



## Chapter 3

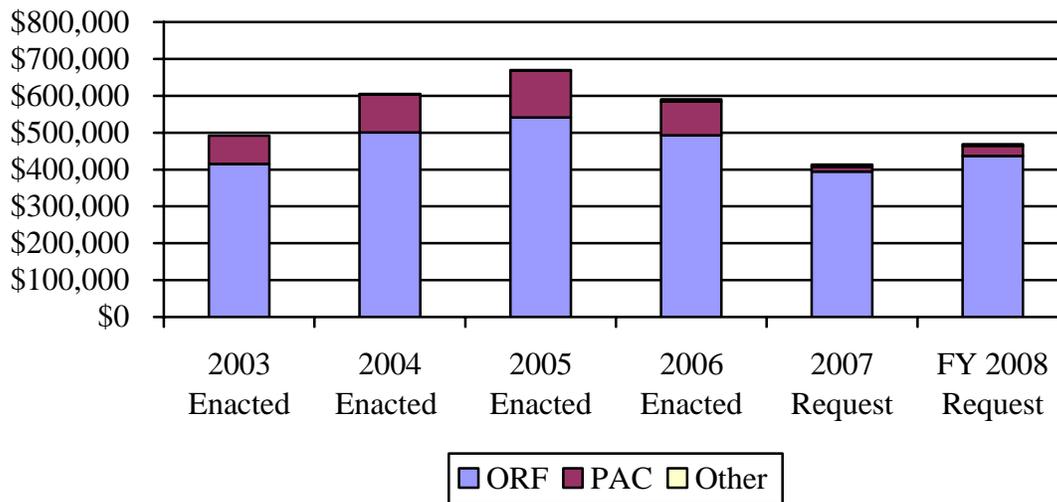
# Operations, Research and Facilities



## National Ocean Service

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
National Ocean Service -- Operations, Research and Facilities (ORF)				
Navigation Services	\$149,218	\$140,107	\$1,700	\$143,771
Ocean Resources Conservation and Assessment	210,885	126,445	28,200	156,320
Ocean and Coastal Management	133,048	127,903	8,000	136,698
<b>Total, National Ocean Service - ORF</b>	<b>493,151</b>	<b>394,455</b>	<b>37,900</b>	<b>436,789</b>
Other National Ocean Service Accounts				
Total, National Ocean Service - PAC	91,311	12,673	15,000	27,673
Total, National Ocean Service - Other	6,000	6,000	0	4,000
<b>GRAND TOTAL NATIONAL OCEAN SERVICE (Direct Obligations)</b>	<b>\$590,462</b>	<b>\$413,128</b>	<b>\$52,900</b>	<b>\$468,462</b>
<b>Total FTE</b>	<b>1,235</b>	<b>1,243</b>	<b>8</b>	<b>1,236</b>

### Budget Trends, FY 2003- 2008 (dollars in thousands)



ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction  
Other: Environmental Improvement and Restoration Fund; Coastal Impact Assistance Fund; Coastal Zone Management Fund; and Damage Assessment and Restoration Revolving Fund



## National Ocean Service



**The National Ocean Service works to preserve America's coastal and ocean resources through scientific research, navigation services, habitat restoration, and protection of marine ecosystems.**

NOAA's National Ocean Service (NOS) is the primary Federal agency working to preserve America's coastal resources. NOS provides observation, measurement, assessment, and management of the Nation's coastal and ocean areas, delivers critical navigation products and services, and conducts response and restoration activities. NOS balances environmental protection with economic development by providing the scientific, technical, and management expertise necessary to address the complex challenges of our coastal regions, including the Great Lakes.

An estimated 154 million people resided in coastal counties in 2004. The population in these coastal areas is expected to increase to approximately 165 million by the year 2015. This increasing density, coupled with the fast-growing economy of coastal areas, makes the task of managing coastal resources increasingly difficult. Growth in coastal areas creates jobs, generates economic prosperity, adds new industries, enhances educational opportunities, and increases tax revenues. However, it also burdens local environments, threatening the very resources that draw people to the coast.

As a national leader for coastal stewardship, NOS promotes a wide range of research activities in order to create the strong science foundation required to advance the sustainable use of our precious coastal systems. NOS contributes significantly to achieving two of NOAA's four Strategic Plan Mission Goals: (1) support the Nation's commerce with information for safe, efficient, and environmentally sound transportation, and (2) 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 Service's activities, NOS also supports and makes important contributions to NOAA's other two mission goals: (1) understand climate variability and change in order to enhance society's ability to plan and respond, and (2) serve society's needs for weather and water information.



NOS provides improvements in the quality and spatial and temporal resolution of ocean and coastal observations. These observations are critical components of the Nation's Integrated Ocean Observing System (IOOS) as well as fundamental contributors to the Global Earth Observation System of Systems (GEOSS). NOS mapping, charting, geodetic, and oceanographic activities build on the marine and coastal observations collected to increase the efficiency and safety of marine commerce and to more effectively manage coastal resources. NOS protects and restores coastal resources damaged by releases of oil and other hazardous materials. NOS also manages marine sanctuaries, the Northwestern Hawaiian Islands Marine National Monument, and through partnerships with coastal states, manages the Nation's valuable coastal zones and nationally significant estuarine reserves. Understanding of the coastal environment is enhanced through coastal ocean activities that support science and resource management programs. NOS also 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 training, and other capacity-building activities.

### **FY 2008 Budget Summary**

NOAA requests a total of \$468,462,000 and 1,236 FTE to support the continued and enhanced operations of the National Ocean Service. This total includes \$96,422,000 for Adjustments to Base, and a net program change of \$52,900,000 and 8 FTE above the FY 2007 President's Budget.

#### **ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$4,434,000 and 2 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise of 2.2 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.

#### **NOS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:**

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

#### **Navigation Services**

**\$143,771,000**

A net increase of \$1,700,000 and 0 FTE above the base is requested in the Navigation Services subactivity, for a total of \$143,771,000 and 603 FTE. The FY 2008 President's Budget requests funding for a suite of navigation products and services that help ensure the safety of marine transportation, while improving the economic efficiency and competitiveness of American commerce.

- **Mapping and Charting:** \$700,000 and 0 FTE in net increases above the base, for a



total of \$92,606,000 and 313 FTE, are requested under the Mapping and Charting line item of the Navigation Services subactivity.

- **NOAA requests an increase of \$700,000 and 0 FTE to begin deploying Autonomous Underwater Vehicles (AUV).** One of NOAA's primary missions is to deliver accurate nautical charts and related hydrographic information into the hands of mariners navigating on U.S. waters. Incorporating AUVs into NOAA survey operations will maximize existing survey platform capacity, allowing multi-mission operations that collect more data on each survey project in less time.

NOAA's research into hydrographic AUVs has occurred on a small scale in partnership with the Defense Department's Technology Support Working Group to assess the utility of AUVs in underwater object detection for Homeland Security. By FY 2008, Phase 1 AUVs will be ready for deployment. Additional funding is needed for deployment and to



continue research into a Type 2 AUV that will enhance AUV functionality by carrying multibeam sensors to further satisfy NOAA's survey requirements. The requested funds will improve navigation safety by enabling NOAA to transition from ongoing AUV research to AUV operations in FY 2008. AUVs can gather more survey data more quickly and can operate in areas where surface vessels cannot, such as rough seas or between sheltered inshore and open water.

The integration of AUVs into NOAA's current hydrographic survey operations has the potential to:

- Increase survey launch performance by 25 percent, and coverage by approximately 50 square nautical miles per year per AUV. AUVs decrease the cost per square nautical mile of surveying.
  - Increase efficiency by deploying personnel and fleet resources to survey complicated inshore areas while using AUVs to survey relatively simple regions in open water.
  - Increase survey operation hours; Since AUVs operate while submerged, they can acquire more high-quality data under a wider range of weather conditions than surface vessels, leading to less surveying downtime.
  - Increase accuracy and efficiency in ship-based multibeam surveys by using AUVs to automate water column sampling for data validation.
- **Geodesy:** No changes from the base, for a total of \$24,802,000 and 183 FTE, are requested under the Geodesy line item of the Navigation Services subactivity. Through this line item, NOAA works to evolve and deliver the Nation's foundation of reference for positioning activities to support public safety, economic prosperity, and

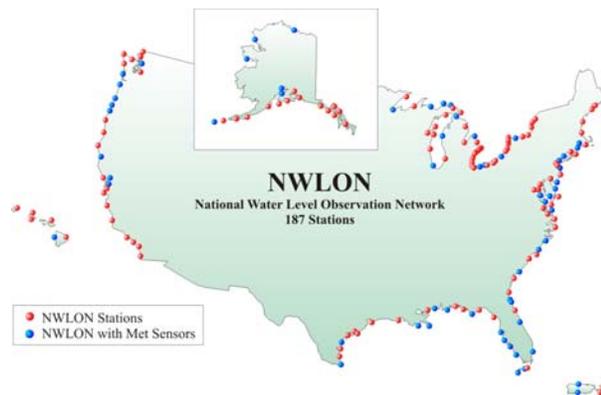
environmental well-being.

- **Tide and Current Data:** \$1,000,000 and 0 FTE in net increases above the base, for a total of \$26,363,000 and 107 FTE, are requested under the Tide and Current Data line item of the Navigation Services subactivity.

- **NOAA requests an increase of \$1,000,000 to improve and enhance the delivery of real-time navigation information through the National Water Level Program (NWLP) by upgrading 45 priority National Water Level Observation Network (NWLON) stations per year with meteorological sensors beginning in FY 2008.** This increase builds on the President's FY 2007 request to harden NWLON

stations, further enhancing NOAA's ability to deliver real-time navigation information. 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. The primary purpose is to improve navigation safety, but the additional data will also improve coastal weather forecasts, emergency response efforts, and NOAA's overall effort to advance the Integrated Ocean Observing System (IOOS). The budget includes this increase in support of the U.S. Ocean Action Plan Knowledge of accurate oceanographic data such as tides and currents helps vessels to avoid groundings, collisions, and allisions with stationary objects such as bridges, rocks, and docks. Meteorological data such as wind speed and direction are critical to the safe maneuvering of large commercial vessels within constrained harbors and shipping channels.



With the requested funding, NOAA will upgrade 45 priority NWLON sites in FY 2008 by adding meteorological sensors. The NWLON has traditionally been an oceanographic observing system; however, NWLON technology allows multiple other sensors to be added, including meteorological sensors such as wind speed/direction/gusts, air temperature, and barometric pressure. Navigation data users require a complete picture of their operating environment to make the best safety and efficiency decisions, and local



meteorological data is a part of that picture. Integration of existing observing infrastructure is a cost-effective alternative to establishing new platforms.

The additional meteorological data will also improve the accuracy of NWS forecasts of storm surge, marine wind speed, and marine wave heights for use by both the marine navigation and coastal communities when extreme weather events occur. The real-time information can be used by emergency responders to make sound decisions based upon which coastal areas are flooding, which evacuation routes are still viable, and other situations requiring a good understanding of the current state of the physical environment.

### **Ocean Resources Conservation and Assessment**

**\$156,320,000**

A net increase of \$28,200,000 and 3 FTE above the base is requested in the Ocean Resources Conservation and Assessment subactivity, for a total of \$156,320,000 and 419 FTE. The FY 2008 President's Budget requests funding for a wide range of important activities in support of the U.S. Ocean Action Plan, including:

- **Ocean Assessment Program:** \$30,000,000 and 3 FTE in net increases above the base, for a total of \$85,168,000 and 68 FTE, are requested under the Ocean Assessment Program line item of the Ocean Resources Conservation and Assessment subactivity.
  - **NOAA requests an increase of \$14,000,000 and 2 FTE for the Integrated Ocean Observing System (IOOS).** The requested increase will support: 1) the initial implementation of Data Management and Communications (DMAC) (\$2.5M), and 2) the regional component of IOOS (\$11.5M).

The ability to share data and information between existing Federal observing systems is a critical gap. With the requested DMAC increase of \$2,500,000, NOAA will build an initial operating capability for IOOS. This will be achieved through the development of a data integration framework that will enable integration of an initial set of five variables by 2009. The five variables include: temperature, salinity, sea level, surface currents, and ocean color. These selected five variables are among the set of 20 core variables identified as priority in the First Annual IOOS Development Plan.

Integrated data has the potential to expedite new product development and improve model accuracy for a suite of existing NOAA products and services including, but not limited to, hurricane intensity models, harmful algal bloom (HAB) forecasts, integrated ecosystem assessments, and coastal inundation models. With more than half of the U.S. population living within coastal regions, the need for timely, accurate access to information is critical for saving lives, protecting livelihoods, and improving the quality of life. Ultimately an integrated approach will allow optimization of observing system investments and provide a consistent capability for all users.



**NOAA also requests an increase of \$11,500,000 and 2 FTE to develop the regional component of IOOS.** The regional component of IOOS complements the Federal ocean observing assets by providing additional data, models, and information products tailored to the economic and environmental requirements of the community. Integrating Federal and regional observing system assets will improve our understanding, forecasting, stewardship, and use of coastal waters. In the current state, observing systems have been developed by individual agencies and entities to accomplish their own missions and needs and operate under different protocols and standards. The IOOS will make more effective use of these resources and establish an integrated information network that will help NOAA address national priorities.

To this end, the First U.S. Integrated Ocean Observing System Development Plan (OceanUS, 2006) calls for an integrated system of observations that support national and regional priorities. NOAA has been designated the lead agency for the implementation and administration of IOOS. The IOOS Development Plan distinguishes between those observing and data infrastructure components managed directly by Federal agencies to meet national priorities and those infrastructure components managed at the regional level, termed Regional Coastal Ocean Observing Systems (RCOOS). The two are interdependent components of IOOS.



With the \$11,500,000, NOAA will award competitive grants and contracts within the 11 regions to engage stakeholders, determine regional priorities, coordinate and integrate regional observing systems, and demonstrate the capability of the regions to collect and integrate data and to provide useful products to stakeholders. Regional associations that meet criteria developed in association with the Interagency Working Group on Ocean Observations (IWGOO) will be eligible to compete for contracts to further develop infrastructure and demonstrate capabilities for delivering data and products.

