essential information for improving and evaluating numerical models of air pollution that are used to predict unhealthful conditions and evaluate potential policies. The regional assessment will be a collaborative effort among multiple institutions, including NOAA Laboratories (administered by the Earth System Research Laboratory), NOAA Marine and Aircraft Operations, NOAA joint institutes, the U.S. Environmental Protection Agency (EPA), other government agencies, and university grantees.

Background: More than a third of the U.S. population lives in areas where air pollution levels exceed EPA's health-based standards. It is well known that air pollution, such as ozone and particulate matter (PM), can cause respiratory problems. (This discussion refers to ozone near the ground where it can be inhaled. High concentrations of such low-level ozone can be harmful. This is different from the "beneficial" ozone 30 miles up that shields the surface from ultraviolet radiation). There is now growing evidence that particulate matter, including dust, soot, and sulfates, can also trigger cardiac problems—often leading to premature deaths. The personal and economic consequences to the Nation are enormous (annually, an estimated 40,000 deaths caused by PM, up to $150 billion in costs due to air pollution health effects, and more than $20 billion for air pollution controls). NOAA serves two essential roles in the Nation's response to AQ problems.

These regional assessments support both of NOAA's roles. First, NOAA serves as an "honest broker," providing objective scientific information to regulatory agencies, regulated parties, and other stakeholders about the causes of unhealthful air pollution—information that is necessary for making well informed decisions that balance society's many interests. The effectiveness of current air quality policies and strategies is, to a large extent, limited by the lack of a quantitative and area-specific understanding of the complex relationships among weather, atmospheric chemistry, and surface exchange that lead to unhealthful air pollution episodes. Its breadth of capability in all areas of atmospheric sciences and its lack of an air quality regulatory role make NOAA uniquely qualified to provide an integrated and trusted view of the atmospheric processes that control the formation and distribution of air pollution. Second, NOAA and EPA have signed a Memorandum of Agreement to implement an air quality forecasting program that will help communities take measures to protect public health when high pollution levels are expected. NWS is initiating air quality forecasts in phases with expanding geographic coverage, number of pollutants predicted, and length of forecast. OAR is working closely with NWS to ensure that reliable air quality forecast models are available to support these new capabilities.

Proposed Actions: The requested funding will allow OAR to develop and apply advanced particulate-matter instrumentation in biennial assessments to characterize the sources and processes responsible for the emission, atmospheric formation, growth, and transport of PM. Between field experiments, NOAA will develop new instruments to measure key characteristics of particulate matter, such as concentrations, composition, and transformation rates. This requires accurate measurements of minute quantities, such as masses of a microgram per cubic meter. Once developed and tested, these instruments will be deployed during month-long field experiments to best study processes that are important in a region. Often, instruments will be placed on an aircraft to obtain measurements at different altitudes and across a region. This allows the transport of pollutants over long-distances to be studied and regional averages and variability to be studied. Results from the field studies will be analyzed to obtain insights into the key drivers of air quality problems. Key findings will be reported to air quality decision-makers, policy-makers, and environmental managers in a form that enables them to understand and apply new scientific insights.

In response to a growing understanding of the relationships between air quality and climate (e.g., particulate matter in the air affects the amount of radiation that reaches and heats the ground), NOAA's air quality and climate programs will jointly conduct assessments. This will allow the information needs of both programs to be cost-effectively satisfied from the same field experiments and provide common datasets for evaluating air quality-climate relationships.

Benefits: This research will provide a comprehensive characterization of the atmospheric processes contributing to serious air quality problems. This characterization will provide factual information about air quality to decision-makers. Prior studies have generated significant economic and health benefits for the Nation. Discoveries NOAA made in 2000 allowed the State of Texas to develop a less onerous pollution control strategy that still protected public health while also saving the state more than $9 billion and 64,000 jobs by 2010.

Earlier NOAA air quality assessments contributed to a National Research Council determination that the billions of dollars the Nation was spending to reduce tropospheric ozone levels were ineffectual because they were targeting the wrong precursor chemical. Those results changed the Nation's entire approach to reducing ground-level ozone levels.

NOAA's regional assessments also provide crucial information about atmospheric processes for evaluating and improving NOAA's air quality forecasting capability. Understanding processes that control particulate matter formation, transport, and fate is essential for creating accurate PM forecast models, which will lead to more accurate PM forecasts.

Performance Goals and Measurement Data:

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the "Improve accuracy and timeliness of weather and water information" performance outcome. The following performance measures support the NWS FY07 budget submission for air quality forecast accuracy target of 90%.

Performance Outcome: Improve accuracy and timeliness of weather and water information

Performance Measure	2007 w/o Incr.	2007 with Incr.
Increase the cumulative number of regions with serious air quality problems for which comprehensive air quality assessments have been completed.	1	2
The number of peer-reviewed articles accepted for publication in a year will meet or exceed the following goals:	13	15
Increase the number of atmospheric processes that are key causes of air quality problems that can be characterized in regional assessments.	12	13

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Weather & Air Quality Research Laboratories & Cooperative Institutes ($4,303,000); Laboratories & Cooperative Institutes ($1,344,000); NOAA Joint Institute for Northern Gulf of Mexico ($2,959,000).

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Subactivity: Weather and Air Quality Research
Line Item: U.S. Weather Research Program

GOAL STATEMENT:

The overarching goal of the United States Weather Research Program (USWRP) - THORPEX is to accelerate improvement of our forecasting capability for high-impact and severely disruptive weather--in particular, improvement in forecast timing, location, and specific rainfall amounts associated with hurricane landfall and flood events that significantly affect the lives and property of U.S. inhabitants through use of improvement in observation techniques.

BASE DESCRIPTION:

U.S. Weather Research Program: NOAA proposed to consolidate in the FY 2006 NWS President's Request the small part of USWRP / THORPEX that was funded in the FY 2005 OAR budget. In the FY 2006 Appropriation, Congress accepted this consolidation. In addition, Targeted Wind Sensing has been moved to the Weather and Air Quality Research Partnership Programs line item, which is a more appropriate location for this program.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Weather and Air Quality Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: U.S. Weather Research Program					
U.S. Weather Research Program (USWRP) (THORPEX)	493	-	-	-	-
Targeted Wind Sensing	1,971	1,972	-	-	-
Hurricane Research and Model Improvements	699	-	-	-	-
TOTAL	3,163	1,972	-	-	-
FTE	5	-	-	-	-

PROGRAM CHANGES FOR FY 2007:

None.

Subactivity: Weather and Air Quality Research
Line Item: Weather & Air Quality Research Programs

GOAL STATEMENT:

The strength of NOAA Research is that it does not operate in isolation but rather in partnership with a multitude of external experts in its fields of research. These partnerships extend to other parts of NOAA; other Federal, state, and local government entities; universities; and industry. The contribution of the unique strengths of each partner greatly enhances the accomplishments of NOAA Research.

BASE DESCRIPTION:

Tornado/Severe Storm Research (Phased-Array Radar): NOAA is developing new technologies for forecasting and detecting tornadoes and other forms of severe weather and to disseminate this information to emergency managers, the media, and the general public for appropriate action. Phased-array radar has the potential to significantly extend lead times for tornadoes and other forms of severe and hazardous weather. Faster scan rates can reduce the time it takes to make a complete Doppler radar observation from six minutes to less than one minute. Coupled with artificial-intelligence-based decision-support systems, tornado lead times could be almost doubled from 12 to 22 minutes.

Major components of this program are continued research support and the construction of and experimentation with a phased-array research testbed at the National Severe Storms Laboratory (NSSL) in Norman, OK. Congress established a joint R&D program for NOAA, DOD, and FAA to investigate the feasibility and benefits of using military phased- array radars for improving severe weather forecast and warning systems. U.S. Navy SPY-1 Phased-Array Radar technology holds considerable promise for making significant improvements to the existing WSR-88D system. Using multiple beams and frequencies, The SPY-1 Phased-Array Radar reduces the scan time for severe weather from six minutes to less than one minute, which can lead to increased lead times for warnings of tornadoes and other forms of hazardous weather. NOAA/NSSL is designated to operate and maintain the equipment, provide facilities, approve associated research, and otherwise assist in all related efforts that may arise.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Weather and Air Quality Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Weather & Air Quality Research Programs					
Tornado Severe Storm Research / Phased Array Radar	1,971	3,945	958	2,972	2,014
Coordinate NASA-NOAA Severe Storm R&D	-	1,972	-	-	-
TOTAL	1,971	5,917	958	2,972	2,014
FTE	-	2	2	2	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Tornado/Severe Storm Research (Phased-Array Radar (+0 FTE and $2,014,000). NOAA requests an increase of 0 FTE and $2,014,000 to build upon its progress in developing new technologies for forecasting and detecting tornadoes and other forms of severe weather and disseminating this information to emergency managers, the media, and the general public for appropriate action.

Background: This program was requested by the President and first funded by Congress in FY 2003. Major accomplishments have been the construction of a phased array radar test-bed at the National Severe Storms Laboratory in Norman, OK and the establishment of a joint R&D program for NOAA, DOD, and FAA to investigate the feasibility and benefits of using military phased-array radars for improving severe weather forecast and warning systems. A U.S. Navy SPY-1 Phased-Array Radar (PAR) has been acquired, installed, and put into a research mode at NSSL. Early tests of the phased array radar system are proving promising, and the technology has the potential to vastly improve the NEXRAD system for all weather radar applications.

Using multiple beams and frequencies that are controlled electronically, phased-array radar reduces the scan time of severe weather from six minutes for NEXRAD radar to only one minute, producing quicker updates of data and, thereby, potentially increasing the lead time for tornado warnings well beyond the current average of 11 minutes. Other technology being developed at NSSL will extend lead times even farther.

Proposed Actions: A National Weather Radar Testbed is now being established at NSSL. The additional $2 million requested for FY 2007 and future years will provide the first surveillance phased-array radar facility available on a full-time basis to the radar meteorological research community. The new system will be able to scan the atmosphere with more detail at lower elevations than current radar allows. It will also be able to re-scan areas of severe weather very quickly, improving forecasters' warning capability.

In addition, the new technology will gather storm information not currently available, such as rapid changes in wind fields, to provide forecasters with better conceptual storm models and to initialize storm-scale forecast models.

A unique Federal, private, state, and academic partnership will develop the phased-array radar technology. Participants include NOAA's National Severe Storms Laboratory and National Weather Service Radar Operations Center, Lockheed Martin, U.S. Navy, University of Oklahoma's School of Meteorology and School of Electrical and Computer Engineering, Oklahoma State Regents for Higher Education, the Federal Aviation Administration, and basic commerce and industries.

Benefits: Phased-array radar has the potential to significantly extend lead times for tornadoes and other forms of severe and hazardous weather. Faster scan rates can reduce the time it takes to make a complete Doppler radar observation from six to less than one minute. Coupled with artificial-intelligence-based decision-support systems, tornado lead times could be almost doubled from 12 to 22 minutes, helping to greatly reduce the loss of life from these storms.

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Tornado Severe Storm Research/Phased Array Radar ($2,957,000).

Subactivity: Weather and Air Quality Research
Line Item: Other Partnership Programs

GOAL STATEMENT:

The strength of NOAA Research is that it does not operate in isolation but rather in partnership with a multitude of external experts in its fields of research. These partnerships extend to other parts of NOAA; other Federal, state, and local government entities; universities; and industry. The contribution of the unique strengths of each partner greatly enhances the accomplishments of NOAA Research.

BASE DESCRIPTION:

The Other Partnership Programs line item contains various programs initiated by Congress. NOAA Research manages these programs in a manner that leverages their objectives consistent with key NOAA mission responsibilities and requirements.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Weather and Air Quality Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Partnership Programs					
New England Air Quality Study	1,971	2,959	-	-	-
NE Center for Atmospheric Science and Policy	1,479	1,480	-	-	-
Inst. For Study of Earth, Oceans & Space (AirMap - CCRC)	4,930	4,931	-	-	-
Risk Reduction in Water Forecasts (MSU)	1,971	1,972	-	-	-
Remote Sensing Research (ISU/BCAL)	487	493	-	-	-
STORM (U. of N. Iowa)	640	641	-	-	-
Central CA Air Quality Study	-	370	-	-	-
Great Plains Center for Atmosphere and Human Health	-	986	-	-	-
Urbanet	-	5,917	-	-	-
High Altitude Air Study	-	346	-	-	-
Reducing Wind-Induced Damages from Storms	-	986	-	-	-
TOTAL	11,478	21,081	-	-	-
FTE	3	-	-	-	-

PROGRAM CHANGES FOR FY 2007:

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Other Partnership Programs ($25,025,000); New England Air Quality Study ($2,959,000); NE Center for Atmospheric Science and Policy ($1,480,000); AIRMAP ($4,931,000); Risk Reduction in Water Forecasts ($1,972,000); Remote Sensing Research ($493,000); STORM (U. of N. Iowa) ($641,000); Central CA Air Quality Study ($370,000); Great Plains Center for Atmosphere and Human Health ($986,000); Urbanet ($5,917,000); High Altitude Air Study ($346,000); Reducing Wind-Induced Damages from Storms ($986,000); Targeted Wind Sensing ($1,972,000); Coordinate NASA-NOAA Severe Storm R&D ($1,972,000).

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Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: Laboratories & Cooperative Institutes

GOAL STATEMENT:

NOAA's Ocean, Coastal, and Great Lakes Research programs seek to improve the protection, restoration, and management of coastal and ocean resources through research and monitoring activities that support ecosystem-based management. These programs will accomplish this goal by providing:

- Ecosystem research to analyze ecosystem management decisions and their outcomes;
- Integrated observing and data management systems;
- Outreach and education to improve public understanding and use of coastal and marine ecosystems;
- Partnerships for placed-based ecosystem approaches to management; and
- International diplomacy, negotiation, and partnerships.

BASE DESCRIPTION:

To be an effective steward of the ocean, coastal, and Great Lakes environments, NOAA relies on state-of-the-art research conducted at in-house laboratories and by external partners. The three OAR laboratories supporting the agency under this subactivity provide long-term research and scientific expertise necessary to meet NOAA's stewardship mission. Three partnership programs also support this activity primarily through peer-reviewed proposals to the external research community. These labs and programs are the Atlantic Oceanographic and Meteorological Laboratory (Florida), Great Lakes Environmental Research Laboratory (Michigan), Pacific Marine Environmental Laboratory (Washington), the National Sea Grant College Program, the Ocean Exploration Program, and the National Undersea Research Program. Ocean, Coastal, and Great Lakes Research laboratories and programs are regularly evaluated by outside experts for quality and relevance to NOAA's management mission. High quality, peer-reviewed research is the basis of sound decision-making.

Previously, the LIDAR research activity at the Environmental Technology Laboratory (ETL) was also carried under this line item. However, scientists, program managers and the affected strategic goal and program leads have determined that this work is more closely aligned with the Coastal Estuaries and Oceans (CEO) program in the Weather and Water Goal. Accordingly, the resources for this research activity are being transferred in base to the Laboratories and Cooperative Institutes line item in the Weather and Air Quality Research budget subactivity. This will co-locate ETL's LIDAR research with its other CEO activities.

The primary objective for Ocean, Coastal, and Great Lakes Research is to protect and restore ocean, coastal, and Great Lakes resources. In support of this objective, we have identified the following priority research areas:

- Ecosystem Observations—monitor coastal and ocean ecosystems.
- Ecosystem Research—activities in support of ecosystem modeling and forecasting, technology transfer, undersea research and exploration.
- Aquaculture—research and outreach efforts focusing on near shore and offshore systems development, genetics, physiology, endocrinology.
- Corals—health and monitoring activities.
- Coastal and Marine Resources—activities that support improved resource management decision-making.
- Habitat—invasive species research and outreach.

Benefits of our approach:

- NOAA is a science-based agency whose scientists have the expertise to conduct the highest quality research, subject to peer-review by outside experts.
- In-house experts provide objective answers and direction to managers and the public.
- Long-term (5-10 year), sustained research investment by NOAA labs and their academic partners leads to agency-specific technology and forecasting models that can not be achieved by either entity separately.

Base activities support NOAA's mission goal to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management." In addition, they support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Laboratories & Cooperative Institutes					
Laboratories & Cooperative Institutes (ECO)	19,764	22,264	19,891	19,770	(121)
Laboratories & Cooperative Institutes (WW)	476	492	-	-	-
Payment to OMAO	98	-	-	-	-
TOTAL	20,338	22,756	19,891	19,770	(121)
FTE	107	123	119	119	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Laboratories and Cooperatives Institutes (+0 FTE and -$121,000): NOAA requests a decrease of 0 FTE and -$121,000 as a result of realigning the base resources for this line item.

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Oceans, Coastal, and Great Lakes Research Laboratories & Cooperative Institutes ($2,957,000).

Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: National Sea Grant College Program

GOAL STATEMENT:

NOAA's National Sea Grant College Program seeks to:

- Conduct research to enable NOAA to tackle priority problems and opportunities identified by coastal residents and businesses and local, regional, state and Federal agencies;
- Transfer scientific research results to user groups such as natural resource managers and coastal business people;
- Provide training opportunities for K-12 teachers to bring the sciences into the classroom as well as for undergraduate and graduate students to be mentored by senior researchers; and
- Inform the public about marine and coastal issues through extension and communications projects.

BASE DESCRIPTION:

Sea Grant Network – NOAA's National Sea Grant College Program enhances the development, use, and conservation of the Nation's marine and Great Lakes resources through a network of Sea Grant Colleges that conduct education, training, and research in all fields of marine and Great Lakes study. The 30 state Sea Grant programs, located in every coastal and Great Lakes state and Puerto Rico, serve as the core of a dynamic national network of more than 300 participating institutions involving more than 3,000 scientists, engineers, outreach experts, educators and students. The Sea Grant network addresses key issues and opportunities in areas such as aquaculture, aquatic invasive species, coastal community development, estuarine research, fisheries management, coastal hazards, marine biotechnology, marine engineering, seafood safety and water quality. As a non-regulatory program, Sea Grant focuses on generating and disseminating science-based information to a wide range of groups. Some of these include: commercial and recreational fishermen, educators, fish farmers, state and local planning officials, port and harbor commissioners, seafood processors and retailers, and natural resource, water and environmental quality managers.

Sea Grant is developing a system of regional networks that allows for organizing multi-state responses to regional/ecosystem-level problems. This effort supports the U.S. Ocean Action Plan and a major Ocean Commission recommendation that NOAA move to a regional ecosystem management approach and develop research and information plans that identify priority actions to coordinate ocean and coastal activities in each region. Sea Grant will play a key role in NOAA's efforts by applying its resources to engage regional and local stakeholders through the 30 state Sea Grant programs. Sea Grant expects these regional plans to be completed by FY 2009. Once the plans are completed, Sea Grant will target research, education, extension, and outreach resources to support the priority actions identified in the plans. This new regional focus will enhance Sea Grant's ability to make a critical contribution to this NOAA effort.

Research – Sea Grant funds high-quality research that is responsive to user needs, bringing university expertise to bear to solve today's marine environmental problems. Each of the Sea Grant colleges conducts research to solve problems and explore new uses for the world's marine, Great Lakes and coastal resources. This work addresses priority problems and opportunities identified by coastal resource managers and users. As a national network of research institutions, Sea Grant leads the Nation's efforts in the emerging field of marine biotechnology, addressing critical medical, food and environmental concerns.

Education – For three decades, Sea Grant has provided national leadership in enhancing marine literacy for grades K-12 and in developing professionals who understand marine and aquatic science and research. Sea Grant programs offer programs such as summer in-service programs, newsletters, speakers and curriculum materials. By developing innovative science curricula and teacher training programs, and embracing new technologies to enhance learning and pique students' curiosity, Sea Grant helps students understand how relevant science is to their lives. At the university level, Sea Grant recruits and trains undergraduate and graduate students, and employs senior researchers who form a national brain trust for dealing with coastal economic and environmental challenges.

Outreach and Extension – One of Sea Grant's greatest strengths is its ability to help clients use knowledge and research results through a broad multidisciplinary approach to outreach. The results of Sea Grant research are communicated to users at all levels in myriad ways. Outreach education activities for the public and private sectors are conducted through NOAA and: 1) a *communications program* comprised of writers, editors and media specialists who create a variety of printed and electronic information products for many audiences, including the general public; and 2) an *extension program* consisting of an interactive network of about 300 specialists and field agents (mostly university-based), who transfer information and research results to the marine and aquatic community. The overall goal of extension education is to effect change by having individuals, groups or institutions use science-based information.

Technology Transfer – Sea Grant advisory specialists and coastal field agents convey the needs of the marine communities to university scientists, and transfer research results to resource users and managers at the local level. Sea Grant communications specialists package and deliver research, outreach and educational information on a wide range of topics, from fishing vessel safety to coastal erosion, using the full spectrum of modern print, electronic and mass media. Sea Grant organizes and hosts hundreds of scientific and public conferences and workshops each year on topics including: zebra mussels and other invasive species, commercial fishing, seafood processing, aquaculture, autonomous underwater vehicles, and offshore structures.

Program Evaluation – Sea Grant has implemented a rigorous four-year external performance review process for its federally sponsored university-based state programs. Performance review teams are comprised of highly experienced, distinguished, knowledgeable individuals. Performance is judged quantitatively, performance benchmarks, and metrics which were developed with the help of outside experts. Foremost among these benchmarks is a program's impact on mission and programmatic objectives as well as its connection with users of science-based information. Individual program performance is used to determine merit-based funding for each state program.

Benefits:

- Stable partnerships between NOAA and the Sea Grant institutions allow the Agency to address long-term programmatic goals and develop constituent relationships and local leadership nationwide.
- Having local management in place ensures NOAA's investment flows to the highest local priorities, bringing the most appropriate university resources to bear on these problems.
- Sea Grant's extension and outreach infrastructure enables rapid transfer of objective information to users, timely identification of emerging issues and a forum to engage local constituencies in policy and priority setting.
- Sea Grant can and does reach, literally, millions of people through its communication, education and extension networks. In a world where public awareness and knowledge of the environment will be increasingly critical to public policy, Sea Grant capabilities play an important role for the Agency in transferring objective information to a diverse, nationwide audience.
- Sea Grant plays a unique and important role in advancing our national interest in marine resources. Together with the Office of Naval Research and the National Science Foundation, Sea Grant and other NOAA programs provide the only sustained Federal contact and funding source for universities with marine research capabilities. Sea Grant provides a regional and national research focus while supporting marine and coastal resource research of immediate public importance and application. It is virtually the only source of funding in the United States for marine policy studies.
- By employing the expertise and skills of the network's universities, research institutions and programs, Sea Grant activities have spurred economic growth and cost savings, created new products and services, enhanced coastal and marine resource management, reduced the loss of life and property, and educated tens of thousands of K-12 and university students.

Base activities support NOAA's mission goal to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management." In addition, they support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: National Sea Grant College Program					
National Sea Grant College Program Base (Base)	57,169	49,310	49,544	50,285	741
Aquatic Nuisance Species/Zebra Mussel Research	986	986	990	990	-
Gulf of Mexico Oyster Initiative	986	986	990	990	-
Marine Invasive Species Program	247	-	-	-	-
Oyster Disease Research	986	986	990	990	-
National Sea Grant Law Center	-	1,480	598	598	-
Fisheries Extension/Outreach Program (Sea Grant)	1,478	986	990	990	-
TOTAL	61,852	54,734	54,102	54,843	741
FTE	17	23	23	23	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

National Sea Grant College Program (+0 FTE and $741,000): NOAA requests an increase of 0 FTE and $741,000 to continue its current research operations and activities.

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: National Sea Grant Law Center ($896,000).

Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: National Undersea Research Program

GOAL STATEMENT:

NOAA's National Undersea Research Program (NURP) seeks to:

- Promote healthy coasts and effective management;
- Foster stewardship of the ocean's resources;
- Promote discovery via hypothesis driven research;
- Develop appropriate technologies for undersea research; and
- Develop innovative education & outreach efforts through partners.

BASE DESCRIPTION:

NURP's mission is to increase knowledge essential for wise use of oceanic, coastal, and large lake resources through advanced undersea research. NURP is a comprehensive underwater research program that places scientists underwater, either directly through the use of submersibles, underwater laboratories, and wet diving, or indirectly by using remotely operated vehicles (ROVs), autonomous underwater vehicles (AUVs), and observatories. The in situ approach allows acquisition of otherwise unobtainable observations, samples, and experimentation related to the Nation's, NOAA's, and regional priority research needs. NURP pioneers new techniques and technologies and identifies emerging issues for operational programs.

NURP is primarily a grants and infrastructure program with most of its funding going to the extramural research community, primarily academia. NURP supported research is peer-reviewed by outside experts and the highest priority is given to proposals for studies in the United States, its large lakes, territorial seas, and adjacent waters. Through ownership or leasing, NURP provides undersea systems that work from the coast to the deep sea.

NURP's long-term strategy is to provide state-of-the-art undersea research technology to meet NOAA's research needs through two centers on the West coast, and a restructured center support system that focuses on the east coast and Gulf of Mexico. In FY2006, NURP operated two regional centers which focused on Hawaii and the Pacific, and Alaska and Polar Regions, while maintaining a minimum level of support to the East coast center that maintains the capability of Aquarius, the world's only underwater science laboratory. NURP plans to conduct a competition in FY 2007 to restore capability on the East coast and Gulf of Mexico, restore full research capability at the West Coast and Polar Regions Center, and enable NURP to resume contributions to the National Deep Submergence Facility.

Benefits:

- NURP owns and operates the Aquarius, the world's only underwater science laboratory. It is located off Key Largo, Florida, in the Florida Keys National Marine Sanctuary. Aquanauts live on and study sensitive coral reef ecosystems threatened by natural and human-caused impacts and are able to perform studies not possible through traditional diving techniques.
- NURP operates undersea ROVs and AUVs that are independent of the surface, battery powered, and controlled by computers that are deployed from ships of opportunity.
- NURP scientists explore the deep ocean-depths of up to 4,500 meters (15,000 feet) through research submarines including the Johnson Sea-Link, Delta, Alvin, and Pisces V. NURP serves as the lead office for fulfilling NOAA's statutory responsibility to improve the safety and performance of civilian divers.

Research:

- **Promote healthy coasts and effective management -** Driven by concern for the health and conservation of marine ecosystems and resources, certain marine and coastal areas are of particular concern (e.g., coral reefs, marine protected areas, marine sanctuaries) and in need of undersea research. NURP supports research to understand the effects of anthropogenic stressors on marine organisms, assesses the physical and biological impacts of natural and anthropogenic-related disasters (e.g., hurricanes, tsunami, flood plumes, and pollutant spills), and develops methods to evaluate the economic costs of destruction and recovery.
- **Foster stewardship of the ocean's resources -** NURP supports NOAA's National Marine Fisheries Service's responsibilities to improve Federal and state abilities to effectively manage and restore fisheries by developing and employing advanced technology to research stock assessments of mammals, fish and invertebrates; mapping Essential Fish Habitat; and assessing damage from mobile fishing gear.
- **Develop appropriate technologies for undersea research -** The changing and difficult study of the ocean realm requires new intellectual approaches and a national investment in a new mode of conducting undersea investigations. New approaches, such as seafloor observatories, greatly enhance traditional capabilities by providing invaluable long-term monitoring and continuity of observations. NURP is engaged in developing new technologies as well as ensuring a sustained undersea observing system.

Base activities support NOAA's mission goal to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management." In addition, they support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: National Undersea Research Program (NURP)					
National Undersea Research Program (NURP)	12,321	4,192	4,162	9,152	4,990
National Institute for Undersea Science and Technology	4,928	4,931	-	-	-
TOTAL	17,249	9,123	4,162	9,152	4,990
FTE	5	6	6	6	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA's Undersea Research Program (NURP) (+0 FTE and $4,990,000): NOAA requests an increase of 0 FTE and $4,990,000 to restore NURP's capability to provide state-of-the-art undersea research capabilities, both technical and technological, to meet NOAA's research needs covering the East coast, Gulf of Mexico, and the Caribbean. In FY2006, NURP supported one East coast center and operated two centers that focused on Hawaii, the Pacific, Alaska and the Polar Regions. NURP will build on the remaining East coast center, existing arrangements at the National Institute for Undersea Science and Technology (NIUST). NURP created a new overall research strategy to restructure the program on the East coast and Gulf of Mexico. This funding initiative allows NURP to fully comply with Congressional mandates and recommendations, serve scientists and the general public by providing cutting edge research and technologies, and provide managers and stakeholders with tools, technologies and data to serve as stewards of our nation's natural resources.

Statement of Need

As a leader in undersea research, techniques and technology for the past 23 years, NURP has continuously and successfully accomplished hypothesis-driven research using novel and emerging technologies to provide NOAA managers with the necessary information to make well-informed decisions. NURP provides these services through a national network comprised of regionally-based centers, a university-based institute and a headquarters staff. Since 1983, NURP has strived to provide undersea research and technologies aimed at leveraging regional expertise with the use of advanced underwater technologies to meet NOAA's national needs. In the past for a given year, NURP has supported approximately 100 undersea research projects, 80 human-occupied submersible dives, 300 ROV dives, and 13,000 SCUBA and technical dives with over 300 partners institutes and 900 participants.

NURP's research findings have had significant implications at many levels and have been used in Congressional arguments to support management regulations and decisions. NURP complies with several Congressional mandates and is a key program in the fulfillment of many of the DOC and NOAA mission needs, such as the U.S. Ocean Action Plan's to "Research, Survey, and Protect Deep-Sea Coral Communities"; 33 U.S.C. §883d, which authorizes NOAA to "Increase engineering and scientific knowledge by conducting developmental work for the improvement of… instruments, and equipments"; the National Materials and Minerals Policy Research and Development Act (PL 96-479) and Deep Seabed Hard Minerals Resources (26 U.S.C. 1419) to "Research and Understand the formation, distribution, and physical and chemical characteristics of hydrothermal sulfides" and to conduct environmental assessments of "Long and short term effects of commercial recovery on the deep seabed biota; and assessments of the effects of sea based processing activities". Furthermore, this initiative allows NURP to fulfill DOC's science and technology leadership and stewardship Strategic Goals, as well as filling many of the technical and technological gaps stated in NOAA's "20-Year Research Vision" plan. All of this is done by tapping on the strength and leverage from the regional centers associated with NURP. To be effective in its mission, NURP requires a restructuring of its program to adequately address the needs of the Gulf of Mexico, East coast and Caribbean in order to provide the most of effective support to the entire nation.

Proposed Actions

NURP's mission, as NOAA's only program dedicated to underwater science, relies on its capability to conduct undersea research in situ. As such, a regional network of University-based centers must be maintained to adequately serve in all ocean areas where NOAA has management responsibilities. This network of centers will provide a regional-to-national research infrastructure, while also providing a cadre of technical and technological experts with knowledge of local and regional research needs. Restructuring NURP's current East coast program to more adequately cover the Gulf of Mexico, Caribbean and East coast, will be accomplished through an open process, which will define needs and develop the plan for restructuring in consultation with NOAA, other Government agencies, academic and research institutes, and the private sector.

Efforts include:

- Restructuring the East coast program to establish two centers which will provide technological support to meet NOAA's research needs for the East coast, Gulf of Mexico, and the Caribbean. NURP currently provides research support to the West coast through its two Pacific centers; this new effort will provide geographical balance and research coverage by setting up a competitive process to assure two NURP Centers in the East coast.
- Restoring funding to the West coast and Polar Regions center to meet research requirements. This effort will augment the West Coast and Polar Regions Research Center so that it can continue to fulfill its regional program and contributions to NURP and NOAA's mission.

Benefits

The planned research adjustments will contribute to NOAA achieving its strategic goals by capitalizing on current and previous NURP achievements and regional expertise. Restructuring the East coast program will ensure the benefits of comprehensive regional coverage and undersea technical and technological expertise are made available to decision-makers in a cost-efficient manner that is useful to their management processes. Coupled with a funding increase over FY 06 levels to the West Coast and Polar Regions center, NURP will be positioned to better answer NOAA's national needs. Most importantly, this set of initiatives will provide NURP users, which comprise undersea researchers, managers and stakeholders, outreach entities, decision-makers and the general public, with a comprehensively structured network of undersea research centers providing access to cutting edge technologies and technical expertise, regional data and information pertinent to research and management, and an opportunity for the development of new tools and technologies to bridge the gaps in our knowledge of the deep seas.

Performance Goals and Measurement Data

This increase will support the Department of Commerce Strategic Goals to "Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science" and "Observe, protect, and manage the Earth's resources to promote environmental stewardship", respectively. Specifically, this increase supports NOAA's Ecosystem Performance Goal of "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management" and the GPRA performance measure, "Cumulative number of coastal, marine, and Great Lakes ecosystem sites adequately characterized for management."

Performance Goal: Ecosystem **Performance Measure:** Annual number of coastal, marine, and Great Lakes ecological characterizations that meet management needs.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2011**
Without Increase	57	16	16	16	16
With Increase	57	16	32	32	32

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: National Institute for Undersea Science and Technology ($4,931,000).

Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: Ocean Exploration

GOAL STATEMENT:

This activity is NOAA's multi-line office (OAR/NOS/NMFS) investment in undersea exploration, science, and technology in both the Deep Ocean and areas of special concern, such as the U.S. Exclusive Economic Zone (EEZ) and National Marine Sanctuaries (NMS). The program integrates existing NOAA programs and external academic, federal, and commercial participants to increase our knowledge of the ocean realm to support NOAA's goal of Ecosystem Management.

BASE DESCRIPTION:

This program seeks to increase our national understanding of ocean systems and processes through partnerships in several major voyages of discovery per year, as well as by funding 20-40 additional missions and exploration-related projects per year. It uses ten percent of all funds for education and outreach to improve ocean literacy in America and to inform America's school children and stimulate their interest in ocean science. Information from these cruises are made available on our award-winning website **www.oceanexplorer.noaa.gov**. FGDC compliant metadata and data from these expeditions are appropriately archived, and the program works with the scientists to develop products and materials including maps, videotapes, presentations, and summary reports to distribute to target audiences. The program spends approximately seventy percent of its funds outside of the agency on science that benefits NOAA's understanding of the oceans and ecosystems. In late FY 2007, a new Exploration vessel, *Okeanos Explorer,* is scheduled for sea trials. Currently it is anticipated that a portion of the Ocean Exploration base funding will be transferred to the Office of Marine and Aviation Operations to fund the operation and maintenance of this ship. Ocean Exploration will also continue to support expeditions that are selected through a peer-reviewed process. Exploration focuses on four key goals as defined by multiple national advisory panels:

Explore unknown and poorly known areas of the ocean: Exploration science returns to areas that may have been visited with outdated technology to refine our understanding of what resources and processes are in the oceans. The oceans potentially hold a vast untapped economic potential. The wealth of living and non-living resources yet to be discovered may provide new opportunities for medical science. For example, microbial organisms that thrive in deep-sea vents have been determined to have significant biomedical potential in pharmaceutical applications.

Ocean Mapping: Less than ten percent of the US EEZ has been mapped with current technology, and many resources, habitats, and features remain undiscovered. Our ability to manage by ecosystems is necessarily dependent upon defining those ecosystems completely. In conjunction with other NOAA mapping efforts, ocean exploration routinely maps ocean habitat during expeditions to discover and record the physical, biological, geological, archaeological, and chemical nature of the oceans.

New Technology: Advancing knowledge requires new technology including data collection. The Ocean Exploration Program invests in new technologies for ocean discovery. The program coordinates new technology needs and investments with other NOAA programs and other federal agencies through the National Ocean Partnership Program (NOPP). For FY06, the program's technology focus is on the use of autonomous platforms and vehicles to meet NOAA's data needs, the role for industry in exploring the ocean, and new and emerging sensor technologies.

Education and Outreach: The program allocates at least ten percent of funding to expanding public awareness and knowledge of oceans in order to increase ocean literacy and stewardship. The program website is rated in the top five worldwide, by a major international science education authority. This website is visited by over 5,000 people per day and contains thousands of pages of detailed information about our recent discoveries. It includes teaching materials for educators, daily logs of expeditions, immediate results of the discoveries as they happen, and new real-time satellite technology to bring students and scientific experts to the undersea from any remote computer.

Benefits: NOAA's Ocean Exploration program is a national program, providing the opportunity of discovery to scientists in academia, federal agencies, and commercial sector. No other dedicated source of funding or logistics is found for discovery-based ocean science. While the economic and social benefits of anticipated discovery are potentially significant, the promise of discovery is clear; wherever the program has looked, new discoveries and information are found.

NOAA programs benefit from new sources and scales of information generated from this program:

- Greater knowledge of living marine resources, their habitats, and ecosystems enhances fisheries and ocean stewardship;
- Comprehensive site surveys and inventories inform NOAA's National Marine Sanctuaries management;
- Characterization of the EEZ improves habitat and marine resource management;
- Inventories our Nation's and other submerged cultural and historic resources are significantly increased; and
- Governance and scientific investigation in support of the international Census of Marine Life.

Base activities support NOAA's mission goal to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management." In addition, they support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

In FY2005 the 109th Congress introduced two Bills: H.R. 3835 and S. 39 to support the National Ocean Exploration program within NOAA.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Ocean Exploration					
NMNH East Wing (Ocean)	4,928	-	-	-	-
Ocean Exploration	22,670	13,659	13,615	15,128	1,513
Submersible Microtechnology Research	969	-	-	-	-
Exploration Autonomous Underwater Vehicle	-	494	-	-	-
TOTAL	28,567	14,153	13,615	15,128	1,513
FTE	14	11	11	11	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Ocean Exploration (+0 FTE and $1,513,000): NOAA requests an increase of 0 FTE and $1,513,000 to restore key investments in the nation's only program dedicated to systematically exploring the world's oceans. NOAA brings the best of the nation's scientists to the leading edges of ocean discovery using interdisciplinary expeditions to unknown or poorly known regions and through innovative experiments. Through these investments, NOAA will continue to develop the capabilities necessary to lead America's ocean discovery efforts.

Statement of Need

In 2000, the President's Panel on Ocean Exploration called for a robust national ocean exploration program propelled by the spirit of discovery. The panel's recommendations led to the establishment of the Office of Ocean Exploration (OE) within NOAA. A 2003 National Research Council (NRC) report reiterated the need for a comprehensive national ocean exploration program and offered specific recommendations on technology and infrastructure requirements. In response to the U.S. Commission on Ocean Policy's recommendations for a National Ocean Exploration Program, the U.S. Ocean Action Plan highlighted the development of a new NOAA vessel dedicated to ocean exploration.

The Navy transferred the USNS *Capable* to NOAA in September 2004 for use as the Nation's first vessel solely dedicated to ocean exploration. Conversion of the ship, now called the *Okeanos Explorer*, is progressing as scheduled. OE funding has also been critical for the operations of the UNOLS fleet and the National Deep Submergence Facility (NDSF) assets (e.g., ALVIN submersible, JASON ROV) since 2002.

Proposed Actions

To support NOAA's ability to fulfill its science, environmental assessment, and technology development responsibilities, investments will be made in support and staffing for the *Okeanos Explorer* as well as ocean exploration projects using the UNOLS fleet and NDSF facilities.
Efforts include:

- UNOLS and NDSF Facilities ($1,000,000) – Funds will continue OE investment in UNOLS fleet and NDSF assets. Based on budget projections for FY2007, $1,000,000 will lease approximately 20 days of ship and submersible time using a Class I UNOLS ship and either the ALVIN submersible or JASON ROV. The specific ship/submersible combination will be determined based on the scientific requirements of the project.
- Extramural Scientific Support ($513,000) – Direct funds for scientists participating in two ocean exploration missions. One major expedition focusing on deep-water habitat characterization will use the UNOLS/NDSF asset combination. The second project will leverage funding for an existing research cruise by providing add-on funds dedicated for an exploratory component. Final project selections will be made through a peer-review proposal process and funds will be allocated via grants.

Benefits

While the economic and social benefits of anticipated discovery are potentially significant, the promise of discovery is clear; wherever the program has looked, new discoveries and information are found. The specific investments listed above will immediately benefit a broad swath of the marine science community including researchers and marine operators at universities, NOAA, other government agencies and the private sector. The information acquired from these investments will help provide the critical foundation for adequate management of our ocean resources.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship." Specifically, this increase supports the Ecosystem Performance Goal, "Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management," and the GPRA performance measure, "Cumulative number of coastal, marine, and Great Lakes ecosystem sites adequately characterized for management."

Performance Goal: Ecosystem **Performance Measure:** Annual number of coastal, marine, and Great Lakes ecological characterizations that meet management needs.	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2011**
Without Increase	46	22	18	16	16
With Increase	46	22	24	22	22

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Exploration Autonomous Underwater Vehicle ($494,000).

Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: Other Ecosystems Programs

GOAL STATEMENT:

In addition to supporting its individual Ocean, Coastal, and Great Lakes Research laboratories, NOAA Research also seeks to initiate and maintain research and development programs that cut across its own intramural foundation as well as other NOAA's ocean, coastal, and Great Lakes research and service programs and the university community in an effort to advance the cutting edge of NOAA research capabilities.

BASE DESCRIPTION:

NOAA Aquatic Invasive Species (AIS) Program: Aquatic invasive species disrupt the stability of coastal ecosystems, thereby affecting recreational, economic, and other beneficial uses of coastal resources. They constitute one of the largest present and future threats to coastal ecosystems, coastal economies, protected habitats and species, and human health in coastal regions. Invasive species are one of the two greatest threats to endangered species (second only to habitat loss), and they have been responsible for some of the most dramatic fishery losses in recent times (e.g., Lake trout, turbot, whitefish, and salmon in the Great Lakes). Hundreds of millions of dollars are spent each year to mitigate the effects of non-indigenous aquatic species in our coastal and Great Lakes ecosystems and to prevent new invasions. The AIS program implements a national program to detect, monitor, and control aquatic invasive species. Currently, this program focuses on the prevention and control of invasive species. In the outyears, this item will include research for the development of new control technologies. Activities under the AIS program include, but are not limited to, ballast water research, education and outreach, and control activities, which include eradication, population reduction, preventing further spread, and/or mitigating the impact of invasive species on user groups.

Efforts undertaken by the NOAA AIS Program involve cooperation and coordination between NOAA Research (including the National Sea Grant College Program), National Ocean Service, and National Marine Fisheries Service, eight other Federal agencies, and the academic community. This program is a critical component of the Department of Commerce's support of the interagency Aquatic Nuisance Species Task Force and National Invasive Species Council. NOAA co-chairs each of these two policy bodies. The AIS program responds to the mandates identified in the National Aquatic Nuisance Prevention and Control Act, the National Sea Grant College Program Act, and Executive Order 13112. All of these mandates identify the need for early detection, monitoring, and reducing the impact of aquatic invasive species.

Benefits

- An AIS program that is responsive to legal mandates and the most urgent national needs related to the growing AIS problem;
- Partially meet legislative prevention mandates;
- Increased number of pathways and high-risk species identified, and effective approaches developed to reduce invasion risk to resources for which NOAA is the Nation's steward;

- One or more ballast water treatment technologies and management approaches verified and available for use;
- Other pathways reduced or interdicted through targeted risk-reduction actions, education, and increased public awareness and participation;
- Increased ability to detect new AIS invasions early enough to allow targeted rapid response;
- Availability of management information to help control invasive species, (e.g., life- history parameters, potential range, and potential pathways identification); and
- Development of new control technologies, which will reduce the economic and environmental costs of highly invasive species.

NOAA Marine Aquaculture Program: NOAA's Aquaculture Competitive Grants Program funds external partners to: (1) expand regional efforts in developing new species suitable for aquaculture and (2) promote sustainable aquaculture through support for projects that: (a) field-test new environmentally compatible production systems; (b) develop new technologies, including offshore, near-shore, and re-circulating aquaculture systems; and (c) improve and clarify the regulatory framework and coastal zoning for aquaculture. These projects lead to technical developments in genetics, nutrition, disease, hormone manipulation, biotechnology, and mitigation of environmental impacts. In addition, the Program develops collaborative studies with international partners on ecosystem effects and carrying capacities for coastal ecosystems. NOAA's aquaculture education and extension network facilitates the transfer of research into business operations as well as informs the public and practitioners about key issues and information related to aquaculture. The program promotes an environmentally friendly and profitable aquaculture industry that will alleviate stress on natural fish stocks, create jobs, provide healthy protein to Americans at a reasonable cost, improve food safety, and help alleviate our Nation's trade deficit.

Background: The United States faces a "seafood deficit" amounting to $7 billion annually. We import more than 60 percent of the fish and shellfish we consume. Marine aquaculture in U.S. waters has the potential to provide up to 25 percent of our seafood within the next 20 years in addition to providing the seed for rebuilding some fishery stocks. The NOAA Marine Aquaculture Program will be at the forefront of efforts to grow the U.S. marine aquaculture industry through an integrated program of research, education, and technology transfer that is focused on key scientific, engineering, environmental, and socioeconomic issues that currently inhibit this emerging industry.

Benefits: The NOAA Marine Aquaculture Program is poised to:
- Offset the current $7 billion annual U.S. trade deficit in seafood through increased domestic production from marine aquaculture;
- Ensure the sustainability of marine aquaculture; and
- Spur job creation in both the production and processing of fishery products, thereby revitalizing fishing communities devastated by collapsing fisheries industries.

Base activities support NOAA's mission goal to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management." In addition, they support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Ecosystems Programs					
Aquatic Invasive Species Program	-	986	971	2,477	1,506
Marine Aquaculture Program	-	4,558	1,606	1,606	-
TOTAL	-	5,544	2,577	4,083	1,506
FTE	-	3	4	4	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Line Item: Other Ecosystem Programs

Aquatic Invasive Species (AIS) Program (+0 FTE and +$1,506,000): NOAA requests an increase of 0 FTE and $1,506,000 for its Aquatic Invasive Species Program. This represents a strategic decision by NOAA to enhance its capability to address invasive species, a worldwide threat that has implications for the coastal, ocean and Great Lakes resources for which NOAA is our Nation's steward. This increase will augment these efforts and add a critical third component: prevention of invasive species before they occur. Funding will support research to increase NOAA's capability to identify and assess species and pathways that pose the highest invasion danger to NOAA resources, and will develop tools to prevent invasion by these pathways.

Statement of Need: Monitoring, control, and other ongoing program activities are necessary to meet NOAA's legal invasive species mandates and to achieve NOAA's goal of protecting coastal and aquatic habitats and resources. Ongoing program activities are insufficient to meet these mandates and to protect NOAA's steward resources. NOAA, Congress, and the National Invasive Species Council have recognized prevention of invasions before they occur as the most powerful and cost-effective approach to invasive species control. The U.S. Commission on Ocean Policy recommended, *"Recognizing the economic and biological harm caused by invasive species, and acknowledging the difficulty of eradicating a species once it is established, aggressive steps should be taken to prevent such introductions."* (Final Report, Chapter 17: "Preventing The Spread Of Invasive Species," p.257). Effective prevention first requires biological and ecological research to establish what species are likely to be invasive, what habitats and ecosystems are most vulnerable to invasion, and what pathways of invasion are most likely to occur. It also requires ecological modeling to predict the environmental impacts of future invasions, and social and economic research and modeling to predict the magnitude of impacts to society and to NOAA's steward resources.

As species and pathways of highest concern are identified, research and technology development is needed to devise and make available tools to stop these invasions from occurring. These tools are needed by resource managers at the local, state, and national levels, as well as by private sector constituents. Tools may include educational or administrative practices or chemical, biological, or mechanical systems.

The NOAA AIS Program is part of a budget initiative involving eight other Federal agencies and is a cooperative effort between NOAA Research, the National Ocean Service, and the National Marine Fisheries Service plus participation by other line offices as well.

Proposed Actions

- Monitoring and Early Detection. NOAA will continue the implementation of a national program to finalize standardized survey methods and protocols, and complete one additional regional aquatic species baseline assessment. These assessments are needed to be able to rapidly identify and respond to the invasion of new species.
- Control. NOAA will continue to implement priority actions identified in national management plans to control established invasive species such as green crab.
- Prioritization of invasion pathways. NOAA will support biological, ecological and socioeconomic research of identified species invasion pathways to determine which are most likely to threaten NOAA resources and what the likely impacts of these invasions might be. The key pathways of direct concern to NOAA include ballast water, aquaculture, commercial and recreational fishing and boating, and live fish and bait trades. NOAA will conduct the necessary research to prioritize these pathways, and develop tools to prevent invasions by these pathways.
- Prevention of primary invasion pathway. Ballast water is the most significant pathway for introduction of aquatic invasive species into coastal waters. The threat of invasion is serious enough that limitations on commercial shipping have been considered. NOAA has specific statutory responsibilities to lead the development new ballast water technologies. NOAA will oversee Ballast Water Technology Development program grants and activities, and will continue coordination of NOAA ballast water activities with Federal, state and NGO partners.

Benefits

Each new invasion has the potential to cost our economy hundreds of millions of dollars by directly affecting or impeding ecosystem-based economic activities and beneficial use of ecosystem resources and by indirectly degrading valuable ecosystem resources. Economic costs associated with new invasions can be reduced or avoided only if high-risk pathways are identified and assessed, and interdiction approaches and tools are developed and implemented. NOAA will move from a reactive to a proactive mode to reduce the number of new invasions through targeted pathways research and development of improved invasion prediction skills and interdiction tools. The most important pathways must be interdicted, but we cannot afford to focus limited resources on pathways that are low risk. It is essential for the Nation's economic and ecological welfare that we identify and assess the level of risk associated with different pathways on a regional basis in order to focus resources where they are most needed and will do the most good. The proposed programmatic increase will allow NOAA to support research to improve the scientific basis for risk identification, assessment, and mitigation for pathways of invasion.

Performance Goals and Measurement Data
This increase will directly support NOAA's goals to "Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management" and "Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation" (NOAA 2005-2010 Strategic Plan). Specifically, performance measures will cover identification of pathways of invasion likely to pose the greatest threat to NOAA's successful completion of its mission and development of tools to slow or stop invasions by those pathways.

PEFORMANCE MEASURE for Invasive Species Prevention	2007 without Incr.	2007 with Incr.
Prioritization of invasion pathways based on threat to NOAA steward resources	incomplete	complete
Prevention tools developed for priority pathways	0	1
Number of ecosystems for which baseline aquatic species assessments are completed	0	1
Number of established invasive species populations controlled, mitigated, or eradicated	0	1

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Marine Aquaculture Program ($2,959,000).

Subactivity: Ocean, Coastal, and Great Lakes Research
Line Item: Other Partnership Programs

GOAL STATEMENT:

NOAA's Ocean, Coastal, and Great Lakes Research Other Partnership Programs seek to improve protection, restoration, and management of coastal and ocean resources through research and monitoring activities that support ecosystem-based management. These programs accomplish this goal by providing:

- Outreach and education to improve public understanding and use of coastal and marine ecosystems;
- Ecosystem approaches to management decision making;
- Partnerships for placed-based ecosystem approaches to management;
- Ecosystem research to analyze ecosystem management decisions and their outcomes;
- Integrated observing and data management systems; and
- International diplomacy, negotiation and partnerships.

BASE DESCRIPTION:

The Other Partnership Programs line item contains various programs initiated by Congress.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Ocean, Coastal, and Great Lakes Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Other Partnership Programs					
Aquatic Ecosystems - Canaan Valley Institute	4,239	5,917	-	-	-
Institute for Science Technology and Public Policy	887	-	-	-	-
Atmospheric Dispersion Forecasting / Jackson State Univ	986	1,480	-	-	-
Great Lakes Toxicity	488	-	-	-	-
Gulf of Maine Council	739	740	-	-	-
Lake Champlain Research Consortium	345	346	-	-	-
NISA/Ballast Water Demonstrations	3,450	2,959	-	-	-
NISA/Alaska	1,479	1,480	-	-	-
Invasive Milfoil	-	246	-	-	-
HI Micronesia Invasive Species Program	-	493	-	-	-
Cooperative Institute for New England Mariculture and Fisheries	2,957	1,972	-	-	-
NH Center for the Study of Lakes and Ecosystems	492	-	-	-	-
Cooperative Sensor Development Lab for Oceans & Climate	492	-	-	-	-
Aquaculture Education Program - Cedar Point MS	1,774	-	-	-	-
Pacific Tropical Ornamental Fish	492	493	-	-	-
Center for Aquaculture Development	-	986	-	-	-
West Alabama Shrimp Acquaculture Program	-	493	-	-	-
Urban Coastal Institute	-	493	-	-	-
Lake Champlain Emerging Threats	-	493	-	-	-
Center for the Environment	-	789	-	-	-
Bio-screening Technology for Imported Seafood	-	986	-	-	-
TOTAL	18,820	20,366	-	-	-
FTE	6	-	-	-	-

PROGRAM CHANGES FOR FY 2007:

TERMINATIONS FOR 2007: The following programs, or portions thereof, are terminated in FY 2007: Invasive Species and Partnership Programs ($20,366,000); Aquatic Ecosystems-Canaan Valley Institute ($5,917,000); Atmospheric Dispersion Forecasting ($1,480,000); Gulf of Maine Council ($740,000); Lake Champlain Research Consortium ($346,000); NISA/Ballast Water Demonstrations ($2,959,000); NISA/Alaska ($1,480,000); Invasive Milfoil ($246,000); HI Micronesia Invasive Species Program ($493,000); Cooperative Institute for New England Mari-culture and Fisheries ($1,972,000); Pacific Tropical Ornamental Fish ($493,000); Center for Aquaculture Development ($986,000); West Alabama Shrimp Acquaculture Program ($493,000); Urban Coastal Institute ($493,000); Lake Champlain Emerging Threats ($493,000); Center for the Environment ($789,000); Bio-screening Technology for Imported Seafood ($986,000).

Subactivity: Information Technology and R&D
Line Item: High Performance

GOAL STATEMENT:

NOAA's Information Technology and R&D programs seek to make major improvements in NOAA's ability to forecast weather and climate and disseminate environmental information. They also seek to stimulate the modernization of NOAA's computationally intensive services through the use of evolving high-performance computing technologies (HPCC).

BASE DESCRIPTION:

High-Performance Computing and Communication: The purpose of the HPCC program is to make major improvements in NOAA's ability to forecast the Nation's weather and climate, to model ecosystems and the ocean, and to disseminate environmental information. Improvements in the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, and regional and global climate predictions are heavily dependent on major advances in high-end computing power, advanced information technology, and the availability of environmental data and information.

Current funding supports software development for improved weather modeling, including hurricanes, tornadoes, aviation, and other severe weather forecasts. As a result, thirteen GPRA performance measures across all four NOAA Mission Goals, including hurricane forecast tracking, winter storm warning accuracy, regional climate forecasts, and the accuracy of wave heights and wind speed forecasts, will not be met as scheduled. NOAA is requesting a budget increase in FY 2007 to restore the HPCC funding to prevent further performance delays. Improvements to NOAA's services require continually evolving computer technology, high-speed networking, and communications technologies that cannot be met at the base budget level.

The HPCC supports objectives in NOAA's Strategic Plan through IT research. These critical investments allow NOAA to meet its Mission in delivering vital services and science education to the public. The program allows NOAA to participate as a "mission" agency in the Interagency Working Group on Information Technology Research and Development, assuring coordination with Federal initiatives. The HPCC primarily serves the Environmental Modeling objective of the NOAA Strategic Goal to: "Serve Society's Needs for Weather and Water Information."

Base activities support the objectives, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" and "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Information Technology and R&D	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: High Performance					
High Performance (WW)	12,322	6,411	6,442	12,916	6,474
Educational Partnership Program/Minority Serving Institutions (EPPMSI)	16,757	-	-	-	-
TOTAL	29,079	6,411	6,442	12,916	6,474
FTE	27	13	13	13	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

High Performance Computing and Communication: (+0 FTE and +$6,474,000) – NOAA requests an increase of 0 FTE and $6,474,000 for critical funding for High Performance Computing and Communication. These funds will be used to make major improvements in the NOAA's ability to forecast the Nation's weather and climate, to model ecosystems and the ocean, and to disseminate environmental information. Improvements in the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, and regional and global climate predictions are heavily dependent on major advances in high-end computing power, advanced information technology, and the availability of environmental data and information.

Statement of Need

Weather and climate models play a central role in improving NOAA's information and service delivery, and research and development computing is the key to improving the models. A NOAA and national need of overriding importance is the improvement of hurricane track and intensity prediction. NOAA has recognized this need with ambitious goals for prediction of track out to five days, which are in the current GPRA goals. These relate to the need to evacuate millions of people (e.g. the Texas-Louisiana evacuation for Hurricane Rita) several days in advance of landfall. The research and development supercomputing funded from the HPCC program will be used to expedite the Hurricane Weather Research and Forecast (WRF) model (which relates directly to improving intensity) and the global weather model (which relates directly to improving track). Other needs such as improved temperature, air quality, and aviation prediction are needed and require WRF model research and development using HPCC computing resources. NOAA has been making rapid progress in seasonal to inter-annual prediction by the use of long range (out to nine months) ensembles of the global coupled atmosphere and ocean model, but this requires large computing resources that depend on the HPCC program increase.

Similarly, NOAA is working on new global models in the Earth System Modeling Framework that will improve forecasts from hours to centuries, which will require the full funding of the HPCC program.

Proposed Actions

- Expedite the research and development of the Weather Research and Forecast model. The Hurricane WRF model can be developed significantly faster with the personnel and computing resources available if the program increase is supported. Specifically, improving interaction of the atmospheric model with the ocean model promises to improve intensity prediction, which has been very difficult with current research and development computing. Similarly, the program increase would support the testing (WRF Developmental Test Center) and technology transfer of new models for short range prediction (the "NMM" model) rapid refresh (essential to aviation prediction). The global weather prediction models would be improved by development of next generation of coupled models and advanced ensemble approaches. Coupled models and ensemble model development require the large computing resources that the program increase would support.

- Advance toward ecosystems-based management through the development of state-of-the-art Earth System models. The HPCC program supports high performance computing and software engineering for developing and implementing component models of atmospheric chemistry and ecology and biogeochemistry on land and in the ocean. These components, when coupled to physical climate models, capture the cycling of nutrients such as carbon and nitrogen that effect ocean and land ecosystems, and provide the tools to produce global atmospheric pollution forecasts. The Earth System Modeling Framework (ESMF) will commence implementation within these Earth System Models; the framework is required to couple world ocean models to models of coasts and estuaries, to better track the movement of nutrients and pollutants from streams and rivers all the way to the open ocean. ESMF is a key tool for integrating NOAA's environmental modeling enterprise across the organization, including accelerating the transition of research models into operations.

- The HPCC program will continue to make investments into the access to and use of high speed research networks such as Lambda rail in order to more effectively and quickly receive data and distribute its vital data and products. The HPCC program also makes investments into the development of advanced software applications that permit access, study of, and distribution of NOAA data and products.

Benefits

- Improved hurricane track and intensity prediction help in two ways. First, the improved forecasts increase credibility with the public – surveys consistently reveal that many people do not evacuate because they have a perception the storm will not be as strong as forecast (fewer false alarms). Second, the ability to add lead time for the storms allows civil authorities adequate time to prepare (related to improving "probability of detection"). Improved short range forecasts have been shown to result in savings in all economic sectors. A very important sector that is directly benefited is transportation. Improved forecasts will lead directly to improved aviation and surface transportation safety. Similarly, NOAA is committed to significant improvements of its temperature forecasts, leading to a reduction of heat-wave deaths, and air quality prediction, which reduces deaths do to lung diseases.

- State-of-the-art Earth System models provide the basis for NOAA's capability to forecast nutrient and pollutant movement through the Earth System and their consequent impact on ecosystems, and for meeting the Administrations goals in the Climate Change Science Program. Through the use of ESMF, these Earth System models and the components of which they are comprised will be more easily transition from research to operations.

- The periodic refresh of HPC technology is required in order to implement the scientific advances and software improvements made by NOAA's scientists to the portfolio of environmental models that NOAA has developed and maintains. The technology that will be acquired enables the benefits of the preceding two bullets to be realized.

- Access to and use of advanced high speed networks such as Lambda rail allow for the transfer of large volumes of environmental data to and from NOAA research facilities. Research into the use of these networks may also lead to enabling both data and compute grids which would allow NOAA to better integrate and make use of its investments in information technology by more scientists, partners, and customers. Advanced applications that provide capabilities such as data visualization and data manipulation by scientist and decision makers would allow for improved research and more timely decision making.

Performance Goals and Measurement Data:

This increase will support the Department of Commerce Strategic Goal to "Serve Society's Needs for Weather and Water Information." Specifically, this increase improves NOAA's ability to collect, process, and provide information. This increase also supports the NOAA Mission Support goal and is critical to achieving the following performance measures: (includes a list of the performance measures)

Performance Goal: Serve Society's Needs for Weather and Water Information
Weather Research Forecasts
Improve 48-Hour Hurricane track forecasts.
U.S. temperature forecasts (cumulative skill score over the regions where predictions are made)
-Improve Lead-time for winter storm warnings.
Improve Accuracy for winter storm warnings.
Improve Accuracy of Day 1 Threat Precipitation Forecast from 29% in 2003 to 35% by 2008
Accuracy (%) of forecasts of ceiling and visibility (3 miles / 1000 ft.) (aviation forecasts)

False Alarm Rate (FAR) (%) of forecasts of ceiling and visibility (3 miles / 1000 ft.) (aviation forecasts)
Accuracy (%) of forecast for winds (marine forecasts)
Accuracy (%) of forecast for waves (marine forecasts)
Earth System Modeling
Reduced uncertainty in model simulations of the influence of aerosols on climate.
U.S. temperature forecasts (cumulative skill score over the regions where predictions are made)
Improved ability of society to plan and respond to climate variability and climate change using NOAA climate products and information.
Improved ability of society to plan and respond to climate variability and climate change using NOAA climate products and information.
Reduced uncertainty in model simulations of the influence of aerosols on climate.

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Oceanic and Atmospheric Research	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	314	173,828	325	166,098	328	160,203	328	177,832	-	17,629
Total C	314	173,828	325	166,098	328	160,203	328	177,832	-	17,629
Ecosystems										
Ecosystems	158	146,350	162	126,184	163	94,347	163	102,976	-	8,629
Total ECO	158	146,350	162	126,184	163	94,347	163	102,976	-	8,629
Mission Support										
Mission Support	20	18,531	20	1,775	20	1,803	20	1,848	-	45
Total MS	20	18,531	20	1,775	20	1,803	20	1,848	-	45
Weather and Water										
Weather and Water	202	65,397	203	76,184	203	44,674	203	55,617	-	10,943
Total WW	202	65,397	203	76,184	203	44,674	203	55,617	-	10,943
Total Oceanic and Atmospheric Research	689	404,106	710	370,241	714	301,027	714	338,273	-	37,246

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Climate Research											
Laboratories & Cooperative	Pos/BA	265	68,335	259	49,033	259	47,062	259	48,287	-	1,225
Institutes	FTE/OBL	211	46,066	248	49,294	248	47,062	248	48,287	-	1,225
Climate Data & Information	Pos/BA	2	3,942	4	2,401	4	2,362	4	6,266	-	3,904
	FTE/OBL	-	-	4	2,401	4	2,362	4	6,266	-	3,904
Competitive Research Program	Pos/BA	88	99,349	105	110,587	105	113,660	105	125,712	-	12,052
	FTE/OBL	121	120,197	99	111,229	102	113,660	102	125,712	-	12,052
Climate Operations	Pos/BA	-	-	-	363	-	358	-	886	-	528
	FTE/OBL	-	-	-	363	-	358	-	886	-	528
Other Partnership Programs	Pos/BA	-	5,685	-	7,200	-	-	-	-	-	-
	FTE/OBL	5	8,658	-	7,212	-	-	-	-	-	-
Total: Climate Research	Pos/BA	355	177,311	368	169,584	368	163,442	368	181,151	-	17,709
	FTE/OBL	338	174,921	351	170,499	354	163,442	354	181,151	-	17,709
Weather and Air Quality Research											
Laboratories & Cooperative	Pos/BA	182	34,278	182	38,600	187	35,838	187	38,258	-	2,420
Institutes	FTE/OBL	167	33,831	178	38,998	182	35,838	182	38,258	-	2,420
U.S. Weather Research Program	Pos/BA	-	3,163	-	1,972	-	-	-	-	-	-
	FTE/OBL	6	3,187	-	1,972	-	-	-	-	-	-
Weather & Air Quality Research	Pos/BA	3	1,971	3	5,917	3	958	3	2,972	-	2,014

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Programs	FTE/OBL	-	-	2	5,917	2	958	2	2,972	-	2,014
Other Partnership Programs	Pos/BA	-	11,478	-	21,081	-	-	-	-	-	-
	FTE/OBL	3	13,389	-	21,106	-	-	-	-	-	-
Total: Weather and Air Quality Research	Pos/BA	185	50,890	185	67,570	190	36,796	190	41,230	-	4,434
	FTE/OBL	176	50,407	180	67,993	184	36,796	184	41,230	-	4,434
Ocean, Coastal, and Great Lakes Research											
Laboratories & Cooperative Institutes	Pos/BA	127	20,338	127	22,756	122	19,891	122	19,770	-	(121)
	FTE/OBL	107	20,310	123	23,024	119	19,891	119	19,770	-	(121)
National Sea Grant College Program	Pos/BA	25	61,852	25	54,734	25	54,102	25	54,843	-	741
	FTE/OBL	17	63,054	23	55,252	23	54,102	23	54,843	-	741
National Undersea Research Program (NURP)	Pos/BA	6	17,249	6	9,123	6	4,162	6	9,152	-	4,990
	FTE/OBL	5	17,226	6	9,279	6	4,162	6	9,152	-	4,990
Ocean Exploration	Pos/BA	14	28,567	14	14,153	14	13,615	14	15,128	-	1,513
	FTE/OBL	13	28,657	11	14,317	11	13,615	11	15,128	-	1,513
Other Ecosystems Programs	Pos/BA	-	-	4	5,544	4	2,577	4	4,083	-	1,506
	FTE/OBL	-	-	3	5,544	4	2,577	4	4,083	-	1,506
Other Partnership Programs	Pos/BA	-	18,820	-	20,366	-	-	-	-	-	-
	FTE/OBL	6	20,571	-	20,775	-	-	-	-	-	-
Total: Ocean, Coastal, and Great Lakes Research	Pos/BA	172	146,826	176	126,676	171	94,347	171	102,976	-	8,629
	FTE/OBL	148	149,818	166	128,191	163	94,347	163	102,976	-	8,629
Information Technology and R&D											

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

High Performance	Pos/BA	15	29,079	15	6,411	15	6,442	15	12,916	-	6,474
	FTE/OBL	28	28,707	13	6,780	13	6,442	13	12,916	-	6,474
Total: Information Technology and R&D	Pos/BA	15	29,079	15	6,411	15	6,442	15	12,916	-	6,474
	FTE/OBL	27	28,707	13	6,780	13	6,442	13	12,916	-	6,474

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Climate Research

	Object Class	2007 Increase
21	Travel and transportation of persons	278
23.3	Communications, utilities and miscellaneous charges	1,828
24	Printing and reproduction	2
25.1	Advisory and assistance services	60
25.2	Other services	9,486
25.3	Other purchases of goods and services from Govt accounts	300
25.5	Research and development contracts	40
26	Supplies and materials	384
31	Equipment	330
41	Grants, subsides and contributions	5,001
99	Total Obligations	17,709

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Weather and Air Quality Research

	Object Class	2007 Increase
21	Travel and transportation of persons	44
25.1	Advisory and assistance services	102
25.2	Other services	1,558
26	Supplies and materials	400
31	Equipment	1,070
41	Grants, subsides and contributions	1,260
99	Total Obligations	4,434

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Ocean, Coastal, and Great Lakes Research

	Object Class	2007 Increase
22	Transportation of things	60
24	Printing and reproduction	25
25.2	Other services	1,816
25.5	Research and development contracts	480
26	Supplies and materials	25
41	Grants, subsides and contributions	6,344
99	Total Obligations	8,750

Exhibit 15

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Ocean, Coastal, and Great Lakes Research

	Object Class	2007 Decrease
25.2	Other services	(121)
99	Total Obligations	(121)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Oceanic and Atmospheric Research
Subactivity: Information Technology and R&D

	Object Class	2007 Increase
25	Other contractual services	2,724
31	Equipment	3,750
99	Total Obligations	6,474

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NATIONAL WEATHER SERVICE
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA

($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Operations and Research	624,252	661,780	659,202	687,856	28,654
Systems Operation & Maintenance (O&M)	86,737	85,064	86,799	95,590	8,791
TOTAL	710,989	746,844	746,001	783,446	37,445
FTE	4,621	4,597	4,597	4,606	9

For FY 2007, NOAA requests total of $783,446,000 for the National Weather Service Operations, Research and Facilities (ORF), a net increase of $37,445,000.

Our Mission

The National Weather Service (NWS) provides weather, water, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure, which can be used by other governmental agencies, the private sector, the public, and the global community.

Our Vision

NWS is a world-class team of professionals who are working together to provide the best weather, water, and climate information in the world by:

- Producing and delivering information you can trust when you need it
- Incorporating proven advances in science and technology
- Measuring, reporting, and evaluating our performance
- Reducing weather- and water-related fatalities
- Working with others to make the weather, water, and climate enterprise more effective

Our Goals

NWS supports several mission goals in the NOAA strategic plan. These include:

Mission Goal: Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond

Intraseasonal to interannual climate forecasts will become more accurate and more detailed. Increasing climate expertise at local NWS forecast offices will enhance regional specificity of climate forecasts for local customers and partners. NWS will take advantage of technological advances in climate modeling and will transition the results of research on climate variability into routine operations. Forecasts will describe their inherent uncertainty more carefully, and will be more closely coupled to effects on society and the economy; aiding, for example, emergency managers, farmers, and energy providers with resource allocation decisions. NWS will continue to expand the coverage and capabilities of the Advanced Hydrologic Prediction Service (AHPS) to translate improved climate predictions into effects on the Nation's fresh water system, hydroelectric power, and flood controls.

NWS recognizes its responsibility to future users of our climatological and oceanographic data we collect. NWS recognizes the importance of gathering quality observations to produce a climate record, and will ensure that climate needs are incorporated into weather and ocean observing systems whenever possible. NWS will invest resources to modernize the Cooperative Observer Program. NWS will do its part to ensure that NOAA customers and partners receive an integrated service that meets their need for information across all time and space scales – whether the information is produced by NWS or another NOAA organization, and whether the initial point of contact is an NWS office or some other NOAA organization.

