

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**SUMMARY OF RESOURCE REQUIREMENTS**  
 (Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
FY 2007 Continuing Resolution	189	194	996,703	1,064,132
less: Carryover	-	-	-	(65,429)
less: 2007 Unrequested projects	-	-	(2,000)	(2,000)
plus: Adj. to support level in 2007 Pres. Bud.	-	-	29,764	29,764
plus: 2008 Other Adjustments to Base	-	-	3,270	3,270
FY 2008 Base	189	194	1,027,737	1,029,737
plus: 2008 Program Changes	(4)	(4)	(47,844)	(47,844)
FY 2008 Estimate, PAC	185	190	979,893	981,893

Comparison by activity/subactivity		FY 2006		FY 2007		FY 2008		FY 2008		Increase/ Decrease	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Systems Acquisition	Pos/BA	179	869,739	179	961,066	179	962,336	179	897,738	-	(64,598)
	FTE/OBL	184	902,422	184	966,651	184	962,336	184	897,738	-	(64,598)
Construction	Pos/BA	-	179,381	-	34,037	-	46,710	1	79,755	1	33,045
	FTE/OBL	21	182,052	-	69,357	-	46,710	1	79,755	1	33,045
Fleet Replacement	Pos/BA	5	58,798	10	3,600	10	20,691	5	4,400	(5)	(16,291)
	FTE/OBL	5	65,449	10	15,465	10	20,691	5	4,400	(5)	(16,291)
Aircraft Replacement	Pos/BA	-	25,422	-	-	-	-	-	-	-	-
	FTE/OBL	2	23,194	-	12,659	-	-	-	-	-	-
Total	Pos/BA	184	1,133,340	189	998,703	189	1,029,737	185	981,893	(4)	(47,844)
	FTE/OBL	212	1,173,117	194	1,064,132	194	1,029,737	190	981,893	(4)	(47,844)

**Department of Commerce**  
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 Procurement Acquisition and Construction  
**SUMMARY OF RESOURCE REQUIREMENTS**  
 (Dollar amounts in thousands)

	FY 2006		FY 2007		FY 2008		FY 2008		Direct	
	Actuals		Currently Available		Base Program		Estimate		Obligations	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	212	1,173,117	194	1,064,132	194	1,029,737	190	981,893	(4)	(47,844)
<b>Total Obligations</b>	<b>212</b>	<b>1,173,117</b>	<b>194</b>	<b>1,064,132</b>	<b>194</b>	<b>1,029,737</b>	<b>190</b>	<b>981,893</b>	<b>(4)</b>	<b>(47,844)</b>
<b>Adjustments to Obligations:</b>										
Cash Refund	-	(1,070)	-	-	-	-	-	-	-	-
Deobligations	-	(5,391)	-	(2,000)	-	(2,000)	-	(2,000)	-	-
Unobligated balance, adj. SOY	-	(99,037)	-	(65,429)	-	-	-	-	-	-
Unobligated balance, EOY	-	65,429	-	-	-	-	-	-	-	-
Unobligated balance, expiring	-	292	-	-	-	-	-	-	-	-
<b>Total Budget Authority</b>	<b>212</b>	<b>1,133,340</b>	<b>194</b>	<b>996,703</b>	<b>194</b>	<b>1,027,737</b>	<b>190</b>	<b>979,893</b>	<b>(4)</b>	<b>(47,844)</b>
<b>Financing from Transfers and Other:</b>										
Transfer from Other Accounts	-	26,629	-	-	-	-	-	-	-	-
Transfer to ORF	-	5,979	-	-	-	-	-	-	-	-
<b>Net Appropriation</b>	<b>212</b>	<b>1,165,948</b>	<b>194</b>	<b>996,703</b>	<b>194</b>	<b>1,027,737</b>	<b>190</b>	<b>979,893</b>	<b>(4)</b>	<b>(47,844)</b>

Note: FTE in this document include adjustments not included in the President's budget submission.

Department of Commerce  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition and Construction  
**CHANGES TO BASE**  
 (Dollar amounts in thousands)

	FTE	Amount
Adjustments:		
Restoration of FY 2007 adjustments to support level in 2007		2,000
Technical Adjustment - ORF to PAC		3,270
Subtotal, Adjustments	0	5,270
Financing:		
Deobligations		0
Subtotal, Financing		0
Other Changes:		
Subtotal, Other Changes	0	0
Less Absorption	0	0
Total Adjustments to Base	0	5,270

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**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition and Construction  
**JUSTIFICATION OF CHANGES TO BASE**

	FTE	Amount
<u>Adjustments:</u>		
Restoration of FY 2007 Deobligations	0	2,000,000
Technical Adjustment - NOAA Profiler Conversion from ORF	0	3,270,000
Subtotal Adjustments	0	5,270,000
<u>Financing:</u>		
In FY 2007, NOAA expects to realize recoveries of prior year obligations of \$2,000,000. This amount will be used to offset the budget authority in 2007.	0	(2,000,000)
	0	(2,000,000)
<u>Other Changes:</u>		
	0	0
Subtotal, Other Changes	0	0
<u>Absorption</u>		
	0	0
Total Adjustments to Base	0	3,270,000

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 PROCUREMENT, ACQUISITION AND CONSTRUCTION  
 SYSTEMS ACQUISITION FY 2008 OVERVIEW

**SUMMARIZED FINANCIAL DATA**

(\$ in thousands)

Procurement, Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
<b><u>OAR</u></b>					
Research Supercomputing / CCRI	9,369	10,379	10,379	10,379	0
Subtotal, OAR	9,369	10,379	10,379	10,379	0
<b><u>NWS</u></b>					
ASOS	6,206	3,935	3,935	1,635	-2,300
AWIPS	13,197	12,764	12,764	12,764	0
NEXRAD	8,197	8,376	8,376	8,376	0
NWSTG Legacy Replacement	493	495	495	1,195	700
Radiosonde Network Replacement	6,299	6,014	4,014	4,014	0
Weather and Climate Supercomputing	19,019	19,092	19,092	19,092	0
Weather and Climate Supercomputing Backup	7,026	7,077	7,077	7,077	0
Cooperative Observer Network Modernization	4,153	4,234	4,234	4,234	0
Complete and Sustain NOAA Weather Radio	5,572	5,594	5,594	5,594	0
NOAA Profiler Conversion	0	0	3,270	5,100	1,830
Strengthen US Tsunami Warning Network	3,796	1,030	1,030	0	-1,030
All Hazard National Warning Network: NOAA Weather Radio	1,998	0	0	0	0
Subtotal, NWS	75,956	68,611	69,881	69,081	-800
<b><u>NESDIS</u></b>					
GOES					
Geostationary Systems - N	110,473	107,159	107,159	80,379	-26,780
Geostationary Systems - R	219,299	332,448	332,448	279,000	-53,448

Subtotal, GOES	329,772	439,607	439,607	359,379	-80,228
<b>POES</b>					
Polar Orbiting Systems - POES	101,261	89,906	89,906	114,906	25,000
Subtotal, POES	101,261	89,906	89,906	114,906	25,000
<b>NPOESS</b>					
Polar Orbiting Systems - NPOESS	316,580	337,870	337,870	331,300	-6,570
Subtotal, NPOESS	316,580	337,870	337,870	331,300	-6,570
<b>EOS</b>					
EOS & Adv. Polar Data Processing, Dist. & Archiving Systems	2,960	990	990	990	0
Subtotal, EOS	2,960	990	990	990	0
<b>CIP</b>					
CIP - Single Point of Failure	2,798	2,772	2,772	2,772	0
Subtotal, CIP	2,798	2,772	2,772	2,772	0
Comprehensive Large Array Data Stewardship Sys (CLASS)	8,876	6,476	6,476	6,476	0
NPOESS Preparatory Data Exploitation	4,437	4,455	4,455	2,455	-2,000
Subtotal, NESDIS	766,684	882,076	882,076	818,278	-63,798
<b>PS</b>					
NOAA IOOS Observing Systems (NOS)	8,876	0	0	0	0
Convert NOAA Weather Buoys with NDBC (NOS)	3,945	0	0	0	0
Coastal Global Ocean Observing System (NWS)	1,477	0	0	0	0
Strengthen US Tsunami Warning Network (NWS)	3,432	0	0	0	0
Subtotal, PS	17,730	0	0	0	0
<b>TOTAL</b>	869,739	961,066	962,336	897,738	-64,598

**Office Of Oceanic and Atmospheric Research**  
**Activity: Systems Acquisition**

**GOAL STATEMENT:**

The Office of Oceanic and Atmospheric Research’s (OAR) Research Supercomputing goal is to provide a state-of-the-art scalable supercomputer and supporting infrastructure to advance modeling programs that are critical to NOAA’s and the Nation’s climate research.

**BASE DESCRIPTION:**

**Research Supercomputing/CCRI:** This program supports a very large, scalable computer system that provides critical computing, storage, and analysis capabilities, as well as model development and infrastructure support, to NOAA’s Geophysical Fluid Dynamics Laboratory (GFDL) to advance the Nation’s climate research. This computing program allows NOAA to leverage the world-class research staff and modeling capabilities now in place at GFDL to address important research problems in climate and weather research. The laboratory’s on-going model development effort is positioning GFDL to take full advantage of the scalable architectures and to advance the Nation’s climate research program through NOAA computational research and collaboration with the inter-agency and academic climate research community.

Base activities support the objectives, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental needs” as well as the Environmental Modeling objective under NOAA's Weather and Water goal.

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
Research Supercomputing/ CCRI								
Change from FY 2008 Base		984					-	
<b>Total Request</b>	10,484	10,379	10,379	10,379	10,379	10,379	-	Recurring

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
Research Supercomputing / CCRI	9,369	10,379	10,379	10,379	-
TOTAL	9,369	10,379	10,379	10,379	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

**None.**

**National Weather Service  
Activity: Systems Acquisition**

**GOAL STATEMENT:**

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

**BASE DESCRIPTION:**

**Automated Surface Observing System (ASOS):** This acquisition is a tri-agency program involving NOAA, the Department of Defense, and the Federal Aviation Administration. ASOS provides reliable, 24-hour, continuous surface weather observations. Under the product improvement portion of this acquisition program, NOAA is developing new ASOS sensor capabilities in order to meet changing user requirements and decrease maintenance demands.

FY 2006 Accomplishments

- Began ice free wind sensor deployment of 311 units
- Initiated Acquisition of 25,000 ft ceilometers

FY 2007 Plans

- Complete ice free wind sensor deployment of 311 units
- Complete development of and begin production of 25,000 ft. ceilometers

FY 2008 Plans

- Continue production and initiate deployment of 25,000 ft. ceilometers

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
ASOS Product Improvement								
Change from FY 2008 Base		(2,300)	(2,300)	(2,300)	(2,300)	(2,300)		
<b>Total Request</b>	<b>40,072</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>1,635</b>	<b>2,905</b>	<b>51,152</b>

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Advanced Weather Interactive Processing System (AWIPS)/NOAAPort:** AWIPS is the cornerstone of the modernized NWS. This system integrates and displays all hydrometeorological data at NWS field offices. AWIPS acquires and processes data from modernized sensors and local sources, provides computational and display functions at operational sites, provides a robust communications system to interconnect NWS operational sites, and disseminates warnings and forecasts in a rapid, highly reliable manner. This system integrates satellite, NEXRAD Doppler weather radar data, and Numerical Weather Prediction (NWP) data enabling field forecasters to better visualize environmental processes to enable the creation of timely and accurate forecasts and warnings. AWIPS provides the only display for NEXRAD Doppler weather radar data at NWS Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs). The AWIPS NOAAPort satellite broadcast network offers the communications capability to provide internal and external users with open access to much of NOAA's real-time environmental data.

Pre-planned and ongoing NOAA investments in modeling, satellite instruments, and radar improvements (NEXRAD Product Improvement) represent NOAA's commitment to bring forecasters the data and information required to improve forecast accuracy and warning lead times. NWS Government Performance and Results Act goals are based on the effective use of these technology investments along with advanced decision assistance tools, forecast preparation and advanced database capabilities. Sustained investments in the AWIPS hardware, communications, and software infrastructure, are necessary for capitalization of these investments into improved performance.

System-wide information technology (IT) investments are necessary to equip NWS forecast offices with the necessary computer performance and capacity to achieve planned and evolving operational and strategic requirements. Planned improvements in the NWS Tornado Warning Lead Time, Flash Flood Warning Lead Time and Winter Storm Warning Lead Time goals can only be realized through the following actions: improve AWIPS system throughput; add new and improved science; and exploit more accurate and higher resolution data and weather forecast model information. To accomplish this, we must improve AWIPS system's performance and capacity. Current choke points in system performance and capacity have been identified and are being addressed in the following areas: server performance, network throughput, and software architecture.

Improvements in system throughput can be realized by increasing processing and network capacity. Exploitation of new science requires radar, satellite and model data in addition to processing capacity and the ability to quickly and cost-effectively integrate improved decision assistance tools into the AWIPS software. High-resolution data and model information requires additional communications bandwidth, processing and mass storage capacity.