- **Ocean Research Priorities Plan: NOAA requests an increase of \$5,000,000 and 0 FTE for decision support tools for hurricane hazards and watershed influences.** This increase supports one of the near-term priorities identified by the Ocean Research Priorities Plan (ORPP) -- Response of Coastal Ecosystems to Persistent Forcing and Extreme Events. These funds will be used to develop and integrate decision-support tools to help policy makers and managers (coastal, resource, and emergency) anticipate and prepare for responses to extreme weather



events, natural disasters, and changing natural and human influences. Effective integration of observational and forecast systems with research products will provide coastal resource managers, coastal zone planners, and emergency and public health officials with short- and long-term forecasts of changing coastal conditions. Reducing economic, environmental, and social losses requires collaboration at all levels and a coordinated interagency approach. Key federal partners include the U.S. Geological Survey, the Environmental Protection Agency, the US Army Corps of Engineers, and the National Science Foundation. Activities include community inundation and ecosystem modeling; building a geospatial framework and digital elevation model.

These efforts support not only one of the near-term priorities of the ORPP, but also support efforts outlined in the U.S. Group on Earth Observations and NSTC Subcommittee for Disaster Reduction's Improved Observations for Disaster Reduction Near-Term Opportunity Plan. Efforts will focus on three pilot regions:

the northern Gulf of Mexico, Southern California, and the Southeast U.S. For the pilot regions, managers and officials will have the tools and resources to ensure that decisions about land and resource use, management practices, and development in the coastal zone and adjacent watersheds can be evaluated with a complete understanding



of the probable effects on public health, coastal ecosystems, and community hazard resilience. Within the pilot areas, the leveraging of capabilities across all sectors, the development of regionally relevant decision support tools, and the lessons learned will lead the way for broader national implementation.

- **Ocean Research Priorities Plan: NOAA requests an increase of \$5,000,000 and 1 FTE to develop sensors for rapid detection of pathogens, harmful algae, and their toxins.** This increase supports one of the near-term priorities identified by the ORPP – Sensors for Marine Ecosystems. The ability to rapidly and accurately monitor and assess biodiversity and marine ecosystem health, from the genetic to the ecosystem level, is an essential component of any effort to protect human health and to more effectively implement an ecosystem approach to resource management. Efforts to develop marine genomic tools and technologies and employ them to construct biosensors are just beginning and must be supported in order to garner a more complete understanding of ecosystem health and the effects of environmental stressors on marine organisms and humans.

The \$5.0 million provides funds for in-situ sensor development. In addition,



funds would be provided to develop genomic libraries and associated information to support DNA-based identification of a range of marine organisms. Finally, funds would be provided to improve video plankton recorders and related technology. This increase is consistent with the goals and objectives of the Oceans and Human Health Initiative strategic plan.

- **NOAA requests an increase of \$5,000,000 and 0 FTE to support the Gulf of Mexico Alliance in advancing regional coastal resource priorities defined by the five Gulf States -- Alabama, Florida, Louisiana, Mississippi, and Texas.**

This increase allows NOAA to provide grant funds, leveraging additional state and federal partner investments, to support the Gulf of Mexico Alliance established with the support of the Ocean Action Plan. Through their *Governors' Action Plan for Healthy and Resilient Coasts*, the five Gulf State governors have outlined 11 targeted, short-term actions



Photo Credit: M. Hollinger

that address key regional deficiencies; integrate ongoing state, local, and federal efforts; and maximize the impact of resources applied to six priority regional issues in the Gulf of Mexico. With the requested funding, NOAA will provide targeted, competitive grants to state and local agencies and organizations to accomplish the regional coastal resource priorities identified in the Governors' Action Plan. Grant funds will be distributed across the six priority areas: create hazard resilient coastal communities, ensure healthy beaches and shellfish beds, support wetland and coastal restoration, increase environmental education, identify and characterize Gulf habitats, and reduce nutrient inputs to coastal ecosystems -- with a focus on strengthening regionally collaborative solutions.

NOAA and EPA co-chair a Federal Workgroup coordinating support from 13 federal agencies to the Gulf of Mexico Alliance. This increase will allow NOAA and EPA to ensure focused collaboration among all federal partners, thereby increasing the effectiveness and efficiency of federal action in the Gulf of Mexico region. The Federal Workgroup will advance federal collaboration using the Gulf of Mexico as a laboratory for exploring better mechanisms for regional management, applying ecosystem-based management principles, applying integrated coastal and ocean observations for management purposes, and strengthening local-state-federal collaboration.

- **NOAA requests an increase of \$1,000,000 and 0 FTE to implement the Ocean and Human Health Initiative strategic plan developed in response to the U.S. Ocean Action Plan (OAP) and the Oceans and Human Health Act (P.L. 108-447).** The goal of the Oceans and Human Health Initiative (OHHI) is



to understand and predict the connections between the condition of oceans, coasts, Great Lakes waters, and human health while providing information focused on reducing current and future risks to public health and enhancing efforts to provide curative agents and natural products from the sea.

With the requested funds, the OHHI will provide support for NOAA’s National Centers of Excellence in Oceans and Human Health, which conduct and coordinate research, outreach, education, and data management programs across NOAA and with a host of external partners. The requested funds will also support traineeship activities to build a cadre of scientists skilled in working at the interface of ocean and biomedical and public health disciplines.



The OHHI develops tools, technologies, and environmental health information to discover, identify, monitor, detect, predict, reduce, and prevent coastal and ocean-related human health risks and will

deliver and transfer information, tools, and technologies to public health and natural resource managers, decisionmakers and the public. Through the combined efforts of NOAA scientists and the external research community, the OHHI will continue to conduct research leading to new understanding of ocean health-human health relationships in nearly every coastal region of the United States.

- **Response and Restoration:** \$1,800,000 in net decreases below the base, for a total of \$23,378,000 and 110 FTE, are requested under the Response and Restoration line item of the Ocean Resources Conservation and Assessment subactivity.

- **NOAA proposes a decrease of \$1,800,000, for a total of \$5,427,000, to support cleanup, long-term monitoring, and land transfer activities on the Pribilof Islands.** 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. The requested funding level will allow NOAA to achieve 100 percent completion of environmental remediation of the Pribilof Islands, in cooperation with





the State of Alaska, by the end of FY 2008. In addition, NOAA will identify any remaining diesel-free product recovery needs, continue the process of transferring properties back to local entities, and begin the transition from active cleanup to long-term monitoring on the islands.

- **National Centers for Coastal Ocean Science:** No changes from the base, for a total of \$47,774,000 and 241 FTE, are requested under the National Centers for Coastal Ocean Science line item of the Ocean Resources Conservation and Assessment subactivity. Through this line item, NOAA 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.

### Ocean and Coastal Management

**\$136,698,000**

A net increase of \$8,000,000 and 4 FTE above the base is requested in the Ocean and Coastal Management subactivity, for a total of \$136,698,000 and 197 FTE. The Nation's ocean and coastal areas represent some of the most ecologically and economically important regions, and the FY 2008 President's Budget requests funding to continue and advance NOAA's important work to sustain these regions.

- **Coastal Management:** No changes from the base, for a total of \$92,934,000 and 56 FTE, are requested under the Coastal Management line item of the Ocean and Coastal Management subactivity. Through this line item, NOAA administers the Coastal Zone Management Grants, which support partnerships with the states for coastal zone management efforts. NOAA also supports the National Estuarine Research Reserve System (NERRS) and the Marine Protected Areas (MPA) Center.

The FY 2008 budget continues the proposal to increase the amount of CZM grant funding that is awarded competitively under sections 306A and 309, with a goal of awarding 50 percent of CZMA funding competitively within three years. Increased competition and funding flexibility will enable the coastal management program to better focus on significant national issues. NOAA is currently working with the coastal management community to undertake a revisioning effort to better define and prioritize those significant national issues. The results of this revisioning effort will be reflected in the grant awards process.

- **Ocean Management:** An increase of \$8,000,000 and 4 FTE, for a total of \$43,764,000 and 141 FTE, is requested under the Ocean Management line item of the Ocean and Coastal Management subactivity. Through this line item, NOAA administers the National Marine Sanctuary System under authority of the National Marine Sanctuary Act. There are 13 designated national marine sanctuaries, ranging in size from one-quarter square mile in Fagatele Bay, American Samoa, to the over 5,300 square miles in Monterey Bay, CA. In partnership with the State of Hawaii and the Department of the Interior, the NMSP also administers and manages the Northwestern Hawaiian Islands Marine National Monument. With the increasing



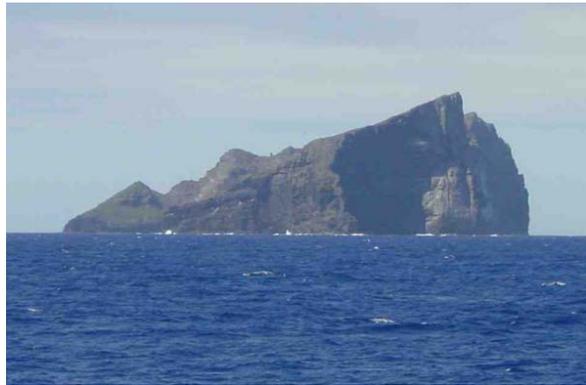
environmental pressures on our Nation's coastal areas, maintaining a system of marine protected areas provides an important management tool. The National Marine Sanctuary System is increasing our knowledge and understanding of complex marine ecosystems. NOAA's sanctuaries help monitor both human and natural changes in the environment that can help us preserve our marine environments.

- **NOAA requests an increase of \$8,000,000 and 4 FTE for a total of \$8,000,000 for enforcement and management activities in the Northwestern Hawaiian Islands Marine National Monument.** This National Monument is the largest fully protected marine area in the world dedicated to conservation. In accordance with the Presidential proclamation (signed on June 15, 2006) and accompanying regulations, this marine national monument provides immediate and permanent protection for nearly 140,000 square nautical miles, including the 10 islands and atolls and surrounding waters and submerged lands of the NWHI.

As mandated by the President, the Marine National monument will:

- Preserve access for Native Hawaiian cultural activities;
- Provide for carefully regulated educational and scientific activities;
- Allow visitation in a special area around Midway Island;
- Prohibit unauthorized access to the monument;
- Phase out commercial fishing over a five-year period; and
- Ban other types of resource extraction and dumping of waste.

To fulfill the requirements of Proclamation 8031, which established the Northwestern Hawaiian Islands Marine National Monument and to meet the priority management needs outlined in the draft monument management plan, additional resources are needed in FY 2008. Increases will be dedicated to: (1) vessel tracking and enforcement, (2) visitors and education, (3) field management, (4) ecosystem characterization and monitoring, (5) marine debris, and (6) management and operations.



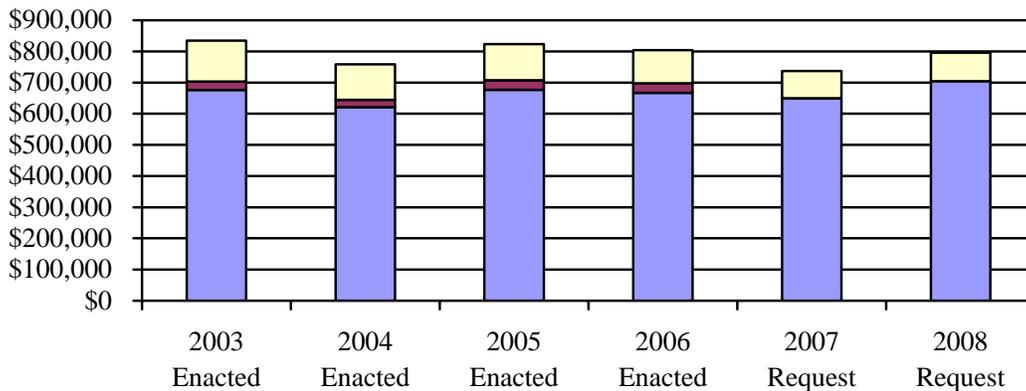
These investments support a living laboratory that offers opportunities to pursue advances in science and that allows us to better manage ocean ecosystems.



## National Marine Fisheries Service

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
National Marine Fisheries Service -- Operations, Research and Facilities (ORF)				
Protected Species Research and Management	\$145,039	\$144,924	\$3,850	\$165,095
Fisheries Research and Management	282,408	291,662	17,070	325,341
Enforcement and Observers	72,675	80,697	3,000	86,973
Habitat Conservation and Restoration	46,629	39,896	10,000	50,415
Other Activities Supporting Fisheries	70,177	55,361	11,448	76,755
Alaska Composite R&D	50,298	36,448	0	0
<b>Total, National Marine Fisheries Service - ORF</b>	<b>667,226</b>	<b>648,988</b>	<b>45,368</b>	<b>704,579</b>
Other National Marine Fisheries Service Accounts				
Total, National Marine Fisheries Service - PAC	30,444	0	0	0
Total, National Marine Fisheries Service - Other	106,150	87,913	0	91,375
<b>GRAND TOTAL NATIONAL MARINE FISHERIES SERVICE (Direct Obligations)</b>	<b>\$803,820</b>	<b>\$736,901</b>	<b>\$45,368</b>	<b>\$795,954</b>
<b>Total FTE</b>	<b>2,557</b>	<b>2,592</b>	<b>29</b>	<b>2,630</b>

**Budget Trends, FY 2003 - 2008 (dollars in thousands)**



■ ORF
 ■ PAC
 ■ Other

ORF: Operations, Research & Facilities  
 PAC: Procurement, Acquisition & Construction  
 Other: Fishermen's Contingency Fund; Foreign Fishing Observer Fund; Fisheries Finance Program Account; Promote and Develop; Pacific Coastal Salmon Recovery Fund; Marine Mammal Unusual Mortality Event Fund; Federal Ship Financing Fund; Environmental Improvement and Restoration Fund; Limited Access System Administration Fund



## National Marine Fisheries Service



NOAA's National Marine Fisheries Service (NMFS) is responsible for the management and conservation of living marine resources within the United States Exclusive Economic Zone (EEZ), the areas extending from three nautical miles to 200 nautical miles from the U.S. coastline. NMFS also provides critical 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 science-based conservation and management measures and actions aimed at sustaining long-term use and promoting the health of coastal and marine ecosystems.