Goals of NWS Climate activities

- Increased use and effectiveness of climate observations to improve long-range climate, weather, and water predictions.
- Increased use and effectiveness of climate information for decision makers and managers (e.g., for industry, natural resource and water managers, community planners, and public health professionals).
- Increased use of the knowledge of how climate variability and change affect commerce**.**

Mission Goal: Serve Society's Needs for Weather and Water Information

More and more sectors of the economy recognize the impacts of weather and water on their businesses, and are becoming more sophisticated at using weather and water information to improve performance. Concern for public safety drives NWS to improve the timeliness and accuracy of warnings for all weather-related hazards. To do so, NWS weather and water predictions need to be at the limits of what science, technology, and a highly trained workforce can provide.

NWS is committed to expand these limits by enhancing observing capabilities and by improving data assimilation to effectively use all the relevant data NWS and others collect; by improving collaboration with the research community through creative approaches such as community modeling; by rapidly transforming scientific advances in modeling into improved operational products; by improving the techniques used by our expert forecasters; by making NWS information available quickly, efficiently, and in a useful form (e.g., the National Digital Forecast Database); by including information on forecast uncertainty to help customers make fully informed decisions; by taking advantage of emerging technologies to disseminate this information; and by maintaining an up-to-date technology base and a workforce trained to use all of these tools to maximum effect. However, the entire weather and water enterprise is larger than NWS – today and tomorrow the NWS depends on partners in the private, academic, and public sectors (starting with other line offices within NOAA) to acquire data, conduct research, provide education and training, help disseminate critical environmental information, and provide advice to make best use of NWS information. NWS will work even more closely with existing partners, and will develop new partnerships to achieve greater public and industry satisfaction with our weather and water information and to honor our commitment to excellent customer service.

Goals of NWS Weather and Water activities

- Increased accuracy and amount of lead time for severe weather (by category of storm type, e.g. hurricanes)
- Save lives and property through more accurate and timely severe weather prediction
- Increased satisfaction with and benefits from NOAA information and warning services, as determined by surveys and analysis of emergency managers, first responders, natural resource and water managers, public health professionals, industry, government and the public.
- Increased number of observations obtained and used from partners, both international and domestic.
- Increased number of observations archived, available, and accessible.
- Increased number of new multi-use observing systems deployed.
- Improved effectiveness of NOAA's observing systems.
- Increased number of forecasters trained in the newest techniques.
- Increased volume of forecast and warning information formatted to clarify the uncertainty of an event (e.g., space weather, air quality, water and weather forecasts).
- Improved performance of NOAA's weather and water, air quality, and space weather prediction suite.
- Increased number of favorable scores on public surveys of citizen knowledge about appropriate actions under hazardous weather and water related conditions.
- Increased percentage of the public reporting timely receipt of warnings as measured by public surveys.
- Increased number of communities with plans in place to act on weather warnings and to reduce the impacts of coastal hazards.
- Increased community knowledge of, use of, and satisfaction with NOAA information that supports local air quality monitoring and forecast programs.
- Increased assistance to international partners to improve response capabilities to weather and water predictions.

Mission Goal: Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation

NWS services are critical to the safe and efficient transportation of people and goods by sea, air and over land. The approximately $825B per year transportation and public utility sector is almost entirely weather and climate dependent.
NWS will work to provide aviation forecast improvements to help mitigate air traffic delays and reduce weather-related aviation accidents; improve snow precipitation and water forecasting, which affects surface transportation; and improve ocean and wind forecasting, which affects sea-borne transport from the high seas to our coasts and in the Great Lakes. NWS is committed to working with our partners to continue to improve weather information services in support of all modes of transportation.

Goals of NWS Commerce and Transportation activities

- Increased safety and productivity of transportation systems.
- Increased reliability, frequency, and use of marine, aviation, and surface transportation-related observations.
- Increased accuracy and use of weather and marine forecasts to increase efficiency of all land, water and air transportation systems.

Finally, the NWS supports the NOAA Mission Support Goal to Provide Critical Support for NOAA's Mission.

Research and Development Investments
The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) for NOAA's R&D programs, and leads to NOAA budget proposals that reflect the R&D investment criteria.

Significant Adjustments-to-Base (ATBs): NOAA requests a net increase of $24,754,000 and 0 FTE to fund adjustments to base across all accounts in the NWS. With this increase program totals will fund the estimated FY 2007 Federal pay raise of 2.2 percent and annualize the FY 2006 pay raise of 3.1 percent, program totals will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration.

NWS also requests the following transfers between line offices or appropriations for a net change to NOAA of zero.

From Line	Line	To Office	Line	Amount
NWS	Local Warnings and Forecasts	OAR	Competitive Research Program	-3,000,000

- $3,000,000 is transferred from the Local Warning and Forecasts line to benefit the Oceanic and Atmospheric Research (OAR) Competitive Research Program.

Below are transfers between within the NWS that result in a net change to NWS of zero.

- $2,291,000 is transferred from the National Tsunami Hazard Mitigation Program to the Strengthen the U.S. Tsunami Warning Network PPA within the Local Warnings and Forecasts line item. This transfer has no net effect on overall NWS or NOAA funding and was done simply to consolidate all NWS Tsunami funding into one PPA.
- $21,500,000 is transferred from the National Data Buoy Center to the Local Warnings and Forecasts base and Alaska Data Buoy PPAs within the Local Warnings and Forecasts line item. This transfer has no net effect on overall NWS or NOAA funding.
- $5,800,000 is transferred from the National Hurricane Center to the Central Forecasts Guidance PPA within the Central Forecasts Guidance line item. This transfer has no net effect on overall NWS or NOAA funding.

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Subactivity: Operations and Research
Line Item: Local Warnings and Forecasts

GOAL STATEMENT:

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

BASE DESCRIPTION:

NOAA provides around-the-clock weather and flood warning and forecast services to the general public to protect life and property, and to meet the forecasting needs of all segments of the economy. Weather services are provided primarily by a national network of 122 Weather Forecast Offices (WFOs) and 13 River Forecast Centers (RFCs), assisted by 13 Data Collection Offices (DCOs). The provision of services by the National Weather Service (NWS), described in the following pages, depends on the coordination, management, and centrally-funded support provided by NWS' national and regional headquarters. This infrastructure includes such diverse functions as the maintaining and coordinating of the NOAA Weather Radio Network, the logistics of spare parts for all NWS observing systems, testing and evaluation of new observing sensors and systems, and coordinating and funding centralized employee training. Management and support for the NWS is provided by a national headquarters, four regional headquarters offices within the continental United States, plus regional offices for Alaska and the Pacific region, the National Data Buoy Center in Bay St. Louis, MS, and the National Logistics Support Center and National Training Centers, both located in Kansas City, MO.

Weather warnings and forecasts: NWS forecasters issue local warnings of severe weather such as tornadoes, severe thunderstorms, flash floods, and extreme winter weather at 122 WFOs nationwide. WFOs prepare forecasts for zones, which are comprised of counties or portions of counties that experience similar weather. Each WFO has forecast responsibility for multiple zones. WFOs also provide the main field forecast support for the marine and aviation programs as well as guidance for the fire weather program supporting federal lands management and wildfire control.

Each county in the United States is assigned to a specific WFO for warning purposes. The WFO issues and distributes local warnings of severe weather for its assigned counties. WFOs are the recognized weather, water, and climate experts for their local areas and issue severe weather and flash flood warnings. In preparing local warnings and forecasts, WFOs use forecast guidance prepared by the National Centers for Environmental Protection (NCEP).

Beginning in FY 2004, NOAA entered the digital forecast arena. This significant step takes NOAA from a product-centered organization to a true environmental information agency. The initial digital capability includes a national digital forecast database that aggregates digital forecasts of maximum and minimum temperatures, sky cover, probability of precipitation, wind speed and direction, and significant wave height across the conterminous United States. The database allows private sector weather providers and weather-sensitive businesses to take the data and create products and services useful to themselves and their customers.

In FY 2005 the following forecast elements became operational in the database: maximum temperature, minimum temperature, and probability of precipitation (12 hour), temperature, dew point, and weather forecast. In FY 2006, the database will be expanded to include observations.

NWS' Office of Science & Technology (OST) develops techniques for predicting mesoscale phenomena (e.g., heavy precipitation, tornadoes, and severe thunderstorms). These techniques are being developed and improved to use digital data from observing systems, such as NEXRAD (Next Generation Weather Radar), and the latest geostationary satellites. OST develops models to improve hurricane tracking, hurricane probability estimates, and analyses; and storm surge models to assist in developing hurricane evacuation plans for coastal basins. Through these activities, OST works to best exploit and improve the capability of weather data observing and processing systems to meet hydrologic, meteorological, and service requirements.

Aviation weather services: NWS provides a broad range of services in support of the aviation community. WFOs prepare site-specific airport terminal forecasts four times per day with amendments as needed for 575 public use airports in the 50 states and U.S. territories around the globe. These offices also produce approximately 300 individual route-oriented forecasts three times per day. WFOs also take observations to meet local aviation requirements. The NWS is currently undertaking a long-term, ten-year initiative to improve its aviation weather services, which began in FY 2003. Since then, the NWS began issuing new turbulence, icing and convective (thunderstorm) forecast products to support commercial and general aviation; acquired aircraft-based water vapor sensors and partnered with airlines to install the sensors and provide the data; developed and fielded new low ceiling and visibility forecast training for NWS meteorologists; and partnered with industry to produce training seminars for pilots. In two years results have been impressive, exceeding expectations. For example, the False Alarm Rate for low ceiling and visibility forecasts at airports has improved 13% over the FY 2004 GPRA goal.

During FY 2005 through FY 2007, the NWS expects to see continued improvement of aviation forecasts through the implementation of an improved observational sensing strategy, higher resolution forecast models, and improved guidance tools integrated into the standard NWS forecast production system. Key to this effort is working with the FAA's Weather Research and Development program to transition and sustain 5 new forecast products required by aviation users. NWS will improve the Advanced Weather Interactive Processing System (AWIPS) and the Aviation Forecast Preparatory System to enable our meteorologists to focus on the site-specific airport terminal forecasts. NWS will transition a new automated National Convective Weather Forecast product, indicating the onset of thunderstorms out to two hours, as well as new automated products for icing, turbulence and low ceiling and visibility. In FY 2007, NWS will improve its aviation weather forecast services through increasing the number and quality of aviation weather observations from aircraft by procuring and installing 75 additional water vapor sensors. In addition, the NWS will deliver the initial Graphical Aviation Forecast for all aviation users and develop and implement new training programs on convection for forecasters, pilots, and controllers.

Marine and Coastal weather services: Management of the Nation's marine, coastal and tropical weather services is led by the Marine and Coastal Weather Services Branch within the Office of Climate, Water, and Weather Services. Products and services such as forecasts, analyses, watches, warnings and advisories of maritime conditions as well as coastal and tropical hazards are provided by forty seven WFOs and three components of the NCEP. Products are issued for the coastal waters, offshore, high seas waters, and Great Lakes nearshore and open lake waters.

Using observational data sources such as buoy observations and satellite imagery, numerical model forecast guidance provided by various sources such as the NCEP and the Great Lakes Environmental Research Laboratory (GLERL), and analyses of ice from the National Ice Center (NIC), the forecasters at tropical and marine centers and coastal and Great Lakes offices maintain a continuous monitoring of weather conditions over marine zones. Routine forecast products and analyses, watches, warnings and advisories are disseminated in alphanumeric, gridded, and graphical formats to describe maritime conditions and tropical and coastal hazards. Marine and coastal products describe wind, waves, visibility, icing, coastal flooding, severe weather, high surf, and rip currents. Tropical products describe hazards associated with tropical cyclones such as storm surge, winds, waves, cyclone intensity, and inland impacts.

Efforts in FY 2007 will be focused on enhanced forecaster training, increased customer outreach, and implementation of new products. One area of focus will be to educate emergency managers and all users on the strengths, limitations, and application of new tropical cyclone probabilistic wind speed products. Enhanced customer outreach and training will be provided for coastal hazards such as rip currents and high surf. The number of gridded products provided for marine and tropical conditions over the marine zones will be expanded.

Fire weather services: In FY 2007, the NWS will develop advanced forecasting techniques that will enable land management agencies to better determine where fire danger risks exist, and will serve as input to fire behavior models. The NWS will develop ensemble forecasting techniques to produce probabilistic one-to-seven-day forecasts for fire managers so that they can optimally position assets, develop gridded fire weather element forecasts that can be used as input into more accurate fire danger assessments, implement a software application to produce site-specific fire weather planning forecasts for the day 3-7 timeframe, and improve software for Incident Meteorologists to use on site.

Tsunami warnings: Tsunami watches and warnings for all U.S. communities at risk are prepared and issued by the Richard H. Hagemeyer Pacific Tsunami Warning Center (PTWC) at Ewa Beach, Hawaii, and the West Coast/Alaska Tsunami Warning Center (WC/ATWC) at Palmer, Alaska. NWS collects and analyzes observational data from an international network of seismological observatories and sea level observing stations that operate on a cooperative basis. The centers use these data to prepare watches and warnings covering all U.S. territories and states bordering on the Pacific and Atlantic Ocean Basins and disseminate them to WFOs, Federal and state disaster agencies, military organizations, private broadcast media, and other facilities that can furnish warning information to the public.

In FY 2004, NWS assumed operational responsibility for the National Tsunami Hazard Mitigation Program (NTHMP). The goal of the NTHMP is to ensure adequate advance warning of tsunamis along all U.S. coastal areas and appropriate community emergency response to a tsunami event. In FY 2005 and FY 2006, in response to the destructive Indian Ocean Tsunami, the U.S. Tsunami Warning Program including the NTHMP was upgraded and expanded ($17.2M in FY 2005 and $9.5M in FY 2006) to enhance the monitoring, detection, warning and communications designed to protect lives and property for all U.S. communities at risk. This two-year, $26.7M investment expanded the existing six Pacific Ocean DART buoy array to a 32 DART buoy array and added a 7-DART Buoy array for the Caribbean/Atlantic Ocean.

This new investment also expanded NOAA's National Water Level Observing Network (NWLON) adding 16 new NWLON stations and upgrading 33 existing NWLON sites. Additionally, the PTWC and the WC/ATWC were upgraded to 24/7 operations; and NOAA accelerated required tsunami inundation mapping and modeling for all at-risk U.S. coastal areas and accelerated community-based tsunami hazard mitigation programs and community-based tsunami education and outreach programs (TsunamiReady).

River & flood forecasts and guidance: NWS provides river-flow and flood-forecast services using prediction models and databases. Hydrologists and hydrometeorologists develop this forecast information at 13 River Forecast Centers (RFCs); this information is the basis for flash-flood and flood-warning programs implemented at WFOs. These services support emergency management and water resources activities. NWS is improving these services by implementing the Advanced Hydrologic Prediction Service (AHPS). AHPS applies new science, providing more accurate forecasts for river conditions ranging from droughts to floods. AHPS provides more information in a timely and user-friendly manner, which can be posted on the web. AHPS extends existing one- to three-day river forecasts to 14-day and longer outlooks, provides greater information than prior systems and maximizes NOAA resources to deliver more accurate and comprehensive predictions of river height and flood potential. By the end of FY 2006 AHPS will be deployed at 1,684 forecast points in the Midwest, Northeast, Middle Atlantic, Southeast, South, West and Alaska. In FY 2007, the NWS plans, within current funding levels, to continue nationwide implementation of AHPS, with deployment at an additional 309 forecast points in these areas. The FY 2007 budget also supports extramural partnerships to carry out operationally-oriented hydrologic research, deployment of new flash-flood forecasting tools, and introduction of more effective river forecasting models.

Water resource forecasts: This activity establishes NOAA's capability to provide water resource managers with localized water and soil condition forecasts via a national digital database incorporating assimilation of all available hydrometeorological data and observations; and a Community Hydrologic Prediction System (CHPS) necessary to advance water prediction science. This will allow NOAA's research and development enterprise and operational service delivery infrastructure to be integrated and leveraged with other federal water agency activities and the private sector to form the backbone of a national water information system. Through this, NOAA will produce a new suite of high-resolution forecasts (including estimates of uncertainty) for streamflow, soil moisture, soil temperature, and many other variables directly related to watershed conditions, via collaboration and sharing of data and algorithms with the university and private sector research groups. Furthermore, these activities enable NOAA to deliver a national database of drought analyses and predictions, and generate user friendly Geographic Information Systems (GIS) products for monitoring drought. This activity contributes to the National Integrated Drought Information System (NIDIS).

The Office of Climate, Weather, & Water Services (OCWWS) provides several centralized guidance and operational support functions to the RFCs. In addition, OCWWS provides hotline support to field users, and provides a focal point for assembling and disseminating real-time hydrologic information.

The Office of Hydrologic Development (OHD) manages the application of hydrological forecasting techniques and provides hydrologic model development for field operations. OHD also develops improved hydrologic and hydrometeorological models and procedures in support of national flood and water resources forecasting programs including: specialized flood and flash flood forecasting procedures using linked hydrological, meteorological, and climatological models/products; improvements to the Ensemble Streamflow Prediction model and its complementary models in the NWS River

Forecast System; algorithms to combine NEXRAD precipitation estimates with data from satellites and other ground based observation systems; development of remotely-sensed (airborne and satellite) snow-water equivalent and snow cover data products in near real-time; and integration of hydrologic conditions and forecasts.

Forecast coordination: At each WFO, a Warning and Coordination Meteorologist (WCM) is responsible for the coordination of local forecast and warning information with local emergency management and other state and local officials, both leading up to and during severe weather events. This ensures the most effective dissemination of NWS forecasts and warnings, and adequate public response to weather warnings. The WCMs serve as NOAA's service representatives and work with local partners to ensure they know how best to use NOAA services, and to assess requirements for improved services.

Dissemination/communication: In order to disseminate data, forecasts, watches, and warnings, NWS relies on the following systems: NOAA Weather Wire Service, NOAA Weather Radio network, central radar data collection and distribution, Emergency Management Weather Information Network, NOAA/Geostationary Operational Environmental Satellite (GOES) communications, and Family of Services. The AWIPS Local Data Access and Dissemination (LDAD) capability allows two-way information exchange between WFOs and local users, including emergency management, leading up to and during severe weather events.

Space Weather: The Space Environment Center (SEC) in Boulder, CO, provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances. SEC provides services to a broad user community of government agencies, industries, public institutions, and private individuals involved in satellite operation, space exploration, radio navigation, high-altitude polar flights, high-frequency communications, remote intelligence gathering, long-line power and data transmissions, and geophysical exploration. SEC serves many government, industry and private-sector clients, and such end-product users as the power industry the airline industry, satellite operators, and the National Aeronautics and Space Administration (NASA). SEC's research scientists study the sun's electromagnetic, particle, and plasma emissions and the processes by which they affect the near-Earth space environment. SEC takes a leading role in advocating and specifying new space-environment sensors for operational use. The SEC, with the U.S. Air Force, jointly operates the national civilian space weather operations center. Forecasts, alerts, and warnings are provided to customers on a 24 hour-per-day, seven day a week basis. SEC products are synthesized from over 1,400 data streams providing observations of the solar terrestrial environment, including x-ray flux, charged particles, and magnetic field changes on the sun, in interplanetary space, and at Earth.

U. S. Weather Research Program (USWRP): The goal of the USWRP is to accelerate improvement in NOAA's forecasting capability for high-impact and routinely disruptive weather through improved forecasts of timing, location, and specific rainfall amounts associated with hurricane landfall and flood events that significantly affect the lives and property of U.S. population. NOAA's investment in the USWRP continues the cooperative effort among NWS, OAR and NESDIS within NOAA, four other USWRP agencies (The National Science Foundation (NSF), NASA, the U.S. Navy and the U.S. Air Force), and the university community.

The USWRP supports research and development grants and activities focused on improving weather data analysis, numerical weather prediction models and other forecasting techniques, provides field observational support, and strives for information science and technology transfer to operations and services within the USWRP agencies, in order to reach performance goals defined for the following high priority areas:

Hurricanes at Landfall: USWRP focuses on predicting hurricane track five days in advance, improving forecasts of where a hurricane will make landfall, improving forecasts of hurricane intensity at landfall, improving surface wind forecasts, and providing more precise quantitative rainfall forecasts where it could lead to inland flooding.

Optimal Mix of Observations/Quantitative Precipitation Forecasts (QPF): This effort seeks to use data from advanced observing systems to improve weather prediction.

The Observing System Research and Predictability Experiment (THORPEX) - A World Weather Research Program: NOAA's goal in this program is to double the rate of improvement in 3 to14 day high impact weather forecasts seen over the past 20 years. This will significantly expand NOAA's operational weather and water prediction capabilities. For the first time, NOAA will be ready to issue operational daily weather forecasts for the second week, and detailed precipitation forecasts for days 3 to7. The expanded product suite will greatly increase the socio-economic benefits to the nation from weather and water forecasts.

These goals will be achieved through coordinated research in the following areas:

- Observing system: Design and testing of new atmospheric, ocean, and land surface observing systems in the framework of the Global Earth Observing System of Systems (GEOSS) for global weather forecasting
- Data Assimilation: Development and testing of new methods for the more efficient use of new and existing observations
- Numerical modeling and predictability: Design and testing of new Numerical Weather Prediction techniques, including multi-center ensemble systems
- Socio-economic applications: Design and testing of new weather and water forecast products, and new user application procedures.

In this ambitious global program NOAA partners with NASA, the U.S. Navy and the NSF, as well as a large number of countries from five continents, including Canada, China, France, Germany, India, Japan, Korea, the United Kingdom, the Russian Federation, and Australia, and other major global programs like the International Polar Year (IPY). In addition to improved 3 to14 day weather and water forecasts over the U.S., the enhanced global forecast capabilities will be used to further NOAA's goal of environmental safety across the globe. Advance weather and water forecasts will be distributed, and their use promoted to developing nations for the prevention and mitigation of environmental disasters in an effort coordinated by the World Meteorological Organization.

NOAA Profiler Network (NPN): The NPN was established as a demonstration network in 1992 containing 35 stations within the Central U.S., Alaska, and New York. The NPN provides high quality wind profiles at 72 vertical levels through 53,000 feet above ground level and low level temperature profiles every 6 minutes.

Wind measurements from the demonstration NPN have improved the skill and accuracy of NOAA's weather forecasts and warnings in network areas. The current NPN radars use an experimental transmitter frequency of 404 mega hertz (MHz) issued by the National Telecommunications and Information Administration (NTIA). NTIA has since given the 404 MHz frequency to search and rescue satellites (SARSAT) and granted the NPN permanent use of 449 MHz. To be used operationally, 30 wind profiler transmitters (currently operating at 404 MHz) need to be converted to 449 MHz by the end of the FY 2008 when a new series of European Space Agency SARSATS are launched.

In FY 2004, Congress directed NOAA to perform a Cost and Operational Effectiveness Analysis (COEA) for the NPN. The COEA clearly demonstrated the NPN's benefits to several important NWS missions: severe weather warnings (for tornadoes, flash floods, and winter storms), watches, and short-term forecasts. Based on these findings, NOAA has initiated actions to transition the NPN to operational status in FY 2005 and integrate it into its upper air observing system. In FY 2007, NOAA will continue to operate and maintain the current network of wind profilers and is converting the profilers to a different frequency to prevent interference with new search and rescue satellites.

Air Quality Forecasts: In FY 2004, NOAA began operational production of air quality forecast guidance with the implementation of NOAA's Air Quality Forecast capability over the northeastern U.S. This capability is an integrated, end-to-end forecast system that provides timely, reliable forecast guidance to accurately predict the onset, severity and duration of poor air quality. Forecast guidance consists of next-day ground-level ozone predictions, at hourly intervals and 12km grid resolution. Forecast products are available via the NWS Telecommunications Gateway, and NOAA's partner agency, the Environmental Protection Agency (EPA). EPA is working with state and local public and private air quality agencies that issue air quality warnings and forecasts, providing health-based interpretations. These products meet customer requirements from federal, state and local, and public sectors with state-of-the-science information to assist state and local air quality forecasters who issue health-based air quality alerts for designated cities, and provides information for people at risk from poor air quality.

Phased development and testing activities are in progress to extend the initial ozone-based, regional capability. By FY 2006 it will cover the entire eastern U.S., by FY 2007 the guidance will cover the continental U.S. (CONUS), and by FY 2009 it will cover the nation. Development and testing of additional components needed for particulate matter (PM) forecasts is also in progress, aimed at extending the operational capability to include in an initial PM forecast capability by FY 2011. Real-time air chemistry observations will be incorporated into forecast models as needed for extended forecasting improvements.

The Climate Services Division at NWS headquarters provides the strategic vision for climate services at NWS and oversees the NWS climate services program. It develops policy and requirements for climate prediction products and other services related to the period of week two out to one year, including seasonal forecasts and threat assessments. The division also sets NWS field policies and procedures for climate prediction products, defines service and mission needs, solicits user feedback to evaluate new products and services, and approves final product design. The Climate Services program maintains strong ties with other countries; across NOAA lines, specifically through the NOAA Climate Office; with federal agencies; the university community; and the private sector, and encourages collaborative arrangements among the Regional Climate Centers, NOAA Regional Integrated Science and Assessments (RISAs), State Climatologists, NWS WFOs, and Regional headquarters to tailor climate forecasts for local users.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:
None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Operations and Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Local Warnings and Forecasts					
Local Warnings and Forecasts Base (C)	9,938	12,849	1,068	1,068	-
Local Warnings and Forecasts Base (CT)	9,212	9,089	12,734	12,734	-
Local Warnings and Forecasts Base (WW)	503,798	504,532	547,220	548,620	1,400
Tsunami Hazard Mitigation	4,239	2,260	-	-	-
Tsunami Warning & Environmental Obs for AK (TWEAK)	1,971	1,972	-	-	-
Strengthen US Tsunami Warning Network	7,063	6,016	8,055	20,415	12,360
Air Quality Forecasting Pilot Program	2,925	-	-	-	-
Air Quality Forecasting	1,725	2,959	2,945	5,445	2,500
Alaska Data Buoys	1,478	-	1,683	1,683	-
HI Data Buoys	247	-	-	-	-
Sustain Cooperative Observer Network	1,774	986	981	1,871	890
Hurricane Mitigation Alliance (SUSF)	3,203	2,071	-	-	-
Susquehanna River Basin Flood System	-	1,972	-	-	-
Red River Basin Institute/Decision Info Network	267	-	-	-	-
New England Weather Technology Initiative	542	-	-	-	-
NOAA Profiler Network	3,155	2,860	2,836	6,336	3,500
NC Flood Plain Mapping Pilot	584	-	-	-	-
Pacific Island Compact	3,450	3,452	3,465	3,515	50
Space Environment Center (C)	197	-	-	-	-
Space Environment Center (WW)	6,653	3,945	4,148	7,347	3,199
US Weather Research Program	4,436	4,931	4,999	7,456	2,457
Vermont Northeast Weather With Data Integration	247	217	-	-	-
Payment to OMAO	468	-	-	-	-
Coastal & Inland Hurricane Monitoring & Prediction Program	-	1,480	-	-	-
Coastal Weather Monitoring for Catastrophic Events	-	468	-	-	-

Subactivity: Operations and Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Western Kentucky Environmental Monitoring Network	-	1,479	-	-	-
National Data Buoy Center	-	22,920	-	-	-
Shenandoah Air Quality Forecasting	-	1,726	-	-	-
TAU & PIRATA Arrays	-	2,959	-	-	-
Sea Level Monitoring & Tide Guage Network	-	237	-	-	-
Subtotal: Local Warnings and Forecasts	567,572	591,380	590,134	616,490	26,356
Advanced Hydrological Prediction Services	5,717	4,931	4,939	6,037	1,098
Aviation Weather	2,366	3,452	3,453	4,653	1,200
Subtotal: Aviation Weather	2,366	3,452	3,453	4,653	1,200
WFO Maintenance	-	8,277	7,316	7,316	-
Weather Radio Transmitters Base	2,287	2,289	2,297	2,297	-
NOAA Weather Radio Transmitters - HI	197	-	-	-	-
NOAA Weather Radio Transmitters - MS	-	197	-	-	-
NOAA Weather Radio Transmitters - AI	-	50	-	-	-
Subtotal: Weather Radio Transmitters	2,484	2,536	2,297	2,297	-
TOTAL	578,139	610,576	608,139	636,793	28,654
FTE	4,146	4,116	4,116	4,125	9

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Florida/Caribbean Hurricane Data Buoy (Operation and Maintenance) (+0 FTE and +$1,400,000): NOAA requests 0 FTE and $1,400,000 to operate and maintain the seven new weather data buoys funded/deployed under the FY 2005 Hurricane Supplemental Appropriation. These buoys support enhanced real time hurricane data observations and storm monitoring in the Caribbean, Gulf of Mexico, and the Atlantic Ocean to support the NOAA hurricane warning and forecast mission. The FY- 2005 Hurricane Supplemental provided one-time funding to procure and deploy these buoys. This program adjustment requests the funding required to support the long-term operation and maintenance of these platforms. This investment is one of the high priority investments required for NOAA's implementation of the Integrated Ocean Observing System (IOOS) as the coastal and open ocean component of the Global Earth Observing System of Systems (GEOSS).

Combined with other like-identified IOOS investments across NOAA, it is part of NOAA's strategy to provide initial benefits of an integrated ocean observing system, focusing on enhancing key observational capabilities throughout NOAA, and our ability to provide customers with enhanced coastal data and information.

Statement of Need

The seven newly installed data buoys require annual maintenance and shore-side operating/infrastructure support to maintain reliable data output. These seven data buoys consist of one 3-meter, two 6-meter, two 10-meter, and two 12-meter buoys.

FY 2007 Proposed actions

- Provide field service and maintenance ($0.93M) includes: integration and servicing ($0.13M); and ship support for servicing ($0.79M)
- Provide shore-side operation/infrastructure support ($0.29M) includes: data processing and operations ($0.16M) and industrial infrastructure ($0.12 M)
- Provide and maintain spare equipment/buoy to support field maintenance strategy ($0.16M)

These seven hurricane data buoys require increased ship-time for scheduled service since they are quite a distance away, require a much different ship with greater lift capability (especially for the 10- and 12-meter buoys) for the less frequent buoy exchanges, and must be repaired as soon as possible, requiring a dedicated service trip, if any should fail during the hurricane season.

Benefits

3. Real time data from these strategically sited data buoy stations will assist the NOAA Tropical Prediction Center (TPC) to more accurately determine cyclone formation and dissipation; the extent of topical cyclone wind circulation; the location and center of cyclones; direction, height, and distribution of ocean waves generated by cyclones; the maximum cyclone intensity; and the quality of measurements and estimates obtained from remote-sensing reconnaissance aircraft and satellites.
4. Proper maintenance and continued operation of the supplemental buoy network, the resulting data, and its contribution to the forecast and warning process are key components helping NOAA meet its national and international analysis and forecast responsibilities aiding the public and government in making preparation and evacuation decisions regarding tropical cyclones.

Performance Goals & Measurement Data

This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs'. Specifically, this increase supports NOAA's Weather and Water strategic goal and the performance measure below.

O&M funding for the buoys will continue the real time data stream. The buoys will produce over 45K observations per year. Without the maintenance funding the data stream will not continue.

Performance Goal: *Weather and Water*	FY04 Baseline	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Number of Observations/year ***with*** Adjustment	0	12K	45K	45K	45K	45K	45K	45K
Number of Observations/year ***without*** Adjustment	0	12K	45K	0	0	0	0	0

5. The new buoys are expected to allow the TPC to determine more accurately tropical cyclone formation and dissipation, extent of wind field (radii of 34, 50 and 64 knot winds), center location, maximum intensity and ocean wave characteristics. Such improvements to analyses should translate into more accurate short-term forecasts of these quantities in TPC products. To establish metrics for the buoys, TPC will review its Tropical Cyclone Discussion, Tropical Weather Outlook, and other products (as necessary) to document the frequency and magnitude (where known) of changes to TPC analyses and/or forecasts of the above meteorological and oceanographic measures.

- Because tropical cyclones are relatively rare events at any location, TPC anticipates that a period of two or three years of storms and storm observations will be necessary to generate information about the contribution of the buoys.

Strengthening the U.S. Tsunami Warning Program (+4 FTE and +$12,360,000): NOAA requests an increase of 4 FTE (5 Positions) and $12,360,000 to sustain the Administration's commitment to strengthen the U.S. Tsunami Warning Program. Funds are required to maintain and operate the expanded tsunami warning system put in place in FY 2005 and FY 2006. Lessons learned from the 2004 Indian Ocean Tsunami indicate that there are three key interlocking components of an effective Tsunami Warning/Response System: (1) Tsunami Hazard Assessment (must include comprehensive coastal US risk assessments/inundation mapping); (2) Tsunami Warning Guidance (must include 24/7 tsunami detection and warning systems and the dissemination of accurate and timely tsunami forecasts and warnings (seconds literally count)); and (3) Tsunami Mitigation (including community-based emergency response plans, public education/awareness (TsunamiReady communities and inundation/evacuation mapping)). This investment is one of the high priority investments required for NOAA's implementation of the Integrated Ocean Observing System (IOOS) as the coastal and open ocean component of the Global Earth Observing System of Systems (GEOSS). Combined with other like-identified IOOS investments across NOAA, it is part of NOAA's strategy to provide initial benefits of an integrated ocean observing system, focusing on enhancing key observational capabilities throughout NOAA, and our ability to provide customers with enhanced coastal data and information.

Statement of Need

In response to the 2004 Indian Ocean Tsunami, the Administration proposed expanding the U.S. Tsunami Warning Program to protect U.S. lives and property along all coasts (Pacific, Gulf of Mexico, Atlantic and the Caribbean). Requested funds are required to operate and maintain the newly expanded DART systems, new sea-level monitoring stations, and the upgraded local seismic networks supporting the West Coast /Alaska Tsunami Warning Center (WC/ATWC) and the Richard H. Hagemeyer Pacific Tsunami Warning Center (PTWC) and to operate both the WC/ATWC and PTWC as 24/7 Operation Centers. Funds are also requested to accelerate the NOAA plan to provide effective, community-based tsunami hazard mitigation actions including required inundation flood mapping, modeling and forecasting efforts (MMFE) and evacuation mapping, and community-based public education/awareness/preparedness for all U.S. communities at risk. The requested funds will accelerate this MMFE and complete this project within 7 years, versus the currently planned 10-year MMFE schedule. Funds are also required to accelerate NOAA's tsunami research activities, focusing on the development of the fundamental scientific and technical products and detection systems essential to improve Tsunami Forecast coverage and data needed for rapid and reliable Tsunami Warnings.

Proposed Actions:

In FY 2005, the tsunami warning system expansion plan called for:

- Awarding procurement contracts for first 10 DART buoys (PAC)
- Procuring and install/upgrade new sea level monitoring/tide gauge stations in the Pacific and Alaska Regions and the Caribbean (ORF)
- Begin staffing increases to provide 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (ORF)
- Expanding the International Tsunami Information Center (ITIC) (ORF)
- Begin upgrading NWS-owned seismometers in Alaska and Pacific Regions to improve Local Tsunami Warning capabilities (PAC)
- Improving existing seismic detection network in the Caribbean (PAC)
- Begin expansion of the PTWC Facility for 24/7 Operations (Construction)
- Accelerating and expanding tsunami education/outreach (Tsunami Ready program) to improve community preparedness (ORF)
- Accelerating Tsunami Inundation Mapping along the West Coast and expanding this program into the Caribbean/Atlantic/Gulf of Mexico (ORF)

In FY 2006, the tsunami warning system expansion plan calls for:

- Installing 16 new DART Buoys in the Pacific and Caribbean (ORF)
- Procuring 40 DART buoys including 10 spares and 3 redundant buoys for Alaska to insure continuity of operations in harsh seas off Alaska (PAC)
- Operating and maintaining 49 new/upgraded sea level monitoring/tide gauge stations (ORF)
- Completing the expansion of the PTWC facility to accommodate 24/7 Operations (PAC)
- Completing upgrade of NWS-owned seismometers used to improve tsunami detection (PAC)
- Providing 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (ORF)
- Expanding Tsunami Ready program to improve community preparedness (ORF)

- Continuing Tsunami Inundation Mapping along the West Coast and for the Caribbean,/Atlantic/Gulf of Mexico (ORF)
- Expanding Tsunami Mitigation Activities through the NWS/ITIC (ORF)

In FY 2007, the total funding of $20.415M will be used for:

24. Deploying the remaining 13 DART systems in the Pacific Ocean Basin ($3.34M)
25. Operating and maintaining the expanded DART Buoy System (26 DARTs deployed in FY2006) ($7.46M)
    2. NDBC O&M Costs: $4.15M
    3. NMAO Ship time Servicing Cost: $3.31M
26. Providing for emergency repair of DARTs (additional ship time costs) ($0.91M)
27. Operating and maintaining the expanded "tsunami-reporting" sea-level monitoring network ($0.78M)
28. Accelerating tsunami inundation mapping, modeling, and forecast efforts (MMFE) for all U.S. communities at risk (5-year effort vs. current 7-year effort ($2.07M)
29. Continuing accelerated tsunami education/outreach activities including the TsunamiReady program to improve community preparedness for all U.S. communities at risk ($0.23M)
30. Adding 2.25 FTEs (3 Positions) to manage the Tsunami Program's expanded/accelerated tsunami inundation mapping, modeling and forecast efforts for all US communities at risk and accelerate the development of the fundamental scientific and technical products and detection systems essential to improve Tsunami Forecast coverage and data needed for rapid and reliable Tsunami Warnings ($0.304M)
31. Adding 1.5 FTEs (2 Positions) to supplement NDBC DART Program Management. One FTE will oversee/direct the expanded/accelerated DART deployment programs and the other FTE will manage NDBC contract (engineering) staff in DART buoy design and assembly. ($0.20M)
32. Continuing NOAA's DART R&D program to improve DART reliability, cost-effectiveness and capabilities ($0.48M)
33. Upgrading the existing PRSN to provide local and regional tsunami warning capabilities for the Caribbean ($0.34M)
34. Complete the expansion and modernization of the local seismic networks for the WC/ATWC and the PTWC ($0.27M)
35. Fully funds 24/7 Operations at the PTWC and WC/ATWC ($1.52M)
36. Fully funds ITIC Hazard Mitigation Program Expansion ($0.22M)
37. Continues funding for the National Tsunami Hazard Mitigation Program ($2.291M)

Performance Goal and Measurement Data
This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs'. Specifically, this increase supports NOAA's Weather and Water strategic goal and the performance measures below.

Performance Measure	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Tsunami False Alarm Rate								
Local	75%	75%	75%	75%	75%	75%	75%	75%
Distant	75%	75%	75%	50%	40%	25%	25%	25%
with Adjustment								
Tsunami False Alarm Rate								
Local	75%	75%	75%	75%	75%	75%	75%	75%
Distant	75%	75%	75%	75%	75%	75%	75%	75%
without Adjustment								
Tsunami Warning Lead Time * (minutes)								
Local Tsunamis	15	10	8	6	5	5	5	5
Distant Tsunamis	30	30	30	20	15	15	15	15
with Adjustment								
Tsunami Warning Lead Time * (minutes)								
Local Tsunamis	15	10	8	8	8	8	8	8
Distant Tsunamis	30	30	30	30	30	30	30	30
without Adjustment								

*Tsunami Warning Lead Time measures the amount of time between when a seismic event occurs and when the tsunami warning is issued.

Air Quality Forecasting (+0FTE and $2,500,000): NOAA requests 0 FTE and $2,500,000 to expand ozone and PM forecast capability. The Air Quality Forecasting program provides air quality forecast guidance with the implementation of NOAA's Air Quality Forecast capability. This increase will allow for nationwide deployment of ozone forecasts in FY 2009, and for initial PM forecast capability in FY 2012. The air quality forecast capability for next-day ground-level ozone, first deployed operationally in September 2004 over the Northeastern U.S., and now covering Eastern US, will be extended through phased development and testing nationwide in FY 2009.

Sustain Cooperative Observer Program (+0 FTE and $890,000): NOAA requests 0 FTE and $890,000 for the O&M support for NOAA legacy Cooperative Observer program. This program provides observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. More than 11,000 volunteers take observations on farms, in urban and suburban areas, national parks, seashores, and mountaintops and the data that are collected are truly representative of where people live, work and play.

NOAA Profiler Network (+5 FTE and +$3,500,000): NOAA requests an increase of $3,500,000 and 5 FTE (7 Positions), to transfer the Wind Profilers from research to operations. The Wind Profilers, vertical looking radars, installed in 1988, are used for a variety of analytical forecasting tasks. Wind profile data are used as input for numerical (computer) weather models that predict clouds, precipitation, and temperature. The data also provide important indicators of where severe weather such as tornadoes and winter storms may form, requiring weather advisories, watches, or warnings. Weather forecasters also use wind profiler data for issuing aviation Significant Meteorological (SIGMET) advisories and wildfire predictions.

The National Profiler Network (NPN) radars are using an experimental transmitter frequency of 404 megahertz (MHz) issued by the National Telecommunications and Information Administration (NTIA). NTIA has given the 404 MHz frequency to search and rescue satellites (SARSAT) and granted the NPN permanent use of 449 MHz. Thirty 404 MHz wind profilers need to become operational, which requires the transmitters to be converted to 449 MHz by the end of the FY 2008 when the new SARSATS are launched.

Statement of Need

The NPN must be upgraded to operate at a different frequency because of interference with signals from new search and rescue (SAR) satellites. Currently, the SAR beacons and the NPN operate at the same (404 MHz) frequency. Consequently, the NPN wind profiling radars interfere with the SAR and whenever a satellite is overhead, the NPN is turned off to prevent any interference. This only occurs about 90 minutes per day. However, the European Space Agency will begin launching a constellation of satellites called *Galileo* in FY 2006. These satellites will have a SAR capability. These SARSATS will be in the sky for hours instead of minutes. Under these conditions, NPN profilers will have to shut down more than 23:30 hours per day rendering the network useless. The solution is to change the operating frequency to the non-interfering 449 MHz, a primary shared frequency for wind profilers and DOD testing.

The Senate Appropriations Committee requested as part of a Cost and Operational Effective Analysis (COEA), "…to determine the cost to upgrade the NOAA Profiler Network (NPN) over the next decade versus the short, medium, and long-term costs of ending the NPN program". The results of the COEA demonstrate that high-frequency wind data benefit several important NWS missions: severe weather warnings (for tornadoes, flash floods, and winter storms), watches, and short-term forecasts. These products are important for public safety, aviation, and wildfire support.

The NPN wind profile information improves NWS operational warning and watch performance capability. Performance statistics indicate that tornado, winter storm, severe storm, and flash flood forecasts and warnings, and aviation weather and fire weather warnings for NWS Weather Forecast Offices (WFOs) with wind profilers are more accurate and are able to provide longer warning lead-times. The wind profiler data, received every 6 minutes, helps forecasters more quickly detect environmental changes critical to the formation of tornadoes and other severe weather. Comparison of the statistical elements such as probability of detection, false alarm rate, Critical Success Index, and lead time at WFOs within the NPN, demonstrates that these WFOs, on average performed better than those outside the network and the national average. These statistics were evaluated in the paper "*The Need for Real-Time, High-Frequency, Observational Wind Profile Data Nationwide for Improved Forecast and Warning Operations*" by Peter L. Wolf, dated 2004

Proposed actions

NWS will execute a comprehensive operations and maintenance program with 5 FTE (7 Positions) Government personnel performing acquisition management and COTR responsibilities in completing the commercial acquisition of profiler replacement and upgrades, providing policy and program oversight, conducting 24/7 monitoring and control functions, and accomplishing maintenance operations. The frequency conversion effort will start in FY 2007 with the award of contracts for engineering development. Upgrades to the new 449 MHz transmitters will begin in FY 2009 (22 sites) and will complete in FY 2010 (15 sites). The engineering effort will include the design required to replace the transmitters, receivers, antennas, amplifiers and other obsolete system equipment for 37 wind profilers

Wind profiler performance requirements are being coordinated with the National Ocean Service (NOS) and others in support of the Integrated Ocean Observation System (IOOS). As part of the frequency conversion and technology refresh, wind profilers are also being engineered to meet requirements for coastal wind information.

FY 2007 Total $6.336M

Acquisition cost – $3.27M

- Initiate engineering design and development contract for new frequency compliant transmitters
- Develop Profiler shut down procedures and coordinate with data users the development of contingency plans for the loss of Profiler data as SARSAT interference issues arise

38. Recurring Operations and Maintenance costs - $3.066M
    - Provide operations and maintenance support for current Profiler network

Performance Goals & Measurement Data

This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs.' Specifically, this increase supports NOAA's Weather and Water strategic goal and the performance measures below.

(NOTE: The table below reflects performance measures for those WFOs within the National Wind Profiler Network)

Performance Goal: *Weather and Water*	FY04 Baseline	FY05	FY06	FY07	FY08	FY09	FY10	FY11
GPRA Performance Measure Tornado Warning Probability of detection ***with*** adjustment *	.79	.79	.79	.79	.79	.79	.79	.79
GPRA Performance Measure Tornado Warning Probability of detection ***without*** adjustment *	.79	.79	.79	.79	.62	.62	.62	.62
GPRA Performance Measure Tornado Warning False Alarm Ratio ***with*** adjustment *	.68	.68	.68	.68	.68	.68	.68	.68
GPRA Performance Measure Tornado Warning False Alarm Ratio ***without*** adjustment *	.68	.68	.68	.68	.85	.85	.85	.85
GPRA Performance Measure Tornado Warning Lead Time (min.) ***with*** adjustment *	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
GPRA Performance Measure Tornado Warning Lead Time (min.) ***without*** adjustment *	12.9	12.9	12.9	12.9	9.5	9.5	9.5	9.5
Wind Profiler Product Availability ***with*** Adjustment	80 %	80 %	80 %	80 %	85 %	90 %	95 %	95 %
Wind Profiler Product Availability ***without*** Adjustment	80 %	80 %	80 %	80 %	0 %	0 %	0 %	0 %

*Accuracy Performance Measures for Weather Forecast Offices, 1999 through 2003 (Wolf 2004). GPRA measure targets reflect Wind Profiler impact only; does not reflect other improvements that impact the national GPRA targets.

Pacific Island Compact (+0 FTE and $50,000): NOAA requests 0 FTE and $50,000 to support the five Micronesian Weather Forecast Offices served by the Compact of Free Association.

Space Environment Center (SEC) (+0 FTE and $3,199,000): NOAA requests 0 FTE and $3,199,000 to continue operations at the SEC. SEC provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances. SEC provides services to a broad user community of government agencies, industries, public institutions, and private individuals involved in satellite operation, space exploration, radio navigation, high-altitude polar flights, high-frequency communications, remote intelligence gathering, long-line power and data transmissions, and geophysical exploration.

US Weather Research Program (USWRP) (+0 FTE and $2,457,000): NOAA requests 0 FTE and $2,457,000 for accelerating air quality research for particulate matter forecasts and to expand THORPEX.

Advanced Hydrological Prediction Services (AHPS) (+0 FTE and $1,098,000): NOAA requests 0 FTE and $1,098,000 for nationwide implementation of AHPS. In FY 2007, the NWS plans, within current funding levels, to continue nationwide implementation of AHPS, with deployment at an additional 309 forecast points in these areas. The FY 2007 budget also supports extramural partnerships to carry out operationally-oriented hydrologic research, deployment of new flash-flood forecasting tools, and introduction of more effective river forecasting models.

Aviation Weather (+0 FTE and +$1,200,000): NOAA requests 0 FTE and an increase of $1,200,000 to expand this multi-year effort to improve aviation weather services. This requested increase will enable procurement and fielding of 75 additional water vapor sensors as part of an Integrated Upper Air Observing system, and transition additional products to a digital environment.

Statement of Need

Today, weather accounts for 70% of all air traffic delays within the U.S. National Airspace System (NAS), resulting in a $10B impact to the U.S. economy, $4B of which the Federal Aviation Administration (FAA) has determined is preventable. The FAA has stated a requirement to the NWS for aviation forecasts to have an 80% probability of detection (POD) and a 20% false alarm rate (FAR). To that end, the Aviation Weather program continues to implement projects and training opportunities that improve both the accuracy of weather information and the way in which weather information is utilized. In addition, the Aviation Program is supporting the Joint Planning and Development Office (JPDO) effort to develop the Next Generation Air Transportation Systems (NGATS), with the Department of Commerce (DOC) being lead agent for a 5-agency (Department of Defense (DOD), Department of Transportation (DOT), Department of Homeland Security (DHS), National Aeronautics and Space Administration (NASA), and DOC) Weather Integrated Process Team. The most significant deficiencies in the aviation program include: lack of forecast elements critical to aviation (turbulence, icing, convection, low ceiling and visibility) in a digital format; observation gaps, (in particular, water vapor observations) with a temporal and spatial scale to drive improvements in macro/micro-scale forecast operations to support improvements in aviation meteorology; needed training for NWS meteorologists to incorporate new technology; and new procedures in the forecast process. Pilots, controllers and flight planners require products in digital formats to facilitate and expand their use in the cockpit and to convey forecast specifics graphically lending to better, more informed decision making.

Proposed Actions

This funding will provide additional means for NWS to improve its aviation weather forecast services through three major efforts:

1) Procure additional water vapor sensor data
2) Transition and sustain FAA/NASA funded aviation weather R&D
3) Enhance capability and utilization of NWS weather products and services

FY 2007 Deliverables (shown here in terms of total program funding)

New Observations (Data) ($2.2M)
Expand acquisition of Aircraft-based Water Vapor Data – Procure, install and operate 125 aircraft based water vapor data systems. Costs include procurement and installation of field change kits. In this also provides for communications of data. This capability will provide Numerical Weather Prediction Models and forecasters with approximately 750 additional vertical moisture soundings and 45,000 discrete observations per day.

New & Improved Forecast Products ($2.2M)

- *New Aviation Forecast Weather Database and Graphical Area Forecast Product* ($1.0M) - NWS will build a database of critical aviation elements to support the generation of graphical products to transition from existing text-based terminal and en route forecasts. In addition, this digital format allows dissemination and display into FAA Decision Support Systems and into aircraft cockpits.
- *AutoNow Caster* ($0.3M) – NWS, with NOAA Research, will develop and deploy a short-term (0 - 3 hour) interactive/automated thunderstorm forecast product. This will assist the FAA in improved daily decisions for routing aircraft throughout the U.S. National Airspace System (NAS).
- *New & improved Terminal Area Forecast (TAF) Preparation and Forecast Tools for Forecasters* ($0.4M) - NWS will continue development and improvement of TAF monitoring system(s), improve TAF specific forecast model guidance, and develop a second-generation automated TAF forecast product. This will improve terminal-specific forecasts of winds, convection, weather and low ceiling and visibilities.
- *Volcanic Ash Collaboration Tool (VACT)* ($0.3M) - Volcanic ash is an extremely hazardous condition to aviation. NWS and NOAA Research will implement VACT software at Volcanic Ash Advisory Centers (VAAC). This product will provide common situation awareness and real-time collaboration with other VAACs, customers, and partners for consistent advisories and forecasts for volcanic ash.
- *New Verification Capabilities* ($0.2M) - NWS will partner with the FAA to develop new relevant metrics to determine weather effectiveness of the NAS.

New Aviation Training ($0.3M)

- *Forecaster Training* ($0.27M) – NWS, in partnership with the FAA, will provide training to 120 NWS forecasters on operational impacts of forecast products and TAF preparation.
- *Pilot and Controllers Training* ($0.03M) – NWS, in partnership with the FAA and Aviation Associations, will develop and implement new training products for pilots and controllers on the interpretation of weather products.

Benefits:
These actions will provide additional operational capability to Aviation Services enabling the program to continue to drive performance improvements. Since the program started in FY 2003, we have attained significant improvement. For example, the False Alarm Rates of Low Ceiling and Visibility Forecasts at Airports improved 13% over the intended goal. As more comprehensive data sets are collected and inputted into forecast models, we anticipate that multiple NOAA programs and objectives will benefit. Specific areas of improvements for aviation will be improved forecast accuracy of moisture, convection, icing, low ceiling and visibility, all of which could increase by 10%.

Products and services currently in operations must be upgraded and adapted to function in digital environments to meet the evolving needs to support software decision support tools and more efficiently communicate dynamic weather information to gain operational efficiencies. All of these improvements will allow decision makers within the National Air Space System to better anticipate and exploit the weather to maximize efficiency and safety. Additionally, the congressionally mandated JPDO will have a profound effect on the next generation of the nation's airspace system and the program will support the National Plan to minimize the impact of weather and attain the goal of 95% on time arrival rate.

Performance Goals & Measurement Data:

This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs.' Specifically, this increase supports NOAA's Commerce and Transportation strategic goal and the performance measures below.

Performance Goal: *Commerce & Transportation*	FY06 Baseline	FY07*	FY08	FY11
POD (Accuracy):				
Thunderstorms ***with*** adjustment	26%	28%	33%	45%
Thunderstorms ***without*** adjustment	26%	28%	31%	35%
Icing ***with*** adjustment	68%	69%	72%	74%
Icing ***without*** adjustment	68%	69%	70%	72%
Turbulence ***with*** adjustment	54%	55%	58%	65%
Turbulence ***without*** adjustment	54%	55%	56%	60%
GPRA measure: Ceiling and Visibility ***with*** adjustment	47%	48%	51%	59%
Ceiling and Visibility ***without*** adjustment	47%	48%	49%	54%
False Alarm Ratio (FAR)				
GPRA measure: Ceiling and Visibility ***with*** adjustment	65%	64%	58%	50%
Ceiling and Visibility ***without*** adjustment	65%	64%	62%	55%

* Lead time for implementation of developments and improvements is anticipated to be realized in following fiscal year.

TERMINATIONS FOR 2007: The following programs, and portions thereof, are terminated in FY 2007: Local Warnings and Forecasts Base (Hurricane Supplemental - $8,870,000); Tsunami Warning and Environmental Obs ($1,972,000); Hurricane Mitigation Alliance ($2,071,000); Susquehanna River Basin Flood System ($1,972,000); Vermont Northeast Weather & Wind Data Integration ($217,000); Strengthen U.S. Tsunami Warning Network ($128,000); Coastal & Inland Hurricane Monitoring & Prediction Program ($1,480,000); Coastal Weather Monitoring for Catastrophic Events ($468,000); Western Kentucky Environmental Monitoring Network ($1,479,000), National Data Buoy Center ($1,740,000); Shenandoah Air Quality Forecasting ($1,726,000); Sea Level Monitoring & Tide Gage Network ($237,000); WFO Maintenance (Hurricane Supplemental - $990,000); and Weather Radio Transmitters ($247,000).

Subactivity: Operations and Research
Line Item: Central Forecast Guidance

GOAL STATEMENT:

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

BASE DESCRIPTION:

The modernized field office structure emphasizes warnings and short-range forecasts. The process by which these products are generated begins with centralized processing of weather observations, followed by the application of high-resolution computer simulations of the atmosphere on NOAA supercomputers, and adjustment by skilled National Centers for Environmental Prediction (NCEP) forecasters. The results are forwarded to local Weather Forecast Office (WFO) forecasters, who use them as the basis for local forecast products. Typically, local forecasters add the greatest value in the shortest forecast ranges. Beyond about three days, forecasts depend almost exclusively on NCEP output. The total forecast process depends critically on both NCEP products and local forecast efforts to enhance both accuracy and uniformity of service across the country.

In addition to their role in the local WFO forecast product generation, NCEP also provides the principal means through which NOAA provides operational weather, ocean, and climate prediction services for large areas, up to and including the entire globe, to a vast assortment of domestic and international users. These services typically exceed the domain of a single WFO, and require a large supercomputer. Efficiency demands that they be generated centrally.

The NCEP consists of seven science-based, service-oriented centers that generate environmental prediction products and two central activities supporting those services. The centers provide an integrated suite of forecast guidance and specific forecast products from the short-term through seasonal, interannual, decadal, and centennial time frames. Each service center depends on the observational infrastructure, the data assimilation systems, the numeric modeling function, and the application of model output statistics to produce value-added forecast guidance products for NWS field offices and direct users.

Storm Prediction Center: The Storm Prediction Center (SPC), located in Norman, Oklahoma, focuses on hazardous weather events such as severe thunderstorms and tornadoes, ice or heavy snow, fire weather and flash floods, with emphasis on the first few hours of the forecast period. Products issued from the SPC give the WFOs specific guidance as to the probability and intensity of severe weather occurrences for regional to local geographic scales.

Hydrometeorological Prediction Center: The Hydrometeorological Prediction Center (HPC), located in Camp Springs, Maryland, is responsible for preparing quantitative precipitation forecasts (QPF) that are used by WFOs to develop local rainfall, snow, and ice forecasts and by the Regional Forecast Centers (RFC) to develop local river and flood forecasts.

The HPC provides special QPFs and coordination to other federal agencies such as the Federal Emergency Management Agency (FEMA) during major flood events. The HPC also provides an array of analysis and forecasts of frontal systems, pressure patterns, temperature, and precipitation for use by WFOs and the private weather community.

Ocean Prediction Center: The Ocean Prediction Center (OPC), located in Camp Springs, Maryland, discharges U.S. international meteorological obligations to marine interests under the International Convention for Safety of Life at Sea, to which the U.S. is a signatory. It provides one-stop-shopping for marine interests operating outside the domain of coastal WFOs. The OPC provides weather and sea state warnings and forecasts for the high seas of the Northern Hemisphere for planning and operational purposes. Its warnings and products go directly to ships at sea, and are vital for the protection of life and property. The OPC also provides guidance forecasts for WFOs with coastal responsibilities, which extend out to about 100 nautical miles. Coastal WFOs have responsibility for local forecasts and warnings out to that limit; for the high seas beyond, the responsibility has been centralized in the HPC.

Tropical Prediction Center/National Hurricane Center: The NCEP experts in the area of tropical meteorology are concentrated at the Tropical Prediction Center (TPC)/National Hurricane Center (NHC) in Miami, Florida. Services provided by the TPC/NHC include advisories, watches, and warnings for tropical cyclones in the north Atlantic and eastern north Pacific oceans, the Caribbean Sea, and the Gulf of Mexico, including the portions of the U.S. coastline threatened by such storms. In addition, TPC forecasters provide aviation and marine analyses and forecast products for the same areas of responsibility. The TPC/NHC functions both to provide guidance, coordination, and tropical weather expertise to WFO forecasters and to serve users of centrally generated products.

Aviation Weather Center: The Aviation Weather Center (AWC), located in Kansas City, Missouri, is the mechanism by which the U.S. discharges its weather forecasting obligations to the aviation community under an international agreement through the International Civil Aviation Organization. The AWC provides wind, temperature, and flight hazard (e.g., icing, and turbulence) forecasts for flight planning and en route aircraft operations for the U.S., the north Atlantic and north Pacific routes, and some routes in the southern hemisphere. In addition to the en route weather support provided for the aviation industry, the AWC also produces guidance products for use by WFOs in support of the airport terminal forecast function. Thus, the AWC discharges large-scale, global aviation functions which can be sensibly centralized, while the WFOs discharge local aviation functions based on centralized guidance provided by the AWC.

Climate Prediction Center: The Climate Prediction Center (CPC), located in Camp Springs, Maryland, produces climate services consisting of operational prediction of climate variability; monitoring of the climate system and development of databases for determining current climate anomalies and trends; and analysis and assessment of their origins and linkages to the rest of the climate system. These services cover climate time scales ranging from weeks to seasons, extending into the future as far as technically feasible, and cover the domain of land, ocean and atmosphere, extending into the stratosphere. WFOs, as well as the public, private industry, and the international research community use CPC climate services.

Space Environment Center: The Space Environment Center (SEC), located in Boulder, Colorado, provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances.

SEC provides services to a broad user community of government agencies, industries, public institutions, and private individuals involved in satellite operation, space exploration, radio navigation, high-altitude polar flights, high-frequency communications, remote intelligence gathering, long-line power and data transmissions, and geophysical exploration. SEC serves many government, industry and private-sector clients, and such end-product users as the power industry and the National Aeronautics and Space Administration (NASA). SEC's research scientists study the sun's electromagnetic, particle, and magnetic-field emissions and the processes by which they affect the near-earth space environment. SEC takes a leading role in advocating and designing new space-environment sensors for operational use. The SEC, with the U.S. Air Force, operates the national civilian space weather service. Forecasts, alerts, and warnings are provided to customers on a 24 hour-per-day, seven day a week basis. SEC products are synthesized from over 1,400 data streams providing observations of the solar terrestrial environment, including x-ray flux, charged particles, and magnetic field changes produced by solar disturbances.

NCEP also maintains two critical support organizations to facilitate the central forecast guidance process:

NCEP Central Operations: The Central Operations (NCO) of NCEP operates the NOAA Central Computing Facility, manages the computer production suite upon which all NCEP services are based and the communications linking the several parts of NCEP, and provides operational quality assurance of incoming observations and outgoing products. NCO staff also provides central support for software development for data processing, display, interaction, and product generation. The NCO is the technical transition point between the development of numerical weather and climate prediction models and their operational use by forecasters at the NCEP and WFOs. The NCO staff also provides central support for software development for data processing, display, interaction, and product generation. The NCO consists of computing, communications, and software specialists, as well as meteorologists with special knowledge of numerical modeling operations.

Environmental Modeling Center: NCEP's Environmental Modeling Center (EMC) develops, enhances, and maintains complex data assimilation and numerical model systems that span the globe. The computer models and other numerical forecast products developed by the EMC provide the basic guidance that meteorologists at the NCEP and WFOs use in making weather and climate predictions. EMC serves as the integrator of numerical modeling research and development performed in universities and research laboratories. Model impact studies are conducted by the EMC to validate data sets that lead to new data requirements from observing technologies (satellites, radar, etc.).

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:
None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Operations and Research	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Central Forecast Guidance					
Central Forecast Guidance (C)	5,725	5,864	6,178	6,178	-
Central Forecast Guidance (CT)	2,807	2,876	500	500	-
Central Forecast Guidance (WW)	37,581	36,743	44,385	44,385	-
National Hurricane Center	-	5,721	-	-	-
TOTAL	46,113	51,204	51,063	51,063	-
FTE	284	299	299	299	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:
None

TERMINATIONS FOR FY 2007: The following programs, and portions thereof, are terminated in FY 2007: Central Forecast Guidance W&W (Hurricane Supplemental - $2,000,000)

Subactivity: Systems Operation & Maintenance (O&M)
Line Item: Systems Operation & Maintenance

GOAL STATEMENT:

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

BASE DESCRIPTION:

This subactivity reflects the costs of on-going operations and maintenance of major NWS observing and processing systems.

Next Generation Weather Radar (NEXRAD): NEXRAD is the joint NWS/FAA/DOD weather radar system consisting of 158 operational radars. NEXRAD utilizes Doppler technology and hydrometeorological processing to provide significant improvements over the previous generation of weather radars for tornado and thunderstorm warnings, air safety, flash flood warnings, and water resources management. The system is modular in design, upgradeable, has long life-cycle expectancy, and provides its principal users with a wide array of automated weather information that will increase their capability to meet their respective operational requirements. In FY 2007, the NWS will continue to operate and maintain its network of 123 NEXRAD systems.

Automated Surface Observing System (ASOS): ASOS is the joint NWS/FAA/DOD automated surface observation system consisting of 887 operational systems. ASOS provides reliable, 24-hour per day, continuous surface weather observations. Implementation of ASOS into NWS field operations provides continuous weather watch and yields improved staff productivity. NWS operates and maintains 315 NWS ASOS units, and under a reimbursable funding arrangement, operates and maintains 572 FAA ASOS units. In FY 2007 the NWS will continue operations and maintenance of its 315 ASOS systems.

Advanced Weather Interactive Processing System (AWIPS)/NOAAPort: AWIPS is the cornerstone of the modernized NWS. This system is required to integrate and display all hydrometeorological data at NWS field offices. AWIPS acquires and processes data from modernized sensors and local sources, provides computational and display functions at operational sites, provides an interactive communications system to interconnect NWS operational sites, and disseminates weather and flood warnings and forecasts in a rapid, highly reliable manner. This system integrates satellite and NEXRAD Doppler weather radar data and provides to the local field forecaster capabilities to significantly improve forecasts and warnings. AWIPS provides the only display for the NEXRAD Doppler weather radar at NWS Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs). The AWIPS NOAAPort satellite broadcast offers the communications capability to provide internal and external users with open access to much of NOAA's real-time environmental data.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

In FY 2007 NWS will:

- Continue operations and maintenance of 169 fielded systems under a new, performance based O&M contract;
- Continue in-service engineering to ensure the system is available 24 hours per day, 365 days per year, to support the Weather Service mission of providing climate, water, and weather forecasts and warnings to protect life and property and enhance the national economy, and to prevent system obsolescence.

NWS Telecommunications Gateway Backup: The NWS is establishing the National Weather Service Telecommunication Gateway (NWSTG) backup facility, which will provide backup operations for the primary NWSTG within 12 hours of a failure.

The NWSTG is the Nation's hub for the collection and distribution of weather data and products. The NWSTG provides national and global real-time exchange services using automated communication resources to collect and distribute a wide-variety of environmental data such as observations, analysis, and forecast products. These time-perishable products are distributed as received to ensure the fastest availability of the information. Thousands of customers worldwide use data distributed by the NWSTG, and these data affect a wide-range of economic and emergency management decisions. Without this backup capability, the NWSTG is a single point of failure, vulnerable to natural disasters, human error, computer viruses, hacker attacks, and terrorism. If the NWSTG failed, more than 90% of the in-situ weather observations necessary for numerical weather prediction models would be lost and forecast accuracy would be degraded. The NWSTG ensures that the delivery of critical meteorological data necessary for the protection of life and property and the economic well being of the Nation continues uninterrupted, providing increased operational availability and reducing risk vulnerability in the event of lost access to the NWSTG for whatever reason.

In conjunction with the NWSTG Backup, the Legacy Replacement Project will replace the legacy NWSTG core mainframe based message switching system with current server based technology, upgrade the facility support infrastructure, and establish a technology refresh program to ensure the IT keeps up with the demand and avoids another full system replacement. The Legacy Replacement will utilize the same IT software and hardware technology demonstrated and currently being implemented in the NWSTG Backup Project. In April 2004, the NWSTG Backup and Legacy Replacement were established as a joint project to more efficiently manage the two integrated efforts and achieve economies of scale where possible. In FY 2005 and FY 2006 NWS will complete and test integration of the message switching software and associated hardware and telecommunications components. Full operational capability of the Legacy Replacement is scheduled for 2nd quarter FY 2006. Full operational capability of the NWSTG backup is scheduled for 1st quarter of FY 2007.

PROPOSED LEGISLATION:
None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Systems Operation & Maintenance (O&M)	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Operation & Maintenance					
NEXRAD	38,735	39,946	40,929	43,759	2,830
ASOS	8,265	8,498	8,716	8,716	-
AWIPS	36,695	33,611	34,142	37,603	3,461
NWSTG Backup - CIP	3,042	3,009	3,012	5,512	2,500
TOTAL	86,737	85,064	86,799	95,590	8,791
FTE	191	182	182	182	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Next Generation Weather Radar NEXRAD (+0FTE and $2,830,000): NOAA requests 0 FTEs and $2,830,000 for continued operations and maintenance (O&M) of its nationwide network of NEXRAD systems. NEXRAD systems are critical for real-time observations and forecasts of severe weather events, including tornadoes, heavy precipitation, and hurricanes. This O&M funding will support NEXRAD tower and radome inspection and repair, planned system-wide lightning protection improvements, and the scheduled planned replacement of the RPG SUN processors and the local area network (LAN) switch in the NEXRAD RPG.

Advanced Weather Interactive Processing System AWIPS (+0 FTE and $3,461,000): NOAA requests 0 FTE and $3,461,000 for continued operations and maintenance for the network of 169 fielded systems. This O&M funding will support the scheduled replacement of 885 AWIPS workstations and the scheduled replacement of 223 AWIPS Communications Processors, which are no longer are covered by the initial 3-year manufactures warranty. These two sustaining engineering cyclical refresh maintenance actions are necessary to support severe weather warning operations.

The NWS Telecommunication Gateway (NWSTG) Critical Infrastructure Protection (CIP): (+0 FTE and +$2,500,000): NOAA requests an increase of $2,500,000 and 0 FTE to implement a telecommunications network solution that resolves an existing single-point-of-failure associated with the NWSTG CIP. This investment will ensure uninterrupted delivery of critical meteorological data necessary for the protection of life and property, and the economic well being of the Nation.

Statement of Need

The NWSTG is the portal for all NWS environmental data. The NWSTG has been identified as an essential government resource in Presidential Decision Directive – 67 Enduring Constitutional Government and Continuity of Government Operations. The geographically disparate backup system will be connected to the NWSTG primary and user community through a telecommunications network. The NWSTG CIP requires $3.0M for operations and maintenance (O&M) in FY 2007 including $1.12M for telecommunications costs for switching all NWSTG circuits through a switch located at the Local Exchange Carrier (LEC) central office. To eliminate all single-points-of-failure, a network was designed to bypass the LEC central office. The resulting network will cost an estimated $3.6M annually to sustain the full network connectivity at both sites.

Proposed actions

Fund the recurring network costs at an estimated cost of $3.6M to establish full user connectivity to both NWSTG sites. Major deliverables and costs are:

FY 2007 RECURRING O&M (Total Program)	
SW Licenses (o/s & db)	0.70
Telecommunications services	3.60
Support Services	0.43
Facility Rent	0.17
Technology refresh	0.21
Hardware Maintenance	0.40
Recurring O&M Subtotal	**5.51**

Benefits

The investment will enable the implementation of the NWSTG backup and therefore achieve critical infrastructure protection for an essential government resource. The investment will eliminate NWSTG vulnerability to major interruptions at the local exchange carrier facility.

Performance Goals & Measurement Data

This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs.' Specifically, this increase supports NOAA's Weather and Water strategic goal and the performance measure below.

The investment will enable the NWSTG to achieve the FY 2007 performance goal to implement effective failover between the NWSTG site with full data restoration in 12 hours or less.