To measure current and projected AWIPS system performance the Workstation Performance Rating (WPR) has been developed. The WPR shows the latency, or inherent processing delay, in seconds within the AWIPS system. A higher WPR means more latency, and therefore more delay, in processing and in getting forecasters the products they need when they need them. WPR benchmark analysis has shown that, without planned hardware improvements supported within this funding level, AWIPS performance will continue to decrease, resulting in an estimated 4-minute degradation in Tornado Lead Time by FY 2009.

In FY 2002, the NWS began a migration of the AWIPS IT infrastructure to a LINUX-based architecture. Phase I of this migration was completed in FY 2003. LINUX Phase II began in FY 2003 with workstation replacements and was completed in FY 2006. In FY 2006 LINUX Phase III continues with server replacements, software re-architecture, and IT security enhancements.

AWIPS has been designated an NWS “National Critical” IT system. As such it was required to be certified and accredited using the National Information Assurance Certification and Accreditation Process (NIACAP) in FY 2005. System acquisition funds provided in this PAC program are critical to providing adequate security for this National Critical system.

**Outcomes:**

The following table provides a summary of current hardware and communications performance measures and increases due to the investments described here. As noted previously, an increase in processing and communications capacity is essential in meeting the continuing, more stringent GPRA measures.

<b>Performance Measure</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>
Processing Capacity (MFLOP)	7,500	7,500	7,500	7,500	16,000
Benchmark Processing Speed (WPR-sec)	163	155	147	140	133
Effective Bandwidth Capacity (Mbps)	6.9	9.2	9.2	9.2	45

**FY 2006: Accomplishments:**

- Decommissioned old satellite broadcast network (SBN) demodulators
- Continued software development and maintenance including porting to LINUX and warning decision support assistance
- Completed LINUX phase 2 system upgrades, including the replacement of aging firewall systems
- Decommissioned older HP application servers
- Began the AWIPS software re-architecture effort
- Replaced aging AWIPS printers, and Simpack X.25 interfaces
- Began Continuous Technology Refresh (CTR) project to replace aging LDAD Servers with redundant Linux servers
- Added two new compute nodes to the DX/NAS Linux compute cluster

**FY 2007 Plans:**

- Replace aging Communications Processors
- Continuous Technology Refresh (CTR) for 800 AWIPS workstations and Text workstations
- Decommission older HP Data Servers
- Continue AWIPS software re-architecture efforts

- Begin Continuous Technology Refresh (CTR) project to replace Pre-Processor server clusters at 167 sites

FY 2008 Plans:

- Begin phase three of the Satellite Broadcast Network (SBN) bandwidth enhancement to 45 Mbps
- Replace approximately 2260 dial, dedicated, ad fax modems and enclosures at 165 sites
- Replace approximately 336 Pre-Processor servers at 168 sites.
- Replace approximately 810 flat panel monitors at 168 sites

OUTYEAR FUNDING ESTIMATES								
(BA in thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
AWIPS Product Improvement								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	117,362	12,764	12,764	12,764	12,764	12,764	51,056	232,238

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Next Generation Weather Radar (NEXRAD):** NEXRAD is a Doppler weather radar system that provides automated signal processing, computerized data processing by sophisticated meteorological software algorithms, and a high-capacity, processor-driven communications capability. The system is modular in design, upgradeable, has a long life-cycle expectancy, and provides both governmental and commercial sector weather users with a wide array of automated weather information that will increase their capability to meet their respective operational requirements. For the NWS, the system uses Doppler technology and hydrometeorological processing to provide significant increases, both in the functional capability and in performance, compared with previous radars, including improved tornado and thunderstorm warnings, increased air safety, improved flash flood warnings, and improved water resources management.

NEXRAD, initially developed as a tri-agency Program (NWS, FAA, and the Air Force Weather Agency) has evolved into NEXRAD Product Improvement (NPI) Program, focusing on shared agency requirements to effect synergistic solutions. For example, external FAA radar data are provided to NWS forecast offices to address coverage issues and provide backup data sources.

Near-term plans include the completion of ORDA deployment, and the development and implementation of Super-Resolution.

- The Open RDA (ORDA) subsystem replaces the current WSR-88D Radar Data Acquisition subsystem with COTS equipment in an Open Systems architecture. ORDA is a critical first step in meeting strategic goals for severe weather by providing the foundation for future planned

improvements. ORDA also provides initial improvements in data quality with improved clutter processing and calibration techniques. Deployment of ORDA sub-systems to all WSR-88Ds is scheduled to complete in FY06.

- A National Severe Storms Laboratory (NSSL) study has shown that tornado storm parent circulation estimates were 15-20 percent higher with Super-Resolution, with circulation detected at greater ranges. NPI is sponsoring continued research and development at NSSL to ready an operational version of Super-Resolution.

NPI will continue to explore opportunities for improved data dissemination and provide more radar data to NWS partners. The NWS Office of Science and Technology (OS&T) has implemented weather data ingest capability at ten FAA Terminal Doppler Weather Radars (TDWR) for use by contiguous NWS forecast offices. Evaluation of the utility of this data is ongoing, with initial reaction by forecasters being very positive. In addition OS&T continues to investigate the utility of weather data from other FAA (ASR-4) radars, implementing a data ingest capability of weather radar data from FAA radars in Erie, PA and Williston, ND for evaluation.

The Dual Polarization modification to NEXRAD transmits and receives signals in two dimensions, resulting in a significant improvement in precipitation estimation, improved ability to discriminate rain, snow, and hail, and a general improvement in data quality. Precipitation estimates, currently within 30 percent of ground-truth estimates, will improve to 12.5 percent as demonstrated in a study conducted by NSSL in 2003. Economic analysis shows that this improvement alone will have a national economic benefit of \$690M/year as a result of improvements in flash flood warnings. The improved precipitation estimates from the national network of radars will be used as input to weather models with a concomitant improvement in model outputs. The Dual Polarization capability will allow other improvements in severe weather detection, including improvements in snow storm detection and warnings, icing conditions for air and ground transportation, and continued support for improved modeling data input.

FY 2006 Accomplishments:

- Deployed 179 ORDA Units (NWS, Air Force, and FAA, including 21 redundant systems)
- Completed requirements and functional analysis for Dual Polarization capability

FY 2007 Plans:

- Begin full scale development of Dual Polarization
- Complete Super-Resolution Development

FY 2008 Plans:

- Deploy Super-Resolution
- Complete Dual Polarization Development; Begin Testing

OUTYEAR FUNDING ESTIMATES								
(BA in thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
NEXRAD								
Change from FY 2008 Base		0	0		(6,750)	(8,376)		
Total Request	72,738	8,376	8,376	8,376	1,626	0		99,492

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Radiosonde Replacement Program:** The NWS radiosonde network provides upper-air weather observations; the primary source of data required by NWS numerical weather prediction models, which form the basis of all NWS forecasts for day 2 and beyond. Observations of temperature, pressure, humidity, and wind speed/direction are taken twice a day at 102 locations nationwide and in the Caribbean using a balloon-borne instrument (radiosonde) which transmits the data via radio signal to a ground receiving station usually located at a Weather Forecast Office (WFO), where it is processed.

The current ground receiving system is obsolete and not maintainable due to the scarcity of replacement parts, unavailability of certain components, and escalating fabrication cost. Repairs have more than doubled over the past 5 years. Only two of the sites have fully functioning transponder decks, used for tracking a radiosonde after the radiosonde is carried over the horizon. Wind observations lost by this deficiency have resulted in model analyses misplacing the jet stream on certain occasions. New frequency allocations require reduction in bandwidth on the frequencies used to transmit data from the radiosonde to the ground receiving station and prevent interference to the ground station receiver. Reallocation of frequency spectrum in 1999 has placed the radiosondes at risk of losing data, due to interference from new band users, and may force radiosondes to use frequencies that will increase interference with meteorological satellite operations. Both the radiosondes and the ground receiving equipment must be replaced by the NWS in order to comply with the new spectrum allocation. In addition, the ground receiving station processors are IBM XTs and cannot support the Windows-based software required to manage the Global Positioning System (GPS) radiosonde data. Finally, new surface observing instrumentation is necessary to comply with surface launch accuracy reporting requirement. Beginning in FY 2007, the base program will fund (1) the RRS equipment acquisition for the balance of the 78 NWS upper-air sites that will receive the modernized RRS equipment upgrades (reduces the number of end-state RRS sites to 78 sites) and (2) the increased cost of deploying GPS radiosondes at the 18 new RRS sites to be deployed in FY 2007. In FY 2008, NWS will install 12 new RRS sites, bringing the total new operating RRS sites deploying the new GPS radiosonde to 57.

#### FY 2006 Accomplishments

- Deployed 12 RRS systems for a total of 27
- Continued testing of pre-production prototypes from second GPS radiosonde supplier

FY 2007 Plans

- Deploy 18 RRS systems for a total of 45
- Award limited low-rate production contract for second radiosonde supplier.

FY 2008 Plans

- Deploy 12 RRS systems for a total of 57

OUTYEAR FUNDING ESTIMATES								
(BA in thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
Radiosonde Replacement System								
Change from FY 2008 Base		0	0	0	0	0		
<b>Total Request</b>	47,406	4,014	4,014	4,014	4,014	4,014	16,056	83,532

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**NOAA’s Environmental Real Time Observation Network (NERON) (Formerly known as Cooperative Observer Network Modernization (COOP-M)):**

NERON is a project to integrate a network of observing systems to sustain the Nation’s climate record of land surface measurements essential to monitor and assess the surface climate. NERON will modernize 1,000 of the approximately 1,200 Historical Climate Network (HCN) sites to automatically collect temperature and precipitation data. The HCN is a subset of the approximately 11,000 Cooperative Observer Program (COOP) sites. NERON will also provide expansion capability to allow the collection of other data sets in the future (such as soil temperature and soil moisture to support the National Integrated Drought Information System, NIDIS). As part of the NERON project, the Meteorological Assimilation Data Ingest System (MADIS), a research project run by OAR/GSD in Boulder, CO, will be transitioned into operations at NWS Headquarters in Silver Spring, MD. This central data collection and processing system will provide quality control of the NERON data and other mesonet data sets, and provide distribution of data to NWS offices, NOAA’s National Climate Data Center (NCDC), other federal and state agencies, and the public. MADIS currently collects, processes and distributes data from over 20,000 mesonet stations.

The goal of the modernized HCN is to reduce the uncertainty in the measurement of regional climate change and provide a more reliable, maintainable and expandable surface observing network to meet future needs.

FY 2002: 118 temperature demonstration sites were deployed. This project was funded by a Congressional earmark and was implemented by OAR.

FY 2003/5: 100 COOP sites in the Northeast were modernized as a risk reduction exercise. The project was funded by a Congressional earmark sponsored by Senator Gregg of New Hampshire.

FY 2006: Planning for HCN Modernization. Continue to maintain Northeast sites.

FY 2007: Continue planning for HCN Modernization including development of Requirements Document, Acquisition Plan, Maintenance Plan, Communications Plan, and MADIS Transition Plan. Continue to maintain Northeast sites.

FY 2008: Award contract for HCN Modernization and begin deployment. Continue to maintain Northeast sites.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to Complete*	Total Program Estimate
COOP Modernization/ NERON/HCN/Surface Wx								
Change from FY2008 base		0	0	0	0	0		
Total Request	9,316	4,234	4,234	4,234	4,234	4,234	16,936	47,422

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**NWS Telecommunications Gateway Legacy Replacement:** The NWSTG is the NWS communications hub for collecting and distributing weather information to its field units and external users. Replacing the NWSTG system with up-to-date technology will reduce the current delays in collecting and disseminating data by reducing transit time through the NWSTG. The replacement will ensure reliable delivery of NWS products to users and will fully capitalize on better observation data and prediction models to improve services. In FY 2006, NWS concluded a three-year effort to replace the National Weather Service Telecommunications Gateway (NWSTG) switching system and repair and upgrade NWSTG facilities.

FY 2006 Accomplishments:

- Built and test enterprise servers and file system
- Continued facility upgrade activities
- Implemented NWSTG legacy replacement system
- Acquired NWS Back-up Telecommunications Gateway (BTG) network infrastructure
- Began NWS BTG systems testing
- Began NWS BTG network failover testing

FY 2007 Plans:

- Execute limited technical refresh in 2<sup>nd</sup> Quarter
- Implement NWS BTG infrastructure

FY 2008 Plans

- Add 8 CPUs and 16GB memory to RTG p60 Message Switching Center Servers
- Replace 21 servers with 36 CPUs
- Replace 1 Cisco 6500 switch installed in FY 03
- Expand cooling tower capacity to meet increased requirements since tower was installed in 1991
- Replace 17 year-old smoke detector and fire control panel system

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to Complete*	Total Program Estimate
NWSTG Legacy Replacement								
Change from FY2008 Base		700	700	700	700	700		
<b>Total Request</b>	<b>6,304</b>	<b>1,195</b>	<b>1,195</b>	<b>1,195</b>	<b>1,195</b>	<b>1,195</b>	<b>4,780</b>	<b>17,059</b>

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Weather and Climate Supercomputing:** The cyclical upgrade of the NWS weather and climate supercomputing capability is intended to procure the computing and communications equipment needed to receive and process the increasing wealth of environmental data acquired by modernized observing systems, process improved and more sophisticated numerical weather prediction models, and stay current with the supercomputing technology the market has to offer. Execution of this program promotes public safety and the protection of property by providing the NCEP with the computer systems that are capable of producing more accurate NWS climate and numerical weather prediction (NWP) guidance products for hurricanes, severe thunderstorms, floods, and winter storms. Additionally, the supercomputing system more accurately forecasts large-scale weather patterns in the medium (3 to 10 days) and extended range (30 days), plus forecasts of major climate events such as El Niño and La Niña. In addition, the computer upgrades will improve the delivery of products to the field and provide system users with enhanced productivity. These products and services will lead to significant economic benefits for users, like the agriculture, construction, and transportation industries.