NMFS' ultimate mission and the focus of its day-to-day efforts is to maximize the benefits to the Nation from the protection and use (commercial, recreational, and aesthetic) of living marine resources. Under its numerous mandates, NMFS works to ensure the long-term health, productivity, and diversity of our Nation's ocean and coastal resources—fish, sea turtles, whales, and numerous other marine and coastal species and their habitats. At the same time, NMFS is charged with balancing multiple needs and interests, including commercial, recreational, and subsistence fishing, aquaculture, and marine and coastal observation and research. These activities rely on a strong scientific and research competency to support the challenging public policy decision process associated with NMFS' stewardship responsibility.



NMFS continues to develop and track key performance measures that demonstrate meaningful results to the American public. In FY 2008, NMFS will continue to focus its resources on building and maintaining fish stocks at productive levels; improving the status of overfished fisheries and endangered and threatened species and ensuring those species have adequate population assessments and forecasts; implementing plans to rebuild, recover, and conserve major fish stocks and protected species; and restoring habitat for NOAA trust resources.

In addition, the Administration's U.S. Ocean Action Plan specifies that an effective U.S. ocean policy must be grounded in an understanding and management of ecosystems. This ecosystem approach is the principal management tool that will help NMFS meet its immediate and long-term goals, including:

- Implementing the reauthorized Magnuson-Stevens Fishery Conservation and Management Act (MSA or Magnuson-Stevens Act);
- Doubling the number of Dedicated Access Privilege (DAPs) programs to 16 by 2010;
- Building a strong aquaculture program;
- Ending overfishing;
- Providing adequate consultations under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA);
- Ensuring effective science and management;
- Strengthening environmental compliance for defense and energy-related activities in our oceans and coastal areas;
- Serving as an environmental leader, domestically and internationally.

NMFS will also collaborate with other agencies and organizations on an ecosystem-based approach to develop indicators of ecosystem status and trends, and on joint strategies to address priority regional ecosystem issues.

The FY 2008 President's Budget Request supports funding and program requirements to enable NMFS to be effective stewards of living marine resources for the benefit of the Nation through science-based conservation and management and the promotion of ecosystem health.

### **FY 2008 Budget Summary**

NOAA requests a total of \$795,954,000 and 2,630 FTE to support the continued and enhanced operations of the National Marine Fisheries Service. This total includes \$160,317,000 for Adjustments to Base, and a net program change of \$45,368,000 and 29 FTE above the FY 2007 President's Budget.

### **ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$10,223,000 and 10 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise



of 2.2 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.

### NMFS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

#### Protected Species Research and Management \$165,095,000

A net increase of \$3,850,000 and 8 FTE above the base is requested in the Protected Species Research and Management subactivity, for a total of \$165,095,000 and 668 FTE.

- **Protected Resources, Research, and Management Programs:** \$1,850,000 and 8 FTE in net increases above the base, for a total of \$34,253,000 and 391 FTE, are requested under the Protected Resources, Research, and Management line item of the Protected Species Research and Management subactivity.



- **NOAA requests \$1,850,000 and 8 FTE to reduce the existing permitting backlog of requests for permits and authorizations for national defense readiness and for energy exploration and development activities.** The number of these requests is increasing and is expected to more than double NOAA's current review requirements. The requested funding will provide NOAA the resources needed to address the increase and allow for better-informed determinations in authorizing these activities under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). NOAA will address the immediate increase in workload required to ensure that the Navy's exercises and energy exploration are conducted in compliance with the MMPA and ESA and to initiate a long-term solution to the regular need for authorizations by: (1) considering the exercises planned over the next two years and preparing individual incidental harassment authorizations under the MMPA in response to the Navy's application for permits, and (2) analyzing the 17 Navy operational areas programmatically to streamline the review and authorization process in the future.
- **Mammals:** \$2,000,000 and 0 FTE in net increases above the base, for a total of \$39,221,000 and 0 FTE, are requested under the Mammals line item of the Protected Species Research and Management subactivity.



- **NOAA requests an increase of \$2,000,000 to address management needs of critically endangered right whales.** This request supports research that will address management needs of the critically endangered right whales—leading to reduced incidents of collisions with ocean-going vessels and reduced risks posed by entanglement in fishing gear by investigating foraging and diving behavior in various habitats. This type of research will facilitate an increase in the survival of right whale adults and calves and contribute to the stabilization and/or the increase of the population trend for this species. An additional \$1 million will be made available through the Saltonstall-Kennedy grants program to research gear modifications that could reduce entanglements (see page 5-4).



- **Pacific Salmon:** No net changes above the base, for a total of \$67,735,000 and 193 FTE, under the Pacific Salmon line item of the Protected Species Research and Management subactivity. In addition to the increase for Klamath River salmon recovery detailed below, there is a \$3,000,000 program decrease for Columbia River Salmon.
- **NOAA requests an increase of \$3,000,000 and 0 FTE for Klamath River Salmon recovery planning and follow-on actions within the Pacific Salmon line item.** This request provides specific, directed funding for Klamath River Salmon recovery projects and will support efforts to establish and implement the governmental/non-governmental Klamath Conservation Implementation Program (CIP). This is a response to the Secretary of Commerce’s declaration on a commercial fisheries failure in the 2006 ocean salmon fishing season, to which poor conditions in the Klamath River Basin directly contributed. Specific actions would include: the completion of recovery planning and recovery implementation plans for Klamath River coho salmon (as required by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006); completion of the larger, region-wide Southern Oregon/Northern California coho salmon recovery plan; and funding of “on the ground” recovery and restoration projects that address limiting factors and threats including fish passage, water availability, water quality, and habitat complexity, hatcheries, and harvest activities with specific actions to be identified as part of the recovery and local planning processes currently underway.

**Fisheries Research and Management**

**\$325,341,000**

A net increase of \$17,070,000 and 16 FTE above the base is requested in the Fisheries Research and Management subactivity, for a total of \$325,341,000 and 1,467 FTE.



- **Fisheries Research and Management Programs:** \$17,500,000 and 16 FTE in net increases above the base, for a total of \$151,014,000 and 1,378 FTE, are requested under the Fisheries Research and Management line item.
- **NOAA requests an increase of \$6,000,000 and 10 FTE for Limited Access Privilege Programs (LAPPs).** NOAA will make greater use of market-based systems for fisheries management by increasing the number of LAPPs -- e.g., individual fishing quota (IFQ), community development, cooperative, and area-based quota programs—to reduce overcapacity and end the “race for fish.” LAPPs contribute to safer fisheries, as vessel operators can choose not to fish in bad weather without fearing that the quota will be taken by someone else. LAPPs also increase the availability of high-quality fresh fish and improve economic performance of the fishery. The Administration’s *U.S. Ocean Action Plan* committed to the greater use of these market-based systems for fisheries management, and the Administration subsequently set a goal to double the current number of LAPPs (eight) by 2010. With this funding, NOAA will continue to develop, implement, and operate LAPPs throughout the country. In FY 2008, NOAA anticipates having two new LAPPs in operation.
- **NOAA requests an increase of \$6,500,000 and 0 FTE to support new requirements of the Magnuson-Stevens Reauthorization Act of 2006.** NOAA requests an increase of \$6,500,000 to begin to address the new and expanded requirements under the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSA). The MSA, signed into law January 12, 2007, sets a firm deadline to end overfishing in America by 2011 for all federally managed fish stocks, uses market-based incentives to replenish America’s fish stocks, strengthens enforcement of America’s fishing laws, improves information and decisions about the state of ocean ecosystems, and provides new tools to improve cooperative conservation efforts. The requested funding will allow NOAA and the eight regional fishery management councils to begin supporting the mandates of the new law allowing for better stewardship of America’s ocean resources and shared stocks.

Funding will be directed to the development of new and improved current recreational fisheries statistics programs to enhance the statistical precision of recreational fishery catch monitoring surveys. Funding will also be used to build a multilateral process over the next two years to implement a strategy for monitoring illegal, unregulated, and unreported fishing (IUU) and bycatch, thereby reducing these activities. NOAA will also conduct capacity-building activities in other countries and consider trade sanctions against nations not responding to reducing IUU activities. This process will contribute to the sustainability of internationally shared stocks of fish and protected species. The request will assist NOAA in working with its Canadian counterparts to establish an Advisory Panel, Joint Management and Technical Committees, as well as the Scientific Review Group required for implementation of the Pacific Whiting Treaty. This process will lead to a sustainable fishery and economic benefits to



the U.S. fleet. Lastly, the funding will also improve and enhance the independent peer review of scientific data required to appropriately set the annual catch limits. NOAA will also provide additional funding to the Councils' Scientific and Technical Committees, in order to enhance the interaction with domestic Councils to end overfishing.

- **Ocean Research Priorities Plan: NOAA requests an increase of \$5,000,000 and 6 FTEs for Comparative Analysis of Marine Ecosystem Organization (CAMEO).** This supports one of the near-term priorities of the ORPP. NOAA will improve forecasting of marine ecosystem responses to various management strategies. Forecasting marine ecosystem resource stability and sustainability requires an understanding of the underlying dynamics (e.g., species interactions, population structure, food webs, climate, and anthropogenic impacts) that control and regulate ecosystem processes. This request will support research focused on developing cutting-edge quantitative models and science-based forecasting tools to assess how marine ecosystems respond to human impacts and environmental variation. NOAA's request for CAMEO will improve the management of the nation's marine ecosystems, as recommended in the Administration's *U.S. Ocean Action Plan*, by advancing our understanding of the underlying dynamics affecting ecosystem processes at various scales. This request will not only provide a greater basic understanding of these processes, but will support enhanced coordination between resource management communities and the ocean science community.
- **Survey and Monitoring Projects: NOAA requests a net increase of \$1,650,000, for a total of \$25,244,000, to the Survey and Monitoring Projects line item** to maintain its ability to administer two research and monitoring programs in Alaska that are critical to managing Alaskan crab stocks. NOAA will continue to collaborate with entities in Alaska (e.g., independent research institutions, the State of Alaska, the North Pacific Fisheries Management Council, the fishing industry, Alaska coastal communities, and other stakeholders) to conduct crustacean research and monitoring. The request for the Survey and Monitoring line provides value-added analyses to the North Pacific Fishery Management Council for developing plan amendments and to the Alaska Board of Fisheries for developing state regulations that are consistent with federal Fishery Management Plans.
- **NOAA requests a program decrease of \$2,080,000 and 0 FTE, for a total of \$0, for Anadromous Grants.** In order to fund higher priority activities, NOAA is requesting elimination of the Anadromous Grants program. This program has provided funding to the states and other nonfederal interests for the conservation, development, and enhancement of the nation's anadromous fish stocks. Funding has been spread widely across many states, and a state match has been a required



component. Although project funding through the Anadromous Grant program would no longer be available, NMFS conducts other anadromous fish conservation and management work supported by the Pacific Coastal Salmon Recovery Fund, the salmon components of our Protected Species activities, habitat conservation and restoration efforts, and the Interjurisdictional Fisheries Grants line.

### **Enforcement and Observers/Training**

**\$86,973,000**

A net increase of \$3,000,000 and 0 FTE above the base is requested in the Enforcement and Observers/Training subactivity, for a total of \$86,973,000 and 251 FTE.

- **Observers/Training:** Observer programs are often the best way to retrieve accurate data on the status of many federally managed fisheries. NOAA will apply the requested \$3,000,000 increase to the New England Groundfish Observer Program line item to meet regulatory requirements for managing the New England Groundfish and Atlantic Sea Scallop fisheries. With this request, NOAA will have sufficient resources to add 1,170 observed days at sea to improve our understanding of undocumented bycatch in the fisheries. Stakeholders such as the New England and Mid-Atlantic Fishery Management Councils and the Atlantic States Marine Fisheries Commission will analyze and use the data to support quantitative evaluations of marine populations within the New England Groundfish and Atlantic Sea Scallop fisheries. Continuation of observer programs for fisheries with significant bycatch supports implementation of a new national bycatch strategy, a priority set forth in the Administration's *U.S. Ocean Action Plan*.



### **Habitat Conservation and Restoration**

**\$50,415,000**

A net increase of \$10,000,000 and 0 FTE above the base is requested in the Habitat Conservation and Restoration subactivity, for a total of \$50,415,000 and 234 FTE.

- **Penobscot River Habitat Restoration:** NOAA requests \$10,000,000 and 0 FTE to restore riverine habitat in Maine's largest watershed in order to rebuild populations of Atlantic salmon. In partnership with the community organizations and national non-profit conservation organizations that are contributing financial and in-kind services to the Penobscot Restoration effort, NOAA will use the funding to provide significant federal cost-share towards the purchase of three hydropower dams on the Penobscot River slated for removal. In addition, NOAA will use a portion of the funding to (1) provide technical assistance and guidance on engineering, site



evaluation, restoration planning and monitoring, and environmental compliance to ensure maximum benefits for trust resources, and (2) conduct pre- and post-removal studies to evaluate ecological, economic, and cultural implications of the restorations. Over the life of the project, the two most seaward dams will be removed, fish passage will be created at the third dam and improved at four other dams in the watershed, and associated riverine habitat will be restored. NOAA will continue to provide technical assistance and monitoring of fish usage of the river system to ensure that trust resources, such as the Atlantic salmon, are recovering. With level funding through FY 2012, the project will open access to nearly 1,000 miles of historical habitat in the Penobscot River watershed, restoring self-sustaining populations of 11 diadromous fish species, including Atlantic salmon, Atlantic and Shortnose sturgeon, American shad, and American eel, while maintaining hydropower production at 95 percent of the current generating capability.

### Other Activities Supporting Fisheries

**\$76,755,000**

A net increase of \$11,448,000 and 5 FTE above the base is requested in the Other Activities Supporting Fisheries subactivity, for a total of \$76,755,000 and 5 FTE. In addition to the programs listed below, this net increase includes a program decrease of \$200,000 for the National Cooperative Research program.