Performance Goal: *Weather and Water*	FY04 Baseline	FY05	FY06	FY07	FY08	FY09	FY10	FY11
NWSTG Reliability of failover to backup system ***with*** Adjustment	0%	0%	0%	99%	99%	99%	99%	99%
NWSTG Reliability of failover to backup system ***without*** Adjustment	0%	0%	0%	0%	0%	0%	0%	0%

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

National Weather Service	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	128	17,634	128	19,699	55	8,227	55	9,117	-	890
Total C	128	17,634	128	19,699	55	8,227	55	9,117	-	890
Commerce and Transportation										
Commerce and Transportation	103	14,385	103	15,417	101	16,687	101	17,887	-	1,200
Total CT	103	14,385	103	15,417	101	16,687	101	17,887	-	1,200
Mission Support										
Mission Support	-	-	-	8,277	-	7,316	-	7,316	-	-
Total MS	-	-	-	8,277	-	7,316	-	7,316	-	-
Weather and Water										
Weather and Water	4,369	678,970	4,366	703,451	4,441	713,771	4,450	749,126	9	35,355
Total WW	4,369	678,970	4,366	703,451	4,441	713,771	4,450	749,126	9	35,355
Total National Weather Service	4,621	710,989	4,597	746,844	4,597	746,001	4,606	783,446	9	37,445

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Weather Service		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Operations and Research											
Local Warnings and Forecasts	Pos/BA	4,280	578,139	4,277	610,576	4,277	608,139	4,289	636,793	12	28,654
	FTE/OBL	4,146	577,754	4,116	617,014	4,116	608,139	4,125	636,793	9	28,654
Central Forecast Guidance	Pos/BA	316	46,113	316	51,204	316	51,063	316	51,063	-	-
	FTE/OBL	284	44,885	299	51,418	299	51,063	299	51,063	-	-
Total: Operations and Research	Pos/BA	4,596	624,252	4,593	661,780	4,593	659,202	4,605	687,856	12	28,654
	FTE/OBL	4,430	622,639	4,415	668,432	4,415	659,202	4,424	687,856	9	28,654
Systems Operation & Maintenance (O&M)											
Systems Operation & Maintenance	Pos/BA	184	86,737	184	85,064	184	86,799	184	95,590	-	8,791
	FTE/OBL	191	86,789	182	85,171	182	86,799	182	95,590	-	8,791
Total: Systems Operation & Maintenance (O&M)	Pos/BA	184	86,737	184	85,064	184	86,799	184	95,590	-	8,791
	FTE/OBL	191	86,789	182	85,171	182	86,799	182	95,590	-	8,791

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: National Weather Service
Subactivity: Operations and Research

Title		Grade	Number	Annual Salary	Total Salaries
Electrical Engineer	Silver Spring, MD	13	1	74,782	74,782
Engineer	Stennis Space, MS	13	1	72,035	72,035
IT Specialist	Silver Spring, MD	9	1	43,365	43,365
IT Specialist	Silver Spring, MD	13	1	74,782	74,782
Oceanographer	Seattle, WA	12	1	63,184	63,184
Oceanographer	Seattle, WA	14	2	88,788	177,576
Physical Scientist	Silver Spring, MD	14	1	88,369	88,369
Program Manager	Stennis Space, MS	14	1	85,123	85,123
Technician	Sterling, VA	11	3	52,468	157,404
Total			12		836,620
Less Lapse	25%		-3		(209,155)
Total full-time permanent (FTE)			9		627,465
2006 Pay Adjustment (3.1%)					19,451
2007 Pay Adjustment (2.2%)					14,232
Total					661,149

Personnel Data	Number
Full-time permanent	9
Other than full-time permanent	0
Total	9
Authorized Positions	
Full-time permanent	12
Other than full-time permanent	0
Total	12

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Weather Service
Subactivity: Operations and Research

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	657
11.5	Other personnel compensation	56
11.5	Overtime	16
11.5	Cash awards	23
11.9	Total personnel compensation	752
12.1	Civilian personnel benefits	327
12.1	Civil service retirement	37
25.2	Other services	25,388
31	Equipment	2,150
99	Total Obligations	28,654

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Weather Service
Subactivity: Systems Operation & Maintenance (O&M)

	Object Class	2007 Increase
25.2	Other services	8,791
99	Total Obligations	8,791

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Environmental Satellite Observing Systems	101,460	106,769	99,515	97,670	-1,845
NOAA's Data Centers & Information Services	74,600	70,968	45,079	51,909	6,830
TOTAL	176,060	177,737	144,594	149,579	4,985
FTE	598	717	717	717	0

For FY 2007, NOAA is requesting a total of $149,579,000 for National Environmental Satellite, Data, and Information Service (NESDIS) Operations, Research, and Facilities. As the NOAA satellite and information service, NESDIS is responsible for managing all aspects of remotely gathered environmental data. This includes procurement, launch, operation, product development, and product distribution for the nation's civil operational environmental satellites. Additionally, NESDIS manages the NOAA environmental data collections, and disseminates data and information to meet the needs of users in commerce, industry, agriculture, science and engineering, as well as federal, state, and local governments.

NESDIS has two sub-activities in the Operations, Research and Facilities appropriation: 1) Environmental Satellite Observing Systems; and 2) NOAA Data Centers and Information Services.

The goals of the Environmental Satellite Observing Systems include: (1) maintaining a system of polar-orbiting satellites to obtain global environmental data; (2) maintaining a system of geostationary satellites to provide near-continuous environmental observations of the Earth's western hemisphere; (3) acquiring, processing, and analyzing data from NOAA, the Department of Defense (DoD), and other earth-observing satellites; (4) supplying data, interpretations, and consulting services to users; (5) introducing new technology and processes to improve environmental satellite system capabilities; (6) determining requirements for future satellite systems, (7) operating, maintaining, and serving as the lead US agency for the Search and Rescue mission control center; (8) and demonstrating better ways to use and distribute data from NOAA, the National Aeronautic and Space Administration (NASA), and other satellites, aircraft, and laboratory investigations.

The Environmental Satellite Observing Systems sub-activity includes the following budget line items for FY 2007:

- Satellite Command and Control, including NOAA Satellite Operations Facility (NSOF) operations
- Product Processing and Distribution
- Product Development, Readiness, and Application
- Commercial Remote Sensing Licensing and Enforcement

The goal of the NOAA Data Centers & Information Services sub-activity is to provide worldwide environmental data and information products and services in the atmospheric, marine, solid earth, and solar-terrestrial sciences to meet the needs of users in commerce, industry, agriculture, science and engineering, the general public, and Federal, state, and local agencies. Environmental data and information maintained by NOAA are vital to every economic sector and are used in making decisions critical to; national defense; industrial productivity; energy development and distribution; world food supplies; public health, safety, and welfare; and development of natural resources. Environmental scientists and observers also have a critical need for a long time-series of historical and recent global data to assess long-term environmental trends, to evaluate the current state of the environment, and to predict future environmental conditions and events.

In FY 2007, the NOAA Data Centers and Information Services sub-activity consists of the following budget line items:

- Archive, Access, and Assessment
- Coastal Data Development
- Regional Climate Centers
- Environmental Data Systems Modernization

NESDIS' activities support all four Mission Goals in the NOAA Strategic Plan: Protect, Restore, and Manage The Use of Coastal and Ocean Resources through an Ecosystem Approach to Management; Understand Climate Variability and Change To Enhance Society's Ability To Plan and Respond; Serve Society's Needs For Weather and Water Information; and Support The Nation's Commerce With Information For Safe, Efficient, and Environmentally Sound Transportation. Activities also support NOAA's Mission Support Goal to Provide Critical Support for NOAA's Mission.

Research and Development Investments

The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) for NOAA's R&D programs, and leads to NOAA budget proposals that reflect the R&D investment criteria.

Significant Adjustments-to-Base (ATBs): NOAA requests an increase of 0 FTE and $2,075,000 to fund adjustments for NESDIS activities. Program totals will fund inflationary adjustments for labor and non labor activities.

NESDIS also requests the following transfer between line offices for a net change to NOAA of zero.

From Office	Line	To Office	Line	Amount
NESDIS	Product Development, Readiness & Application	OMAO	NOAA Corps	- $80,000

The $80,000 transferred to OMAO partially funds a NOAA Corps Officer position that benefits NESDIS.

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Subactivity: Environmental Satellite Observing Systems
Line Item: Satellite Command and Control

GOAL STATEMENT:

The goal of the Satellite Command and Control program is to provide efficient and secure command and control of 16 NOAA and Department of Defense (DoD) operational environmental satellites to ensure timely and uninterrupted delivery of data to users.

BASE DESCRIPTION:

The Nation requires an environmental satellite system capable of providing timely and accurate environmental data. Early warning of major weather events saves countless lives and prevents substantial property damage. Billions of dollars in damage and hundreds of lives are lost each year due to natural disasters. These losses would be significantly worse if NOAA satellite data and services were unavailable due to interference with, or the failure of, critical satellite command and data acquisition infrastructure.

The NOAA Satellite Command and Control program forms the backbone of the ground systems that command, control, and acquire data from on-orbit satellites with an estimated value of $4.5 billion on 24 hours per day, 365 days per year basis. The Satellite Command and Control program monitors satellite health and safety; schedules satellite operations and data acquisition to meet user needs; evaluates satellite systems performance; commands spacecraft; supports the National Aeronautics and Space Administration (NASA) during launch, activation, and evaluation of new satellites; and assesses satellite and ground station anomalies.

The Satellite Command and Control program provides the day-to-day operations of the NOAA Satellite Operations Control Center in Suitland, Maryland, and satellite command and data acquisition stations in Wallops, Virginia, and Fairbanks, Alaska. From these ground stations, NOAA operates and acquires data from Polar-orbiting Operational Environmental Satellites (POES), Geostationary Operational Environmental Satellites (GOES), and DoD Meteorological Satellite Program (DMSP). Data from other non-NOAA operational and research satellites are also received to support specific NOAA missions. The NOAA Satellite Command and Control program ensures acquisition and near real-time delivery of satellite data to product processing centers that, in turn, support NOAA's National Weather Service mission to protect lives and property during severe weather events.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Satellite Command and Control					
Satellite Command and Control	36,026	36,500	37,057	36,257	(800)
NSOF Operations	5,599	7,477	7,531	7,531	-
TOTAL	41,625	43,977	44,588	43,788	(800)
FTE	154	179	179	179	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Satellite Command and Control (-0 FTE and -$800,000): NOAA requests a decrease of 0 FTE and $800,000 for a total request of $43,788,000 for Satellite Command and Control activities. This decrease is in response to overall budgetary constraints and reflects reduced operational support for non-NOAA satellites.

Subactivity: Environmental Satellite Observing Systems
Line Item: Product Processing and Distribution

GOAL STATEMENT:

The Product Processing and Distribution (PP&D) program provides the Nation with specialized expertise and computing systems that ingest, process, analyze and distribute satellite-derived products and services that protect U.S. lives and property while enhancing the Nation's environmental, national, homeland, and economic security. PP&D ingests data from Earth-observing satellites to provide the highest quality products and services to its users.

BASE DESCRIPTION:

PP&D provides satellite-derived products and services using data from NOAA, the Department of Defense, and NASA environmental satellites, as well as foreign and commercial spacecraft, to national and international customers and users on a 24 hours-per-day, 7 days-per-week basis. PP&D products enable NOAA to accurately track the location, extent and duration of severe weather such as hurricanes, tornadoes, and winter storms; support development of flash flood warnings; track volcanic ash clouds and severe winds that threaten aviation safety; detect remote wildland fires; monitor coastal ecosystem health; identify and monitor maritime hazards from sea ice; and assist in search and rescue activities. PP&D is the operational interface with NOAA's National Weather Service and supplies the satellite data that makes up more than 99 percent of the information used in numerical weather prediction models. PP&D provides approximately 450 operational products organized into three categories: Atmospheric, Oceanographic, and Terrestrial.

The PP&D program is constantly assessing and using data from advanced satellite sensors to improve operational support to its customers. It also supports activities to improve the effectiveness and interoperability of national systems for sharing natural disaster information. By using maps and data generated by remote- and land-based sensors, this information is made widely accessible to all government agencies and other entities involved in managing and mitigating the impacts of disasters. PP&D products are widely used by all branches of the U.S. Armed Services and the Department of Homeland Security.

Included in the PP&D operations is NOAA's contribution to the joint National Ice Center, which monitors global sea ice conditions to support safe and effective maritime transportation in the Polar Regions, Great Lakes, and Arctic and North Atlantic waters. This service is critical to National Weather Service warnings in ice-prone sea lanes, U.S. Coast Guard rescue attempts, and civilian and military shipping communities.

PP&D provides NOAA's contribution to the operations of the U.S. mission control center for satellite-assisted search and rescue program (SARSAT). Since SARSAT's inception, more than 18,500 people have been saved worldwide. In 2003, NOAA expanded the SARSAT program to include the use of Global Positioning System (GPS) Personal Locator Beacons. This has greatly improved the SARSAT program's ability to save lives faster than before.

NOAA, the U.S. Navy and the U.S. Coast Guard jointly operate the U.S. National Ice Center (NIC). The NIC supports civil and military maritime communities by monitoring global sea ice conditions to support safe and effective marine transportation.

Satellites provide the basic capability to rapidly and accurately observe these events; however, unprocessed satellite data cannot be used directly by these or other critical applications without the around-the-clock PP&D operations.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Product Processing and Distribution					
Product Processing and Distribution (MS)	22,401	23,620	23,983	23,583	(400)
Product Processing and Distribution (CT)	4,472	3,628	3,687	3,687	-
TOTAL	26,873	27,248	27,670	27,270	(400)
FTE	106	126	126	126	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Product Processing and Distribution (-0 FTE and -$400,000): NOAA requests a decrease of 0 FTE and $400,000 for a total request of $27,270,000 for Product Processing and Distribution activities. This decrease is in response to overall budget constraints and reflects reduced operational support for non-NOAA satellites.

Subactivity: Environmental Satellite Observing Systems
Line Item: Product Development, Readiness & Application

GOAL STATEMENT:

The goal of the NOAA's Product Development, Readiness, and Applications program (PDR&A) is to provide applications-focused research that will develop and evaluate prototype products, algorithms, and pre-operational products to improve existing operational satellite products and services using data from current and next generation environmental satellites.

BASE DESCRIPTION:

The Nation needs to enhance its use of satellite data to improve and extend weather forecasts, to expand environmental monitoring and assessment capabilities, and to provide new and improved tools for ecosystems-based management. In the next few years, the number and quality of satellite instruments will grow significantly, providing enhanced data capable of allowing major improvements in weather prediction accuracy. To make these improvements, targeted research and a cadre of scientists and computing systems dedicated to development is necessary. The PDR&A program ensures the highest accuracy of NOAA's current satellite data and products via a robust and rigorous operational environmental satellite data calibration/validation program. This effort improves product quality for the benefit of all users. The program supports pre-operational development of products for weather, atmospheric, climate, land, wildland fire, and oceans and coastal applications. NOAA's Ocean Remote Sensing Program supports sea surface temperature, ocean color, satellite altimetry, oceanic rainfall measurements, and coastal monitoring tools for the CoastWatch program.

PDR&A supports a portion of the funding for the Joint Center for Satellite Data Assimilation (JCSDA), which accelerates the application of satellite data for improving weather forecast models. The JCSDA was established to speed the development of new satellite data assimilation science. NOAA (NWS, OAR, and NESDIS), NASA and DoD are partners in this coordinated national effort to more fully realize the potential of the vast quantities of new satellite data that are becoming available. The JCSDA is also a risk reduction measure designed to accelerate NPOESS data utilization for the development of numerical weather prediction models, and forecast models that will lead to increased accuracy and longer-range forecasts. In the next few years, the number and quality of satellite instruments will grow significantly, providing an exponential increase in higher quality data capable of allowing major improvements in the accuracy of weather prediction.

PDR&A also incorporates the latest academic findings into its work through competitively awarded Cooperative Institutes with academic institutions (Universities of Wisconsin, Maryland, Colorado State, and Oregon State, City College of New York). The academic expertise and the results of investigations are infused into product development, readiness, and applications that either lead to improvements in existing products or to the development of new products or sensors.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Product Development, Readiness & Application					
Product Development, Readiness & Application	16,601	16,987	17,315	16,915	(400)
Product Development, Readiness & Application (Ocean Remote Sensing)	3,942	3,925	3,861	3,861	-
Coral Reef Monitoring	690	-	-	737	737
Research to Ops / NOAA-NASA partnerships	3,942	3,945	-	-	-
Joint Center/Accelerate Use of Satellites	2,168	3,247	3,258	3,258	-
Global Wind Demo	3,696	3,649	982	-	(982)
TOTAL	31,039	31,753	25,416	24,771	(645)
FTE	86	103	103	103	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Product Development, Readiness and Application (-0 FTE and -$400,000): NOAA requests a decrease of 0 FTE and $400,000 for a total request of $16,915,000 for Product Development, Readiness and Application activities. This decrease is in response to overall budgetary constraints and reflects reduced operational support for non-NOAA satellites.

Coral Reef Monitoring: (0 FTE and $737,000): NOAA requests an increase of 0 FTE and $737,000 for a total request of $737,000 to carry out the coral reef monitoring activities. PDR&A supports the development and maintenance of operational satellite products aimed at near real-time observation, monitoring and forecasting of environmental conditions conducive to deterioration of coral reef health, often resulting from coral reef bleaching events. These products are necessary to comply with Executive Order 13089, the Coral Reef Conservation Act of 2000, and the U.S. Ocean Action plan, which all direct Federal agencies to use programs and authorities to protect and enhance coral reef ecosystems. This funding enables production of models to integrate satellite / in situ measurements with the efforts of the Coral Reef Ecosystem Integrated Observing System within other NOAA line offices. The Coral Reef Watch Program is collaborative effort under the auspices of NOAA's Coral Reef Matrix Team.

Global Winds Demonstration Project: (-0 FTE and -$982,000): The proof of concept for the Global Winds Demonstration Project was completed in FY 2006, and this program will be phased out.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: Research to Ops/NOAA-NASA Partnerships ($3,945,000), and Global Wind Demo ($2,667,000).

Subactivity: Environmental Satellite Observing Systems
Line Item: Interagency Global Positioning System Executive Board Secretarial (IGEB)

GOAL STATEMENT:

The Interagency GPS Executive Board (IGEB) was established by Presidential directive in 1996 to manage the Global Positioning System (GPS) and its U.S. Government augmentations as a national asset.

BASE DESCRIPTION:

The IGEB is a senior-level policy making body chaired jointly by the Departments of Defense and Transportation. Its membership includes the Departments of State, Commerce, Homeland Security, Interior, and Agriculture, as well as NASA and the Joint Chiefs of Staff. Through this program, NOAA funds the permanent Executive Secretariat, which provides day-to-day staff support to the IGEB principals. The Executive Secretariat is a point of contact for inquiries regarding GPS policy. For FY 2007, this activity will be supported within the Office of Space Commercialization.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Interagency Global Positioning System Executive Board Secretarial (IGEB)					
TOTAL	247	-	-	-	-
FTE	1	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Subactivity: Environmental Satellite Observing Systems
Line Item: Commercial Remote Sensing Licensing & Enforcement

GOAL STATEMENT:

The Commercial Remote Sensing Licensing and Enforcement (CRSL&E) program works with its interagency and international partners to facilitate timely and well-informed regulatory decisions, which advance U.S. economic, foreign policy, and national security interests. The program licenses remote sensing space systems; performs associated research, monitoring and compliance activities; and ensures that the operation of these systems is consistent with the terms and conditions of their operating licenses.

BASE DESCRIPTION:

Commercial Remote Sensing Licensing & Enforcement:

The Nation requires a consistent and transparent regulatory process for licensing commercial remote sensing space systems in order to promote U.S. technological competitiveness and economic security, while ensuring satellite operation is consistent with our national security, intelligence, and foreign policy needs. The CRSL&E program supports these requirements while furthering the Nation's homeland security and national security missions.

The CRSL&E program coordinates interagency review of satellite license applications, amendments, and significant foreign agreements. NOAA licenses commercial remote sensing space systems and performs associated monitoring and compliance pursuant to the Secretary of Commerce's statutory responsibilities, which have been delegated to NOAA. Prior to issuing licenses, NOAA must consult with the Departments of Defense and State to ensure license compliance with national security and foreign policy, respectively. NOAA reviews licensees' ongoing procedures to protect sensitive data. NOAA also works closely with other U.S. Government agencies to implement policy and ensure international coordination. During national security or foreign policy crises, the Secretary of Commerce may exercise limitations on routine commercial operations in response to a request from the Secretary of Defense or the Secretary of State.

Major monitoring and compliance activities supported by NOAA include review of quarterly license reports, on-site inspections, audits, license violation enforcement, and implementation of restrictions during national security and foreign policy crises. The number of license applications and revocations vary each year, and are not predictable. The Department of Commerce's Bureau of Industry and Security is responsible for enforcement and ensuring compliance with the terms of the license agreements.

The current estimated global market for remote sensing imagery and services is approximately $2.9 billion, and is forecast to grow to $6.0 billion by 2010. Dramatic future growth is expected due to growing civil and military user requirements, improvements in aerospace and information technologies, and e-commerce.

U.S. companies will provide exciting new sources of environmental products and services, which will strengthen our military capabilities, safeguard our economic infrastructure, and protect our natural resources. The regulatory framework, pursuant to the 2003 U.S. Commercial Remote Sensing Policy, recognizes the support that is required for growth of this industry. The CRSL&E program ensures a vigorous U.S. commercial remote sensing industry to support critical U.S. national security, foreign policy, and homeland security requirements, and advance our economic and technological interests worldwide.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

Office of Space Commercialization:

NOAA also manages the Office of Space Commercialization (OSC) for the Department of Commerce. The Department of Commerce plays a key role in the development of U.S. Government policies that foster the growth and competitiveness of the U.S. commercial space industry. It serves as an advocate for the industry within interagency deliberations affecting the future of space, encouraging the promotion of commercial interests as well as national security, foreign policy, and other interests. NOAA supports the Department's efforts to advance the development and implementation of the Administration's three new space sector policies for: commercial remote-sensing; positioning, navigation, and timing; and space transportation.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Environmental Satellite Observing Systems	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Commercial Remote Sensing Licensing & Enforcement					
Commercial Remote Sensing Licensing & Enforcement	1,085	1,228	1,240	1,240	-
Remote Sensing Center	-	1,972	-	-	-
Office of Space Commercialization	591	591	601	601	-
TOTAL	1,676	3,791	1,841	1,841	-
FTE	8	6	6	6	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

TERMINATIONS FOR FY 2007: The following program was terminated in FY 2007: Remote Sensing Center ($1,972,000)

Subactivity: NOAA's Data Centers & Information Services
Line Item: Archive, Access & Assessment

GOAL STATEMENT:

The goal of Archive, Access, and Assessment (AAA) is to provide long-term archive, access (customer service), stewardship, and assessments of observation data to a wide range of worldwide users. Through NOAA's National Data Centers (NNDCs), environmental data, information, products, and services support atmospheric, oceanographic, and the solid earth and solar-terrestrial physical sciences to facilitate sustained economic growth, scientifically sound environmental management, and public safety to the Nation and the international community.

BASE DESCRIPTION:

The AAA line item provides the core funding for the three NNDCs: the National Climatic Data Center, the National Oceanographic Data Center, and the National Geophysical Data Center. This line item also supports the nation-wide NOAA library system, and data rescue activities through the Climate Database Modernization Program (CDMP).

The NNDCs provide the Nation with the long-term stewardship archive of past, present, and future environmental observations and associated data recorded across the United States and globally. Access to long time series of environmental data is critical to satisfying the Nation's wide range of needs related to the national security, the economy, the environment, and public safety. Approximately one-third of U. S. economic activity is weather sensitive and this figure continues to increase. Business and government policies and decisions impacting water and energy management, manufacturing, transportation, food production, public health, and many other socio-economic issues depend on quality climate and weather data records. Collectively, the three national data centers acquire over one petabyte (10^{15}) of new data annually, provide access to an archive exceeding 3.5 petabytes, and support over 100 million worldwide queries per year, providing data transfers to over two million customers. By 2017, the projected ingest of new data will exceed seven petabytes per year and the cumulative archive volume managed and accessible to customers will exceed 144 petabytes.

Climate Archive, Access, and Assessment: The National Climatic Data Center (NCDC), located in Asheville, North Carolina, is the largest climate data center in the world, and is the Nation's designated federal records center for climate data. The NCDC receives, processes, archives, provides access, disseminates, and conducts objective assessments of remote (satellite) and in-situ (land, ocean, and atmosphere) observations. National and international observing systems provide both a national and a global perspective of the Earth's dynamic environment and health. Paleoclimate "proxy" records, i.e., pre-instruments, such as ice and coral cores, and tree rings, are also collected, archived, and made available to the global community of researchers and other interested users. The NCDC also manages the conversion of historical data records to electronic format and accessibility via the Internet through the Climate Database Modernization Program.

Over the past three years, the NCDC, in cooperation with scientists and other NOAA activities and federal agencies, has designed and is deploying the Nation's first climate quality observing network, the U. S. Climate Reference Network (USCRN). The NCDC is a designated World Data Center (WDC) for Meteorology and WDC for Paleoclimatology.

The NCDC provides data, information, products and services to a large and diverse global community, delivering data and information to nearly two million customers each year. The NCDC provides access and data retrieval via the worldwide web/Internet, and also responds to thousands of requests received via e-mail, phone, fax, and the mail. The NCDC routinely produces operational products for climate monitoring, such as the U. S. Drought Monitoring and the State of the Climate reports, and is a major contributor to the North American Drought Monitoring Report. These and other assessments support business and government policy and decision makers and implementers. The NCDC works very closely with the Regional Climate Centers and state climatologists to provide support and services at regional and local levels.

Ocean Archive, Access, and Assessment: The National Oceanographic Data Center (NODC)**,** located in Silver Spring Maryland, is the nation's permanent archive for oceanographic data, ensuring the public's access to and the scientific stewardship of the long-term observational record of the global ocean and its ecosystems. These holdings document the physical and chemical properties of the oceans, currents, weather and biota as observed from ships, buoys, satellites and other ocean and coastal platforms extending back nearly 150 years. The NODC serves more than 300,000 users annually through the Internet and a variety of publications including atlases and technical reports published on digital media and paper. Examples of the most requested products include the World Ocean Database and Atlas, the International Atlas of the Ocean series, and the World Ocean Circulation Experiment data set. The user community includes resource managers, researchers, educators, and maritime industry professionals from federal, state and local agencies as well as academia and the public. NODC is a designated WDC for Oceanography.

The NOAA library, located within the NODC, operates on behalf of all agency programs to support NOAA staff in their work and to provide the public with access to NOAA information. It includes the central library located in Silver Spring Maryland, and regional libraries in Seattle Washington, and Miami Florida. The central library also organizes agency-wide information services such as journal subscriptions and online reference services to support NOAA employees nationwide through 37 affiliated libraries at NOAA facilities throughout the United States. The NOAA library's collection currently consists of over 1.7 million volumes and thousands of electronic documents and visual images on topics related to NOAA's diverse missions

Geophysical Archive, Access, and Assessment: The National Geophysical Data Center (NGDC), located in Boulder Colorado, builds and maintains long-term archives of scientific data, with a special emphasis on scientific stewardship of data acquired by NOAA observing systems. Data holdings include bathymetry, solar, geophysical, space environment, and earth observing satellite data. The NGDC plays an integral role in the Nation's research into the environment, at the same time providing public domain data to a wide group of users. The NGDC: works very closely with NOAA's Space Environment Center to provide archive and access of space-based and terrestrial space weather observations; works with contributors of scientific data to prepare documented, reliable data sets, currently maintaining more than 850 digital and analog data sets; and continually develops data management programs that reflect the changing world of geophysics in an era of electronic data access.

The NGDC operates World Data Centers for solid earth geophysics, marine geology and geophysics, solar terrestrial physics, and glaciology for the International Council of Science under the auspices of the U.S. National Academy of Sciences.

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Archive, Access & Assessment					
Archive, Access & Assessment - (C)	14,528	10,288	10,572	17,272	6,700
Archive, Access & Assessment - (CT)	2,244	3,524	3,583	3,967	384
Archive, Access & Assessment - (ECO)	7,656	7,429	7,644	8,556	912
Archive, Access & Assessment - (MS)	2,921	2,235	2,280	2,554	274
Archive, Access & Assessment - (WW)	3,205	1,394	1,453	1,605	152
Climate Database Modernization KY	7,811	7,692	2,023	1,361	(662)
Climate Database Modernization MD	5,421	5,426	1,499	993	(506)
Quality Assurance/Quality Control (NC)	1,479	-	-	275	275
Climate Database Modernization WV	7,811	7,692	2,133	1,434	(699)
GOES Data Archive Project	2,437	2,466	-	-	-
Payment to OMAO	328	-	-	-	-
National Climatic Data Center	-	296	-	-	-
Integrated Environmental Applications & Information Center	-	2,959	-	-	-
TOTAL	55,841	51,401	31,187	38,017	6,830
FTE	199	290	290	290	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Archive, Access & Assessment: (0 FTE and $8,422,000): NOAA requests an increase of 0 FTE and $8,422,000 for a total request of $33,954,000 to restore funds requested in FY 2006 to carry out data archive, access and assessment activities. This critical funding allows the data centers to maintain data and information services to the private sector, academia, and all levels of government.

Specifically, FY 2007 funding will allow human-to-human interactive data and information services to continue on a full-time basis, thereby maintaining timeliness and quality of service for 50,000 users per year. NOAA will continue to deliver critical climate assessments and reports, including the U.S. Climate Change Science Program Report and monthly climate monitoring reports. In addition, NOAA will continue international partnerships for the sharing of data; deliver monthly North American US Drought Monitor reports to thousands of users; proceed with work on climate related coastal erosion and inundation with academic and federal partners; and meet customer requirements by providing large-array data requests to users on a timely basis.

Climate Database Modernization Program (CDMP): (-0 FTE and -$1,592,000): NOAA requests a decrease of 0 FTE and $1,592,000 for a total request of $4,063,000 due to other, higher priority activities. Through the CDMP contractors, NOAA and the NCDC manage the conversion of historical data records to electronic format and accessibility via the Internet. The requested funding supports basic operational efforts such as processing and keying incoming NOAA records, image access, subscription services and accounts receivable. The current CDMP contract is in its final year and the follow-on contract will be negotiated or competed for competitive pricing.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: Climate Database Modernization: KY ($5,647,000), Climate Database Modernization: MD ($3,930,000), Climate Database Modernization: WV ($5,537,000), and GOES Data Archive Project ($2,466,000).

Subactivity: NOAA's Data Centers & Information Services
Line Item: Coastal Data Development

GOAL STATEMENT:

The goal of the Coastal Data Development (CDD) program is to provide increased utilization of coastal and oceanographic data using web-based search and access and geographic information systems (GIS) techniques, which will improve understanding, management and use of coastal areas.

BASE DESCRIPTION:

The CDD program is located at and managed by the National Coastal Data Development Center (NCDDC) at the Stennis Space Center, Mississippi. The focus of NCDDC is to improve the quality of web-based search and access tools and implement web-based access to priority data sets from federal, state, and local repositories. Geospatial display capabilities have been added that allow the user to link the data to coastal imagery, charts, bathymetry to obtain a complete "data picture" of the ecosystem of interest. To identify priority data sets, NCDDC coordinates with Federal, State, and local agencies, academic institutions, non-profit organizations and the private sector to create a unified, long term database of coastal data sets available from a variety of sources. The NCDDC develops and maintains a catalog of available coastal data, builds gateways to these sources, ensures the equality of the metadata, populates and updates the databases, and provides on-line search and access and geospatial display for the coastal user community.

The CDD program supports NOAA's Ecosystem strategic goal which aims to build the capacity of federal, state, local, and international managers to make decisions that protect, restore, and use coastal ecosystem services. The Earth's coastal ecosystems are home to a wealth of natural resources, and the lives and livelihoods of people are linked to these national treasures. Sustainable growth of our coastal regions is critical to our economy by supporting commercial and recreational fishing, waterborne commerce, home construction, and tourism.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Coastal Data Development					
Coastal Data Development	4,510	5,380	4,546	4,546	-
TOTAL	4,510	5,380	4,546	4,546	-
FTE	12	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Subactivity: NOAA's Data Centers & Information Services
Line Item: Regional Climate Centers

GOAL STATEMENT:

The National Climatic Data Center's Regional Climate Centers (RCC) Program was developed to meet local and regional needs for climate data, research-based information, and expertise.

BASE DESCRIPTION:

NOAA will contract with the six regional climate centers to improve access to accurate and reliable climate information. The centers also monitor and report current climate conditions in the regions they serve. The expertise and data resources of the RCC are available to assist in interpreting present conditions, quantifying climate variability, and assessing the likelihood of extreme weather events that often produce major social, economic and environmental impacts in a region.

RCC activities requested support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Regional Climate Centers					
Regional Climate Centers	2,464	2,959	-	-	-
International Pacific Research Ctr (U of H)	1,971	1,972	-	-	-
Pacific Ocean and Environmental Info Center	986	-	-	-	-
TOTAL	5,421	4,931	-	-	-
FTE	1	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

TERMINATIONS FOR FY 2007: The following programs were terminated in FY 2007: Regional Climate Center ($2,959,000), International Pacific Research Center (U of H) ($1,972,000), Integrated Environmental Applications & Info Center ($2,959,000), and NCDC – Prototype Data Grids ($296,000).

Subactivity: NOAA's Data Centers & Information Services
Line Item: Environmental Data Systems Modernization

GOAL STATEMENT:

The goal of Environmental Data Systems Modernization (EDSM) is to provide increased access and utility to environmental data, information, products, and services through the use of innovative technologies and techniques.

BASE DESCRIPTION:

Environmental data and information under the stewardship of NOAA are vital to a wide range of weather sensitive sectors of the economy such as, energy and water resources management, aviation, construction, engineering, utilities, food production (agriculture and aquaculture businesses), multi-modal commerce, tourism, manufacturing, and the insurance industry. Business and government leaders and researchers have critical needs for quality long time-series of historical and recent national and global data to evaluate the current status of the environment, to assess long-term environmental trends, and to predict future environmental conditions and events.

Environmental Data Systems Modernization (EDSM) consists of three components: Satellite Active Archive (SAA), NOAA Virtual Data System (NVDS), and Scientific Data Stewardship. The SAA provides immediate web-based digital access to satellite data and is an important part of the Comprehensive Large Array Data Stewardship System (CLASS). NVDS provides the NNDCs' partial operational and maintenance information technology support to fulfill their Access, Archive, and Assessments mission responsibilities. Scientific data stewardship (i.e., collecting, processing, product development, access, distribution, archiving) consists of an integrated suite of functions to perserve and exploit the full scientific value of NOAA's environmental data. Successful implementation of stewardship will ensure maximum use of NOAA's environmental data, now and in the future.

NOAA is developing an integrated, national and global observing system that will bring together all aspects of environmental monitoring on common platforms to ensure data quality, to manage data efficiently for the long-term, and to make these data easily and readily accessible. NOAA plans to accomplish these goals through a program of scientific data stewardship and integrated surface observations.

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA's Data Centers & Information Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Environmental Data Systems Modernization					
TOTAL	8,828	9,256	9,346	9,346	-
FTE	30	13	13	13	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

National Environmental Satellite, Data, and Information Service	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	157	54,064	158	51,006	158	25,573	158	30,681	-	5,108
Total C	157	54,064	158	51,006	158	25,573	158	30,681	-	5,108
Commerce and Transportation										
Commerce and Transportation	40	8,639	44	10,943	44	9,111	44	9,495	-	384
Total CT	40	8,639	44	10,943	44	9,111	44	9,495	-	384
Ecosystems										
Ecosystems	96	16,798	96	16,734	96	16,051	96	17,700	-	1,649
Total ECO	96	16,798	96	16,734	96	16,051	96	17,700	-	1,649
Mission Support										
Mission Support	391	87,244	390	90,468	390	89,148	390	86,840	-	(2,308)
Total MS	391	87,244	390	90,468	390	89,148	390	86,840	-	(2,308)
Weather and Water										
Weather and Water	29	9,315	29	8,586	29	4,711	29	4,863	-	152
Total WW	29	9,315	29	8,586	29	4,711	29	4,863	-	152
Total National Environmental Satellite, Data, and Information Service	598	176,060	717	177,737	717	144,594	717	149,579	-	4,985

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Environmental Satellite Observing Systems											
Satellite Command and Control	Pos/BA	188	41,625	187	43,977	187	44,588	187	43,788	-	(800)
	FTE/OBL	155	41,323	179	44,610	179	44,588	179	43,788	-	(800)
Product Processing and Distribution	Pos/BA	131	26,873	131	27,248	131	27,670	131	27,270	-	(400)
	FTE/OBL	106	27,069	126	27,661	126	27,670	126	27,270	-	(400)
Product Development, Readiness & Application	Pos/BA	107	31,039	107	31,753	107	25,416	107	24,771	-	(645)
	FTE/OBL	86	31,068	103	32,244	103	25,416	103	24,771	-	(645)
Interagency Global Positioning System Executive Board Secretarial (IGEB)	Pos/BA	-	247	-	-	-	-	-	-	-	-
	FTE/OBL	1	23	-	224	-	-	-	-	-	-
Commercial Remote Sensing Licensing & Enforcement	Pos/BA	2	1,676	6	3,791	6	1,841	6	1,841	-	-
	FTE/OBL	8	1,520	6	3,870	6	1,841	6	1,841	-	-
Total: Environmental Satellite Observing Systems	Pos/BA	428	101,460	431	106,769	431	99,515	431	97,670	-	(1,845)
	FTE/OBL	355	101,003	414	108,609	414	99,515	414	97,670	-	(1,845)
NOAA's Data Centers & Information Services											
Archive, Access & Assessment	Pos/BA	302	55,841	302	51,401	302	31,187	302	38,017	-	6,830
	FTE/OBL	199	56,069	290	51,916	290	31,187	290	38,017	-	6,830
Coastal Data Development	Pos/BA	-	4,510	-	5,380	-	4,546	-	4,546	-	-
	FTE/OBL	12	4,694	-	5,408	-	4,546	-	4,546	-	-

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Regional Climate Centers	Pos/BA	-	5,421	-	4,931	-	-	-	-	-	-
	FTE/OBL	2	5,467	-	4,933	-	-	-	-	-	-
Environmental Data Systems Modernization	Pos/BA	13	8,828	13	9,256	13	9,346	13	9,346	-	-
	FTE/OBL	30	8,641	13	9,663	13	9,346	13	9,346	-	-
Total: NOAA's Data Centers & Information Services	Pos/BA	315	74,600	315	70,968	315	45,079	315	51,909	-	6,830
	FTE/OBL	243	74,871	303	71,920	303	45,079	303	51,909	-	6,830

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service
Subactivity: Environmental Satellite Observing Systems

	Object Class	2007 Increase
21	Travel and transportation of persons	26
25.2	Other services	581
26	Supplies and materials	11
31	Equipment	12
41.1	Grants, subsides and contributions	107
99	Total Obligations	737

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service
Subactivity: Environmental Satellite Observing Systems

	Object Class	2007 Decrease
25.1	Advisory and assistance services	(82)
25.2	Other services	(1,118)
25.5	Research and development contracts	(400)
41.1	Grants, subsides and contributions	(982)
99	Total Obligations	(2,582)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service
Subactivity: NOAA's Data Centers & Information Services

	Object Class	2007 Increase
21	Travel and transportation of persons	13
22	Transportation of things	13
23.1	Rental payments to GSA	3,898
25.1	Advisory and assistance services	1,171
25.2	Other services	2,052
26	Supplies and materials	283
31	Equipment	434
41	Grants, subsides and contributions	558
99	Total Obligations	8,422

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: National Environmental Satellite, Data, and Information Service
Subactivity: NOAA's Data Centers & Information Services

	Object Class	2007 Decrease
25.1	Advisory and assistance services	(1,592)
99	Total Obligations	(1,592)

PROGRAM PLANNING AND INTEGRATION
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Program Planning and Integration	2,464	0	0	0	0
TOTAL	2,464	0	0	0	0
FTE	10	0	0	0	0

In FY 2006 this activity was moved to Program Support as part of the FY 2006 appropriation process.

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Subactivity: Program Planning and Integration
Line Item: Program Planning and Integration

GOAL STATEMENT:

None.

BASE DESCRIPTION:

None.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Program Planning and Integration	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Program Planning and Integration					
Program Planning and Integration	2,464	-	-	-	-
TOTAL	2,464	-	-	-	-
FTE	10	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Program Planning and Integration	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Mission Support										
Mission Support	10	2,464	-	-	-	-	-	-	-	-
Total MS	10	2,464	-	-	-	-	-	-	-	-
Total Program Planning and Integration	8	2,464	-	-	-	-	-	-	-	-

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Planning and Integration		FY 2005 Actuals Personnel	Amount	FY 2006 Currently Available Personnel	Amount	FY 2007 Base Program Personnel	Amount	FY 2007 Estimate Personnel	Amount	Inc/Dec from Base Personnel	Amount
Program Planning and Integration											
Program Planning and	Pos/BA	10	2,464	-	-	-	-	-	-	-	-
Integration	FTE/OBL	8	2,137	-	-	-	-	-	-	-	-
Total: Program Planning and Integration	Pos/BA	10	2,464	-	-	-	-	-	-	-	-
	FTE/OBL	8	2,137	-	-	-	-	-	-	-	-

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PROGRAM SUPPORT
OPERATIONS RESEARCH AND FACILITIES
FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Operations Research and Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Corporate Services	169,068	176,575	178,180	191,926	13,746
NOAA Education Program	18,292	37,514	15,212	19,312	4,100
Facilities	33,281	10,849	11,927	23,009	11,082
Marine Operations & Maintenance and Aviation Operations	144,549	133,341	122,895	129,855	6,960
TOTAL	365,190	358,279	328,214	364,102	35,888
FTE	1,945	1,986	1,987	1,996	9

For FY 2007 NOAA requests a total of $364,102,000 for Program Support Operations, Research and Facilities, a net increase of $35,888,000.

Program Support is comprised of four distinct subactivities: 1) Corporate Services, 2) the NOAA Education Program 3) Facilities and 4) the Office of Marine and Aviation Operations (OMAO).

Within Corporate Services there are three line items: 1) NOAA's Under Secretary and Associate Offices; 2) Policy Formulation and Direction; and 3) the Office of the Chief Information Officer. The Under Secretary and Associate Offices budget line item funds centralized executive-management policy, formulation and direction. In addition, there are various staff offices, to include the offices of the Deputy Under Secretary; Legislative Affairs; Public, Constituent, and Intergovernmental Affairs; International Affairs; Education and Sustainable Development; the Federal Coordinator for Meteorology; and the General Counsel.

The Policy Formulation and Direction line item funds such activities as financial, procurement, and human resource services.

The second sub-activity in Program Support is the NOAA Education Program, which provides expert support on education activities to NOAA Line, Program, and Staff Offices, while promoting NOAA services and products, and their benefits to the public.

The Office of Education and Sustainable Development (OESD) consults within NOAA and with the Department of Commerce, and identifies opportunities for the deployment of coordinated interagency/intergovernmental policy strategies that recognize the importance of linking economic and environmental goals.

The third subactivity in Program Support is Facilities, which provides funds to address facilities management, construction, scheduled preventative maintenance, and environmental compliance and safety issues NOAA-wide. NOAA is working hard responding to E.O. 13327 (Federal Real Property Asset Management) in developing a strategic facilities master planning and modernization initiative, and to eliminate its backlog of maintenance, repair, safety, and compliance issues so that regular maintenance and periodic life-cycle replacement of major building systems and components would be the standard at NOAA. Funds for new construction and selected major facility projects are requested separately in the Procurement, Acquisition and Construction account.

The fourth subactivity, the Office of Marine and Aviation Operations (OMAO), is headquartered in Silver Spring, Maryland. It provides support to NOAA programs through the operation of NOAA ships and aircraft as well as by outsourcing these activities. This subactivity also funds ship maintenance and repair and NOAA's operational diving program.

OMAO initiates the development of annual vessel-allocation plans; develops and updates long-range plans for inspection, repair, and operations; updates standard fleet procedures; conducts vessel-safety inspections; and provides medical guidance and support for NOAA ship personnel. OMAO's Commissioned Personnel Center (CPC) in Silver Spring, Maryland, provides centralized management for recruitment, training personnel assignments, and payroll for the NOAA Commissioned Officer Corps. It also provides health-care contractual support for NOAA Commissioned Officers and Wage Marine personnel and their dependents.

OMAO also provides NOAA with centralized aircraft management and coordination of a fleet of 12 aircraft. These modern, integrated aircraft observation platforms are equipped with comprehensive data-collection systems. OMAO develops, with the guidance of NOAA's Aircraft Allocation Council comprised of NOAA's Deputy Under Secretary and NOAA Assistant Administrators, the annual aircraft-time allocation schedules based on program requirements.

The NOAA Corps supports the fleet and NOAA Line Offices as well. This line item funds the majority of the NOAA Corps payroll, except for contributions to an accrual fund for future health care benefits for Medicare-eligible retired officers, dependents, which are provided by permanent, indefinite appropriations.

Research and Development Investments

The NOAA FY 2007 Budget estimates for its activities, including research and development programs, are the result of an integrated, requirements-based Planning, Programming, Budgeting, and Execution System (PPBES) that provides the structure to link NOAA's strategic vision with programmatic detail, budget development, and the framework to maximize resources while optimizing capabilities. The PPBES process incorporates the President's Management Agenda and the Office of Science and Technology Policy's Research and Development Investment Criteria (relevance, quality, and performance) for NOAA's R&D programs, and leads to NOAA budget proposals that reflect the R&D investment criteria.

Significant Adjustments-to-Base (ATBs): NOAA requests an increase of 0 FTE and $6,535,000 to fund adjustments for Program Support activities. Program totals will fund inflationary adjustments for labor and non labor activities.

NOAA also requests $2,248,000 to cover increased fuel charges associated with the operation of its fleet.

NOAA also requests the following transfers for a net change to NOAA of zero:

From Office	Line	To Office	Line	Amount
Various	Marine Services	OMAO	Marine Services	$1,040,000

NOAA requests a technical adjustment to move $1,120,000 from various Line Offices to OMAO in order to centrally fund and manage 16 NOAA Corps Officers or 22 FTEs to support the goals and cross-cutting priorities identified in the NOAA Strategic Plan and to support several staff offices. However, $80,000 of this comes from within the program support activity. The net adjustment is $1,040,000.

Program managers have identified the need for NOAA Corps officers. These officers bring diverse field and staff experience to the program. Through the regular rotation process, an officer develops experience in more than one Line or Staff Office and at various locations within that organization. Program managers also need the responsiveness and flexibility inherent in a Commissioned Corps system. Officers can be assigned, on very short notice, to a different geographical location or program to meet the needs of the agency. Officers are assigned to a program to fill a specific billet, which has a statement of duties and responsibilities.

In addition to the role commissioned officers serve in operating and managing ships and aircraft, officer positions with programs include duties leading or supporting field operations; observational and support facilities; and research efforts. The flexibility and rotational assignments inherent in the Corps personnel system provide an agency-wide routine process to bring operational field experience to shore-side offices and bring experience across Line Offices.

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Subactivity: Corporate Services
Line Item: Under Secretary and Associate Offices

GOAL STATEMENT:

To provide executive direction for the implementation of agency polices to all NOAA and DOC programs and missions. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

BASE DESCRIPTION:

The Under Secretary and Associate Offices (USAO)

Provides the top leadership and management for NOAA. USAO formulates and executes policies and programs for achieving NOAA's objectives; coordinates actions required of NOAA in response to executive branch policy decisions; develops, plans, and coordinates major program efforts; exercises delegated authority in committing NOAA to courses of action; and represents NOAA in executive level liaison with other federal agencies, the Congress, and private industry. The Under Secretary, Assistant Secretary, and the Deputy Under Secretary comprise the top of NOAA's leadership. The Associate Offices, more commonly known as NOAA's Staff Offices, are:

- Office of General Counsel (OGC)
  Serves as the chief legal office for all legal matters arising in connection with the functions of NOAA, except for legal issues common to all Department bureaus, which are handled by the Department of Commerce General Counsel.

- Office of Public, Constituent, and Intergovernmental Affairs (OPCIA)
  Provides advice and counsel on media, constituent, and intergovernmental relations. The OPCIA consists of four elements, each addressing a unique audience: Public Affairs (media relations), Constituent Affairs (non-government organizations), Intergovernmental Affairs (state, tribal, territorial, regional, and local government), and Outreach (the general public).

- Office of Education and Sustainable Development (OEd)
  The OEd activities are dedicated to achieving success on NOAA's strategic cross-cutting priorities of promoting environmental literacy and developing, valuing, and sustaining a World-class workforce. OEd consults within NOAA to improve coordination across Line, Program and Staff Offices, while promoting NOAA service and products, and their benefits to the public. OEd also implements congressionally appropriated education programs on behalf of the Agency. Such activities include administration of the Ernest F. Hollings Undergraduate Scholarship Program, enacted by Congress in the Consolidated Appropriation Act 2005, and development of Education Partnership Program with Minority Serving Institution (EPP/MSI).

Both of these programs are specifically focused on increasing education and training opportunities for individuals pursuing NOAA-related fields of study with the goal of encouraging students to pursue applied research and education in atmospheric and oceanic sciences, and science education. The EPP program funding directly supports the development of NOAA-related research capability in MSIs.

- Office of Legislative Affairs (OLA)
  Serves as the primary liaison for NOAA with the members and staff of Congress. The office is also responsible for the planning, direction, and coordination of legislative programs that are of immediate concern to the Office of the Under Secretary.

- Office of International Affairs (OIA)
  Plans and coordinates NOAA's international programs and carries out, as directed by the Office of the Under Secretary, tasks of special interest related to international activities. The Deputy Assistant Secretary for International Affairs exercises a leadership role in establishing policies, guidelines, and procedures for NOAA's international programs.

- Office of the Federal Coordinator for Meteorology (OFCM)
  Establishes procedures for systematic and continuing review of national basic specialized meteorological and oceanographic requirements for services and supporting research; and brings federal agencies concerned with international activities and programs in meteorological and oceanographic programs into close consultation and coordination.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Corporate Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Under Secretary and Associate Offices					
Under Secretary and Associate Offices Base	24,641	26,128	26,550	29,287	2,737
TOTAL	24,641	26,128	26,550	29,287	2,737
FTE	184	226	226	228	2

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Under Secretary and Associate Offices (2 FTE and +$2,737,000): NOAA requests an increase of 2 FTE and $2,737,000 to support the Office of General Counsel (OGC). NOAA General Counsel's Office will be able to provide necessary procedural and legal advice to support decision-making by NOAA, particularly the new NOAA Fisheries Service regional office and the Western Pacific Fishery Management Council, as well as NOAA Ocean Service in connection with National Marine Sanctuaries matters.

Statement of Need

Office of General Counsel

The Office of the General Counsel provides legal service and guidance for all matters that may arise in the conduct of NOAA's missions. These services are more efficiently provided centrally; as legal services requirements change across the NOAA line offices, the Office of the General Counsel can shift resources to meet increased requirements. Overall NOAA requirements for legal services have expanded beyond the Office of General Counsel's ability to meet the needs of the individual line offices. For example, NOAA Fisheries Service Pacific Islands Regional Office (PIRO) is responsible for implementation of the Magnuson-Stevens Fishery Management and Conservation Act, the Endangered Species Act, the Marine Mammal Protection Act, and numerous other statutory requirements in connection with fishery conservation and management in federal waters and protection of marine mammals and protected and endangered species of the Pacific Islands Region. In conjunction with the Western Pacific Fishery Management Council, PIRO administers five Fishery Management Plans covering American Samoa, Guam, Hawaii and the Northern Mariana Islands as well as unincorporated islands in the central Pacific and the high seas. In addition, the Northwest Hawaiian Islands Coral Reef Ecosystem Reserve is in the process of being designated as a National Marine Sanctuary, and the Hawaiian Islands Humpback Whale National Marine Sanctuary is located within the region.

Until FY 2006, legal services for NOAA Fisheries Service activities in the Pacific Islands were provided by a single attorney located in NOAA General Counsel's Long Beach, California office, which also supports NOAA Fisheries' busy Southwest Regional Office. This attorney provided legal support for the Pacific Islands while serving as the manager of NOAA General Counsel's Long Beach Office and providing legal services to the Southwest Regional Office. Given his other responsibilities, he could only devote a portion of his time to supporting NOAA Fisheries in the Pacific Islands.

Proposed Actions

NOAA proposes to provide support to the Office of the General Counsel for all of NOAA. This support will include stationing two attorneys in Honolulu, Hawaii. These funds will provide procedural and legal advice and counsel to NOAA and the Western Pacific Fishery Management Council.

Performance Goals and Measurement Data

This increase will support the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the NOAA cross-cut priority of organizational excellence. The proposed increase will strengthen the Department of Commerce's Management Integration Goal to "Achieve organizational and management excellence."

Performance Goal: Mission Support	FY 2007 without Increase	FY 2007 with Increase
To provide legal support for NOAA line offices	Insufficient legal services available to support NOAA line offices, including PIRO actions	Adequate legal support for NOAA line offices

Subactivity: Corporate Services
Line Item: NOAA Wide Corporate Services & Agency Management

GOAL STATEMENT:

To support all NOAA and Department of Commerce (DOC) programs and missions by developing and acquiring major support systems and providing administrative, budgetary, and finance services. Programs and services in this sub-activity support the Mission Support goal in NOAA's Strategic Plan. In addition to these mission goals, NOAA has established five crosscutting priorities, one of which is Developing, Valuing, and Sustaining a World-Class Workforce. NOAA's stakeholders and employees strongly agree that NOAA needs to make this a priority to improve NOAA's core capabilities.

BASE DESCRIPTION:

NOAA Program Support provides the administrative, financial, and infrastructure services that are essential to the successful performance of NOAA's mission. In addition to NOAA-wide policy formulation and direction, the Program Support activities specifically support the ***people*** of NOAA, ensuring that they have the proper work environment, the necessary tools and equipment, and the vital personnel and finance services which, in turn, allow them to provide the finest possible service to the American people, our economy and our environment.

The objectives of this line item are to develop and implement policy, planning and program oversight, and evaluation of the following: program operations and service delivery; financial and administrative management that ensures timely, high-quality, cost-effective support to NOAA and DOC programs; and compliance with applicable laws, regulations, and guidelines. In addition to funding NOAA Policy Formulation and Direction activities, this line item funds the policy formulation and management direction of the following offices: Civil Rights; Audits, Internal Controls, and Information Management; Diversity; and Information Systems Management.

Under the broad umbrella of Policy Formulation and Direction, NOAA's major Program Support activities are as follows:

- Office of Acquisition and Grants
- Office of the Chief Administrative Officer
- Office of the Chief Financial Officer
- Office of Human Resources
- Office of Program Analysis and Evaluation
- Office of the Chief Information Officer and High Performance Computing and Communications
- Office of Program, Planning and Integration

Office of Acquisition and Grants

To a significant degree, NOAA relies upon its partners in the commercial, state and local government, non-profit and academia communities to accomplish its mission. The NOAA Office of Acquisition and Grants (AGO) provides support to NOAA line and staff offices, and a number of other Department of Commerce bureaus, with the planning, solicitation, award, administration and close-out of acquisitions and financial assistance funding mechanisms. The Acquisition Division acquires everything from day-to-day operating supplies to services to support NOAA's mission to ships and super computers. Financial assistance awards (grants and cooperative agreements) are utilized to transfer funds to a variety of partners (state, tribal and local governments, universities, individuals, non-profit and for-profit organizations) to assist the agency in achieving our mission. Through its services, AGO helps NOAA execute its day-to-day responsibilities and assists the agency in providing critical services to the Nation.

Significant efforts have been expended to improve the internal process for faster and better acquisitions and financial assistance awards. Beginning in FY 2005 the Grants Management Division, in partnership with the OCIO and the NOAA Line Offices, implemented an end-to-end electronic grants process. FY 2006 is the first year that the Grants Online system is fully operational for the entire fiscal year. In addition to automation efforts, the grants process has been undergoing a business process re-engineering study to improve processes outside of the automation tool.

Partnering with the Department of Commerce, the acquisition function has been undergoing a business process re-engineering study to improve the acquisition process. The AGO has established a NOAA Acquisition Handbook which standardizes processes across the agency, has implemented a formal advance acquisition planning process and has begun an on-going initiative to conduct routine spend analyses to identify opportunities to leverage NOAA's buying power. In addition, NOAA AGO has assumed responsibility for agency Interagency and Other Special Agreements policies, repository and database maintenance.

Office of the Chief Administrative Officer

The NOAA Office of the Chief Administrative Officer (OCAO) provides management and support services essential to NOAA's program mission success. The OCAO is responsible for NOAA's facility management program, including capital facilities investment planning and management; facility construction and maintenance; and, real and personal property management. The OCAO also manages NOAA's technology and deemed export control program, and oversees audit coordination; Freedom of Information Act compliance, executive correspondence management and civil rights protection for all NOAA employees. These programs provide basic services essential for NOAA to achieve its mission.

The OCAO recently initiated significant re-engineering efforts of the NOAA facility management program. This is a multi-pronged initiative designed to improve NOAA's facilities planning and management programs. These improvements include implemention of an integrated, long-

range capital investment and planning program, improved planning and execution of construction projects, and improved facility inspection and maintenance programs. In FY 2005, as the first step in this re-engineering process, the OCAO implemented a restructuring of the regional facilities and logistics activities into a centrally-managed operation organized along functional lines-Real Property Management, Logistics Management, and Project Planning and Management. Major efforts are also underway to modernize NOAA's property tracking and management system to enable more effective management and planning for NOAA's equipment and other personal property needs. These efforts have enabled NOAA to address the property-related findings in recent agency financial statement audits.

Office of the Chief Financial Officer

The Chief Financial Officer (CFO) serves as the principal financial manager for an organization whose appropriated resources approach nearly $4 billion and whose recorded capital asset value exceeds $5 billion. The CFO's Office has the responsibility under the CFO Act to provide the leadership necessary for NOAA to obtain a yearly-unqualified opinion in the audit of its consolidated financial statements. The CFO directs the activities of the Budget and Finance Offices. Both the Budget and Finance Offices perform studies using methods and procedures analysis, and systems and organizational analysis to provide support to senior management in making executive decisions to ensure operational efficiencies within NOAA.

Budget Office – The Budget Office is responsible for the oversight and management of NOAA's budget process. The Budget Office assists senior management, line, program, and staff offices in the formulation of NOAA's budget. It develops overall guidance, reviews proposals, and prepares supporting justification and documentation. This includes coordinating the preparation of NOAA budget submissions to the Department, the Office of Management and Budget (OMB), and the Congress, including data on budget authority, obligations, outlays, permanent positions, and full-time equivalent employment. The Office also provides for the proper allocation and control of the execution of all budgetary resources as required under the Congressional Budget and Impoundment Act of 1974 (31 U.S.C. 11) and related statutes, and as specified by the Office of Management and Budget (OMB). The Budget Office also maintains a staff that focuses on outreach and communication, particularly with the staff of Congressional Appropriations committees, as well as other Executive Branch agencies.

- **Corporate Financial Management Division** - The Corporate Financial Management Division (CFMD) provides NOAA with improved financial management for agency-wide administrative and financial support services. NOAA is continuing to build on the Activity Based Cost/Management (ABC/M) initiative begun in FY 2002 to improve the efficiency, management and performance of its corporate services. Activity and unit cost data have been captured since FY 2003, providing the basis for developing cost trends for each business line. This data will be utilized to develop th FY 2008 budget request. Implementing ABC/M will provide business managers with cost data that can be measured, tracked and controlled.

Finance Office – The Finance Office performs the full spectrum of accounting services and financial reporting NOAA-wide and works to ensure that NOAA's consolidated financial statements and reports accurately reflect NOAA's fiduciary status at the end of the fiscal year, as required of all government agencies under the CFO Act of 1990. It operates NOAA's financial management system to ensure that NOAA's managers have access to timely financial data necessary to make informed programmatic decisions. The Finance Office is also responsible for ensuring that NOAA's bills are paid in a timely manner and that receivables are billed promptly.

Office of Human Resources

NOAA's employees are its most important asset. Their competence, creativity, commitment, diversity, and innovation are vital to accomplishment of the NOAA mission and the Nation's interests. The NOAA Office of Human Resources (HRO) provides policies, programs, and processes that facilitate the recruitment, hiring, development, and retention of a diverse, highly skilled, motivated, and effective workforce capable of accomplishing the Agency's mission.

The HRO provides NOAA-wide leadership to workforce management functions including strategic human capital planning, labor-management and employee relations, performance management and incentive awards, executive resources, distance learning, leadership development, training and career development and human resources data management and automation initiatives. Policy functions include family-friendly workplace practices such as telework, staffing and Demonstration Project guidance. The HRO also serves as the operating human resources office for NOAA and the full range of recruitment, staffing, classification, and management advisory services, retirement and benefits counseling, personnel and payroll processing and partnership with management to carry out NOAA's mission.

Office of Program Analysis and Evaluation

The Office of Program Analysis and Evaluation (PA&E) contributes to the NOAA corporate level management and decision-making process through independent and objective analysis. PA&E evaluates programs relative to NOAA's mission and capabilities and identifies the linkage between program requirements and available resources. PA&E provides a strong analytical foundation for programmatic decisions by evaluating opportunities, establishing priorities, and evaluating process, policy and program alternatives to ensure NOAA's Program is the most efficient and effective. This analysis forms the basis for an integrated NOAA five-year program recommendation, which provides a strong, programmatic baseline for the NOAA budget.

In addition, PA&E prepares independent, unbiased, comprehensive reports and position papers for the Under Secretary, Deputy Under Secretary, and other key leaders, using operational research analysis to present options for implementation of recommendations to ensure programs and policies are compatible with NOAA's organizational structure, functions, and goals.

An integrated, requirements based, fiscally and strategically balanced NOAA Program and credible and relevant analysis that supports sound leadership decisions are PA&E's contribution to a strong corporate NOAA.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

Office of the Chief Information Officer

The NOAA Office of the Chief Information Officer (OCIO) supports all NOAA and DOC programs and missions by providing information technology (IT) policy, planning, management, security, enterprise network services, High Performance Computing, and Homeland Security functions. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

The OCIO develops policies and provides oversight of the implementation of information technology policies as required under the Clinger-Cohen Act of 1996, the Federal Information Management Security Act (FISMA), and the Paperwork Reduction Act within NOAA, statutory and other legal requirements; and Department of Commerce Policies. The OCIO also provides management of NOAA's Homeland Security activities; enterprise network services; administration of the IT Capital Planning and Investment Control process; oversight and funding of High Performance Computing and Communications activities; and Information Technology Security for NOAA's systems.

The Office of the CIO (OCIO) consists of: 1) Planning, Policy, and Analysis Office, 2) Information Technology Operations Office, 3) High Performance Computing and Communications Office, 4) IT Security Office, and 5) Homeland Security Activities.

The OCIO is responsible for:

- Developing and overseeing policies on the acquisition of information technology resources, management of IT projects, information technology security, and the use of IT resources to meet NOAA mission requirements;
- Implementing the High Performance Computing and Communications Act of 1991 through the NOAA High Performance Computing and Communications (HPCC) Program; and coordinating NOAA IT research within the program;
- Coordinating the preparation of NOAA's IT budget;
- Leading the development and implementation of the NOAA IT EA, integrating NOAA's IT Enterprise Architecture into the Department of Commerce's IT EA and OMB's Federal Enterprise Architecture;
- Developing policies for and overseeing implementation of FISMA, DOC security policies, and the NOAA IT Security Architecture, and operation of the enterprise Computer Incident Response Team (CIRT).
- Overseeing NOAA-wide operational IT systems, networks, and services;

- Coordinating all plans, programs and policies regarding homeland security; and plans for continuity of operations and evacuations; ensuring development and execution of plans for continued delivery of services, and developing plans and procedures to promote the safety and security of NOAA's people and facilities.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

Office of Program Planning and Integration

The Office of Program Planning and Integration (PPI) is the driver for the fundamental program and project-management changes that reflect the transition of NOAA to a more corporate and integrated organization. PPI provides NOAA four distinct capabilities. These capabilities are 1) Strategic Planning; 2) Socio-economics; 3) National Environmental Policy Act (NEPA) coordination; and 4) Matrix management.

The PPI manages NOAA's strategic planning process by ensuring that all programs and plans are aligned with NOAA's mission and mandates, regularly solicits input from internal and external stakeholders, and manages NOAA's performance measurement process. PPI ensures that NOAA programs work towards maximizing the benefits of their products and services to our Nation's environment, public safety and economy. NOAA is a leader among federal agencies in ensuring NEPA compliance for endangered and threatened species and living marine resource habitats. PPI has oversight of NOAA NEPA determinations regarding environmental impact statements and environmental assessment. Also, PPI oversees NOAA's transition to a more corporate and integrated organization through Matrix Management. Matrix managed programs will reduce redundancy and leverage resources and deliver better products to stakeholders.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Corporate Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: NOAA Wide Corporate Services & Agency Management					
NOAA Wide Corporate Services & Agency Management Base	95,637	105,081	105,381	114,340	8,959
Commerce Business System (CBS) formerly CAMS	9,856	9,862	9,900	9,900	-
Program Planning and Integration	-	1,972	1,924	1,924	-
Payment to the DOC Working Capital Fund	38,934	33,532	34,425	34,425	-
TOTAL	144,427	150,447	151,630	160,589	8,959
FTE	785	774	775	775	-

Note: The dollars in this table represents budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA Wide Corporate Services and Agency Management (0 FTE, $8,959,000): NOAA requests an increase of 0 FTE and $8,959,000 to support NOAA Wide Corporate Services and Agency Management. This increase maintains current service levels provided by NOAA Staff Offices to the line offices. The requested increase consists of the following:

NOAA-Wide Services (0 FTE and $6,600,000) – NOAA requests an increase of 0 FTE and $6,600,000 to provide necessary NOAA-wide services that are more efficiently provided centrally.

Corporate Services Costs (0 FTE and $2,359,000) – NOAA requests an increase of 0 FTE and $2,359,000 to maintain the current levels of direct administrative, technical, human resources and financial support to NOAA's line offices that is crucial in achieving NOAA's mission. Prior to FY 2005, these services were supported by a corporate assessment against the various line offices. The FY 2005 Appropriation consolidated NOAA Corporate Costs in Program Support.

Proposed Actions

To fully fund NOAA-Wide services for all activities to include administrative services.

Benefits

- Ensure safe working conditions for NOAA employees
- Promote efficient utilization of resources

Performance Goal: Mission Support	FY 2007 without Increase	FY 2007 with Increase
To support NOAA-wide services and administrative activities	Would result in reduced levels of support to NOAA line offices including reduced ability to hire critical positions, and reduced ability to process grant applications in a timely manner.	Adequately support NOAA line offices and programs

Subactivity: Corporate Services
Line Item: Office of Chief Information Officer (CIO)

GOAL STATEMENT:

To support all NOAA and DOC programs and missions by providing information technology (IT) policy, planning, management, security, enterprise network services, High Performance Computing, and Homeland Security functions. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

BASE DESCRIPTION:

The objectives of this line item are to develop policies and to provide oversight of the implementation of information technology policies as required under the Clinger-Cohen Act of 1996, the Federal Information Management Security Act (FISMA), and the Paperwork Reduction Act within NOAA, statutory and other legal requirements; and Department of Commerce Policies. The line also provides management of NOAA's Homeland Security Activities; enterprise network services; administration of the IT Capital Planning and Investment Control process; oversight and funding of High Performance Computing and Communications activities; and Information Technology Security for NOAA's systems.

The Office of the CIO (OCIO) consists of: 1) Planning, Policy, and Analysis Office, 2) Information Technology Operations Office, 3) High Performance Computing and Communications Office, 4) IT Security Office, and 5) Homeland Security Activities.

The OCIO is responsible for:

- Developing and overseeing policies on the acquisition of information technology resources, management of IT projects, information technology security, and the use of IT resources to meet NOAA mission requirements;
- Implementing the High Performance Computing and Communications Act of 1991 through the NOAA High Performance Computing and Communications (HPCC) Program; and coordinating NOAA IT research within the program;
- Coordinating the preparation of NOAA's IT budget;
- Leading the development and implementation of the NOAA IT EA, integrating NOAA's IT Enterprise Architecture into the Department of Commerce's IT EA and OMB's Federal Enterprise Architecture;
- Developing policies for and overseeing implementation of FISMA, DOC security policies, and the NOAA IT Security Architecture, and operation of the enterprise Computer Incident Response Team (CIRT).
- Overseeing NOAA-wide operational IT systems, networks, and services;
- Coordinating all plans, programs and policies regarding homeland security; and plans for continuity of operations and evacuations; ensuring development and execution of plans for continued delivery of services, and developing plans and procedures to promote the safety and security of NOAA's people and facilities.

Base activities support both objectives under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Corporate Services	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Office of Chief Information Officer (CIO)					
IT Security	-	-	-	2,050	2,050
TOTAL	-	-	-	2,050	2,050
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Information Technology Security (0 FTE and +$2,050,000): NOAA requests an increase of $2,050,000 for Information Technology Support Services. Funding will be used to implement, operate, and maintain the NOAA enterprise level IT security architecture. This includes: incident response teams at NOAA's three major campuses, firewalls and intrusion detection at each internet access point (consistent with NOAA's enterprise security and network architectures); proactive patch management, security education and training, and aggressive penetration testing of National Critical systems. Individual programs will still be expected to maintain system-specific security. These funds will provide the enterprise level structure needed to efficiently respond the new IT security architecture requirements. The goal is to improve the management of information resources and to protect the confidentiality, integrity and availability of information in NOAA's network systems.

Statement of Need
This increase will allow NOAA to meet the requirements of the Federal Information Security Management Act (FISMA), OMB Circular A-130 Appendix III, P.L. 100-235 (Computer Security Act), and other Federal mandates. As envisioned by the Clinger-Cohen Act and required by OMB policy, this increase enables NOAA to address the security of its information systems from an enterprise perspective.

Proposed Action

Benefits
NOAA's networks deliver vital weather, climate and water information and services. Improving the security of these networks will enable NOAA to better protect the public's health, safety and property. Specifically, NOAA's networked information systems will benefit from:

- greater flexibility and adaptability in responding to ever changing and increasing IT security threats;
- improvement in the security and reliability of enterprise level information resources;
- an enterprise level structure to efficiently respond to the new IT security architecture requirements;
- a reduction in successful intrusions; and
- increased network and application availability.

Performance Goals and Measurement Data:
This increase supports the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the NOAA Mission Support Goal, particularly as it applies to Information Technology and Administrative Programs and Services.

Performance Goal: Supports All 5 NOAA Performance Goals	**FY 2007 without Increase**	**FY 2007 with Increase**
Decrease ratio of successful to attempted intrusions	No reduction	10% reduction
Availability of Network & Application Services	99% (Cumulative 3+ days outage)	99.9% (<1 day outage)
Number of single points of failure	Network Architecture not implemented -- duplication & inefficiencies exist	Network Architecture implemented eliminating single points of failure
This effort will establish a program to refresh obsolete IT equipment.	NOAA will be required to sustain and operate IT past vendor support periods increasing impact of failure and increasing security risk due to unavailability of vendor patch support	Selected high priority systems will be replaced minimizing impacts of failures and sustaining IT security support, especially patch management.

Subactivity: NOAA Education Program
Line Item: NOAA Education Program

GOAL STATEMENT:

To provide executive direction for the implementation of agency polices to all NOAA and DOC programs and missions. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan. This line item also contains various NOAA educational programs including the Educational Partnership Program with Minority Serving Institutions, the Ernest F. Hollings Undergraduate Scholarship and the Nancy Foster Scholarship Programs.