FY 2006 Accomplishments:

- Replaced model in North American run (currently 12 km Eta) with 10 km WRF Non-Hydrostatic Mesoscale Model
- Ran parallel Hurricane WRF System during 2006 Hurricane season
- Ran experimental North American Land Surface Data Assimilation System

- Implemented HYCOM-Based Real-Time Ocean Forecast System for the North Atlantic Basin
- Completed implementation of six WRF members into the Short Range Ensemble Forecast System and run 4x/Day
- Implemented operational production of expanded air quality forecast guidance over the eastern U.S. with WRF
- Implemented increased satellite observations into global data assimilation system (including AIRS data upgrade, NOAA-18 data and MODIS data)
- Implemented North American Ensemble Forecast System Products (Including Increased Membership to 14 Members, 4x/Day, and Bias Correction and Climate Anomaly Forecasts)
- Implemented Real-Time Mesoscale Analysis for North America
- Implemented Ten Member Ensemble Wave Model

FY 2007 Plans:

- 13 Km WRF capability in Hurricane model
- Replace RUC with WRF-based rapid refresh model
- Enhancements to Global Forecast System analysis and model physics
- Implement Basin-scale and Global Ocean Forecast system for NE Pacific and Hawaii

FY 2008 Plans:

- Increase resolution of the Global Forecast System from 35km to 25 km
- Upgrade the North American Ensemble Forecast System
- Increase resolution of the WRF North American domain from 12km to 9km
- Increase resolution of the Climate Forecast System (Atmospheric Component) from 200km to 100km
- Implement Wave Model Ensemble Forecast System

Base activities support the objective, “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the Department of Commerce strategic goal of “Observe, protect, and manage the Earth's resources to promote environmental needs.”

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to Complete*	Total Program Estimate
Weather & Climate Supercomputing								
Change from FY 2008 Base		0	0	0	0	0		

Total Request	127,590	19,092	19,092	19,092	19,092	19,092	76,368	299,418
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\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Weather Supercomputing Backup:**

The backup supercomputer system is a clone of the primary supercomputer system and located in an offsite facility. The backup system is used to thoroughly test pre-Production weather and climate forecasting applications when it is not being used to run the Production Suite during a backup system test or actual emergency. The backup supercomputer system is capable of handling 100% of the operational workload should the primary supercomputer system be disrupted. Implementation and maintenance of a redundant *Weather and Climate Operational Supercomputer Systems* architecture will ensure uninterrupted flow of essential weather and climate data and products, continuity of storm watch and warning services to the public, and compliance with NOAA Critical Infrastructure Protection (CIP) plans.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to Complete*	Total Program Estimate
Weather & Climate Supercomputing Backup								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	28,245	7,077	7,077	7,077	7,077	7,077	28,308	91,938

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

**Complete and Sustain NOAA Weather Radio (NWR):** Continue refurbishment of four hundred (400) stations established in the 1970s, eliminating single points of failure and improving network reliability.

NWR was designed to be and is used as a reliable, inexpensive means of communicating weather related warnings to the public. The existing infrastructure of NWR has tremendous potential for use communicating warnings and information about non-weather related hazards and emergencies. NOAA has had extensive meetings with the Department of Homeland Security, discussing the use of NWR as an all hazards warning system. National Weather Service received an appropriation of \$5.4M in FY 2004 to make NWR an all hazard warning network. NWR infrastructure as a national warning network consists of over 900 existing broadcast stations; broadcast coverage that reaches 97% of the nation’s population; and the ability to deliver the broadcasted message to individuals monitoring their own NWR receivers as well as the ability to reach millions of listeners and viewers since NWR signal enters the Emergency Alert System, which is monitored by television and radio license holders.

NOAA categorizes 248 areas in the United States as being at high risk of experiencing severe weather. Severe weather includes tornados, hurricanes, flash floods, flooding, severe winter weather and severe marine weather. NOAA defines high-risk areas as areas that score above 225 points using NOAA Weather Radio Priority Weighted Value (PWV) system as defined in the *NOAA Weather Radio Prioritized Plan for Areas Lacking Coverage* dated

February 2001. Points are accumulated based on the number of severe weather events, as documented in the NWS Weather Incident Report, and weather related fatalities over the past ten years. Additionally, population statistics for the areas are identified. The NWR Program Office reassesses the identification of high-risk areas annually. The seventeen (17) stations added in FY06/07 complete 100 percent coverage of high-risk areas.

In its efforts to sustain a high level of reliability and maintainability of NOAA Weather Radio, National Weather Service faces challenges due to equipment obsolescence and due to degraded reliability relative to that possible with newer technology equipment. Four hundred (400) NWR station transmitters are of 1970's vintage, employing vacuum tube technology from four different manufacturers. These older stations are less reliable than newer ones using solid-state transmitters. Older stations demonstrate mean time between failure (MTBF) rates of 6,000 hours, or one failure every 250 days. In comparison, newer solid-state transmitters demonstrate MTBF of over 10,000 hours, a 67 percent improvement. Furthermore, stations have single points of failure due to configurations that include single, instead of dual, transmitters and lack of backup power generators to ensure continued service in the event of primary electrical service failure. Combined, these factors significantly decrease reliability and availability and increase logistics and maintenance costs. Refurbishing these older stations and adequately funding operations and maintenance costs will allow NWR to meet expectations of availability as the Nation's weather and all hazard warning system. By FY2008, approximately 139 stations will have been refurbished.

**FY06 Accomplishments**

- Procured transmitters for the 17 high risk areas
- Established 9 new sites in high risk areas
- Awarded the NWR transmitter refurbishment contract
- Provided operations and maintenance of the NWR network for gifted and other transmitters

**FY07 Plans**

- Establish 8 new sites to complete the network coverage in high risk areas
- Refurbish an additional 77 of the 400 older sites for a total of 1452
- Provide operations and maintenance for gifted and other transmitters including the 17 new sites and 64 refurbished sites

**FY08 Plans**

- Refurbish an additional 80 of the 400 older sites
- Provide operations and maintenance for gifted and other transmitters including the 17 new sites and 139 refurbished sites

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
Complete & Sustain NWR								

Change from FY 2008 Base		0	0	0	0	0		
Total Request	11,166	5,594	5,594	5,594	5,594	5,594	22,376	61,512

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
ASOS	6,206	3,935	3,935	1,635	(2,300)
AWIPS	13,197	12,764	12,764	12,764	-
NEXRAD	8,197	8,376	8,376	8,376	-
NWSTG Legacy Replacement	493	495	495	1,195	700
Radiosonde Network Replacement	6,299	6,014	4,014	4,014	-
Weather and Climate Supercomputing	19,019	19,092	19,092	19,092	-
Weather and Climate Supercomputing Backup	7,026	7,077	7,077	7,077	-
Cooperative Observer Network Modernization	4,153	4,234	4,234	4,234	-
Complete and Sustain NOAA Weather Radio	5,572	5,594	5,594	5,594	-
NOAA Profiler Conversion	-	-	3,270	5,100	1,830
Strengthen US Tsunami Warning Network	3,796	1,030	1,030	-	(1,030)
All Hazard National Warning Network: NOAA Weather Radio	1,998	-	-	-	-
<b>TOTAL</b>	<b>75,956</b>	<b>68,611</b>	<b>69,881</b>	<b>69,081</b>	<b>(800)</b>
FTE	54	31	31	31	-

**PROGRAM CHANGES FOR FY 2008:**

**Automated Surface Observing Systems (ASOS) Product Improvement (PI) (+0 FTE and -\$2,300,000):** NOAA requests a reduction in ASOS/PI funding of \$2,300,000 to \$1,635,000 to reflect funding of higher-priority NWS requirements. This \$2,300,000 reduction eliminates NWS development and deployment of the ASOS Enhanced Precipitation Identifier (EPI) sensors. This reduction will also defer completion of scheduled ASOS ceilometer deployment from FY 2009 to FY 2013.

FY 2006 Accomplishments

- Began ice free wind sensor deployment of 311 units
- Initiated Acquisition of 25,000 ft ceilometers

FY 2007 Plans

- Complete ice free wind sensor deployment of 311 units
- Complete development of and begin production of 25,000 ft. ceilometers

FY 2008 Plans

- Continue production and initiate deployment of 25,000 ft. ceilometers

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
ASOS Product Improvement	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
Change from FY 2008 Base		(2,300)	(2,300)	(2,300)	(2,300)	(2,300)		
<b>Total Request</b>	40,072	1,635	1,635	1,635	1,635	1,635	2,905	51,152

\* Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**National Weather Service Telecommunication Gateway (NWSTG) Capacity Expansion and Technology Refresh (+0 FTE and \$700,000):** NOAA requests 0 FTE and an increase of \$700,000 for a total of \$1,195,000 for the ongoing technology refresh of the NWSTG primary system and its mirrored Critical Infrastructure Protection Backup System in Berryville, VA. Funds are for acquisition of mission critical servers, network hardware, and facility upgrades to meet a nearly 200 percent increase in throughput in FY 2008.

**Statement of Need**

The NWSTG is the national communications hub for all weather, water, and climate data and information. The NWSTG collects hydrometeorological data from across the Nation and the world, transmits that data to NCEP for use in forecast guidance models and disseminates that data and those forecast guidance models to NWS offices, other Federal agencies, private sector partners, and other World Meteorological Organization member nations. The NWSTG has been identified as an essential government resource in Presidential Decision Directive – 67 Enduring Constitutional Government and Continuity of Government Operations.

The NWSTG has three components:

- The Message Switching Center which has been replaced with funding approved by Congress in FY 2004 and FY 2005. The Message Switching Center handles the bulk of operational traffic that passes through the Gateway.
- The Gateway Server Center, consisting of 68 servers that perform a variety of functions, including providing specialized data services to the private meteorological sector, including Accu Weather, the Weather Channel, and other media outlets; ingest of data required by National Centers for

Environmental Prediction models from countries with low-speed communications; testing of satellite products; receipt and transmission of fire weather forecasts and data to the U.S. Forest Service; and controlling, monitoring, and load-balancing the Message Switching Center. A one hour outage of 58 of the 68 servers is considered critical. The Gateway Server Center is included in the NWSTG Legacy System (NOAA8870) Certification and Accreditation, dated August 17, 2005. Security Sensitivity for all Gateway Server Center servers except those used for development and recovery/backup is Availability = High, Integrity = High, Confidentiality = Low.

- The facility and network infrastructure, including power, climate control, fire suppression, and network routers and switches.

In addition, the critical infrastructure backup facility in Mount Weather, VA must be refreshed so that it continues to mirror the primary NWSTG.

The requested \$700K increase with funds NWS provides from the current program are required to provide for the continuing upgrade of both the primary systems in Silver Spring and the CIP backup system in Mount Weather, VA to eliminate the risk of critical component failure due to increasing capacity requirements and aging equipment. The consequences of degradation of NWSTG availability and performance include: degraded support for flight operations which would likely result in grounding of some flights; model data for civilian aviation would be unavailable through the World Area Forecast System; model data DOD requires to initiate high resolution windows for operations throughout the globe would be unavailable; fire weather warnings and forecasts exchanged bi-directionally with the U.S. Forest Service to support fire weather operations would be unavailable; commercial weather providers, the media, and weather investment concerns such as AccuWeather, Associated Press, Citadel Investment Group, Merrill Lynch, The Weather Channel, and WSI Corporation would lack the data they need to provide services; World Meteorological Organization would experience disruption of data flow, thus degrading forecast models of other nations; Emergency Managers would lose access to watches, warnings, and other environmental information transmitted to them by the NWSTG via Emergency Managers Weather Information Network.

Forecast model data from the National Centers for Environmental Prediction will increase nearly 200 percent by FY 2008, including a 40 percent increase due to implementation of the Hurricane Weather and Research Forecasting System and associated enhancements to the Global Forecast System. In addition, air quality forecasting will be expanded from the northeast to the entire Nation, the resolution of the Climate Forecast system will be doubled, and several other forecast/guidance models will be run at increased resolution. In addition, 40 percent of the servers in the Gateway Server Center will be beyond their life cycle by FY 2008. Finally, several components of the facility and network infrastructure will be well-beyond their life cycle in FY 2008, including the primary cooling tower whose capacity does not adequately protect the equipment and capacity added to the NWSTG since the tower was first installed in 1991.

The purpose of this initiative is to provide funds necessary to ensuring the uninterrupted delivery of critical meteorological data necessary for the protection of life and property as well as to keep NWSTG up-to-date.