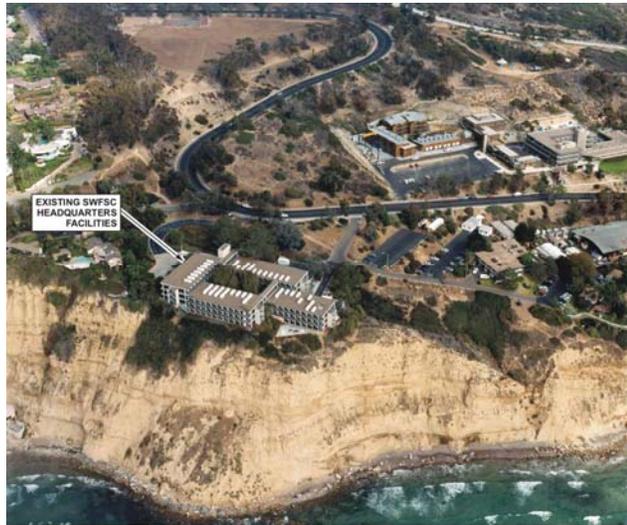
- **Aquaculture: NOAA requests an increase of \$3,000,000 and 5 FTE for NMFS Aquaculture activities.** NOAA requests this increase to develop a regulatory program for marine aquaculture in the U.S. Exclusive Economic Zone (EEZ) as called for in the National Offshore Aquaculture Act of 2005. Congress held two hearings on this bill in 2006, and the proposal remains a high priority in the Administration's and the Department of Commerce's legislative program for submission to the 110<sup>th</sup> Congress. The Administration's bill fulfills the recommendation in the *U.S. Ocean Action Plan* of advancing offshore aquaculture by proposing national offshore aquaculture legislation. International marine aquaculture is helping to increase seafood production to meet domestic and world demand, but little of this additional marine production is from domestic sources. With the proposed funding increase, NOAA will provide regulatory certainty—a critical prerequisite for private-sector investment in offshore aquaculture. This will help foster sustainable economic development and environmentally friendly technologies, create new employment opportunities, work to reduce the trade deficit in fish products, and enhance regional food supplies and economic security. Ultimately, the program will seek to help the United States





decrease its reliance on imported seafood by promoting its domestic seafood production.

- **Antarctic Research:** NOAA requests \$600,000 and 0 FTE, for a total of \$2,106,000 and 0 FTE to support NOAA's goal of managing the use of Southern Ocean resources through an ecosystem approach. The funds will enable NOAA's Antarctic Marine Living Resource (AMLR) program to develop an International Polar Year research program and continue to collect biological and oceanographic information for one of the longest running data streams on the Antarctic marine ecosystem. The 2008 field season represents the 22<sup>nd</sup> year of NOAA's only ecosystem-based Antarctic program collecting biological and oceanographic information.
- **NMFS Facilities Operations and Maintenance:** NOAA requests \$2,048,000 and 0 FTE, for a total of \$6,046,000 and 0 FTE, to cover operation and maintenance costs for the NMFS Alaska Fisheries Science Center's new Ted Stevens Marine Research Institute (Lena Point Facility). NOAA staff at the Alaska Fisheries Science Center's Auke Bay Laboratory will relocate to the facility and final occupancy is expected in March 2007. Of the funds requested, \$953,000 is for heating and power costs. The request also includes \$1,095,000 for maintenance. Portions of the Auke Bay facility will remain open to support NOAA research.
- **La Jolla Temporary Relocation:** NOAA requests \$1,000,000 and 0 FTE to cover costs for temporary leased space for personnel working in the Southwest Fisheries Science Center (SWFSC) in La Jolla, California. The SWFSC complex is within 25 feet of an eroding 200-foot-high bluff abutting the La Jolla Shores beach on the Pacific Ocean. According to geological studies of existing cliff stability and ongoing erosion at the site, the potential exists for future slope failures that could affect the structural integrity of the bluff-side SWFSC buildings. Based on this information, NOAA will vacate staff from the Laboratory into leased space pending construction of new facilities.





to fulfill their mission goals in fishery management, protected species and habitat conservation, financial and operational management, and public outreach. NOAA's request provides funding support for 33 existing FTEs, supports more effective science-based fishery management decisions, improves grants management, advances peer-reviewed ecosystem science, and institutes overall organizational management efficiency. PIRO and PIFSC have operational programs in place for each of their mandates. The request will enhance these capabilities by providing resources to match the personnel needs of the region.

### **Alaska Composite Research and Development Program**

Starting with the FY 2008 Budget Request, NOAA will no longer request funding for Alaskan research and conservation activities under the Alaska Composite Research and Development Program line item. Instead, NOAA will request funding for Alaska activities within the budget lines that previously funded these activities.



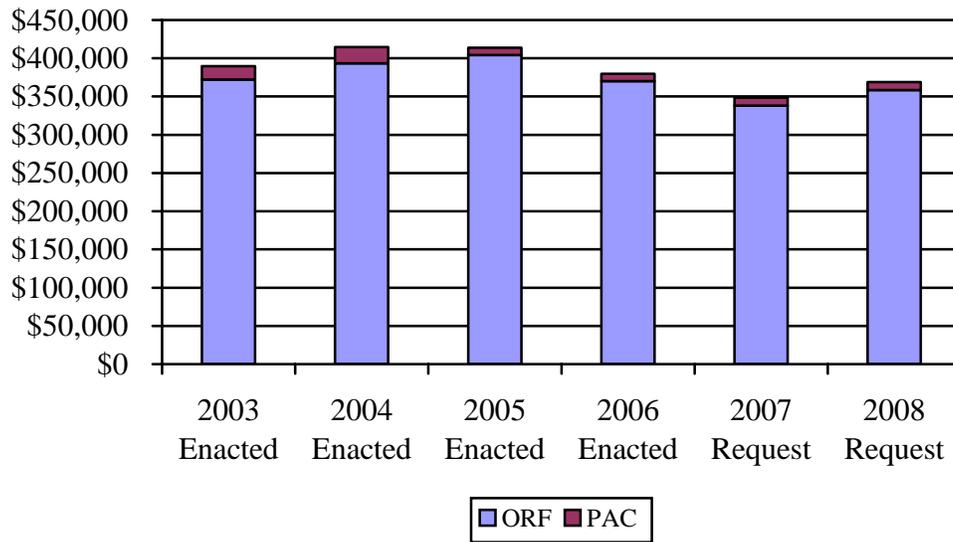
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## Office of Oceanic & Atmospheric Research

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
Office of Oceanic & Atmospheric Research -- Operations, Research and Facilities (ORF)				
Climate Research	\$169,584	\$181,151	\$10,253	\$192,791
Weather and Air Quality Research	67,570	41,230	5,000	47,170
Ocean, Coastal, and Great Lakes Research	126,676	102,976	6,500	105,447
Information Technology, R&D, and Science Education	6,411	12,916	0	12,969
<b>Total, Office of Oceanic &amp; Atmospheric Research - ORF</b>	<b>370,241</b>	<b>338,273</b>	<b>21,753</b>	<b>358,377</b>
Other Office of Oceanic & Atmospheric Research Accounts				
Total, Office of Oceanic & Atmospheric Research - PAC	9,369	10,379	0	10,379
Total, Office of Oceanic & Atmospheric Research - Other	0	0	0	0
<b>GRAND TOTAL OFFICE OF OCEANIC &amp; ATMOSPHERIC RESEARCH (Direct Obligations)</b>	<b>\$379,610</b>	<b>\$348,652</b>	<b>\$21,753</b>	<b>\$368,756</b>
<b>Total FTE</b>	<b>710</b>	<b>714</b>	<b>3</b>	<b>717</b>

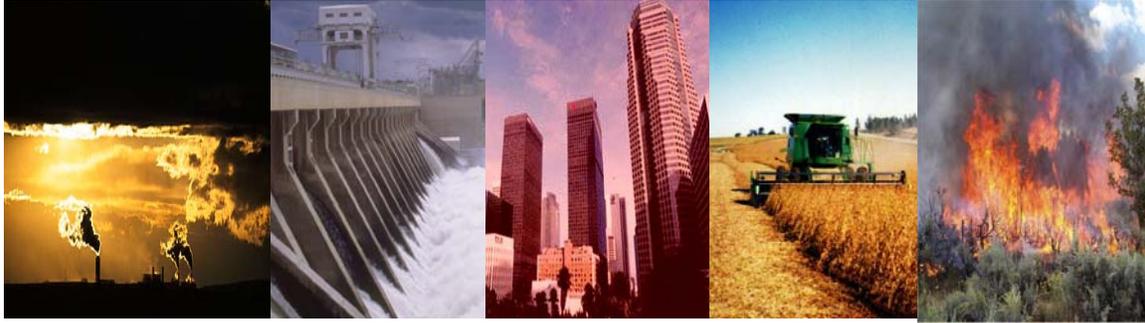
**Budget Trends, FY 2003 - 2008 (dollars in thousands)**



ORF: Operations, Research & Facilities  
 PAC: Procurement, Acquisition & Construction



## Office of Oceanic & Atmospheric Research



The primary focus for research and development within NOAA is the Office of Oceanic and Atmospheric Research (OAR), often referred to as NOAA Research. OAR conducts the scientific research, environmental studies, and technology development needed to improve NOAA's operations and broaden our understanding of the Earth's atmospheric and marine environmental systems. OAR currently consists of seven internal research laboratories and manages or facilitates extramural research at 30 National Sea Grant colleges, universities, and research programs, several undersea research centers, a research grants program through the Climate Program Office, and 13 cooperative institutes with academia.

OAR's activities are organized along four themes: (1) Climate Research; (2) Weather and Air Quality Research; (3) Ocean, Coastal, and Great Lakes Research; and (4) Information Technology R&D and Science Education. The goals of these four theme areas are to:

- Understand complex climate systems in order to improve predictions.
- Understand atmospheric events to assist in saving lives and property worldwide.
- Explore, investigate, and understand the complexities of all our coastal, Great Lakes, and ocean habitats and resources.
- Accelerate adoption of advanced computing, communications, and information technology throughout NOAA and support science education, expanding the pipeline of potential future environmental scientists and researchers for industry, academia, and government.

The research is carried out through a national network of more than 50 federal laboratories and university-based research programs. With this diverse research "tool kit," OAR:

- Provides national and international leadership on critical environmental issues.
- Addresses the environmental R&D needs of internal NOAA customers, states, industry, the Department of Commerce, and other Federal agencies.



OAR researchers represent the cutting edge in sustained, long-term environmental observations and modeling; their contributions enhance the health and economic well-being of society.

**FY 2008 Budget Summary**

NOAA requests a total of \$368,756,000 and 717 FTE to support the continued and enhanced operations of the Office of Atmospheric Research. This total includes \$8,138,000 for Adjustments to Base, and a net program change of \$21,753,000 and 3 FTE above the FY 2007 President’s Budget.

**ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$2,951,000 and 0 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise of 2.2 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.

**OAR – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:**

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

**Climate Research \$192,791,000**

An increase of \$10,253,000 and 0 FTE above the base is requested in the Climate Research subactivity, for a total of \$192,791,000 and 354 FTE.

- **Laboratories and Cooperative Institutes:** NOAA requests an increase of \$1,000,000 and 0 FTE above the base for a total of \$50,337,000 and 249 FTE under the Laboratories and Cooperative Institutes line item of the Climate Research subactivity.
- **Research Supercomputing: Computational Support for Assessing Abrupt Climate Change.** NOAA requests an increase of \$1,000,000 and 0 FTE to provide computational support for assessing abrupt climate change. NOAA’s Research Supercomputing program allows NOAA to leverage the world-class research staff and modeling capabilities now in place at the Geophysical Fluid Dynamics Laboratory (GFDL) to address important research problems in climate research. Changes to regional extremes (such as drought) or extreme events (such as hurricanes) result

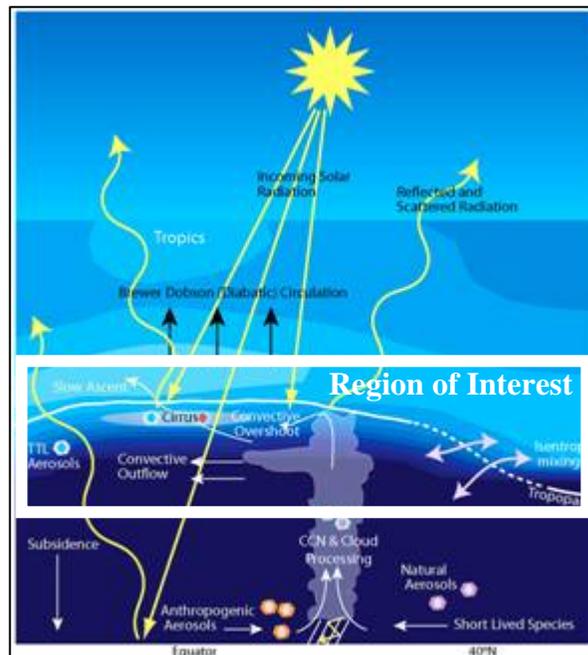


from the simultaneous superposition of the impacts from several types of natural climate phenomena, and a better predictive understanding of the impacts of climate variability and change on extreme events is needed. Five key problem areas requiring improved understanding and enhanced predictive capabilities are: 1) increased hurricane activity in the Atlantic, 2) prolonged drought in the West, 3) the acceleration in the rate of sea level change, 4) the role of the Atlantic Meridional Overturning Circulation (AMOC) to force rapid climate change, and 5) the potential for an ice-free Arctic in summer by mid-century. Much of the scientific expertise to attack these issues already exists. However, the solutions require expansions and extensions of computational resources, and the use of large-scale state-of-the-art climate modeling is the principal means of addressing these problems.

- **Competitive Research Program:** NOAA requests an increase of \$7,253,000 and 0 FTE above the base for a total of \$133,302,000 and 102 FTE under the Competitive Research Program line item of the Climate Research subactivity.