BASE DESCRIPTION:

The Office of Education and Sustainable Development's (OEd) activities are dedicated to achieving success on NOAA's strategic cross-cutting priorities of promoting environmental literacy and developing, valuing, and sustaining a World-class workforce. OEd consults within NOAA to improve coordination across Line, Program and Staff Offices, while promoting NOAA services and products, and their benefits to the public. OEd also implements targeted education programs on behalf of the Agency. Such activities include administration of the Ernest F. Hollings Undergraduate Scholarship Program, the JASON program and development of Education Partnership Program with Minority Serving Institution (EPP/MSI). These programs are specifically focused on increasing education and training opportunities for individuals pursuing NOAA-related fields of study with the goal of encouraging students to pursue applied research and education in atmospheric and oceanic sciences, and science education. The EPP program funding directly supports the development of NOAA-related research capability in MSIs. The JASON Foundation for Education and the Institute for Exploration/Immersion Institute works toward the development of 4th through 9th grade multi-disciplinary, oceans related products in support of the NOAA Education Plan and priorities identified by the NOAA Education Council.

PROPOSED LEGISLATION:

Propose that Section 214(f) of Division B, Public Law 108-447 be amended to delete the funding provision (one-tenth of one percent of NOAA appropriations) and to provide further that up to $4,000,000 be authorized to be appropriated annually. Propose that Section 210 of Public Law 106-553 be repealed, and that Section 318 of the National Marine Sanctuaries Act, as amended (16 U.S.C. 1445c) be amended to delete the funding provision (one percent of the Marine Sanctuaries appropriation) and to provide further that up to $500,000 be authorized to be appropriated annually.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA Education Program	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: NOAA Education Program					
NOAA Education Program / Education Initiative	10,409	6,283	-	-	-
Hollings Scholarship	-	3,962	-	3,700	3,700
Nancy Foster Scholarship	-	-	-	400	400
Educational Partnership Program/Minority Serving Institutions (EPPMSI)	-	14,201	14,212	14,212	-
Ocean Science Bowl	986	-	-	-	-
JASON Education and Outreach	2,463	2,466	1,000	1,000	-
Bay Watersheds Education & Training Program	2,463	-	-	-	-
BWET Hawaii	1,479	1,480	-	-	-
BWET California	-	1,972	-	-	-
BWET Chesapeake Bay	-	3,452	-	-	-
Hawaii Humpback Education Program	-	1,726	-	-	-
Gulf Coast Exploreum	-	986	-	-	-
Chesapeake Bay Interpretive Buoys	-	493	-	-	-
Narragansett Bay Marine Education (Save the Bay)	492	493	-	-	-
TOTAL	18,292	37,514	15,212	19,312	4,100
FTE	12	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Ernest F. Hollings Scholarship Program (0 FTE and $3,700,000): NOAA requests an increase of 0 FTE and $3,700,000 to provide scholarships and program administration for the Ernest F. Hollings Scholarship program.

Background

Since NOAA was established as a science Agency in 1970, its scope of responsibility has included education through the mandates of individual NOAA programs (e.g., National Estuarine Reserves System, National Marine Sanctuary Program, and National Sea Grant College Program). The Hollings Scholarship was created in 2005. The purposes of the program include: (1) to increase undergraduate training in oceanic and atmospheric science, research, technology, and education and foster multidisciplinary training opportunities; (2) to increase public understanding and support for stewardship of the ocean and atmosphere and improve environmental literacy; (3) to recruit and prepare students for public service careers with the National Oceanic and Atmospheric Administration and other natural resource and science agencies at the Federal, state and local levels of government; and (4) to recruit and prepare students for careers as teachers and educators in oceanic and atmospheric science and to improve scientific and environmental education in the United States.

Statement of Need

For FY07, OEd requests $3,700,000 and no new FTE. These funds will allow OEd to anticipate and plan for the level of program support for scholarships and program administration under the Ernest F. Hollings Scholarship program. Currently this program is administered through a tax which is distributed across all NOAA programs. The task of administering this tax is both time consuming, administrative difficult and can lead to funding shortfalls in other programs.

Proposed Actions

Provide scholarships and program administration under the Ernest F. Hollings Scholarship program. The President's Budget requests continuing support for this program, but requests that funds be appropriated in a dedicated funding line.

Benefits

110 scholars received Ernest F. Hollings Scholarship awards in FY 2005.
Scholars represented 37 states and Puerto Rico through their location of residence:
AK(1), AL(4), AZ(1), CA(6), CT(3), DE(1), FL(7), GA(3), HI(3), ID(1), IL(3), IN(2), KY(1), LA(2), MA(2), MD(6), ME(2), MI(1), MN(2), MO(4), MS(1), NC(6), NE(1), NJ(1), NV(1), NY(6), OH(2), OR(3), PA(7), RI(1), SC(4), TN(2), TX(3), UT(1), VA(3), WA(7), WI(4), and PR(1)
3 additional states were represented by the location of the scholars' institutions (current and anticipated institution of enrollment during award initiation):
NH, OK, and VT

- Maximum award benefits total $28,425:
- 2 years of academic support (up to $8,000 per 9-month academic year)
- Stipend during a 10-week, full-time summer internship ($650 per week)
- Housing subsidy for scholars who do not reside at home during the summer internship
- Travel expenses for attendance and participation at a Hollings scholarship program conference

Performance Goals and Measurement Data
This program change supports the Department of Commerce Strategic Goal of "Observe, protected, and manage the Earth's resources to promote environmental needs." This increase also supports implementation of the US Ocean Action Plan and the NOAA Education Plan and directly supports all NOAA Goals and the following performance measures:

Performance Goal: All	**FY 2007 without Increase**	**FY 2007 with Increase**
Percentage of program participants that graduate with a degree in NOAA-related fields	Inability to provide smooth administration of scholarships and program	Ensure program support for scholarships and program administration
Percentage of program participates that pursue graduate education in NOAA-related fields	Inability to coordinate NOAA's higher education activities to strengthen future workforce	Promote development of highly trained workforce

Nancy Foster Scholarship Program (0 FTE and $400,000): NOAA requests an increase of 0 FTE and $400,000 to provide scholarships and program administration for the Dr. Nancy Foster Scholarship program.

Background
As authorized under the National Marine Sanctuaries Act (16 U.S.C. 1431 et seq.), 1 percent of the total appropriation for the National Marine Sanctuary Program are dedicated annually to fund the Dr. Nancy Foster Scholarship program.

Dr. Nancy Foster Scholarships provide support of up to $32,000: a 12-month stipend of $20,000, in addition to an annual cost-of-education allowance of up to $12,000. A maximum of $64,000 may be provided to masters students (up to two years of support) and up to $128,000 may be provided to doctoral students (up to four years of support).

Statement of Need

For FY07, OEd requests $400,000 and no new FTE. These funds will allow OEd to anticipate and plan for the level of program support for scholarships and program

Proposed Actions

Provide scholarships and program administration under the Dr. Nancy Foster Scholarship program. Establish a line item for dedicated to this program and decoupling the funding available from annual fluctuation of NOAA appropriations. It will also provides dedicated funds for this programs that does not impact the level of funding allocated to other NOAA line items.

Benefits

Promote development of a highly trained, technologically capable workforce.

Performance Goals and Measurement Data

This program change supports the Department of Commerce Strategic Goal of "Observe, protected, and manage the Earth's resources to promote environmental needs." This increase also supports implementation of the US Ocean Action Plan and the NOAA Education Plan and directly supports all NOAA Goals and the following performance measures:

Performance Goal: All	**FY 2007 without Increase**	**FY 2007 with Increase**
Percentage of program participants that graduate with a degree in NOAA-related fields	Unable to provide scholarships and program administration	Ensure program support for scholarships and program administration
Percentage of program participates that pursue graduate education in NOAA-related fields	Inability to coordinate NOAA's higher education activities to strengthen future workforce	Promote development of highly trained workforce

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Subactivity: Facilities
Line Item: NOAA Facilities Management, Construction and Maintenance

GOAL STATEMENT:

To provide an effective and efficient Facilities Management program to keep facilities in well-maintained condition, return substandard facilities to their full potential, construct and renovate facilities to meet mission needs, and, dispose of facilities not required by mission need. In addition, the Facilities Program provides for coordinated capital investment, panning and execution of NOAA facility construction projects.

BASE DESCRIPTION:

NOAA Facilities Management, Construction and Maintenance

The Facilities Management and Construction Program provides program direction and oversight to NOAA's major construction program and has been the focal point for facility master planning; project planning formulation and development; and project management oversight to support critical NOAA mission requirements. Funds in this line item support an integrated capital investment planning process; integrated facility condition inspection program, systems and technology tools to enable maximum efficiency in project and facility management planning; and investments required to support repair and modernization of NOAA's facilities.

As the NOAA-owned facilities continue to age, investments in maintenance, repairs and modernization must remain a priority. NOAA's capital assets, totaling more than 400 leased facilities are valued at nearly a billion dollars. Many facilities are well past their useful lives and in need of repair or replacement to ensure that the facilities remain viable in support of NOAA's programs. This program provides funding to conduct facility condition inspection, and supports investments in necessary facility repairs and modernization. This line item also includes funds needed to support operations at NOAA's new state-of-the-art laboratory building in Boulder, Colorado, and to support operation and maintenance expenses for NOAA's Western Regional Center (WRC) in Seattle, Washington. These facilities house organizations from four NOAA line organizations (OAR, NESDIS, NMFS, and NWS) as well as NOAA's program support units for the region. The work conducted in Boulder and Seattle is necessary for NOAA's climate, weather research and support services. Also included in the NOAA Facilities Management, Construction and Maintenance line item is funding for safety training for NOAA personnel working at sea, in order to comply with international safety guidelines in the Standards for Training Certification and Watchkeeping.

Project Planning and Execution

The OCAO re-organization implemented in 2005 established a centrally-managed and integrated national project construction and construction grant program. The CAO has responsibility for policy development and guidance, long-term facility master planning, and construction program, execution (for new facilities, as well as repair and modernization projects). The CAO organization is responsible managing the total project life-cycle for facility construction and modernization projects--including environmental/safety projects.

In FY07, funds will support strategic facility planning and modernization, effective project planning, and management of facility modernization projects. The facilities program supports achieving the Strategic Plan outcomes of improved safety and facility condition indices, and a sustainable and strategic facilities master planning process with a 5 to 10 year planning horizon and specifically promotes progress toward meeting the objective of increasing the number of facilities with improved collocation of NOAA services and partners. A robust facilities capability should lead to lower cost of occupancy and facilities that better meet requirements in support of the NOAA mission goals.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: NOAA Facilities Management, Construction and Maintenance					
NOAA Facilities Mgmt & Construction (previously Maintenance, Repairs & Safety)	7,392	3,981	5,049	14,444	9,395
NOAA Wide Facilities Maintenance (consolidated)	17,743	-	-	-	-
Boulder Facilities Operations (C)	3,464	3,465	3,479	3,479	-
Boulder Facilities Operations (WW)	630	630	633	633	-
Boulder Facilities Operations (MS)	406	406	407	407	-
Western Regional Center Operations & Maintenance	689	-	-	-	-
TOTAL	30,324	8,482	9,568	18,963	9,395
FTE	2	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA Facilities Management and Modernization (0 FTE and +$9,395,000): NOAA requests an increase $9,395,000, for a total of $18,963,000 to support the NOAA Facilities Management and Modernization program. This request provides crucial funding for new and planned facility repair and maintenance projects to address facility conditions affecting either employee safety or mission-operational readiness.

Statement of Need

NOAA owns more than 440 facilities that support essential NOAA operations and programs. These facilities are aging, with more than 32 facilities over 50 years old. NOAA's facilities are often subject to extremes of climate and weather, and are therefore more prone to unplanned repairs, and investments to maintain modern facilities. The gap identified for FY 2007 in terms of current backlog of identified repair and modernization projects is in excess of $50 million, and is growing. Failure to support investments in necessary facility repairs will place employees at increasing risk of unsafe working conditions, and threaten mission operational readiness. As NOAA's facilities age, and as operational requirements increase, the demands of keeping present facilities and structures habitable and safe becomes increasingly costly.

Proposed Actions

Support needed repairs and modernization investment in NOAA facilities. Investments will be targeted using data from NOAA's recently instituted annual facility condition assessment system, and will target the most at-risk, and unsafe conditions and facilities.

Benefits

- Safer working conditions for NOAA employees
- Sustainable operations and programs conducted in NOAA facilities
- Avoidance of more costly and catastrophic repairs, including the need to replace facilities prematurely due to deteriorating facility conditions

Performance Goals and Measurement Data

This program change supports the Department of Commerce Strategic Goal of "Observe, protect and manage the Earth's resources to promote environmental needs." This increase will also support the President's Management Agenda, Executive Order 13327, Federal Real Property Asset Management, and the Mission Support goal in NOAA's Strategic Plan.

Performance Goal: Mission Support	FY 2007 without Increase	FY 2007 with Increase
Percentage of NOAA-owned facilities at a "Fair" or better facility condition index (FCI)	Unable to maintain well-maintained facilities with repair for extended life cycle Inability to sustain maintenance projects addressing facility conditions	Maintenance of facilities Improve facility condition through completed maintenance projects Ensure safe working conditions

Subactivity: Facilities
Line Item: Environmental Compliance & Safety

GOAL STATEMENT:

To provide a safe and environmentally compliant working environment, in the most economical, efficient and effective manner.

BASE DESCRIPTION:

The NOAA Environmental Compliance and Safety program provides positions and activities necessary to: comply with all existing federal, state, and local laws, regulations and safety requirements; and identify environmental compliance and safety issues requiring remediation. NOAA has identified a remaining backlog of more than $2 million in environmental compliance and safety projects, and expects this estimate will grow as a comprehensive facility assessment program unfolds. The backlog is in addition to NOAA's ongoing projects to ensure compliance with applicable environmental and safety laws. NOAA continues to implement a management system to increase awareness, oversight and assessment; and ensure compliance with applicable laws and regulations.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Facilities	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Environmental Compliance & Safety					
Environmental Compliance	2,957	2,367	2,359	4,046	1,687
TOTAL	2,957	2,367	2,359	4,046	1,687
FTE	16	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Environmental Compliance and Safety (0 FTE and +$1,687,000): NOAA requests an increase of $1,687,000, for a total of $4,046,000, for NOAA's Environmental Compliance, Health and Safety Programs. Funds will be used to maintain a safe and environmentally compliant work environment as required by Federal, state and local laws, and address the backlog of environmental cleanup projects.

Statement of Need

This funding will allow NOAA to continue to address deficiencies in the following areas: 1) inventory, upgrades/replacements, and Operations & Maintenance (O&M) plans for all hazardous material storage tanks; 2) inspection, abatement/encapsulation, and O&M plans for all asbestos and lead-based paint materials; 3) provide workplace employee training; 4) provide required employee and facility safety equipment; 5) provide facility safety inspections; and 6) provide program support at field locations. Efforts focus on the identification of operational and facility deficiencies, implementing corrective actions and improving environmental compliance and health and safety in the NOAA workplace. NOAA strives to ensure that its facilities and operations are in compliance with all laws and regulations. Additionally, the funding enables NOAA to reduce the risk of incurring regulatory citations that could result in financial penalties, employee civil or criminal citations, or both. These new requirements are in addition to the environmental compliance basic program requirements.

Proposed Actions

- Fund necessary investments to improve NOAA's management of hazardous materials at its facilities.
- Develop and provide enhanced employee training on the proper use, maintenance, and disposal of hazardous materials at NOAA work sites.

Benefits

- Compliance with applicable environmental and safety laws by ensuring that hazardous material risks are identified and mitigated.
  Safer working conditions for NOAA employees

Performance Goals and Measurement Data

This program change supports the Department of Commerce Strategic Goal of "Observe, protect and manage the Earth's resources to promote environmental needs." This increase will support the Mission Support goal in NOAA's Strategic Plan.

Performance Goal: Mission Support	FY 2007 without Increase	FY 2007 with Increase
Increase number of safety and environmental compliance assessments completed, and number of "findings" timely mitigated or remediated	Deficiencies in facilities and operations Noncompliance with all laws and regulations	Adequate safe and environmentally compliant work environment

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Subactivity: Marine Operations & Maintenance and Aviation Operations
Line Item: Marine Operations & Maintenance

GOAL STATEMENT:

To operate a fleet of vessels that are appropriately designed, equipped, and outfitted to safely collect hydrographic and coastal-assessment data; conduct fishery scientific and survey operations; conduct sustained oceanographic and atmospheric data collection in various marine environments; and to collect data through outsourced ship support. The vessels have the unique operating capabilities to: 1) provide the measurements and observations needed to protect, restore, and manage the ecosystem; 2) understand climate variability and change; 3) provide weather and water information; and 4) support the nation's commerce by providing information for safe and efficient transportation. Marine Services' goals also include: 1) provide centralized management of NOAA's Commissioned Officer Corps; 2) provide centralized management of NOAA's operational diving program; 3) manage NOAA's Teacher at Sea program; 4) provide centralized guidance for ship and aircraft outsourcing; and 5) provide centralized guidance for NOAA's small-boat safety program.

BASE DESCRIPTION:

Marine Services

The objectives of this line item are to:

- Ensure the operational readiness and maximum capability of the NOAA fleet to support present and future at-sea requirements for NOAA programs.
- Provide properly trained personnel, fuel, stores, laboratory and deck equipment, and other scientific equipment necessary to meet user requirements and schedules.
- Develop, with the guidance of the Platform Allocation Council, which is comprised of NOAA's Deputy Assistant Administrators and the Director of OMAO, annual ship-time allocation schedules based on program requirements.
- Provide centralized management and coordination, scheduling, port services, operation procedures, and engineering support for the NOAA fleet.
- Safely operate the NOAA fleet, provide guidance and support for effective outsourcing, and outsource where appropriate.
- Train and qualify NOAA personnel for diving to ensure safe and effective operations.
- Train and certify NOAA Corps officers, crew, and scientists in at-sea safety requirements for their positions according to the Standards of Training, Certification and Watchkeeping for Seafarers and the International Maritime Organization conventions.
- Provide Commissioned Officers trained as engineers and scientists in NOAA program disciplines to provide mobile operational and other support.
- Provide oversight and support to enhance safety of NOAA's small-boat operations.

Marine Services' funding provides centralized outsourcing support and provides centralized management for NOAA's fleet of 21 active ships. Additionally, construction of the FSV 3 will be completed in FY 2007; however the ship will not be operational until early FY 2008. These NOAA vessels, ranging in length from 90 to 274 feet, conduct operations that support NOAA's programs in nautical charting, bathymetric mapping, fisheries research, resource assessment, marine environmental baseline assessment, coastal-ocean circulation, and oceanographic and atmospheric research. Using Marine Services' funds in FY 2007, operation of NOAA's vessels and outsourcing will provide approximately 4,650 operating days and 1,000 operating days, respectively to support NOAA's highest priority programs.

The Marine Operations Center (MOC), with the Atlantic and Pacific regional offices located in Norfolk, Virginia, and Seattle, Washington, respectively, and with a small support staff at the home port of most ships, provides regional fleet management, maintenance, stores, supplies, repair facilities, data-processing facilities, operational support, and administrative support for NOAA's ten East and Gulf Coast vessels and eleven West Coast vessels. NOAA vessels are staffed by NOAA Corps Commissioned Officers, Wage Marine employees, and General Schedule technicians. The vessels are deployed for multi-program or specialized use depending on the size, range, laboratory space, equipment, and accommodations necessary to meet requirements. The Class I and II vessels have the size, endurance, and equipment to conduct surveys and investigations in the deep ocean outward from the continental shelf or in remote areas such as Alaska and Antarctica. The smaller Class III, IV, and V vessels are designed for continental shelf and near-shore operations. The programs supported by ships are organizationally housed within NOAA's National Marine Fisheries Services (NMFS), Office of Oceanic and Atmospheric Research (OAR), National Ocean Service (NOS), and National Weather Service (NWS), with occasional support to other NOAA components.

The NOAA Corps supports the fleet and NOAA Line Offices as well. This line item funds the majority of the NOAA Corps payroll, but does not include contributions to Medicare eligible account which is mandated in the FY 2003 Defense Authorization Act, P.L. 107-314.

Marine Services funds also provide diver training, safety standards, certification, technical advice, a standardized equipment program, and the NOAA Diving Manual for NOAA's 400 divers who perform over 15,000 dives annually in support of NOAA's programs. In compliance with domestic and international maritime codes, Marine Services provides safe navigation training and certification to NOAA Corps officers and vessel crew members.

The NOAA Small Boat Safety Program within Marine Services reduces risk to and enhances safety of NOAA employees that operate or work in small boats. The program monitors or conducts small-boat inspections, facilitates small-boat activities by hosting workshops and sharing related information with Line Offices, and provides technical and engineering assistance to Line Offices concerning small boats.

Marine Services funds also support up to 30 teachers per year in the NOAA Teacher at Sea Program and the management of the program. As of FY 05, over 400 teachers have participated in the program. Teachers at the kindergarten through college level are able to work with NOAA scientists on the research vessels in support of NOAA programs.

NOAA Ship RONALD H. BROWN, a state-of-the-art Class I oceanographic and atmospheric research platform, is the largest vessel in the NOAA fleet. With its highly advanced instruments and sensors, RONALD H. BROWN travels worldwide supporting scientific studies to increase our understanding of the world's oceans and climate. Commissioned on July 19, 1997 in its home port of Charleston, South Carolina, RONALD H. BROWN has sailed in the Pacific, Atlantic, and Indian Oceans. The ship was named for a former Secretary of the Department of Commerce, Ronald H. Brown.

NOAA Ship RAINIER is a highly capable platform for conducting coastal hydrographic survey operations. The ship primarily operates in Alaskan coastal waters. It is equipped with an intermediate depth multi-beam swath survey system. RAINIER carries six aluminum survey launches equipped with multi-beam swath and single beam echo sounders and a hydrographic data acquisition system. She also has three small boats providing support to shore stations and dive operations.

NOAA Ship FAIRWEATHER is a hydrographic survey vessel that conducts hydrographic surveys in Alaskan coastal waters. The ship was originally commissioned by NOAA in 1968 and conducted hydrographic surveys until it was deactivated in 1989. It was reactivated in 2004 and is homeported in Ketchikan. The ship is equipped with the latest in hydrographic survey technology: multi-beam survey systems; high-speed, high-resolution side-scan sonar; and an on-board data-processing server.

NOAA Ship KA‘IMIMOANA primarily supports the research programs of NOAA's Tropical Atmosphere-Ocean (TAO) Project. These programs are designed to improve our understanding of the role of the tropical ocean in modifying the world's climate. The ship deploys, recovers, and services deep sea surface and subsurface moorings that measure ocean currents, ocean temperatures, and atmospheric variables, throughout the equatorial Pacific Ocean. KA‘IMIMOANA also deploys, recovers, and services Tsunami DART (Deep-ocean Assessment and Reporting of Tsunamis) moorings in the south Pacific. In addition to buoy measurements, which are transmitted in real time to the NOAA Pacific Marine Environmental Laboratory (PMEL) in Seattle, the ship measures upper ocean currents, surface salinity, carbon dioxide content, and takes upper air atmospheric soundings while underway. A census of barnacles and marine life that inhabit the recovered moorings and the periodic replacement of undersea hydrophone moorings used to locate undersea spreading centers and hydrothermal vents on the East Pacific Rise are also conducted on an ongoing basis.

NOAA Ship MILLER FREEMAN is a stern trawler capable of a wide range of biological and oceanographic operations. Her research and biological studies provide fisheries stock assessments, marine mammal population densities and ocean dynamics as related to biological production. The wide variety of acoustical instrumentation on MILLER FREEMAN is mounted such that the sensors lie beneath vessel-generated acoustic interference layers. She has a unique electronics laboratory dedicated to operation and analysis of the acoustical instrumentation. Her primary operating areas are the West Coast of the United States and Alaskan waters.

NOAA Ship ALBATROSS IV conducts fishery and living marine resource research in support of NOAA's National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC), Woods Hole Laboratory in Woods Hole, Massachusetts. The ship's normal operating area is the Gulf of Maine, Georges Bank, and the continental shelf and slope from Southern New England to Cape Hatteras, North Carolina. Typical assessment work includes groundfish surveys and Ecosystem Monitoring surveys. Research conducted from ALBATROSS IV provides an understanding of the physical and biological processes that control year-class strength of key economical fish, shellfish and zooplankton species.

NOAA Ship McARTHUR II is a multiple-disciplinary platform capable of a broad range of missions. She conducts oceanographic research and assessments, throughout the eastern Pacific, including the U.S. West Coast and Central and South America. McARTHUR II is involved in studies in several of the National Marine Sanctuaries on the West Coast of the United States. McARTHUR II engages in measurements of chemical, meteorological, and biological sampling for several large-scale programs within NOAA.

NOAA Ship OREGON II conducts fishery and living marine resource studies in support of the research of the National Marine Fisheries Service, Pascagoula Laboratory in Pascagoula, Mississippi. The ship collects fish and crustacean specimens using trawls and benthic longlines and fish larvae and eggs and collects plankton using plankton nets and surface and midwater larval nets. The OREGON II normally operates in the Gulf of Mexico, the Atlantic Ocean, and the Caribbean Sea.

NOAA Ship DAVID STARR JORDAN conducts physical oceanography and biological studies which provide fisheries stock assessments, marine mammal population densities and ocean dynamics as related to biological production for the National Marine Fisheries Service (NMFS) La Jolla Laboratory. She is an integral part of the marine mammal surveys conducted by the Protected Resources Division of NMFS Southwest Fisheries Science Center. These surveys include the Stenella Abundance Research Project (STAR), a three-year study designed to assess the status of dolphin stocks that have been taken as incidental catch by the yellowfin tuna purse-seine fishery in the eastern tropical Pacific. She operates on the West Coast of the United States and eastern tropical Pacific and was named after Dr. David Starr Jordan.

NOAA Ship THOMAS JEFFERSON, formerly Navy ship LITTLEHALES (TAGS-52), is one of a fleet of research and survey vessels used by NOAA to improve our understanding of the marine environment. The ship is homeported in Norfolk, Virginia, and primarily operates along the Atlantic and Gulf coasts, including Puerto Rico and the U.S. Virgin Islands. The primary mission of the THOMAS JEFFERSON is to conduct hydrographic surveys for updating NOAA’s nautical charts. These data are acquired by THOMAS JEFFERSON and its two survey launches equipped with specialized echo sounders, multibeam sonars, and side-scan sonars.

NOAA Ship GORDON GUNTER conducts fishery and marine resource research supporting NOAA's National Marine Fisheries Service, Pascagoula Laboratory in Pascagoula, Mississippi. The ship collects fish and crustacean specimens using trawls and benthic longlines and fish larvae and eggs and collects plankton using plankton nets and surface and midwater larval nets. GORDON GUNTER normally operates in the Gulf of Mexico and Caribbean Sea. The ship was originally built as the USNS RELENTLESS (T-AGOS 18) in 1989 by Halter Marine in Moss Point, Mississippi. RELENTLESS was operated by the Military Sealift Command as an Ocean Surveillance Ship until her transfer to NOAA on March 17, 1993.

NOAA Ship OSCAR ELTON SETTE is a multiple-disciplinary platform capable of a broad range of missions. She primarily conducts fishery and marine resource research supporting NOAA's National Marine Fisheries Service, Honolulu Laboratory in Honolulu, Hawaii. SETTE conducts fisheries assessment surveys, physical and chemical oceanography, marine mammal projects, and coral reef research. She collects fish and crustacean specimens using bottom trawls, longlines and fish traps. Plankton, fish larvae and eggs are also collected with plankton nets and surface and mid-water larval nets. SETTE normally operates in the Northwestern Hawaiian Islands and throughout the central and western Pacific.

NOAA Ship DELAWARE II conducts fishery and living marine resource research in support of NOAA's National Marine Fisheries Service, Northeast Fisheries Science Center's Woods Hole Laboratory in Woods Hole, MA. The ship's normal operating area is the Gulf of Maine, Georges Bank, and the continental shelf and slope from Southern New England to Cape Hatteras, NC. Typical assessment work includes groundfish assessment surveys and Marine Resources Monitoring, Assessment and Prediction surveys. Research conducted from the DELAWARE II provides an understanding of the physical and biological processes that control year-class strength of key economical fish species.

NOAA Ship JOHN N. COBB conducts fishery and living marine resource research in Southeast Alaska and in U.S. Pacific coastal waters, supporting the research of the National Marine Fisheries Service (NMFS) Auke Bay Laboratory in Juneau, Alaska. COBB collects fish and crustacean specimens using trawls and benthic longlines, fish larvae and eggs and collects plankton using plankton nets and surface and mid-water larval nets. COBB is capable of conducting bottom trawls down to depths of over 300 fathoms. Marine mammal surveys of whales, porpoise, and seals are also conducted aboard by scientists from the National Marine Mammal Laboratory in Seattle, Washington.

NOAA Ship RUDE performs inshore hydrographic surveys along the northeast coast in support of NOAA's nautical charting mission, specializing in the location and accurate positioning of submerged hazards to navigation. RUDE is equipped with some of the most technically advanced hydrographic and navigation equipment available, including differential global positioning systems, a multibeam bathymetric sonar system, and side-scan sonar. Aside from hydrographic surveying, RUDE is called upon to assist the U.S. Coast Guard and Navy in search, rescue, and recovery operations. The RUDE located the TWA flight 800 wreckage off of Moriches, NY in 1996, and more recently, located John F. Kennedy Jr.'s plane wreckage off Martha's Vineyard, MA.

NOAA Ship NANCY FOSTER was originally built as a Navy yard torpedo test (YTT) craft. The Navy transferred the vessel to NOAA in 2001, and NOAA outfitted the ship to conduct coastal research along the U.S. Atlantic and Gulf coasts. NANCY FOSTER continues the work of its predecessor, FERREL, in support of NOAA's Office of Ocean and Coastal Resource Management and the National Sea Grant College Program. Operations include the characterization of various habitats in NOAA's National Marine Sanctuaries, pollution assessment, and studies to improve understanding of the connection between marine habitats and estuaries.

NOAA Ship HI'IALAKAI, Hawaiian for "embracing pathways to the sea" and "guiding leaders of the seas", conducts coral reef ecosystem mapping, bio-analysis assessments, and coral reef health and fish stock studies. Scuba diving operations play a major role in scientific operations aboard HI'IALAKAI, and she is well suited to support both shallow and deep-water dive projects. The ship is equipped to carry two to five small work boats for transporting divers to and from working areas, an extensive dive locker to store scientific gear and equipment, and air compressors to fill scuba cylinders. The ship is also outfitted with a three-person, double-lock recompression chamber as an added safety margin for dive-intensive missions in remote regions.

NOAA Ship OSCAR DYSON is the first of four new fisheries survey ships built by NOAA. She is a stern trawler designed with state-of-the-art research ship capabilities. OSCAR DYSON conducts a wide variety of fisheries and oceanographic research. Foremost among her capabilities is acoustic quieting technology that allows sampling of fish populations without altering their behavior.

The ship's primary objective is to study and monitor Alaskan pollock and other fisheries in the Bering Sea and Gulf of Alaska. OSCAR DYSON also observes weather, sea state, and other environmental conditions, conducts habitat assessments, and surveys marine mammal and marine bird populations.

NOAA Ship HENRY B. BIGELOW is under construction at VT Halter Marine, in Pascagoula, Mississippi. HENRY B. BIGELOW is the second of four new Class II fisheries survey ships to be built by NOAA. The ship will eventually replace ALBATROSS IV and continue her fishery and living marine resource research mission.

NOAA Ship CAPABLE (TAGOS-16)/OKEANOS EXPORER will support NOAA's Ocean Exploration program. After conversion, the 224-foot former Navy ship will be NOAA's only ship with a dedicated science-class, deep-ocean robot, or remotely-operated vehicle (ROV). The ship will carry 10,000 meters of umbilical cable, weighing more than 22,000 pounds. Up to 6,000 meters will be used to lower a tow sled close to the ocean floor. Another 30 meters of separate cable will connect the tow sled with a mobile ROV equipped with a robust sampling capability. The long umbilical cable from the ship to tow sled will funnel commands to and collect data and images from the ROV. NOAA's ship for ocean exploration will also be equipped with a hull-mounted, state-of-the-art multibeam mapping sonar system as well as other sampling and surveying instrument systems, and the ship will offer scientists an ROV control center, a mapping lab, a technology center to process scientific data, and standard wet and dry labs.

Fisheries Survey Vessel 3 will be ready to sail in September 2007.

NOAA's fleet includes the ships listed below:

Vessel	Length-Class	Mission	Home Port	Status
RONALD H. BROWN	274 ft. - I	1,4	Charleston, SC	Active
RAINIER	231 ft. - II	3	Seattle, WA	Active
FAIRWEATHER	231 ft. - II	3	Ketchikan, AK	Active
KA'IMIMOANA	224 ft. - III	1	Honolulu, HI	Active
MILLER FREEMAN	215 ft. - II	1,2,4	Seattle, WA	Active
ALBATROSS IV	187 ft. - III	2	Woods Hole, MA	Active
MCARTHUR II	224 ft - III	1,2,4	Seattle, WA	Active
OREGON II	175 ft. - III	2	Pascagoula, MS	Active
THOMAS JEFFERSON	208 ft. - II	3	Norfolk, VA	Active
DAVID STARR JORDAN	171 ft. - IV	2	San Diego, CA	Active
GORDON GUNTER	224 ft. - III	2	Pascagoula, MS	Active
OSCAR ELTON SETTE	224 ft. - III	2	Honolulu, HI	Active
DELAWARE II	155 ft. - IV	2	Woods Hole, MA	Active
JOHN N. COBB	93 ft. - V	2	Seattle, WA	Active
RUDE	90 ft. - V	3	Norfolk, VA	Active
NANCY FOSTER	187ft. – III	14	Charleston, SC	Active
HI'IALAKAI	224 ft. - III	1,4	Honolulu, HA	Active
OSCAR DYSON	208 ft. - II	2	Kodiak, AK	Active
HENRY B. BIGELOW	208 ft. - II	2	TBD	Active
CAPABLE/OKEANOS EXPLORER FSV 3	224 ft. - III	1	TBD	Active

Mission:
1= Oceanographic Research
2 = Fisheries Research
3 = Hydrographic Surveys
4 = Environmental Assessment

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOPSED LEGISLATION:

None.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Marine Operations & Maintenance					
Data Acquisition Base	73,924	94,007	88,167	88,967	800
NANCY FOSTER	542	-	-	-	-
HI'I ALAKAI	4,533	-	-	-	-
OSCAR DYSON and FAIRWEATHER	10,054	-	-	-	-
CAPABLE	18,000	-	-	-	-
Operating Differential for NOAA Ships	-	-	-	4,500	4,500
UNOLS	1,478	-	10	10	-
OE and NOAA Corps Pay Differential	1,971	1,479	-	-	-
Subtotal: Marine Services	110,502	95,486	88,177	93,477	5,300
TOTAL	110,502	95,486	88,177	93,477	5,300
FTE	835	881	881	888	7

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA requests a net increase in this subactivity of 7 FTE and $5,300,000 for a total of 888 FTE and $93,477,000 to promote maritime crew safety and rotation, and to provide operations and maintenance for several of NOAA's newer ships.

Maritime Crew Safety and Rotation (0 FTE and $800,000): NOAA requests an increase of 0 FTE and $800,000 for maritime crew safety and rotation. The amount will enable NOAA to enhance safety aboard NOAA vessels. As "public vessels", NOAA ships are not explicitly required to meet International Maritime Organization (IMO) Requirements for safe operation of ships; however, NOAA follows the USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR (NVIC) NO. 5-99: GUIDANCE REGARDING VOLUNTARY COMPLIANCE WITH THE INTERNATIONAL MANAGEMENT CODE FOR THE SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION (INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE). Compliance with Safety of Life at Sea (SOLAS) conventions will prevent NOAA ships from being potentially detained in foreign ports because of lack of complete certifications and will enable NOAA vessels to meet the intent of industry standards and regulations.

ISM/STCW has three elements of IMO Compliance: Standards of Training, Certification and Watchkeeping (STCW), ISM Compliance with External Audit, and Regulatory Safety Equipment. The average NOAA ship requires approximately 3,500 hours of training in order for its crew to hold the appropriate STCW certificates. In FY 2004, the NOAA fleet expanded from 15 to 18 active ships. By FY 2007, the NOAA fleet will have expanded to 20 active ships. Seagoing positions will have expanded from approximately 350 at the start of FY 2004 to approximately 485 by FY 2007. This represents approximately a 33% increase in the number of ships and a 39% increase in the number of seagoing positions. Factoring in attrition rates of approximately 25% for wage mariners, initial minimum training needs are more than doubled. In addition, most training and certifications are for a fixed time period and must be renewed anywhere from every year to every five years. This results in ongoing training and certification requirements.

The current attrition rate of 25% for NOAA wage mariners does not account for absences due to leave taking or for medical reasons (employee not fit for sea duty (NFFD) or temporarily not fit for duty (TNFFD)): personnel in the TNFFD or NFFD status may return to the ship in only a few days, or they may take up to a year or more to resolve before they are returned to the ship or found permanently not fit for duty (PNFFD) and retired.

Attrition rates are higher on ships that have more arduous schedules (i.e., more days at sea or longer cruises). Due to the high attrition rate and maritime safety standards, NOAA has had to delay sailing various ships until enough crewmembers could be redeployed to those particular vessels, thereby having a negative effect upon ship operating days available to the programs. Due to an increase in the number of days at sea and the lack of adequate crew rotation, crew members are forced to stay at sea longer compared to other maritime organizations such as Military Sealift Command and University National Oceanographic Laboratory Systems (UNOLS). This increased operational tempo (OpTempo) for the wage mariners causes them to work to their maximum physical potential, increasing the potential for safety-related accidents on board NOAA vessels. Furthermore, longer schedules at sea have handicapped NOAA's ability to recruit and retain maritime workers because they can work fewer days at sea elsewhere for greater pay. Lack of adequate crew rotation has significantly hampered adequate staffing of NOAA ships.

The effect of understaffing on a NOAA vessel is that only a few of the approximately 70 ship departments are staffed to the point where they can afford to lose more than one employee. Any loss of personnel, whether it is through attrition, medical emergency, or leave, requires that an alternate be provided to the ship to meet the safe manning level. The number of personnel authorized in each of the complements for the NOAA ships are what could be described by the U.S. Coast Guard as a safe manning level. The number of berths aboard a ship is often a limiting factor on the number of personnel that can sail on a ship. Each of the ships is staffed with personnel who are skilled in maritime disciplines and perform functions in deck, engineering, steward, and survey departments.

Statement of Need

The principal intent of crew safety-training and rotation is to provide sufficient manpower in order to safely navigate; to conduct safe operations; to respond to potential emergencies (fire, accidents, etc.); and to provide adequate maintenance for the NOAA Fleet. In accordance with STCW standards, all persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch must receive a minimum of 10 hours of rest in any 24-hour period. Requiring the crew to work at this pace over a period of several weeks at a time at sea leads to fatigue and safety concerns. Attrition rates currently average 25% for wage marine personnel that serve aboard NOAA ships. For ships that have a more arduous (more days at sea or longer cruises), the rates are even higher.

A recent survey of wage marine personnel clearly indicates that the major concerns among wage marine personnel are pay scales and the limited amount of time to be with their families. Management's plan would introduce additional rotational personnel into the staffing structure to provide increased opportunities for leave taking aboard all NOAA ships along with initiating a prototype "blue/gold" crew rotation for each of NOAA's three primary, seagoing acquisition of data programs (hydrographic surveys, fisheries, and ocean and coastal research programs).

This proposal represents a minimum requirement and will provide an effective rotation for 5.3 ships. Because NOAA's fleet is experiencing a high turnover rate, the plan is to use these positions throughout the fleet to improve time-off availability to as many personnel as possible, with the goal of stemming the departure of well-trained personnel.

Proposed Action

A prototype "blue/gold" crew rotation will be established for each of NOAA's three primary, seagoing acquisition of data program (hydrographic surveys, fisheries, and ocean and coastal research). This initiative would also cover rotational requirements as a result of medical absences and other unexpected personal situations for the existing NOAA fleet. The goal of the program is to improve crew recruitment, retention, morale, training, professional skills, and safety throughout the NOAA fleet by limiting crew deployments to a target range of 200 - 210 operating days (days away from homeport) per year. The wage mariners will decrease the existing 25% attrition rate among wage marine personnel by providing opportunities to take leave, providing relief from arduous ship operations schedules. The wage mariners will help supplement the increase in additional leave days that wage mariners are expected to request while the ships are deployed.

Benefits

NOAA follows the USCG NAVIGATION AND VESSEL INSPECTION CIRCULAR (NVIC) NO. 5-99: GUIDANCE REGARDING VOLUNTARY COMPLIANCE WITH THE INTERNATIONAL MANAGEMENT CODE FOR THE SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION (INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE). Wage mariner and 8,400 hours of training will permit NOAA to comply with SOLAS requirements and to reduce fatigue and lessen risk among the existing personnel. Compliance with SOLAS will prevent NOAA ships from being potentially detained in foreign ports because of lack of complete certifications and will enable NOAA vessels to meet the intent of industry standards and regulations. The augmentation personnel will allow the NOAA Fleet to better meet planned missions and to meet annual sea-day requirements.

Performance Goals and Measurement Data

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.

Performance Goal: Mission Support Maritime Crew Safety and Rotation	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
STCW Training Without Increase	9,900 hours	9,900 hours	9,900 hours	9,900 hours	9,900 hours	9,900 hours
STCW Training With Increase	18,300 hours	18,300 hours	18,300 hours	18,300 hours	18,300 hours	18,300 hours
Crew Attrition Without Increase	25%	25%	25%	25%	25%	25%
Crew Attrition With Increase	25%	25%	23%	23%	23%	23%

Operations for NOAA Vessels (+0 FTE and $4,100,000): NOAA requests an increase of 0 FTEs and $4,100,000 for the additional operational needs of NOAA's new vessels. These ships are newer or more capable replacements to NOAA's fleet over the last two years and have fuel, supply, and crew needs that cannot be absorbed in NOAA's current budget. An associated request of $2,893,000 within the Fleet Planning and Maintenance budget line, addresses the differential in maintenance costs, for a total increase of $6,993,000 for operations and maintenance for the new ships.

The needs for operational funding are listed below:

HI'IALAKAI Operations	$ 1,200,000
OSCAR DYSON Operations	$ 1,700,000
McARTHUR II Operations	$ 400,000
THOMAS JEFFERSON Operations	$ 400,000
HENRY B. BIGELOW Operations	$ 400,000
	$ 4,100,000

HI'IALAKAI is a surplus Navy T-AGOS vessel that was converted to support NOAA's Coral Reef Programs in the Hawaiian Islands. The ship also supports the National Marine Sanctuary Program and is homeported in Honolulu.

Statement of Need

HI'IALAKA, OSCAR DYSON, McARTHUR II, and THOMAS JEFFRSON are new additions to NOAA's fleet and were acquired over the last two years. These ships have higher fuel consumption and supply requirements. ALBATROSS IV is well beyond a vessel's normal life expectancy and cannot be expected to operate much beyond FY 2007 and therefore must be replaced. As the replacement vessel, BIGELOW will need to operate jointly with ALBATROSS IV to avoid introducing errors into fisheries stock estimates. To maintain the consistency and continuity of stock assessments time-series data, it is imperative to replace the capabilities of ALBATROSS IV with BIGELOW's technology that has been calibrated with the older vessel by performing side-by-side surveys. Time-series assessments form the very foundation of NMFS' stock assessment and fisheries management process. Failure to replace the existing fleet with calibrated platforms will result in the loss of this time series data. This will necessitate implementing precautionary approaches to fisheries management, perhaps reducing the allowable commercial and recreational take because of the lack of sufficient, scientifically valid assessment data. Collection of at-sea information on fisheries and marine mammals is necessary for the development of regulations governing commercial and recreational fishing activities to sustain fisheries.

Proposed Action

Additional funding will enable NOAA to operate HI'IALAKA and OSCAR DYSON for a full year. NOAA also will be able to operate McARTHUR II and THOMAS JEFFRSON, which are larger and more expensive to operate than the vessels they are replacing. HENRY B. BIGELOW and ALBATROSS IV will be operated side-by-side on annual stock-assessment cruises to calibrate the new vessel with the time-series stock data collected for many years with ALBATROSS IV.

Benefits

NOAA will be able to operate HI'IALAKA and OSCAR DYSON for a full year. These vessels are larger and far more capable than the ships they will replace. Although they are somewhat more expensive to operate on a day-to-day basis, they will provide data a t a reduced unit cost, and also avoid large overhaul costs incurred by the older ships they are replacing. Implementing advanced technologies incorporated in FSVs will enable NOAA to collect the best scientifically valid assessment data. FSVs are acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions, including surveys using many different methods of fishing and physical and biological oceanography. BIGELOW will provide high-quality data necessary to establish allowable amounts of fish that can be taken commercially or recreationally. The science-based decisions from this data will have an economic impact on the participants in the fisheries and the coastal communities that derive benefits from commercial and recreational fisheries.

Performance Goals and Measurement Data

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.

Performance Goal: Supports All 5 NOAA Performance Goals	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
HI'IALAKAI Without Increase	200 dry dock	100 partial-year funding	100 partial-year funding	100 partial-year funding	100 partial-year funding	100 partial-year funding
HI'IALAKAI With Increase	200 dry dock	100 partial-year funding	250	250	250	250
OSCAR DYSON Without Increase	220 dry dock	110 partial-year funding	110 partial-year funding	110 partial-year funding	110 partial-year funding	110 partial-year funding
OSCAR DYSON With Increase	220 dry dock	110 partial-year funding	250	250	250	250
McARTHUR II Without Increase	190 conversion	220	220	220	220	220
McARTHUR II With Increase	190 conversion	220	250	250	250	250
THOMAS JEFFERSON Without Increase	200 dry dock	215	215	215	215	215
THOMAS JEFFERSON With Increase	200 dry dock	215	235	235	235	235
HENRY B. BIGELOW Without Increase	N/A	N/A	175	220	220	220
HENRY B. BIGELOW With Increase	N/A	N/A	200	250	250	250

Fisheries Survey Vessel 3 (FSV 3) Operations (+7 FTE and $400,000): NOAA requests 7 FTE and $400,000 for first-year operation of NOAA's third vessel in a four-vessel construction contract. The funds would permit NOAA to fill essential crew positions. These essential crewmembers must be in place and on board during tests and trials prior to acceptance of the ship in September, 2007, in order to work with the shipyard contractor on testing and troubleshooting, to acquire advance training and to hire the balance of the crew later.

An associated request of $100,000, within the Fleet Planning and Maintenance budget line, addresses FSV 3's first-year maintenance costs, for a total request of $500,000 for operations and maintenance in FY 2007. NOAA also is proposing an adjustment to base to transfer 26 FTEs to accompany this request.

FSV 3 will join the Alaska and North East FSVs in providing high-quality series surveys and data collection for the NOAA Fisheries Southeast Science Center Mississippi Laboratory. FSV 3 is scheduled to be delivered fourth quarter, FY 2007. The vessel will be homeported in Pascagoula, Mississippi.

Statement of Need

Collection of at-sea information on fisheries and marine mammals is necessary for the development of regulations governing commercial and recreational fishing activities to sustain fisheries. FSV 3 will provide high-quality data necessary to establish allowable amounts of fish that can be taken commercially or recreationally. The science-based decisions from this data have an economic impact on the participants in the fisheries and the coastal communities that derive benefits from commercial and recreational fisheries.

Proposed Action

NMOA proposes to hire and train crew during the ship's shakedown period in FY 2007, which is required before actual delivery of the ship.

Benefits

FSVs are acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions, including surveys using many different methods of fishing and physical and biological oceanography.

Performance Goals and Measurement Data

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports all five NOAA Performance Goals and the following performance measure.

Performance Goal: Mission Support Fisheries Survey Vessel 3 (FSV 3) — operating days	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	N/A	N/A	N/A	N/A
With Increase	N/A	N/A	N/A	250	250	250

Subactivity: Marine Operations & Maintenance and Aviation Operations
Line Item: Fleet Planning and Maintenance

GOAL STATEMENT:

To maintain NOAA's ships that support fisheries, survey, and oceanographic research and to plan for future ship-support capability to allow requirements for necessary data collection to be met effectively.

BASE DESCRIPTION:

The objectives of this line item are to:

- Design, develop, and engineer ship systems in order to ensure cost-effective operations and to meet user requirements and safety/legal regulations.
- Maintain existing ships to ensure their reliable operations.
- Provide general maintenance and repair of NOAA ships.

Fleet Maintenance and Planning is the second component of OMAO's Marine Operations and Maintenance, and the current program supports maintaining the reliability of the 21 active ships in NOAA's fleet. Adequate maintenance and repairs are required to allow NOAA ships to meet the rigorous demands of NOAA's programs. This funding will provide for general maintenance and repair of NOAA ships and for development of plans for future ship support.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Fleet Planning and Maintenance					
Fleet Planning and Maintenance	11,828	14,955	14,159	17,151	2,992
New Vessels (O Dyson, N Foster, Fairweather, Hi'ialakai	1,971	-	-	-	-
TOTAL	13,799	14,955	14,159	17,151	2,992
FTE	-	3	3	3	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA requests a net increase in this subactivity of 0 FTE and $2,992,000 for a total of 3 FTE and $17,152,000 to provide maintenance for NOAA's ships.

Maintenance for NOAA's Vessels (+0 FTE and $2,893,000): NOAA requests 0 FTE and $2,893,000 for the additional needs of NOAA's vessels. These additional maintenance costs are associated with the increase in operating days provided for in an associated request for operational costs in the Marine Services budget line of $4,100,000,for a total increase of $6,993,000 for operations and maintenance for NOAA's ships.

The maintenance costs for ships are listed below:

HI'IALAKAI Maintenance	$ 798,000
OSCAR DYSON Maintenance	$ 798,000
McARTHUR II Maintenance	$ 99,000
THOMAS JEFFERSON Maintenance	$ 99,000
HENRY B. BIGELOW Maintenance	$ 99,000
	$ 1,893,000
Maintenance/Supplies for other NOAA vessels	$ 1,000,000
Total	$ 2,893,000

Descriptions of the new vessels are given in the Marine Operations section above.

Fisheries Survey Vessel 3 (FSV 3) Maintenance (+0 FTEs and $99,000): NOAA requests 0 FTE and $99,000 for first-year maintenance of NOAA's third vessel in a four-vessel construction contract. The vessel must be ready to sail in September, 2007, in order to provide a full year of operation in the following fiscal year. An associated request of $400,000, within the Marine Operations budget line, addresses FSV 3's first-year operational costs, for a total request of $499,000 for operations and maintenance in FY 2007. This FY 2007 request will cover costs for repairs, maintenance, and spare parts.

Subactivity: Marine Operations & Maintenance and Aviation Operations
Line Item: Aviation Operations

GOAL STATEMENT:

Provide NOAA with modern, integrated aircraft observation platforms equipped with comprehensive data-collection systems in support of NOAA's missions to describe and predict changes in the Earth's environment, conserve and wisely manage the Nation's coastal and marine resources, and collect and process quality research and severe-weather data.

BASE DESCRIPTION:

Aviation Operations

The objectives of this subactivity are to:

- Provide NOAA with centralized aircraft management and coordination of a fleet of 12 aircraft. Acquire, modify, maintain, and operate NOAA's aircraft with a combined work force of specially trained civilians and officers of the NOAA Commissioned Corps. Operate the aircraft worldwide, over open ocean, mountains, and coastal wetlands to meet NOAA requirements.
- Maintain NOAA's aircraft at a high level of airworthiness and operating standards to ensure optimum safety along with standardization of systems. Operate the aircraft as public-use aircraft and subject to Federal Aviation Regulations with respect to the use of airspace, control of air traffic, and aircraft registration.
- Develop and operate prototype and operational, scientific-research instrumentation aboard aircraft; conduct applied research to ensure credibility and validity of data collected; recommend and implement specialized modifications, equipment or personnel for particular missions or projects.
- Develop, with the guidance of NOAA's Platform Allocation Council, which is comprised of NOAA's Deputy Assistant Administrators and the Director of OMAO, annual aircraft-time allocation schedules based on program requirements.
- Provide centralized expertise in aviation safety to locate and arrange safe commercial aviation services for NOAA programs using outsourced aircraft.

Aircraft Services: The Aircraft Operations Center (AOC), located on MacDill Air Force Base, in Tampa, Florida, ensures the availability and readiness of NOAA's uniquely configured aircraft with enhanced capabilities for research and data collection and required data processing. These flying platforms support the scientific community in research and data collection used in the support of NOAA's Strategic Goals.

OMAO also ensures that outsourced aviation operations are conducted safely by providing technical support and services to NOAA programs for chartered aircraft.

The Aircraft Services base will provide 1,975 flight hours in FY 2007. NOAA's two WP-3D hurricane hunters and G-IV high-altitude jet will be mission-ready with instruments and personnel for hurricane research, reconnaissance and surveillance the hurricane season from June 1 to December 1. The G-IV will also be mission-ready with instruments and personnel to collect data for West Coast winter-storm predictions from December 1 to April 1. The Turbo Commander and Shrike will be mission-ready with equipment and personnel for snow surveys needed for flood forecasts and water management from October 1 to May 1. In the FY 2006 Hurricane Supplemental, NOAA received funds to purchase and modify a third P-3 which will become operational in FY 2008.

NOAA's fleet includes the following NOAA aircraft:

- Lockheed WP-3D Orion - N42RF and N43RF - Workhorses of the NOAA aircraft fleet, the P-3's are among the most advanced atmospheric and environmental research platforms flying today. Their research and navigation systems provide detailed spatial and temporal observations of a wide range of atmospheric and oceanic parameters in support of observations of climate and global changes, severe-weather research, air-quality studies, air-sea interactions, and ocean dynamics. Instrumentation on the WP-3D's includes: C-Band, lower-fuselage radar; X-Band Doppler radar; dropwindsonde atmospheric profiling system; cloud-particle probes; satellite-data-transmission link; cloud physics system; and an aerosol-sampling system.
- Gulfstream G-IV SP - N49RF - NOAA's uniquely configured G-IV jet supports high-altitude research requirements, both for air-quality sampling and investigations of mesoscale features to improve severe-weather predictions in the upper troposphere. The primary mission for this aircraft is providing NOAA with hurricane-surveillance data from atmospheric soundings in the environment surrounding the storm. These data increase the accuracy of computer models used to predict storm tracks. Other missions include data collection for winter-storm research and prediction and clear-air-turbulence research. Instrumentation includes: pressure, temperature, humidity, and navigation sensors; downward-looking radiometer; Global Positioning System (GPS) dropwindsonde; and data-collection systems.
- Dehavilland DHC-6 Twin Otters – N46RF, N48RF and N57RF - The Twin Otters are used to support the Northeast Right Whale Early Warning System and population surveys along the East Coast. They are also used for air-chemistry research, coastal mapping, remote sensing, hurricane-damage assessment, ozone research, Alaska cetatean population studies and other marine mammal surveys, and logistic support. A fourth Twin Otter was purchased in FY 2006 in accordance with the aircraft modernization plan. Instrumentation includes: Observation bubble ports; nose mount for video camera; belly-camera observation port; multiple instrument ports; and satellite communication.
- Lake Seawolf - N64RF - This amphibious aircraft has extended range with external fuel tanks. Bubble windows provide excellent visibility for aerial surveys. This aircraft will be disposed of in FY 2007.
- Cessna Citation II - N52RF - This aircraft is used primarily for instrumentation research and development and to obtain precision aerial, multi-spectral imagery, photography, and survey operational data in support of NOAA's Nautical Charting, Coastal Mapping, and Airport Obstruction programs. Airport obstruction surveys are necessary for flight safety and result in changes to the digital displays of the Federal Aviation Administration (FAA). Additionally, the Citation II flies for storm profiling, post-flood photography, environmental monitoring of the nation's coral-reef systems and natural disaster-damage assessment. Instrumentation includes: dual-mapping camera systems in a modified, pressurized cabin. The unique side-by-side camera layout allows two different film emulsions to be exposed simultaneously in order to determine the height of objects in the photographs. A high-precision GPS receiver allows centimeter accuracy with the use of a different GPS site.

- AC-500S Shrike Commander - N47RF and N51RF - The Shrike Commander is a light, twin-engine aircraft. N47RF is used to support aerial surveys and remote sensing of the national marine sanctuaries. In addition, NOAA uses this aircraft to support the FAA Flight Edit program. The Flight Edit program produces navigation tools that are necessary for flight safety throughout the United States. N51RF is used to conduct snow-water-equivalent surveys throughout the northern U.S. and southern Canada. Sensors aboard the aircraft measure the amount of gamma radiation attenuated by water molecules contained in snow cover. Instrumentation includes: modern navigation equipment; high-capacity, electrical output-capability, precision aerial camera system; and a gamma ray spectrophotometer.
- AC690A Turbo Commander - N45RF - The Turbo Commander supports the Snow Survey program and aerial photography for NOAA's Nautical Charting, Coastal Mapping, and Airport Obstruction programs. Instrumentation includes: Precision aerial camera system and gamma ray spectrophotometer used for Airborne Snow Survey.

The following table provides information on the aircraft fleet for the current program (missions and support fluctuate based on program priorities):

Aircraft	Type	Mission	Location
HEAVY:			
(3) Lockheed WP-3D	4-engine turbo prop	Atmospheric research (OAR) Hurricane reconnaissance (NWS) Ocean winds (NESDIS)	MacDill AFB, FL
MID:			
(1) Gulfstream G-IVSP	2-engine turbo jet	Hurricane surveillance (NWS) Winter storm reconnaissance (NWS)	MacDill AFB, FL
LIGHT:			
(4) Dehavilland Twin Otter DHC-6	2-engine turbo prop	Aerial surveys (NMFS) Atmospheric research (OAR) Coastal ecology remote sensing (NOS)	MacDill AFB, FL
Lake Seawolf Amphibian	1-engine reciprocating	Aerial surveys/training (sanctuary support)	Santa Barbara, CA
Cessna Citation II	2-engine turbo jet	Photogrammetry (NOS) High altitude atmospheric research (OAR)/multi-spectral scanner (NOS)	Silver Spring, MD
Rockwell Shrike Commander/AC500S	2-engine reciprocating	Snow survey (NWS) photogrammetry (NOS) aerial surveys/remote sensing sanctuary support (NOS)	Minneapolis, MN (N51RF) MacDill AFB, FL (N47RF)
Jet Prop Commander AC/695	2-engine turbo prop	Snow survey (NWS)	Minneapolis, MN

Base activities support both objectives under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Aviation Operations					
Aircraft Services	18,334	20,916	18,547	19,227	680
TOTAL	18,334	20,916	18,547	19,227	680
FTE	107	102	102	102	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

G-IV Instrumentation Support (0 FTE and $680,000): NOAA requests 0 FTE and $680,000 for a total of 102 FTE and $19,227,000 to support the G-IV instrumentation upgrade. The NOAA G-IV aircraft is being modified by adding extensive instrumentation in order to provide data to the National Weather Service (NWS) Hurricane Weather Research and Forecasting (HWRF) computer model as provided in both the FY 2005 and 2006 Hurricane Supplementals. Funding for the instrumentation upgrade did not include ongoing support, operation, and data analysis. Required support includes an in-flight data operator, personnel for data quality control, and data assimilation for the HWRF model. Of the requested increase, $320,000 will provide for maintenance, repair, and continued modification of new sensors and systems. The amount of $120,000 will support OAR's Science and Technology Infusion Program within Atlantic Oceanographic and Meteorology Laboratory/Hurricane Research Division, providing operational support of Hurricane Weather Research and Forecasting, data missions, and continued software development of data flow subsystems. The amount of $240,000 will ensure the real-time data delivery, formatting, assimilation, and quality control of observations from the aircraft in support of NWS' National Center for Environmental Prediction/Environmental Modeling Center Environmental Modeling Program.

The FY 2005 hurricane supplemental provided $3,500,000 in PAC funds; however, no ORF funding for support was provided. The supplemental funds and the instrumentation funds previously appropriated provide the instrumentation and airframe modifications required to gather the data. This FY 2007 request provides the operational and maintenance support required to operate and maintain the instrumentation on the aircraft, to process and transmit the data from the aircraft, and to receive, quality control, format, and submit the data for assimilation into the HWRF model. These activities involve personnel from AOML Hurricane Research Division to process the data on the aircraft, from the NMAO Aircraft Operations Center to maintain and operate the instrumentation on the aircraft, and from the NWS National Center for Environmental Prediction to receive, quality control, format, and assimilate the data into the HWRF model.

This will be an ongoing operational requirement that will continue every year during the hurricane season as the G-IV flies hurricane missions. This is a new data stream required by the new HWRF numerical model produced by the new instrumentation acquired by the PAC-funded G-IV instrumentation upgrade.

Statement of Need

Funding was provided in the PAC account from FY 2003 through FY 2005 to provide an instrumentation upgrade on the NOAA G-IV aircraft to measure and transmit data defining the three-dimensional windfields in the vortex of developing hurricanes. The $680,000 request will leverage the instrumentation upgrades that were installed using FY 2003 and FY 2004 funds. The support requested in the ORF account will provide the personnel required on the aircraft to operate and maintain the instrumentation and to provide data editing and quality control of the data prior to its transmission. It also provides personnel at the National Center for Environmental Prediction for reception of the data and the assimilation of the data into the numerical models. Past requests for funding included only PAC funding for the acquisition of the instrumentation and modification of the aircraft to carry it. FY 2007 will be the first year that the instrumentation will be available for use during evaluation and testing of the HWRF model and, therefore, the first year that operational support positions are required. The HWRF model is scheduled to be operational in FY 2008, so support staff is required in FY 2007 in order to perform operational testing and evaluation during the hurricane season in FY 2007. The data will be acquired during hurricane season each year, and in order to operate the new HWRF numerical model, the data acquired must be processed, transmitted, received, and assimilated into the HWRF model. This will require the additional personnel to perform these tasks.

Proposed Action

NOAA proposes hiring support staff at the beginning of FY 2007 for the operational test and evaluation of the new G-IV instrumentation and in preparation for the operational implementation of the Hurricane Weather Research and Forecasting model. NOAA also proposes maintaining the instrumentation on board the G-IV and funding the annual calibrations of the hurricane instrumentation in out years.

Benefits

Data from the G-IV instrumentation will be included in the Hurricane Weather Research and Forecasting numerical model, resulting in an improvement in the intensity forecasting of hurricanes.

Performance Goals and Measurement Data

This increase will support the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically this increase supports the NOAA Weather and Water Strategic Goal, the following performance measure and specifically the objectives,

"Increase lead time and accuracy for weather and water warnings and forecasts" and "improve predictability of the onset, duration, and impact of hazardous and severe weather and water events". It will provide support towards the accomplishment of the performance goal to improve hurricane forecast error at 48 hours. The data gathered and processed on the aircraft and subsequently transmitted to the National Center for Environmental Prediction will describe the three-dimensional windfield of the developing hurricane vortex. These data will be included in the Hurricane Weather Research and Forecasting numerical model and will be essential toward the initialization of the hurricane intensity forecast model runs.

Performance Goal: Supports Weather and Water NOAA Performance Goal G-IV Instrumentation FTES	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*	No 3-D Windfield Data from G-IV in HWRF*
With Increase	N/A	N/A	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*	3-D Windfield Data from G-IV in HWRF*

* Hurricane Weather Research and Forecasting numerical model

Subactivity: Marine Operations & Maintenance and Aviation Operations
Line Item: Future Healthcare Benefits for Current Officers

GOAL STATEMENT:

The objective of this line item is to fund NOAA's contribution to a healthcare accrual fund for NOAA Corps officers. The accrual fund pays for the future healthcare benefits for current officers once they retire and become Medicare-eligible, as well as for their dependents and annuitants. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

BASE DESCRIPTION:

The FY 2003 Department of Defense Authorization Act requires all uniformed services including NOAA to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future healthcare benefits of present, active-duty NOAA officers and their dependents and annuitants.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: Marine Operations & Maintenance and Aviation Operations	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Future Healthcare Benefits for Current Officers					
Future Healthcare Benefits for Current Officers	1,914	1,984	2,012	-	(2,012)
TOTAL	1,914	1,984	2,012	-	(2,012)
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

The NOAA Corps supports the fleet and NOAA Line Offices as well. This lineitem funds the majority of the NOAA Corps payroll, including salary and benefits for current active duty officers. In previous years, funds were also requested in this account for contributions to an accrual fund for future health care benefits for officers, including dependents and annuitants, who retire and become Medicare-eligible, as mandated in the FY 2003 Defense Authorization Act, P.L. 107-314. However, the Ronald W. Reagan National Defense Authorization Act for 2005 (P.L. 108-375) provided permanent, indefinite appropriations to finance these costs for all uniformed service members. As such, appropriations for these costs are no longer requested in this account. However, as these costs are borne in support of NOAA's mission, they continue to be shown as part of the NOAA discretionary total.

Subactivity: NOAA Corps Retirement Pay (Mandatory)
Line Item: NOAA Corps Retirement Pay (Mandatory)

GOAL STATEMENT:

The objective of this line item is to provide payment of benefits to retired NOAA Corps Officers and their families.

BASE DESCRIPTION:

The retirement system for the uniformed services provides a measure of financial security after release from active duty for service members and their survivors. It is an important factor in the choice of a career in the uniformed services, and the legal mandate for rates to be paid is the same for all uniformed services, 10 USC. Retired pay is an entitlement to NOAA commissioned officers under 33 USCA 3044, 33 USCA 3045, and 33 USCA 3046. Retired pay funds are transferred to the U.S. Coast Guard, which handles the payments each year as adjusted pursuant to the Department of Defense Authorization legislation. Healthcare funds for non-Medicare-eligible retirees, dependents, and annuitants are transferred to the U.S. Public Health Service, which administers the healthcare program.

Legal authority for retirement of NOAA Corps officers is contained in 33 USCA 3044. Retired commissioned officers of the NOAA Corps receive retirement benefits that are administered by the Commissioned Personnel Center within the Office of Marine and Aviation Operations.