### **Proposed Actions**

#### **FY 2008**

- Add 8 CPUs and 16GB memory to RTG p60 Message Switching Center Servers (2 servers @ \$250K = \$500K)
- Replace 21 servers with 36 CPUs (\$350K)

- Replace 1 Cisco 6500 switch installed in FY 03 (\$100K)
- Expand cooling tower capacity to meet increased requirements since tower was installed in 1991 (\$150K)
- Replace 17 year-old smoke detector and fire control panel system (\$95K)

**Benefits**

The investment increase will allow the implementation of a technical refresh program that addresses critical system hardware that will be beyond its life cycle in FY2008.

**Performance Goals and Measurement Data:**

Without the requested increase there will be an ongoing degradation of NWSTG performance beginning in FY 2008 due to lack of technical refresh necessary to ensure system reliability and to maintain system performance.

Measure	FY05 Actual	FY06 Target	FY07 Target	FY08 with increase	FY08 without Increase	FY09 with increase	FY09 without increase	FY10 with increase	FY10 without increase
Message (Watch and Warning ) Average Transit Time (seconds)	84	10	10	10	39	10	44	10	45
Average Message Traffic (send/receive) (daily)	950 GB	1.1TB	1.3TB	3.0TB*	3.0TB	3.5TB	3.5TB	4.0TB	4.0TB
Servers beyond recommended life cycle	42%	33%	40%	38%	43%	18%	42%	10%	44%
System Reliability **	99.9%	99.9%	99.99%	99.99%	98.89%	99.99%	98.89%	99.99%	98.89%

\* By end of FY 2008

\*\* 99.9 percent system reliability results in 8.75 hour maximum unscheduled downtime per year; 99.99 percent system reliability results in .9 hours maximum unscheduled downtime per year; 99.25 percent results in 65.7 hours downtime; 98.89 percent results in 97 hours of downtime per year.

This increase will support the objective “Advance understanding and predict changes in the Earth’s environment to meet America’s economic, social, and environmental needs” under the DOC Strategic Goal of “Observe, protect, and manage the Earth’s resources to promote environmental needs.”

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
NWSTG Legacy System Replacement	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to Complete*	Total Program Estimate
Change from FY2008 Base		700	700	700	700	700		
Total Request	6,304	1,195	1,195	1,195	1,195	1,195	4,780	17,059

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**NOAA Profiler Conversion (+0 FTE and +\$1,830,000):** NOAA requests an increase of 0 FTE and \$1,830,000 for a total of \$5,100,000 to replace transmitters that interfere with Search and Rescue Satellites and to conduct tech refresh of the 20 year-old network. The Wind Profilers, vertical looking radars installed in 1988, 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 and is used for issuing aviation advisories and wildfire predictions. Research has shown Wind Profiler data improves accuracy and lead times for tornado, severe thunderstorm, flash flood, and winter storm warnings

Thirty-two of the 37 wind profiles are using an experimental transmitter frequency of 404 mega hertz (MHz) issued by the National Telecommunications and Information Administration (NTIA). NTIA has given the 404 MHz frequency to search and rescue satellites (SARSAT) and granted the NPN permanent use of 449 MHz. Thirty operational 404 MHz wind profilers require their transmitters to be converted from 404 to 449 MHz by the end of the FY08 when the new SARSATS are launched.

In addition to the 30 operational sites using 404MHz, there are two additional 404 MHz wind profilers at the National Reconditioning Center and National Weather Service Training Center (used for testing and training). There are also five wind profilers in the NPN that operate at the non-interfering 449 MHz frequency: 3 in Alaska, one in Syracuse, NY and one in Platteville, CO.

#### **Statement of Need**

Because the 32 of the 37 wind profilers and search and rescue (SAR) satellites both operate at 404 MHz, whenever a satellite is overhead, the profilers are turned off to prevent any interference. Right now, this only occurs about 90 minutes per day. The European Space Agency began launching a constellation of 30 satellites called *Galileo* in FY 2006. These satellites will have a SAR capability with an operating frequency of 404 MHz. These SARSATS will be overhead for hours instead of minutes. Under these conditions, NPN profilers operating at 404MHz will have to shut down more than 23:30 hours per day by the start of FY 2010, rendering the network useless. The solution is to change the operating frequency to the non-interfering 449 MHz, a primary shared frequency for wind profilers and DOD testing.

In 2009, the NPN will have been installed for 20 years without any technology refresh during its life cycle. Therefore a second priority is tech refresh for the entire 37 wind profiler network. This tech refresh includes replacing the 5 existing 449 MHz profilers, replacing the network's VAX system computers and re-hosting the software on a LINUX platform; improving the telecommunications network, replacing site modems, data collection modems and uninterruptible power systems, and providing a major overhaul of site shelters, facility electric distribution, replacement of RASS components and upgraded satellite communications equipment.

By coupling the frequency replacement with the tech refresh, the Government avoids risking significant problems with technology integration and achieves a more cost-efficient solution to supporting the life-cycle of these operationally critical systems.

The 30 operational wind profilers operating at 404 MHz are located in the central U.S. along “tornado alley.” Studies have shown the following improvements in tornado detection as a result of wind profiler data:

	<b>WFOs within NPN*</b>	<b>WFO Nat'l. Ave.</b>	<b>WFOs Outside NPN*</b>
Probability of Detection	0.79	0.72	0.62
False Alarm Rate	0.68	0.74	0.85
Critical Success Index	0.29	0.24	0.14
Lead Time (minutes)	12.9	11.5	9.5

Source: Accuracy Performance Measures for WFOs, 1999 through 2003 (Wolf, 2004)

\*Selected Weather Forecast Offices in areas where tornadoes occur often.

The Senate Appropriations Committee requested, as part of a Cost and Operational Effective Analysis (COEA), “the cost to upgrade the NOAA Profiler Network (NPN) over the next decade versus the short, medium, and long-term costs of ending the NPN program.” The results of the COEA demonstrate that high-frequency wind data benefit several important NWS missions: severe weather warnings (for tornadoes, flash floods, and winter storms), watches, and short-term forecasts. These products are important for public safety, aviation, and wildfire-suppression support.

**Proposed actions**

The proposed adjustment is to convert Wind Profilers from operating at 404 MHz to 449MHz and to provide technology refresh to 20 year old equipment:

- Convert 3 operational sites from 404 MHz to 449MHz in FY 2008
- Convert 12 operational sites from 404 MHz to 449MHz and provide tech refresh for 12 systems in FY 2009
- Convert 15 operational sites from 404 MHz to 449 MHz; convert the 404MHz system at the National Reconditioning Center (used to quality control repaired components) and the 404 MHz system operating at the NWS Training Center (used to train maintenance technicians) from 404 MHz to 449 MHz ; and provide technology refresh for 12 systems in FY 2010
- Provide technology refresh for 6 operational profilers now operating at 404 MHz, the National Reconditioning Center and NWS Training Center Systems, and the 5 449 MHz (3 sites in Alaska, one in Platteville, CO, and one in Syracuse, NY) in FY 2011

**Benefits**

As part of the COEA (May 2004), a cost-effectiveness analysis shows that sustaining the NPN, including upgrading the frequency, is the most cost-efficient method of obtaining high-frequency wind profiles. Six independent attributes were used to judge wind-profiling system performance: 1) frequency of observation, 2) geographic coverage, 3) vertical reach, 4) horizontal spacing, 5) number of vertical levels, and 6) measurement accuracy. Frequency of observation is the number of profile reports per day.

The best combination of performance and cost is to maintain the NPN system and modify its frequency so as not to interfere with reception by SARSAT satellites of signals from Search and Rescue beacons.

Alternatives considered:

- 1) Changing the NPN operating frequency and maintaining the current network
- 2) Terminating the NPN network
- 3) Replacing the network with either existing or new technologies potentially capable of providing data that would provide a similar improvement in forecasting performance. The alternate technologies considered: Existing and additional use of radiosondes (weather balloons), automated aircraft reporting (Meteorological Data Collection and Reporting System (MDCRS)), WSR-88D Doppler radar, and object tracking by Geostationary Operational Environmental Satellite (GOES).

Conclusions: COEA results indicate the best solution for both performance and cost is to maintain the NPN network and modify its frequency so as not to interfere with reception with SARSAT satellites.

**Performance Goals & Measurement Data**

The table below reflects performance measures for those WFOs within the National Wind Profiler Network

Performance Goal: <i>Weather and Water</i>	FY04 Baseline	FY05	FY06	FY07	FY08	FY09	FY10	FY11
GPRA Performance Measure Tornado Warning Probability of detection <i>with</i> adjustment *	.79	.79	.79	.79	.63	.71	.78	.79
GPRA Performance Measure Tornado Warning Probability of detection <i>without</i> adjustment *	.79	.79	.79	.79	.62	.62	.62	.62
GPRA Performance Measure Tornado Warning False Alarm Ratio <i>with</i> adjustment *	.68	.68	.68	.68	.84	.77	.69	.68
GPRA Performance Measure Tornado Warning False Alarm Ratio <i>without</i> adjustment *	.68	.68	.68	.68	.85	.85	.85	.85
GPRA Performance Measure Tornado Warning Lead Time (min.) <i>with</i> adjustment *	12.9	12.9	12.9	12.9	9.6	11.1	12.6	12.9
GPRA Performance Measure Tornado Warning Lead Time (min.) <i>without</i> adjustment *	12.9	12.9	12.9	12.9	9.5	9.5	9.5	9.5
Tornado Warning: Critical Success Index <i>with</i> adjustment	.29	.29	.29	.29	.15	.21	.28	.29
Tornado Warning: Critical Success Index <i>without</i> adjustment	.29	.29	.29	.29	.14	.14	.14	.14

Wind Profiler Product Availability <i>with</i> Adjustment	80 %	80 %	80 %	80 %	72 %	55%	78%	85%
Wind Profiler Product Availability <i>without</i> Adjustment	80 %	80 %	80 %	80 %	71%	29%	0 %	0%

Source: *Accuracy Performance Measures for Weather Forecast Offices 1999 through 2003* (Wolf 2004). GPRA measure targets reflect Wind Profiler Impact only; do not reflect other improvements that impact the national GPRA targets, which are more accelerated. The drop in performance during FY09 reflects the shut down of the Profiler network due to SARSAT interference. Performance goes up in FY10 after completion of the frequency upgrade and the return of the network to operations.

### Costs for NOAA Profiler Network (NPN) Frequency Change and Tech Refresh

#### Frequency Change: \$13.2M

- Antennas –\$5.97M
- Transmitters – \$5.87M
- Parts – \$0.79M
- Project expenses (frequency change coordination) – \$0.57M

#### Technical Refresh: \$14.01M. The technical refresh effort is completed concurrent with the frequency conversion.

##### Hardware (Subtotal \$10.81M)

- LINUX computer platform with backup and fail over circuitry - \$11K per site x 35 sites = \$0.4M. Technology refresh includes replacing the VAX system computers and re-hosting the software on a LINUX platform
- One support system for the NWS Training Center - \$0.5M
- Refurbish one support system for National Reconditioning Center - \$0.3M
- Software re-host development system = \$0.2M
- Upgrade telecommunications equipment at each site (including modems) - \$41K per site x 35 sites = \$1.44M
- Data Collection facility modems - \$0.16M
- Site uninterruptible power supplies - \$92K per site x 30 sites = \$2.76M
- Quality Assurance and receiving test system - \$0.2M
- Site uninterruptible power supplies - \$92K per site x 8 sites - \$0.74M
- Shelter replacement – 36K per site x 35 sites - \$1.26M
- Site electric distribution – 9K per site x 35 sites - \$0.32M
- Antenna array support structure replacement - \$29K per site x 35 sites - \$1.02M
- RASS component replacement - \$13K per site x 35 sites - \$0.46M
- Satellite communication equipment - \$30K per site x 35 sites - \$1.05M

##### Software (Subtotal \$3.2M)

- Software re-host engineering to comply with NWS Enterprise Architecture - \$1.8M. Technology refresh includes replacing the VAX system computers and re-hosting the software on a LINUX platform.
- Wind profiler site product formatter - \$0.7M
- Site data compression software- \$0.2M
- Data collection facility data decompression software - \$0.2M
- National Reconditioning Center and Quality assurance test software - \$0.3M

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
NOAA Profiler Conversion								
Change from FY 2008 Base		1,830	4,630	(230)	(230)	(5,100)		
<b>Total Request</b>	<b>3,270</b>	<b>5,100</b>	<b>9,730</b>	<b>4,870</b>	<b>4,870</b>	<b>0</b>		<b>27,840</b>
Profilers Converted		3	12	17	0	0		32
Profilers Tech. Refreshed		0	12	12	13	0		37

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

\*\*Funding for FY 2007 and prior reflects funding beginning from FY 2000.

**Strengthening the U.S. Tsunami Warning Program (NWS) Tsunami Program (0 FTE and -\$1,030,000):** NOAA requests 0 FTEs and a planned decrease of \$1,030,000 for a total of \$0 in FY 2008 to reflect the completion of the production of the Deep-ocean Assessment and Reporting of Tsunamis (DART) buoys.