- **Water Vapor Process Research:** NOAA requests an increase of \$880,000 and 0 FTE to initiate and enhance measurements of water vapor in the lower atmosphere (mid and upper troposphere) to elucidate its role in altering forcing by greenhouse gases, aerosols, and clouds.

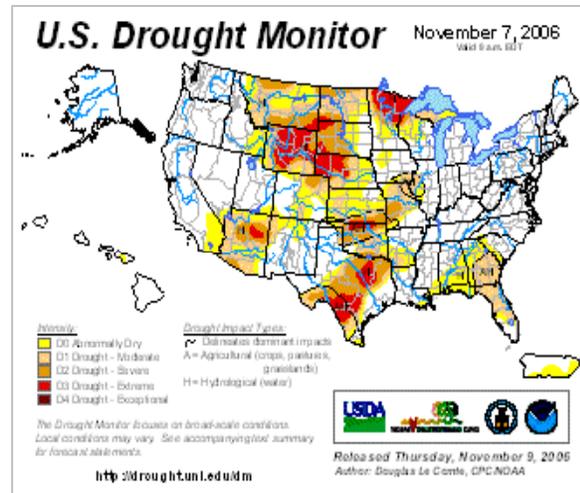
Water vapor has the potential to contribute to global climate change because it: (1) accounts for most of the greenhouse effect, (2) amplifies the greenhouse warming capability ascribed to CO<sub>2</sub> and other greenhouse gases, (3) enhances the ability of aerosols to induce climate change, (4) plays a crucial role in aerosol-cloud interactions, (5) alters the concentrations of other greenhouse gases, and (6) is a key component for calculating climate feedbacks. Yet, the distribution of water vapor in the mid to upper troposphere and the lower stratosphere are poorly mapped out for climate purposes and are not well represented in models. This program change request takes the first step toward rectifying this deficiency. The funding requested will be used to develop and deploy instruments to measure water vapor and conduct impact analysis and assessments to develop and improve models. NOAA is uniquely placed to address an important sub-set of the many needed efforts in this area because of its technical expertise in measuring water vapor, its ability to



deploy instruments on NOAA aircraft, and its scientific expertise to elucidate the processes involved. Further, NOAA can conduct this work in a highly cost-efficient manner, as these measurements can be carried out during currently on-going NOAA missions.

- **National Integrated Drought Information System (NIDIS): Improving NOAA Climate Forecasts.** NOAA requests an increase of \$1,065,000 and 0 FTE to develop and transition research advances in drought monitoring and prediction into enhanced NOAA climate forecasts and application products.

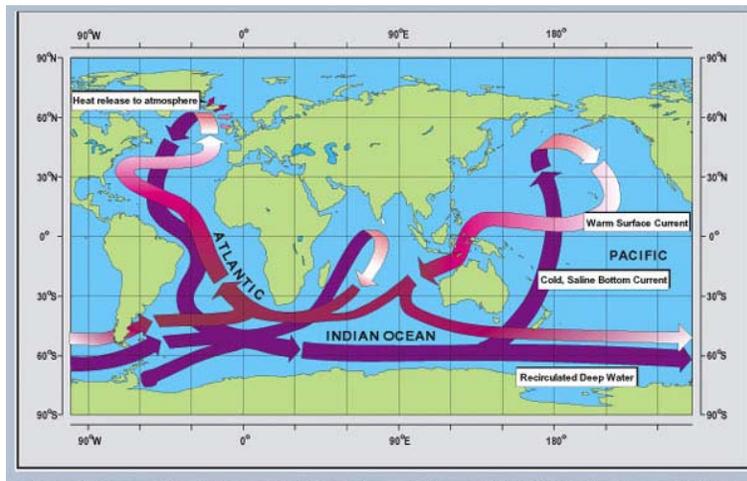
In response to the Western Governors' Association (WGA), NOAA has taken the lead on the development and implementation of a National Integrated Drought Information System in partnership with other Federal, regional, and state organizations. NIDIS has also been identified as a near-term priority by the U.S. Group on Earth Observations. NOAA has identified a significant demand for a concentrated research effort that assesses the Nation's vulnerability



to drought based on experiences with stakeholders in drought-affected regions and recent reports on drought and stakeholder needs. Specifically, NOAA needs to work with stakeholders to develop products to support drought planning and communicate climate impact information tailored to specific regional needs. This funding will provide an operational testing environment to accelerate the transition of research activities into improved NOAA climate forecasts and increase applicability of those operational forecasts to the needs of the external community. These model and forecast improvements will enable businesses, academia, and government agencies to minimize the impacts of drought.

- **Ocean Research Priorities Plan: Assessing Atlantic Meridional Overturning Circulation Variability: Implications for Rapid Climate Change.** NOAA requests an increase of \$5,000,000 and 0 FTE to improve understanding of the mechanisms behind fluctuations of the Atlantic Meridional Overturning Circulation (AMOC) and the impact of those fluctuations. This request supports one of the four near-term priorities outlined in the draft implementation plan of the Ocean Research Priorities Plan. Decadal variability in the Atlantic Ocean has been linked to the recent upswing in Atlantic hurricane seasons, persistent droughts in surrounding continental areas, and enhanced warming in the Arctic. Although these changes were not anticipated, their persistence would require us to make major adaptations. This decadal variability is partly linked to changes in the AMOC, an element of the global-scale ocean circulation responsible for long-term climate variations. AMOC changes are thought to play

a key role in the abrupt changes evident in the paleoclimate record. This research activity will lead to new capabilities for monitoring and predicting AMOC changes (an abrupt-change early-warning system). This effort will build upon NOAA's existing research, modeling, and forecasting in this region. NOAA requests \$2,500,000 for research to describe the AMOC, its variability, and its critical processes. In addition, NOAA requests \$1,750,000 to develop now-casting capabilities and experimental



products critical to predicting the current AMOC state as well as changes on a decadal scale and to assessing the potential for abrupt changes. Finally, NOAA requests \$750,000 to assess potential decadal impacts of rapid AMOC changes on ecosystems, carbon budgets, regional sea-level changes, regional climate, and socioeconomic systems.

- **Analysis of Unmanned Aircraft Systems (UAS) Data from the Arctic Test Base:** NOAA requests \$308,000 and 0 FTE to provide focused application of data from Unmanned Aircraft Systems to be deployed from the Arctic Test Base. The UAS platforms will be deployed as part of NOAA's Weather Research, Science, and Technology Infusion Acceleration program to address critical weather and climate observation gaps in regions important to the U.S., e.g. the Central Pacific Ocean and the Arctic. The funds requested here will provide the ability to analyze UAS data from the Arctic Test Base in an international context, thereby multiplying the value of the UAS data. In addition, funds will be used to purchase additional sondes for use in the Arctic to improve density of data collected. This initiative will be implemented through the Arctic Research Program component of the Competitive Research Program of the Climate Program



Office and will be closely coordinated with the UAS activities under the Weather Research Program. This initiative will provide data analysis that meets the needs of international, Federal, state, and local agencies, and it will demonstrate the role of UAS in climate observations in the Arctic and the value of these observations in improving the output from global and regional climate models and forecasts.



In addition, this initiative will demonstrate continued U.S. commitment to an international approach to Arctic science and Arctic climate analyses and assessments during the upcoming International Polar Year (IPY).

- **Climate Data & Information:** NOAA requests a net increase of \$2,000,000 and 0 FTE above the base for a total of \$8,266,000 and 3 FTE under the Climate Data & Information line item of the Climate Research subactivity.

- **National Integrated Drought Information System: Implementation of U.S. Drought Portal and Soil Moisture Sensors.** NOAA requests \$3,300,000 and 0 FTE to: (1) establish the U.S. Drought Portal (USDP) to provide user-friendly access to historical and real-time data and products from NIDIS partners, and (2) install soil moisture sensors at U.S. Climate Reference Network (USCRN) stations.



NOAA requests \$2,150,000 to work in partnership with the public and private sectors, including other Federal, state, and local government agencies and universities, to establish, operate, and maintain an Internet Drought Portal. The USDP will improve access to and sharing of drought-related data and information locally, regionally, and nationally. In addition, NOAA requests \$1,150,000 to install soil moisture sensors at existing USCRN stations to improve drought monitoring, preparedness, and response since the current number and location of ground-based observing stations equipped with soil-moisture and temperature sensors is inadequate for drought monitoring. This NOAA initiative is consistent with the U.S. Global Earth Observations Near-Term Opportunity (NTO) NIDIS Implementation Plan. The Federal Emergency Management Agency estimated the annual direct losses to the U.S. economy due to drought are \$6-8 billion, making persistent drought conditions among the most costly of natural disasters affecting our Nation. This is on par with more widely publicized losses due to such shorter term weather fluctuations such as tornadoes and hurricanes. These NIDIS implementation efforts will help ensure that decision-makers, drought experts, and the general public will have access to accurate, timely, and integrated information describing drought conditions, as authorized in the National Integrated Drought Information System Act of 2006.

**Weather and Air Quality Research \$47,170,000**

NOAA requests an increase of \$5,000,000 and 3 FTE above the base in the Weather and Air Quality Research subactivity, for a total of \$47,170,000 and 187 FTE.

- **Weather & Air Quality Research Laboratories & Cooperative Institutes:** NOAA



requests an increase of \$5,000,000 and 3 FTE above the base for a total of \$44,198,000 and 185 FTE under the Weather & Air Quality Research Laboratories & Cooperative Institutes line item of the Weather and Air Quality Research subactivity.

- **Unmanned Aircraft Systems:** NOAA requests an increase of 3 FTE (4 positions) and \$3,000,000 to implement an end-to-end initiative to accelerate research and development, and transition to operations of innovative, new observational platforms and forecast tools to advance NOAA's Earth-system product, service, and information enterprise. Specifically, NOAA will develop, test, and evaluate UAS platforms, payloads, and applications to determine their roles in filling critical observational gaps currently impeding NOAA's environmental monitoring and prediction capabilities. This UAS initiative advances the development of 21<sup>st</sup> century observing systems and forecast tools and accelerates their infusion into the operational forecast environment. UAS platforms represent a collaborative effort of several organizations within NOAA, including NOAA laboratories, National Weather Service, National Ocean Service, Marine and Aircraft Operations, and Cooperative Institutes. This initiative is linked closely to the needs of multiple Federal, state, and local agencies. Specific applications that will be explored through this FY08 investment include:

*Climate:* The proposed UAS project will test two important climate issues: (1) Climate models show that the upper atmosphere over the Arctic Ocean should have warmed by 3° F by late in the current decade. Existing measurements taken at different spatial locations do not allow



comparison of temperatures at the same location over time. By dropping sondes at locations chosen during the International Polar Year, the important question of whether or not the models are accurate can be addressed. (2) Similarly, the change of water vapor in the upper and lower atmosphere over the tropics is crucial to evaluating climate models. The proposed Pacific test will measure water vapor with higher accuracy and denser spatial specificity than has been possible in the past and will test the ability of UASs to monitor atmospheric rivers, which currently are poorly observed but yet are believed to be crucial to both the global water budget and weather prediction.

*Weather Research:* The potential for UAS to aid in hurricane reconnaissance and research will be evaluated. The Central Pacific UAS project will test the ability of UAS to fill gaps in satellite data that currently limit our ability to monitor water vapor transport over the ocean.



*Fisheries Enforcement:* Over parts of both Alaska and Hawaii, NOAA will test new concepts of fisheries enforcement using advanced sensors on UAS platforms.

*Coastal Zone Studies:* NOAA will test and evaluate UAS applications in Marine Sanctuaries for monitoring whale migrations and other phenomena occurring over extensive areas that currently cannot be monitored using manned ships or aircraft.

- **Hurricane Intensity Research:** NOAA requests an increase of \$2,000,000 and 0 FTE to accelerate R&D on the physical processes controlling hurricane intensity and to improve measurement of hurricane wind structure. The results will improve the next-generation observing system and the numerical models used for hurricane intensity forecasting. Limited scientific understanding of the factors underlying these physical processes constrains NOAA’s ability to accurately forecast changes in hurricane intensity. For instance, although we know that ocean-atmosphere exchanges of heat, moisture, and momentum critically influence hurricane intensity, our understanding of these processes is limited by the fidelity of current numerical simulations.



NOAA will fill key gaps in existing observations of such physical processes by taking advanced observations of air-sea interactions from buoys along likely hurricane tracks and by using land-based instruments to measure wind structures and turbulence as hurricanes reach shore. Researchers will integrate and analyze existing observations (including measurements from airborne Doppler radar and from satellites) and the new observations to better understand the factors that drive hurricane intensity. NOAA will synthesize the resulting insights into numerical models in order to more accurately simulate the intensification of hurricanes.

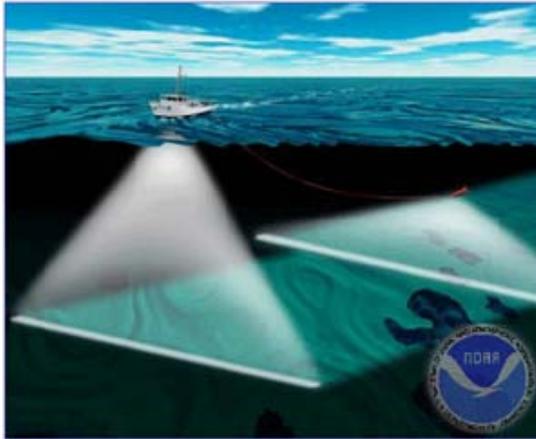
**Ocean, Coastal, and Great Lakes Research \$105,447,000**

NOAA requests a net increase of \$6,500,000 and 0 FTE above the base in the Ocean, Coastal, and Great Lakes Research subactivity for a total of \$105,447,000 and 163 FTE.

- **Ocean Exploration Research:** NOAA requests an increase of \$8,000,000 and 0 FTE above the base for a total of \$27,763,000 and 17 FTE under the Ocean Exploration Research line item of the Ocean, Coastal, and Great Lakes Research subactivity.