Significant Adjustments to Base (ATBs): NOAA requests an increase of $818,000 to fund an expected increase in retired pay due to inflation. It will also be used to fund an expected increase in the cost of health benefits for non-Medicare eligible retirees, dependants, and annuitants.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Subactivity: NOAA Corps Retirement Pay (Mandatory)	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: NOAA Corps Retirement Pay (Mandatory)					
TOTAL	17,574	18,504	19,322	19,322	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Program Support	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	-	3,464	-	3,465	-	3,479	-	3,479	-	-
Total C	-	3,464	-	3,465	-	3,479	-	3,479	-	-
Mission Support										
Mission Support	1,896	378,670	1,986	372,688	1,987	343,424	1,996	379,312	9	35,888
Total MS	1,896	378,670	1,986	372,688	1,987	343,424	1,996	379,312	9	35,888
Weather and Water										
Weather and Water	-	630	-	630	-	633	-	633	-	-
Total WW	-	630	-	630	-	633	-	633	-	-
Total Program Support	1,945	382,764	1,986	376,783	1,987	328,214	1,996	364,102	9	35,888

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Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Support		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Corporate Services											
Under Secretary and Associate	Pos/BA	156	24,641	230	26,128	230	26,550	233	29,287	3	2,737
Offices	FTE/OBL	184	25,618	226	26,515	226	26,550	228	29,287	2	2,737
NOAA Wide Corporate Services	Pos/BA	914	144,427	925	150,447	924	151,630	924	160,589	-	8,959
& Agency Management	FTE/OBL	785	150,698	774	152,367	775	151,630	775	160,589	-	8,959
Office of Chief Information	Pos/BA	-	-	-	-	-	-	-	2,050	-	2,050
Officer (CIO)	FTE/OBL	4	154	-	-	-	-	-	2,050	-	2,050
Total: Corporate Services	Pos/BA	1,070	169,068	1,155	176,575	1,154	178,180	1,157	191,926	3	13,746
	FTE/OBL	973	176,470	1,000	178,882	1,001	178,180	1,003	191,926	2	13,746
NOAA Education Program											
NOAA Education Program	Pos/BA	-	18,292	-	37,514	-	15,212	-	19,312	-	4,100
	FTE/OBL	12	17,247	-	38,495	-	15,212	-	19,312	-	4,100
Total: NOAA Education	Pos/BA	-	18,292	-	37,514	-	15,212	-	19,312	-	4,100
Program	FTE/OBL	12	17,247	-	38,495	-	15,212	-	19,312	-	4,100
Facilities											
NOAA Facilities Management,	Pos/BA	-	30,324	-	8,482	-	9,568	-	18,963	-	9,395
Construction and Maintenance	FTE/OBL	2	30,075	-	8,837	-	9,568	-	18,963	-	9,395
Environmental Compliance &	Pos/BA	-	2,957	-	2,367	-	2,359	-	4,046	-	1,687
Safety	FTE/OBL	16	2,961	-	2,367	-	2,359	-	4,046	-	1,687
Project Planning and Execution	Pos/BA	-	-	-	-	-	-	-	-	-	-

Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	FTE/OBL	-	184	-	-	-	-	-	-	-	-
Total: Facilities	Pos/BA	-	33,281	-	10,849	-	11,927	-	23,009	-	11,082
	FTE/OBL	18	33,220	-	11,204	-	11,927	-	23,009	-	11,082
Marine Operations & Maintenance and Aviation Operations											
Marine Operations & Maintenance	Pos/BA	628	110,502	628	95,486	628	88,177	633	93,477	5	5,300
	FTE/OBL	835	109,891	881	96,242	881	88,177	888	93,477	7	5,300
Fleet Planning and Maintenance	Pos/BA	12	13,799	12	14,955	12	14,159	12	17,151	-	2,992
	FTE/OBL	-	13,737	3	15,066	3	14,159	3	17,151	-	2,992
Aviation Operations	Pos/BA	91	18,334	91	20,916	91	18,547	91	19,227	-	680
	FTE/OBL	107	18,572	102	21,012	102	18,547	102	19,227	-	680
Future Healthcare Benefits for Current Officers	Pos/BA	-	1,914	-	1,984	-	2,012	-	-	-	(2,012)
	FTE/OBL	-	1,913	-	1,984	-	2,012	-	-	-	(2,012)
Total: Marine Operations & Maintenance and Aviation Operations	Pos/BA	731	144,549	731	133,341	731	122,895	736	129,855	5	6,960
	FTE/OBL	942	144,113	986	134,304	986	122,895	993	129,855	7	6,960

Exhibit 11

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM AND PERFORMANCE: REIMBURSABLE OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Support		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Corporate Services											
Under Secretary and Associate	Pos/BA	8	9,039	8	9,760	8	9,760	8	9,760	-	-
Offices	FTE/OBL	4	9,760	8	12,334	8	9,760	8	9,760	-	-
NOAA Wide Corporate Services	Pos/BA	27	11,289	27	11,300	27	11,300	27	11,300	-	-
& Agency Management	FTE/OBL	25	11,300	26	14,280	26	11,300	26	11,300	-	-
Total: Corporate Services	Pos/BA	35	20,328	35	21,060	35	21,060	35	21,060	-	-
	FTE/OBL	29	21,060	34	26,614	34	21,060	34	21,060	-	-
Facilities											
Environmental Compliance &	Pos/BA	-	102	-	102	-	102	-	102	-	-
Safety	FTE/OBL	-	102	-	129	-	102	-	102	-	-
Total: Facilities	Pos/BA	-	102	-	102	-	102	-	102	-	-
	FTE/OBL	-	102	-	129	-	102	-	102	-	-
Marine Operations & Maintenance and Aviation Operations											
Marine Operations &	Pos/BA	-	71	-	71	-	71	-	71	-	-
Maintenance	FTE/OBL	-	71	-	90	-	71	-	71	-	-
Aviation Operations	Pos/BA	-	230	-	233	-	233	-	233	-	-
	FTE/OBL	-	233	-	294	-	233	-	233	-	-
Total: Marine Operations & Maintenance and Aviation Operations	Pos/BA	-	301	-	304	-	304	-	304	-	-
	FTE/OBL	-	304	-	384	-	304	-	304	-	-

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Program Support
Subactivity: Corporate Services

Title		Grade	Number	Annual Salary	Total Salaries
Staff Attorney	Honolulu, HI	GS-12	2	56,028	112,056
Total			2		112,056
Less Lapse	25%		0		(28,014)
Total full-time permanent (FTE)			2		84,042
2006 Pay Adjustment (3.1%)					2,605
2007 Pay Adjustment (2.2%)					1,906
Total					88,554

Personnel Data	Number
Full-time permanent	2
Other than full-time permanent	0
Total	2
Authorized Positions	
Full-time permanent	3
Other than full-time permanent	0
Total	3

Exhibit 14

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Program Support
Subactivity: Marine Operations & Maintenance and Aviation Operations

Title		Grade	Number	Annual Salary	Total Salaries
Commissioned Officers	Pascagoula, MS	CO	5	80,469	402,345
Total			5		402,345
Less Lapse	25%		-1		(100,586)
Total full-time permanent (FTE)			4		301,759
2006 Pay Adjustment (3.1%)					9,355
2007 Pay Adjustment (2.2%)					6,844
Total					317,958

Personnel Data	Number
Full-time permanent	7
Other than full-time permanent	0
Total	7
Authorized Positions	
Full-time permanent	5
Other than full-time permanent	0
Total	5

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Corporate Services

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Full-time permanent	84
11.5	Other personnel compensation	20
11.9	Total personnel compensation	104
12.1	Civilian personnel benefits	24
12.3	FICA	6
21	Travel and transportation of persons	31
22	Transportation of things	14
23.1	Rental payments to GSA	301
24	Printing and reproduction	24
25.1	Advisory and assistance services	1,410
25.2	Other services	8,595
25.3	Other purchases of goods and services from Govt accounts	2,587
31	Equipment	650
99	Total Obligations	13,746

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: NOAA Education Program

	Object Class	2007 Increase
25.2	Other services	4,100
99	Total Obligations	4,100

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Facilities

	Object Class	2007 Increase
25.3	Other purchases of goods and services from Govt accounts	11,082
99	Total Obligations	11,082

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Marine Operations & Maintenance and Aviation Operations

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Commissioned officers	80
11.5	Other personnel compensation	990
11.6	Personnel Compensation	50
11.8	Special personnel services payments	18
11.9	Total personnel compensation	1,138
12	Civilian personnel benefits	39
21	Travel and transportation of persons	352
22	Transportation of things	25
23	Rent, Communications, and Utilities	237
25.2	Other services	4,950
26	Supplies and materials	2,106
31	Equipment	125
99	Total Obligations	8,972

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Program Support
Subactivity: Marine Operations & Maintenance and Aviation Operations

	Object Class	2007 Decrease
13	Benefits for former personnel	(2,012)
99	Total Obligations	(2,012)

Exhibit 16

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS

Exhibit 16

	Object Class	FY 2005 Actual	FY 2006 Currently Available	FY 2007 Base	FY 2007 Estimate	Increase / (Decrease)
11	Personnel compensation					
11.1	Full-time permanent	823,198	873,933	843,255	848,394	5,139
11.3	Other than full-time permanent	13,655	14,044	14,044	14,044	0
11.5	Other personnel compensation	53,121	51,717	52,717	53,872	1,155
11.6	Leave Surcharge	0	0	0	0	0
11.7	Military personnel	22,582	20,549	20,549	20,549	0
11.8	Special personnel services payments	0	0	0	18	18
11.9	Total Personnel Compensation	912,556	960,243	930,565	936,877	6,312
12.1	Civilian personnel benefits	243,678	240,955	241,455	242,947	1,492
13	Benefits for former personnel	17,768	18,754	19,572	19,572	0
21	Travel and transportation of persons	44,105	41,669	41,669	43,506	1,837
22	Transportation of things	14,425	13,413	13,413	13,572	159
23.1	Rental payments to GSA	60,157	57,209	58,209	62,558	4,349
23.2	Rental payments to others	16,425	15,908	16,908	16,908	0
23.3	Communications, utilities and miscellaneous charges	62,519	59,500	61,500	69,872	8,372
24	Printing and reproduction	3,411	3,543	3,543	3,604	61
25.1	Advisory and assistance services	127,957	121,426	99,426	134,559	35,133
25.2	Other services	388,494	329,918	278,240	365,935	87,695
25.3	Purchases of goods and services from Govt accounts	128,378	134,468	101,880	116,024	14,144
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	6,976	7,008	7,408	7,576	168
26	Supplies and materials	91,162	86,705	80,508	84,752	4,244
31	Equipment	52,173	34,331	34,331	45,882	11,551
32	Lands and structures	10,220	8,960	8,960	8,960	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS

Exhibit 16

	Object Class	FY 2005 Actual	FY 2006 Currently Available	FY 2007 Base	FY 2007 Estimate	Increase / (Decrease)
33	Investments and loans	0	0	0	0	0
41	Grants, subsides and contributions	707,500	745,274	467,429	524,813	57,384
42	Insurance claims and indemnities	198	115	115	115	0
43	Interest and dividends	234	132	132	132	0
44	Refunds	0	0	0	0	0
99	Total Obligations	2,888,337	2,879,531	2,465,264	2,698,165	232,901
	Cash Refund	(146)		0	0	0
	Prior Year Recoveries	(16,245)		(11,000)	(11,000)	
	Unobligated Balance, Start of Year	(41,113)	(59,178)	0	0	0
	Unobligated Balance, End of Year	59,178		0	0	0
	Total ORF Budget Authority	2,890,011	2,820,353	2,454,264	2,687,165	232,901
	Less NOAA Corp	(17,518)	(18,504)	(19,322)	(19,322)	0
	Total Discretionary ORF Budget Authority	2,872,493	2,801,849	2,434,942	2,667,843	232,901
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	11,608	11,781	11,788	11,847	59
	Other than full-time permanent					
	Total	11,608	11,781	11,788	11,847	59

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS

Exhibit 16

Object Class	FY 2005 Actual	CY2006 Currently Available	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
Authorized Positions:					
Full-time permanent	12,168	12,262	12,233	12,306	73
Other than full-time permanent					
Total	12,168	12,262	12,233	12,306	73

Footnote: Dose not agree with MAX. Reflects updated FY 2006 & 2007 levels based on revised data.

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS

Exhibit 16

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
13	Benefits for former personnel	15,737	16,504	17,222	17,222	-
25.3	Other purchases of goods and services from Govt accounts	1,781	2,000	2,100	2,100	-
99	Total Obligations	17,518	18,504	19,322	19,322	-
	Direct Obligations	-	-	-	-	-
	NOAA Corps Retirement Pay (Mandatory)	(17,518)	(18,504)	(19,322)	(19,322)	-
	Total Budget Authority	-	-	-	-	-

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
11	Personnel compensation						
11.1	Full-time permanent	0					
	Executive level						
	Senior Executive Service	0	0		0	279	279
	General schedule	812,140	853,475	31,300	822,797	827,577	4,780
	Commissioned officers		0		0	80	80
	Wage board/wage marine	10,704	10,945	0	10,945	10,945	0
	Scientific & professional (P.L. 80-313)				0	0	0
	Law Enforcement	354	9,513		9,513	9,513	0
	Students						
	Subtotal	823,198	873,933	31,300	843,255	848,394	5,139
11.3	Other than full-time permanent						
	General schedule	9,919	10,230		10,230	10,230	0
	Wage board/wage marine	3,736	3,814		3,814	3,814	0
	Experts & consultants	0	0		0	0	0
	Hourly	0	0		0	0	0
	Subtotal	13,655	14,044	0	14,044	14,044	0
11.5	Other personnel compensation						
	Overtime	20,549	20,519		20,519	20,535	16
	Cash awards	15,907	15,439		16,439	16,462	23
	Other	16,665	15,759		15,759	16,875	1,116
	Subtotal	53,121	51,717	0	52,717	53,872	1,155
11.7	Military Personnel						
	Military Personnel	15,907	13,667		13,667	13,667	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
	Other	6,675	6,882		6,882	6,882	0
	Subtotal	22,582	20,549	0	20,549	20,549	0
11.8	Special personnel services payments						
	Foreign service officers (State)						
	Other	0	0		0	18	18
	Subtotal	0	0	0	0	18	18
11.9	Total personnel compensation	912,556	960,243	31,300	930,565	936,877	6,312
12.1	Civilian personnel benefits						
	Civil service retirement	19,515	22,451	0	22,451	23,524	1,073
	Federal Employee Retirement	63,766	63,551	0	64,051	64,452	401
	Medicare	12,989	12,948	0	12,948	12,948	0
	Thrift savings plan	25,297	21,398	0	21,398	21,398	0
	Federal insurance contribution act	37,025	36,875	0	36,875	36,893	18
	Health insurance	58,101	58,156	0	58,156	58,156	0
	Life insurance	1,406	1,392		1,392	1,392	0
	Overseas allowance (COLA)	11,402	10,803		10,803	10,803	0
	Employees comp fund (bec)	4,539	4,379	0	4,379	4,379	0
	Other	9,638	9,002		9,002	9,002	0
	Subtotal	243,678	240,955	0	241,455	242,947	1,492
13.0	Benefits for former personnel						
	Retired Pay	17,518	18,504	818	19,322	19,322	0
	Health benefits		0		0	0	0
	Other	250	250		250	250	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
	Subtotal	17,768	18,754	818	19,572	19,572	0
21	Travel and transportation of persons	40,675	37,940		37,940	37,940	
	Aircraft rental	113	867		867	867	0
	GSA vehicles	449	410		410	410	0
	Program travel	2,868	2,452	0	2,452	4,289	1,837
	Subtotal	44,105	41,669	0	41,669	43,506	1,837
22	Transportation of things						
	Trans of household goods	3,407	3,060		3,060	3,060	0
	GSA trucks	5,007	4,771		4,771	4,771	0
	Other	6,011	5,582	0	5,582	5,741	159
	Subtotal	14,425	13,413	0	13,413	13,572	159
23.1	Rental payments to GSA	60,157	57,209	0	58,209	62,558	4,349
23.2	Rental payments to others	16,425	15,908	0	16,908	16,908	0
23.3	Communications, utilities and miscellaneous charges						
	Utility services	20,051	19,089	0	21,089	23,336	2,247
	Aircraft charter	821	842		842	842	0
	Vessel charter	8,811	7,065		7,065	8,765	1,700
	Rental of office copying equipment	0	854		854	854	0
	Rental of ADP equipment	2,538	2,499		2,499	2,499	0
	Federal telecommunications system	8,387	8,190		8,190	8,190	0
	Other telecommunications services	19,821	19,168	0	19,168	23,593	4,425
	Postal services by USPS	2,090	1,793		1,793	1,793	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
	Other	0	0		0	0	0
	Subtotal	62,519	59,500	0	61,500	69,872	8,372
24	Printing and reproduction						
	Publications	3,097	2,908		2,908	2,940	32
	Public use forms	0	0		0	0	0
	Other	314	635	0	635	664	29
	Subtotal	3,411	3,543	0	3,543	3,604	61
25.1	Consulting services	127,957	121,426	0	99,426	134,559	35,133
25.2	Other services						
	Aircraft repair	2,328	2,244	0	2,244	2,244	0
	Vessel repair	13,386	12,477	0	12,477	52,951	40,474
	Contracts for research	0	0	0	0	0	0
	Maintenance of equipment	11,145	11,178	0	11,178	24,235	13,057
	Other	352,293	294,649	11,040	242,971	277,135	36,176
	Training	9,342	9,370		9,370	9,370	0
	Subtotal	388,494	329,918	11,040	278,240	365,935	89,707
25.3	Other purchases of goods & services from Gov't accounts						
	Purchases of goods & services from Gov't accounts	76,652	99,991	0	67,403	81,547	14,144
	Office of Personnel Management Training	11,884	0		0	0	0
	GSA reimbursable services	0	0		0	0	0
	Payments to DM, WCF	39,842	34,477	0	34,477	34,477	0
	Subtotal	128,378	134,468	0	101,880	116,024	14,144

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
25.4	Operation and maintenance of facilities						
	Operation of GOCOs	0			0		
	Subtotal	0					
25.5	Research and development contracts	6,976	7,008	0	7,408	7,576	168
26	Supplies and materials						
	Chart paper	0	0		0	0	0
	Met. upper air	6,867	6,945		6,945	7,968	1,023
	Maintenance of vessel	3,253	2,904		2,904	2,904	0
	Gases	1,193	1,169		1,169	1,169	0
	Fuel	12,321	12,753	2,200	14,953	17,059	2,106
	ADP supplies	16,419	15,276		15,276	15,721	445
	Other	51,109	47,658	0	39,261	39,931	670
	Subtotal	91,162	86,705	2,200	80,508	84,752	4,244
31	Equipment						
	Office machines and equipment						
	ADP hardware	2,052	2,086		2,086	2,086	0
	Other capitalized	16,055	1,941		1,941	8,977	7,036
	Depreciation on capitalized equipment	0	0		0	5	5
	Non-capitalized	34,066	30,304	0	30,304	34,814	4,510
	Capital Lease	0	0		0	0	0
	Subtotal	52,173	34,331	0	34,331	45,882	11,551

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

		FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
32	Lands and structures						
	Land	694	600		600	600	0
	Building and Other Structures	9,526	8,360		8,360	8,360	0
	Depreciation of Building	0	0		0	0	
	Subtotal lands and structures	10,220	8,960	0	8,960	8,960	0
33	Investments and loans				0	0	0
41	Grants, subsidies and contributions	707,500	745,274	0	467,429	524,813	57,384
42	Insurance claims and indemnities	198	115		115	115	0
43	Interest/dividends..	234	132		132	132	0
44	Refunds				0	0	0
99	Total Direct Obligations	2,888,337	2,879,531	45,358	2,465,264	2,698,165	232,901
	Cash Refund	(146)					
	Prior Year Recoveries	(16,245)			(11,000)	(11,000)	0
	Unobligated Balance, Start of Year	(41,113)	(59,178)				
	Unobligated Balance, End of Year	59,178					
	Total ORF Budget Authority	2,890,011	2,820,353	45,358	2,454,264	2,687,165	232,901
	Less NOAA Corp	(17,518)	(18,504)	(818)	(19,322)	(19,322)	0
	Total Discretionary ORF Budget Authority	2,872,493	2,801,849	44,540	2,434,942	2,667,843	232,901
	Personnel Data						

Department of Commerce
National Oceanic and Atmospheric Administration
Operations Research and Facilities
DETAILED REQUIREMENTS BY OBJECT CLASS

Exhibit 17

	FY 2005 Actual	FY 2006 Currently Available	ATBs	FY 2007 Base Program	FY 2007 Estimate	Increases/ Decreases
Full-Time equivalent Employment:						
Full-time permanent	11,608	11,781	7	11,788	11,847	59
Other than full-time permanent						
Total	11,608	11,781	7	11,788	11,847	59
Authorized Positions:						
Full-time permanent	12,168	12,262	(29)	12,233	12,306	73
Other than full-time permanent						
Total	12,168	12,262	(29)	12,233	12,306	73

Footnote: This exhibit does not agree with MAX. This exhibit reflects updated FY 2006 and FY 2007 levels based on revised data.

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Exhibit 31

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPERIC ADMINISTRATION
Operations, Research, and Facilities
APPROPRIATION SUMMARY STATEMENT

For necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration, including maintenance, operation, and hire of aircraft and vessels; grants, contracts, or other payments to nonprofit organizations for the purposes of conducting activities pursuant to cooperative agreements; and relocation of facilities, $2,763,222,000, to remain available until September 30, 2007, except for funds provided for cooperative enforcement which shall remain available until September 30, 2008: Provided, That fees and donations received by the National Ocean Service for the management of national marine sanctuaries may be retained and used for the salaries and expenses associated with those activities, notwithstanding 31 U.S.C. 3302: Provided further, That in addition, $3,000,000 shall be derived by transfer from the fund entitled `Coastal Zone Management' and in addition $67,000,000 shall be derived by transfer from the fund entitled `Promote and Develop Fishery Products and Research Pertaining to American Fisheries': Provided further, That of the $2,833,222,000 provided for in direct obligations under this heading $2,763,222,000 is appropriated from the General Fund and $70,000,000 is provided by transfer: Provided further, That no general administrative charge shall be applied against an assigned activity included in this Act or the report accompanying this Act: Provided further, That the total amount available for the National Oceanic and Atmospheric Administration corporate services administrative support costs shall not exceed $179,036,000: Provided further, That payments of funds made available under this heading to the Department of Commerce Working Capital Fund including Department of Commerce General Counsel legal services shall not exceed $34,000,000: Provided further, That any deviation from the amounts designated for specific activities in the report accompanying this Act, or any use of deobligated balances of funds provided under this heading in previous years, shall be subject to the procedures set forth in section 605 of this Act: Provided further, That grants to States pursuant to sections 306 and 306A of the Coastal Zone Management Act of 1972, as amended, shall not exceed $2,000,000, unless funds provided for `Coastal Zone Management Grants' exceed funds provided in the previous fiscal year: Provided further, That if funds provided for `Coastal Zone Management Grants' exceed funds provided in the previous fiscal year, then no State shall receive more than 5 percent or less than 1 percent of the additional funds: Provided further, That the personnel management demonstration project established at the National Oceanic and Atmospheric Administration pursuant to 5 U.S.C. 4703 may be expanded by 3,500 full-time positions to include up to 6,925 full-time positions and may be extended indefinitely: Provided further, That the Administrator of the National Oceanic and Atmospheric Administration may engage in formal and informal education activities, including primary and secondary education, related to the agency's mission goals: Provided further, That, in accordance with the Federal Credit Reform Act of 1990 (2 U.S.C. 611 et seq.), within funds appropriated under this heading, $2,000,000 shall remain available until expended, for the cost of loans under section 211(e) of title II of Division C of Public Law 105-277, such loans to have terms of up to 30 years and to be available for use in any of the Bering Sea and Aleutian Islands fisheries.

In addition, for necessary retired pay expenses under the Retired Serviceman's Family Protection and Survivor Benefits Plan, and for payments for the medical care of retired personnel and their dependents under the Dependents Medical Care Act (10 U.S.C. ch. 55), such sums as may be necessary. (15 U.S.C. ch. 9, 9A, 40, 56; 16 U.S.C. ch. 32, 32A, 33; 33 U.S.C. ch. 17, 22, 26; 42 U.S.C. ch. 97, 103; 43 U.S.C. ch. 29; Department of Commerce and Related Agencies Appropriations Act, 2006.)

Exhibit 33

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Appropriation Language and Code Citations

1. For necessary expenses of activities authorized by law for the National Oceanic and Atmospheric Administration,

5 USC 5348	15 USC 1514	16 USC 3645	33 USC 3001 et seq.
5 USC 4703	15 USC 1517	16 USC 4101	33 USC 3044 et seq.
7 USC 1622	15 USC 1537-40	16 USC 4701 et seq.	42 USC 8902-05
10 USC 1072	16 USC 661 et seq.	16 USC 5001 et seq.	42 USC 9601 et seq.
10 USC 1111-1115	16 USC 757a et seq.	31 USC 1105	43 USC 1347
10 USC 2311	16 USC 1361	33 USC 706 et seq.	44 USC 1307
12 USC 1715m	16 USC 1431 et seq.	33 USC 883 a-i et seq.	49 USC 44720
15 USC 313	16 USC 1444	33 USC 891 et seq.	97 Stat. 1409
15 USC 313a	16 USC 1447a et seq.	33 USC 1121-1131	
15 USC 313b	16 USC 1451 et seq.	33 USC 1251	
15 USC 325	16 USC 1456a	33 USC 1321	
15 USC 330e	16 USC 1464	33 USC 1441-44	
15 USC 330b	16 USC 1531	33 USC 2706	
15 USC 1511d	16 USC 1801 et seq.	33 USC 2801 et seq	

Organizations and Employees

5 USC 5348 - Crews of Vessels.

"...the pay of officers and members of crews of vessels excepted from chapter 51 of this title by section 5102(c)(8) of this title shall be fixed and adjusted from time to time as nearly as is consistent with the public interest in accordance with prevailing rates and practices in the maritime industry."

5 USC 4703- Demonstration Projects

"…the Office of Personnel Management may, directly or through agreement or contract with one or more agencies and other public and private organizations, conduct and evaluate demonstration projects."

Agriculture

7 USC 1622 - Distribution and Marketing of Agricultural Products

"The Secretary ... is directed and authorized: ...

(a) to determine the needs and develop or assist in the development of plans for the proper assembly, processing, transportation, storage, distribution, and handling of agricultural (fish) products.
(f) to conduct and cooperate in consumer education for the more effective utilization and greater consumption of agricultural products (fish)...
(g) to collect and disseminate marketing information... for the purpose of ... bringing about a balance between production and utilization of agricultural (fish) products.
(h) to inspect, certify, and identify the class, quality, quantity and condition of agricultural (fish) products ...
(m) to conduct ... research ... to determine the most efficient ... processes for the handling, storing, preserving, protecting...of agricultural (fish) commodities ..."

(h) - Duties of Secretary relating to agricultural products; penalties

"Whoever knowingly shall falsely make, issue, alter, forge, or counterfeit any official certificate, memorandum, or other identification, with respect to inspection, class, grade, quality, size, quantity, or condition, issued or authorized under this section or knowingly cause or procure, or aid assist in, or be a party to, such false making, issuing, altering, forging, or counterfeiting, or whoever knowingly shall possess, without promptly notifying the Secretary (of Commerce) or his representative, utter, published, or used as true, any such falsely made, altered forged, or counterfeited official certificate, memorandum, mark, identification, or device, or whoever knowingly represents that an agricultural product has been officially inspected or graded...when in fact such commodity has not been so graded or inspected shall be fined not more than $1,000 or imprisoned not more than one year, or both."

Armed Forces

10 USC 1072 Medical and Dental Care

"…The term "uniformed services" means the armed forces and the Commissioned Corps of the National Oceanic and Atmospheric Administration and of the Public Health Service."

10 USC 1111-1115 Determinations of contributions to the Fund

PL 108-375, Sec. 725 Revised funding methodology for military retiree health care benefits states: "At the beginning of each fiscal year after September 30, 2005, the Secretary of the Treasury shall promptly pay into the Fund from the General Fund of the Treasury--(1) the amount certified to the Secretary by the Secretary of Defense under subsection (c), which shall be the contribution to the Fund for that fiscal year required by section 1115; and (2) the amount determined by each administering Secretary under section 1111(c) as the contribution to the Fund on behalf of the members of the uniformed services under the jurisdiction of that Secretary."

10 USC 2311 Assignment and delegation of procurement functions and responsibilities

(a) In General.--Except to the extent expressly prohibited by another provision of law, the head of an agency may delegate, subject to his direction, to any other officer or official of that agency, any power under this chapter.

(b) Procurements For or With Other Agencies.--Subject to subsection (a), to facilitate the procurement of property and services covered by this chapter by each agency named in section 2303 of this title for any other agency, and to facilitate joint procurement by those agencies--

(1) the head of an agency may delegate functions and assign responsibilities relating to procurement to any officer or employee within such agency;

(2) the heads of two or more agencies may by agreement delegate procurement functions and assign procurement responsibilities from one agency to another of those agencies or to an officer or civilian employee of another of those agencies; and

(3) the heads of two or more agencies may create joint or combined offices to exercise procurement functions and responsibilities.

Banks and Banking

12 USC 1715m - Mortgage Insurance for Servicemen [NOAA Corps].

This section authorizes payment of Federal Housing Administration (FHA) home mortgage insurance premiums to NOAA Corps Officers.

Commerce and Trade

15 USC 313 - Duties of Secretary of Commerce [National Weather Service].

"The Secretary of Commerce...shall have charge of the forecasting of weather,...issue of storm warnings,...weather and flood signals,... gauging and reporting of rivers,...collection and transmission of marine intelligence...,...reporting of temperature and rainfall conditions..., the display of frost and cold-wave signals, the distribution of meteorological information..., and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, or as are essential for the proper execution of the foregoing duties."

15 USC 313 note - Weather Service Modernization Act

"(a) As part of the budget justification documents submitted to Congress in support of the annual budget request for the Department of Commerce, the Secretary shall include a National Implementation Plan for modernization of the National Weather Service" setting for specified modernization actions for the following two fiscal years."

15 U.S.C. 313a - Establishment of meteorological observation stations in the Arctic region.

"... The Secretary of Commerce shall ... take such actions as may be necessary in the development of an international basic meteorological reporting network in the Arctic region of the Western Hemisphere..."

15 USC 313b - Institute for Aviation Weather Prediction

"The Administrator of the National Oceanic and Atmospheric Administration shall establish an Institute for Aviation Weather Prediction that shall provide forecasts, weather warnings, and other weather services to the United States aviation community…."

15 USC 325-Spending Authority for the National Weather Service

"...Appropriations now or hereafter provided for the Department of Commerce shall be available for: (a) furnishing food and shelter...to employees of the Government assigned to Arctic stations; (b) equipment and maintenance of meteorological offices and stations, and maintenance and operation of meteorological facilities outside the United States... (c) repairing, altering, and improving of buildings occupied by the Department, and care and preservation of grounds...(d) arranging for communication services... (e) purchasing tabulating cards and continuous form tabulating paper .

15 USC 330b - Duties of Secretary relating to Weather Modification Activities or Attempts - Reporting Requirement.

(a) "The Secretary shall maintain a record of weather modification activities, including attempts, which take place in the United States and shall publish summaries thereof from time to time as he determines."

15 USC 330e - Authorization of Appropriations relating to Weather Modification Activities or Attempts - Reporting Requirement.

This section provides funding authority to support the reporting requirements specified in this chapter.

15 USC 1511d - NOAA Estuarine Programs Office.

"... The Estuarine Programs Office shall develop, coordinate, and implement the estuarine activities of the administration with the activities of other Federal and State agencies. There are authorized to be appropriated to the Administration not to exceed $560,000 for fiscal year 1989, and $600,000 for fiscal year 1990."

15 USC 1514 - Basic authority for performance of certain functions and activities of Department.

"Appropriations are authorized for the following activities of the Department of Commerce:

(a) furnishing to employees...and their dependents, in Alaska and other points outside the continental United States, free emergency medical services...and supplies;

(b) purchasing, transporting, storing, and distributing food and other subsistence supplies for resale to employees...and their dependents, in Alaska and other points outside the continental United States at a reasonable value...; the proceeds from such resales to be credited to the appropriation from which the expenditure was made;

(c) ...establishment, maintenance, and operation of messing facilities, by contract or otherwise, in Alaska and other points outside the continental United States..., such service to be furnished to employees...and their dependents,...

(d) reimbursement...of officers or employees in or under the Department...for food, clothing, medicines, and other supplies furnished by them in emergencies for the temporary relief of dislocated persons in remote localities;

(e) providing motion-picture equipment and film for recreation of crews of vessels..., for...employees in remote localities..., and for training purposes;

(f) erecting, altering, repairing, equipping, furnishing, and maintaining...such living quarters and facilities as may be necessary to carry out its authorized work at remote localities not on foreign soil where such living and working accommodations are not otherwise available."

15 USC 1517 - Transfer of statistical or scientific work.

"The President is authorized, by order in writing, to transfer at any time the whole or any part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work, from the Department of State, the Department of the Treasury, the Department of Defense, the Department of Justice, the United States Postal Service, or the Department of the Interior, to the Department of Commerce; and in every such case the duties and authority performed by and conferred by law upon such office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall be thereby transferred with such office, bureau, division, or other branch of the public service, or the part thereof which is so transferred. All power and authority conferred by law, both supervisory and appellate, upon the department from which such transfer is made, or the Secretary thereof, in relation to the said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is so ordered by the President, be fully conferred upon and vested in the Department of Commerce, or the Secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or other branch of the public service so transferred."

15 USC 1537 - 1540 Needs Assessment for Data Management.

"Not later than 12 months after October 29, 1992, and at least biennially thereafter, the Secretary of Commerce shall complete an assessment of the adequacy of the environmental data and information systems of NOAA"

Conservation

16 USC 661 et seq.- Declaration of purpose; cooperation of agencies; surveys and investigations; donations.

"...the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said

sections; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections."

16 USC 757a et seq.

The Act authorizes cooperative agreements with States "that are concerned with the development, conservation, and enhancement of [anadromous] fish" (section 757a(a)). Section 757d authorizes $4,250,000 for each of fiscal years 1998, 1999, and 2000.

16 USC 1361 - Congressional Findings.

"The Congress finds that - (1) certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;"

"The Secretary is authorized to make grants, or to provide financial assistance in such other form as he deems appropriate, to any Federal or State agency, public or private institution, or other person for the purpose of assisting such agency, institution, or person to undertake research in subjects which are relevant to the protection and conservation of marine mammals, and shall provide financial assistance for, research into new methods of locating and catching yellow-fin tuna without the incidental taking of marine mammals."

16 UCS 1431 et seq. - Findings, Purposes, and Policies [The National Marine Sanctuaries Act, as amended].

(b) Purposes and Policies

"The purposes and policies of this title are -

(1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance;
(2) to provide authority for ... conservation and management of these marine areas ...
(3) to support, promote, and coordinate scientific research on, and monitoring of,. the resources of these marine areas...
(4) to enhance public awareness, understanding, appreciation, and wise use of the marine environment;
(5) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;
(6) to develop and implement coordinated plans for the protection and management of these areas...;
(7) to create models of, and incentives for, ways to conserve and manage these areas..."
(8) to cooperate with global programs ...; and
(9) to maintain, restore, and enhance living resources ..."

16 USC 1444 - Authorization of Appropriations.

"There are authorized to be appropriated to the Secretary" -

(1) $12,000,000 for fiscal year 1997;
(2) $15,000,000 for fiscal year 1998; and
(3) $18,000,000 for fiscal year 1999.

16 USC 1447a et seq. - Regional Marine Research Programs

Authorizes NOAA/EPA and Governors of certain states to appoint members to a number of regional marine research boards. Each board is to develop a comprehensive four year marine research plan and "the Administrator of the National Oceanic and Atmospheric Administration shall administer a grant program to support the administrative functions of each Board."

Authorization for the Boards expires on October 1, 1999. The authorization for appropriations expired at the end of fiscal year 1996.

16 USC 1451 et seq. - Findings, Purposes, and Policies [Coastal Zone Management Act]

Establishes a voluntary partnership between the Federal Government and coastal States. It also establishes the National Estuarine Reserve Research program, in which the Secretary of Commerce may designate an estuarine area as a national estuarine research reserve in consultation with governor of affected state.

16 USC 1456a – Coastal Zone Management Fund

"(b) (1) The Secretary shall establish and maintain a fund, to be known as the 'Coastal Zone Management Fund', which shall consist of amounts retained and deposited into the Fund under subsection (a) of this section and fees deposited into the Fund under section 1456 (i) (3) of this title"

16 USC 1464 - Authorization of Appropriations.

"(a) There are authorized to be appropriated to the Secretary- (1) for grants under sections 306, 306A, and 309 - (A) $47,600,000 for fiscal year 1997; (B) $49,000,000 for fiscal year 1998; and (C) $50,500,500 for fiscal year 1999; (2) for grants under section 315-(A) $4,400,00 for fiscal 1997; (B) $4,500,000 for fiscal year 1998; and (C) $4,600,000 for fiscal year 1999.

16 USC 1531 et seq.

The purposes of the Act are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in [the statute]" (section 11531(b)).

16 USC 1801 et seq.

Magnuson-Stevens Fishery conservation and Management Act.

The primary purpose of the Act is "to take immediate action to conserve and manage the fishery resources found off the coasts of the United States (section 1801(b)(1)).

16 USC 3645

Pacific coastal salmon recovery

"(A) For salmon habitat restoration, salmon stock enhancement,and salmon research, including the construction of salmon research and related facilities, there is authorized to be appropriated for each of fiscal years 2000, 2001, 2002, and 2003, $90,000,000 to the States of Alaska, Washington, Oregon, and California. Amounts appropriated pursuant to this subparagraph shall be made available as direct payments. The State of Alaska may allocate a portion of any funds it receives under this subsection to eligible activities outside Alaska."

Amended in PL108-447 (FY 2005 Omnibus Appropriations Act) as follows: *Provided*, That section 628(2)(A) of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2001 (16 U.S.C. 3645) is amended—

(1) by striking ''2000, 2001, 2002, and 2003'' and inserting ''2005'', and

(2) by inserting ''Idaho,'' after ''Oregon,''.

16 USC 4101 et seq.

"The purposes of this chapter are - (1) to promote and encourage State activities in support of the management of interjurisdictional fishery resources, and (2) to promote and encourage management of interjurisdictional fishery resources through their range" (section 4101). Section 4107(a) authorizes $4,400,000 for each of fiscal years 1998, 1999, and 2000.16 USC 4701 et seq. - Aquatic Nuisance Prevention and Control

Establishes an interagency Aquatic Nuisance species Task Force, of which the Administrator of NOAA is a co-chair. The task force's responsibilities include developing and implementing "a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information."

16 USC 5001 et seq. - Purpose of Convention

"It is the purpose ... to implement the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, signed in Moscow, February 11, 1992."

Money and Finance

31 USC 1105 - Budget contents and submission to Congress

(a) On or after the first Monday in January but not later than the first Monday in February of each year, the President shall submit a budget of the United States Government for the following fiscal year. Each budget shall include a budget message and summary and supporting information.

Amended in PL108-447 (FY 2005 Omnibus Appropriations Act) as follows: "*Provided further,* That beginning in fiscal year 2006 and for each fiscal year thereafter, the Secretary of Commerce shall include in the budget justification materials that the Secretary submits to Congress in support of the Department of Commerce budget (as submitted with the budget of the President under section 1105(a) of title 31, 10 United States Code) an estimate for each National Oceanic and Atmospheric Administration procurement, acquisition and construction program having a total multiyear program cost of more than $5,000,000 and simultaneously the budget justification materials shall include an estimate of the budgetary requirements for each such program for each of the 5 subsequent fiscal years."

Navigation and Navigable Waters

33 USC 706 et seq. - Department of Commerce; current precipitation information; appropriation.

"There is authorized an expenditure as required,..., for the establishment, operation, and maintenance by the Secretary of Commerce of a network of recording and non-recording precipitation stations, known as the Hydroclimatic Network, whenever...such service is advisable..."

33 USC 883a et seq. - Surveys and other activities.

"...the Secretary...is authorized to conduct the following activities:

(1) Hydrographic and topographic surveys;
(2) Tide and current observations;
(3) Geodetic-control surveys;
(4) Field surveys for aeronautical charts;
(5) Geomagnetic, seismological, gravity, and related geophysical measurements and investigations, and observations ..."

33 USC 883b - Dissemination of data; further activities.

"...the Secretary is authorized to conduct the following activities:

(1) Analysis and prediction of tide and current data;
(2) Processing and publication of data...;
(3) Compilation and printing of aeronautical charts...;
(4) Compilation and printing of nautical charts...;
(5) Distribution of aeronautical charts...;
(6) Distribution of nautical charts..."

33 USC 883c - Geomagnetic data; collection; correlation, and dissemination.

"To provide for the orderly collection of geomagnetic data...the Secretary ... is authorized to collect, correlate, and disseminate such data."

33 USC 883d - Improvement of methods, instruments, and equipments; investigations and research.

"...the Secretary ... is authorized to conduct developmental work for the improvement of surveying and cartographic methods, instruments, and equipments; and to conduct investigations and research in geophysical sciences..."

33 USC 883e - Cooperative Agreements for Surveys and Investigations; contribution of costs incurred by National Oceanic and Atmospheric Administration.

"(1) The Secretary of Commerce is authorized to enter into cooperative agreements with, and to receive and expand funds made available by... for surveys or investigations... or for performing related surveying and mapping activities... and for the preparation and publication of the results thereof."

"(2) The Secretary of Commerce is authorized to establish the terms of any cooperative agreement entered into ... including the amount of funds to be received ... which the Secretary determines represents the amount of benefits derived ... from the cooperative agreement."

33 USC 883f - Contracts with qualified organizations.

"The Secretary is authorized to contract with qualified organizations for the performance of any part of the authorized functions of the National Ocean Survey..."

33 USC 883h - Employment of public vessels.

"The President is authorized to cause to be employed such of the public vessels as he deems it expedient to employ, and to give such instructions for regulating their conduct as he deems proper in order to carry out the provisions of this chapter."

33 USC 883i - Authorization of Appropriations.

"There are hereby authorized to be appropriated such funds as may be necessary to acquire, construct, maintain, and operate ships, stations, equipment, and facilities and for such other expenditures, including personal services at the seat of government and elsewhere and including the erection of temporary observatory buildings and lease of sites therefore as may be necessary..."

33 USC 891 et seq. - Fleet Replacement and Modernization Program

"The Secretary is authorized to implement... a 15-year program to replace and Modernize the NOAA fleet."

33 USC 1121-1124, 1126-1129, 1131 - National Sea Grant College Program Act.

The Sea Grant Act authorizes the awarding of grants and contracts to initiate and support programs at Sea Grant colleges and other institutions for research, education, and advisory services in any field related to the conservation and development of marine resources. The authorization for appropriation expired at the end of FY 1995.

33 USC 1251- Water Pollution Prevention and Control

Through the National Shellfish Indicator Program, authorizes the Secretary of Commerce, in cooperation with the Secretary of Health and Human Services and the Administrator of EPA, to establish and administer a 5-year national shellfish research program for the purpose of improving existing classification systems for shellfish growing waters using the latest technological advancements in microbiology and epidemiological methods.

33 USC 1321 - Oil and Hazardous Substances [Clean Water Act]

Authorizes the recovery of damages to natural resources in the event of an oil spill in waters of the United States. This authority has been delegated to several Federal agencies, including the Department, pursuant to an Executive Order.

33 USC 1441 - Monitoring and Research Program [Marine Protection, Research and Sanctuaries Act]

Authorizes the Secretary of Commerce, in coordination with other agencies, to initiate a comprehensive and continuing program of monitoring and research regarding the effects of the dumping of material into ocean waters or other coastal waters where the tide ebbs and flows or into the Great Lakes or their connecting waters.

33 USC 1442 - Research program respecting possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems

Authorizes the Secretary of Commerce, in consultation with other agencies, to … "initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems."

33 USC 1443 - Regional management plans for waste disposal in coastal areas.

Authorizes the Secretary of Commerce to assist the Environmental Protection Agency in assessing "the feasibility in coastal areas of regional management plans for the disposal of waste materials."

33 USC 1444 - Annual Report

Requires the Secretary of Commerce to provide Congress with an annual report on the Department's activities to monitor ocean dumping and research the long-range effects of pollution on ocean ecosystems.

33 USC 2706 - Natural Resources [NOAA Oil and Hazardous Substance Spill Cost Reimbursement].

"...the National Oceanic and Atmospheric Administration acts as trustee of said marine environment and/or resources, shall be deposited in the Damage Assessment and Restoration Revolving Fund ... for purposes of obligation and expenditure in fiscal year 1991 and thereafter, sums available in the Damage Assessment and Restoration Revolving Fund may be transferred, upon the approval of the Secretary ..., to the Operations, Research, and Facilities appropriation of the National Oceanic and Atmospheric Administration."

33 USC 2801 et seq. - National Coastal Monitoring Act.

"The purposes of this chapter are to -

(1) establish a comprehensive national program for consistent monitoring of the Nation's coastal ecosystems;
(2) establish long-term water quality assessment and monitoring programs for high priority coastal waters that will enhance the ability of Federal, State, and local authorities to develop and implement effective remedial programs for those waters;
(3) establish a system for reviewing and evaluating the scientific, analytical, and technological means that are available for monitoring the environmental quality of coastal ecosystems;
(4) establish methods for identifying uniform indicators of coastal ecosystem quality;
(5) provide for periodic, comprehensive reports to Congress concerning the quality of the Nation's coastal ecosystems;
(6) establish a coastal environment information program to distribute coastal monitoring information;
(7) provide state programs authorized under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) with information necessary to design land use plans and coastal zone regulations that will contribute to the protection of coastal ecosystems; and
(8) provide certain water pollution control programs authorized under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) with information necessary to design and implement effective coastal water pollution controls."

33 USC 3001 et seq.- NOAA Corps Officers

PL 108-219 states: "All action in the line of duty by, and all Federal agency actions in relation to (including with respect to pay, benefits, and retirement) a de facto officer of the commissioned corps of the National Oceanic and Atmospheric Administration who was appointed or promoted to that office without Presidential action, and without the advice and consent of the Senate, during such time as the officer was not properly appointed in or promoted to that office, are hereby ratified and approved if otherwise in accord with the law, and the President alone may, without regard to any other law relating to appointments or promotions in such corps, appoint or promote such a de facto officer temporarily, without change in the grade currently occupied in a de facto capacity, as an officer in such corps for a period ending not later than 180 days from the date of enactment of this Act."

33 USC 3044 et seq. -Retirement for length of service

PL 107-372 states: "An officer who has completed 20 years of service, of which at least 10 years was service as a commissioned officer, may at any time thereafter, upon application by such officer and in the discretion of the President, be placed on the retired list.

33 USC 3045 - Computation of retired pay

PL 107-372 states: " (a) Officers first becoming members before September 8, 1980: Each officer on the retired list who first became a member of a uniformed service before September 8, 1980, shall receive retired pay at the rate determined by multiplying -(1) the retired pay base determined under section 1406(g) of title 10; by (2) 2 1/2 percent of the number of years of service that may be credited to the officer under section 1405 of such title as if the officer's service were service as a member of the Armed Forces. The retired pay so computed may not exceed 75 percent of the retired pay base. (b) Officers first becoming members on or after September 8, 1980 Each officer on the retired list who first became a member of a uniformed service on or after September 8, 1980, shall receive retired pay at the rate determined by multiplying -(1) the retired pay base determined under section 1407 of title 10; by (2) the retired pay multiplier determined under section 1409 of such title for the number of years of service that may be credited to the officer under section 1405 of such title as if the officer's service were service as a member of the Armed Forces. (c) Treatment of full and fractional parts of months in computing years of service (1) In general In computing the number of years of service of an officer for the purposes of subsection (a) of this section - (A) each full month of service that is in addition to the number of full years of service creditable to the officer shall be credited as 1/12 of a year; and (B) any remaining fractional part of a month shall be disregarded. (2) Rounding Retired pay computed under this section, if not a multiple of $1, shall be rounded to the next lower multiple of $1."

33 USC 3046 - Retired grade and retired pay

PL 107-372 states: "Each officer retired pursuant to law shall be placed on the retired list with the highest grade satisfactorily held by that officer while on active duty including active duty pursuant to recall, under permanent or temporary appointment, and shall receive retired pay based on such highest grade, if - (1) the officer's performance of duty in such highest grade has been satisfactory, as determined by the Secretary of the department or departments under whose jurisdiction the officer served; and (2) unless retired for disability, the officer's length of service in such highest grade is no less than that required by the Secretary of officers retiring under permanent appointment in that grade.

The Public Health and Welfare

42 USC 8902-8905 - Acid Precipitation Program

Authorized the Administrator of NOAA to serve as co-chair of a task force to prepare a comprehensive research plan for a program to study the causes and effects of acid precipitation. Also authorizes the Administrator of NOAA to serve as the director of a related research program.

42 USC 9601 et seq. (CERCLA)

Through associated regulations and delegations, authorizes the Administrator to provide technical assistance to the Administrator, EPA, for hazardous waste response under CERCLA and the National Contingency Plan and authorizes the Administrator to act as a natural resource trustee with authority to bring a cause of action for damages resulting from an injury to, destruction of or loss of resources under NOAA's jurisdiction.

Public Lands

43 USC 1347 - Safety and Health Regulations

Authorizes the Secretary of Commerce in cooperation with other Federal entities, to conduct studies of underwater diving techniques and equipment "suitable for protection of human safety and improvement of diver performance…."

Public Printing and Documents

44 USC 1307 - Sale and Distribution of NOAA Nautical and Aeronautical Products.

"All nautical and aeronautical products created or published ... shall be sold at ... prices ... the Secretary of Commerce shall establish annually ... so as to recover all costs attributable to data base management, compilation, printing, and distribution of such products."

Transportation

49 USC 44720 - Meteorological services

The Administrator of the Federal Aviation Administration shall make recommendations to the Secretary of Commerce on providing meteorological services necessary for the safe and efficient movement of aircraft in air commerce. In providing the services, the Secretary shall cooperate with the Administrator and give complete consideration to those recommendations.

"To promote safety and efficiency in air navigation to the highest possible degree, the Secretary shall -(1)observe, measure, investigate, and study atmospheric phenomena, and maintain meteorological stations and offices...(2) provide reports to the Administrator (3)cooperate with persons engaged in air commerce in meteorological services...(4)maintain and coordinate international exchanges of meteorological information... (5) participate in developing an international basic meteorological reporting network...(6)coordinate meteorological requirements in the United States to maintain standard observations...;(7)promote and develop meteorological science....

Interjurisdictional Fisheries Act

97 Stat. 1409

Authorizes NMFS fisheries programs not otherwise authorized by law, including research to reduce entanglement of marine mammals in fishing gear, development of habitat restoration techniques, restoration of Chesapeake Bay, and conservation of Antarctic living marine resources.

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Exhibit 34

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
CONSULTING AND RELATED SERVICES
(Obligations in thousands of dollars)

	2005 Actual	2005 Estimate	2006 Request	2007
Management and Professional Support Services		10,715	10,897	11,093
Studies, Analysis and Evaluations		3,183	3,237	3,295
Engineering and Technical Services		37,852	38,495	39,188
Total		51,750	52,629	53,576

Consulting Services are those services of a pure nature relating to the governmental functions of agency administration and management and agency problem management. These services are normally provided by persons or organizations generally considered to have knowledge and special abilities that are not usually available within the agency. Such services can be obtained through personnel appointments, procurement contracts, or advisory committees.

Management and professional services deal with management data collection, policy review or development, program development, review or evaluation, systems engineering and other management support services. Special studies and analyses deal with the highly specialized areas of agency activity, e.g., air quality, chemical, environmental, geophysical, oceanographic, technological, and etc. Management and support services for research and development are procurement actions that meet the description of management and professional services or special studies and analyses but are funded under research and development.

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Exhibit 35

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PERIODICAL, PAMPHLETS, AND AUDIOVISUAL PRODUCTS
(Obligations in thousands of dollars)

	2005 Actual	2006 Estimate	2007 Request
Periodicals	926	942	959
Pamphlets	667	678	691
Audiovisuals	316	322	327
Total	1,909	1,942	1,977

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Exhibit 36

Department of Commerce
National Oceanic and Atmospheric Administration
AVERAGE GRADE AND SALARY

	2005 Actual	2006 Estimate	2007 Estimate
Average executive and SES level pay plans	$144,989	$149,484	$152,772
Average GS/GM grade	11.66	11.66	11.66
Average GS/GM salary	$ 74,617	$ 76,930	$ 78,623
Average Pay Band salary	$ 81,358	$ 83,880	$ 85,725
Average Commissioned Officers salary	$ 84,810	$ 87,439	$ 89,363
Average salary for other positions	$ 67,242	$ 69,327	$ 70,852

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement Acquisition and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	184	174	1,106,172	1,205,209
less: Carryover	-	-	-	(99,037)
less: Terminations	-	-	(206,818)	(206,818)
less: Recoveries of prior year obligations	-	-	(2,000)	-
plus: 2007 Other Adjustments to Base	-	-	14,659	14,659
FY 2007 Base	184	174	912,013	914,013
plus: 2007 Program Changes	5	7	112,454	112,454
FY 2007 Estimate, PAC	189	181	1,024,467	1,026,467

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Systems Acquisition	Pos/BA	179	802,859	179	878,907	179	850,591	179	959,066	-	108,475
	FTE/OBL	192	782,591	169	910,084	169	850,591	169	959,066	-	108,475
Construction	Pos/BA	-	186,068	-	165,554	-	27,880	-	46,710	-	18,830
	FTE/OBL	3	255,984	-	194,238	-	27,880	-	46,710	-	18,830
Fleet Replacement	Pos/BA	5	57,957	5	61,596	5	35,542	10	20,691	5	(14,851)
	FTE/OBL	5	43,133	5	77,021	5	35,542	12	20,691	7	(14,851)
Aircraft Replacement	Pos/BA	-	4,975	-	13,486	-	-	-	-	-	-
	FTE/OBL	1	3,688	-	23,866	-	-	-	-	-	-
Rescission of unobligated balances	Pos/BA	-	-	-	(13,371)	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-	-
Total	Pos/BA	184	1,051,859	184	1,106,172	184	914,013	189	1,026,467	5	112,454
	FTE/OBL	201	1,085,396	174	1,205,209	174	914,013	181	1,026,467	7	112,454

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement Acquisition and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	201	1,085,396	174	1,205,209	174	914,013	181	1,026,467	7	112,454
Total Obligations	**201**	**1,085,396**	**174**	**1,205,209**	**174**	**914,013**	**181**	**1,026,467**	**7**	**112,454**
Adjustments to Obligations:										
Deobligations	-	(1,915)	-	-	-	(2,000)	-	(2,000)	-	-
Unobligated balance, adj. SOY	-	(130,659)	-	(99,037)	-	-	-	-	-	-
Unobligated balance, EOY	-	99,037	-	-	-	-	-	-	-	-
Total Budget Authority	**201**	**1,051,859**	**174**	**1,106,172**	**174**	**912,013**	**181**	**1,024,467**	**7**	**112,454**
Financing from Transfers:										
Transfer from Other Accounts	-	-	-	26,629	-	-	-	-	-	-
Transfer from ORF	-	(366)	-	-	-	-	-	-	-	-
Transfer to ORF	-	1,842	-	1,147	-	-	-	-	-	-
Net Appropriation	**201**	**1,053,335**	**174**	**1,133,948**	**174**	**912,013**	**181**	**1,024,467**	**7**	**112,454**

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement Acquisition and Construction
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	1,085,396	1,205,209	914,013	1,026,467	112,454
Total Obligations	1,085,396	1,205,209	914,013	1,026,467	112,454
Adjustments and Obligations:					
Rescission	-	-	-	-	-
Deobligations	(1,915)	-	(2,000)	(2,000)	-
Unobligated balance, adj. SOY	(130,659)	(99,037)	-	-	-
Unobligated balance, transferred	-	-	-	-	-
Unobligated balance, EOY	99,037	-	-	-	-
Unobligated balance, rescission	-	-	-	-	-
Total Budget Authority	1,051,859	1,106,172	912,013	1,024,467	112,454
Financing from Tranfers:					
Transfer from Other Accounts	-	26,629	-	-	-
Transfer from GSA	-	-	-	-	-
Transfer from ORF	(366)	-	-	-	-
Transfer to ORF	1,842	1,147	-	-	-
Net Appropriation	1,053,335	1,133,948	912,013	1,024,467	112,454

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
CHANGES TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Adjustments:		
Restoration of FY 2006 Unobligated Balance Rescissions	0	13,371
Terminations		(206,818)
Restoration of FY 2006 rescissions		2,288
Technical Adjustment - PAC to ORF		(1,000)
Subtotal, Adjustments	0	(192,159)
Financing:		
Deobligations		(2,000)
Subtotal, Financing		(2,000)
Other Changes:		
Subtotal, Other Changes	0	0
Less Absorption	0	0
Total Adjustments to Base	0	(194,159)

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition and Construction
JUSTIFICATION OF CHANGES TO BASE

	FTE	Amount
Adjustments:		
Restoration of FY 2006 unobligated balances rescissions contained in P.L. 109-108.	0	13,371,000
Terminations	0	(206,818,000)
Restoration of FY 2006 across-the-board rescissions contained in P.L. 109-108 (0.28%) and P.L.109-148 (1%).	0	2,288,000
In 2007 $1,000,000 will be transferred from PAC WFO Construction to ORF Program Support Facilities.	0	(1,000,000)
Subtotal Adjustments	0	(192,159,000)
Financing:		
In 2007, NOAA expects to realize recoveries of prior year obligations of $2,000,000. This amount will be used to offset the budget authority in 2007.	0	(2,000,000)
Other Changes:	0	0
Subtotal, Other Changes	0	0
Absorption	0	0
Total Adjustments to Base	0	(194,159,000)

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PROCUREMENT, ACQUISITION AND CONSTRUCTION
SYSTEMS ACQUISITION FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA

($ in thousands)

Procurement, Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
OAR					
Research Supercomputing / CCRI	9,363	9,369	9,395	10,379	984
Air Force Radiometer Hurricane Processing	300	0	0	0	0
Subtotal, OAR	9,663	9,369	9,395	10,379	984
NWS					
ASOS	4,608	8,506	4,635	3,935	-700
AWIPS	12,708	13,280	12,764	12,764	0
NEXRAD	10,665	9,343	8,376	8,376	0
NWSTG Legacy Replacement	2,476	493	495	495	0
Radiosonde Network Replacement	6,285	6,299	4,347	4,014	-333
Weather and Climate Supercomputing (WW)	19,322	19,019	19,092	19,092	0
Weather and Climate Supercomputing Backup	7,045	7,050	7,077	7,077	0
Cooperative Observer Network Modernization (WW)	864	4,218	3,739	3,739	0
Cooperative Observer Network Modernization (C)	0	0	495	495	0
NWS Coastal Global Observing System	0	0	1,492	0	-1,492
Complete and Sustain NOAA Weather Radio	0	5,572	5,594	5,594	0
Strengthen US Tsunami Warning Network	10,160	3,796	3,470	1,030	-2,440
All Hazard National Warning Network: NOAA Weather Radio	0	1,998	0	0	0
Subtotal, NWS	74,133	79,574	71,576	66,611	-4,965
NESDIS					
GOES					
Geostationary Systems	301,153	335,322	335,568	439,607	104,039
Subtotal, GOES	301,153	335,322	335,568	439,607	104,039

POES					
Polar Orbiting Systems - POES	104,230	101,261	101,767	89,906	-11,861
Subtotal, POES	104,230	101,261	101,767	89,906	-11,861
NPOESS					
Polar Orbiting Systems - NPOESS	300,528	316,580	317,592	337,870	20,278
Subtotal, NPOESS	300,528	316,580	317,592	337,870	20,278
EOS					
EOS & Adv. Polar Data Processing, Dist. & Archiving Systems	2,958	2,960	990	990	0
Subtotal, EOS	2,958	2,960	990	990	0
CIP					
CIP - Single Point of Failure	2,760	2,798	2,772	2,772	0
Subtotal, CIP	2,760	2,798	2,772	2,772	0
Comprehensive Large Array Data Stewardship Sys (CLASS)	6,448	8,876	6,476	6,476	0
NPOESS Preparatory Data Exploitation	0	4,437	4,455	4,455	0
Subtotal, NESDIS	718,077	772,234	769,620	882,076	112,456
PS					
AMNH	986	0	0	0	0
NOAA ICOSS Observing Systems (NOS)	0	8,876	0	0	0
Convert NOAA Weather Bouys with NDBC (NOS)	0	3,945	0	0	0
Coastal Global Ocean Observing System (NWS)	0	1,477	0	0	0
Strengthen US Tsunami Warning Network (NWS)	0	3,432	0	0	0
Subtotal, PS	986	17,730	0	0	0
TOTAL	802,859	878,907	850,591	959,066	108,475

Office Of Oceanic and Atmospheric Research
Activity: Systems Acquisition

GOAL STATEMENT:

The Office of Oceanic and Atmospheric Research's (OAR) Research Supercomputing goal is to provide a state-of-the-art scalable supercomputer and supporting infrastructure to advance modeling programs that are critical to NOAA's and the Nation's climate research.

BASE DESCRIPTION:

Research Supercomputing/CCRI: This program supports a very large, scalable computer system that provides critical computing, storage, and analysis capabilities, as well as model development and infrastructure support, to NOAA's Geophysical Fluid Dynamics Laboratory (GFDL) to advance the Nation's climate research. This computing program allows NOAA to leverage the world-class research staff and modeling capabilities now in place at GFDL to address important research problems in climate and weather research. The laboratory's on-going model development effort is positioning GFDL to take full advantage of the scalable architectures and to advance the Nation's climate research program through NOAA computational research and collaboration with the inter-agency and academic climate research community.

Base activities support the objectives, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs" as well as the Environmental Modeling objective under NOAA's Weather and Water goal.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
Research Supercomputing / CCRI	9,363	9,369	9,395	10,379	984
Air Force Radiometer Hurricane Processing	300	-	-	-	-
TOTAL	9,663	9,369	9,395	10,379	984
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Research Supercomputing/CCRI (+0 FTE and $984,000): NOAA requests 0 FTE and $984,000 to meet the objectives of the Administration's Climate Change Science Program (CCSP). The CCSP will improve the Nation's understanding of the causes of observed climate variability and change and of ways natural and managed ecosystems can adapt. CCSP also will quantify the forces that bring about changes in the Earth System, reduce uncertainty in projections of how the Earth's climate and related systems may change in the future, and explore ways to manage risks and opportunities related to climate variability and change. A near-term priority for supporting these goals is to acquire additional supercomputing resources to enable the systematic generation of model products needed by the impacts, assessments, and policy communities to document and assess the regional and global impacts of long-term climate variability and change. The requested increase will allow NOAA to meet its CCSP obligations for providing routine, on-demand, state-of-the-science, model-based global projections of future climate.

Statement of Need

Research into expanding the scientific understanding of the physical, chemical, and biological processes that govern the behavior of the Earth System requires a special focus on the development and utilization of large-scale computer simulations for environmental modeling. As part of the Administration's multi-agency Climate Change Science Program (CCSP), NOAA plays a leading role in developing these computer simulations as well as in hosting the High Performance Computing (HPC) systems on which they run. The CCSP was established in February of 2002, and the CCSP Strategic Plan was adopted in July of 2003. The Plan establishes NOAA's Geophysical Fluid Dynamics Laboratory (GFDL) as one of two national Climate Modeling Centers that will coordinate and accelerate climate modeling activities and provide relevant decision support information on a timely basis. Toward this end, the Plan specifically calls for an increase in computational resources to enable systematic generation of model products needed by the impacts and policy communities.

Proposed Actions

NOAA has undertaken a new, holistic, "One NOAA" approach to planning, acquiring, and managing its HPC resources. Under this approach, a unified procurement for HPC resources to support NOAA's Research and Development mission is currently underway. This procurement will substantially improve the portion of NOAA's HPC enterprise that directly supports NOAA's strategic goals in Climate and Weather & Water by enabling its research into the physical processes governing the Earth's climate and weather. The requested increase will fully fund this upgrade to NOAA's climate computing capabilities in FY2007 and is required to fully meet NOAA's obligations for providing climate projections under the CCSP.

Benefits

The increase in climate computing capability will fully support the integration of climate change scenarios that explore the impacts of differing energy, water, and land use options. These demand-driven scenarios would provide crucial support information on a timely basis for policy and management decisions related to climate variability and change in each of the seven research elements in the CCSP. Moreover, the funding increase will advance the development and utilization of comprehensive Earth System Models being developed jointly by NOAA/GFDL (one of the two Climate Modeling Centers identified in the CCSP) and its university partners, including Princeton University and Columbia University. These models are crucial for supporting the demand-driven scenarios to be produced under the CCSP. The comprehensive climate models and the scenarios they produce are both crucial for meeting NOAA's GPRA measures to (1) reduce the uncertainty in model simulations of the influence of aerosols on climate and (2) improve society's ability to plan and respond to climate variability and change using NOAA climate products and information.

Performance Goals and Measurement Data

This increase directly supports NOAA's objectives to improve climate predictive capability from weeks to decades, with an increased range of applicability for management and policy decisions, reduce uncertainty in climate projections through timely information on the forcing and feedbacks contributing to changes in the earth's climate, understand and predict the consequences of climate variability and change on marine ecosystems, and increase number and use of climate products and services to enhance public and private sector decision making.

Performance Goal: Climate Predictions and Projections	**With increase**	**Without Increase**
CCSP Deliverable: Research for Earth System Model - Integrate Carbon Cycle into Earth System Model	Q1 FY07	Q3 FY07
CCSP Deliverable: Complete CCSP S&A report on updated greenhouse gas scenarios	Q4 FY07	Q2 FY08

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

Research Supercomputing/ CCRI	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base		984	984	984	984	984	-	
Total Request	10,484	10,379	10,379	10,379	10,379	10,379	-	Recurring

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

National Weather Service
Activity: Systems Acquisition

GOAL STATEMENT:

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

BASE DESCRIPTION:

Automated Surface Observing System (ASOS): This acquisition is a tri-agency program involving NOAA, the Department of Defense, and the Federal Aviation Administration. ASOS provides reliable, 24-hour, continuous surface weather observations. Under the product improvement portion of this acquisition program, NOAA is developing new ASOS sensor capabilities in order to meet changing user requirements and decrease maintenance demands.

FY 2004 Accomplishments:
- Deployed 52 processors, bringing total deployed to 262 of 311
- Deployed 142 dew point sensors, bringing total deployed to 197 of 311
- Deployed 182 all-weather precipitation accumulation gauges, bringing total deployed to 198 of 331
- Acquired 40 ice free wind sensors
- Continued development of enhanced precipitation identifier sensor

FY 2005 Accomplishments:
- Completed processor (49) and dew point sensor (114) deployment of 311 units each
- Completed all-weather precipitation accumulation gauge deployment of 331 units
- Acquired 269 ice free wind sensors and began deployment
- Continued development of enhanced precipitation identifier sensor and down selected from two vendors to one
- Acquired and initiated evaluation of 25,000 ft and 40,000 ft. COTS ceilometers

FY 2006 Plans
- Complete ice free wind sensor deployment of 310 units
- Complete development and procure 282 enhanced precipitation identifier sensors
- Initiate development and system integration of 25,000 ft and/or 40,000 ft. ceilometers

FY 2007 Plans

- Complete enhanced precipitation identifier sensor deployment.
- Complete development of and begin production of 25,000 ft. and 40,000 ft. ceilometers

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

ASOS Product Improvement	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base		(700)	(700)	(4,635)	(4,635)	(4,635)	-	
Total Request	44,444	3,935	3,935	-	-	-	-	52,314

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Advanced Weather Interactive Processing System (AWIPS)/NOAAPort: AWIPS is the cornerstone of the modernized NWS. This system integrates and displays all hydrometeorological data at NWS field offices. AWIPS acquires and processes data from modernized sensors and local sources, provides computational and display functions at operational sites, provides robust communications system to interconnect NWS operational sites, and disseminates warnings and forecasts in a rapid, highly reliable manner. This system integrates satellite, NEXRAD Doppler weather radar data, and numerical weather prediction data enabling field forecasters to better visualize environmental processes to enable the creation of timely and accurate forecasts and warnings. AWIPS provides the only display for NEXRAD Doppler weather radar data at NWS Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs). The AWIPS NOAAPort satellite broadcast network offers the communications capability to provide internal and external users with open access to much of NOAA's real-time environmental data.

Pre-planned and ongoing NOAA investments in modeling, satellite instruments, and radar improvements (NEXRAD Product Improvement) represent NOAA's commitment to bring forecasters the data and information required to improve forecast accuracy and warning lead times. NWS Government Performance and Results Act goals are based on the effective use of these technology investments along with advanced decision assistance tools, forecast preparation and advanced database capabilities. Sustained investments in the AWIPS hardware, communications, and software infrastructure, are necessary for capitalization of these investments into improved performance.

System-wide information technology (IT) investments are necessary to equip NWS forecast offices with the necessary computer performance and capacity to achieve planned and evolving operational and strategic requirements. Planned improvements in the NWS Tornado Warning Lead Time, Flash Flood Warning Lead Time and Winter Storm Warning Lead Time goals can only be realized through the following actions: improve AWIPS system throughput; add new and improved science; and exploit more accurate and higher resolution data and weather forecast model information.

To accomplish this, we must improve AWIPS system's performance and capacity. Current choke points in system performance and capacity have been identified and are being addressed in the following areas: server performance, network throughput, and software architecture.

Improvements in system throughput can be realized by increasing processing and network capacity. Exploitation of new science requires radar, satellite and model data in addition to processing capacity and the ability to quickly and cost-effectively integrate improved decision assistance tools into the AWIPS software. High-resolution data and model information requires additional communications bandwidth, processing and mass storage capacity.

To measure current and projected AWIPS system performance the Workstation Performance Rating (WPR) has been developed. The WPR shows the latency, or inherent processing delay, in seconds within the AWIPS system. A higher WPR means more latency, and therefore more delay, in processing and in getting forecasters the products they need when they need them. WPR benchmark analysis has shown that, without planned hardware improvements supported within this funding level, AWIPS performance will continue to decrease, resulting in an estimated 4-minute degradation in Tornado Lead Time by FY 2009.

In FY 2002, the NWS began a migration of the AWIPS IT infrastructure to a LINUX-based architecture. Phase I of this migration was completed in FY 2003. LINUX Phase II began in FY 2003 with workstation replacements and will be completed in FY 2006. In FY 2006 LINUX Phase II continues with server replacements, software re-architecture, IT security enhancements, and local area network enhancements.

AWIPS has been designated an NWS "National Critical" IT system. As such it was required to be certified and accredited using the National Information Assurance Certification and Accreditation Process (NIACAP) in FY 2004. System acquisition funds provided in this PAC program are critical to providing adequate security for this National Critical system.

Outcomes:

The following table provides a summary of current hardware and communications performance measures and increases due to the investments described here. As noted previously, an increase in processing and communications capacity is essential in meeting the continuing, more stringent GPRA measures.

Performance Measure	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Processing Capacity (MFLOP)	7500	7500	7500	7500	16000
Benchmark Processing Speed (WPR-sec)	163	155	147	140	133
Effective Bandwidth Capacity (Mbps)	6.9	9.2	9.2	45	45

FY 2005 Accomplishments:

- Complete second phase of satellite broadcast network (SBN) bandwidth enhancements
- Continued LINUX phase 2 system upgrades including server replacements, satellite communications enhancements, IT security enhancements, and router replacement
- Continued software development and maintenance including porting to LINUX and warning decision support assistance
- Completed replacement of 800 Text workstations (X-windows terminals) at 167 sites
- Completed deployment of replacement for aging Hewlett Packard Data Servers (DS) with high performance Linux cluster (DX) coupled with a Network Attached Storage (NAS) unit. The DS replacement package is known as the DX/NAS.
- Completed replacement of AWIPS routers and firewalls to ensure system security and maintainability
- Continue development of AWIPS Linux Prototype System (ALPS)

FY 2006 Plans:

- Decommission old satellite broadcast network (SBN) demodulators
- Continue software development and maintenance including porting to LINUX and warning decision support assistance
- Complete LINUX phase 2 system upgrades
- Decommission older HP application servers
- Begin the AWIPS software re-architecture effort
- Replace aging AWIPS printers, and Simpact X.25 interfaces
- Begin Continuous Technology Refresh (CTR) effort to replace aging LDAD Servers with redundant Linux servers
- Add two new compute nodes to the DX/NAS Linux compete cluster

FY 2007 Plans:

- Replace aging Communications Processors
- Begin phase three of satellite broadcast network (SBN) bandwidth enhancement to 45 Mbps
- Continuous Technology Refresh (CTR) for 800 AWIPS workstations, Pre-Processors, and Text workstations
- Continue AWIPS software re-architecture efforts
- Replace aging Pre-Processor server clusters at 167 sites

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
AWIPS Product Improvement	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base	-	-	-	-	-	-	-	
Total Request	90,375	12,764	12,764	12,764	12,764	12,764	-	154,195

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Next Generation Weather Radar (NEXRAD): NEXRAD is a Doppler weather radar system that provides automated signal processing, computerized processing of data by sophisticated meteorological software algorithms, and a high-capacity, processor-driven communications capability. The system is modular in design, upgradeable, has a long life-cycle expectancy, and provides both governmental and commercial sector weather users with a wide array of automated weather information that will increase their capability to meet their respective operational requirements. For the NWS, the system uses Doppler technology and hydrometeorological processing to provide significant increases, both in the functional capability and in performance, compared with previous radars, including improved tornado and thunderstorm warnings, increased air safety, improved flash flood warnings, and improved water resources management.

Representation of clouds, precipitation, and storm-related winds is critical for improved mesoscale forecasts of severe weather. The NEXRAD network provides winds and radar reflectivity data, which can be used on 10 km and smaller scales. NCEP will implement an initial use of NEXRAD winds in 2003, but much more work is necessary to use the reflectivity for initial conditions and improve the use of wind and precipitation observations in numerical weather prediction. Using NEXRAD data in this way will improve the capability of new high-resolution data assimilation and modeling systems to forecast severe weather on hourly time scales for NWS WFO support.

Funding for NEXRAD includes Implementation of Open systems Radar Data Acquisition (ORDA) to enable the NWS to improve tornado warning lead times from 11 minutes to 15 minutes by 2008 and save $2.4M in FY 2006 from the total cost of the NEXRAD Product Improvement Program. The ORDA systems will enable improvement in the spatial resolution (termed Super Resolution) of the radar data. Super Resolution will double the potential range of detection of parent circulations of small tornadoes from 120km to 240km, an increase in coverage area for such circulations by 80%. When fully implemented (by FY 2010), Dual Polarization technology will enable NWS forecasters to provide better flash flood warnings, better short term advisories for hazardous winter storms, information on aircraft icing potential, and better severe hailstorm warnings. Dual Polarization will also improve NEXRAD precipitation and wind estimates by identifying and removing non-weather targets such as birds from the data. These data quality improvements will enhance the value of the NEXRAD data to high resolution data assimilation and modeling systems. Improvements to data assimilation and modeling systems using NEXRAD data will result in the improvement of day one precipitation forecast accuracy to 29% by FY 2008, tornado lead time to 15 minutes in FY 2008, and flash flood lead time to 49 minutes in FY 2008.