**National Environmental Satellite, Data, and Information Service**  
**Activity: Systems Acquisition**

**GOAL STATEMENT:**

Geostationary Operational Environmental Satellite Program

The goals of the Geostationary Operational Environmental Satellite (GOES) program are to continue the procurement of spacecraft, instruments, launch services, and ground systems equipment necessary to maintain an uninterrupted flow of environmental data to users.

The GOES series of satellites fall under NOAA's Mission Support goal, and support NOAA's other strategic goals to protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management approaches; to understand climate variability and change to enhance society's ability to plan and respond; to serve society's needs for weather and water information; and to support the Nation's commerce with information for safe and efficient transportation (e.g., commercial aviation, utilities, commercial shipping, etc).

GOES data provide:

- Cloud images and precipitation estimates for hurricanes and other coastal storms;
- NOAA Coast Watch sea surface temperature (SST) products for locating commercial and sport fish as well as protected marine species;
- New research products, such as ocean surface currents, that support both ecosystems management and safety of marine navigation;
- Primary information in the Nation's Climate Reference Network, providing reference quality data for surface temperature and precipitation monitoring;
- Images of the United States and adjacent ocean areas to enable the detection of hurricanes and other major weather events;
- Data collection from remote fixed observing platforms such as buoys and rain gauges for use in numerical weather prediction models and flood/drought assessments;
- Weather information to emergency managers for use in times of severe weather and during other disasters;
- A means to obtain quantitative environmental data such as temperature, moisture, wind, radiation and solar energy particle flux for use in weather predictions, hydrometrological flux, climate long term trending, ecosystems management, commercial economic gain, and transportation safety; and
- Unique monitoring capabilities that support air, land, and marine transportation.

Polar Satellites Programs

The NOAA family of polar satellites (i.e., Polar-orbiting Operational Environmental Satellites (POES), and National Polar-orbiting Operational Environmental Satellites System (NPOESS), instruments, and processing systems make up the polar portion of the Satellite Sub-goal of the Mission Support programs, and provides support for all of the other strategic plan goals, and NOAA's cross-cutting priorities.

Polar satellites provide a continuous flow of global environmental observations in support of operational requirements for:

- Environmental monitoring, and weather and marine forecasting;
- Climate assessment and change prediction;
- Detecting weather systems and significant environmental events such as volcanic eruptions, oil spills, and wildfires;
- Measuring atmospheric ozone and the space environment;
- Collecting environmental data from other surface platforms such as buoys; and
- Performing search and rescue functions.

#### **BASE DESCRIPTION:**

**Geostationary Operational Environmental Satellite (GOES):** The GOES system provides an uninterrupted, continuous flow of data and information that meets customers' spatial, temporal and accuracy requirements, providing significant customer benefit within an established life cycle cost target. The procurement of GOES satellites is a cooperative venture between NOAA and the National Aeronautics and Space Administration (NASA). Historically, NOAA defines requirements, manages, funds, implements system integration, procures ground segments and operates the GOES satellites. NASA serves as the agency with multi-disciplinary engineering expertise, develops detailed system specifications, procures and launches the spacecraft, and assists NOAA in system integration. For the GOES-R series the roles and the responsibilities of NOAA and NASA are being re-examined and possibly realigned to better meet each agency's charter and strategic goals.

NOAA GOES satellite systems are designed, developed, acquired and operated as a single end-to-end system. The system includes the observing platform (satellites); command and control of the platform; product generation and distribution; archive and access; and user interface. GOES contributes to an Integrated Global Observation System; is defined as an end-to-end approach linking requirements to services; delivers critical real-time data and information needed for sound decision making; addresses needs to support expanded climate services; and works with global partners.

GOES observations allow continuous monitoring from the same angle during the tracking/detection of severe storms, atmospheric moisture deltas, mesoscale scanning, currents flow dynamics, and atmospheric chemical (particle) that cannot be achieved from a non-stationary orbit without increased error rates and lost data segments. NOAA maintains an on-orbit spare to complement the two operational GOES satellites. This on-orbit spare philosophy allows NOAA to quickly replace a failed satellite by re-positioning an on-orbit satellite. To facilitate this strategy, NOAA plans the launch of the next satellite to coincide with the planned switchover of the on-orbit spare to operational status.

**GOES-I SERIES:** Fiscal Year 2006 was the last year of funding for this program.

**GOES-N SERIES:** The NOAA GOES program includes the development, procurement, and launch of the next series of GOES satellites, the GOES-N series. The spacecraft contract for the GOES-N series is a firm fixed price contract with delivery on-orbit. The GOES-N series program also includes separate contracts for the instruments, one for the Imager and Sounder, and one for the Solar X-ray Imager.

**GOES-R SERIES:** The GOES-R program will complete architecture studies, technology development, design, fabrication, integration and testing, and end-to-end system integration to maintain GOES continuity. End-to-end system integration refers to the acquisition of an on-orbit satellite including the spacecraft, instruments, GOES unique communications services, and launch services; the command, control, and communications and product generation and distribution functions currently performed by Satellite Services; the archive and access of all data and products; and the user interface function providing data to critical users and forecasters. In October 2005, NOAA began the process to review options to acquire the GOES-R end-to-end system. This review should be completed by the end of FY 2007. The archive and access function will be provided by NOAA's CLASS system. This end-to-end integration requires the acquisition, deployment, maintenance, and operations of the space and launch segments.

**Polar-orbiting Operational Environmental Satellite System:** Currently, the polar satellite program consists of NOAA's Polar-orbiting Operational Environmental Satellites (POES), the Department of Defense's (DoD) Defense Meteorological Satellite Program (DMSP), the National Polar-orbiting Operational Environmental Satellite System (NPOESS), and the provision of U.S. instruments for flight on the European Polar System satellites known as MetOp. POES is NOAA's current operational polar system, with one more satellite left in the series (NOAA N prime). NPOESS is a future satellite system and an acquisition program that is the follow-on program mandated by Presidential directive to replace POES and DMSP. NPOESS Data Exploitation (NDE) is a polar-related project that is designed to improve utilization of NPOESS data.

**National Polar-orbiting Operational Environmental Satellite System (NPOESS):** Presidential Decision Directive (PDD/NSTC-2, Convergence of US Polar-Orbiting Operational Environmental Satellite Systems, May 5, 1994, directed the Department of Commerce (DOC), Department of Defense (DoD), and National Aeronautics and Space Administration (NASA) to establish the NPOESS program. This decision made way to integrate the Nation's civil and military polar-orbiting meteorological satellite systems into a single, national system capable of satisfying both civil and national security requirements for space-based, remotely sensed environmental data. These systems include the NOAA POES system and DoD's DMSP. As a result, NOAA, DoD, and NASA formed a tri-agency Integrated Program Office (IPO) to develop, manage, acquire, and operate the new polar satellite system called NPOESS.

Through NPOESS, which is funded jointly by NOAA and the U.S. Air Force, the U.S. government is substantially reducing duplication of efforts by satisfying the requirements of the civil and national security communities with one system. The first result of the NPOESS program was the transfer of DMSP satellite control from the U.S. Air Force Space Command to the IPO. The command, control, and communications functions for the DMSP satellites and the POES satellites are now combined at the NOAA Satellite Operations Control Center (SOCC) in Suitland, Maryland. The launch of the DMSP F-15 satellite in December 1999 resulted in the first DMSP satellite launched and controlled by the NOAA SOCC.

In 2005, the NPOESS Program Director notified the program's Executive Committee (EXCOM) that the program costs will likely exceed the plan by more than 25 percent regardless of which option is chosen to move the program forward. This notification initiated a series of events which are required under the Nunn-McCurdy process: In June 2006, the Office of the Secretary of Defense certified that:

- The program is essential to National Security;
- No alternatives with equal capability exist at equal or lesser cost;
- The cost estimate is reasonable; and
- The management structure is adequate for program success.

The funding profile in the FY 2008 budget request is based on the certified cost estimate developed during the Nunn-McCurdy process. Any changes due to cost or schedule issues will be reflected in future budget submissions.

**NPOESS Preparatory Project/NPOESS Data Exploitation:** NESDIS has the mandate to operate the Nation's environmental satellites, collect environmental observations, process, distribute and archive data, and make available key data sets for both operations and research. The NPOESS Data Exploitation (NDE) component of the NPOESS Preparatory Project (NPP) consists of processing and distribution of NPOESS products and services once the data have been delivered to NOAA. NPOESS and NPP are part of a new environmental satellite program that promises to improve our observations of the earth, atmosphere, oceans and space environment. In order to realize the benefits of NPOESS data, NOAA must implement capabilities to process NPOESS data records into useful products that meet the requirements of NWS and other civilian users. For example, NDE will be able to derive carbon-based products such as Methane, Carbon Dioxide and Carbon Monoxide from NPOESS observations. These gases tend to mask the atmospheric temperature and humidity observations sensed by NPOESS. By producing a better estimate of these gases, NDE will help the NWS to remove biases and improve weather forecasts. NDE will also assist the NOAA Climate Office by providing global estimates of these gases.

The FY 2008 funding will continue algorithm development begun in FY 2006 and FY 2007, and will procure additional equipment to enhance the testing environment for these products. Funding will also be used to study archiving requirements for the NDE products.

**Comprehensive Large Array Data Stewardship System (CLASS):** NOAA is responsible for the stewardship of over one petabyte of environmental data and information, which is expected to grow to well over 18 petabytes by 2011. NOAA spends more than one billion dollars each year collecting environmental data in support of its mission. In the near future, NOAA will launch the first NPOESS, which will provide a forty times increase in data volume per satellite. CLASS is a data archiving and access system that will improve the quality and stewardship of NOAA's environmental data and information. By providing efficient, secure, cost-effective access to NOAA's environmental data via CLASS, NOAA is supporting key research challenges identified by the U.S. Global Change Research Program, such as natural climate patterns, global monsoon, and land-atmosphere and ocean-atmosphere exchanges.

NOAA is enhancing its multiple current stovepipe archiving capabilities into a CLASS System that will be fully operational and managed at the enterprise level. This system will allow efficient management of high volumes of data critical to NOAA and the users in the scientific community. The target data originates from GOES, POES, NPP/NPOESS, DMSP, the National Weather Service’s Next Generation Weather Radar, and select numerical model output data. Management of these data can be accomplished only through rapidly expanding storage capacity at the Data Centers and automating the means of data ingest, quality control, and access through phased systems procurement. The early implementation of this archive and access system has paved the way to accommodate additional massive data volumes from the Earth Observing System Satellites.

Base activities support Objective 3.2 “Understand climate variability and change to enhance society’s ability to plan and respond” under the Department of Commerce Strategic Goal of "Observe, protect, and manage the earth’s resources to promote environmental stewardship".

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete	Total
CLASS								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	21,800	6,476	6,476	6,476	6,476	6,476	32,380	86,560

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process. Recurring costs are estimated through 2017.

**Earth Observing System Data Archive & Access System Enhancement:** NASA’s Earth Observing System (EOS) data will be integrated into CLASS for archive and access. The expected large increases in data rates and volumes over the next several years from EOS data alone will far exceed the capacity and capabilities of the NOAA National Data Centers.

Base activities support Objective 3.3 “Serve Society’s need for weather and water information” under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth’s resources to promote environmental stewardship".

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete	Total
Earth Observing System Data Archive & Access System								

Enhancement								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	9,382	990	990	990	990	990	4,950	19,282

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process. Recurring costs are estimated through 2017.

**Critical Single Points of Failure:** This effort supports the continuity of critical operational satellite products and services in the event of a catastrophic outage at the Suitland facility/systems and the World Weather Building in Camp Springs by providing backup capability for primary satellite products and services.

The NOAA Product Processing and Distribution Office is a critical single point of failure for every operational NOAA satellite product and service that NWS and other users rely on for weather information. Satellite data represents more than 99 percent of the input to numerical weather prediction models. Satellite products and services include: POES products such as ozone, temperature and moisture sounder products; GOES Advanced Weather Interactive Processing System (AWIPS) remapped imagery, high density winds, precipitation estimates, sounder products; and non-NOAA satellite products from NASA, the DOD, Europe, Japan and India.

Base activities support Objective 3.5 "Provide critical support for NOAA's mission" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the earth's resources to promote environmental stewardship".