- **U.S. Extended Continental Shelf (ECS) Mapping:** NOAA requests an increase of \$8,000,000 and 0 FTE for the purpose of exploring and defining the limits of the U.S. ECS and for determining its economic potential. One of the primary goals of the NOAA Ocean Exploration and Research Program is to map the physical, geological, biological, chemical, and archeological aspects of the ocean in order to provide information to policy makers, regulators, commercial ventures, researchers, and educators. As such, the program supports interdisciplinary expeditions of discovery to map and assess unknown and poorly



known ocean areas. The requested increase will support expeditions to collect and analyze data that describe the depth, shape, geophysical, and biological characteristics of the seabed and sub-sea floor for the purpose of redefining the ECS. This work will allow the United States to assert jurisdiction over these areas of the ECS and the estimated \$1.2 trillion

- worth of resources it contains. This will be accomplished using a variety of assets, including but not limited to, the new NOAA ocean exploration vessel OKEANOS EXPLORER, UNOLS vessels, and other vessels equipped for mapping. NOAA will use a wide array of tools and technologies in this effort, including multi-beam and side-scan sonars, autonomous underwater vehicles (AUVs), and remotely operated vehicles (ROVs) equipped with high-resolution cameras to collect video and still photography that can be geo-referenced and accessed in geographic information systems (GIS). The increase will fund work with other federal agencies, academic institutions, and private sector companies, as appropriate, to establish a successful U.S. claim to these areas of the ECS.
- **Other Ecosystems Programs:** NOAA requests a decrease of \$1,500,000 and 0 FTE below the base for a total of \$2,599,000 and 4 FTE under the Other Ecosystems Programs line item of the Ocean, Coastal, and Great Lakes Research subactivity.
  - **Aquatic Invasive Species.** NOAA requests a decrease of \$1,500,000 and 0 FTE. NOAA will continue, at a reduced level, its work with the Fisheries Councils to reduce the risk both to human health and to the commercial fishery industry from the venomous predator Lionfish and other invasive escaped aquarium fish. NOAA will also reduce its effort to develop ballast water technologies necessary for implementation of a ballast water management program. NOAA will, however, continue approximately half of its current work with the Pacific States Marine Fisheries Commission and the EPA to study and halt the spread of invasive green crabs (which threaten a \$40M shellfish industry in the Pacific Northwest) as well as work with Canada's Department of Fisheries



and Oceans to attack the spread of invasive tunicates threatening near- and off-shore shellfish beds on both the U.S. & Canadian coasts.





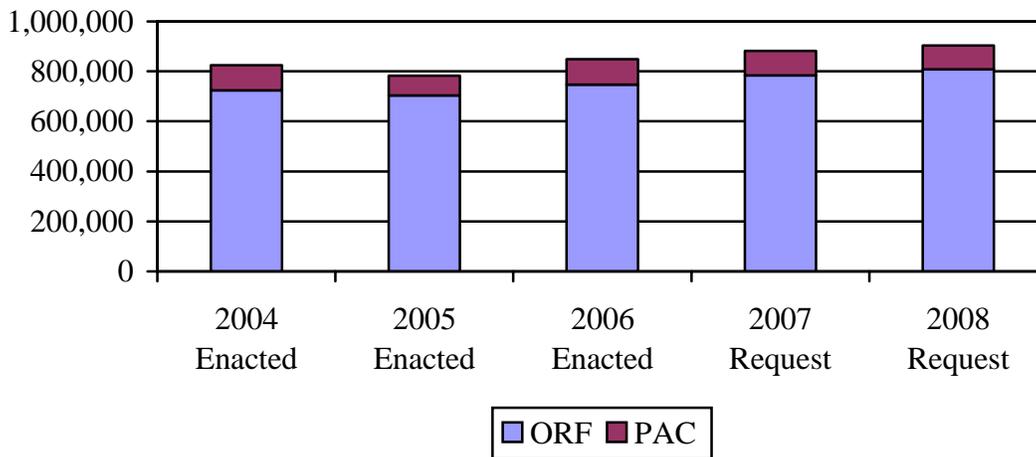
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## National Weather Service

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
National Weather Service -- Operations, Research and Facilities (ORF)				
Operations and Research	\$661,780	\$687,856	\$8,334	\$711,462
Systems Operation & Maintenance (O&M)	85,064	95,590	0	96,345
<b>Total, National Weather Service - ORF</b>	<b>746,844</b>	<b>783,446</b>	<b>8,334</b>	<b>807,807</b>
Other National Weather Service Accounts				
Total, National Weather Service - PAC	101,400	98,420	(6,005)	95,685
Total, National Weather Service - Other	0	0	0	0
<b>GRAND TOTAL NATIONAL WEATHER SERVICE (Direct Obligations)</b>	<b>\$848,244</b>	<b>\$881,866</b>	<b>\$2,329</b>	<b>\$903,492</b>
<b>Total FTE</b>	<b>4,651</b>	<b>4,660</b>	<b>0</b>	<b>4,658</b>

**Budget Trends, FY 2003 - 2008** (dollars in thousands)



ORF: Operations, Research & Facilities  
 PAC: Procurement, Acquisition & Construction



## National Weather Service



The National Weather Service (NWS) is the Nation's first line of defense against severe weather. The NWS provides weather, hydrologic, 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 that can be used by other government agencies, the private sector, the public, and the global community.

The United States is one of the most severe-weather-prone countries on Earth. Each year, Americans cope with an average of 10,000 thunderstorms, 5,000 floods, 1,000 tornadoes, as well as six deadly hurricanes. Some 90 percent of all Presidentially-declared disasters are weather-related, causing approximately 500 deaths per year and \$14 billion in damage. According to the American Meteorological Society, weather is directly linked to public safety, and about one-third of the U.S. economy (about \$3 trillion) is weather-sensitive.

More and more sectors of the U.S. economy recognize the impacts of weather, water, and climate on their businesses and are becoming more sophisticated at using weather, water, and climate information to make better decisions. To meet this growing demand for information and to improve the timeliness and accuracy of warnings for all weather-related hazards, the NWS will continue to enhance observing capabilities; improve data assimilation to effectively use all the relevant data NWS and others collect; improve



collaboration with the research community; make NWS information available quickly, efficiently, and in a useful form (e.g., the National Digital Forecast Database); and include information on forecast uncertainty to help customers make fully informed decisions.

With about 4,700 employees in 122 weather forecast offices, 13 river forecast centers, 9 national centers, and other support offices around the country, NWS provides a national infrastructure to gather and process data worldwide from the land, sea, and air. This infrastructure enables data collection using technologies such as Doppler weather radars; satellites operated by NOAA's National Environmental Satellite, Data, and Information Service (NESDIS); data buoys for marine observations; surface observing systems; and instruments for monitoring space weather and air quality. These data feed sophisticated environmental prediction models running on high-speed supercomputers. Our highly trained and skilled workforce uses powerful workstations to analyze all of these data to issue climate, public, aviation, marine, fire weather, air quality, space weather, river and flood forecasts and warnings around-the-clock. A high-speed communications hub allows for the efficient exchange of these data and products between NWS components, partners and customers. NWS forecasts and warnings are rapidly distributed via a diverse dissemination infrastructure including NOAA Weather Radio. Finally, customer outreach, education, and feedback are critical elements to effective public response and improvements to NWS services.

The FY 2008 President's Budget Request supports the funding and program requirements necessary to address established NOAA strategic goals and sets NWS on a path to achieve its vision to: produce and deliver forecasts that can be trusted, use cutting-edge technologies, provide services in a cost-effective manner, strive to eliminate weather-related fatalities, and improve the economic value of weather, water, and climate information.

### **FY 2008 Budget Summary**

NOAA requests a total of \$903,492,000 and 4,658 FTE to support the continued and enhanced operations of the National Weather Service. This total includes \$16,130,000 for Adjustments to Base, and a net program change of \$2,329,000 and 0 FTE above the FY 2007 President's Budget.

### **ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$18,297,000 and 0 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise of 2.2 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.

NWS also requests the following transfers between line offices or appropriations for a net change to NOAA of zero:



- \$3,270,000 is transferred from the NOAA Profiler Network PPA of Operations, Research, and Facilities to the NOAA Profiler Conversion PPA of Procurement, Acquisition, and Construction to reflect the accurate activity of the funds within the program.
- \$7,347,000 and 51 FTE are transferred from the Space Environment Center to the Local Warnings and Forecast Base PPA within the Local Warning and Forecast line. This transfer has no net effect on overall NWS funding.

**NWS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:**

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

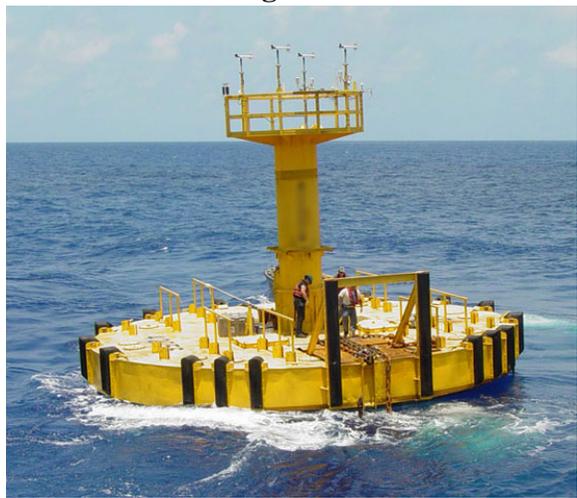
**Operations and Research \$711,462,000**

A net increase of \$8,334,000 and 0 FTE above the base is requested in the Operations and Research subactivity, for a total of \$711,462,000 and 4,439 FTE.

**Local Warnings and Forecasts:** \$5,380,000 and 0 FTE in net increases above the base, for a total of \$591,465,000 and 4,108 FTE, are requested under the Local Warnings and Forecasts line item of the Operations and Research subactivity.

- **NOAA requests an increase of \$3,000,000 and 0 FTE for a total of \$4,400,000 to operate and maintain 15 weather data buoys (eight buoys funded in the FY 2006 Hurricane Supplemental Appropriation and seven funded in by 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.**

The FY 2006 Hurricane Supplemental provided one-time funding to procure and deploy these buoys. This program adjustment requests the funding required for 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 Observation 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. The eight new Hurricane Supplemental data buoys consist of four 6-meter and four 12-meter buoys. The seven FY 2005 Hurricane Supplemental data buoys consist of one 3-meter, two 6-meter, two 10-meter, and two 12-meter buoys. These buoys require increased ship-time for scheduled service due to their large distance from the U.S., are an average of four days of ship time apart, and require a ship with substantial lift capability (especially for the 12-meter buoys). The hired buoy tender vessel will provide scheduled maintenance to all buoys in one continuous trip in order to minimize ship cost as well as some dedicated service trips to the failed buoys out during hurricane season that must be repaired as soon as possible.

- **NOAA requests \$1,700,000 and 0 FTE to strengthen the U.S. Tsunami Warning Program.** Funds will be

used to complete the 39 DART buoy network and operate and maintain the newly expanded DART systems, new sea-level monitoring stations, 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. \$1M of the FY 2008 funds will be used to support the Tsunami Warning and Environmental Observatory for Alaska (TWEAK) Program. 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). In order to continue 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 build upon the foundation laid from FY 2004 through FY 2007 and continue to accelerate and improve its: (1) Tsunami Hazard Assessment Programs (including comprehensive coastal U.S. risk assessments/inundation mapping, modeling and forecasting efforts), (2) Tsunami Warning Guidance Programs (including 24/7 tsunami detection and warning systems and the dissemination of accurate and timely tsunami forecasts and warnings), and (3) Tsunami Mitigation Programs (including community-based emergency response plans, public education/awareness (TsunamiReady communities and inundation/ evacuation mapping).

- **NOAA requests \$1,670,000 and 0 FTE to fund operations and maintenance (O&M) and transition costs associated with the planned frequency conversion**



**and the technical refresh of the 20-year old NOAA Wind Profiler Network (NPN).**



In FY 2008 NWS will establish a new NPN logistics support center in Kansas City, MO to support the newly converted profilers. 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 NOAA Profiler Network (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 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 approximately 90 minutes per day. However, the European Space Agency began launching a constellation of 30 navigation 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 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.

- **NOAA requests \$1,230,000 and 0 FTE for O&M for emergency backup systems procured with FY 2006 Hurricane Supplemental funding.** This request provides

ongoing operations and maintenance costs for Incident Meteorologist equipment, software support, communications, ASOS and NWR backup power units, and backup communications for coastal Weather Forecast Offices and Next Generation Weather Radars. The FY 2006 Hurricane Supplemental provided \$16.4M for improved hurricane services and infrastructure support.



Specifically, this funding allowed NWS to: (1) equip five coastal Weather Forecast



Offices (WFOs) with all-hazards support capability for incident meteorologists deployed to provide on-site tactical forecasting in times of disaster; (2) equip 150 hurricane-prone Automated Surface Observing System (ASOS) sites and 126 NOAA Weather Radio (NWR) All Hazards transmitters located in hurricane-prone areas with backup power capability so that they can continue to provide critical weather observations and life-saving emergency broadcasts during times of disaster when commercial power is disrupted; and (3) provide backup satellite communications at 25 coastal WFOs and 10 NEXRAD sites to provide transmission of forecasts, watches, warnings, and radar products during times of disaster when land-line communications have been disrupted. All of these systems and capabilities require ongoing funding to continue to be operated and maintained. Ongoing operations and maintenance funding is necessary to ensure that the capital investments made as a result of the Hurricane Supplemental continue to provide the live-saving services they were intended to support. Equipment for Incident Meteorologists facilitates rapid deployment of tactical meteorology capabilities to sites of hurricanes as well as to other disaster sites. Uninterrupted data from coastal ASOSs will provide forecasters with reliable real-time observations during any type of severe weather event,



including hurricanes. Uninterrupted ASOS observations will also maintain the integrity of the climate record, particularly in recording extreme events, and aid research and understanding of tropical cyclone events. Emergency backup power for NWR all-hazards will increase reliability of broadcasts of

severe weather information, leading to lives and property saved. It will also ensure broadcast of critical information during homeland security events.