FY 2004 Accomplishments:
- Completed development of ORDA
- Began full scale development of dual polarization technology

FY 2005 Accomplishments:
- Completed ORDA testing
- Continued development and validation of dual polarization technology

FY 2006 Plans:
- Deploy 100 ORDA Units
- Complete requirements and functional analysis for dual polarization capability; award development and production contract

FY 2007 Plans:
- Complete ORDA Deployment (total 120 operational units)
- Begin full scale development of Dual Polarization

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

NEXRAD	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base		-	-	-	(8,376)	(8,376)	-	
Total Request	70,368	8,376	8,376	8,376	-	-	-	95,496

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Radiosonde Replacement Program: The NWS radiosonde network provides upper-air weather observations; the primary source of data required by NWS numerical weather prediction models, which form the basis of all NWS forecasts for day 2 and beyond. Observations of temperature, pressure, humidity, and wind speed/direction are taken twice a day at 102 locations nationwide and in the Caribbean using a balloon-borne instrument (radiosonde) which transmits the data via radio signal to a ground receiving station usually located at a Weather Forecast Office (WFO), where it is processed.

New frequency allocations require reduction in bandwidth on the frequencies used to transmit data from the radiosonde to the ground receiving station and prevent interference to the ground station receiver. Reallocation of frequency spectrum in 1999 has placed the radiosondes at risk of losing data, due to interference from new band users, and may force radiosondes to use frequencies that will increase interference with meteorological satellite operations. Both the radiosondes and the ground receiving equipment must be replaced by the NWS in order to comply with the new spectrum allocation. In addition, the ground receiving station processors are IBM XTs and cannot support the Windows-based software required to manage the Global Positioning System (GPS) radiosonde data. Finally, new surface observing instrumentation is necessary to comply with surface launch accuracy reporting requirement.

In FY 2007, the base program will fund 78 of the 102 sites and reduce the number of radiosondes and sites installed.

FY 2004 Accomplishments
- Awarded full-rate production contract for GPS radiosonde
- Completed system testing
- Completed deployment of surface observing system
- Began testing of pre-production prototypes from second GPS radiosonde supplier

FY 2005 Accomplishments
- Completed operational testing
- Deployed 5 RRS systems for a total of 15
- Continued testing of pre-production prototypes from second GPS radiosonde supplier

FY 2006 Plans
- Deploy 12 RRS systems for a total of 27
- Continued testing of pre-production prototypes from second GPS radiosonde supplier

FY 2007 Plans
- Deploy 18 RRS systems for a total of 45
- Award limited low-rate production contract for second radiosonde supplier.

NOAA's Environmental Real Time Observation Network (NERON) (Formerly known as Cooperative Observer Network Modernization (COOP-M)): NERON will provide the United States with a network of accurate, real-time surface weather data (temperature and precipitation at a minimum) obtained with state-of-the-art measurement, monitoring, and communication equipment. Quality controlled, higher density, real-time surface data will preserve and enhance the climate record of the Nation and improve temperature forecast skill, river height forecast error, radar estimates of precipitation, drought monitoring resolution, hydrology planning, and energy optimization for NWS customers.

A specific goal of NERON is to form the infrastructure for the National Integrated Drought Information System (NIDIS). Additional sensors from proven commercial off-the-shelf technology, including wind data, can provide timely data for response to homeland security events or disasters. Benefits and outcomes are summarized in the table below. The objective of NERON, completing the program started in FY 2003, is to deploy or upgrade up to 8,000 modernized sites.

The modernized NERON instrument suite will include sensors to measure temperature, precipitation, and eventually snow depth. In the near term, electronic methods will be available for augmentation of snowfall and depth information. In addition, the instrument suite can be upgraded to include surface wind measurement in support of Homeland Security and to measure the density of particles less than 2.5 microns in diameter for both EPA air quality and Homeland Security. Each instrument suite will include the communications necessary to transmit observations in real time to a central location from which the data can be monitored, quality controlled and disseminated.

A part of NERON is the Historical Climate Network (HCN), comprised of approximately 1200 stations. Because of its unique purpose as the long-term network developed to assist in the detection of regional climate change, it is a high priority of NWS to ensure the integrity of its long-term database. Like other manual NERON sites, the HCN uses older technology, and the data are not available in real time. Real time observations are necessary to meet users' needs and to provide sensor information for prompt maintenance actions. The modernization of HCN sites will mitigate the lack of information from geographical sub-regions and provide, in real-time, very high quality surface observations of temperature and precipitation that meets climate, hydrology, and weather and water forecasting needs. Modernizing HCN will reduce the uncertainty in the measure of regional climate change.

In FY 2003 and FY 2004, a low-cost, standardized, climate/weather observing system supporting multi-agency federal requirements and requirements of all climate and weather data users was developed and deployed at specified sites and used as a proof of concept and risk reduction. The goal is to develop a network of 8000 modernized systems. Actions include:

- Modernizing temperature and precipitation gauges at locations identified by Regional Site Selection Teams with a clear focus on NIDIS activities
- Adding automated data communication, dissemination, & archiving at these sites**:**
  Temperature and precipitation data reported in real time
  Snowfall data reported daily
- Improving spatial distribution (increased density in the Western United States & Alaska)
- Rigorous quality assurance of network data that are made available in real time through a distributed network of mirrored servers validated by professional staff at an operational central monitoring facility
- Disseminating all data via the Advance Weather Information Processing System (AWIPS), internet and by other means

FY 2002: 118 temperature demonstration sites were deployed.
FY 2003/2004: Prototypes designed and 4 prototypes were installed, and 100 modernized stations acquired.
FY 2005: 100 fully modernized sites deployed in the Northeast; (includes upgrade at 40 of the temperature demonstration sites); Operated and maintained modernized COOP stations; add public/private mesonet partnerships, perform risk reduction of data monitoring and processing system.
FY 2006: Modernize 20 COOP stations in North East and 30 in the west in support of NIDIS for a total of 150.
FY 2007: Maintain all stations modernized between FY 2003 and FY 2006. Continue to monitor and process data. Install 58 NIDIS sites in West and NE for a total of 480 stations. $500K will be used to modernize 20 HCN sites, including site selection, acquiring and installing the hardware and fences, establishing real time communications, and maintaining the new HCN stations.

Each modernized NERON site will automatically collect and disseminate data for temperature and precipitation. Selected stations will be expanded to also collect soil moisture and wind data. The potential will exist to collect other data as well. These data will be transmitted in real time via the National Law Enforcement Telecommunications System and other communications technology to a central processor from which the data will be disseminated to Weather Forecast Offices, (WFOs), NOAA's National Climate Data Center (NCDC), and other users. Data will also be available on the Internet. Data will be temporarily archived at each site and at the central processor and for the long term at NCDC.
Real time data will be used in computer models to enhance short-term temperature forecast accuracy and will be used in tandem with information from weather radar to improve flood and flash flood forecasts.

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

COOP Modernization/ NERON/ HCN/ Surface Wx	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base	-	-	-	-	-	-		
Total Request	5,082	4,234	4,234	4,234	4,234	4,234	21,170	47,422

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

NWS Telecommunications Gateway Legacy Replacement: The NWSTG is the NWS communications hub for collecting and distributing weather information to its field units and external users. Replacing the NWSTG system with up-to-date technology will reduce the current delays in collecting and disseminating data by reducing transit time through the NWSTG. The replacement will ensure reliable delivery of NWS products to users and will fully capitalize on better observation data and prediction models to improve services. In FY 2006, NWS will conclude a three-year effort to replace the National Weather Service Telecommunications Gateway (NWSTG) switching system and repair and upgrade NWSTG facilities.

FY 2004 Accomplishments:

- Post Request for Information (RFI) for replacement solutions
- Acquired communications matrix switch
- Acquired Front End Processors (FEP) servers
- Acquired redundant Uninterrupted Power Supply (UPS)
- Modified cooling system
- Corrected electrical system deficiencies

FY 2005 Accomplishments:

- Acquired enterprise servers and FEP
- Acquired enterprise file system
- Continued facility upgrade activities
- Designed and implemented new internal network
- Initiated transition from dedicated point-to-point based wide area network to IP network architecture

FY 2006 Plans:

- Build and test enterprise servers and file system
- Continue facility upgrade activities
- Implement NWSTG legacy replacement system
- Acquire NWS Back-up Telecommunications Gateway (BTG) network infrastructure
- Begin NWS BTG systems testing
- Begin NWS BTG network failover testing

FY 2007 Plans:

Execute limited technical refresh in 2nd Quarter
Implement NWS BTG infrastructure

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
NWSTG Legacy Replacement								
Change from FY 2007 Base		-	-	-	(495)	(495)	-	
Total Request	5,800	495	495	495	-	-	-	7,285

*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Weather and Climate Supercomputing: The cyclical upgrade of the NWS weather and climate supercomputing capability is intended to procure the computing and communications equipment needed to receive and process the increasing wealth of environmental data acquired by modernized observing systems, process improved and more sophisticated numerical weather prediction models, and stay current with the supercomputing technology the market has to offer. Execution of this program promotes public safety and the protection of property by providing the NCEP with the computer systems that are capable of producing more accurate NWS climate and numerical weather prediction (NWP) guidance products for hurricanes, severe thunderstorms, floods, and winter storms. Additionally, the supercomputing system more accurately forecasts large-scale weather patterns in the medium (3 to 10 days) and extended range (30 days), plus forecasts of major climate events such as El Niño and La Niña. In addition, the computer upgrades will improve the delivery of products to the field and provide system users with enhanced productivity. These products and services will lead to significant economic benefits for users, like the agriculture, construction, and transportation industries.

FY 2003 Accomplishments:

- Transitioned Class VIII computer operations to the new Central Computer System (CCS)
- Began operational use of the new CCS beginning in June
- Added "on-call" 4 per day run to support fire weather services using 8km Non-hydrostatic Mesoscale Model
- Implemented the following NWP model improvements:
- 55Km resolution Global Forecast System from 75 Km (medium range and aviation forecasting).
- Upgraded physics into operational GFDL hurricane forecast model
- Enhancements to mesoscale Eta analysis and model physics

- FY 2004 Accomplishments:
- Delivered and installed upgraded Central Computer System (CCS)
- Delivered and installed backup computer
- Implemented the following NWP model improvements:
- Expand vessel icing products model to a global domain
- Expand Wavewatch III wave model runs from 168 hours to 180 hours
- Implement downscaled GFS with Eta Extension (DGEX) (extends the information content of medium range model prediction fields to finer scales for use with Interactive Forecast Preparation System (IFPS)
- Extend 105 km resolution of Global Ensemble Forecast system from 84 to 180 hours, increase runs from two to four times daily
- Implement CDC ensemble week-2 forecast system into operational suite
- Implement new Climate Forecast System
- Earlier delivery of mesoscale Eta model forecasts
- Implemented one-day air quality forecast for NE U.S.
- Implemented two member WRF ensemble
- Enhanced mesoscale Eta analysis and model physics

- FY 2005 Accomplishments:
- Completed Central Computer System Upgrade
- Completed implementation of Central Computer System Backup
- Implemented Global Forecast System with increased horizontal resolution: 35 km out to 7.5 days (currently 55 km) and 70 km to 16 days (currently 105km)
- Added assimilation of AIRS (Atmospheric Infrared Sounder) data to Global Forecast System
- Implemented Rapid Update Cycle: 13 km (currently 20 km)
- Implemented Global Ensemble upgrade of resolution (from 210 km to 105 km for forecast hours 180 – 384)
- Provided Short Range Ensemble Forecast output for Alaska and Hawaii
- Implemented WRF with two dynamic cores at ~5 km resolution in Nested Window run
- Implemented Climate Forecast System Ensemble Runs (2 members/day)
- Began experimental production of expanded air quality guidance over Eastern U.S.
- Enhanced North American Ensemble Forecast System by merging ensembles from U.S. and Canada
- Added six new members to Short Range Ensemble Forecast (SREF) system

- FY 2006 Plans:
- Replace model in North American run (currently 12 km Eta) with 10 km WRF Non-Hydrostatic Mesoscale Model
- Provide assessment of WRF-based Hurricane model
- Run experimental North American Land Surface Data Assimilation System
- Implement HYCOM-Based Real-Time Ocean Forecast System for the North Atlantic Basin
- Complete implementation of six WRF members into the Short Range Ensemble Forecast System
- Implement operational production of expanded air quality forecast guidance over the eastern U.S. with WRF
- Implement increased satellite observations into global data assimilation system (including AIRS data upgrade, NOAA-18 data and MODIS data)

- FY2007 Plans:
- 13 Km WRF capability in Hurricane model
- Replace RUC with WRF-based rapid refresh model
- Enhancements to Global Forecast System analysis and model physics
- Implement Basin-scale and Global Ocean Forecast system for NE Pacific and Hawaii

Base activities support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

OUTYEAR FUNDING ESTIMATES
(BA in Thousands)

	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
Weather & Climate Supercomputing								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	130,109	19,092	19,092	19,092	19,092	19,092	95,460	321,029

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
Weather & Climate Supercomputing Backup								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	21,168	7,077	7,077	7,077	7,077	7,077	35,385	91,938

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Complete and Sustain NOAA Weather Radio (NWR): Procure all of the transmitters for the seventeen (17) sites identified as high risk of severe weather events and begin installations. Nine (9) transmitters are planned to be installed in FY 2006 and the remaining eight (8) in FY 2007. Additionally, funds will be used to begin the refurbishment of four hundred (400) stations established in the 1970s, eliminating single points of failure and improving network reliability.

NWR was designed to be and is used as a reliable, inexpensive means of communicating weather related warnings to the public. The existing infrastructure of NWR has tremendous potential for use communicating warnings and information about non-weather related hazards and emergencies. NOAA has had extensive meetings with the Department of Homeland Security, discussing the use of NWR as an all hazards warning system. National Weather Service received an appropriation of $5.4M in FY 2004 to make NWR an all hazard warning network. NWR infrastructure as a national warning network consists of over 900 existing broadcast stations; broadcast coverage that reaches 97% of the nation's population; and the ability to deliver the broadcasted message to individuals monitoring their own NWR receivers as well as the ability to reach millions of listeners and viewers since NWR signal enters the Emergency Alert System, which is monitored by television and radio license holders.

NOAA categorizes 248 areas in the United States as being at high risk of experiencing severe weather. Severe weather includes tornados, hurricanes, flash floods, flooding, severe winter weather and severe marine weather. NOAA defines high-risk areas as areas that score above 225 points using NOAA Weather Radio Priority Weighted Value (PWV) system as defined in the *NOAA Weather Radio Prioritized Plan for Areas Lacking Coverage* dated February 2001. Points are accumulated based on the number of severe weather events, as documented in the NWS Weather Incident Report, and weather related fatalities over the past ten years. Additionally, population statistics for the areas are identified. The NWR Program Office reassesses the identification of high-risk areas annually. To achieve 100% coverage of high-risk areas, seventeen (17) additional NWR broadcast stations are needed.

In its efforts to sustain a high level of reliability and maintainability of NOAA Weather Radio, National Weather Service faces challenges due to equipment obsolescence and due to degraded reliability relative to that possible with newer technology equipment. Four hundred (400) NWR station transmitters are

of 1970's vintage, employing vacuum tube technology from four different manufacturers. These older stations are less reliable than newer ones using solid-state transmitters. Older stations demonstrate mean time between failure (MTBF) rates of 6,000 hours, or one failure every 250 days. In comparison, newer solid-state transmitters demonstrate MTBF of over 10,000 hours, a 67% improvement. Furthermore, stations have single points of failure due to configurations that include single, instead of dual, transmitters and lack of backup power generators to ensure continued service in the event of primary electrical service failure. Combined, these factors significantly decrease reliability and availability and increase logistics and maintenance costs. Refurbishing these older stations and adequately funding operations and maintenance costs will allow NWR to meet expectations of availability as the nation's weather and all hazard warning system.

FY06 Plans
Procure transmitters for the 17 high risk areas.
Establish 9 new sites in high risk areas
Refurbish 64 of the 400 older sites.
Provide operations and maintenance of the NWR network for gifted and other transmitters.

FY07 Plans
Establish 8 new sites to complete the network coverage in high risk areas.
Refurbish an additional 78 of the 400 older sites for a total of 145.
Provide operations and maintenance for gifted and other transmitters including the 17 new sites and 64 refurbished sites.

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

Complete & Sustain NWR	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base								
Total Request	5,572	5,594	5,594	5,594	5,594	5,594	27,970	61,512

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Transfers
NWS requests the following transfers between line offices or appropriations.

From Line	Line	To Office	Line	Amount
Program Support	Integrated Ocean Observing System	NWS	Coastal Global Observing System	$1,492,000
Program Support	Strengthen U.S. Tsunami Warning System	NWS	Strengthen U.S. Tsunami Warning System	$3,480,000

$1,492,000 is transferred from the Program Support/Integrated Ocean Observing Systems to fund NWS Coastal Global Observing System where it has traditionally been appropriated.
$3,480,000 is transferred from the Program Support/Integrated Ocean Observing Systems to the NWS Strengthen U.S. Tsunami Warning System.
$500,000 is transferred between the NWS Cooperative Observer Network Modernization to spread funds toward the climate goal.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
ASOS	4,608	8,506	4,635	3,935	(700)
AWIPS	12,708	13,280	12,764	12,764	-
NEXRAD	10,665	9,343	8,376	8,376	-
NWSTG Legacy Replacement	2,476	493	495	495	-
Radiosonde Network Replacement	6,285	6,299	4,347	4,014	(333)
Weather and Climate Supercomputing (WW)	19,322	19,020	19,092	19,092	-
Weather and Climate Supercomputing Backup	7,045	7,050	7,077	7,077	-
Cooperative Observer Network Modernization (WW)	864	4,218	3,739	3,739	-
Cooperative Observer Network Modernization (C)	-	-	495	495	-
NWS Coastal Global Observing System	-	-	1,492	-	(1,492)
Complete and Sustain NOAA Weather Radio	-	5,572	5,594	5,594	-
Strengthen US Tsunami Warning Network	10,160	3,796	3,470	1,030	(2,440)
All Hazard National Warning Network: NOAA Weather Radio	-	1,998	-	-	-
TOTAL	74,133	79,575	71,576	66,611	(4,965)
FTE	44	54	54	54	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Automated Surface Observing System Product Improvement (0 FTE and -$700,000): NOAA requests a decrease of 0 FTE and $700,000. This decrease reflects a planned change in the implementation strategy for 240 of the total 377 sites from 40,000 foot ceilometers to 25,000 foot ceilometer.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
ASOS Product Improvement	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base		(700)	(700)	(4,635)	(4,635)	(4,635)	-	
Total Request	44,444	3,935	3,935	-	-	-	-	52,314

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Radiosonde Replacement System (0 FTE and -$333,000): NOAA requests a decrease of 0 FTE and $333,000. This decrease reflects a planned extension of the deployment schedule by one year so that the network is complete in FY 2009.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
Radiosonde Replacement System								
Change from FY 2007 Base		(333)	(333)	(333)	(4,347)	(4,347)	-	
Total Request	49,722	4,014	4,014	4,014	-	-	-	61,764

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Coastal Global Ocean Observing System (0 FTE and -$1,492,000): NOAA requests a decrease of 0 FTE and $1,492,000 to terminate the Coastal Global Ocean Observing System Program. This funding has been redirected to financially support other NOAA programs.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
C-GOOS	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Change from FY 2007 Base		(1,492)	(1,492)	(1,492)	(1,492)	(1,492)	-	
Total Request	1,477	-	-	-	-	-	-	1,477

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Strengthening the U.S. Tsunami Warning Program (+0 FTE and -$2,440,000): NOAA requests a decrease of $2,440,000 to reflect the planned reduction in the procurement of program assets that were required to accelerate the development and deployment of a national tsunami warning system in FY 2005 and FY 2006. Funds will be used to complete the planned acquisition of deep ocean assessment and report of tsunamis (DART) buoys for the Pacific Ocean Basin and the Caribbean/Atlantic Ocean region. This budget request is necessary to complete the foundation laid by the Administration in FY 2005 and FY 2006 to strengthen the U.S. tsunami warning program. Lessons learned from the 2004 Indian Ocean Tsunami indicate that there are three key interlocking components of an effective Tsunami Warning/Response System: (1) Tsunami Hazard Assessment (must include comprehensive coastal US risk assessments/inundation mapping); (2) Tsunami Warning Guidance (must include 24/7 tsunami detection and warning systems and the dissemination of accurate and timely tsunami forecasts and warnings (seconds literally count)); and (3) Tsunami Mitigation (including community-based emergency response plans, public education/awareness (TsunamiReady communities and inundation/evacuation mapping)). This investment is one of the high priority investments required for NOAA's implementation of the Integrated Ocean Observing System (IOOS) as the coastal and open ocean component of the Global Earth Observing System of Systems (GEOSS). Combined with other like-identified IOOS investments across NOAA, it is part of NOAA's strategy to provide initial benefits of an integrated ocean observing system, focusing on enhancing key observational capabilities throughout NOAA, and our ability to provide customers with enhanced coastal data and information.

Statement of Need

In response to the 2004 Indian Ocean Tsunami, the Administration committed $26.7M ($17.2M in FY 2005 and $9.5M in FY 2006) to expanding the U.S. Tsunami Warning Program to protect U.S. lives and property along all coasts (Pacific, Gulf of Mexico, Atlantic and the Caribbean). In order to sustain the Administration's commitment to strengthening the U.S. Tsunami Warning Program, and mitigate a similar seismic/tsunami event in the U.S., NOAA needs to complete the procurements of the necessary assets to complete and maintain the national warning system infrastructure.

Requested funds are required to complete the planned deployment and operations of the 39 Deep-ocean Assessment and Reporting of Tsunamis (DART) buoy systems, strategically sited along the Pacific, Atlantic and Caribbean basins, to accurately detect and measure tsunamis and provide advance warnings. Data from DARTs will also aid U.S. Tsunami forecasters in not only reaching tsunami warning decisions, but also in providing detailed tsunami forecasts (inundation locations, wave heights, number of waves).

Proposed Actions:

In FY 2005, the tsunami warning system expansion plan called for:

- Awarding procurement contracts for and deploy first 10 DART buoys (PAC)
- Procuring and install/upgrade new sea level monitoring/tide gauge stations in the Pacific and Atlantic Regions and the Caribbean (ORF)
- Begin staffing increases to provide 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (ORF)
- Expanding the International Tsunami Information Center (ITIC) (ORF)
- Begin upgrading NWS-owned seismometers in Alaska and Pacific regions used to improve Local Tsunami Warning capabilities (PAC)
- Improving existing seismic detection network in the Caribbean (PAC)
- Begin expansion of the PTWC Facility for 24/7 Operations (Construction)
- Accelerating and expanding tsunami education/outreach (Tsunami Ready program) to improve community preparedness (ORF)
- Accelerating Tsunami Inundation Mapping along the West Coast and expand this program into the Caribbean/Atlantic/Gulf of Mexico (ORF)

In FY 2006, the tsunami warning system expansion plan calls for:

- Installing 16 new DART Buoys in the Pacific and Caribbean (PAC)
- Procuring 40 DART buoys including 10 spares and 3 redundant buoys for Alaska to insure continuity of operations in harsh seas off Alaska (PAC)
- Operating and maintaining 49 new/upgraded sea level monitoring/tide gauge stations (ORF)
- Completing the expansion of the PTWC facility to accommodate 24/7 Operations (PAC)
- Completing upgrade of NWS-owned seismometers used to improve tsunami detection (PAC)
- Providing 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (ORF)
- Expanding Tsunami Ready program to improve community preparedness (ORF)
- Continuing Tsunami Inundation Mapping along the West Coast and for the Caribbean,/Atlantic/Gulf of Mexico (ORF)
- Expanding Tsunami Mitigation Activities through the NWS/ITIC (ORF)

In FY 2007, the total funding of $1.03M will be used for:

- Procuring and deploying the final four (4) Spare DART Buoys (including ship time) ($1.03M)

Performance Goal and Measurement Data

This increase will support the objective: "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the DOC Strategic Goal of 'Observe, protect, and manage the Earth's resources to promote environmental needs.' Specifically, this increase supports NOAA's Weather and Water strategic goal and the performance measures below.

Performance Measure	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Tsunami False Alarm Rate								
Local	75%	75%	75%	75%	75%	75%	75%	75%
Distant	75%	75%	75%	50%	40%	25%	25%	25%
with Adjustment								
Tsunami False Alarm Rate								
Local	75%	75%	75%	75%	75%	75%	75%	75%
Distant	75%	75%	75%	75%	75%	75%	75%	75%
without Adjustment								
Tsunami Warning Lead Time * (minutes)								
Local Tsunamis	15	10	8	6	5	5	5	5
Distant Tsunamis	30	30	30	20	15	15	15	15
with Adjustment								
Tsunami Warning Lead Time * (minutes)								
Local Tsunamis	15	10	8	8	8	8	8	8
Distant Tsunamis	30	30	30	30	30	30	30	30
without Adjustment								

*Tsunami Warning Lead Time measures the amount of time between when a seismic event occurs and when the tsunami warning is issued.

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

Strengthening the U.S. Tsunami Warning Program	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete	Total
Change from FY 2007 Base		(2,440)	(3,470)	(3,470)	(3,470)	(3,470)		
Total Request	3,432	1,030	-	-	-	-	-	4,462

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: Automated Surface Observing System (Hurricane Supplemental – $3,900,000); Advanced Weather Interactive Processing System ($571,000); Next Generation Weather Radar (Hurricane Supplemental - $1,000,000); Radiosonde Network Replacement ($1,972,000); All Hazard National Warning Network: NOAA Weather Radio (Hurricane Supplemental - $2,000,000); and Strengthen U.S. Tsunami Warning Network ($3,800,000).

National Environmental Satellite, Data, and Information Service
Activity: Systems Acquisition

GOAL STATEMENT:

The goals of the Geostationary Operational Environmental Satellite (GOES) program are to continue the procurement of spacecraft, instruments, launch services, and ground systems equipment necessary to maintain an uninterrupted flow of environmental data to users.

The GOES series of satellites fall under NOAA's Mission Support goal, and support NOAA's other strategic goals to protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management approaches; to understand climate variability and change to enhance society's ability to plan and respond; to serve society's needs for weather and water information; and to support the Nation's commerce with information for safe and efficient transportation (e.g., commercial aviation, utilities, commercial shipping, etc).

GOES data provides:

- Cloud images and precipitation estimates for hurricanes and other coastal storms;
- NOAA Coast Watch sea surface temperature (SST) products for locating commercial and sport fish as well as protected marine species;
- New research products, such as ocean surface currents, that support both ecosystems management and safety of marine navigation;
- Primary information in the Nation's Climate Reference Network, providing reference quality data for surface temperature and precipitation monitoring;
- Images of the United States and adjacent ocean areas to enable the detection of hurricanes and other major weather events;
- Data collection from remote fixed observing platforms such as buoys and rain gauges for use in numerical weather prediction models and flood/drought assessments;
- Weather information to emergency managers for use in times of severe weather and during other disasters;
- A means to obtain quantitative environmental data such as temperature, moisture, wind, radiation and solar energy particle flux for use in weather predictions, hydometrological flux, climate long term trending, ecosystems management, commercial economic gain, and transportation safety; and
- Unique monitoring capabilities that support air, land, and marine transportation.

The NOAA family of polar satellites (i.e., Polar-orbiting Operational Environmental Satellites (POES), and National Polar-orbiting Operational Environmental Operating Satellites System (NPOESS)), instruments, and processing systems are also Mission Support programs, and provide support for all of the other strategic plan goals, and NOAA's cross-cutting priorities.

Polar satellites provide a continuous flow of global environmental observations in support of operational requirements for:

- Environmental monitoring, and weather and marine forecasting;
- Climate assessment and change prediction;

- Detecting weather systems and significant environmental events such as volcanic eruptions, oil spills, and wildfires;
- Measuring atmospheric ozone and the space environment;
- Collecting environmental data from other surface platforms such as buoys; and
- Performing search and rescue functions.

BASE DESCRIPTION:

Geostationary Operational Environmental Satellite (GOES): The GOES system provides an uninterrupted, continuous flow of data and information that meets customers' spatial, temporal and accuracy requirements, providing significant customer benefit within an established life cycle cost target. The procurement of GOES satellites is a cooperative venture between NOAA and the National Aeronautics and Space Administration (NASA). NOAA defines requirements, manages, funds, implements system integration, procures ground segments and operates the GOES satellites. NASA serves as the agency with multi-disciplinary engineering expertise, develops detailed system specifications, procures and launches the spacecraft, and assists NOAA in system integration. For the GOES-R series the roles and the responsibilities of NOAA and NASA are being re-examined and possibly realigned to better meet each agency's charter and strategic goals.

NOAA GOES satellite systems are designed, developed, acquired and operated as a single end-to-end system. The system includes the observing platform (satellites); command and control of the platform; product generation and distribution; archive and access; and user interface. GOES contributes to an Integrated Global Observation System; is defined as an end-to-end approach linking requirements to services; delivers critical real-time data and information needed for sound decision making; addresses needs to support expanded climate services; and works with global partners.

GOES observations allow continuous monitoring from the same angle during the tracking/detection of severe storms, atmospheric moisture deltas, mesoscale scanning, currents flow dynamics, and atmospheric chemical (particle) that cannot be achieved from a non-stationary orbit without increased error rates and lost data segments. NOAA maintains an on-orbit spare to complement the two operational GOES satellites. This on-orbit spare philosophy allows NOAA to quickly replace a failed satellite by re-positioning an on-orbit satellite. To facilitate this strategy, NOAA plans the launch of the next satellite to coincide with the planned switchover of the on-orbit spare to operational status.

GOES-I SERIES: Fiscal Year 2006 is the last year of funding for on-orbit support.

GOES-N SERIES: The NOAA GOES program includes the development, procurement, and launch of the next series of GOES satellites, the GOES-N series. The spacecraft contract for the GOES–N series is a firm fixed price contract with delivery on-orbit. The GOES-N series program also includes separate contracts for the instruments, one for the Imager and Sounder, and one for the Solar X-ray Imager.

GOES-R SERIES: The GOES-R program will complete architecture studies, technology development, design, fabrication, integration and testing, and end-to-end system integration to support an initial GOES-R launch date of September 2012. End-to-end system integration refers to the acquisition of an on-orbit satellite including the spacecraft, instruments, GOES unique communications services, and launch services; the command, control, and communications and product generation and distribution functions currently performed by Satellite Services; the archive and access of all data and products; and the user interface function providing data to critical users and forecasters. A single prime contract is being contemplated to acquire the GOES-R end-to-end system. The archive and access function will be provided by NOAA's CLASS system. This end-to-end integration requires the acquisition, deployment, maintenance, and operations of the space and launch segments from FY 2012 through FY 2029.

Polar-orbiting Operational Environmental Satellite System: Currently, the polar satellite program consists of NOAA's Polar-orbiting Operational Environmental Satellites (POES) and the National Polar-orbiting Operational Environmental Satellite System (NPOESS). POES is NOAA's current operational polar system, with one more satellite left in the series (NOAA N'). NPOESS is an acquisition program that is the follow-on program mandated by Presidential directive to replace POES and the Department of Defense's (DOD) Meteorological Satellite Program (DMSP). NPOESS Data Exploitation (NDE) is a polar-related project that is still in development, planning, and acquisition.

Polar-orbiting Environmental Satellite (POES). The POES system provides daily global observations of weather patterns and environmental measurements of the Earth's atmosphere, its surface and cloud cover, and the proton and electron flux at satellite altitude; and to establish long-term data sets for climate monitoring and assessment and climate change predictions. Since the beginning of the POES program, environmental data and products acquired by its satellites have been provided to users around the globe.

In September 2003, the POES spacecraft, NOAA-N', was damaged while under construction. The incident occurred while a NASA contractor was performing an operation that required a rotation of the satellite in its construction platform. NOAA has worked out an agreement with the contractor to rebuild the satellite in order to meet the planned FY 2008 launch.

National Polar-orbiting Operational Environmental Satellite System (NPOESS): In 1994, the decision was made to integrate the Nation's civil and military polar-orbiting meteorological satellite systems into a single, national system capable of satisfying both civil and national security requirements for space-based, remotely sensed environmental data. These systems include the NOAA POES system and DOD's DMSP. As a result, NOAA, DOD, and NASA formed a tri-agency Integrated Program Office (IPO) to develop, manage, acquire, and operate the new NPOESS.

Through NPOESS, which is funded jointly by NOAA and the U.S. Air Force, the U.S. government is substantially reducing duplication of efforts by satisfying the requirements of the civil and national security communities with one system. The first result of the NPOESS program was the transfer of DMSP satellite control from the U.S. Air Force Space Command to the IPO. The command, control, and communications functions for the DMSP satellites and the POES satellites are now combined at the NOAA Satellite Operations Control Center (SOCC) in Suitland, Maryland. The launch of the DMSP F-15 satellite in December 1999 resulted in the first DMSP satellite launched and controlled by the NOAA SOCC.

NPOESS is also initiating efforts to reduce future operational risks by executing early design and fabrication of critical instruments and by leveraging instrument technology from mature satellite development programs at NASA and other agencies. Early flight demonstration of key systems will ensure that new sensors are flown in space, algorithms are tested, and that new, high volume satellite data streams can be processed and effectively utilized by both civilian and military users before the first operational NPOESS spacecraft is launched. NPOESS is a complex development program facing cost and schedule issues. We are evaluating alternatives to address these issues while maintaining continuity of polar satellite observations.

Advanced NPOESS visible, infrared, and microwave sensor suites will deliver higher resolution atmospheric, oceanic, and terrestrial data, enabling more accurate short-term weather forecasts and severe storm warnings. NPOESS also offers the added advantage of serving the longer-term data continuity requirements of the climate community for improved global climate assessment and prediction. NPOESS will provide improved measurements and information about the space environment necessary to ensure reliable operations of space-based and ground-based systems, as well as continue to provide surface data collection and search and rescue capabilities.

NPOESS Preparatory Project/NPOESS Data Exploitation: NESDIS has the mandate to operate the Nation's environmental satellites, collect environmental observations, process, distribute and archive data, and make available key data sets for both operations and research. The NPOESS Data Exploitation (NDE) component of the NPOESS Preparatory Project (NPP) consists of processing and distribution of NPOESS products and services once the data have been delivered to NOAA. NPOESS and NPP are part of a new environmental satellite program that promises to improve our observations of the earth, atmosphere, oceans and space environment. While the NPOESS contract awarded by the Integrated Program Office in August of 2002 covers the delivery of two satellites and the option to purchase four more satellites, it does not include product processing and distribution to NOAA's users and customers. In order to realize the benefits of NPOESS data, NOAA must implement capabilities to process NPOESS data records into useful products that meet the requirements of NWS and other civilian users. For example, NDE will be able to derive carbon-based products such as Methane, Carbon Dioxide and Carbon Monoxide from NPOESS observations. These gases tend to mask the atmospheric temperature and humidity observations sensed by NPOESS. By producing a better estimate of these gases, NDE will help the NWS to remove biases and improve weather forecasts. NDE will also assist the NOAA Climate Office by providing global estimates of these gases.

The FY 2007 funding will continue algorithm development begun in FY 2006, and will procure additional equipment to enhance the testing environment for these models. Funding will also be used to study archiving requirements for the NDE data.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
NPOESS Preparatory Project/NPOESS Data Exploitation								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	4,455	4,455	4,455	4,455	4,455	4,455	26,730	53,460

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

Comprehensive Large Array Data Stewardship System (CLASS): NOAA is responsible for the stewardship of over one petabyte of environmental data and information, which is expected to grow to well over 18 petabytes by 2011. NOAA spends more than one billion dollars each year collecting environmental data in support of its mission. In the near future, NOAA will launch the first NPOESS, which will provide a forty times increase in data volume per satellite. CLASS is a data archiving and access system that will improve the quality and stewardship of NOAA's environmental data and information. By providing efficient, secure, cost-effective access to NOAA's environmental data via CLASS, NOAA is supporting key research challenges identified by the U.S. Global Change Research Program, such as natural climate patterns, global monsoon, and land-atmosphere and ocean-atmosphere exchanges.

NOAA is enhancing its multiple current stovepipe archiving capabilities into a CLASS System that will be fully operational and managed at the enterprise level. This system will allow efficient management of high volumes of data critical to NOAA and the users in the scientific community. The target data originates from GOES, POES, NPP/NPOESS, DMSP, the National Weather Service's Next Generation Weather Radar and select numerical model output data. Management of these data can be accomplished only through rapidly expanding storage capacity at the Data Centers and automating the means of data ingest, quality control, and access through phased systems procurement. The early implementation of this archive and access system has paved the way to accommodate additional massive data volumes from the Earth Observing System Satellites.

Base activities support the objective, "Improve our understanding and prediction of the natural environment" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs:"

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
CLASS								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	18,377	6,476	6,476	6,476	6,476	6,476	N/A	Recurring

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Earth Observing System Data Archive & Access System Enhancement: NASA's Earth Observing System (EOS) data will be integrated into CLASS for archive and access. The expected large increases in data rates and volumes over the next several years from EOS data alone will far exceed the capacity and capabilities of the NOAA National Data Centers.

Base activities support both objectives under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs:"

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
EOS Data Archive & Access System Enhancement								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	8,392	990	990	990	990	990	N/A	Recurring

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Critical Single Points of Failure: This effort supports the continuity of critical operational satellite products and services in the event of a catastrophic outage at the Suitland facility/systems and the World Weather Building in Camp Springs by providing backup capability for primary satellite products and services. The backup capability will result from NOAA's establishing a backup processing site at the Wallops Command and Data Acquisition Station in Wallops, Virginia. Prior to establishing the backup facility and turning off the Federal Building (FB4) system, it will be necessary to complete the validation and testing of the new system. The first step in this process is to ensure continuity of operations by purchasing, installing, and testing new equipment in the new NOAA Satellite Operations Facility, which is scheduled for completion in FY 2005. The Wallops facility will become the operational backup site after the new site is operational and the old equipment from FB4 in Suitland is transferred to Wallops.

Standard information technology and business principles dictate that a contingency plan for continuity of services exists in the case of a catastrophic failure. Additional communications links to connect the Wallops backup location to the NOAA Science Center in Suitland MD will also be installed.

The NOAA Product Processing and Distribution Office is a critical single point of failure for every operational NOAA satellite product and service that NWS and other users rely on for weather information. Satellite data represents more than 99 percent of the input to numerical weather prediction models. Satellite products and services include: POES products such as ozone, temperature and moisture sounder products; GOES Advanced Weather Interactive Processing System (AWIPS) remapped imagery, high density winds, precipitation estimates, sounder products; and non-NOAA satellite products from NASA, the DOD, Europe, Japan and India.

Base activities support both objectives under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs:"

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Critical Single Points of Failure								
Change from FY 2007 Base		-	-	-	-	-	-	
Total Request	8,330	2,772	2,772	2,772	2,772	2,772	N/A	Recurring

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
Geostationary Systems	301,153	335,322	335,568	439,607	104,039
Subtotal: GOES	301,153	335,322	335,568	439,607	104,039
Polar Orbiting Systems - POES	104,230	101,261	101,767	89,906	(11,861)
Subtotal: POES	104,230	101,261	101,767	89,906	(11,861)
Polar Orbiting Systems - NPOESS	300,528	316,580	317,592	337,870	20,278
Subtotal: NPOESS	300,528	316,580	317,592	337,870	20,278
EOS & Adv. Polar Data Processing, Dist. & Archiving Systems	2,958	2,960	990	990	-
Subtotal: EOS	2,958	2,960	990	990	-
CIP - Single Point of Failure	2,760	2,798	2,772	2,772	-
Subtotal: CIP	2,760	2,798	2,772	2,772	-
Comprehensive Large Array Data Stewardship Sys (CLASS)	6,448	8,876	6,476	6,476	-
NPOESS Preparatory Data Exploitation	-	4,437	4,455	4,455	-
TOTAL	718,077	772,234	769,620	882,076	112,456
FTE	146	115	115	115	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Geostationary Operational Environmental Satellite (GOES):

GOES I-M Series (0 FTE, and -$600,000): NOAA is requesting a decrease of **$600,000** in FY 2007. FY 2006 was the last year of GOES I-M funding.

GOES-N Series (0 FTE, and -$8,803,000): NOAA is requesting a decrease of **$8,803,000** for a total of **$108,239,000** in FY 2007. The NOAA GOES program continues the development, procurement, and launch of the next series of three GOES satellites – the GOES-N series. The spacecraft contract for the GOES–N series is a firm fixed price contract. The GOES-N series program also includes separate contracts for the instruments, one for the imager and sounder and one for the Solar X-ray Imager. The instrument contractors have completed delivery of all flight model instruments.

FY 2007 GOES-N funding will be used for:
- Spacecraft/launching;
- NASA technical management
- The government program office and GOES-N contribution to NESDIS leadership
- Product development; and
- Ground systems and backup

GOES-R Series (0 FTE, and +$113,442,000): NOAA is requesting an increase of **$113,442,000** for a total request of **$335,800,000**. This request is consistent with the baseline profile for the program agreed to by the Administration in the FY 2006 President's Budget. Weather- and Climate-sensitive industries, both directly and indirectly, account for approximately $3.0 trillion of the United States gross domestic product (about one-third). Seasonal and interannual variations in climate, e.g. El Niño, led to economic impacts on the order of $25 billion for 1997-1998. Average annual damage from tornadoes, hurricanes, and floods is $11.4 billion with about 100 deaths annually. Approximately $4 billion per year is lost in economic efficiencies as a result of weather-related air traffic delays. Lightning causes between $4 and $5 billion in losses each year in the civilian sector with about 47 deaths and 303 injuries per year. The GOES-R series will minimize these losses.

FY 2007 GOES-R funding will be used for:
- Systems integration
- Instruments contracts; and
- The government program office.

Statement of Need

The GOES system provides an uninterrupted, continuous flow of data and information that meets customers' spatial, temporal and accuracy requirements, providing significant customer benefit within an established life cycle cost target. The procurement of GOES satellites is a cooperative venture between NOAA and the National Aeronautics and Space Administration (NASA). NOAA defines requirements, manages, funds, implements system integration, procures ground segments and operates the GOES satellites. NASA serves as the agency with multi-disciplinary engineering expertise, develops detailed system specifications, procures and launches the spacecraft, and assists NOAA in system integration.

NOAA GOES satellite systems are designed, developed, acquired and operated as a single end-to-end system. The system includes the observing platform (satellites); command and control of the platform; product generation and distribution; archive and access; and user interface. GOES contributes to an Integrated Global Earth Observation System (GEOSS); is defined as an end-to-end approach linking requirements to services; delivers critical real-time data and information needed for sound decision making; addresses needs to support expanded climate services; and works with global partners.

GOES observations allow continuous monitoring from the same angle during the tracking/detection of severe storms, atmospheric moisture deltas, mesoscale scanning, currents flow dynamics, and atmospheric chemical (particle) that cannot be achieved from a non-stationary orbit without increased error rates and lost data segments. NOAA maintains an on-orbit spare to complement the two operational GOES satellites. This on-orbit spare philosophy allows NOAA to quickly replace a failed satellite by re-positioning an on-orbit satellite. To facilitate this strategy, NOAA plans the launch of the next satellite to coincide with the planned switchover of the on-orbit spare to operational status.

Proposed Actions

Requested FY 2007 funding for the GOES N series will allow NOAA to complete production of the GOES O and P satellites and allow for the launch of GOES O that year, currently planned for April, 2007.

For the GOES-R Series, prior year funding provided for critical design and development activities. The FY 2007 request provides continued engineering development and production activities for:

- The Advanced Baseline Imager (ABI), to meet the production schedule for launch and provide real-time environmental data and uninterruptible observations. Critical design review will occur during FY 2007.
- The Hyperspectral Environmental Suite (HES) to meet production schedule for launch and meet baseline requirements to provide real-time weather data and uninterruptible observations. The Acquisition and Operations (A&O) contract will be awarded in FY 2007.
- The Solar Imaging Suite (SIS) and Space Environmental In-Situ Suite (SEISS) preliminary design reviews.

The requested funding will initiate the development and production activities for the System Prime Acquisition and Operations (A&O) phase. The system prime contractor is responsible for the end-to-end system development and integration; the management of the instrument

development and production contracts will transition to the system prime as part of the A&O phase.

Considering the continued success of the GOES-I series, the current GOES-N series implementation, and the planned GOES-R development schedule, the GOES planning launch schedule is provided as Figure 1.

Figure 1 – GOES Launch Schedule

Spacecraft	Availability Date	Planned Launch Date	Operational Date
GOES-N	Dec 2004	TBD ASAP	TDB
GOES-O	Apr 2007	Apr 2007	Oct 2011
GOES-P	Apr 2007	Oct 2008	Jun 2013
GOES-R	Sep 2012	Sep 2012	Apr 2014
GOES-S	Apr 2014	Apr 2014	Apr 2018

The following five critical elements were the principal factors assessed during the review of GOES R-Series delivery schedule.

- Satellite Continuity. A critical requirement for the GOES program is to provide constant coverage over the continental United States. That need drives a two-satellite constellation – GOES East and GOES West. A key factor in determining when to deliver satellites is the need to ensure continuity of this service based on the projected operational lifetimes of the satellites currently in operation, in storage (ground and/or on-orbit), or already procured, or planned to be procured. The projected operational lifetime of a satellite is based on its design life and predicted reliability

- Launch/Early Orbit (L/EO) Failure Mitigation. A satellite is subject to failure to attain orbit or to achieve initial operating condition on-orbit. Satellite procurement schedules must include consideration of these types of failures. Although the risk of these types of failures remains relatively constant from satellite to satellite (i.e., the individual probability of failure for each satellite is essentially constant), as time passes the cumulative risk of future failures increases.

- Unpredicted, Premature Failure Mitigation. In addition to predictable failures associated with the satellite design and the possibility of L/EO complications, unpredicted and premature failures to achieve design lifetime must also be taken into account. Some examples of these types of failures include previously undetected design/build/test flaws, unpredicted wear-out failures, commanding errors, and collision/debris damage. These types of failures can be mitigated by either rapid launch on failure response or on-orbit storage. On-orbit storage has been adopted for the GOES program because these satellites are launched via scheduled commercial vehicles.

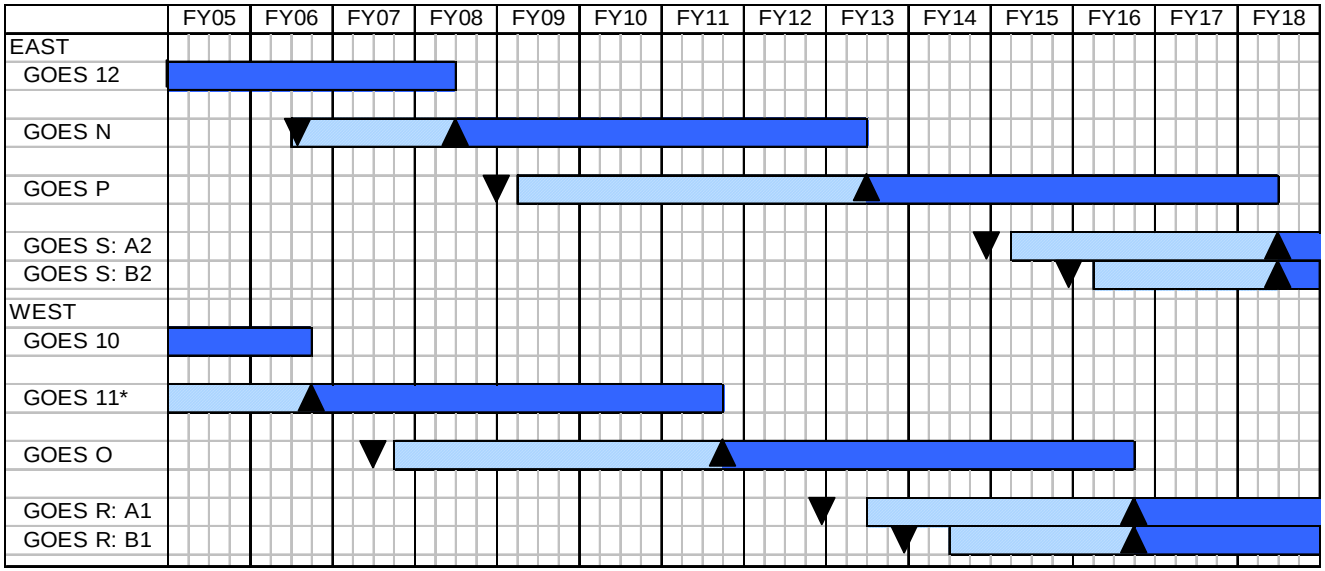
- Production/Launch/On-Orbiting Testing Constraints. The cost of integrating and testing satellites, caused by the high cost of engineering teams and facilities, limit the ability to deliver more than one satellite at a time and must be considered. For example, if two satellites are needed within three

months of each other to maintain continuity of service, production of the first must be accelerated to meet realistic production and launch schedules. In addition, the time to check-out a satellite and declare it operational must also be considered. This check-out period usually takes three months. However, for new satellites, this takes much longer – six months for certain individual capabilities and a year or more for the complete set of products and services.

- Fuel Reserves/On-orbit Storage Issues. While the storage mode for GOES is fairly benign and has a limited negative impact on satellite life, fuel reserves must be considered. Even during storage, a satellite's on-orbit fuel reserve is consumed to maintain station keeping. Launching a satellite too early can cause fuel limitations to be a significant service life-limiting factor.

Consideration of all of these factors led to the nominal projection of when to launch, store and operate the satellites. Once this nominal projection was derived, a statistical analysis was performed to assess the risk of providing continuity of service to the GOES national customers. Figure 2 shows the nominal operations projection and describes the associated probable availability of the system.

GOES Planned Launch and Operations Schedule



Benefits

Weather- and Climate-sensitive industries, both directly and indirectly, account for approximately $3.0 trillion of the United States gross domestic product (about one-third). Seasonal and interannual variations in climate, e.g. El Niño, led to economic impacts on the order of $25 billion for 1997-1998. Average annual damage from tornadoes, hurricanes, and floods is $11.4 billion with about 100 deaths annually. Approximately $4 billion per year is lost in economic efficiencies as a result of weather-related air traffic delays. Lightning causes between $4 and $5 billion in losses each year in the civilian sector with about 47 deaths and 303 injuries per year.

GOES-R series satellites minimize these losses by:

- Reducing uncertainty in long-term climate projections by providing data with higher spatial and spectral resolutions
- Improving forecasts by providing more rapid image and sounder scans allowing forecasters to make more timely forecasts and provide longer lead times for warnings of hurricanes, tornadoes and other severe weather events (in the agricultural sector it is estimated that better forecasts can result in $300 million savings annually)
- Providing improved continuous monitoring of solar flares and sunspots to allow warning of space radiation storms which degrade satellite and communications systems and endanger human life in space and on high altitude/latitude airline flights; also contributes to warnings of geomagnetic storms.
- Providing more accurate sea-surface temperature data that supports better predictions of onset of El Niño events. This provides lead time for planners to adequately manage resources that are necessary to offset losses.
- Providing new research products, such as ocean surface currents that support both ecosystems management and safety of marine navigation.
- Providing more accurate and timely warnings of the presence of airborne volcanic ash plumes that can seriously damage aircraft and jet engines and have the clear potential to cause serious aviation accidents.
- Providing improved infrared and new near infrared imaging distinguishing snow, ice, and fog to provide safe ground and air transportation and reducing economic inefficiencies.
- Providing finer spectral resolutions allowing air turbulence identification for aircraft routing and safety.
- Providing access to solar wind data to allow short term warnings of geomagnetic storms to customers, especially electrical utilities to plan for storm induced power interruptions and management of distribution systems to prevent massive outages.

Performance Goals and Measurement Data

This increase will support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs". Specifically, this increase supports NOAA's four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring, and the following performance measures:

GOES-R Series: Performance Goal: Weather & Water Performance Measure/Milestones: Support NOAA's goals by acquiring GOES satellite on schedule with proposed capabilities	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Without Increase	Lost capability in GOES-R satellite and resulting loss of improvements for mission performance						
With Increase		Conduct ABI PDR Award GLM PDRR contract Award SIS A&O contract Award SEISS A&O contract Award prime PPDR contracts up to three contractors	Award of prime A&O contract Conduct ABI CDR Award HES, GLM A&O contracts Conduct SIS, SEISS PDRs	Begin PDR on prime A&O contract Conduct HES PDR Conduct SIS, SEISS CDRs Conduct GLM PDR	Begin CDR on prime A&O contract Conduct HES CDR Conduct GLM CDR	Delivery of ABI FM1	

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Geostationary Satellites - GOES								
Change from FY 2007 Base	-	104,039	192,079	199,563	230,501	202,371		
Total Request	4,082,793	439,607	532,079	539,563	570,501	542,371	3,497,331	10,208,677

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

Polar-Operational Environmental Satellite Systems (POES) NOAA Polar K-N' (0 FTE, and -$11,861,000): NOAA requests 0 FTE and a decrease of $11,861,000 for a total request of $89,906,000 for the continuation of the POES program. POES is nearing the end of its production, with one remaining satellite to be launched, along with supporting commissioning of the first Metop satellite in FY 2007. On September 6, 2003, NOAA-N prime was involved in a serious accident at the contractor's facility. The damage to NOAA-N Prime was assessed, estimated rebuild costs were developed, and agreements negotiated. With NOAA's approval, a contract modification between NASA and Lockheed Martin to rebuild NOAA-N Prime was signed on September 29, 2004.

FY 2007 POES funding will be used for:

- Spacecraft & Metop
- Launching services
- NASA technical management
- The government program office
- Product development; and
- Ground systems and backup

Statement of Need

NOAA has the responsibility to provide forecasts and warnings for the United States, its territories, adjacent waters and ocean area, for the protection of life and property and the enhancement of the national economy. This mission requires an enduring capability to acquire global data, and the capability to process and disseminate to central processing centers and distributed direct users, environmental data on an extensive spatial range (global, regional and local) within a variety of time scales (minutes to days). These data include, but are not limited to: global imagery; cloud and precipitation parameters; atmospheric profiles of temperature, moisture, wind, aerosols and ozone; surface conditions concerning ice, snow and vegetation; ocean parameters of sea temperature, color and state; solar and in-situ space environment conditions. These data are critically needed for:

Severe storm and flood warnings;
Tropical cyclone (hurricane reconnaissance and warnings);
Hydrologic forecasts and forecasts of the ocean surface and internal structures;
Medium range forecast outlook (out to fifteen days);
Solar and space environmental forecasts;
Aviation forecasts (domestic, military, and international);
Forecasts of ice conditions;
Seasonal and inter-annual climate forecasts;
Decadal-scale monitoring of climate variability;
Assessment of long-term global environmental change;
Environmental air quality monitoring and emergency response;
Detection and analysis of fires and volcanic eruptions; and
Short-term and mesoscale forecasts.

Proposed Actions

NOAA-N was launched in May 2005. In FY 2007, NOAA-N Prime is scheduled for spacecraft level testing, pre-ship and pre-launch reviews in preparation for launching in December 2007. In FY 2007 and beyond, NOAA will continue Ground Systems support.

Performance Goals

The POES program supports both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs". Specifically, this supports NOAA's four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring.

OUTYEAR FUNDING ESTIMATES
(BA in thousands)

	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
POES - NOAA N & N'								
Change from FY 2007 Base	---	(11,861)	(40,365)	(60,754)	(60,967)	(71,299)		
Total Request	2,054,863	89,906	62,308	41,919	43,635	31,374	189,267	2,512,249

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

National Polar-orbiting Operational Environmental Satellite System (NPOESS) (0 FTE, and +$20,278,000): NOAA is requesting 0 FTE and an increase of $20,278,000 for a total request of $337,870,000 for the continuation of the tri-agency NPOESS program that will replace the NOAA POES program after completion of the current NOAA K-N Prime series of satellites. This request represents NOAA's share of the converged NOAA/DoD/NASA program. In FY 2007, funds are required to continue the development and production of the NPOESS spacecraft and instruments, including the Visible Infrared Image radiometer (VIIRS), the Conical Microwave Imager Sounder (CMIS), the Cross-track Infrared Sounder (CrIS), the Ozone, Mapping and Profiler Suite (OMPS), the Aerosol Polarimetry Sensor (APS), and the Space Environmental Sensing Suite (SESS). Continued development of these instruments is critical for their timely and cost effective delivery.

The funding profile is based on the baseline in the FY 2006 President's Budget. Any changes due to cost or schedule issues will be reflected in future budget submissions. In response to concerns about the program's cost and schedule, the program's Executive Committee (EXCOM) has commissioned an Independent Program Assessment (IPA) to examine the overall NPOESS program. This assessment is helping us to better understand the problems with the program and more fully explore the various options for moving forward. In addition to the independent programmatic reviews, the EXCOM has asked the DOD's Cost Analysis and Improvement Group (CAIG) to provide an independent analysis of several IPA cost and schedule estimates. This group is made up of acquisition and technical experts who can help provide further confidence in the cost estimates being discussed for both the current NPOESS program and other options.

The NPOESS Program Director has notified the EXCOM that the program costs will likely exceed the plan by more than 25% regardless of which option is chosen to move the program forward. This notification initiated a series of events which are required under the Nunn-McCurdy process: The Office of the Secretary of Defense is responsible for certifying that:

40. The program is essential to National Security;
41. No alternatives with equal capability exist at equal or lesser cost;
42. The cost estimate is reasonable; and
43. The management structure is adequate for program success.

Four teams will be formed, each focused on a different aspect of the certification. The teams will meet for the first time in January 2006, and their work is expected to be complete by the end of March.

Statement of Need

National Polar-orbiting Operational Environmental Satellite System (NPOESS) is a program established to develop, acquire and operate the next generation of polar-orbiting environmental satellites. The NPOESS system will meet the requirements to replace NOAA's POES and DoD's DMSP systems. NPOESS was developed as a system consisting of six satellites and associated operations. In August 2002, NOAA selected Northrop Grumman Space Technology as the prime contractor responsible for building and deploying the total NPOESS program.

Proposed Actions

FY 2007 funds are required to:

4. Continue the acquisition and operations phase of the program, including total system architecture trades and design of the four major NPOESS segments:
   - Space
   - Interface data processing segment
   - Command, control, and communications
   - Launch support
5. Support mission readiness of antenna systems at high latitude mission recovery sites to support data acquisition functions for the NPOESS Preparatory Project (NPP). The NPP ground system must be in place to support the NPP spacecraft. The NPP is a major element of the risk reduction program for NPOESS.
6. Complete the integration of instruments planned to be flown on NPP
7. Complete the ground systems and algorithms necessary to acquire, process and distribute NPP data. These data are necessary for continuity of NASA's long-term climate data records and for early risk reduction and calibration and validation essential to the first NPOESS satellite.

Benefits

The NPOESS goal is to accomplish all functional efforts via the tri-agency program reducing costs for both civil and military environmental data. NPOESS is a complex combination of equipment (hardware/software), data services, and facilities required to attain environmental data and maintain continuity of timely data to civilian and military data users. Approximately 90% of the NPOESS FY 2007 budget is required to fund the SSPR contract that was awarded to Northrop Grumman Corporation.

Performance Goals and Measurement Data for NPOESS:

Performance measures supported are:
The percentage of planned contract milestones accomplished within 30 days of target,

This increase will support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs". Specifically, this increase supports NOAA's four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring, and the following performance measures:

Performance Measure	Without FY 2007 Increase	With FY 2007 Increase
Support NOAA's goals by acquiring NPOESS satellite on schedule with proposed capabilities	Increased delay in the NPOESS program milestones and impact to mission goal requirements	Milestones and Critical Path Elements Completed on revised Schedule

NPOESS Milestones

As discussed above, the NPOESS Program is undergoing a major restructure due to cost overruns on several instruments and the spacecraft development. All major program milestones are under review and will be affected by the alternative selected.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to complete*	Total
Polar Orbiting Systems NPOESS								
Change from FY 2007 Base		20,278	22,865	(23,773)	52,874	84,925		
Total Request	1,566,857	337,870	343,863	297,225	373,872	405,923	723,083	4,048,693

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: EOS and Advanced Polar Data Processing, Distribution & Archiving ($1,960,000), CIP - Single Point of Failure ($37,000) and Comprehensive Large Array Data Stewardship System (CLASS) ($2,335,000).

Program Support
Activity: Corporate Services

GOAL STATEMENT:

Continue the acquisition and improvement of major systems associated with financial management, facilities, and other functions of NOAA's overall corporate management.

BASE DESCRIPTION:

The objectives of this subactivity are to:

- Invest in the phased-in implementation of the Commerce Administrative Management System (CAMS)/NOAA financial-management system.
- Capture the costs of acquiring and/or improving capital assets used by NOAA in carrying out its varied missions.
- Realize procurement efficiencies, management accountability, and reflect full cost of acquisition and/or improvement of an asset.

CAMS became the official accounting system of record effective October 1, 2002, moving the CAMS program into the operations and maintenance mode of this NOAA-wide, high-technology, integrated financial system. Therefore, the CAMS' base ($15,229,000) was transferred from the Procurement, Acquisition and Construction (PAC) account to the Business Management Fund (BMF). CAMS includes 11 distinct but integrated modules, 19 interfaces, and over 240 maintenance tables that require on-going support, thus necessitating the transfer of funds to Operations, Research and Facilities (ORF) account.

In addition, as an adjustment to base, NOAA Maintenance – Backlog and Cyclical ($7,471,000) has been moved from the Program Support PAC account to the Facilities ORF account to reflect actual functions for which the funds are to be expended.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Corporate Services					
AMNH	986	-	-	-	-
NOAA ICOSS Observing Systems (NOS)	-	8,876	-	-	-
Convert NOAA Weather Bouys with NDBC (NOS)	-	3,945	-	-	-
Coastal Global Ocean Observing System (NWS)	-	1,477	-	-	-
Strengthen US Tsunami Warning Network (NWS)	-	3,432	-	-	-
TOTAL	986	17,730	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PROCUREMENT, ACQUISITION AND CONSTRUCTION
CONSTRUCTION FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Procurement, Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
NOS					
Coastal and Estuarine Land Conservation Program					
Armand Bayou and Genoa-Red Bluff, TX	591	345	0	0	0
Bainbridge Island, WA	493	0	0	0	0
Bayou Liberty Watershed Wetlands Conservation	887	0	0	0	0
Buffalo Bayou, TX	1,183	0	0	0	0
Dos Pueblos, CA	2,957	0	0	0	0
East Sandusky Bay, OH	1,479	0	0	0	0
Flats East Riverfront Park, Ohio	1,479	0	0	0	0
Hawaii CELP	2,957	0	0	0	0
Laughlin Cove, WA	1,971	0	0	0	0
Manahawkin Marsh, NJ	789	0	0	0	0
Maumee River Basin, Ohio	1,479	1,479	0	0	0
Maury Island	1,479	0	0	0	0
MD Chesapeake Bay	5,668	0	0	0	0
Mentor Marsh Lake County, Ohio	986	0	0	0	0
Middletown, RI	739	0	0	0	0
Mount Agamenticus to the Sea, ME	986	0	0	0	0
North Hampstead	986	0	0	0	0
Nulands Neck, MA	296	0	0	0	0
Orange Beach (Robinson Island) AL	986	789	0	0	0
Port Aransas Nature Preserve Wetlands Protection Project	2,957	0	0	0	0
Potomac Watershed, VA	2,957	0	0	0	0
Seacoast, NH	2,464	0	0	0	0
Southhold, NY	1,479	0	0	0	0
Southwest Alaska Conservation	986	0	0	0	0

Tomer Canyon	492	0	0	0	0
Wolf River Corridor	1,971	0	0	0	0
Babcock Ranch	0	2,959	0	0	0
Blackbird Creek Reserve	0	1,479	0	0	0
Brays Bayou	0	395	0	0	0
Chesapeake Bay	0	3,945	0	0	0
Coastal Ecosystems (Mobile & Baldwin)	0	4,931	0	0	0
Commencement Bay	0	1,529	0	0	0
Common Pasture	0	247	0	0	0
Detroit Riverfront West	0	2,959	0	0	0
Eastern Shore	0	542	0	0	0
Elmer`s Island	0	247	0	0	0
Ferolbink Farm	0	494	0	0	0
Grand River Big Pond	0	306	0	0	0
Herring River	0	494	0	0	0
Hidalgo Park	0	346	0	0	0
Jamestown	0	1,972	0	0	0
Maquoit Bay	0	542	0	0	0
Moose Mountain	0	986	0	0	0
Newfields	0	1,972	0	0	0
Oswegatchie Hills	0	875	0	0	0
Piedras Blancas	0	494	0	0	0
Pond Brook	0	1,332	0	0	0
Potter Creek/Otis Bogs	0	494	0	0	0
South Carolina Coastal Inititative	0	1,479	0	0	0
Sowams Property	0	986	0	0	0
Tchefuncte Marsh	0	197	0	0	0
Tuniper`s Pond	0	494	0	0	0
Twelve Oaks	0	887	0	0	0
Webster Woods	0	740	0	0	0
Winnicut Headwaters	0	1,479	0	0	0
Subtotal, Coastal and Estuarine Land Conservation Program	41,697	38,415	0	0	0
NERRS Acquisition/Construction					
National Estuarine Research Reserve Construction and Land Acquisition	6,899	4,931	4,873	7,178	2,305

Elkhorn Slough, CA	1,971	0	0	0	0
Great Bay Partnership	7,885	5,917	0	0	0
Bonneau Ferry, SC	18,922	0	0	0	0
Texas NERR	0	4,375	0	0	0
Village Point Park Preserve	0	986	0	0	0
Subtotal, NERRS Acquisition/Construction	35,677	16,209	4,873	7,178	2,305
Marine Sanctuaries Construction/Acquisition					
Marine Sanctuaries Construction Base	5,294	0	0	5,495	5,495
Channel Islands National Marine Sanctuary	3,942	2,959	0	0	0
Thunder Bay NMS Exhibit	986	986	0	0	0
Monterey Bay National Marine Sanctuary	0	1,479	0	0	0
Flower Gardens Banks Patrol Craft	0	3,156	0	0	0
Gulf of Farralones	0	2,466	0	0	0
Small Boats	0	4,931	0	0	0
Subtotal, Marine Sanctuaries Construction/Acquisition	10,222	15,977	0	5,495	5,495
Other NOS Construction/Acquisition					
Bigelow Lab for Ocean Science (ME)	1,478	0	0	0	0
Coastal Service Center	3,942	0	0	0	0
Conservation Institute	1,183	4,931	0	0	0
Convert NOAA Weather Buoys with NDBC	7,886	0	0	0	0
Gulf Coast Lab at Cedar Point (USM)	1,478	0	0	0	0
Down East Inst. For Marine Research (ME)	0	986	0	0	0
Marine Environmental Health Research Laboratory Enhancement & Equipment	6,899	0	0	0	0
National Aquarium Partnership	986	0	0	0	0
NOAA ICOOS Observing Systems	8,871	0	0	0	0
Pier Romeo Hardening (Charlestown)	2,366	0	0	0	0
Univ of South Carolina Thomas Cooper Facility	3,942	0	0	0	0
Center for Aquatic Resource Management	0	5,917	0	0	0
Pascagoula River Basin Estuarine Center	0	1,479	0	0	0
Oxford Cooperative Lab	0	1,480	0	0	0
Gulf Coast Marine Aquaculture Laboratory	0	5,917	0	0	0
Subtotal, NOS	126,627	91,311	4,873	12,673	7,800

NMFS					
Systems Acq. Computer Hardware & Software	3,450	0	0	0	0
Aquatic Resources	4,928	4,437	0	0	0
Pacific Regional Center (Honolulu Fisheries Lab)	14,785	0	0	0	0
Barrow Arctic Research Center	5,914	5,917	0	0	0
Phase III - Galveston Laboratory Renovation - NMFS	1,971	0	0	0	0
Center for Ecosystem-Based Fisheries Management	0	4,931	0	0	0
Pascagoula Laboratory	0	15,159	0	0	0
Subtotal, NMFS	31,048	30,444	0	0	0
NWS					
WFO Construction	12,814	13,412	12,474	12,504	30
NOAA Center for Weather & Climate Prediction	2,268	8,413	8,305	19,305	11,000
Subtotal, NWS	15,082	21,825	20,779	31,809	11,030
NESDIS					
Satellite CDA Facility	2,218	2,249	2,228	2,228	0
Suitland Facility / NSOF	11,093	0	0	0	0
Subtotal, NESDIS	13,311	2,249	2,228	2,228	0
PS					
Pacific Region Center	0	19,725	0	0	0
Subtotal, PS	0	19,725	0	0	0
TOTAL	186,068	165,554	27,880	46,710	18,830

National Ocean Service
Activity: Construction/Acquisition

GOAL STATEMENT:

Improve capital assets used by the National Ocean Service in carrying out its mission.

BASE DESCRIPTION:

National Estuarine Research Reserve System Construction/Acquisition

The National Estuarine Research Reserve System (NERRS) is a Federal-state partnership designed to protect and understand valuable estuarine resources through research and education. Reserves are publicly owned lands and onsite facilities that provide opportunities for researchers as well as the public to better understand these estuarine areas. Supplementing or updating facilities at the 26 reserves will be carried on in conjunction with the development of system-wide construction plans. All construction activities are carried out based on the current needs for implementing core NERRS program and external opportunities for partnerships. When it is available, reserves will acquire additional, previously identified near-by critical habitat to increase protection and provide places for conducting long-term science, education, and demonstration programs. The facilities and land of the reserves are owned and managed by the states in this Federal-state partnership.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
National Estuarine Research Reserve Construction and Land Acquisition								
Change from FY 2007 Base		0	0	0	0	0	0	
Total Request	64,424	7,178	7,178	7,178	7,178	7,178	N/A**	Recurring

*Outyear costs are estimates and are subject to change. Future requests will determined through the annual budget process.
** Costs for this program are recurring.