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete	Total
Critical Single Points of Failure								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	11,100	2,772	2,772	2,772	2,772	2,772	13,860	38,820

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process. Recurring costs are estimated through 2017.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition					
Geostationary Systems - N	110,473	107,159	107,159	80,379	(26,780)
Geostationary Systems - R	219,299	332,448	332,448	279,000	(53,448)
Subtotal: GOES	329,772	439,607	439,607	359,379	(80,228)
Polar Orbiting Systems - POES	101,261	89,906	89,906	114,906	25,000
Subtotal: POES	101,261	89,906	89,906	114,906	25,000
Polar Orbiting Systems - NPOESS	316,580	337,870	337,870	331,300	(6,570)
Subtotal: NPOESS	316,580	337,870	337,870	331,300	(6,570)
EOS & Adv. Polar Data Processing, Dist. & Archiving Systems	2,960	990	990	990	-
Subtotal: EOS	2,960	990	990	990	-
CIP - Single Point of Failure	2,798	2,772	2,772	2,772	-
Subtotal: CIP	2,798	2,772	2,772	2,772	-
Comprehensive Large Array Data Stewardship Sys (CLASS)	8,876	6,476	6,476	6,476	-
NPOESS Preparatory Data Exploitation	4,437	4,455	4,455	2,455	(2,000)
<b>TOTAL</b>	<b>766,684</b>	<b>882,076</b>	<b>882,076</b>	<b>818,278</b>	<b>(63,798)</b>
<b>FTE</b>	<b>115</b>	<b>153</b>	<b>153</b>	<b>153</b>	<b>-</b>

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

**Geostationary Operational Environmental Satellite (GOES):**

**GOES-N Series (0 FTE, and -\$26,780,000):** NOAA requests a decrease of 0 FTE and \$26,780,000 for a total of \$80,379,000 in FY 2008. The NOAA GOES program continues the development, procurement, and launch of the next series of three GOES satellites – the GOES-N series. The spacecraft contract for the GOES–N series is a firm fixed price contract. The GOES-N series program also includes separate contracts for the instruments, one for the imager and sounder and one for the Solar X-ray Imager. The instrument contractors have completed delivery of all flight model instruments.

FY 2008 GOES-N funding will be used for:

- Spacecraft/launching (GOES-O);
  - NASA technical management;
  - The government program office and GOES-N contribution to NESDIS leadership;
  - Product development; and
  - Ground systems and backup.
- 
- Considering the continued success of the GOES-I series, the current GOES-N series planning launch schedule is provided as Figure 1.

**Figure 1 – GOES N Launch Schedule**

Spacecraft	Availability Date	Planned Launch Date	Operational Date
GOES-N	Dec 2004	May 2006	TBD
GOES-O	Apr 2008	Apr 2008	Jan 2012
GOES-P	Oct 2008	Apr 2009	Sep 2014

**Performance Goals and Measurement Data**

This program supports Objective 3.5 “Provide critical support for NOAA’s mission” under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth’s resources to promote environmental stewardship". Specifically, this increase supports NOAA’s four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
<b>GOES-N</b>								
Change from FY 2008 Base	---	(26,780)	(33,896)	(49,558)	(57,659)	(61,265)		
Total Request	1,804,524	80,379	73,263	57,601	49,500	45,894	39,201	2,150,362

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**GOES-R Series (0 FTE, and -\$53,448,000):** NOAA requests a decrease of 0 FTE and \$53,448,000 for a total request of \$279,000,000. Weather and Climate-sensitive industries, both directly and indirectly, account for approximately \$3.0 trillion of the United States gross domestic product (about one-third). Seasonal and interannual variations in climate, e.g. El Niño, led to economic impacts on the order of \$25 billion for 1997-1998. Average annual damage from tornadoes, hurricanes, and floods is \$11.4 billion with about 100 deaths annually. Approximately \$4 billion per year is lost in economic efficiencies as a result of weather-related air traffic delays. Lightning causes between \$4 and \$5 billion in losses each year in the civilian sector with about 47 deaths and 303 injuries per year. The GOES-R series will minimize these losses.

FY 2008 GOES-R funding will be used for:

- Systems integration;
- Instruments contracts; and
- The government program office.

### Statement of Need

The GOES system provides an uninterrupted, continuous flow of data and information that meets customers' spatial, temporal and accuracy requirements, providing significant customer benefit within an established life cycle cost target. The procurement of GOES satellites is a cooperative venture between NOAA and the National Aeronautics and Space Administration (NASA). NOAA defines requirements, manages, funds, implements system integration, procures ground segments and operates the GOES satellites. NASA serves as the agency with multi-disciplinary engineering expertise, develops detailed system specifications, procures and launches the spacecraft, and assists NOAA in system integration.

NOAA GOES satellite systems are designed, developed, acquired and operated as a single end-to-end system. The system includes the observing platform (satellites); command and control of the platform; product generation and distribution; archive and access; and user interface. GOES contributes to an Integrated Global Earth Observation System (GEOSS); is defined as an end-to-end approach linking requirements to services;

delivers critical real-time data and information needed for sound decision making; addresses needs to support expanded climate services; and works with global partners.

GOES observations allow continuous monitoring from the same angle during the tracking/detection of severe storms, atmospheric moisture deltas, mesoscale scanning, currents flow dynamics, and atmospheric chemical (particle) that cannot be achieved from a non-stationary orbit without increased error rates and lost data segments. NOAA maintains an on-orbit spare to complement the two operational GOES satellites. This on-orbit spare philosophy allows NOAA to quickly replace a failed satellite by re-positioning an on-orbit satellite. To facilitate this strategy, NOAA plans the launch of the next satellite to coincide with the planned switchover of the on-orbit spare to operational status.

**Proposed Actions**

Prior year funding for the GOES-R Series provided for critical design and development activities. The FY 2008 request provides continued engineering development and production activities for:

	\$ Millions
System Acquisition & Operations	\$ 56
Instruments:	
Advanced Baseline Imager (ABI), to meet the production schedule for launch and provide real-time environmental data and uninterrupted observations	50
Hyperspectral Environmental Suite (HES)/Sounder N-Class Sounder	19
Solar Imaging Suite (SIS) preliminary design review	51
Space Environmental In-Situ Suite (SEISS) preliminary design review	20
Geostationary Lightning Mapper (GLM) continuation of the acquisition and operations phase	14
Government Program Office	69
Total FY 2008 Request	\$ 279

The requested funding will initiate the development and production activities for the Acquisition and Operations (A&O) phase. These activities include end-to-end system development and integration; instrument development and production, and the development and production of the spacecraft and ground system.

The following five critical elements were the principal factors assessed during the review of GOES R-Series delivery schedule.

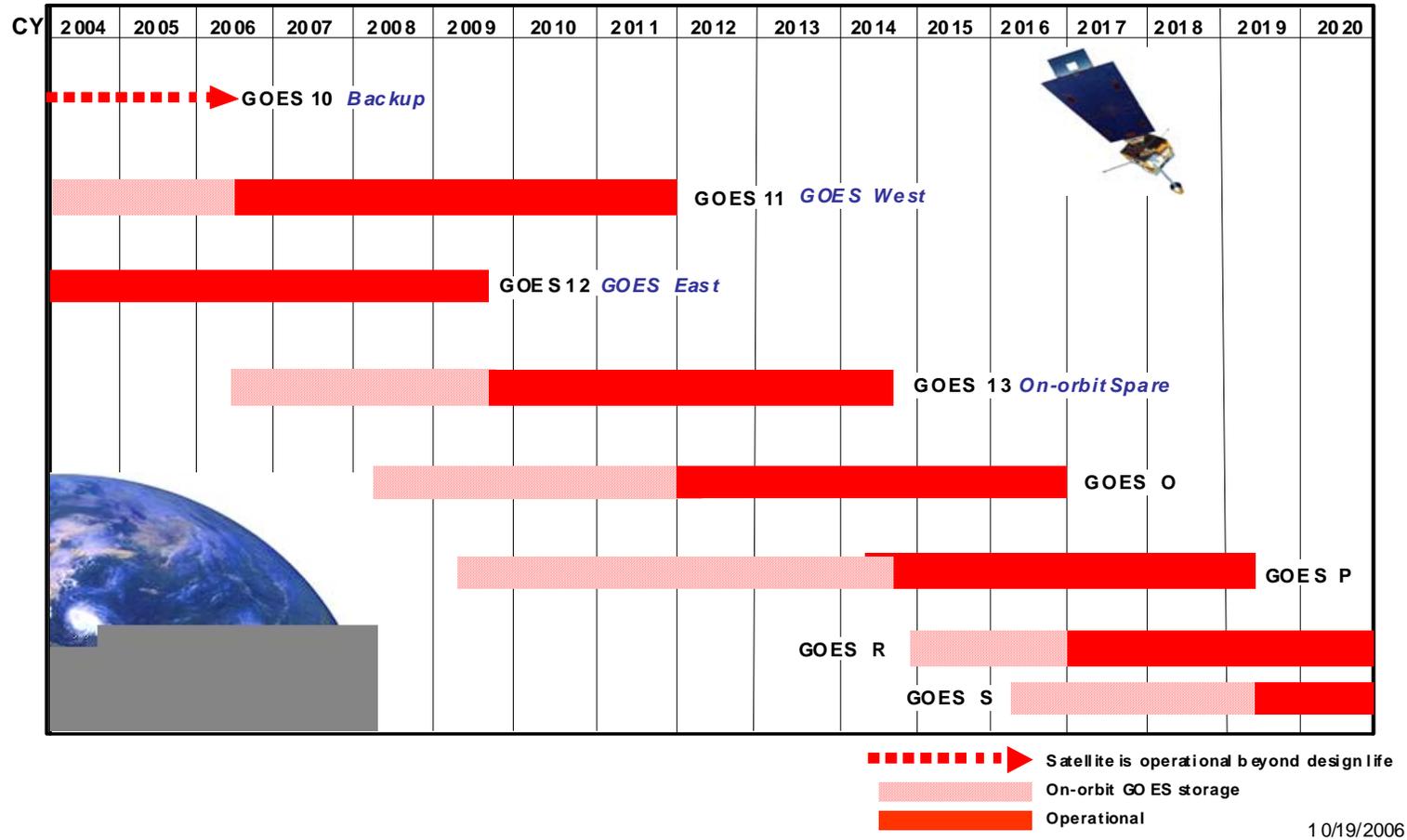
- **Satellite Continuity.** A critical requirement for the GOES program is to provide constant coverage over the continental United States. That need drives a two-satellite constellation – GOES East and GOES West. A key factor in determining when to deliver satellites is the need to ensure continuity of this service based on the projected operational lifetimes of the satellites currently in operation, in storage (ground and/or on-orbit), or already procured, or planned to be procured. The projected operational lifetime of a satellite is based on its design life and predicted reliability

- Launch/Early Orbit (L/EO) Failure Mitigation. A satellite is subject to failure to attain orbit or to achieve initial operating condition on-orbit. Satellite procurement schedules must include consideration of these types of failures. Although the risk of these types of failures remains relatively constant from satellite to satellite (i.e., the individual probability of failure for each satellite is essentially constant), as time passes the cumulative risk of future failures increases.
- Unpredicted, Premature Failure Mitigation. In addition to predictable failures associated with the satellite design and the possibility of L/EO complications, unpredicted and premature failures to achieve design lifetime must also be taken into account. Some examples of these types of failures include previously undetected design/build/test flaws, unpredicted wear-out failures, commanding errors, and collision/debris damage. These types of failures can be mitigated by either rapid launch on failure response or on-orbit storage. On-orbit storage has been adopted for the GOES program because these satellites are launched via scheduled commercial vehicles.
- Production/Launch/On-Orbiting Testing Constraints. The cost of integrating and testing satellites, caused by the high cost of engineering teams and facilities, limit the ability to deliver more than one satellite at a time and must be considered. For example, if two satellites are needed within three months of each other to maintain continuity of service, production of the first must be accelerated to meet realistic production and launch schedules. In addition, the time to check-out a satellite and declare it operational must also be considered. This check-out period usually takes three months. However, for new satellites, this takes much longer – six months for certain individual capabilities and a year or more for the complete set of products and services.
- Fuel Reserves/On-orbit Storage Issues. While the storage mode for GOES is fairly benign and has a limited negative impact on satellite life, fuel reserves must be considered. Even during storage, a satellite’s on-orbit fuel reserve is consumed to maintain station keeping. Launching a satellite too early can cause fuel limitations to be a significant service life-limiting factor.

Consideration of all of these factors led to the nominal projection of when to launch, store and operate the satellites. Once this nominal projection was derived, a statistical analysis was performed to assess the risk of providing continuity of service to the GOES national customers. Figure 2 shows the nominal operations projection and describes the associated probable availability of the system. As shown, GOES-R is planned to be available for launch in FY 2015 and to be the on-orbit spare when GOES P is activated.

Figure 2

## Continuity of GOES Operational Satellite Program



**Performance Goals and Measurement Data**

This program supports Objective 3.5 “Provide critical support for NOAA’s mission” under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth’s resources to promote environmental stewardship". Specifically, this increase supports NOAA’s four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring, and the following performance measures:

<b>GOES-R Series: Performance Goal: Weather &amp; Water Performance Measure/Milestones:</b> Support NOAA’s goals by acquiring GOES satellite on schedule with proposed capabilities	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
With Increase	Conduct ABI CDR  Award GLM A&O contracts  Award SIS A&O contract	Initiate system level A&O phase  Conduct SIS & SEISS PDRs  Conduct GLM PDR	Begin system level PDR  Conduct SIS & SEISS CDRs Conduct GLM CDR	Begin system level CDR	Delivery of ABI FM1  Delivery of SIS & SEISS FM1	Delivery of ABI FM2

Note: Milestones for the N-class sounder will be added once the program office determines how best to provide this capability.