- **NOAA requests \$1,100,000 and 0 FTE for Tropical Ocean Atmosphere (TAO) Buoy Array technological refresh.** This increase provides the required funding to replace obsolete components of NOAA’s aging 55-buoy TAO Buoy array. Many components of TAO Array are no longer supported by their manufacturers, and alternate components must be purchased to continue operation of the TAO Array. This funding will enable NWS to replace obsolete components of the TAO array for nine buoys and eight spares. NOAA’s TAO Array provides real-time equatorial Pacific water temperature and conductivity profiles that are critical to the early detection of El Niño and La Niña events. Early detection of these events has substantial positive economic benefits for the global economy because it





allows decision-makers to manage agricultural and water resources, fisheries, and grain and fuel reserves more effectively. The U.S. Climate Change Science Program also relies on TAO data to further improve climate models for improved understanding and predictions of the global climate. Subsurface sensor arrays used to measure temperature and salinity at up to 11 depths, the topside CPU/data logger and modem, and the compass used to provide earth-referenced coordinates for wind velocity measurements are obsolete and no longer supportable. Continued reliance on these components will result in loss of buoys and data critical to our ability to detect and assess the strength of El Niño and La Niña and to plan for the impacts they create.



The Tropical Moored Buoy network is being extended to all oceans by NOAA's Office of Oceanic and Atmospheric Research in cooperation with international partners. The technology- refreshed TAO buoys will eventually be used for the Atlantic and Indian Oceans as well as the Pacific. Without measurements from these arrays,

a true understanding of the global heat engine, necessary to begin to understand the actual impacts of human activities on climate change, will be impossible.

- **NOAA requests \$1,350,000 and 0 FTE for National Data Buoy Center (NDBC) Ocean Sensor O&M.** This increase is for ongoing operation and maintenance of ocean instrumentation that was funded and installed by National Ocean Service "Convert Weather Buoys Initiative." These sensors augment fixed and buoy observational sites. In keeping with NOAA's commitment of increased interoperability and cost-effective approach to oceanographic observing, the NOS Convert Weather Buoy project augments existing National Weather Service buoys with oceanographic sensors. This national network of weather-observing buoys has been augmented with ocean sensors to measure directional waves and wave heights, as well as ocean current, temperature, and salinity profiles. In FY 2008, 98 sites along the U.S. coastline will be outfitted with oceanographic sensors. Buoys require annual maintenance and shore-side operating/infrastructure support to maintain reliable data output. Buoys outfitted with weather sensors generally only require an at-sea replacement once every three years. However, subsurface oceanographic sensors require an at-sea maintenance visit every nine months. Thus the cost of ship time alone is four times greater. By converting weather buoys to dual-purpose buoys, NOAA obtains oceanographic data in an exceptionally cost-effective manner. These real-time ocean observations are used by weather forecasters in both the public and private sectors, coastal managers, recreation and commercial fishing industry, search and rescue, and hazard spill mitigation, just to mention a few. These data are also used by industry to generate value-added products for the private sector. Continued operation of these sensors meets the international priorities of the Integrated Ocean Observing System (IOOS) and the recommendations of the U.S. Commission on Ocean Policy.



- **NOAA requests a decrease of \$1,300,000 and 0 FTE for Space Environment Center (SEC) to reflect funding of higher priority requirements.** This \$1,300,000 reduction will reduce SEC model development and transition of models to operations, and eliminates outreach efforts. The \$6,187,000 funding level supports SEC real-time monitoring and forecasting of solar and geophysical events.
- **NOAA requests a decrease of \$1,456,000 and 0 FTE for US Weather Research Program (USWRP) to reflect funding of higher priority NWS requirements.** This reduction will reduce support for THORPEX, including a multi-national experiment in the North Pacific targeted to improving high-impact winter weather forecasts on the U.S. Pacific Coast. This reduction will end a grants program between NOAA and the academic community focused on accelerating 1-14-day forecasts. The FY 2008 request of \$6,000,000 will support improvements for NOAA’s forecasting capabilities for high impact and routinely disruptive weather events, air quality research and forecasting program, and THORPEX program. This effort includes improving NOAA's hurricane forecasts (track, intensity, and rainfall) via NOAA's Joint Hurricane Testbed; and initial testing and development of an air quality particulate matter (PM) forecast capability.

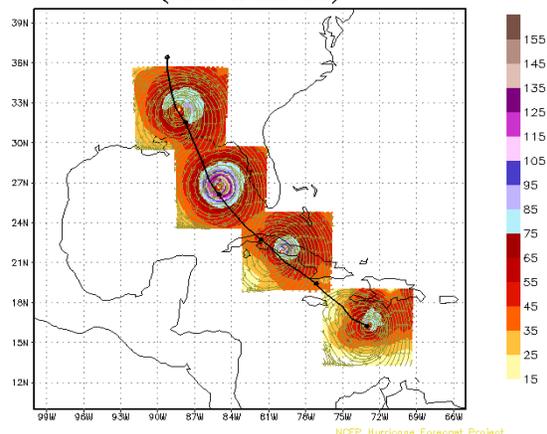
**Central Forecast Guidance**

**\$53,248,000**

A net increase of \$1,040,000 and 0 FTE above the base is requested in Central Forecast Guidance line item of the Operations and Research subactivity, for a total of \$53,248,000 and 306 FTE.

- **NOAA requests \$1,040,000 and 0 FTE for the operational support and maintenance of the next-generation Hurricane Weather Research and Forecasting (HWRF) model and storm surge prediction system.** As a result of the active 2005 hurricane season, NOAA was provided hurricane supplemental funding to accelerate the next-generation hurricane and storm surge prediction system. This request provides the necessary operations and maintenance funding to support these systems on a daily, routine basis, leading to improved hurricane and storm surge prediction. This environmental modeling investment is necessary to operationally support the next-generation hurricane prediction system and to integrate NOAA’s several environmental prediction models into a single environmental modeling prediction system in order to meet demands for more accurate forecast products in weather, climate, ocean and coastal ecosystems. Operational hurricane intensity and storm surge predictions at landfall will be highlighted in this effort,

JUL 07, 2005 00Z: 120-hr HWRF Forecast, Hurricane Dennis (Winds at 850 hPa)





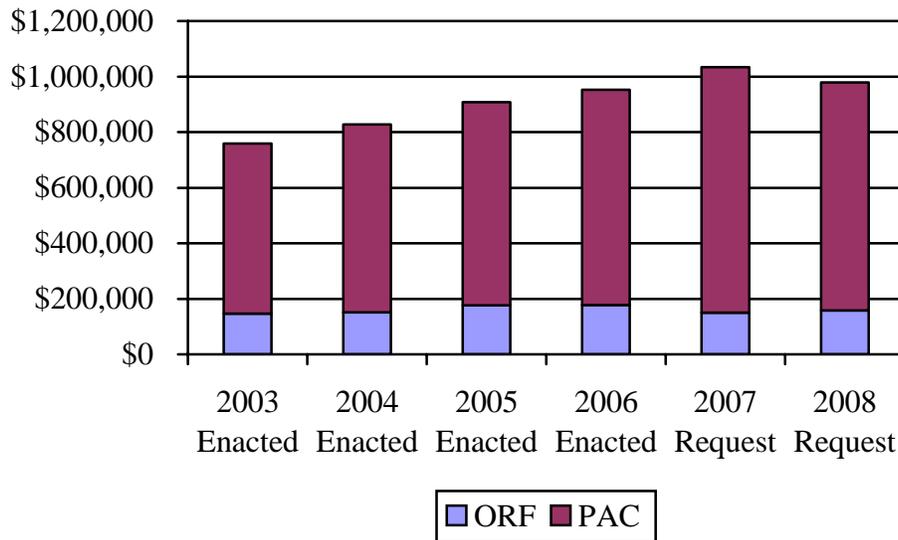
which will capitalize on proven research; lay the groundwork for a national prediction system meeting civil, military, and homeland defense needs; and retain NOAA's position as a world leader in environmental prediction.



## National Environmental Satellite, Data, and Information Service

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
National Environmental Satellite, Data, and Information Service -- Operations, Research and Facilities (ORF)				
Environmental Satellite Observing Systems	\$106,769	\$97,670	\$5,700	\$105,152
NOAA's Data Centers & Information Services	70,968	51,909	(100)	52,650
<b>Total, NESDIS - ORF</b>	<b>177,737</b>	<b>149,579</b>	<b>5,600</b>	<b>157,802</b>
Other National Environmental Satellite, Data, and Information Service Accounts				
Total, NESDIS - PAC	774,483	884,304	(63,798)	820,506
Total, NESDIS - Other	0	0	0	0
<b>GRAND TOTAL NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE (Direct Obligations)</b>	<b>\$952,220</b>	<b>\$1,033,883</b>	<b>(\$58,198)</b>	<b>\$978,308</b>
<b>Total FTE</b>	<b>832</b>	<b>832</b>	<b>0</b>	<b>831</b>

**Budget Trends, FY 2003 - 2008 (dollars in thousands)**



ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction



## National Environmental Satellite, Data, and Information Service



The NOAA National Environmental Satellite, Data, and Information Service (NESDIS), manages the collection, distribution, and archiving of 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.

Through NESDIS, NOAA manages the Nation's operational environmental satellite systems; takes in, processes, and distributes satellite-derived products and services; and archives and provides global environmental meteorological, oceanographic, solid-earth geophysics, and solar-terrestrial data. NOAA's polar-orbiting satellites work together with geostationary satellites stationed at the equator over the Americas to provide daily global data on weather conditions, atmospheric temperature structure, volcanic activity, sea surface temperature, forest fires, ozone levels, hurricanes, and typhoons. These satellites monitor storms and support NOAA's National Weather Service and Federal and local emergency management agencies, enabling them to provide advance warnings of emerging severe weather such as hurricanes, tornadoes, flash floods, winter storms, wildland fires, and floods. The satellites and the products and services NESDIS provides are essential to the protection of human life, property, and critical infrastructure. In support of the Nation's environmental data needs, NESDIS gathers global data regarding the oceans, Earth, air, space, the sun, and their interactions to describe and predict the



state of the physical environment. NOAA's data centers archive the data, which are necessary for scientists and industry to fully understand Earth's systems and long-term climatic, oceanographic, and geophysical effects on the environment and the economy. Through the Office of Space Commercialization, NESDIS manages the commercialization of space activities for the Federal government. NESDIS supports the President's priorities in climate sciences, ocean and coastal management, integrated earth observations, energy, and forest resources protection by developing products from its satellite and data archives to meet user needs. As an important part of this support, NESDIS seeks opportunities to transition research satellite capabilities to operational products and services.

### **FY 2008 Budget Summary**

NOAA requests a total of \$978,308,000 and 831 FTE to support the continued and enhanced operations of the National Environmental Satellite, Data, and Information Service. This total includes \$6,952,000 for Adjustments to Base, and a net program change of (\$58,198,000) and 0 FTE above the FY 2007 President's Budget.

### **ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$2,623,000 and 0 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise of 2.2 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.

### **NESDIS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:**

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

### **Environmental Satellite Observing Systems \$105,152,000**

An increase of \$5,700,000 and 0 FTE is requested in the Environmental Satellite Observing Systems subactivity, for a total of \$105,152,000 and 409 FTE.

- **Product Processing and Distribution:** An increase of \$2,600,000 and 0 FTE, for a total of \$30,408,000 and 123 FTE, is requested under the Product Processing and Distribution line item to provide essential IT security infrastructure for NESDIS Systems located in the new NOAA Satellite Operations Facility (NSOF). The funding will address security shortfalls identified in the Certification and Accreditation process and provide baseline IT security controls for NSOF systems -- five of which are designated National Critical Systems.

All NOAA National Critical, Mission Critical, and Business Essential Systems must



be in full compliance with the Federal Information Security Management Act (FISMA); the Clinger Cohen Act; the Office of Management and Budget Circular A-130, Appendix III, Security of Federal Automated Information Resources; the National Institute of Standards and Technology (NIST) Publications/ Guidance and



Federal Information Processing Standards; and the Department of Commerce IT Security Policies. This funding request covers only the most critical of IT assets in the NESDIS portfolio and is intended to fund the implementation of NIST Federal Information Processing Standard (FIPS) 200 minimum required security controls. NESDIS has diligently labored to improve its IT security program with existing resources, but without additional funding, further improvements are not possible.

- **Product Development, Readiness & Application:** An increase of \$2,600,000 and 0 FTE is requested, for a total of \$20,015,000 and 101 FTE, under the Product Development, Readiness & Application line item. The increase will provide contract support for calibration and validation of NOAA instruments on the European satellite MetOp, and the NPOESS Preparatory Program (NPP) satellite. MetOp is providing the U.S. Government operational polar-orbiting satellite data in the mid-morning orbit that is unavailable from NOAA polar-orbiting satellites. Operational web sites with the latest calibration coefficients, tracking of data stream statistical properties, and product validation on a daily and running average basis will make NPP data immediately useful for numerical weather prediction and other users.
- **NOAA requests an increase of \$500,000 and 0 FTE for the Group on Earth Observations.** NOAA requests an increase of \$500,000 and 0 FTE for a total request of \$500,000. The intergovernmental *Group on Earth Observations* (GEO) is leading a worldwide effort to build a Global Earth Observation System of Systems (GEOSS) over the next 10 years. With the funding requested, NOAA will contribute to the GEO Secretariat operating fund to ensure the goals of GEOSS are achieved.



**NOAA’s Data Centers & Information Services**

**\$52,650,000**

A decrease of \$100,000 and 0 FTE from the base is requested in the NOAA Data Centers and Information Services subactivity, for a total of \$52,650,000 and 269 FTE. 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, oceanographic, marine, solid earth, and solar-terrestrial sciences in order to meet the needs of users in commerce, industry, agriculture, science and engineering, the general public, and Federal, state, and local agencies. Data center activities support the President's Climate Change Science Program, the U.S. Ocean Action Plan, and the U.S. Integrated Earth Observation System.