National Marine Sanctuary Program Construction/Acquisition

NOAA administers the National Marine Sanctuary System under authority of the National Marine Sanctuaries Act. There are 13 designated national marine sanctuaries: Monitor (NC), Channel Islands (CA), Gray's Reef (GA), Gulf of the Farallones (CA), Fagatele Bay (AS), Cordell Bank (CA), Florida Keys (FL), Flower Garden Banks (TX/LA), Gerry Studds Stellwagen Bank (MA), Monterey Bay (CA), Olympic Coast (WA), Thunder Bay (MI) and

Hawaiian Islands Humpback Whale (HI). In addition, the NMSP administers and manages the 131,818 square mile Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve that is undergoing the sanctuary designation process. The sanctuaries range in size from one-quarter square mile in Fagatele Bay to over 5,300 square miles in Monterey Bay, which is one of the largest marine protected areas in the world. Together, these sanctuaries encompass over 18,000 square miles of waters and marine habitats.

The National Marine Sanctuary Program (NMSP) operates and coordinates the nation's system of marine sanctuaries. Individual sanctuary offices are responsible for the daily operation of a wide variety of education, research, monitoring and management programs. The program has begun implementing a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing exhibits, collaborative education and visibility projects and operational needs. In order to help establish understanding and appreciation for sanctuary resources by the public, the program will begin to construct a network of exhibits, signage and kiosks. Whenever possible, sanctuaries will utilize existing aquaria, museums and other appropriate facilities to develop cooperative centers, where the public and environmental decision makers can gain direct, objective and focused information on conservation issues. These facilities serve as important windows into the resources of the sanctuaries. The goal of these exhibits is to share with the public these ocean treasures. In addition to these outreach (i.e., exhibit) efforts, PAC funding supports operational facility requirements for NOAA-owned facilities, including safety improvements, ADA (Americans with Disabilities Act) upgrades, and replacement and repair.

PROPOSED LEGISLATION:

NOAA will continue to work with Congress to reauthorize National Marine Sanctuaries Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Construction/Acquisition					
Armand Bayou and Genoa-Red Bluff, TX	591	345	-	-	-
Bainbridge Island, WA	493	-	-	-	-
Bayou Liberty Watershed Wetlands Conservation	887	-	-	-	-
Buffalo Bayou, TX	1,183	-	-	-	-
Dos Pueblos, CA	2,957	-	-	-	-
East Sandusky Bay, OH	1,479	-	-	-	-
Flats East Riverfront Park, Ohio	1,479	-	-	-	-
Hawaii CELP	2,957	-	-	-	-
Laughlin Cove, WA	1,971	-	-	-	-
Manahawkin Marsh, NJ	789	-	-	-	-
Maumee River Basin, Ohio	1,479	1,479	-	-	-
Maury Island	1,479	-	-	-	-
MD Chesapeake Bay	5,668	-	-	-	-
Mentor Marsh Lake County, Ohio	986	-	-	-	-
Middletown, RI	739	-	-	-	-
Mount Agamenticus to the Sea, ME	986	-	-	-	-
North Hampstead	986	-	-	-	-
Nulands Neck, MA	296	-	-	-	-
Orange Beach (Robinson Island) AL	986	789	-	-	-
Port Aransas Nature Preserve Wetlands Protection Project	2,957	-	-	-	-
Potomac Watershed, VA	2,957	-	-	-	-
Seacoast, NH	2,464	-	-	-	-
Southhold, NY	1,479	-	-	-	-
Southwest Alaska Conservation	986	-	-	-	-
Tomer Canyon	492	-	-	-	-
Wolf River Corridor	1,971	-	-	-	-
Babcock Ranch	-	2,959	-	-	-
Blackbird Creek Reserve	-	1,479	-	-	-
Brays Bayou	-	395	-	-	-
Chesapeake Bay	-	3,945	-	-	-

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Coastal Ecosystems (Mobile & Baldwin)	-	4,931	-	-	-
Commencement Bay	-	1,529	-	-	-
Common Pasture	-	247	-	-	-
Detroit Riverfront West	-	2,959	-	-	-
Eastern Shore	-	542	-	-	-
Elmer`s Island	-	247	-	-	-
Ferolbink Farm	-	494	-	-	-
Grand River Big Pond	-	306	-	-	-
Herring River	-	494	-	-	-
Hidalgo Park	-	346	-	-	-
Jamestown	-	1,972	-	-	-
Maquoit Bay	-	542	-	-	-
Moose Mountain	-	986	-	-	-
Newfields	-	1,972	-	-	-
Oswegatchie Hills	-	875	-	-	-
Piedras Blancas	-	494	-	-	-
Pond Brook	-	1,332	-	-	-
Potter Creek/Otis Bogs	-	494	-	-	-
South Carolina Coastal Inititative	-	1,479	-	-	-
Sowams Property	-	986	-	-	-
Tchefuncte Marsh	-	197	-	-	-
Tuniper`s Pond	-	494	-	-	-
Twelve Oaks	-	887	-	-	-
Webster Woods	-	740	-	-	-
Winnicut Headwaters	-	1,479	-	-	-
Subtotal: Coastal and Estuarine Land Conservation Program	41,697	38,415	-	-	-
National Estuarine Research Reserve Construction and Land Acquisition	6,899	4,931	4,873	7,178	2,305
Elkhorn Slough, CA	1,971	-	-	-	-
Great Bay Partnership	7,885	5,917	-	-	-
Bonneau Ferry, SC	18,922	-	-	-	-
Texas NERR	-	4,375	-	-	-

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Village Point Park Preserve	-	986	-	-	-
Subtotal: NERRS Acquisition/Construction	35,677	16,209	4,873	7,178	2,305
Marine Sanctuaries Construction Base	5,294	-	-	5,495	5,495
Channel Islands National Marine Sanctuary	3,942	2,959	-	-	-
Thunder Bay NMS Exhibit	986	986	-	-	-
Monterey Bay National Marine Sanctuary	-	1,479	-	-	-
Flower Gardens Banks Patrol Craft	-	3,156	-	-	-
Gulf of Farralones	-	2,466	-	-	-
Small Boats	-	4,931	-	-	-
Subtotal: Marine Sanctuaries Construction/Acquisition	10,222	15,977	-	5,495	5,495
Bigelow Lab for Ocean Science (ME)	1,478	-	-	-	-
Coastal Service Center	3,942	-	-	-	-
Conservation Institute	1,183	4,931	-	-	-
Convert NOAA Weather Buoys with NDBC	7,886	-	-	-	-
Gulf Coast Lab at Cedar Point (USM)	1,478	-	-	-	-
Down East Inst. For Marine Research (ME)	-	986	-	-	-
Marine Environmental Health Research Laboratory Enhancement & Equipment	6,899	-	-	-	-
National Aquarium Partnership	986	-	-	-	-
NOAA ICOOS Observing Systems	8,871	-	-	-	-
Pier Romeo Hardening (Charlestown)	2,366	-	-	-	-
Univ of South Carolina Thomas Cooper Facility	3,942	-	-	-	-
Center for Aquatic Resource Management	-	5,917	-	-	-
Pascagoula River Basin Estuarine Center	-	1,479	-	-	-
Oxford Cooperative Lab	-	1,480	-	-	-
Gulf Coast Marine Aquaculture Laboratory	-	5,917	-	-	-
Subtotal: Other NOS Construction/Acquisition	39,031	20,710	-	-	-
TOTAL	126,627	91,311	4,873	12,673	7,800
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

National Estuarine Research Reserve System (0 FTE and +$2,305,000): NOAA requests an increase of $2,305,000, for a total of $7,178,000, for competitive National Estuarine Research Reserve System (NERRS) construction and land acquisition projects to address priority needs within the reserve system. This increase will enable the reserve system to carry out planned construction projects and acquire key parcels to protect resources within the reserves before opportunities are lost or key parcels are developed.

This Federal-state partnership is designed to protect and understand valuable estuarine resources through research and education. The facilities and land of the reserves are owned and managed by the states in this Federal-state partnership. Federal funds are matched 50:50 for land acquisition and 70:30 for construction protects (Federal:state funds). The land acquisition projects will provide greater protection to reserve resources. Many reserves are experiencing increasing development pressures and the need to acquire parcels identified in their management plans is increasingly urgent. The construction projects will provide adequate facilities for research and education programs, including interpretive centers, reserve research facilities, educational exhibits, and boardwalks or trails. Having adequate facilities makes a considerable difference in the quality of research, education, outreach and resource protection programs that can be conducted at the reserves.

Statement of Need
Several reserves have facilities that are inadequate to house important research and education programs. Without the construction of new facilities or the expansion of existing facilities, reserves will have to forego program opportunities or conduct programs in cramped or potentially unsafe facilities. In addition, several reserve construction projects are already underway and funding is needed to complete the final phase of the project. With regard to land acquisition projects, coastal areas in which reserves are located are experiencing significant development. Reserve management plans describe key habitats and parcels that are critical to the protection of reserve resources for long-term research and education. Given the development pressure and the rising cost of land, reserves may lose an opportunity to acquire key parcels if federal funds are not available to match state funds for land acquisition.

Proposed Actions
NOAA will undertake a competitive grants program to select the best projects for facilities construction and land acquisition at reserves. NOAA estimates that the increase will allow for 1-2 additional land acquisition projects and 3-4 additional construction projects to be undertaken in FY 2007.

Benefits
The proposed funding will allow reserves to take advantage of land acquisition opportunities that may not be available in the future due increases in price or unavailability of parcels which were sold for development. The benefits are lower project costs and more projects that can be funded to ensure the protection of key resources. The benefits of funding for facilities construction is that project costs will be lower than in the future and more projects can be conducted. This in turn will provide for the necessary facilities to carry out programs at a larger number of reserves. The construction of better facilities will enable greater use of reserves by the public, researchers, and educators thereby increasing the reach and effectiveness of reserve programs.

Performance Goals and Measurement Data
This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." This increase supports NOAA's Ecosystem Performance Objective to, increase in the number of acres protected by setbacks, buffers or public ownership to direct development away from areas vulnerable to hazards.

National Marine Sanctuaries Facilities (0 FTE and +$5,495,000): NOAA requests an increase of $5,495,000, for a total of $5,495,000, for discretionary National Marine Sanctuary Program (NMSP) construction projects in FY 2007. The NMSP will continue work on several construction projects initiated in prior years, and address facility operation and maintenance requirements and outreach efforts (e.g., construction of exhibits at partnering museums, aquaria, and science centers). The NMSP will continue to implement a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing sanctuary visitor centers, collaborative education/outreach projects, and operational needs that include administrative space and the water-oriented infrastructure such as piers, boat houses, and maintenance facilities.

Proposed Actions
Based upon the NMSP's current priorities, discretionary PAC funds requested in FY 2007 would be used for the following activities:

- Complete construction of the Eco-Discovery Visitor Center at the Dr. Nancy Foster Complex in Key West, Florida ($800K). Due to the rapid inflation of construction costs, and delays caused by four close-passing hurricanes during the past hurricane season, additional funding is needed to finish off the renovation of the warehouse that will become the Eco-Discovery Visitor Center. To date, about $12M has been spent to construct a pier facility, build a maintenance building, build an administrative building, and complete most of the renovation of a former Navy warehouse. Private sector fundraising by the National Marine Sanctuary Foundation to pay for the design, fabrication, and installation of the exhibits hinges upon the successful completion of the renovation work.
- Complete construction of the Hawaiian Islands Humpback Whale National Marine Sanctuary multipurpose facility in Kihei, Maui ($600K). The rapid inflation of construction costs has resulted in the need for additional funds (about $3.2M has been provided to date) to complete the building of this multipurpose facility in Hawaii.
- Initiate repairs to the sea wall at the Dr. Nancy Foster Complex in Key West, Florida ($2M). Several miles of sea wall at the Navy's Truman Annex were recently replaced, but the Florida Keys National Marine Sanctuary (FKNMS) did not have the funding needed to take advantage of the rebuild, thus has been attempting to maintain the 300 feet of World War II vintage structure until funds are available to rebuild. The removal by the Navy of a section of the main protective jetty for that harbor (to allow the entry of larger Navy vessels), combined with the high energy impacts from four close-passing hurricanes during 2005, have resulted in severe erosion around the foot of the sea wall, and resulting escape of back fill material beneath the sea wall. The area landward of the sea wall is subject to sudden collapse from objects as light as humans, and the sea wall itself is close to complete failure. Collapse of the sea wall could destroy part of the new dock system, and will definitely prevent use of the dock system, where most of the lower Keys vessels operate from. A collapse will increase the eventual cost of building a new sea wall, and at the very worst, continued erosion in the area may threaten the integrity of the new Foster Center Complex being constructed adjacent to the sea wall.

- Renovate space at the National Marine Fisheries Service (NMFS) Galveston Lab that was recently occupied by the Flower Garden Banks National Marine Sanctuary (FGBNMS) ($700K). The opportunity to co-locate the two NOAA programs was made possible by the recent renovation of another building on the NMFS Galveston campus. The space made available to FGBNMS requires minor renovation work to be fully functional.
- Initiate the design, fabrication, and installation of NMSP/NOAA exhibits at the Oakland Museum (Oakland, California), Long Beach Aquarium (Long Beach, California), and a visitor center in Provincetown, Massachusetts ($950K). The National Marine Sanctuaries Act mandates NOAA to conduct education programs and "enhance public awareness, understanding, appreciation, and wise and sustainable use of the marine environment, and the natural, historical, cultural, and archeological resources" of the marine sanctuaries. Partnering enables the NMSP to leverage its funding, and place exhibits in established venues with high visitation rates that provide staff and cover operations and maintenance costs.
- Initiate reconstruction of the pier at Stellwagen Bank National Marine Sanctuary to service a new 48 foot vessel ($500K). The existing pier can only accommodate small vessels. Reconstruction will allow the new vessel to be close to the main administrative facility and save the annual cost of renting a berth.

Construction priorities are subject to change due to various factors such as new opportunities to partner with other organizations (e.g., Long Beach Aquarium), changes in the physical environment (e.g., Navy's shortening of the jetty in Key West), and impacts from natural disasters such as hurricanes.

Benefits

These facilities enable the NMSP to meet its programmatic needs, which include resource management and protection, research, and public education. NMSP exhibits and visitor centers serve as important windows into the resources of the sanctuaries, since most of these special marine environments are offshore and not easily accessible by many visitors. Whenever possible, sanctuaries utilize existing aquaria, museums, and other appropriate facilities to develop cooperative centers, where the public and environmental decisions makers can gain direct, objective and focused information on major conservation issues.

Performance Goals and Measurement Data

This increase will support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
National Marine Sanctuaries Construction Base								
Change from FY 2007 Base		5,495	5,495	5,495	5,495	5,495	N/A	Recurring
Total Request	56,493	5,495	5,495	5,495	5,495	5,495	N/A	Recurring

Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.
*Costs for this program are recurring.

TERMINATIONS FOR 2007:

The following programs have been terminated in FY 2007: Coastal and Estuarine Land Conservation Program ($38,415,000); Monterey Bay, ($1,479,000); Gulf of Farrolones ($2,466,000); Flower Gardens Bank Patrol Craft ($3,156,000); Small Boats ($4,931,000); Channel Islands ($2,959,000); Thunder Bay NMS Exhibit ($986,000); Texas NERR ($4,375,000); Village Point Park Preserve ($986,000); Great Bay Partnership ($5,917,000); Conservation Institute ($4,931,000); Down East Institute for Marine Research ($986,000); Gulf Coast Marine Aquaculture Lab ($5,917,000); Center for Aquatic Resource Management ($5,917,000); Pascagoula River Basin Estuarine Center ($1,479,000); Oxford Cooperative Lab ($1,480,000).

National Marine Fisheries Service
Activity: Systems Acquisition / Construction

GOAL STATEMENT:

Provide the non-recurring costs of acquiring or improving capital assets used by NOAA's National Marine Fisheries Service (NMFS) in carrying out its mission.

BASE DESCRIPTION:

NOAA Pacific Region Center Project
Has been moved to Program Support.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition / Construction					
Systems Acq. Computer Hardware & Software	3,450	-	-	-	-
Aquatic Resources	4,928	4,437	-	-	-
Pacific Regional Center (Honolulu Fisheries Lab)	14,785	-	-	-	-
Barrow Arctic Research Center	5,914	5,917	-	-	-
Phase III - Galveston Laboratory Renovation - NMFS	1,971	-	-	-	-
Center for Ecosystem-Based Fisheries Management	-	4,931	-	-	-
Pascagoula Laboratory	-	15,159	-	-	-
TOTAL	31,048	30,444	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Aquatic Resources ($4,437,000), Pascagoula Laboratory ($15,159,000), Barrow Artic Research Center ($5,917,000), Center For Ecosystem-Based Fisheries Management ($4,931,000).

Office Of Oceanic and Atmospheric Research
Activity: Construction

GOAL STATEMENT:

To ensure that NOAA Research (OAR) has the state-of-the-art facilities needed to enable its laboratories and programs to fulfill their mission activities for NOAA and the Nation.

BASE DESCRIPTION:

The most recent construction project for NOAA Research has been a partnership with the National Weather Service (NWS) and with the University of Oklahoma (OU) to construct a new National Weather Center on the South Base of the OU campus to integrate components of the OU School of Meteorology with components of NOAA's NWS and OAR. NOAA's share of the construction costs were appropriated over the fiscal years 2001-2003, which funds are currently being spend on this jointly constructed building between NOAA and the University of Oklahoma. The new building will provide space for forecast and warning operations, computer room, generator and Uninterruptible Power Supply rooms, technicians' shops, a mobile research lab, library, warehouse, and storage. This joint project will bring together critical weather warning and forecast operations and research components with the University's academic expertise in meteorology.

In addition, funds have been appropriated in fiscal years 2003-2004 for the planning and phase-I construction of a Barrow (Alaska) Arctic Research Center (BARC). The BARC, also called the Barrow Global Climate Change Research Facility (BGCCRF) will be modern research facility designed to meet the needs of the global Arctic research community and of the local and regional Inupiat Eskimo population. It is designed to support interdisciplinary research and to be flexible and adaptable so that it can evolve along with the research needs.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
TOTAL	-	-	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

National Weather Service
Activity: Construction

GOAL STATEMENT:

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

BASE DESCRIPTION:

Weather Forecast Office (WFO) Construction: As part of the National Weather Service (NWS) modernization and associated restructuring, the Weather Forecast Office (WFO) Construction program was started in the late 1980s to meet NWS WFO facility requirements supporting the provision of public weather services and the nationwide NEXRAD radar network. The original scope of the project, completed in FY 1999, included the construction or lease of 117 WFOs (13 of which were co-located with River Forecast Centers) and cost approximately $250M. Since this time, the NWS has added five WFOs to address service coverage requirements in Guam, Northern Indiana, Caribou, ME, Huntsville, AL and Key West, FL. Other required construction elements currently ongoing include the upgrade and modernization of Alaska and Pacific Region Weather Service Offices, Tsunami Warning Centers, and associated employee housing units, upgrades of Heating, Ventilation, and Air Conditioning (HVAC) systems at approximately 60 WFOs, uninterruptible power supply (UPS) replacements, and mitigation of all building and fire code violations. This construction effort is essential to bring the NWS into full compliance with federal law and national and local building codes.

FY 2004 Accomplishments
WFOs:
- Key West - awarded construction contract for the project
- Upgraded HVAC systems at 10 WFOs

Alaska Region:
- St. Paul Weather Service Office (WSO) - awarded construction renovation contracts
- McGrath Housing - site surveys, planning & programming studies
- Annette WSO - site surveys, planning & programming studies
- Kotzebue - Lease four townhouses

FY 2005 Accomplishments
Pacific Region:
- Majuro WSO – Awarded Architectural/Engineering design contract
- Hilo WSO – Completed construction
- Pacific Tsunami Warning Center (PTWC) – Awarded contract for expansion

WFOs:
- Key West - Post award modifications/government furnished equipment (GFE) acquisition
- Upgraded Heating, Ventilation and Air Conditioning (HVAC) systems at 4 WFOs

Alaska Region:
- St. Paul Housing Construction – Awarded construction contract
- St Paul WSO – Completed renovation
- Annette WSO - Awarded Architectural/Engineering design contract
- McGrath – Completed programming study and select an option

FY 2006 Plans

Pacific Region:
- Honolulu WFO alterations
- Koror WSO - Identify site and conduct environmental (NEPA) study
- Koror WSO - Award arch/eng design contract

WFOs:
- Key West - Post award modifications/GFE acquisition
- Safety/Code - Safety compliance and code upgrades
- Upgrade HVAC systems at 6 WFOs
- UPS - Upgrade/replace systems
- Sterling, VA facilities relocation (thru Federal Aviation Administration (FAA)/ Metropolitan Washington Airports Authority (MWAA))

Alaska Region:
- St. Paul Housing - Post award modifications/GFE acquisition
- McGrath Housing – Acquire land and award arch/eng design contract
- Annette WSO - Award construction contract
- Nome WSO – Award design & construction contract in collaboration with FAA
- Barrow WSO – Begin architectural/engineering programming study and complete National Environmental Policy Act (NEPA) study.
- Kodiak UA programming and design

FY 2007 Plans
Pacific Region:

- Koror WSO - Award construction contract through the Navy Facilities Engineering Command
- Phonpei WSO - Identify site and conduct environmental (NEPA) study.
- Phonpei WSO - Award arch/eng design contract

WFOs:

- Safety/Code – Inspect and repair towers / antennas
- Upgrade HVAC systems at 6 WFOs
- Expand Glasgow WFO
- Sterling, VA facilities relocation (thru FAA/MWAA)

Alaska Region:

- Annette WSO/Upper Air Inflation Building (UAIB) – post award modifications/GFE acquisition
- McGrath – Award construction contract for 4 housing units
- Nome WSO - Post award modifications/GFE acquisition (thru FAA)
- Barrow WSO, UAIB and Housing – Award architectural/engineering contract
- Kodiak UAIB – Award construction contract

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
WFO Construction								
Change from FY 2007 Base		30	1,030	1,030	1,030	1,030	-	
Total Request	77,050	12,504	13,504	13,504	13,504	13,504	-	Recurring

*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

NOAA Center for Weather and Climate Prediction (NCWCP): This new facility will replace the current World Weather Building (WWB) with a new state-of-the-art facility to meet the operational requirements of the National Centers for Environmental Prediction (NCEP), the National Environmental

Satellite, Data, and Information Service (NESDIS) Office of Research and Applications and Satellite Services Division, and the Office of Oceanic and Atmospheric Research (OAR) Air Resources Laboratory.

FY 2004 funding for the NCWCP enabled NOAA to support the General Services Administration (GSA) to award a build-to-suit lease for the NOAA NCWCP during FY 2004 and includes necessary above standard construction costs. The FY 2004 lease award for NCWCP will ensure occupancy of the new facility in 2008 when the current WWB lease expires. In FY 2005 GSA awarded a build-to-suit lease for NOAA NCWCP to OPUS East, LLC.

FY 2005 funding for the NCWCP enabled NOAA to develop detailed plans to move/transition critical IT infrastructure to the new facility. Once NOAA moves to the new facility, this infrastructure will allow NOAA to continue to provide weather and climate data that serve as foundation for nearly all of the weather forecasts prepared and disseminated in the United States each day. In addition, funds were used to hire contractors to support NCWCP project management.

In FY 2006 NWS $8.5M funding will support:

- $1.0M in above Standard budget including finishes for raised flooring in non-ADP spaces, structural improvement to meet mission requirements, security systems, and back-up generators and UPS systems for completion of construction
- $4.7M in Tenant Outfitting (FF&E) budget including: telecommunications, security, Agency Specials with critical long lead procurements that will be installed in the building during construction, and furnishings, fixtures and equipment that must be procured prior to the completion of construction
- $1.4M for Mission Systems Relocation Cost
- $1.4M for NOAA/GSA project management to ensure design requirements are met

The current facility infrastructure is inadequate for supporting NOAA's technological requirements, as is detailed in the program change section of this document.

Implementation
Department of Commerce senior management and the State of Maryland have agreed on a shared vision to build a Center of Excellence for Environmental Research, Education, Applications and Operations in close proximity to an academic institution. The NOAA/GSA facility acquisition process is underway: Congress has approved the lease prospectus and the site acquisition process has begun.

Outcomes
The NWS has demonstrated the positive results of co-locating its facilities with academic institutions or laboratories to accelerate transitioning research into operations and to improve operational performance. Whenever possible, the NWS Modernization co-located NWS forecast offices with research laboratories or universities (22 forecast offices collocated with laboratories or universities). Synergistic interactions between NOAA and the academic community will lead to improved model performance and produce the following outcomes:

- Improved model forecasts and all aspects of the NWS forecast goals for climate and weather
- Accelerated use of global satellite data through state-of-the-art data assimilation systems
- Accelerated infusion of new science into operations. Experience with synergistic relationships shows a reduction from 7-10 years to 1-3 years (NWS WFOs co-located with academic institutions have shown accelerated performance improvement).
- Enhanced ability to recruit and retain key personnel, with the average number of applicants for key leadership and scientific positions at NCEP increasing from 2 to 3 to greater than 10

NOAA demonstrated improvement of weather forecast performance scores following the co-location of NWS Forecast Offices with research laboratories and universities. By following this model, NOAA intends to accelerate the transfer of weather and climate research into operations, improve forecast models, and provide a focus for improving environmental satellite data assimilation. Further, co-locating the new facility in a scientific, academic setting will increase the recruitment and retention of top scientists as needed to advance NOAA's Programs.

Transfers
NWS requests the following transfers between line offices or appropriations.

From Line	Line	To Office	Line	Amount
NWS	WFO Construction	Facilities	Management & Construction and Safety	-$1,000,000

- $1,000,000 is transferred from the NWS WFO Construction to NOAA Facilities to support NOAA Facilities Planning requirements.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
WFO Construction	12,814	13,412	12,474	12,504	30
NOAA Center for Weather & Climate Prediction	2,268	8,413	8,305	19,305	11,000
TOTAL	15,082	21,825	20,779	31,809	11,030
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

WFO Construction (+0 FTE and +30,000): NOAA requests 0 FTE and $30,000 to restore funding requested in FY 2006. This request will restore funding for the upgrade and modernization of Alaska and Pacific Region Weather Service Offices, Tsunami Warning Centers, and associated employee housing units to bring the NWS into full compliance with federal law and national and local building codes.

NOAA Center for Weather and Climate Prediction (NCWCP) (+0 FTE and +$11,000,000): NOAA requests an increase of $11,000,000 and 0 FTE to prepare the NOAA Center for Weather and Climate Prediction (NCWCP) for FY 2008 occupancy and operations. Phased delivery of NCWCP space will begin in FY 2007. This FY 2007 increase is consistent with the planned NCWCP investment profile to implement mission critical systems overlap during the transition/move from the current World Weather Building (WWB) to the NCWCP. NOAA must be ready to install systems and equipment during the six-month period prior to the delivery of space, and in the months immediately preceding the phased completion of construction. Lastly, the funding will be used for project management tasks supporting technical oversight of the construction, occupancy, and mission critical systems relocation processes. Also, detailed planning and closely coordinated relocation activities are an absolute requirement to ensure that critical data products are not interrupted during the relocation of 24x7 mission critical systems.

Statement of Need/Background

The NCWCP is a joint project supported by NOAA and the General Services Administration (GSA). The current WWB is leased under the authority of GSA. The lease expires in April 2008. GSA has determined that it is no longer viable to extend the lease, and has received prospectus authority from Congress to acquire a new lease to replace the WWB. It has been determined that the WWB infrastructure is no longer capable of supporting NOAA's technological requirements. The infrastructure is becoming increasingly unreliable and is impacting NOAA's ability to efficiently and reliably maintain sensitive 24-hour, 7-day per week, mission critical operations in a secure environment.

The facility contains no raised flooring required for computer spaces and for the management of data and telecommunications cabling. It has obsolete mechanical and electrical systems that are no longer capable of sustaining the operations in the building and are becoming increasingly harder to repair due to the dwindling availability of parts. Further, the facility is located in a high crime area, and the growth in sensitive programs requires increased security. Lastly, the short-term steps to meet program growth have also perpetuated deficient working conditions for employees. The current facility deficiencies add risk to continuity of operations and provide an inadequate work environment. Because of these issues, it has become difficult to recruit and retain quality personnel at NCEP and NESDIS. The new facility will provide reliable critical communications systems, and the facilities infrastructure required to support the operational requirements of the National Centers for Environmental Prediction (NCEP), the National Environmental Satellite, Data, and Information Service (NESDIS) Office of Research and Applications and Satellite Services Division, and the Office of Oceanic and Atmospheric Research (OAR) Air Resources Laboratory. NOAA appropriations through fiscal year 2005 included $14.6M to support the lease award, and the design and construction of the NCWCP tenant spaces.

The award of the lease by GSA in September 2005 will ensure occupancy of the new facility by October 2008. FY 2005 funding provided project management for NOAA, and allowed NOAA to initiate the planning and engineering required to support the mission systems relocation. In FY 2006, $8.4M allowed NOAA to (1) complete NCWCP construction, (2) continue project management support and mission system relocation planning and (3) initiate the procurement of long lead furnishings, fixtures, and equipment. All outfitting requirements for FY 2006 are specifically tied to the building infrastructure, such as security and telecommunications systems that must be integrated into the building design and construction work. In addition, long lead systems furniture orders will be placed in FY 2006 to initiate the delivery of furniture needed to begin the installation in the new facility immediately upon completion of construction. The furniture must be installed to perform final fire marshal inspections and to obtain local jurisdiction occupancy permits. The FY 2006 effort will also involve the initial transition of the mission systems to the NCWCP. To support the transition of 24x7 communications, orders will be placed for relocated high speed specialized data circuits between the new facility and other organization obtaining critical weather data from NWS. This will also involve implementing temporary communications bridges between the existing and new facility to facilitate testing and validation of the new installations in the NCWCP prior to closing down operational systems in the current facility. FY 2006 funding will be used to complete the detailed planning of equipment layouts for mission systems, communications room, and technical spaces necessary to support the dissemination of information during major weather events. The relocation planning will be fully coordinated to reduce the cost impact to the NCWCP project by implementing information technology infrastructure replacement in concert with planned NCEP cyclic replacement schedule.

FY 2007 Implementation Plan

This project is a key component of the NWS' effort to improve its weather and climate modeling performance, to accelerate the transfer of newly developed scientific information into operations, and to improve the use of global environmental satellite data. NWS has demonstrated a direct linkage between establishing new facilities in the proximity of research organizations, and improved program performance. The expiration of the WWB lease dictates the timing of the NCWCP Project and affords an outstanding opportunity to enhance the NWS efforts to protect the continuity and flow of critical weather warning, forecasts and data products to the Public.

In FY 2007, construction of the NCWCP will be completed. Simultaneously, NOAA will implement procurements to complete all tenant improvements and outfitting such as but not limited to: telecommunications cabling (systems acquisition and installation) ($3.035M); interior design, system furniture acquisition and installation ($7.23M); and relocation costs ($0.51M). The FY 2007 effort will also involve the one-time relocation of mission critical operational systems from the WWB to the NCWCP. This critical system relocation funding ($7.23M) will ensure that NOAA will be able to operate its "mission critical" programs by providing an overlap in system functionality during the physical relocation from the WWB to the NCWCP. Funding for project management ($1.3M) includes a project manager, space planner, a project engineer and technical support, to provide continued coordination and oversight among all involved parties including GSA, users, contractors, and consultants.

Schedule

Milestones	Scheduled Completion Date
Site Acquisition	February 6, 2004
Lease Acquisition	
Lease Award	September, 2005
Design Start	September, 2005
Construction Start	July, 2006
Occupancy	
Move Start	February, 2008
Move Complete	October, 2008
Lease for World Weather Building Expires	April 30, 2008

Performance Goals and Measurement Data

This increase will support both objectives under the DOC Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs," as well as all four of NOAA's mission goals.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009*	FY 2010*	FY 2011*	Cost to Complete**	Total Program Estimate
NOAA Center for Weather & Climate Prediction								
Change from FY 2007 Base		11,000	5,795	(1,605)	(1,605)	(1,605)	-	
Total Request	20,973	19,305	14,100	6,700	6,700	6,700	-	54,378

*The costs cited for FY 2009 onward represent increased lease payments for this facility and will be moved to the Operations, Research, and Facilities appropriation in FY 2009.

**Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: NOAA Center for Weather & Climate Prediction ($30,000).

National Environmental Satellite, Data, and Information Service
Activity: Construction

GOAL STATEMENT:

The Nation requires sound and secure facilities and infrastructure to house the equipment and workforce needed to ensure uninterrupted acquisition of data from its environmental satellites.

BASE DESCRIPTION:

Satellite Command and Data Acquisition (CDA) Infrastructure – Protecting Critical Operational Capabilities: NOAA's CDA Infrastructure program at the Wallops and Fairbanks CDAs is to ensure continuation of the current 99.9 percent data availability for NOAA environmental satellite systems. The Wallops and Fairbanks facilities and infrastructure are over 40 years old. Major systems at both facilities are operating well past their design lives and require maintenance, repair, and in many cases, replacement. The Fairbanks facility is located in a seismic zone and operates in severe Sub-Arctic conditions, with temperatures routinely reaching minus 60 degrees Fahrenheit during the winter months. The Wallops facility, on the Atlantic coast, is subject to a corrosive salt air environment and lies in the path of hurricanes that hit the US East Coast. Both stations have been determined to be critical national infrastructure elements by Presidential Decision Directive.

NOAA has partnered with the U.S. Army Corps of Engineers and developed facilities master plans for Wallops and Fairbanks facilities. NOAA will incrementally implement the facilities master plans to support a phased, multi-year program to comprehensively renovate and modernize the facilities, infrastructure, and equipment to minimize or eliminate safety, hazardous materials, waste water treatment, and other deficiencies at the facilities that could lead to outages and service disruptions caused by failure of supporting infrastructure at the stations.

Base activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

OUTYEAR FUNDING ESTIMATES
(BA in Thousands)

	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
Continuity of Critical Facilities								
Change from FY 2007 Base		0	0	0	0	0		
Total Request	4,467	2,228	2,228	2,228	2,228	2,228	N/A	Recurring

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
Satellite CDA Facility	2,218	2,249	2,228	2,228	-
Suitland Facility / NSOF	11,093	-	-	-	-
TOTAL	13,311	2,249	2,228	2,228	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, are terminated in FY 2007: Satellite CDA Facility ($30,000).

Program Support
Activity: Construction

GOAL STATEMENT:

NOAA requires sound and secure facilities and infrastructure to house the equipment and workforce needed to ensure the uninterrupted accomplishment of its mission.

BASE DESCRIPTION:

Projects in this category are continuations of prior year starts.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
Pacific Region Center	-	19,725	-	-	-
TOTAL	-	19,725	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PROCUREMENT, ACQUISITION AND CONSTRUCTION
FLEET REPLACEMENT FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Procurement, Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
PS					
Small Waterplane Area Twin Hull (SWATH) Vessel	9,167	3,945	0	0	0
Upgrades to NOAA Vessels	1,774	3,210	3,186	0	-3,186
Fisheries Survey Vessels	41,398	51,482	32,356	13,791	-18,565
FSV Calibration	0	0	0	3,500	3,500
Autonomous Underwater Vehicles Sensors	0	2,959	0	0	0
Hydro Survey Launch Construction	0	0	0	2,400	2,400
Sonar for Long Range Fisheries Research	5,618	0	0	0	0
Temporary Berthing for HENRY BIGELOW	0	0	0	1,000	1,000
Subtotal, PS	57,957	61,596	35,542	20,691	-14,851
Total	57,957	61,596	35,542	20,691	-14,851

Program Support
Activity: Fleet Replacement

GOAL STATEMENT:

To modernize NOAA's ship support for oceanographic research, fisheries research, hydrographic surveys, and environmental assessment to allow critical data collection requirements to be met effectively.

BASE DESCRIPTION:

The objectives of this subactivity are to:

- Capture the non-recurring costs of acquiring or improving vessels used by NOAA in carrying out its varied missions.
- Allow NOAA to realize procurement efficiencies, management accountability, and to reflect the full cost of acquisition and/or improvement and upgrade of ships, ship systems, subsystems, and equipment.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Fleet Replacement					
Small Waterplane Area Twin Hull (SWATH) Vessel	9,167	3,945	-	-	-
Upgrades to NOAA Vessels	1,774	3,210	3,186	-	(3,186)
Fisheries Survey Vessels	41,398	51,482	32,356	13,791	(18,565)
FSV Calibration	-	-	-	3,500	3,500
Autonomous Underwater Vehicles Sensors	-	2,959	-	-	-
Hydro Survey Launch Construction	-	-	-	2,400	2,400
Sonar for Long Range Fisheries Research	5,618	-	-	-	-
Temporary Berthing for HENRY BIGELOW	-	-	-	1,000	1,000
TOTAL	57,957	61,596	35,542	20,691	(14,851)
FTE	5	5	5	12	7

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA requests a net increase in this subactivity of 7 FTE and a decrease of $14,851,000 for a total of 12 FTE and $20,691,000. This request will enable NOAA to provide a temporary berth for and calibrate Fisheries Survey Vessel 2 (FSV 2/HENRY B. BIGELOW) with the vessel it will replace; restore some of the construction funds rescinded from the FSV construction program; continue construction on FSV 4; and replace several hydro survey launches that have exceeded their useful lives.

Fisheries Survey Vessels (FSVs) Construction (0 FTE and -$18,565,000): NOAA requests 0 FTE and a decrease of $18,565,000 for a total of $13,791,000 to restore construction funds rescinded in FY 2004 from the FSV3 construction program and continue construction on the fourth fisheries survey vessel (FSV 4). FSV 3 is NOAA's third vessel in a four-vessel construction contract, and the ship will be delivered in late FY 2007. FSV 3 will join the Alaska and North East FSVs in providing high-quality series surveys and data collection for the NOAA Fisheries Southeast Science Center Mississippi Laboratory. Currently, no charter vessels can provide FSV 3's acoustically quiet, multi-mission capability. Commercial vessels are not constructed and balanced to comply with noise and vibration specifications that promote accurate readings and thereby avoid sub-optimal recommendations on fishing quotas. The FSV3 vessel will be homeported in Pascagoula, Mississippi. The FSV 4 is required to collect data to manage fish stocks and protect mammals. The amount of $5,500,000 received in the FY 2005 Enacted appropriation was used to purchase long lead-time materials,

and the amount of $32,400,000 received in FY 2006 will be used to begin the construction. Additional funding is required in the outyears to prepare the ship for operations in support of NOAA's Ecosystem Mission Goal. The requested funding will enable NOAA to continue construction of the fourth ship on an existing four-ship contract, thereby retaining current pricing. The vessel will operate and be homeported on the West Coast.

FSV 4 will deploy state-of-the-art acoustic technologies, combined with a very quiet radiated noise signature, to enhance the effectiveness and efficiency of at-sea resource surveys. These capabilities would enable FSV 4 to monitor up to nine times more volume of water for the same time and distance traveled by current ships. Enhanced data streams would allow assessment scientists to improve survey designs and ground-truth acoustic surveys using modern trawl gear.

The Southwest Fisheries Science Center (SWFSC) has an urgent need for a pelagic longline survey on highly migratory species including mako sharks, two species of thresher sharks and striped marlin (never assessed), and bigeye tuna (overfished and only partially assessed). FSV 4 will extend survey effort into Central and Western Pacific Ocean for the 34 lesser-known stocks of marine mammals. These represent small populations susceptible to capture in commercial fisheries. Without adequate marine mammal assessments, the near-shore gillnet fishery (150 vessels), pelagic gillnet swordfish fishery (100 vessels), and the longline swordfish fishery (175 vessels) can be prematurely shut down in response to highly-variable, marine-mammal bycatch estimates.

Statement of Need

Collection of at-sea information on fisheries and marine mammals is necessary for the development of regulations governing commercial and recreational fishing activities to sustain fisheries. FSV 3 will provide high-quality data necessary to establish allowable amounts of fish that can be taken commercially or recreationally. The science-based decisions from this data have an economic impact on the participants in the fisheries and the coastal communities that derive benefits from commercial and recreational fisheries. FSV 4 is scheduled to support the Northwest and Southwest Fisheries Science Centers (NWFSC and SWFSC). The NWFSC is responsible for managing Pacific whiting, which is the largest West Coast Fishery and generates nearly $30 million annually. More frequent surveys of whiting are required to reduce the uncertainty in stock condition by accurately tracking natural fluctuations in stock abundance and optimum yield. FSV 4, with the additional capabilities described above, is required to increase the frequency of surveys. MILLER FREEMAN, wich currently collects stock assessment data on whiting, has over 35 years of service. A major breakdown of MILLER FREEMAN, an increasing risk with each passing year, would further reduce the currently inadequate frequency of surveys.

FSV 4 is also needed for ocean habitat investigations on ESA-listed Pacific salmon, southern resident killer whales, and highly migratory species (sharks, tuna, billfish). Little is known about the ocean phase of West Coast salmon, and failure to reciver ESA-listed stocks will greatly impact not only bycatch limits on commercial fisheries and sport fisheries season but also the shore-side economy up to the headwaters of coastal rivers and streams.

A GAO review of NMFS' West Coast Groundfish Program (June 2004) validated the highest priority for FSV 4 to expand data collection for more comprehensive assessments of over 82 groundfish species. Only 26 have been quantitatively assessed, and the other 60 species are of unknown stock status. Of the assessed stocks, 8 are overfished and many are subject to overfishing. The GAO report found 5 major stock assessments to be questionable due in part to the lack of NOAA-collected data of sufficient scope and accuracy. Without improved and additional new stock assessments, the groundfish

fisheries must be managed more conservatively with the associated reduction in economic and social benefits. With the new FSV technology, NOAA will support the Groundfish Fishery Management Plan to survey 30 species of the shelf and slope rockfish that have not been assessed. The advanced observation methods, including mid-water and bottom-typing acoustics, on FSV 4 will provide new data streams for first-time assessments of these stocks. FSV 4 is a critical component of NOAA Fisheries' initiative to expand stock assessment on the West Coast to collaborate with partners in academia, foundations, and state fisheries agencies to develop an integrated Pacific Coastal Observing System.

Proposed Actions
NOAA proposes to complete construction of FSV 3 for planned delivery in late FY 2007 and FSV 4 on or before the contract delivery date of Spetember 30, 2008.

Benefits
FSVs are acoustically quiet ships that reduce behavioral responses of species during surveys and minimize interference with hydroacoustic signals. The ships also permit extended research missions and are capable of performing multiple missions including surveys using many different methods of fishing and physical and biological oceanography. With new FSV technology, NOAA will support the Groundfish Fishery Management Plan to survey 30 species of the shelf and slop rockfish that have not been assessed. The advanced observation methods, including mid-water and bottom-typing acoustics, on FSV 4 will provide new data streams for first-time assessments of these stocks. This acquisition will enable NOAA to set accurate fishing quotas for waters off the West Coast. FSV 4 also will promote monitoring and assessment of fish stocks in a sufficiently timely, accurate, and comprehensive manner to implement ecosystem-based fishery management decisions.

Performance Goals and Measurement Data
This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the NOAA Ecosystem and Mission Support Goal and the following performance measure.

Performance Goal: Supports Fleet Service's 'Increase Ship Customer Satisfaction Rating' Fisheries Survey Vessels Construction (scale of 1-4, with 4 being highest score)	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	N/A	N/A	N/A	N/A
With Increase	3.4	3.45	3.5	3.525	3.55	3.575

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
Fisheries Survey Vessels								
Change from FY 2007 Base		1,000	0	0	0	0		
Total Request	104,869**	13,791	1,163	0	0	0	0	119,823

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.
**Includes $10.2 earmark for claims due to ship builder's cost escalations and currency fluctuations.

HENRY B. BIGELOW Calibration/Operating Overlap with ALBATROSS IV (+7 FTE and $3,500,000): NOAA requests 7 FTE (5 NOAA Corps officers) and $3,500,000 for operational and maintenance costs to operate the ALBATROSS IV in order to calibrate HENRY B. BIGELOW (FSV 2) during FY 2007. Once the calibration is completed, this FY 2007 funding will be terminated and ALBATROSS IV will be retired. However, the $500,000 requested in the FY2007 ORF section for HENRY B. BIGELOW Operations still will be required in the outyears, due to the larger size and higher fuel requirements of BIGELOW compared to ALBATROSS IV.

BIGELOW is designed and constructed to have an extremely low acoustic signature to meet the data collection requirement of the National Marine Fisheries Service. The vessel will perform hydro-acoustic surveys of fish and conduct bottom and mid-water trawls while simultaneously running physical and biological oceanographic sampling during a single deployment–a combined capability unavailable in the private sector. There are no charter vessels that can provide this acoustically quiet, multi-mission capability. The sonar and propulsion systems on commercial vessels are not specifically constructed to meet noise and vibration specifications that would promote accurate readings.

HENRY B. BIGELOW will significantly improve the precision and accuracy of scientific assessments, monitor additional living marine resources, and support East Coast fisheries management. The vessel will deploy state-of-the-art acoustic technologies, combined with very quiet radiated noise signatures, to enhance the effectiveness and efficiency of at-sea resource surveys. The ship will be temporarily berthed in Massachusetts or Rhode Island.

Statement of Need

ALBATROSS IV is well beyond a vessel's normal life expectancy, cannot be expected to operate much beyond FY 2007, and therefore must be replaced. ALBATROSS IV needs to operate jointly with its replacement vessel, BIGELOW, to avoid introducing errors in fisheries stock estimates.

To maintain the consistency and continuity of stock assessments time-series data, it is imperative to replace the capabilities of existing platforms with new vessels and technologies that are calibrated with older vessels by performing side-by-side surveys. Time-series assessments form the very foundation of NMFS' stock assessment and fisheries management process. Failure to replace the existing fleet with calibrated platforms will result in the loss of this time series data. This will necessitate implementing precautionary approaches to fisheries management, perhaps reducing the allowable commercial and recreational take because of the lack of sufficient, scientifically valid assessment data.

a) Surveys currently conducted by ALBATROSS IV requiring to be calibrated with HENRY B. BIGELOW

The Northeast Fisheries Science Center (NEFSC) conducts three multispecies bottom trawls, one acoustic/midwater trawl, and one scallop dredge survey on ALBATROSS that are expected to utilize the BIGELOW. These surveys provide key data input to over 40 single-species stock assessments and are core surveys for ecosystem-based assessment and management for Northeast fisheries.

Autumn Multispecies Bottom Trawl Survey	1963-2005 (43-year time series)
Spring Multispecies Bottom Trawl Survey	1968-2005 (38-year time series)
Winter Multispecies Bottom Trawl Survey	1992-2005 (14-year time series)
Herring Acoustic/Midwater Trawl Survey	1997-2005 (9-year time series)
Scallop Dredge Survey	1982-2005 (24-year time series)

b) Need for the calibration process

Calibration between BIGELOW and ALBATROSS needs to occur for each trawl survey:

- The NEFSC has extensive experience with intervessel calibration, having conducted in excess of 500 paired tows between ALBATROSS and DELAWARE II.
- The need for accurate intercalibration for the three multispecies bottom-trawl surveys is elevated due to anticipated fishing-gear changes (new trawling system) that will be implemented on BIGELOW. The Mid-Atlantic and New England Trawl Survey Advisory Panel (panel of industry, management, and academic experts appointed by, and reporting to, the New England and Mid-Atlantic Fishery Management Councils) has participated and contributed to this new design for two years.
- Previous experience at the NEFSC and with international programs (e.g., Department of Fisheries and Oceans Canada and others) indicates that multiyear comparison programs are required to accurately calibrate multispecies bottom-trawl surveys.
- Preliminary data regarding catchability of the current and anticipated gear gathered from two paired tow experiments (October 2004 and March 2005) between ALBATROSS (towing current fishing gear) and DELAWARE (towing potential future gear to be used by BIGELOW) indicate that a large number of tows will be required to calibrate surveys for all areas, seasons, and species to minimize variability in intervessel catchability estimates.
- These data will be collected through paired towing between ALBATROSS and BIGELOW during the standard surveys in FY2007 and FY2008, and through designed paired experiments in areas with high species and fish abundance. This approach will provide an efficient method for collecting intercalibration data without interruption of the standard surveys.

c) Vessel resources needed to accurately calibrate these surveys

Accurate calibration between surveys is critical to the scientific and management community as well as industry stakeholder acceptance of the BIGELOW as an appropriate platform for fishery independent surveys.

44. Failure to complete an accurate calibration for each of these surveys will result in a significant degradation of information for assessment and management of important commercial and recreational species in the Northeast and a loss of management and stakeholder confidence in science conducted aboard NOAA fishery research vessels.
45. The Trawl Survey Advisory Panel is in the process of reviewing intervessel calibration plans and has already commented that the proposed 18-month intercalibration period appears insufficient to calibrate surveys for all surveys, seasons, and species.

d) Calibration requirements are greater for FSV BIGELOW than for FSV OSCAR DYSON

46. There are no trawl surveys currently conducted on MILLER FREEMAN.
47. Because the areal responsibility of the Alaska Fisheries Science Center is so large, the Center deploys multiple chartered fishing vessels simultaneously to conduct their bottom-trawl survey.
48. Calibrations between MILLER FREEMAN and OSCAR DYSON will focus primarily on acoustic surveys, which can be calibrated more rapidly and usually with less vessel days than multispecies bottom trawl surveys on BIGELOW.

Proposed Action

HENRY B. BIGELOW and ALBATROSS IV will be operated side-by-side on annual stock-assessment cruises to calibrate the new vessel with the time-series stock data collected for many years with ALBATROSS IV.

Benefits

Implementing advanced technologies incorporated in the new FSVs will enable NOAA to collect the best, scientifically valid assessment data.

Performance Goals and Measurement Data

This increase will support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth’s resources to promote environmental needs.” Specifically, this increase supports the four NOAA Mission Goals and NOAA Critical Support objective “Increase number of ship operating days and aircraft flight hours that meet NOAA’s data collection requirements with high customer satisfaction" and the following performance measure.

Performance Goal: Supports All 5 NOAA Performance Goals HENRY B.BIGELOW Calibration/Operation Overlap with ALBATROSS—operating days	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
ALABATROSS IV Without Increase	245	230 dry dock	245	N/A	N/A off line	0 off line
ALBATROSS IV With Increase	245	230 dry dock	220 begin phase out due to start of calibration/ overlap	N/A	N/A off line	0 off line
HENRY B. BIGELOW Without Increase	N/A	N/A	N/A	230	230	230
HENRY B. BIGELOW With Increase	N/A	N/A	260	260	260	260

	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete	Total Program Estimate
HENRY B. BIGELOW								
Change from FY 2007 Base		3,500	0	0	0	0		
Total Request	0	3,500	0	0	0	0	0	3,500

Hydro Survey Launch Construction (+0 FTEs and $2,400,000): NOAA requests 0 FTE and $2,400,000 for the construction of two (2) hydrographic survey launches equipped with multibeam sonar equipment. These new, more reliable survey launches increase the capacity of the NOAA fleet to collect hydrographic data. They are a force multiplier that contributes to the reduction of NOAA's backlog of surveys of navigationally significant areas.

Statement of Need
NOAA's hydrographic survey launches collect over half of the survey data acquired by NOAA Ships RAINER, THOMAS JEFFERSON, and FAIRWEATHER. They are force multipliers that enable each ship to survey multiple locations in a single day. This capability is especially critical in Alaska, where over half of the survey backlog exists and where the survey season is shorter due to weather conditions. The launches have lost a total of 33 days of operation due to age-related structural and mechanical problems. Launches typically survey 1 square nautical mile per day, so the lost days are equal to approximately a full hydrographic survey, which if contracted, would cost up to $1 million.

In addition, NOAA's survey launches were designed for only one sonar sensor. Thus, their generators are barely capable of powering the multiple sonar and survey systems that are now required to meet today's data acquisition standards. These generators will limit NOAA's ability to maintain core hydrographic expertise with today's modern survey technology. Furthermore, NOAA's survey launches have underpowered engines that are no longer manufactured. Higher-powered engines would produce shorter transit times to survey sites, higher data acquisition speeds, and emergency maneuver capability, which was lacking when a NOAA wage marine crewman lost his life when his launch was swamped by a rogue wave two years ago in Alaska.

NOAA’s hydrographic survey launches have an average age of 30 years. They have met or exceeded their useful life and are in need of replacement. Continual wear and tear of the survey launches will lead to more frequent maintenance downtime and will reduce their effective contribution to the critical backlog of navigationally significant area surveys.

Proposed Action
With this funding, NOAA will purchase and install in FY 2007 two brand new launches equipped with multibeam sonar systems, more powerful engines for shorter transit time, higher data acquisition speeds, and emergency maneuver capability. These modern launches will contain new generators to run the required equipment suites and structural modifications for crew safety and efficiency. The newer, faster launches will nearly double the rate of survey data acquisition production without an increase in sea-day or personnel costs and will provide safer platforms for deployed NOAA crews.

Benefits
New survey launches with greatly improved reliability, handling, and speed will enhance hydrographic data collection rates.

Performance Goals and Measurement Data
This increase will support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth’s resources to promote environmental needs.” Specifically, this increase supports the NOAA Commerce and Transportation and Mission Support Goal and the following performance measure.

Performance Goal: Supports Fleet Service's 'Increase Ship Customer Satisfaction Rating' by providing new platforms for hydrographic surveys Hydro Survey Launch Construction (scale of 1-4, with 4 being highest score)	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	N/A	N/A	N/A	N/A
With Increase	3.4	3.45	3.5	3.525	3.55	3.575

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
Hydro Survey Launch Construction								
Change from FY 2007 Base		2,400	2,400	2,400	2,400	1,200		
Total Request	0	2,400	2,400	2,400	2,400	1,200	0	$14,400

***** Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

Temporary Berthing for HENRY B. BIGELOW (+0 FTE and $1,000,000): NOAA requests 0 FTE and $1,000,000 to address berthing issues associated with delivery of NOAA's second new FSV, HENRY B. BIGELOW, which will be homeported in the northeastern United States. The BIGELOW will replace ALBATROSS IV after a one-to-two year comparative-trawl calibration. ALBATROSS IVand DELAWARE II are currently homeported at NOAA's Northeast Fisheries Science Center (NEFSC) at Wood Hole, Massachusetts. However, due to HENRY B. BIGELOW's larger size and draft, the current pier, bulkhead, and shoreside staging areas at the NOAA Facility are inadequate to support this new fisheries survey vessel. NOAA would use the funds requested to provide temporary berthing of the BIGELOW, while researching the best permanent pier site for BIGELOW. BIGELOW is scheduled to be delivered to Woods Hole in the third quarter of FY 2006. Another request for $3,500,000 for BIGELOW calibration with ALBATROSS, which it will replace, is included in the Fleet Replacement section above. In addition, $500,000 for first-year operations and maintenance of BIGELOW is included in the Marine Services section.

NOAA has an agreement with the Woods Hole Oceanographic Institute (WHOI) to provide temporary berthing on an as-available basis for the near term, but not indefinitely. There is no guarantee that space will always be available at WHOI to dock NOAA's three vessels. When a berth is not available at WHOI, NOAA will have to rent a berth in Massachusetts or Rhode Island.

Statement of Need
HENRY B. BIGELOW is currently under construction with a June 15, 2006 contract delivery date and a planned arrival in Woods Hole in late Summer, 2006. The requested $1,000,000 is needed to provide temporary berthing while researching the best permanent pier site for BIGELOW.

Proposed Actions
NOAA plans to rent temporary berths for BIGELOW

Benefits
Several ports were considered as potential homeports for BIGELOW—based on adequate water depth and traveling distance (within two hours from Woods Hole). However, all the sites will require a significant investment as well as permanent recurring costs to support the vessel and remote operation of NEFSC's science mission. NOAA will continue to search for alternative pier sites for BIGELOW. Renting a temporary berth will enable NOAA to dock HENRY B. BIGELOW as near as possible to the Northeast Fisheries Science Center, which the vessel was constructed to support.

Performance Goals and Measurement Data
This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the NOAA Mission Support Goal and the following performance measure.

Performance Goal: Mission Support Performance Measure Temporary Berthing for HENRY B. BIGELOW	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**
Without Increase	N/A	N/A	N/A	N/A	N/A	N/A
With Increase	N/A	N/A	Supports Facilities' "Increase number of facilities with improved collocation of NOAA services and partners	Supports Facilities' "Increase number of facilities with improved collocation of NOAA services and partners	Supports Facilities' "Increase number of facilities with improved collocation of NOAA services and partners	Supports Facilities' "Increase number of facilities with improved collocation of NOAA services and partners

OUTYEAR FUNDING ESTIMATE (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
Temporary Berthing for HENRY B. BIGELOW								
Change from FY 2007 Base		1,000	0	0	0	0		
Total Request	0	1,000	0	0	0	0	0	1,000

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

McARTHUR II/NANCY FOSTER/OSCAR ELTON SETTE Upgrades (0 FTE and $3,218,000): The McARTHUR II/NANCY FOSTER/OSCAR ELTON SETTE Upgrades are terminated because the upgrades will occur in FY 2006. No funding is required in FY 2007.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
Upgrades: NANCY FOSTER/OSCAR DYSON/HI'IALAKAI FAIRWEATHER								
Change from FY 2007 Base		(3,186)	(3,186)	(3,186)	(3,186)	(3,186)		
Total Request	5,004	0	0	0	0	0	0	1,818

* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PROCUREMENT, ACQUISITION AND CONSTRUCTION
AIRCRAFT REPLACEMENT FY 2007 OVERVIEW

SUMMARIZED FINANCIAL DATA
($ in thousands)

Procurement, Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
PS					
G-IV Instrumentation Upgrades	3,496	0	0	0	0
Required Safety & Regulatory Upgrades to Various Aircraft	1,479	0	0	0	0
WP-3D Navigation System	0	8,991	0	0	0
Aircraft Equipment and Technology Refreshment	0	4,495	0	0	0
Subtotal, PS	4,975	13,486	0	0	0
Total	4,975	13,486	0	0	0

Program Support
Activity: Aircraft Replacement

GOAL STATEMENT:

To modernize NOAA's aircraft support to allow NOAA data-collection requirements to be met effectively.

BASE DESCRIPTION:

The objectives of this subactivity are to:

- Capture the non-recurring costs of acquiring or improving aircraft used by NOAA in carrying out its varied missions.
- Allow NOAA to realize procurement efficiencies, management accountability and to reflect the full cost of acquisition and/or improvement of and upgrades of aircraft, aircraft systems, subsystems, and equipment.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Line Item: Aircraft Replacement					
G-IV Instrumentation Upgrades	3,496	-	-	-	-
Required Safety & Regulatory Upgrades to Various Aircraft	1,479	-	-	-	-
WP-3D Navigation System	-	8,991	-	-	-
Aircraft Equipment and Technology Refreshment	-	4,495	-	-	-
TOTAL	4,975	13,486	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement Acquisition and Construction
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Procurement Acquisition and Construction	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Climate										
Climate	-	6,448	-	8,876	-	6,971	-	6,971	-	-
Total C	-	6,448	-	8,876	-	6,971	-	6,971	-	-
Ecosystems										
Ecosystems	-	80,824	-	62,711	-	4,873	-	7,178	-	2,305
Total ECO	-	80,824	-	62,711	-	4,873	-	7,178	-	2,305
Mission Support										
Mission Support	120	861,076	120	938,795	120	816,248	127	930,378	7	114,130
Total MS	120	861,076	120	938,795	120	816,248	127	930,378	7	114,130
Weather and Water										
Weather and Water	54	103,511	54	109,161	54	85,921	54	81,940	-	(3,981)
Total WW	54	103,511	54	109,161	54	85,921	54	81,940	-	(3,981)
Total Procurement Acquisition and Construction	201	1,051,859	174	1,119,543	174	914,013	181	1,026,467	7	112,454

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Procurement, Acquisition, and Construction Subactivity: Systems Acquisition		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
OAR											
Research Supercomputing / CCRI	Pos/BA	-	9,363	-	9,369	-	9,395	-	10,379	-	984
	FTE/OBL	-	9,364	-	9,370	-	9,395	-	10,379	-	984
Air Force Radiometer Hurricane Processing	Pos/BA	1	300	-	-	-	-	-	-	-	-
	FTE/OBL	1	284	-	16	-	-	-	-	-	-
Comprehensive Large Array Data Stewardship System	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	152	-	-	-	-	-	-
Total OAR	Pos/BA	1	9,663	-	9,369	-	9,395	-	10,379	-	984
	FTE/OBL	1	9,648	-	9,538	-	9,395	-	10,379	-	984
NWS											
ASOS	Pos/BA	-	4,608	-	8,506	-	4,635	-	3,935	-	(700)
	FTE/OBL	10	4,484	-	8,797	-	4,635	-	3,935	-	(700)
AWIPS	Pos/BA	68	12,708	68	13,280	68	12,764	68	12,764	-	-
	FTE/OBL	20	12,682	54	13,307	54	12,764	54	12,764	-	-
NEXRAD	Pos/BA	-	10,665	-	9,343	-	8,376	-	8,376	-	-
	FTE/OBL	9	10,657	-	9,344	-	8,376	-	8,376	-	-
NWSTG Legacy Replacement	Pos/BA	-	2,476	-	493	-	495	-	495	-	-
	FTE/OBL	-	2,507	-	493	-	495	-	495	-	-
Radiosonde Network Replacement	Pos/BA	-	6,285	-	6,299	-	4,347	-	4,014	-	(333)
	FTE/OBL	1	6,268	-	6,317	-	4,347	-	4,014	-	(333)
Weather and Climate	Pos/BA	-	19,322	-	19,019	-	19,092	-	19,092	-	-

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(Dollar amounts in thousands)

Supercomputing (WW)	FTE/OBL	-	19,494	-	19,020	-	19,092	-	19,092	-	-
Weather and Climate	Pos/BA	-	7,045	-	7,050	-	7,077	-	7,077	-	-
Supercomputing Backup	FTE/OBL	-	6,986	-	7,109	-	7,077	-	7,077	-	-
Cooperative Observer Network	Pos/BA	-	864	-	4,218	-	3,739	-	3,739	-	-
Modernization (WW)	FTE/OBL	2	795	-	4,222	-	3,739	-	3,739	-	-
Cooperative Observer Network	Pos/BA	-	-	-	-	-	495	-	495	-	-
Modernization (C)	FTE/OBL	-	-	-	-	-	495	-	495	-	-
NWS Coastal Global Observing	Pos/BA	-	-	-	-	-	1,492	-	-	-	(1,492)
System	FTE/OBL	-	-	-	-	-	1,492	-	-	-	(1,492)
Complete and Sustain NOAA	Pos/BA	-	-	-	5,572	-	5,594	-	5,594	-	-
Weather Radio	FTE/OBL	-	-	-	5,572	-	5,594	-	5,594	-	-
Strengthen US Tsunami Warning	Pos/BA	-	10,160	-	3,796	-	3,470	-	1,030	-	(2,440)
Network	FTE/OBL	2	5,097	-	8,859	-	3,470	-	1,030	-	(2,440)
All Hazard National Warning	Pos/BA	-	-	-	1,998	-	-	-	-	-	-
Network: NOAA Weather Radio	FTE/OBL	-	22	-	1,998	-	-	-	-	-	-
Total NWS	Pos/BA	68	74,133	68	79,574	68	71,576	68	66,611	-	(4,965)
	FTE/OBL	44	68,992	54	85,038	54	71,576	54	66,611	-	(4,965)
NESDIS											
GOES	Pos/BA	36	301,153	36	335,322	36	335,568	36	439,607	-	104,039
	FTE/OBL	57	271,976	41	359,955	41	335,568	41	439,607	-	104,039
POES	Pos/BA	32	104,230	32	101,261	32	101,767	32	89,906	-	(11,861)
	FTE/OBL	23	115,290	31	101,390	31	101,767	31	89,906	-	(11,861)
NPOESS	Pos/BA	43	300,528	43	316,580	43	317,592	43	337,870	-	20,278
	FTE/OBL	62	300,040	43	317,068	43	317,592	43	337,870	-	20,278

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EOS	Pos/BA	-	2,958	-	2,960	-	990	-	990	-	-
	FTE/OBL	5	2,951	-	2,966	-	990	-	990	-	-
CIP	Pos/BA	-	2,760	-	2,798	-	2,772	-	2,772	-	-
	FTE/OBL	-	2,760	-	2,798	-	2,772	-	2,772	-	-
Comprehensive Large Array Data Stewardship Sys (CLASS)	Pos/BA	-	6,448	-	8,876	-	6,476	-	6,476	-	-
	FTE/OBL	-	6,447	-	8,876	-	6,476	-	6,476	-	-
NPOESS Preparatory Data Exploitation	Pos/BA	-	-	-	4,437	-	4,455	-	4,455	-	-
	FTE/OBL	-	-	-	4,437	-	4,455	-	4,455	-	-
Coastal Remote Sensing	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	6	-	-	-	-	-	-	-	-
Total NESDIS	Pos/BA	111	718,077	111	772,234	111	769,620	111	882,076	-	112,456
	FTE/OBL	146	699,470	115	797,490	115	769,620	115	882,076	-	112,456
Program Support											
AMNH	Pos/BA	-	986	-	-	-	-	-	-	-	-
	FTE/OBL	-	986	-	-	-	-	-	-	-	-
CAMS/NOAA Financial Data System	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	2	-	-	-	-	-	-	-	-
NOAA Maintenance - Cyclical	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	1,303	-	233	-	-	-	-	-	-
NOAA Maintenance - Backlog	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	2,274	-	55	-	-	-	-	-	-
HCHB Infrastructure Repairs	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	1	-	-	-	-	-	-	-	-

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(Dollar amounts in thousands)

Base/Admin Holdings/Ship Creek	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	(85)	-	-	-	-	-	-	-	-
NOAA ICOSS Observing Systems	Pos/BA	-	-	-	8,876	-	-	-	-	-	-
(NOS)	FTE/OBL	-	-	-	8,876	-	-	-	-	-	-
Convert NOAA Weather Bouys	Pos/BA	-	-	-	3,945	-	-	-	-	-	-
with NDBC (NOS)	FTE/OBL	-	-	-	3,945	-	-	-	-	-	-
Coastal Global Ocean Observing	Pos/BA	-	-	-	1,477	-	-	-	-	-	-
System (NWS)	FTE/OBL	-	-	-	1,477	-	-	-	-	-	-
Strengthen US Tsunami Warning	Pos/BA	-	-	-	3,432	-	-	-	-	-	-
Network (NWS)	FTE/OBL	-	-	-	3,432	-	-	-	-	-	-
Pacific Region Center	Pos/BA	-	-	-	19,725	-	-	-	-	-	-
	FTE/OBL	-	-	-	19,725	-	-	-	-	-	-
Total Program Support	Pos/BA	-	986	-	37,455	-	-	-	-	-	-
	FTE/OBL	-	4,481	-	37,743	-	-	-	-	-	-

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Activity: Procurement, Acquisition, and Construction Subactivity: Construction		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
NOS											
Coastal and Estuarine Land	Pos/BA	-	41,697	-	38,415	-	-	-	-	-	-
Conservation Program	FTE/OBL	-	48,801	-	41,635	-	-	-	-	-	-
NERRS Acquisition/Construction	Pos/BA	2	35,677	-	16,209	-	4,873	-	7,178	-	2,305
	FTE/OBL	1	36,657	-	16,238	-	4,873	-	7,178	-	2,305
Marine Sanctuaries	Pos/BA	-	10,222	-	15,977	-	-	-	5,495	-	5,495
Construction/Acquisition	FTE/OBL	-	11,534	-	15,997	-	-	-	5,495	-	5,495
Other NOS Construction/Acquisition	Pos/BA	1	39,031	-	20,710	-	-	-	-	-	-
	FTE/OBL	1	32,448	-	32,725	-	-	-	-	-	-
Total NOS	Pos/BA	3	126,627	-	91,311	-	4,873	-	12,673	-	7,800
	FTE/OBL	3	129,440	-	106,595	-	4,873	-	12,673	-	7,800
NMFS											
Systems Acq. Computer Hardware	Pos/BA	-	3,450	-	-	-	-	-	-	-	-
& Software	FTE/OBL	-	61	-	3,485	-	-	-	-	-	-
Aquatic Resources	Pos/BA	-	4,928	-	4,437	-	-	-	-	-	-
	FTE/OBL	-	4,955	-	4,437	-	-	-	-	-	-
Pacific Regional Center (Honolulu	Pos/BA	1	14,785	-	-	-	-	-	-	-	-
Fisheries Lab)	FTE/OBL	1	40,487	-	2,062	-	-	-	-	-	-
Barrow Arctic Research Center	Pos/BA	-	5,914	-	5,917	-	-	-	-	-	-
	FTE/OBL	-	5,906	-	5,917	-	-	-	-	-	-
Phase III - Galveston Laboratory	Pos/BA	-	1,971	-	-	-	-	-	-	-	-

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(Dollar amounts in thousands)

Renovation - NMFS	FTE/OBL	-	2,055	-	249	-	-	-	-	-	-
Center for Ecosystem-Based	Pos/BA	-	-	-	4,931	-	-	-	-	-	-
Fisheries Management	FTE/OBL	-	-	-	4,931	-	-	-	-	-	-
Santa Cruz Facility	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	4	-	-	-	-	-	-	-	-
Southeastern Regional Office	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	179	-	-	-	-	-	-	-	-
Pascagoula Laboratory	Pos/BA	-	-	-	15,159	-	-	-	-	-	-
	FTE/OBL	-	1,036	-	15,362	-	-	-	-	-	-
Ketchikan Facilities	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	19	-	573	-	-	-	-	-	-
Alaska Facilities Fisheries Center	Pos/BA	-	-	-	-	-	-	-	-	-	-
Juneau	FTE/OBL	-	33,571	-	3,300	-	-	-	-	-	-
Kodiak Pier	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	36	-	240	-	-	-	-	-	-
Fleet Replacement	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	44	-	-	-	-	-	-	-	-
Total NMFS	Pos/BA	1	31,048	-	30,444	-	-	-	-	-	-
	FTE/OBL	1	88,353	-	40,556	-	-	-	-	-	-
OAR											
Norman Consolidation Project	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	10,922	-	2,031	-	-	-	-	-	-
Total OAR	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	1	10,922	-	2,031	-	-	-	-	-	-

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

NWS											
WFO Construction	Pos/BA	-	12,814	-	13,412	-	12,474	-	12,504	-	30
	FTE/OBL	-	12,801	-	13,502	-	12,474	-	12,504	-	30
NOAA Center for Weather &	Pos/BA	-	2,268	-	8,413	-	8,305	-	19,305	-	11,000
Climate Prediction	FTE/OBL	-	2,210	-	8,471	-	8,305	-	19,305	-	11,000
Total NWS	Pos/BA	-	15,082	-	21,825	-	20,779	-	31,809	-	11,030
	FTE/OBL	-	15,011	-	21,973	-	20,779	-	31,809	-	11,030
NESDIS											
Satellite CDA Facility	Pos/BA	-	2,218	-	2,249	-	2,228	-	2,228	-	-
	FTE/OBL	-	2,218	-	2,249	-	2,228	-	2,228	-	-
Suitland Facility / NSOF	Pos/BA	-	11,093	-	-	-	-	-	-	-	-
	FTE/OBL	-	10,040	-	1,109	-	-	-	-	-	-
Total NESDIS	Pos/BA	-	13,311	-	2,249	-	2,228	-	2,228	-	-
	FTE/OBL	-	12,258	-	3,358	-	2,228	-	2,228	-	-