OUTYEAR FUNDING ESTIMATES								
(BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
<b>GOES-R</b>								
Change from FY 2008 Base	---	(53,448)	144,552	282,552	256,552	119,552		
Total Request	868,661	279,000	477,000	615,000	589,000	452,000	3,679,800	6,960,461

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**Polar-Operational Environmental Satellite Systems (POES) NOAA Polar K-N' (0 FTE, and +\$25,000,000):** NOAA requests an increase of 0 FTE and \$25,000,000 for a total request of \$114,906,000 for the continuation of the POES program. POES is nearing the end of its production, with one remaining satellite to be launched, along with supporting maintenance and testing of U.S. instruments on the MetOp satellites in FY 2008. On September 6, 2003, NOAA-N Prime was involved in a serious accident at the contractor's facility. The damage to NOAA-N Prime was assessed, estimated rebuild costs were developed, and agreements negotiated. With NOAA's approval, a contract modification between NASA and Lockheed Martin to rebuild NOAA-N Prime was signed on September 29, 2004. In June 2006, DOD, DOC and NASA certified a restructured NPOESS program under the Nunn-McCurdy process. An assumption in this process was that the launch of NOAA-N Prime would be delayed from December 2007 until February 2009. This action will minimized the potential gap in polar-orbiting data and services until the first NPOESS satellite is fully operational in 2014.

FY 2008 POES funding will be used for:

Activity	\$ Millions
Spacecraft & MetOp (NOAA-N Prime rebuild; testing and integration and maintenance of US instruments on MetOp-B and -C)	\$ 70.2
Launching services (NOAA-N Prime with Planning launch Date moved to second quarter FY 2009)	10.3
NASA technical management (Oversight of spacecraft, instrument and launch services contractors)	5.0
The government program office (Overall program management)	5.2
Product development (Development and/or enhancement of products from POES, MetOp and non-NOAA satellites)	2.9
Ground systems and backup (Maintenance and upgrades of primary and back-up command and control, data acquisition capabilities and facilities). Reflects ground systems contribution to spacecraft.	21.3
Total	\$114.9

## Statement of Need

NOAA has the responsibility to provide forecasts and warnings for the United States, its territories, adjacent waters and ocean area, for the protection of life and property and the enhancement of the national economy. This mission requires an enduring capability to acquire global data, and the capability to process and disseminate to central processing centers and distributed direct users, environmental data on an extensive spatial range (global, regional and local) within a variety of time scales (minutes to days). These data include, but are not limited to: global imagery; cloud and precipitation parameters; atmospheric profiles of temperature, moisture, wind, aerosols and ozone; surface conditions concerning ice, snow and vegetation; ocean parameters of sea temperature, color and state; solar and in-situ space environment conditions. These data are critically needed for:

- Severe storm and flood warnings;
- Tropical cyclone (hurricane reconnaissance and warnings);
- Hydrologic forecasts and forecasts of the ocean surface and internal structures;
- Medium range forecast outlook (out to fifteen days);
- Solar and space environmental forecasts;
- Aviation forecasts (domestic, military, and international);
- Forecasts of ice conditions;
- Seasonal and inter-annual climate forecasts;
- Decadal-scale monitoring of climate variability;
- Assessment of long-term global environmental change;
- Environmental air quality monitoring and emergency response;
- Detection and analysis of fires and volcanic eruptions; and
- Short-term and mesoscale forecasts.

### **Proposed Actions**

The FY 2008 request will provide for the following:

- \$36,000,000 to plan for a cost efficient production schedule for the NOAA-N Prime rebuild to delay its Planning Launch Date until the second quarter of FY 2009. With the current launch schedule of December 2007, NOAA-N Prime is not likely to operate long enough to provide continuous data until the follow-on NPOESS satellite is launched and fully operational in 2014. Satellite continuity is the Department's highest priority. NOAA N-prime is the last operational NOAA polar satellite, and needs to operate at least one year beyond the first launch of NPOESS; i.e. until 2014. We have had only four satellites last five years or longer. Even with a 2009 launch for NOAA-N Prime, the chances of making 2014 are 30 percent. See the milestones chart below for the assumed launch schedule.

- \$9,300,000 to restore NOAA-N Prime FY 2005 funding which was redirected to NOAA-N as a result of an unplanned delay in the NOAA launch from February 2005 to May 2005. This delay was due to failures in two satellite subsystems which required repairs at the launch site by the contractor and prevented them from performing initial work on the NOAA-N Prime rebuild. In FY 2005 and FY 2006 we encountered several NOAA-18 and N prime instrument and spacecraft problems, including anomalies with NOAA-18 spacecraft attitude, the NOAA-18 infrared sounding (HIRS) instrument, and manufacturing problems with the microwave sounding (AMSU-A) instruments. The investigation into and resolution of these problems reduced program contingency. This funding will restore the total funding for the rebuild of NOAA-N Prime to \$218 Million (including contingency), per the agreement reached between the Department of Commerce and the contractor.
- \$7,298,000 to provide support to the annual testing of the MetOp-B satellite and to the installation and maintenance of NOAA-provided instruments on the European MetOp-C satellite. Continuity of operational environmental data in the mid-morning orbit is dependant on the third satellite in the MetOp series. The Nunn-McCurdy certification of NPOESS made US utilization of the MetOp satellites an integral component of the restructured program. Two critical instruments on MetOp-C are provided by NOAA, the Advanced Microwave Sounding Unit-A (AMSU-A) and the Advanced Very High Resolution Radiometer (AVHRR/3). These instruments must be properly integrated on the satellite and maintained while the satellite is in storage. This support will help EUMETSAT provide a timely re-launch capability in the event of a MetOp launch failure or early on-orbit failure.

#### POES Milestones

Satellite	Likely Orbit	Availability Date	Planning Launch Date
NOAA-N	PM		Launched 5/20/05
MetOp A	AM	In Storage	Oct 2006
NOAA-N prime	PM	Dec 2007	Feb 2009
MetOp B	AM	In Storage	Dec 2010

#### **Performance Goals**

This increase will support Objective 3.5 "Provide critical support for NOAA's mission" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship". Specifically, this increase supports NOAA's four strategic mission goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring:

Performance Measure / Milestone	Without FY 2008 Increase	With FY 2008 Increase
Polar Satellite Continuity	Launch NOAA N prime when available in December 2007, greatly increasing risk of polar satellite gap between POES Series and NPOESS.	Delay launch of NOAA N prime until needed (estimated February 2009). Minimizes risk of polar satellite gap between POES Series and NPOESS.

Provide support to critical NOAA instruments on MetOp satellites.	NOAA will be unable to test the instruments on the stored satellite (MetOp B) and will not be able to integrate its instruments onto the next satellite (MetOp C).	NOAA will test its instruments on the stored MetOp satellite, and fully integrate the instruments onto the next MetOp satellite. This support will enable an early re-launch in the event of a launch or early-on-orbit failure.
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OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
POES								
Change from FY 2008 Base	---	25,000	(27,987)	(46,271)	(48,532)	(48,532)		
Total Request	2,144,769	114,906	61,919	43,635	41,374	41,374	146,868	2,594,845

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process. Recurring program costs are estimated through 2017.

**National Polar-orbiting Operational Environmental Satellite System (NPOESS) (0 FTE, and -\$6,570,000)**: NOAA requests a decrease of 0 FTE and \$6,570,000 for a total request of \$331,300,000 for the continuation of the tri-agency NPOESS program that will replace the NOAA POES program after completion of the current NOAA K-N Prime series of satellites. This request represents NOAA's share of the converged NOAA/DoD/NASA program.

In FY 2008, funds are required to continue the development and production of the NPOESS spacecraft and instruments. Sensors that will fly on NPP will be delivered to the NPP integrator. Continued development of these instruments is critical for their timely and cost effective delivery. Beginning in FY 2008 we plan to provide ground station services to receive and process data from European Space Agency SWARM satellite. SWARM provides measurements of the Earth's magnetic field at a higher resolution than NPOESS was capable of delivering and was "traded off" of the NPOESS Space Environmental Sensor Suite (SESS) this past year. The primary driver for this data is to support a reimbursable contract NOAA has with the National Geospatial-Intelligence Agency (NGA) to update the world magnetic model which required the higher resolution data.

In 2005, the NPOESS Program Director notified the program's Executive Committee (EXCOM) that the program costs will likely exceed the plan by more than 25 percent regardless of which option is chosen to move the program forward. This notification initiated a series of events which are required under the Nunn-McCurdy process: In June 2006, the Office of the Secretary of Defense certified to Congress that:

- The program is essential to National Security;
- No alternatives with equal capability exist at equal or lesser cost;

- The cost estimate is reasonable; and
- The management structure is adequate for program success.

The restructured program includes the two Engineering and Manufacturing Development (EMD) satellites, with an option for an additional two NPOESS satellites under the existing contract. Instrumentation under the restructured program includes: the Visible/Infrared Imager/Radiometer Suite (VIIRS); a Microwave Imager/Sounder; Search and Rescue Satellite Aided Tracking (SARSAT), the Cross-track Infrared Sounder (CrIS); the Advanced Technology Microwave Sounder (ATMS); the Advanced Data Collection System (ADCS); the Cloud's and Earth's Radiant Energy System (CERES); the Ozone Mapping and Profile Suite (OMPS) Nadir; and the Space Environment Monitor (SEM).

The restructured program does not provide funding for: the Aerosol Polarimetry Sensor (APS); the Total Solar Irradiance Sensor (TSIS); the OMPS-Limb; the Earth Radiation Budget Suite (ERBS), the Altimeter, the Survability Sensor (SuS) and the Full Space Environment Sensors (SESS). However, the program will plan and fund the integration of these sensors onto the satellite buses if they are provided from outside the program. The program terminates the Conical Scanning Microwave Imager/Sounder (CMIS) and will develop a competition for a new Microwave Imager/Sounder to fly on the second EMD Satellite.

The restructured program is a two-orbit rather than a three-orbit program and relies on data provided from the European Meteorological Operational (MetOp) satellites for the mid-morning orbit requirements.

The funding profile provided is based on the certified cost estimate developed during the Nunn-McCurdy process. Any changes due to cost or schedule issues will be reflected in future budget submissions.

### **Statement of Need**

The NOAA Polar program systems provide an uninterrupted flow of critical global information used in numerical weather models. Continuous global temperature and humidity values from the polar satellites provide critical inputs for quality three to five day and long-range temperature, precipitation, and snow forecasts. Polar satellites also monitor the global sea surface temperature, indicating the location, onset, and severity of such events as El Nino as early as possible. Longer lead times of these impending events allow emergency and agricultural managers to activate plans to reduce the impacts of floods, landslides, fires, oil spills, volcanic eruptions, and droughts.

National Polar-orbiting Operational Environmental Satellite System (NPOESS) is a program established to develop, acquire and operate the next generation of polar-orbiting environmental satellites. The NPOESS system is designed to meet or improve the capabilities of NOAA's POES and DoD's DMSP systems. NPOESS was developed as a system consisting of six satellites in three orbits with associated operations. In August 2002, NOAA selected Northrop Grumman Space Technology as the prime contractor responsible for building and deploying the total NPOESS program. The recertified

NPOESS program is essential to maintaining continuity of the Nation's polar satellite observations, which are critical for NOAA's weather forecasting and other civilian and military mission applications.

### **Proposed Actions**

FY 2008 funds are required to:

- Continue the development and acquisition phase of the program, including total system architecture trades and design of the five major NPOESS segments:
  - Space
  - Interface data processing segment
  - Command, control, and communications
  - Launch support
  - Government program office
- Support mission readiness of antenna systems at high latitude mission recovery sites to support data acquisition functions for the NPOESS Preparatory Project (NPP). The NPP ground system must be in place to provide satellite command and control and data downlink for the NPP spacecraft. The NPP is a major element of the risk reduction program for NPOESS.
- Deliver instruments planned to be flown on NPP to the NPP Integrator.
- Complete the ground systems and algorithms necessary to acquire, process, and distribute NPP data. These data are necessary for continuity of NASA's long-term climate data records and for early risk reduction and calibration and validation essential to the first NPOESS satellite.
- Provide ground station services to receive and process data from European Space Agency SWARM satellite.

### **Benefits**

The NPOESS goal is to accomplish all functional efforts via the tri-agency program reducing costs for both civil and military environmental data. NPOESS is a complex combination of equipment (hardware/software), data services, and facilities required to obtain environmental data and maintain continuity of timely data to civilian and military data users. Approximately 90 percent of the NPOESS FY 2008 budget is required to fund the prime contract that was awarded to Northrop Grumman Corporation.

### **Performance Goals and Measurement Data for NPOESS:**

This program supports Objective 3.5 "Provide critical support for NOAA's mission" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship". Specifically, this increase supports NOAA's four strategic mission

goals by providing the satellite infrastructure to provide the necessary observations for global environmental monitoring, and the following performance measures:

Performance measures supported are:

- The percentage of planned contract milestones accomplished within 30 days of target.

Performance Measure	Without FY 2008 Increase	With FY 2008 Increase
Support NOAA's goals by acquiring NPOESS satellite on schedule with proposed capabilities	Increased delay in the NPOESS program milestones and impact to mission goal requirements	Milestones and Critical Path Elements Completed on revised Schedule

### NPOESS Milestones

As discussed above, the NPOESS Program underwent a major restructure due to cost overruns on several instruments and the spacecraft development. As part of implementing the restructured program, all major program milestones are under review and will be reflected in an updated program plan.