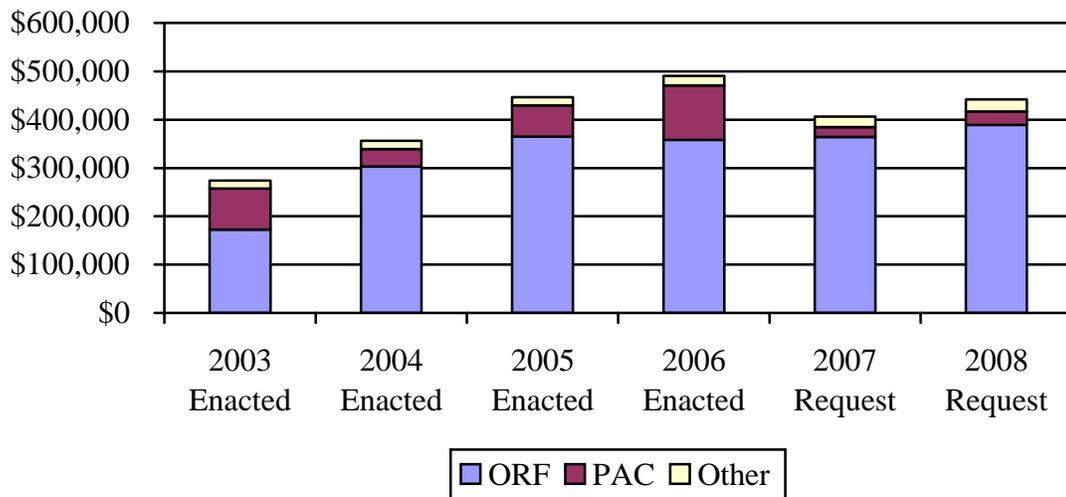
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## Program Support

(Dollars in Thousands)	FY 2006 Enacted	FY 2007 Request	Program Changes	Total Request
<b>Program Support -- Operations, Research and Facilities</b>				
Corporate Services	\$176,574	\$191,926	\$0	\$195,628
NOAA Education Program	37,514	19,312	0	19,361
Facilities	10,849	23,009	(4,000)	18,954
Office of Marine & Aviation Operations	133,341	129,855	12,810	155,569
<b>Total Program Support - ORF</b>	<b>358,278</b>	<b>364,102</b>	<b>8,810</b>	<b>389,512</b>
<b>Other Program Support Accounts</b>				
Total Program Support - PAC	112,537	20,691	6,959	27,650
Total Program Support - Other	20,149	21,334	0	24,939
<b>GRAND TOTAL PROGRAM SUPPORT (Direct Obligations)</b>	<b>\$490,964</b>	<b>\$406,127</b>	<b>\$15,769</b>	<b>\$442,101</b>
<b>Total FTE</b>	<b>1,991</b>	<b>2,008</b>	<b>48</b>	<b>1,994</b>

### Budget Trends, FY 2003 - 2008 (dollars in thousands)



ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction  
Other: NOAA Corps Commissioned Officers Retirement (Mandatory) & Medicare-Eligible Retiree Healthcare (Other Discretionary)



## Program Support



Program Support consists of Corporate Services, Facilities, and the Office of Marine and Aviation Operations (OMAO). NOAA Program Support provides the planning, administrative, financial, and infrastructure services that are essential to the successful performance of NOAA's mission. In addition to NOAA-wide corporate services and agency management, Program Support activities specifically support the *people* and programs 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. Through OMAO, Program Support provides data collection at sea and in the air to support NOAA program requirements.

### FACILITIES

The NOAA Chief Administrative Officer (CAO), through the Facilities Management and Modernization 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. This program supports 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 NOAA-owned facilities continue to age, investments in maintenance, repairs and modernization increase in priority. Many of NOAA's more than 400 owned buildings, which are valued at over \$2 billion, have exceeded their useful lives and are in need of repair or replacement to ensure that the facilities remain safe, effective, and efficient in support of NOAA's programs. This program provides funding to conduct facility condition inspections and supports investments in necessary facility repairs and modernization. It also supports operations at NOAA's state-of-the-art laboratory building in Boulder, Colorado, which houses staff and programs from three NOAA line organizations (OAR, NESDIS, and NWS) as well as NOAA's program support units for the region. The work conducted in Boulder is necessary for NOAA's climate, weather research and support services.

The CAO organization is responsible for managing the total project life cycle for facility construction and modernization projects, including environmental and safety projects.

## **OFFICE OF MARINE & AVIATION OPERATIONS (OMAO)**



### **Marine Operations**

OMAO operates NOAA's fleet of vessels and provides ship support to NOAA programs through outsourcing, operational readiness, and maximum platform utilization in support of NOAA's at-sea data collection requirements. OMAO provides centralized management for operations, fleet planning, and maintenance support. OMAO also is responsible for NOAA's fleet safety, diving, and Teacher-at-Sea program. NOAA Corps officers, crews, and scientists with at-sea duty are trained and certified through OMAO. NOAA's vessels support nautical charting, fisheries research, marine environmental assessments, coastal-ocean circulation studies, and oceanographic and atmospheric research. NOAA ships operate on both the East and West Coasts. The 21 active ships will perform approximately 4,401 operating days in FY 2008 in support of NOAA programs. Fisheries Survey Vessel 3 (FSV 3) will prepare for operations in FY 2008 and will be homeported in Pascagoula, Mississippi, and FSV 4 will be delivered to NOAA in



late FY 2008 and will be homeported on the West Coast. OKEANOS EXPLORER, NOAA's first dedicated ocean-exploration vessel will operate for a full year in FY 2008. Its homeport will be decided at a later date.

OMAO's Marine Operations Center (MOC) has Atlantic and Pacific regional offices located in Norfolk, Virginia, and Seattle, Washington, respectively, and the vessels are assisted by a small support staff at the home port of most ships. The centers provide maintenance, stores, supplies, and repair facilities for the vessels.

The NOAA Commissioned Corps is the nation's seventh and smallest uniformed service. Corps officers support the fleet and NOAA Line Offices. Marine Services funds the majority of the NOAA Corps payroll. The officers of the NOAA Corps command NOAA's research and survey vessels, fly NOAA's "hurricane hunter" and environmental monitoring aircraft, support field operations, and serve in a variety of technical and management positions throughout the agency.

### Aviation Operations



OMAO's Aircraft Operations Center (AOC), located at MacDill Air Force Base in Tampa, Florida, ensures the availability and readiness of NOAA's uniquely configured aircraft. AOC provides centralized management of a fleet of 12 aircraft used as observation platforms equipped with comprehensive data-collection systems in support of missions related to the Earth's environment, coastal and marine resources, and severe weather.

In FY 2008, Aircraft Services will provide approximately 1,975 flight hours in support of NOAA missions. NOAA aircraft are fitted with specialized instrumentation for airborne research, airborne data collection, and observation. Both WP-3D Hurricane Hunter aircraft and the G-IV high-altitude jet will be mission-ready with instruments and personnel for hurricane surveillance, reconnaissance, and research during the hurricane season from June 1 to December 1. In the FY 2006 Hurricane Supplemental, NOAA received \$9,000,000 to acquire, overhaul through a Standard Depot Level Maintenance (SDLM), and modify a third P-3. The SDLM procedure involves an intensive inspection and/or replacement of aircraft parts and structures. The mission of the third P-3 includes air chemistry and air quality research, remote sensing, oceanographic research, and other missions not involving flights in severe weather. The G-IV will also be mission-ready



with instruments and personnel to collect data for West Coast winter storm predictions from January 15 to April 1. The Jet Prop Commander and Shrikes will be mission-ready with equipment and personnel for snow radiation surveys, flood forecasts, water management, and other background surveys throughout the year in Alaska and Northern United States. The Twin Otters will continue to operate throughout the coastal Atlantic, Pacific, and Gulf of Mexico, surveying living marine resources and conducting remote sensing missions. NOAA's premier remote sensing aircraft, the Citation II, will continue to fly throughout the coastal United States responding and collecting damage assessment imagery, testing new remote sensing technologies, and performing coastal mapping missions.

### **NOAA Corps Retirement Pay (Mandatory)**

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 is mandated by Federal statutes under Title 10, United States Code. NOAA transfers retirement pay funds to the Coast Guard, which handles the payment function for retirees and annuitants. Health care funds for non-Medicare-eligible retirees, dependents, and annuitants are transferred to the U.S. Public Health Service, which administers the health care program.

### **FY 2008 Budget Summary**

NOAA requests a total of \$442,101,000 and 1,994 FTE for NOAA Program Support. This total includes \$60,015,000 for Adjustments to Base, and a net program change of \$15,769,000 and 48 FTE above the FY 2007 President's Budget.

### **ADJUSTMENTS TO BASE:**

The above ATB request includes a net increase of \$3,932,000 and 0 FTE to fund the estimated FY 2008 Federal pay raise of 3.0 percent and annualize the FY 2007 pay raise of 2.2 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.

### **OMAO**

The above ATB request includes a net increase of \$8,055,000 and 0 FTE for ATBs in OMAO, which includes increases for pay raises, expenses, fuel and data acquisition, fleet planning and maintenance, and Aircraft Services. OMAO also requests a technical adjustment to transfer \$236,000 from NOAA Facilities Management and Construction to Marine Services to centrally fund safety for NOAA's fleet.

In addition, OMAO requests a technical adjustment to transfer \$4.6 million from Ocean Exploration to Marine Services to fund operations and maintenance of the OKEANOS EXPLORER, NOAA's newly dedicated ocean exploration vessel. These funds will continue to support the program goals of the Ocean Exploration program through



providing a new research platform and science infrastructure dedicated to ocean exploration.

With these increases, program totals will fund the estimated FY 2008 pay raise of 3.0 percent and annualize the FY 2007 Federal pay raise of 2.2 percent. The FY 2008 base level will provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Services Administration.

### **Program Support – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2008:**

Program changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 6, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2008 Technical Budget.

#### **Corporate Services \$195,628,000**

- **NOAA request an increase of \$2,000,000 and 0 FTE for the Office of the Chief Financial Officer.** This increase of \$2,000,000 and 0 FTE will support the Office of the Chief Financial Officer (CFO) to acquire and implement an integrated system to support NOAA's planning, programming, budgeting and execution process. The requested resources will allow NOAA to reduce manual processes, increase user friendliness, speed information to decision makers, and lessen the reliance on "cuff" systems to formulate, execute and track NOAA's budget. These resources will provide funding for acquisition and implementation of software and resources for planning and will allow NOAA to integrate existing systems providing end user interfaces. Software and hardware maintenance upgrades for existing systems will be provided.
- **NOAA requests a decrease of \$2,000,000 and 0 FTE for Corporate Services and Agency Management.**
  - NOAA requests a decrease of \$1,500,000 and 0 FTE for Administration Business Process Reengineering to reflect a reassessment of NOAA's required level of funding for Administration Business Process Reengineering.
  - NOAA requests a decrease of \$500,000 and 0 FTE for Activity Based Budgeting to reflect a reassessment of NOAA's required level of funding for Activity Based Budgeting.

#### **Facilities \$18,954,000**

- **NOAA requests a decrease of \$4,000,000 and 0 FTE for Facilities Business Process Reengineering.** This decrease reflects a reassessment of NOAA's required level of funding for Facilities Business Process Reengineering.

**OMAO****\$155,569,000****Marine Operations and Maintenance**

- **NOAA requests an increase of \$1,700,000 and 29 FTE for Maritime Crew Safety and Rotation.** This funding will continue a multi-year initiative first requested in FY 2007 to enhance safety aboard NOAA vessels. 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. From FY 2004 to FY 2007, NOAA will experience an approximate 33 percent increase in the number of ships and a 39 percent increase in the number of seagoing positions. By providing effective staffing rotation on four of NOAA's 20 ships, NOAA will be able to reduce the high attrition rate for wage mariners from 23 percent to 19 percent.



- **NOAA requests \$4,600,000 and 12 FTE for Operation and Maintenance of New NOAA Fishery Survey Vessels.** This request will address the additional operational and maintenance needs of vessels added to NOAA's fleet over the last two years. The additional funding will support operations on Fisheries Survey Vessel 3 (FSV 3) and FSV 4 by addressing requirements for crew, fuel, supplies, maintenance, and spare parts. Stocking the vessels with spare parts will prevent disruptions in scientific cruises due to early returns to homeport or detours to other piers for unexpected repairs. These two vessels are the final two ships of a four-ship contract for four acoustically quiet vessels that otherwise could not be chartered in the private sector. The quiet operation of the vessels ensures a more accurate survey of fisheries.
- **NOAA requests \$1,000,000 and 0 FTE for OKEANOS EXPLORER Operations and Maintenance.** The request, in addition to the \$4.6 million transferred from Ocean Exploration, will provide a total of \$5.6 million to enable NOAA to operate its first dedicated Ocean Exploration vessel to support ocean exploration and ocean mapping. The requested funds will provide crew, fuel, supplies, maintenance, repairs, and spare parts for the new vessel. The ship will have three primary missions: (1) deep-water habitat mapping; (2) sampling and imaging the seafloor using sophisticated, remotely operated vehicles (ROVs) outfitted with high-definition video and still cameras; and (3) transmitting real-time data to shore-based control centers using satellite technology. OKEANOS EXPLORER 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. The ship will carry 10,000 meters of umbilical cable, weighing more than 22,000 pounds, to collect data and images from the ROV. The vessel will also be equipped with instruments for gathering standard oceanographic data to complement the information obtained by the mapping and ROV systems. OKEANOS EXPLORER's initial missions will entail ocean mapping, sea-bed mapping, and habitat characterization off the West Coast and the Hawaiian Islands and in the Northeast Pacific Ocean.

### Aviation Operations

- **NOAA requests \$5,510,000 and 12 FTE for Third P-3's Operations and Maintenance.** This request will enable NOAA to operate and maintain its third P-3, which was acquired through the FY 2006 Hurricane Supplemental. The Supplemental did not include ongoing support, operation, or maintenance. The FY 2008 request will cover pilots' and support crew's salaries, benefits, premium pay, training, and change of station, as well as scientific equipment for the aircraft and \$800,000 for reserve for the 44-month Standard Level Depot Maintenance (SDLM). A total of 300 base-funded flight hours is also provided for such projects as air chemistry, air quality, remote sensing, and oceanographic research to allow NOAA's other two P-3's to be available solely for tasking from the Hurricane Center or for hurricane research and reconnaissance.





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