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Procurement, Acquisition, and Construction Subactivity: Fleet Replacement		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Program Support											
Small Waterplane Area Twin Hull	Pos/BA	-	9,167	-	3,945	-	-	-	-	-	-
(SWATH) Vessel	FTE/OBL	-	520	-	10,546	-	-	-	-	-	-
Upgrades to NOAA Vessels	Pos/BA	-	1,774	-	3,210	-	3,186	-	-	-	(3,186)
	FTE/OBL	-	1,774	-	3,210	-	3,186	-	-	-	(3,186)
Fisheries Survey Vessels	Pos/BA	5	41,398	5	51,482	5	32,356	5	13,791	-	(18,565)
	FTE/OBL	5	34,166	5	60,302	5	32,356	5	13,791	-	(18,565)
FSV Calibration	Pos/BA	-	-	-	-	-	-	5	3,500	5	3,500
	FTE/OBL	-	-	-	-	-	-	7	3,500	7	3,500
Autonomous Underwater Vehicles	Pos/BA	-	-	-	2,959	-	-	-	-	-	-
Sensors	FTE/OBL	-	-	-	2,959	-	-	-	-	-	-
Hydro Survey Launch Construction	Pos/BA	-	-	-	-	-	-	-	2,400	-	2,400
	FTE/OBL	-	-	-	-	-	-	-	2,400	-	2,400
Ship Acquisition, Conversion &	Pos/BA	-	-	-	-	-	-	-	-	-	-
Maintenance	FTE/OBL	-	935	-	-	-	-	-	-	-	-
Sonar for Long Range Fisheries	Pos/BA	-	5,618	-	-	-	-	-	-	-	-
Research	FTE/OBL	-	5,629	-	4	-	-	-	-	-	-
Temporary Berthing for HENRY	Pos/BA	-	-	-	-	-	-	-	1,000	-	1,000
BIGELOW	FTE/OBL	-	-	-	-	-	-	-	1,000	-	1,000
VINDICATOR/HI 'IALAKAI Fit	Pos/BA	-	-	-	-	-	-	-	-	-	-
Out	FTE/OBL	-	76	-	-	-	-	-	-	-	-

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

FAIRWEATHER Refurbishment	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	33	-	-	-	-	-	-	-	-
Total Program Support	Pos/BA	5	57,957	5	61,596	5	35,542	10	20,691	5	(14,851)
	FTE/OBL	6	43,133	5	77,021	5	35,542	12	20,691	7	(14,851)

Exhibit 10

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Procurement, Acquisition, and Construction Subactivity: Aircraft Replacement		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Inc/Dec from Base Personnel	Inc/Dec from Base Amount
Program Support											
G-IV Instrumentation Upgrades	Pos/BA	-	3,496	-	-	-	-	-	-	-	-
	FTE/OBL	1	898	-	10,136	-	-	-	-	-	-
Required Safety & Regulatory	Pos/BA	-	1,479	-	-	-	-	-	-	-	-
Upgrades to Various Aircraft	FTE/OBL	-	1,462	-	216	-	-	-	-	-	-
WP-3D Navigation System	Pos/BA	-	-	-	8,991	-	-	-	-	-	-
	FTE/OBL	-	1,328	-	9,019	-	-	-	-	-	-
Aircraft Equipment and Technology	Pos/BA	-	-	-	4,495	-	-	-	-	-	-
Refreshment	FTE/OBL	-	-	-	4,495	-	-	-	-	-	-
Total Program Support	Pos/BA	-	4,975	-	13,486	-	-	-	-	-	-
	FTE/OBL	1	3,688	-	23,866	-	-	-	-	-	-

Department of Commerce
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Procurement Acquisition and Construction
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Program Support
Subactivity: Fleet Replacement

Title		Grade	Number	Annual Salary	Total Salaries
Commissioned Officers	Woods Hole, MA	CO	5	80,469	402,345
Total			5		402,345
Less Lapse	25%		-1		(100,586)
Total full-time permanent (FTE)			4		301,759
2007 Pay Adjustment (2.2%)					6,639
2006 Pay Adjustment (3.1%)					9,560
Total					317,958

Personnel Data	Number
Full-time permanent	7
Other than full-time permanent	0
Total	7
Authorized Positions	
Full-time permanent	5
Other than full-time permanent	0
Total	5

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Procurement Acquisition and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction
Subactivity: Systems Acquisition

	Object Class	2007 Increase
23.3	Communications, utilities and miscellaneous charges	834
25.2	Other services	150
25.3	Other purchases of goods and services from Govt accounts	133,720
99	Total Obligations	134,704

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Procurement Acquisition and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction
Subactivity: Systems Acquisition

	Object Class	2007 Decrease
25.2	Other services	(4,965)
25.3	Other purchases of goods and services from Govt accounts	(21,264)
99	Total Obligations	(26,229)

Department of Commerce
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Procurement Acquisition and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction
Subactivity: Construction

	Object Class	2007 Increase
22.1	Transportation of things	200
23.3	Communications, utilities and miscellaneous charges	1,666
24	Printing and reproduction	25
25.1	Advisory and assistance services	800
25.2	Other services	8,593
26	Supplies and materials	400
31	Equipment	3,896
32	Lands and structures	800
41	Grants, subsides and contributions	2,450
99	Total Obligations	18,830

Department of Commerce
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Procurement Acquisition and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction
Subactivity: Fleet Replacement

	Object Class	2007 Increase
11	Personnel compensation	
11.1	Commissioned officers	402
11.9	Total personnel compensation	402
12	Civilian personnel benefits	410
21	Travel and transportation of persons	120
23.2	Rental payments to others	970
23.3	Communications, utilities and miscellaneous charges	80
25.2	Other services	989
26	Supplies and materials	529
31	Equipment	4,400
99	Total Obligations	7,900

Department of Commerce
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Procurement Acquisition and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction
Subactivity: Fleet Replacement

	Object Class	2007 Decrease
25.2	Other services	(3,186)
31	Equipment	(19,565)
99	Total Obligations	(22,751)

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National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

		FY 2005 Currently Available	FY 2006 President's Budget	FY 2007 Base Program	FY 2007 Estimate	Increase/ (Decrease) over 2007 Base
	Object Class					
11	Personnel compensation					
11.1	Full-time permanent	18,527	18,937	18,193	18,595	402
11.3	Other than full-time permanent	78	72	70	70	0
11.5	Other personnel compensation	402	346	820	820	0
11.6	Personnel Compensation	0	0	0	0	0
11.7	Military Oay-Base	21	0	0		
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	19,028	19,355	19,083	19,485	402
12	Civilian personnel benefits	4,386	4,491	4,109	4,519	410
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	2,828	3,238	2,889	3,009	120
22	Transportation of things	194	207	207	407	200
23.1	Rental payments to GSA	5,421	5,356	5,139	5,139	0
23.2	Rental payments to others	4,744	3,868	3,575	4,544	969
23.3	Commun., util., misc. charges	12,010	8,954	9,508	12,088	2,580
24	Printing and reproduction	29	19	18	43	25
25.1	Consulting services	55,230	53,579	53,148	53,948	800

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

		FY 2005 Currently Available	FY 2006 President's Budget	FY 2007 Base Program	FY 2007 Estimate	Increase/ (Decrease) over 2007 Base
25.2	Other services	113,939	149,013	98,630	100,211	1,581
25.3	Purchase of goods & services from Gov't accounts	620,254	656,092	453,634	566,091	112,457
25.4	Operation of GOCOs	0	0	0	0	0
25.5	Research and Development Contracts	15,962	18,134	17,946	17,946	0
26	Supplies and materials	21,155	12,153	11,967	12,896	929
31	Equipment	70,665	135,730	121,699	110,430	(11,269)
32	Lands and structures	17,433	27,590	15,355	16,155	800
33	Investments and loans	0	0		0	0
41	Grants, subsidies and contributions	122,014	107,330	97,011	99,461	2,450
43	Interest and dividends	104	100	95	95	0
44	Refunds	0	0		0	0
99	Total Obligations	1,085,396	1,205,209	914,013	1,026,467	112,454
	Cash Refund	(146)				
	Federal Funds	(1,768)				
	Deobligations		0	(2,000)	(2,000)	
	Less prior year recoveries	0				

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	FY 2005 Currently Available	FY 2006 President's Budget	FY 2007 Base Program	FY 2007 Estimate	Increase/ (Decrease) over 2007 Base
Unobligated balance, start of year	(130,659)	(99,037)			
Unobligated balance, end of year		0			
Unobligated balance, transferred, net	99,037				
		0			
Total Budget Authority	1,051,859	1,106,172	912,013	1,024,467	112,454
Personnel Data					
Positions	184	184	184	189	5
FTE	174	174	174	179	7

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Exhibit 17

	Object Class	FY 2005 Actual	FY 2006 Enacted	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
11.1	Full-time permanent	18,527	18,937	18,193	18,595	402
11.3	Other than full-time permanent	78	72	70	70	0
11.5	Other personnel compensation	402	346	820	820	0
11.6	Personnel Compensation	0	0	0	0	0
11.7	Military Pay-Basic	21	0	0	0	0
11.8	Special personnel services payments			0		0
11.9	Total personnel compensation	19,028	19,355	19,083	19,485	402
12.1	Civilian personnel benefits			0		0
	Civil service retirement	460	473	559	559	0
	Federal Employee Retirement	1,185	1,324	948	973	25
	Medicare	264	258	251	251	0
	Thrift savings plan	479	481	461	731	270
	Federal insurance contribution act	700	684	665	690	25
	Health insurance	1,154	1,160	1,119	1,154	35
	Life insurance	28	29	28	53	25
	Cost of Living Allowance (COLA)	0	0	0	0	0
	Other	116	82	78	108	30

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Exhibit 17

	Object Class	FY 2005 Actual	FY 2006 Enacted	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
	Subtotal	4,386	4,491	4,109	4,519	410
13.0	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	2,828	3,238	2,889	3,009	120
22	Transportation of things	194	207	207	407	200
23.1	Rental payments to GSA	5,421	5,356	5,139	5,139	0
23.2	Rental payments to others	4,744	3,868	3,575	4,544	969
23.3	Communications, utilities and miscellaneous charges	12,010	8,954	9,508	12,088	2,580
24	Printing and reproduction	29	19	18	43	25

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Exhibit 17

	Object Class	FY 2005 Actual	FY 2006 Enacted	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
25.1	Consulting services	55,230	53,579	53,148	53,948	800
25.2	Other services	113,939	149,013	98,630	100,211	1,581
25.3	Purchases of goods & services from Gov't accounts	620,254	656,092	453,634	566,091	112,457
25.4	Operation of GOCOs	0	0	0	0	0
25.5	Research and development contracts	15,962	18,134	17,946	17,946	0
				0		
26	Supplies and materials	21,155	12,153	11,967	12,896	929
31	Equipment					
	Office machines and equipment	0	0	0	0	0
	ADP hardware	2,546	2,186	1,806	1,806	0
	Other capitalized	35,518	102,661	89,607	78,338	-11,269
	Depreciation on capitalized equipment	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Exhibit 17

	Object Class	FY 2005 Actual	FY 2006 Enacted	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
	Non-capitalized	32,601	30,883	30,286	30,286	0
	Subtotal	70,665	135,730	121,699	110,430	-11,269
32	Lands and structures					0
	Building and Other Structures	17,433	27,590	15,355	16,155	800
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	122,014	107,330	97,011	99,461	2,450
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest/dividends..	104	100	95	95	0
44	Refunds	0	0	0	0	0
99	**Total Direct Obligations**	1,085,396	1,205,209	914,013	1,026,467	112,454
	Cash Refund	(146)	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
DETAILED REQUIREMENTS BY OBJECT CLASS
(dollar amounts in thousands)

Exhibit 17

Object Class	FY 2005 Actual	FY 2006 Enacted	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease)
Federal Funds	(1,768)	0	(2,000)	(2,000)	0
De-Obligation		0	0	0	0
Prior year recoveries		0	0	0	0
Less unobligated balance, start of year	(130,659)	(99,037)	0	0	0
Less unobligated balance, transfer		0	0	0	0
Plus unobligated balance, end of year	99,037	0	0		
Budget Authority	1,051,859	1,106,172	912,013	1,024,467	112,454
			0		
Discretionary Budget Authority	1,051,859	1,106,172	912,013	1,024,467	112,454
Positions	184	184	184	189	5
FTE	174	174	174	181	7

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Pacific Coastal Salmon Recovery Account	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	-	88,216	-	66,571	-	66,825	-	66,825	-	-
Total ECO	-	88,216	-	66,571	-	66,825	-	66,825	-	-
Total Pacific Coastal Salmon Recovery Account	-	88,216	-	66,571	-	66,825	-	66,825	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	66,571	66,571
plus: 2007 Adjustments to base	-	-	254	254
FY 2007 Base	-	-	66,825	66,825
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	66,825	66,825

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Pacific Coastal Salmon Fund	Pos/BA	-	88,216	-	66,571	-	66,825	-	66,825	-	-
	FTE/OBL	-	88,214	-	66,571	-	66,825	-	66,825	-	-
Total: Pacific Coastal Salmon Recovery Account	Pos/BA	-	88,216	-	66,571	-	66,825	-	66,825	-	-
	FTE/OBL	-	88,214	-	66,571	-	66,825	-	66,825	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	88,214	-	66,571	-	66,825	-	66,825	-	-
Total Obligations	**-**	**88,214**	**-**	**66,571**	**-**	**66,825**	**-**	**66,825**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, expiring	-	2	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**88,216**	**-**	**66,571**	**-**	**66,825**	**-**	**66,825**	**-**	**-**
Financing from Transfers:										
Transfer to FFPA	-	493	-	-	-	-	-	-	-	-
Transfer to ORF	-	89	-	67	-	-	-	-	-	-
Net Appropriation	**-**	**88,798**	**-**	**66,638**	**-**	**66,825**	**-**	**66,825**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	88,214	66,571	66,825	66,825	-
Total Obligations	88,214	66,571	66,825	66,825	-
Adjustments and Obligations:					
Unobligated balance, expiring	2	-	-	-	-
Total Budget Authority	88,216	66,571	66,825	66,825	-
Financing from Tranfers:					
Transfer to FFPA	493	-	-	-	-
Transfer to ORF	89	67	-	-	-
Net Appropriation	88,798	66,638	66,825	66,825	-

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Department of Commerce
National Oceanic and Atmospheric Administration
CHANGES TO BASE
(Dollar amounts in thousands)

Pacific Coastal Salmon Recovery Account
(Discretionary)

	FTE	Amount
Adjustments		
Partial Restoration of FY 2006 rescissions	-	187
less: FY 2006 transfer to ORF	-	67
Subtotal, Adjustments	-	254
Total, Changes to Base	-	254

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Appropriation: Pacific Coastal Salmon Recovery Account
Activity: Pacific Coastal Salmon Fund

GOAL STATEMENT:

To develop partnerships with state and local entities to recover Pacific salmon and steelhead populations to sustainable levels.

BASE DESCRIPTION:

The Pacific Coastal Salmon Recovery Fund account was established to augment State, Tribal, and local programs to conserve and restore sustainable Pacific salmon populations and their habitats. Funds are to be used by the states of California, Oregon, Washington, Alaska, and Idaho and the Pacific Coastal and Columbia River Tribes to supplement State and Federal programs and promote the development of federal-state-tribal-local partnerships in salmon conservation efforts. The States and Tribes will use these funds for restoration of salmon and steelhead populations that are listed as threatened or endangered, or identified by a State as at-risk to be so-listed; for maintaining populations necessary for exercise of tribal treaty fishing rights or native subsistence fishing; or for restoration and conservation of Pacific coastal salmon and steelhead habitat. Funds provided to the states will have at least a 33 percent matching requirement and up to three percent limitation on use of the fund for administrative expenses. Funds provided to Pacific Coastal and Columbia River Tribes do not require matching dollars, nor is there a limitation on use of the fund for tribal administration costs. Performance goals and indicators to measure improvements in habitat and recovery processes were established for the program in FY 2005 in response to the Program Assessment Rating Tool for this program in FY 2003. This budget responds to current listings of coastal salmon and steelhead runs under the Endangered Species Act by forming lasting partnerships with States and Local and Tribal governments and the public for saving Pacific salmon and their important habitats.

Base activities support the objective, "Enhance the conservation and management of coastal and marine resources to meet America's economic, social, and environmental needs" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship."

PROPOSED LEGISLATION:

For necessary expenses associated with the restoration of Pacific salmon populations, $66,825,000*, to remain available until September 30, 2008*: *Provided, That of the funds provided herein the Secretary of Commerce may issue grants to the States of Washington, Oregon, Idaho, California, and Alaska, and the Columbia River and Pacific Coastal Tribes for projects necessary for restoration of salmon and steelhead populations that are listed as threatened or endangered, or identified by a State as at-risk to be so-listed, for maintaining populations necessary for exercise of tribal treaty fishing rights or native subsistence fishing, or for conservation of Pacific coastal salmon and steelhead habitat, based on guidelines to be developed by the Secretary of Commerce: Provided further, That funds disbursed to States shall be subject to a matching requirement of funds or documented in-kind contributions of at least thirty-three percent of the Federal funds: Provided further, That non-Federal funds provided pursuant to the second proviso be used in direct support of this program*. (Department of Commerce and Related Agencies Appropriations Act, 2006.)

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Pacific Coastal Salmon Recovery Account	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Pacific Coastal Salmon Fund	88,216	66,571	66,825	66,825	
TOTAL	88,216	66,571	66,825	66,825	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

Pacific Coastal Salmon Recovery Fund

There are no program changes recommended for this activity.

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	-	-	-	-	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	-	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total personnel compensation	-	-	-	-	-
11.9	Total Personnel Compensation	-	-	-	-	-
12.1	Civilian personnel benefits	-	-	-	-	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	-	-	-	-	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41	Grants, subsides and contributions	88,214	66,571	66,825	66,825	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	88,214	66,571	66,825	66,825	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	-	-	-	-	-
	Plus Unobligated Balance, End Of Year	-	-	-	-	-
	Expired unobligated balances	2	-	-	-	-
	Offsetting collections (Mandatory)	-	-	-	-	-
	Total Budget Authority	88,216	66,571	66,825	66,825	-

Department of Commerce
National Oceanic and Atmospheric Administration
Pacific Coastal Salmon Recovery Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-
Authorized Positions:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Fishermen's Contingency Fund	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	1	492	1	-	1	-	1	-	-	-
Total ECO	1	492	1	-	1	-	1	-	-	-
Total Fishermen's Contingency Fund	1	492	1	-	1	-	1	-	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	1	1	-	453
plus: 2007 Adjustments to Base	-	-	-	(12)
FY 2007 Base	1	1	-	441
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	1	1	-	441

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fishermen's Contingency Fund	Pos/BA	1	492	1	-	1	-	1	-	-	-
Obligations	FTE/OBL	1	248	1	453	1	441	1	441	-	-
Total: Fishermen's Contingency	Pos/BA	1	492	1	-	1	-	1	-	-	-
Fund	FTE/OBL	1	248	1	453	1	441	1	441	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	1	248	1	453	1	441	1	441	-	-
Total Obligations	**1**	**248**	**1**	**453**	**1**	**441**	**1**	**441**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, adj. SOY	-	(650)	-	(894)	-	(441)	-	(441)	-	-
Unobligated balance, EOY	-	894	-	441	-	-	-	-	-	-
Total Budget Authority	**1**	**492**	**1**	**-**	**1**	**-**	**1**	**-**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**1**	**492**	**1**	**-**	**1**	**-**	**1**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	248	453	441	441	-
Total Obligations	248	453	441	441	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	(650)	(894)	(441)	(441)	-
Unobligated balance, transferred	-	-	-	-	-
Unobligated balance, EOY	894	441	-	-	-
Total Budget Authority	492	-	-	-	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	492	-	-	-	-

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Appropriation: Fishermen's Contingency Fund Obligations

GOAL STATEMENT:

This fund compensates domestic fishermen for damage or loss of fishing gear or vessels due to obstructions related to oil or gas exploration, development, and production on the Outer Continental Shelf (OCS). It minimizes financial instability of the fishing industry caused by competing uses of the OCS, and provides for timely resolution of claims by vessel owners.

BASE DESCRIPTION:

The Fishermen's Contingency Fund is authorized under Section 402 of Title IV of the Outer Continental Shelf Lands Act Amendments of 1978. NOAA compensates U.S. commercial fishermen for damage or loss of fishing gear, vessels, and resulting economic loss caused by obstructions related to oil and gas exploration, development, and production in any area of the Outer Continental Shelf. The funds used to provide this compensation are derived from fees collected on an annual basis by the Secretary of the Interior from the holders of leases, exploration permits, easements, or rights-of-way in areas of the Outer Continental Shelf.

This activity is funded totally through user fees. Disbursements can be made only to the extent authorized in appropriation acts.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Fishermen's Contingency Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Fishermen's Contingency Fund Obligations	492	-	-	-	-
TOTAL	492	-	-	-	-
FTE	1	1	1	1	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No program change is requested in this activity.

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11.1	Full-time permanent	73	73	73	73	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	3	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total Personnel Compensation	76	73	73	73	-
12.1	Civilian personnel benefits	21	21	21	21	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	-	-	-	-	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	-	-	-	-	-
42	Insurance claims and indemnities	151	359	347	347	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	248	453	441	441	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	(650)	(894)	(441)	(441)	-
	Plus Unobligated Balance, End Of Year	894	441	-	-	-
	Less Unobligated Balance, Rescission	-	-	-	-	-
	Total Budget Authority	492	-	-	-	-

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	1	1	1	1	-
Other than full-time permanent	-	-	-	-	-
Total	1	1	1	1	-
Authorized Positions:					
Full-time permanent	1	1	1	1	-
Other than full-time permanent	-	-	-	-	-
Total	1	1	1	1	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	-	250
less: Obligations from prior year balances	-	-	-	22
FY 2007 Base	-	-	-	272
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	-	272

Comparison by activity/subactivity		FY 2005 Actuals Personnel	FY 2005 Actuals Amount	FY 2006 Currently Available Personnel	FY 2006 Currently Available Amount	FY 2007 Base Program Personnel	FY 2007 Base Program Amount	FY 2007 Estimate Personnel	FY 2007 Estimate Amount	Increase/ Decrease Personnel	Increase/ Decrease Amount
	FTE/OBL	-	490	-	250	-	272	-	272	-	-
Total: Foreign Fishing Observer Fund	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	490	-	250	-	272	-	272	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	490	-	250	-	272	-	272	-	-
Total Obligations	**-**	**490**	**-**	**250**	**-**	**272**	**-**	**272**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, adj. SOY	-	(1,012)	-	(522)	-	(272)	-	(272)	-	-
Unobligated balance, EOY	-	522	-	272	-	-	-	-	-	-
Total Budget Authority	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	490	250	272	272	-
Total Obligations	490	250	272	272	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	(1,012)	(522)	(272)	(272)	-
Unobligated balance, transferred	-	-	-	-	-
Unobligated balance, EOY	522	272	-	-	-
Total Budget Authority	-	-	-	-	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	-	-	-	-	-

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Appropriation: Foreign Fishing Observer Fund

GOAL STATEMENT:

The goals of this fund are to provide 100 percent observer coverage aboard foreign vessels fishing within the United States' EEZ; to increase compliance with fishery regulations and requirements; to support balanced conservation and management measures to achieve and maintain the optimum use of our living marine resources; to collect data to determine foreign compliance with fishery regulations and the status of fish stocks within the EEZ of the United States; and to administer the base and supplemental observer programs in a cost-effective manner.

BASE DESCRIPTION:

The Foreign Fishing Observer Fund is financed through fees collected from owners and operators of foreign fishing vessels fishing within the Exclusive Economic Zone (EEZ) of the United States (such fishing requires a permit issued under the Magnuson-Stevens Fishery Conservation and Management Act). This includes long-line vessels fishing in the Atlantic billfish and shark fishery and other foreign vessels fishing in the EEZ. The fund is used by NOAA to pay salaries, administrative costs, data editing and entry costs, and other costs incurred in placing observers aboard foreign fishing vessels. The observer program is conducted primarily through contracts with the private sector. NOAA/NMFS places these observers aboard foreign fishing vessels to monitor compliance with U.S. fishery laws and to collect fishery management data. Amounts available in the Fund can be disbursed only to the extent and in amounts provided in appropriation acts.

In FY 1985 Congress approved the establishment of a supplemental observer program. The program provided that foreign vessels without Federally-funded observers are required to obtain the services of private contractors certified by the Secretary of Commerce.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Foreign Fishing Observer Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
TOTAL	-	-	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No program changes are requested for this activity.

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	-	-	-	-	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	-	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total Personnel Compensation	-	-	-	-	-
12.1	Civilian personnel benefits	-	-	-	-	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	490	250	272	272	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	-	-	-	-	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	490	250	272	272	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	(1,012)	(522)	(272)	(272)	-
	Plus Unobligated Balance, End Of Year	522	272	-	-	-
	Total Budget Authority	-	-	-	-	-

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-
Authorized Positions:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Fisheries Finance Program Account	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	-	6,511	-	8,571	-	-	-	-	-	-
Total ECO	-	6,511	-	8,571	-	-	-	-	-	-
Total Fisheries Finance Program Account	-	6,511	-	8,571	-	-	-	-	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Approp.	Budget Authority	Direct Obligations
FY 2006 Appropriation Available	-	-	6,599	8,571	8,571
less: Permanent Indefinite Authority	-	-	(6,316)	(6,316)	(6,316)
less: Recoveries from prior years	-	-	-	-	-
plus: 2007 Adjustments to base	-	-	(283)	(2,255)	(2,255)
FY 2007 Base	-	-	-	-	-
plus: 2007 Program Changes	-	-	-	-	-
FY 2007 Estimate	-	-	-	-	-

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Financing Program	Pos/BA	-	6,511	-	8,571	-	-	-	-	-	-
Obligations	FTE/OBL	-	5,489	-	8,571	-	-	-	-	-	-
Total: Fisheries Finance Program	Pos/BA	-	6,511	-	8,571	-	-	-	-	-	-
Account	FTE/OBL	-	5,489	-	8,571	-	-	-	-	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	5,489	-	8,571	-	-	-	-	-	-
Total Obligations	**-**	**5,489**	**-**	**8,571**	**-**	**-**	**-**	**-**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, adj. SOY	-	(2,450)	-	(2,697)	-	(2,697)	-	(2,697)	-	-
Unobligated balance, EOY	-	2,697	-	2,697	-	2,697	-	2,697	-	-
Unobligated balance, expiring	-	775	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**6,511**	**-**	**8,571**	**-**	**-**	**-**	**-**	**-**	**-**
Financing from Transfers:										
Less: Permanent Indefinite Authority (Mandatory)	-	(5,144)	-	(6,316)	-	-	-	-	-	-
Transfer from ORF	-	(246)	-	(1,972)	-	-	-	-	-	-
Transfer from Pacific Salmon	-	(493)	-	-	-	-	-	-	-	-
Net Appropriation	**-**	**628**	**-**	**283**	**-**	**-**	**-**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	5,489	8,571	-	-	-
Total Obligations	5,489	8,571	-	-	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	(2,450)	(2,697)	(2,697)	(2,697)	-
Unobligated balance, EOY	2,697	2,697	2,697	2,697	-
Unobligated balance, expiring	775	-	-	-	-
Total Budget Authority	6,511	8,571	-	-	-
Financing from Tranfers:					
Less: Permanent Indefinite Authority (Mandatory)	(5,144)	(6,316)	-	-	-
Transfer from ORF	(246)	(1,972)	-	-	-
Transfer from Pacific Salmon	(493)	-	-	-	-
Net Appropriation	628	283	-	-	-

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Appropriation: Fisheries Financing Program Obligations

GOAL STATEMENT:

Utilize cost-effective financing mechanisms to promote market-based approaches to sustainable fisheries management.

BASE DESCRIPTION:

TThe Fisheries Finance Program (FFP) is a loan program for financing or refinancing the construction, reconstruction, reconditioning, and in some cases, the purchasing of fishing vessels, shoreside processing, aquaculture, and mariculture facilities. FFP provides direct loans for up to 80% of the actual cost of reconstruction with a maximum maturity of up to 25 years.

The FFP operates under the authority of Title XI of the Merchant Marine Act of 1936, as amended as well as Section 303(a) of the SFA amendments to the Magnuson-Stevens Act. FFP lending practices are guided by Title XI, general rules implementing Title XI (found at 50 CFR part 253, subpart B), NOAA's sustainable fisheries policy and by the practical considerations of a program that has been self sustaining throughout its credit history.

The Sustainable Fisheries Act (SFA) (Pub. L. 104-297) amended section 1104A(a)(7) of Title XI (46 U.S.C. App. 1274) and section 30(d)(4) of the Magnuson-Stevens Fishery and Conservation Act (Magnuson-Stevens Act) (16U.S.C. 1801 et seq.) to authorize financing and refinancing the cost of loans available to entry level fishermen and to fishermen who fish from small boats purchasing Quota Shares ("QS"). All FFP authority is subject to the Federal Credit Reform Act of 1990 (FCRA) (2 U.S.C. 661) which requires the estimated loan losses (FCRA cost) be appropriated in cash at the time Congress authorizes annual credit ceilings. This form of lending requires no FCRA subsidy cost. However, specific loan ceilings must be included in appropriation language or other bill language.

The FFP provides Individual Fishing Quota (IFQ) financing at the request of a Fishery Management Council. At this time, IFQ financing is available to first time purchasers and small vessel operators in the Halibut Sablefish fisheries. Additionally, FFP provides financing for Community Development Quota groups fisheries investments in the Bering Sea Aleutian Islands Pollock fishery.

Recently, Congress authorized the FFP to finance the fishing capacity reduction loans (Buyback) to reduce overcapitalization of some fisheries. Buyback financing is targeted at preventing or ending overfishing, permitting stocks to rebuild and achieving measurable and significant improvements in the conservation and management of the fishery. Under this provision, the Program would finance the cost of reducing capacity by lending the capital to fishermen to surrender their fishing permits or scrap their vessels. All fishermen remaining in the fishery after capacity reduction repay this financing by a statutory levy on the gross value of the fish they catch.

The first shoreside purchasers of the post-reduction fishermen's catches deduct this levy from what they would otherwise have paid those fishermen for their catches, and forward the levy revenues to the Program to repay the capacity reduction financing. These levies continue on every catch landed by every fisherman in the fishery until the capacity reduction financing is repaid. Before the Program can finance capacity reduction, a Fishery Management Council must propose, and two-thirds of the fishermen in the fishery involved must vote in favor of both the capacity reduction and the landing fee levy. Capacity reduction financing is a way of allowing long-term fishermen to organize and finance the removal of excess competition from their fishery. This form of fisheries decapitalization requires the beneficiaries of decapitalization to repay its cost.

PROPOSED LEGISLATION:

[For the costs of direct loans, $287,000, as authorized by the Merchant Marine Act of 1936: *Provided*, That such costs, including the cost of modifying such loans, shall be as defined in the Federal Credit Reform Act of 1990: *Provided further*, That these funds are only available to subsidize gross obligations for the principal amount] *Subject to section 502 of the Congressional Budget Act of 1974, during fiscal year 2007, obligations* of direct loans may not [to] exceed $5,000,000 for Individual Fishing Quota loans *as authorized by the Merchant Marine Act of 1936*[, and not to exceed $59,000,000 for traditional direct loans, of which $19,000,000 may be used for direct loans to the United States menhaden fishery: Provided further, That none of the funds made available under this heading may be used for direct loans for any new fishing vessel that will increase the harvesting capacity in any United States fishery]. *(Department of Commerce and Related Agencies Appropriations Act, 2006.)*

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Fisheries Finance Program Account	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
NMFS (DISCRETIONARY)	6,511	8,571	-	-	
Fisheries Financing Program Obligations	6,511	8,571	-	-	-
TOTAL	6,511	8,571	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

NOAA's FY 2007 budget request includes $5,000,000 in loan authority for IFQ loans, which does not require a subsidy. The FY 2007 budget request does not include loan authority for "traditional loans."

TERMINATIONS FOR FY 2007: The following programs, or portions thereof, have been terminated in FY 2007: Fisheries Finance Program Account ($8,571,000).

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Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	-	-	-	-	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	-	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total personnel compensation	-	-	-	-	-
11.9	Total Personnel Compensation	-	-	-	-	-
12.1	Civilian personnel benefits	-	-	-	-	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	-	-	-	-	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	5,489	8,571	-	-	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	5,489	8,571	-	-	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	(2,450)	(2,697)	(2,697)	(2,697)	-
	Plus Unobligated Balance, End Of Year	2,697	2,697	2,697	2,697	-
	Expired unobligated balances	775	-	-	-	-
	Total Budget Authority	6,511	8,571	-	-	-

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-
Authorized Positions:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Promote and Develop Fisheries Products	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	4	12,539	4	12,283	4	2,283	4	2,283	-	-
Total ECO	4	12,539	4	12,283	4	2,283	4	2,283	-	-
Total Promote and Develop Fisheries Products	4	12,539	4	12,283	4	2,283	4	2,283	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Mandatory Authority	4	4	12,283	12,940
less: Obligations from prior year balances	-	-	(10,000)	(10,657)
less: Recoveries from prior year	-	-	-	-
plus: 2007 Adjustments to base	-	-	-	-
FY 2007 Base	4	4	2,283	2,283
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	4	4	2,283	2,283

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Promote and Develop Fisheries	Pos/BA	4	12,539	4	12,283	4	2,283	4	2,283	-	-
Obligations	FTE/OBL	2	12,518	4	12,940	4	2,283	4	2,283	-	-
Total: Promote and Develop	Pos/BA	4	12,539	4	12,283	4	2,283	4	2,283	-	-
Fisheries Products	FTE/OBL	2	12,518	4	12,940	4	2,283	4	2,283	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	2	12,518	4	12,940	4	2,283	4	2,283	-	-
Total Obligations	**2**	**12,518**	**4**	**12,940**	**4**	**2,283**	**4**	**2,283**	**-**	**-**
Adjustments to Obligations:										
Recoveries	-	(129)	-	-	-	-	-	-	-	-
Unobligated balance, adj. SOY	-	(507)	-	(657)	-	-	-	-	-	-
Unobligated balance, EOY	-	657	-	-	-	-	-	-	-	-
Total Budget Authority	**2**	**12,539**	**4**	**12,283**	**4**	**2,283**	**4**	**2,283**	**-**	**-**
Financing from Transfers:										
Transfer from Other Accounts	-	(77,539)	-	(79,283)	-	(79,283)	-	(79,283)	-	-
Transfer to ORF	-	65,000	-	67,000	-	77,000	-	77,000	-	-
Net Appropriation	**2**	**-**	**4**	**-**	**4**	**-**	**4**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	12,518	12,940	2,283	2,283	-
Total Obligations	12,518	12,940	2,283	2,283	-
Adjustments and Obligations:					
Recoveries	(129)	-	-	-	-
Unobligated balance, adj. SOY	(507)	(657)	-	-	-
Unobligated balance, EOY	657	-	-	-	-
Total Budget Authority	12,539	12,283	2,283	2,283	-
Financing from Tranfers:					
Transfer from Other Accounts	(77,539)	(79,283)	(79,283)	(79,283)	-
Transfer to ORF	65,000	67,000	77,000	77,000	-
Net Appropriation	-	-	-	-	-

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Department of Commerce
National Oceanic and Atmospheric Administration
CHANGES TO BASE
(Dollar amounts in thousands)

Promote and Develop Fisheries Products
(Discretionary Component)

	FTE	Amount
Adjustments		
less: FY 2006 transfer to ORF	-	67,000
plus: FY 2007 transfer to ORF	-	-77,000
(reduced mandatory program allows for increased transfer)		
Subtotal, Adjustments	-	-10,000
Total, Changes to Base	-	-10,000

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Appropriation: Promote and Develop Fisheries Obligations

GOAL STATEMENT:

To promote and develop fishery-based industries in the United States.

BASE DESCRIPTION:

The American Fisheries Promotion Act (AFPA) of 1980 amended the Saltonstall-Kennedy (S-K) Act to authorize a grants program for fisheries research and development projects to be carried out with S-K funds. S-K funds are derived from a transfer from the Department of Agriculture to NOAA from duties on imported fisheries products. An amount equal to 30% of these duties is made available to NOAA and, subject to appropriation, are available to carry out the purposes of the AFPA. The S-K grants program has provided substantial assistance to address impediments in the management, development, and utilization of the Nation's living marine resources. Each year a Federal Register notice is published announcing the program. The annual notice outlines priority areas, such as research on reduction/elimination of bycatch and aquaculture. The remainder of the S-K funds transferred are used to offset the appropriation requirements of the Operations, Research and Facilities (ORF) account.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Promote and Develop Fisheries Products	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Promote and Develop Fisheries Obligations	12,539	12,283	2,283	2,283	-
TOTAL	12,539	12,283	2,283	2,283	-
FTE	4	4	4	4	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	148	148	148	148	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	4	4	4	4	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total Personnel Compensation	152	152	152	152	-
12.1	Civilian personnel benefits	44	44	44	44	-
13.1	Benefits for former personnel	-	-	-	-	-
21	Travel and transportation of persons	19	19	19	19	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	23	23	23	23	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.1	Advisory and assistance services	49	49	49	49	-
25.2	Other services	3	3	3	3	-
26	Supplies and materials	11	11	11	11	-
31	Equipment	19	19	19	19	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41	Grants, subsides and contributions	12,198	12,620	1,963	1,963	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	12,518	12,940	2,283	2,283	-
	Less Prior year recoveries	(129)	-	-	-	-
	Less Unobligated Balance, Start of Year	(507)	(657)	-	-	-
	Plus Unobligated Balance, End Of Year	657	-	-	-	-
	Offsetting collections (Mandatory)	-	-	-	-	-
	Total Budget Authority	12,539	12,283	2,283	2,283	-

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	2	4	4	4	-
Other than full-time permanent	-	-	-	-	-
Total	2	4	4	4	-
Authorized Positions:					
Full-time permanent	4	4	4	4	-
Other than full-time permanent	-	-	-	-	-
Total	4	4	4	4	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Mandatory Authority	16	16	1,000	22,853
less: Other Financing	-	-	-	(2,000)
less: Unobl balance transfers, Dept. of Interior	-	-	-	(3,000)
less: Recoveries from prior years	-	-	-	(16,853)
plus: 2007 Adjustments to base	-	-	-	-
FY 2007 Base	16	16	1,000	1,000
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	16	16	1,000	1,000

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Damage Assessment and	Pos/BA	16	16	16	1,000	16	1,000	16	1,000	-	-
Restoration Revolving Fund	FTE/OBL	12	9,383	16	22,853	16	6,000	16	6,000	-	-
Total: Damage Assessment and	Pos/BA	16	16	16	1,000	16	1,000	16	1,000	-	-
Restoration Revolving Fund	FTE/OBL	12	9,383	16	22,853	16	6,000	16	6,000	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	12	9,383	16	22,853	16	6,000	16	6,000	-	-
Total Obligations	**12**	**9,383**	**16**	**22,853**	**16**	**6,000**	**16**	**6,000**	**-**	**-**
Adjustments to Obligations:										
New offsetting collections	-	1,866	-	(2,000)	-	(2,000)	-	(2,000)	-	-
Recoveries	-	(129)	-	-	-	-	-	-	-	-
Unobligated balance, adj. SOY	-	(24,216)	-	(16,853)	-	-	-	-	-	-
Unobligated balance, transferred (From DOI)	-	(3,741)	-	(3,000)	-	(3,000)	-	(3,000)	-	-
Unobligated balance, EOY	-	16,853	-	-	-	-	-	-	-	-
Total Budget Authority	**12**	**16**	**16**	**1,000**	**16**	**1,000**	**16**	**1,000**	**-**	**-**
Financing from Transfers:										
Transfer to/from Dept of Interior	-	(16)	-	-	-	-	-	-	-	-
Net Appropriation	**12**	**-**	**16**	**1,000**	**16**	**1,000**	**16**	**1,000**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	9,383	22,853	6,000	6,000	-
Offsetting collections, mandatory	-	-	-	-	-
Total Obligations	9,383	22,853	6,000	6,000	-
Adjustments and Obligations:					
Federal funds	-	-	-	-	-
Unavailable Balance (prior year)	-	-	-	-	-
Non-Federal Sources	-	-	-	-	-
Receivables from Federal Sources	-	-	-	-	-
New offsetting collections	1,866	(2,000)	(2,000)	(2,000)	-
Recoveries	(129)	-	-	-	-
Unobligated balance, adj. SOY	(24,216)	(16,853)	-	-	-
Unobligated balance, transferred (From DOI)	(3,741)	(3,000)	(3,000)	(3,000)	-
Unobligated balance, transferred (To ORF)	-	-	-	-	-
Unobligated balance, EOY	16,853	-	-	-	-
Total Budget Authority	16	1,000	1,000	1,000	-
Financing from Tranfers:					
Transfer to ORF	-	-	-	-	-
Transfer to/from Dept of Interior	(16)	-	-	-	-
Net Appropriation	-	1,000	1,000	1,000	-

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Appropriation: Damage Assessment and Restoration Revolving Fund

GOAL STATEMENT:

Facilitate the spill response, damage assessment, and natural resource restoration activities of the National Oceanic and Atmospheric Administration.

BASE DESCRIPTION:

A National Oceanic and Atmospheric Administration (NOAA) Damage Assessment and Restoration Revolving Fund was established, under Section 1012(a) of the Oil Pollution Act of 1990, for deposit of sums provided by any party or governmental entity for response to discharges of oil or releases of hazardous substances, for assessment of damages to NOAA trust resources resulting from those discharges and releases, and for the restoration of the injured natural resources.

- Retain funds that are recovered through settlement or awarded by a court for restoration of injured natural resources, and retain reasonable costs of conducting spill response and damage assessment that are recovered by NOAA through negotiated settlement, court award, or other reimbursement.

- Ensure funds so deposited shall remain available to the trustee, without further appropriation, until expended to pay costs associated with response, damage assessment, and restoration of natural resources.

The NOAA Damage Assessment and Restoration Revolving Fund facilitates and sustains: (1) oil and hazardous materials contingency planning and response, automated spill assessment, and countermeasure capabilities; (2) natural resource damage assessment while the Departments of Commerce and Justice seek full reimbursement from potentially responsible parties; and (3) restoration, replacement or acquisition of the equivalent of injured or lost natural resources, including resources of National Marine Sanctuaries and National Estuarine Research Reserves, tidal wetlands and other habitats, for which NOAA is trustee. These program functions are conducted jointly within NOAA by the Office of General Counsel, the National Ocean Service, and the National Marine Fisheries Service.

Emergency Response Program: NOAA provides scientific support to the U.S. Coast Guard for oil and chemical spills and other emergencies. NOAA's scientists forecast the movement and behavior of spilled oil and chemicals, evaluate the risk to natural resources, and recommend protection priorities and appropriate cleanup actions.

Habitat Program: To fulfill its responsibility as a Federal natural resource trustee under the Superfund, Clean Water, and Oil Pollution Acts, NOAA conducts comprehensive assessments of damages to trust resources from discharges of oil or releases of hazardous substances in coastal and marine areas. These assessments enable the Federal Government to file claims against the potentially responsible parties. The program uses recovered damages to

restore injured resources, monitors the restoration to assess its effectiveness, conducts basic and applied research on restoration methodologies, applies these techniques to restoration of resource habitats, and provides guidance to habitat managers for selecting among restoration approaches.

PROPOSED LEGISLATION:

No legislation is proposed.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Damage Assessment and Restoration Revolving Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Damage Assessment and Restoration Revolving Fund	16	1,000	1,000	1,000	
TOTAL	16	1,000	1,000	1,000	-
FTE	15	16	16	16	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No changes are requested for FY 2007.

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Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	1,012	1,012	1,012	1,012	-
11.3	Other than full-time permanent	17	17	17	17	-
11.5	Other personnel compensation	19	19	19	19	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total personnel compensation	-	-	-	-	-
11.9	Total Personnel Compensation	1,048	1,048	1,048	1,048	-
12.1	Civilian personnel benefits	244	244	244	244	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	138	138	138	138	-
22.1	Transportation of things	188	188	188	188	-
23.1	Rental payments to GSA	69	69	69	69	-
23.2	Rental payments to others	39	39	39	39	-
23.3	Communications, utilities and miscellaneous charges	36	36	36	36	-
25.1	Advisory and assistance services	926	926	926	926	-
25.2	Other services	5,226	18,696	1,843	1,843	-
25.3	Other purchases of goods and services from Govt accounts	305	305	305	305	-
26.1	Supplies and materials	156	156	156	156	-
31.1	Equipment	460	460	460	460	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	548	548	548	548	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	9,383	22,853	6,000	6,000	-
	Less collections	1,866	(2,000)	(2,000)	(2,000)	-

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Less Prior year recoveries	(129)	-	-	-	-
Less Unobligated Balance, Start of Year	(24,216)	(16,853)	-	-	-
Plus Unobligated Balance, End Of Year	16,853	-	-	-	-
Plus Unobligated Balance Transfer	(3,741)	(3,000)	(3,000)	(3,000)	-
Total Budget Authority	16	1,000	1,000	1,000	-
Non-Federal Sources	-	-	-	-	-
Transfers:	-	-	-	-	-
From DOI	(16)	-	-	-	-
Discretionary Budget Authority	-	1,000	1,000	1,000	-

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	16	16	16	16	-
Other than full-time permanent	-	-	-	-	-
Total	16	16	16	16	-
Authorized Positions:					
Full-time permanent	16	16	16	16	-
Other than full-time permanent	-	-	-	-	-
Total	16	16	16	16	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Presidents Budget	-	-	-	-
less: Obligations from prior years	-	-	-	-
less: Recoveries from prior years	-	-	-	-
plus: 2007 Adjustments to base	-	-	-	-
FY 2007 Base	-	-	-	-
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	-	-

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Total	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Adjustments to Obligations:										
New offsetting collections	-	(1,637)	-	(3,000)	-	(3,000)	-	(3,000)	-	-
Total Budget Authority	**-**	**(1,637)**	**-**	**(3,000)**	**-**	**(3,000)**	**-**	**(3,000)**	**-**	**-**
Financing from Transfers:										
Previously unavailable unobligated balances	-	(1,363)	-	-	-	-	-	-	-	-
Transfer to ORF	-	3,000	-	3,000	-	3,000	-	3,000	-	-
Net Appropriation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	-	-	-	-	-
Total Obligations	-	-	-	-	-
Adjustments and Obligations:					
New offsetting collections	(1,637)	(3,000)	(3,000)	(3,000)	-
Unobligated balance, adj. SOY	-	-	-	-	-
Unobligated balance, EOY	-	-	-	-	-
Total Budget Authority	(1,637)	(3,000)	(3,000)	(3,000)	-
Financing from Tranfers:					
Previously unavailable unobligated balances	(1,363)	-	-	-	-
Transfer to ORF	3,000	3,000	3,000	3,000	-
Net Appropriation	-	-	-	-	-

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Appropriation: Coastal Zone Management Fund

GOAL STATEMENT:

The Coastal Zone Management Fund (CZMF) was created by the 1990 amendments to the Coastal Zone Management Act (CZMA). The purposes for which the funds can be used are set forth in Sec. 308 of that Act. In summary, Sec. 308 authorizes the use of the loan repayments from the former Coastal Energy Impact Program (CEIP) for the administrative costs of the Coastal Zone Management Program and if any funds remain, for other purposes as set forth below.

BASE DESCRIPTION:

Section 308 of the Coastal Zone Management Act authorizes the CZMF to be used for the following purposes:

Expenses incident to the administration of the Coastal Zone Management Act;
Projects to address management issues which are regional in scope, including interstate projects;
Demonstration projects which have high potential for improving coastal zone management, especially at the local level;
Emergency grants to State coastal zone management agencies to address unforeseen or disaster-related circumstances;
Appropriate awards recognizing excellence in coastal management;
Program Development Grants; and
Financial support to coastal States for use in investigating and applying the public trust doctrine to implement State management programs.

As a part of the FY 2007 appropriations process, NOAA proposes to transfer funding from the CZMF for obligation in the ORF account.

PROPOSED LEGISLATION:

NOAA will continue to work with Congress to reauthorize the Coastal Zone Management Act.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Coastal Zone Management Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
TOTAL	-	-	-	-	-
FTE	-	-	-	-	-

PROGRAM CHANGES FOR FY 2007:

No changes are requested for FY 2007.

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	-	-	-	-	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	-	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total personnel compensation	-	-	-	-	-
11.9	Total Personnel Compensation	-	-	-	-	-
12.1	Civilian personnel benefits	-	-	-	-	-
13.1	Benefits for former personnel	-	-	-	-	-
21.1	Travel and transportation of persons	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	-	-	-	-	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	-	-	-	-	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	-	-	-	-	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	(32,049)	-	-	-	-
	Plus Unobligated Balance, End Of Year	32,049	-	-	-	-
	Offsetting collections (Mandatory)	(2,960)	(3,000)	(3,000)	(3,000)	-
	Total Budget Authority	(2,960)	(3,000)	(3,000)	(3,000)	-

Department of Commerce
National Oceanic and Atmospheric Administration
Coastal Zone Management Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-
Authorized Positions:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	(2,000)	3,000
less: Obligations from prior year balances	-	-	-	-
less: Recoveries from prior years	-	-	-	-
plus: 2007 Adjustments to base	-	-	-	-
FY 2007 Base	-	-	(2,000)	3,000
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	(2,000)	3,000

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Federal Ship Financing Fund	Pos/BA	-	-	-	(2,000)	-	(2,000)	-	(2,000)	-	-
	FTE/OBL	-	2,890	-	3,000	-	3,000	-	3,000	-	-
Total: Federal Ship Financing Fund	Pos/BA	-	-	-	(2,000)	-	(2,000)	-	(2,000)	-	-
	FTE/OBL	-	2,890	-	3,000	-	3,000	-	3,000	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	2,890	-	3,000	-	3,000	-	3,000	-	-
Total Obligations	**-**	**2,890**	**-**	**3,000**	**-**	**3,000**	**-**	**3,000**	**-**	**-**
Adjustments to Obligations:										
Non-Federal Sources	-	(7,893)	-	(5,000)	-	(5,000)	-	(5,000)	-	-
Recoveries	-	(116)	-	-	-	-	-	-	-	-
Unobligated balance, adj. SOY	-	(2,297)	-	-	-	-	-	-	-	-
Unobligated balance, transferred (Misc Receipts)	-	7,416	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**-**	**-**	**(2,000)**	**-**	**(2,000)**	**-**	**(2,000)**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**-**	**-**	**-**	**(2,000)**	**-**	**(2,000)**	**-**	**(2,000)**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	2,890	3,000	3,000	3,000	-
Total Obligations	2,890	3,000	3,000	3,000	-
Adjustments and Obligations:					
Non-Federal Sources	(7,893)	(5,000)	(5,000)	(5,000)	-
Recoveries	(116)	-	-	-	-
Unobligated balance, adj. SOY	(2,297)	-	-	-	-
Unobligated balance, transferred (Misc Receipts)	7,416	-	-	-	-
Total Budget Authority	-	(2,000)	(2,000)	(2,000)	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	-	(2,000)	(2,000)	(2,000)	-

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Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Appropriation: Federal Ship Financing Fund

GOAL STATEMENT:

To provide for a liquidating account necessary for the collection of premiums and fees under the Fishing Vessel Obligations Guarantee program for loan commitments made prior to October 1, 1991. These collections are for operations of this program, loans, and for use in case of default.

BASE DESCRIPTION:

The Federal Ship Financing Fund manages the loan guarantee portfolio that existed prior to FY 1992. Administrative expenses for management of the loan guarantee portfolio were charged to the Federal Ship Financing Fund prior to the enactment of the Federal Credit Reform Act of 1990. Currently administrative expenses are charged to the Operations, Research, and Facilities (ORF) account.

PROPOSED LEGISLATION:

No legislation is proposed.

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Federal Ship Financing Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Federal Ship Financing Fund	-	(2,000)	(2,000)	(2,000)	-
TOTAL	-	(2,000)	(2,000)	(2,000)	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No changes are requested for this activity.

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Environmental Improvement and Restoration Fund	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	-	6,836	-	8,281	-	8,720	-	8,720	-	-
Total ECO	-	6,836	-	8,281	-	8,720	-	8,720	-	-
Total Environmental Improvement and Restoration Fund	-	6,836	-	8,281	-	8,720	-	8,720	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	8,281	15,117
less: Obligations from prior year balances	-	-	-	(6,836)
plus: 2007 Adjustments to base	-	-	439	439
FY 2007 Base	-	-	8,720	8,720
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	8,720	8,720

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Environmental Improve & Restoration Fund Obligations (NMFS)	Pos/BA	-	6,836	-	8,281	-	8,720	-	8,720	-	-
	FTE/OBL	-	8,148	-	15,117	-	8,720	-	8,720	-	-
Total: Environmental Improvement and Restoration Fund	Pos/BA	-	6,836	-	8,281	-	8,720	-	8,720	-	-
	FTE/OBL	-	8,148	-	15,117	-	8,720	-	8,720	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	8,148	-	15,117	-	8,720	-	8,720	-	-
Total Obligations	**-**	**8,148**	**-**	**15,117**	**-**	**8,720**	**-**	**8,720**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, adj. SOY	-	(8,148)	-	(6,836)	-	-	-	-	-	-
Unobligated balance, EOY	-	6,836	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**6,836**	**-**	**8,281**	**-**	**8,720**	**-**	**8,720**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**-**	**6,836**	**-**	**8,281**	**-**	**8,720**	**-**	**8,720**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	8,148	15,117	8,720	8,720	-
Total Obligations	8,148	15,117	8,720	8,720	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	(8,148)	(6,836)	-	-	-
Unobligated balance, transferred	-	-	-	-	-
Unobligated balance, transferred (From DOI)	-	-	-	-	-
Unobligated balance, EOY	6,836	-	-	-	-
Total Budget Authority	6,836	8,281	8,720	8,720	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	6,836	8,281	8,720	8,720	-

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Appropriation: Environmental Improve & Restoration Fund Obligations (NMFS)

GOAL STATEMENT:

The Environmental Improvement & Restoration Fund (EIRF) was created by the Department of Interior and Related Agencies Appropriations Act of 1998 for the purpose of carrying out marine research activities in the North Pacific. These funds will provide grants to Federal, State, private or foreign organizations or individuals to conduct research activities on or relating to the fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean.

BASE DESCRIPTION:

The EIRF provides funds for the purpose of carrying out marine research activities in the North Pacific. These funds will provide grants to Federal, State, private or foreign organizations or individuals to conduct research activities on or relating to the fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean.

PROPOSED LEGISLATION:

None

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Environmental Improvement and Restoration Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Environmental Improve & Restoration Fund Obligations (NMFS)	6,836	8,281	8,720	8,720	-
TOTAL	6,836	8,281	8,720	8,720	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No changes are requested for FY 2007.

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	-	-	-	-	-
11.3	Other than full-time permanent	-	-	-	-	-
11.5	Other personnel compensation	-	-	-	-	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total personnel compensation	-	-	-	-	-
11.9	Total Personnel Compensation	-	-	-	-	-
12.1	Civilian personnel benefits	-	-	-	-	-
13.1	Benefits for former personnel	-	-	-	-	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	-	-	-	-	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	-	-	-	-	-
25.2	Other services	-	-	-	-	-
26.1	Supplies and materials	-	-	-	-	-
31.1	Equipment	-	-	-	-	-
32.1	Lands and structures	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41	Grants, subsides and contributions	8,148	15,117	8,720	8,720	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	8,148	15,117	8,720	8,720	-
	Less Prior year recoveries	-	-	-	-	-
	Less Unobligated Balance, Start of Year	(8,148)	(6,836)	-	-	-
	Plus Unobligated Balance, End Of Year	6,836	-	-	-	-
	Total Budget Authority	6,836	8,281	8,720	8,720	-

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-
Authorized Positions:					
Full-time permanent	-	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	-	-	-	-	-

Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Limited Access System Administration Fund	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	-	3,040	-	7,444	-	7,444	-	7,444	-	-
Total ECO	-	3,040	-	7,444	-	7,444	-	7,444	-	-
Total Limited Access System Administration Fund	-	3,040	-	7,444	-	7,444	-	7,444	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	7,444	11,796
less: Obligations from prior year balances	-	-	-	(4,352)
FY 2007 Base	-	-	7,444	7,444
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	7,444	7,444

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Limited Access System	Pos/BA	-	3,040	-	7,444	-	7,444	-	7,444	-	-
Administration Fund	FTE/OBL	22	2,783	-	11,796	-	7,444	-	7,444	-	-
Total: Limited Access System	Pos/BA	-	3,040	-	7,444	-	7,444	-	7,444	-	-
Administration Fund	FTE/OBL	22	2,783	-	11,796	-	7,444	-	7,444	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	22	2,783	-	11,796	-	7,444	-	7,444	-	-
Total Obligations	**22**	**2,783**	**-**	**11,796**	**-**	**7,444**	**-**	**7,444**	**-**	**-**
Adjustments to Obligations:										
Recoveries	-	(38)	-	-	-	-	-	-	-	-
Unobligated balance, adj. SOY	-	(4,057)	-	(4,352)	-	-	-	-	-	-
Unobligated balance, EOY	-	4,352	-	-	-	-	-	-	-	-
Total Budget Authority	**22**	**3,040**	**-**	**7,444**	**-**	**7,444**	**-**	**7,444**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**22**	**3,040**	**-**	**7,444**	**-**	**7,444**	**-**	**7,444**	**-**	**-**

Exhibit 7

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	2,783	11,796	7,444	7,444	-
Total Obligations	2,783	11,796	7,444	7,444	-
Adjustments and Obligations:					
Recoveries	(38)	-	-	-	-
Unobligated balance, adj. SOY	(4,057)	(4,352)	-	-	-
Unobligated balance, EOY	4,352	-	-	-	-
Total Budget Authority	3,040	7,444	7,444	7,444	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	3,040	7,444	7,444	7,444	-

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Appropriation: Limited Access System Administrative Fund

GOAL STATEMENT:

To provide for a Limited Access Fund necessary for fee collections equaling no more than one-half percent of the proceeds from the sale or transfer of limited access system permits are deposited into the Fund. These deposits to the Fund are used to administer an exclusive central registry system for the limited access system permits.

BASE DESCRIPTION:

Under the authority of the Magnuson-Stevens Act Section 304(d)(2)(A), NMFS must collect a fee to recover the costs of managing and enforcing the Individual Fishing Quota Halibut/Sablefish program. Funds collected under this authority are deposited into the "Limited Access System Administrative Fund." Of the funds collected, seventy-five percent of fee payments are to be made available to the Secretary to offset costs of management and enforcement of the halibut and sablefish IFQ program and 25 percent of fees collected are to be made available for appropriation to support the North Pacific IFQ loan program.

Section 304(d)(2)(B) specifies an upper limit on the fees, when the fees must be collected, where the fees must be deposited, and for what purposes they may be used. Under the regulations, an IFQ permit holder incurs a cost recovery fee liability for each pound of fish landed on his/her permit(s). The permit holder is responsible for collecting the fee and for submitting a payment to NMFS by the 31st of January of the year following the year in which landings were made. Three percent of total ex-vessel value of IFQ halibut and sablefish harvested is the maximum annual fee amount authorized by section 304(d)(2)(B) of MSA. NOAA Fisheries may reduce the annual IFQ fee percentage if costs can be recovered using a lower percentage. The annual default percentage is three percent. If other than three percent, NOAA Fisheries publishes notification of adjustment of the annual IFQ fee percentage in the Federal Register.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Limited Access System Administration Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Limited Access System Administration Fund	3,040	7,444	7,444	7,444	-
TOTAL	3,040	7,444	7,444	7,444	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No program changes are requested for this activity.

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
11	Personnel compensation					
11.1	Full-time permanent	1,351	1,351	1,351	1,351	-
11.3	Other than full-time permanent	3	3	3	3	-
11.5	Other personnel compensation	163	163	163	163	-
11.8	Special personnel services payments	-	-	-	-	-
11.9	Total Personnel Compensation	1,517	1,517	1,517	1,517	-
12.1	Civilian personnel benefits	645	645	645	645	-
13	Benefits for former personnel	1	1	1	1	-
21	Travel and transportation of persons	46	46	46	46	-
22.1	Transportation of things	-	-	-	-	-
23.1	Rental payments to GSA	150	150	150	150	-
23.2	Rental payments to others	-	-	-	-	-
23.3	Communications, utilities and miscellaneous charges	1	1	1	1	-
24	Printing and reproduction	2	2	2	2	-
25.2	Other services	5	5	5	5	-
25.3	Other purchases of goods and services from Govt accounts	289	9,302	4,950	4,950	-
26	Supplies and materials	13	13	13	13	-
31.1	Equipment	-	-	-	-	-
33.1	Investments and loans	-	-	-	-	-
41.1	Grants, subsides and contributions	114	114	114	114	-
42.1	Insurance claims and indemnities	-	-	-	-	-
43.1	Interest and dividends	-	-	-	-	-
44.1	Refunds	-	-	-	-	-
99	Total Obligations	2,783	11,796	7,444	7,444	-
	Less Prior year recoveries	(38)	-	-	-	-
	Less Unobligated Balance, Start of Year	(4,057)	(4,352)	-	-	-
	Plus Unobligated Balance, End Of Year	4,352	-	-	-	-

Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Total Budget Authority	3,040	7,444	7,444	7,444	-

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	FY 2005 Estimate	FY 2006 President's Budget	FY 2007 Base	FY 2007 Estimate	Increase/ (Decrease) over FY 2007 Base
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	22	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	22	-	-	-	-
Authorized Positions:					
Full-time permanent	22	-	-	-	-
Other than full-time permanent	-	-	-	-	-
Total	22	-	-	-	-

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Marine Mammal Unusual Mortality Event Fund	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Ecosystems										
Ecosystems	-	800	-	-	-	-	-	-	-	-
Total ECO	-	800	-	-	-	-	-	-	-	-
Total Marine Mammal Unusual Mortality Event Fund	-	800	-	-	-	-	-	-	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	-	800
less: Obligations from prior years	-	-	-	(800)
FY 2007 Base	-	-	-	-
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	-	-

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Mammal Unusual	Pos/BA	-	800	-	-	-	-	-	-	-	-
Mortality Event Program	FTE/OBL	-	-	-	800	-	-	-	-	-	-
Total: Marine Mammal Unusual	Pos/BA	-	800	-	-	-	-	-	-	-	-
Mortality Event Fund	FTE/OBL	-	-	-	800	-	-	-	-	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	-	-	800	-	-	-	-	-	-
Total Obligations	**-**	**-**	**-**	**800**	**-**	**-**	**-**	**-**	**-**	**-**
Adjustments to Obligations:										
Unobligated balance, adj. SOY	-	-	-	(800)	-	-	-	-	-	-
Unobligated balance, EOY	-	800	-	-	-	-	-	-	-	-
Total Budget Authority	**-**	**800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**-**	**800**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	-	800	-	-	-
Total Obligations	-	800	-	-	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	-	(800)	-	-	-
Unobligated balance, EOY	800	-	-	-	-
Total Budget Authority	800	-	-	-	-
Financing from Tranfers:					
Transfer from Other Accounts	-	-	-	-	-
Net Appropriation	800	-	-	-	-

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Appropriation: Marine Mammal Unusual Mortality Event Fund

GOAL STATEMENT:

Provide funds to support investigations and responses to unusual marine mammal mortality events.

BASE DESCRIPTION:

In response to the death of more than 700 bottlenose dolphins on the East Coast of the United States in 1987–88, NMFS established the Marine Mammal Health and Stranding Response Program, and within it, the Working Group on Unusual Marine Mammal Mortality Events to determine when an unusual mortality event is occurring, and then to direct responses to such events. Further, in the MMPA Amendments of 1992, Congress included specific provisions for investigating and responding to unusual marine mammal mortality events. Specifically, section 404 (16 USC 1421c) authorizes the Marine Mammal Mortality Event Working Group, and section 405 (16 USC 1421d) establishes the Marine Mammal Unusual Mortality Event Fund and describes it purposes and how donations can be made to the Fund.

Pursuant to section 405 of the Marine Mammal Protection Act (MMPA), the Fund: "shall be available only for use by the Secretary of Commerce, in consultation with the Secretary of the Interior –

- to compensate persons for special costs incurred in acting in accordance with the contingency plan issued under section 1421c(b) of this title or under the direction of an Onsite Coordinator for an unusual mortality event;
- for reimbursing any stranding network participant for costs incurred in preparing and transporting tissues collected with respect to an unusual mortality event for the Tissue Bank; and

c. for care and maintenance of marine mammal seized under section 1374(c)(2)(D) of this title"

In 2000, NMFS formally established the Fund. According to the MMPA, deposits can be made into Fund by the following:

49. "amounts appropriated to the Fund;
50. other amounts appropriated to the Secretary for use with respect to unusual mortality events; and
3. amounts received by the United States in the form of gifts, devises, and bequests under subsection (d) of this section."

Although the Fund was authorized by Congress to receive funds in fiscal year 1993, no funds were appropriated for this purpose until FY 2005. No increase is requested for the Unusual Mortality Event Fund in FY 2007.

PROPOSED LEGISLATION:

None.

SUMMARIZED FINANCIAL DATA

(Dollars in thousands)

Marine Mammal Unusual Mortality Event Fund	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Marine Mammal Unusual Mortality Event Program	800	-	-	-	
TOTAL	800	-	-	-	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

No program changes are requested for this activity.

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Exhibit 16

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
25.2	Other services	-	800	-	-	-
99	Total Obligations	-	800	-	-	-
	Less Unobligated Balance, Start of Year	-	(800)	-	-	-
	Plus Unobligated Balance, End Of Year	800	-	-	-	-
	Total Budget Authority	800	-	-	-	-

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Exhibit 13

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
Contribution to the NOAA Strategic Planning Goals and Objectives
(Dollar amounts in thousands)

Medicare Eligible Retiree Health Fund Contribution - NOAA Corps	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Inc/Dec from Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Mission Support										
Mission Support	-	-	-	1,645	-	2,012	-	2,012	-	-
Total MS	-	-	-	1,645	-	2,012	-	2,012	-	-
Total Medicare Eligible Retiree Health Fund Contribution - NOAA Corps	-	-	-	1,645	-	2,012	-	2,012	-	-

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Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2006 Estimate	-	-	1,645	1,645
plus: 2007 Adjustments to Base	-	-	367	367
FY 2007 Base	-	-	2,012	2,012
plus: 2007 Program Changes	-	-	-	-
FY 2007 Estimate	-	-	2,012	2,012

Comparison by activity/subactivity		FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps MS	Pos/BA	-	-	-	1,645	-	2,012	-	2,012	-	-
	FTE/OBL	-	-	-	1,645	-	2,012	-	2,012	-	-
Total: Medicare Eligible Retiree Health Fund Contribution - NOAA Corps	Pos/BA	-	-	-	1,645	-	2,012	-	2,012	-	-
	FTE/OBL	-	-	-	1,645	-	2,012	-	2,012	-	-

Exhibit 5

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	FY 2005 Actuals		FY 2006 Currently Available		FY 2007 Base Program		FY 2007 Estimate		Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Obligation	-	-	-	1,645	-	2,012	-	2,012	-	-
Total Obligations	**-**	**-**	**-**	**1,645**	**-**	**2,012**	**-**	**2,012**	**-**	**-**
Adjustments to Obligations:										
Total Budget Authority	**-**	**-**	**-**	**1,645**	**-**	**2,012**	**-**	**2,012**	**-**	**-**
Financing from Transfers:										
Net Appropriation	**-**	**-**	**-**	**1,645**	**-**	**2,012**	**-**	**2,012**	**-**	**-**

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
Direct Obligation	-	1,645	2,012	2,012	-
Total Obligations	-	1,645	2,012	2,012	-
Adjustments and Obligations:					
Unobligated balance, adj. SOY	-	-	-	-	-
Unobligated balance, EOY	-	-	-	-	-
Total Budget Authority	-	1,645	2,012	2,012	-
Financing from Tranfers:					
Transfer to other accounts	-	-	-	-	-
Net Appropriation	-	1,645	2,012	2,012	-

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Department of Commerce
National Oceanic and Atmospheric Administration
CHANGES TO BASE
(Dollar amounts in thousands)

Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
(Discretionary)

	FTE	Amount
Adjustments		
Plus: Adjustment for reestimate.	-	367
Reflects the increase in the cost of Tricare retirement health care benefits accrued by the active duty members of the NOAA Commissioned Corps.		
Subtotal, Adjustments	-	367
Total, Changes to Base	-	367

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Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Appropriation: Medicare Eligible Retiree Health Fund Contribution - NOAA Corps

GOAL STATEMENT:

The objective of this line item is to fund NOAA's contribution to a health care accrual fund for NOAA Corps officers. The accrual fund pays for the future health care benefits for current officers once they retire and become Medicare-eligible, as well as for their dependents and annuitants. Programs in this sub-activity support the Mission Support goal in NOAA's Strategic Plan.

BASE DESCRIPTION:

The FY 2003 Department of Defense Authorization Act requires all uniformed services including NOAA to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future health care benefits of present, active-duty NOAA officers and their dependents and annuitants.

Based activities support both objectives under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental needs."

PROPOSED LEGISLATION:

None.

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

SUMMARIZED FINANCIAL DATA
(Dollars in thousands)

Medicare Eligible Retiree Health Fund Contribution - NOAA Corps	FY 2005 ACTUALS	FY 2006 CURRENTLY AVAILABLE	FY 2007 BASE PROGRAM	FY 2007 ESTIMATE	INCREASE / DECREASE
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps MS	-	1,645	2,012	2,012	
TOTAL	-	1,645	2,012	2,012	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

PROGRAM CHANGES FOR FY 2007:

None.

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution - NOAA Corps
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	Object Class	FY 2005 Actuals	FY 2006 Currently Available	FY 2007 Base Program	FY 2007 Estimate	Increase/(Decrease) over FY 2007 Base
12.2	Military Personnel Benefits	-	1,645	2,012	2,012	-
99	Total Obligations	-	1,645	2,012	2,012	-
	Less Unobligated Balance, Start of Year	-	-	-	-	-
	Plus Unobligated Balance, End Of Year	-	-	-	-	-
	Total Budget Authority	-	1,645	2,012	2,012	-

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