OUTYEAR FUNDING ESTIMATES (BA in thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete	Total
<b>Polar Orbiting Systems NPOESS</b>								
Change from FY 2008 Base		(6,570)	(49,885)	43,924	82,462	77,959		
Total Request	1,881,346	331,300	288,985	381,794	420,332	415,829	2,532,387	6,250,973

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**NPOESS Data Exploitation (NDE) (0 FTE, and -2,000,000):** NOAA requests a decrease of 0 FTE and \$2,000,000 for a total request of \$2,455,000 for the continuation of the NDE project. This reduction is consistent with the delay in the launches of the NPOESS Preparatory Project (NPP) mission to FY 2009 and the first NPOESS satellite.

FY 2008 NDE funding will be used for:

Activity	(\$000)
Procure equipment for data processing, communications and IT security	\$ 975

Develop science algorithms to generate new products from NPP observations	930
Evaluate CLASS infrastructure to archive NDE products	130
Provide Project Management support	420
<b>Total</b>	<b>\$2,455</b>

### Statement of Need

The NPOESS Data Exploitation (NDE) Project will exploit the value of observations derived from the NPP and NPOESS satellite missions. The data from these satellite missions alone do not serve the full need of NOAA's Operational Centers. NDE will tailor NPP and NPOESS observations and enhance the scientific value of these data in order to assist NOAA's Operational and Environmental Modeling Centers. For example, NDE will generate specially formatted sea surface temperature product which will be used by NOAA's Coastal Ocean Science Center for Coastal Monitoring and Assessment.

### Proposed Actions

In FY 2008, NDE plans to prepare for the launch of the NPP mission by developing the algorithms to prototype NPP products and prepare NOAA's Operational Centers for the NPOESS mission. The goal of NDE is to reduce the time to introduce operational products from NPOESS to NOAA's Operational Centers. This will be accomplished by close coordination with all of NDE's stakeholders.

### Performance Goals

The NDE project supports Objective 3.3 "Serve Society's need for weather and water information" under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth's resources to promote environmental stewardship".

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
POES – NDE								
Change from FY 2007 Base		(2,000)	(2,000)	--	--	--		
<b>Total Request</b>	<b>8,892</b>	<b>2,455</b>	<b>2,455</b>	<b>4,455</b>	<b>4,455</b>	<b>4,455</b>	<b>22,275</b>	<b>49,442</b>

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**Program Support**  
**Activity: Corporate Services**

**GOAL STATEMENT:**

Continue the acquisition and improvement of major systems associated with financial management, facilities, and other functions of NOAA's overall corporate management.

**BASE DESCRIPTION:**

The objectives of this subactivity are to:

- Invest in the phased-in implementation of the Commerce Business System (CBS)/NOAA financial-management system.
- Capture the costs of acquiring and/or improving capital assets used by NOAA in carrying out its varied missions.
- Realize procurement efficiencies, management accountability, and reflect full cost of acquisition and/or improvement of an asset.

CBS became the official accounting system of record effective October 1, 2002, moving the CBS program into the operations and maintenance mode of this NOAA-wide, high-technology, integrated financial system. Therefore, the CBS base (\$15,229,000) was transferred from the Procurement, Acquisition and Construction (PAC) account to the Business Management Fund (BMF). CBS includes 11 distinct but integrated modules, 19 interfaces, and over 240 maintenance tables that require on-going support, thus necessitating the transfer of funds to Operations, Research and Facilities (ORF) account.

In addition, as an adjustment to base, NOAA Maintenance – Backlog and Cyclical (\$7,471,000) has been moved from the Program Support PAC account to the Facilities ORF account to reflect actual functions for which the funds are to be expended.

Base activities support both objectives under the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth's resources to promote environmental stewardship.”

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Corporate Services					
NOAA IOOS Observing Systems (NOS)	8,876	-	-	-	-
Convert NOAA Weather Buoys with NDBC (NOS)	3,945	-	-	-	-
Coastal Global Ocean Observing System (NWS)	1,477	-	-	-	-
Strengthen US Tsunami Warning Network (NWS)	3,432	-	-	-	-
<b>TOTAL</b>	<b>17,730</b>	-	-	-	-
<b>FTE</b>	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

None.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 PROCUREMENT, ACQUISITION AND CONSTRUCTION  
 CONSTRUCTION FY 2008 OVERVIEW

**SUMMARIZED FINANCIAL DATA**

(\$ in thousands)

Procurement, Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
<b><u>NOS</u></b>					
Coastal and Estuarine Land Conservation Program					
Coastal and Estuarine Land Conservation Program	-60	0	0	15,000	15,000
Armand Bayou and Genoa-Red Bluff, TX	339	0	0	0	0
Dos Pueblos, CA	-290	0	0	0	0
Maumee River Basin, Ohio	1,479	0	0	0	0
Orange Beach (Robinson Island) AL	789	0	0	0	0
Babcock Ranch	2,959	0	0	0	0
Blackbird Creek Reserve	1,479	0	0	0	0
Brays Bayou	395	0	0	0	0
Chesapeake Bay	3,943	0	0	0	0
Coastal Ecosystems (Mobile & Baldwin)	4,931	0	0	0	0
Commencement Bay	1,529	0	0	0	0
Common Pasture	247	0	0	0	0
Detroit Riverfront West	2,959	0	0	0	0
Eastern Shore	534	0	0	0	0
Elmer`s Island	247	0	0	0	0
Ferolbink Farm	494	0	0	0	0
Grand River Big Pond	306	0	0	0	0
Herring River	494	0	0	0	0
Hidalgo Park	346	0	0	0	0
Jamestown	1,972	0	0	0	0
Maquoit Bay	542	0	0	0	0

Moose Mountain	986	0	0	0	0
Newfields	1,972	0	0	0	0
Oswegatchie Hills	875	0	0	0	0
Piedras Blancas	494	0	0	0	0
Pond Brook	1,332	0	0	0	0
Potter Creek/Otis Bogs	494	0	0	0	0
South Carolina Coastal Initiative	1,479	0	0	0	0
Sowams Property	986	0	0	0	0
Tchefuncte Marsh	197	0	0	0	0
Tuniper`s Pond	494	0	0	0	0
Twelve Oaks	887	0	0	0	0
Webster Woods	740	0	0	0	0
Winnicut Headwaters	1,479	0	0	0	0
Subtotal, Coastal and Estuarine Land Conservation Program	38,049	0	0	15,000	15,000
NERRS Acquisition/Construction					
National Estuarine Research Reserve Construction and Land Acquisition	4,846	0	7,178	7,178	0
Great Bay Partnership	5,917	0	0	0	0
Texas NERR	4,344	0	0	0	0
Village Point Park Preserve	986	0	0	0	0
Subtotal, NERRS Acquisition/Construction	16,093	0	7,178	7,178	0
Marine Sanctuaries Construction/Acquisition					
Marine Sanctuaries Construction Base	-9	0	5,495	5,495	0
Channel Islands National Marine Sanctuary	2,957	0	0	0	0
Thunder Bay NMS Exhibit	986	0	0	0	0
Monterey Bay National Marine Sanctuary	1,479	0	0	0	0
Flower Gardens Banks Patrol Craft	3,156	0	0	0	0
Gulf of Farallones	2,465	0	0	0	0
Small Boats	4,931	0	0	0	0
Subtotal, Marine Sanctuaries Construction/Acquisition	15,965	0	5,495	5,495	0

Other NOS Construction/Acquisition					
Conservation Institute	4,908	0	0	0	0
Gulf Coast Lab at Cedar Point (USM)	-145	0	0	0	0
Down East Inst. For Marine Research (ME)	986	0	0	0	0
Marine Environmental Health Research Laboratory Enhancement & Equipment	-1,639	0	0	0	0
National Aquarium Partnership	-15	0	0	0	0
Pier Romeo Hardening (Charlestown)	-1,777	0	0	0	0
Kasitsna Bay Laboratory	-25	0	0	0	0
Beaufort Lab Repairs	-3	0	0	0	0
Center for Aquatic Resource Management	5,917	0	0	0	0
Pascagoula River Basin Estuarine Center	1,479	0	0	0	0
Oxford Cooperative Lab	1,480	0	0	0	0
Gulf Coast Marine Aquaculture Laboratory	5,897	0	0	0	0
Subtotal, NOS	87,170	0	12,673	27,673	15,000
<b><u>NMFS</u></b>					
Systems Acq. Computer Hardware & Software	-2,001	0	0	0	0
Aquatic Resources	4,437	0	0	0	0
Pacific Regional Center (Honolulu Fisheries Lab)	-500	0	0	0	0
Barrow Arctic Research Center	5,909	0	0	0	0
Phase III - Galveston Laboratory Renovation - NMFS	2,000	0	0	0	0
Center for Ecosystem-Based Fisheries Management	4,931	0	0	0	0
Pascagoula Laboratory	35,139	0	0	0	0
Fleet Replacement	-3	0	0	0	0
Subtotal, NMFS	49,912	0	0	0	0
<b><u>NWS</u></b>					
WFO Construction	11,912	12,504	12,504	12,504	0
NOAA Center for Weather & Climate Prediction	8,413	19,305	19,305	14,100	-5,205
Subtotal, NWS	20,325	31,809	31,809	26,604	-5,205

<b>NESDIS</b>					
Satellite CDA Facility	2,249	2,228	2,228	2,228	0
Subtotal, NESDIS	2,249	2,228	2,228	2,228	0
<b>PS</b>					
LaJolla Southwest Science Center	0	0	0	3,000	3,000
Pacific Regional Center	19,725	0	0	20,250	20,250
Subtotal, PS	19,725	0	0	23,250	23,250
<b>TOTAL</b>	179,381	34,037	46,710	79,755	33,045

**National Ocean Service**  
**Activity: Construction/Acquisition**

**GOAL STATEMENT:**

Improve capital assets used by the National Ocean Service in carrying out its mission.

**BASE DESCRIPTION:**

Coastal and Estuarine Land Conservation Program

The Coastal and Estuarine Land Conservation Program (CELCP) provides grants to state and local governments to protect important coastal and estuarine areas that have significant conservation, recreation, ecological, historical or aesthetic values, or that are threatened by conversion from their natural or recreational state. The federal grants require matching funds, which leverage additional state, local or private contributions. NOAA has developed and issued guidelines delineating criteria for grant awards and a process for conducting a national competitive grants program under the CELCP. Through this program, NOAA supports efforts to protect important stream corridors and habitats, reduce the flow of polluted runoff into coastal waters, lessen the impacts of coastal flooding from severe storm events, and provide opportunities for coastal recreation and nature-based tourism.

National Estuarine Research Reserve System Construction/Acquisition

The National Estuarine Research Reserve System (NERRS) is a Federal-state partnership designed to protect and understand valuable estuarine resources through research and education. Reserves are publicly owned lands and onsite facilities that provide opportunities for researchers as well as the public to better understand these estuarine areas. Supplementing or updating facilities at the 26 reserves will be carried on in conjunction with the development of system-wide construction plans. All construction activities are carried out based on the current needs for implementing core NERRS program and external opportunities for partnerships. When it is available, reserves will acquire additional, previously identified near-by critical habitat to increase protection and provide places for conducting long-term science, education, and demonstration programs. The facilities and land of the reserves are owned and managed by the states in this Federal-state partnership.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
National Estuarine Research Reserve Construction and Land Acquisition								
Change from FY 2007 Base		0	0	0	0	0		
Total Request	64,424	7,178	7,178	7,178	7,178	7,178	N/A	N/A

Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

National Marine Sanctuary Program Construction/Acquisition

NOAA administers the National Marine Sanctuary System under authority of the National Marine Sanctuaries Act. There are 13 designated national marine sanctuaries and a National Monument in the Northwestern Hawaiian Islands. The sanctuaries include: Monitor (NC), Channel Islands (CA), Gray’s Reef (GA), Gulf of the Farallones (CA), Fagatele Bay (AS), Cordell Bank (CA), Florida Keys (FL), Flower Garden Banks (TX/LA), Gerry Studds Stellwagen Bank (MA), Monterey Bay (CA), Olympic Coast (WA), Thunder Bay (MI) and Hawaiian Islands Humpback Whale (HI). The sanctuaries range in size from one-quarter square mile in Fagatele Bay to over 5,300 square miles in Monterey Bay. Together, these sanctuaries encompass over 18,000 square miles of waters and marine habitats.

The National Marine Sanctuary Program (NMSP) operates and coordinates the nation’s system of marine sanctuaries and the National Monument in the NWHI. Individual sanctuary offices are responsible for the daily operation of a wide variety of education, research, monitoring and management programs. The program has begun implementing a comprehensive facilities plan that prioritizes needs and opportunities at individual sites for constructing exhibits, collaborative education and visibility projects and operational needs. In order to help establish understanding and appreciation for sanctuary resources by the public, the program will begin to construct a network of exhibits, signage and kiosks. Whenever possible, sanctuaries will utilize existing aquaria, museums and other appropriate facilities to develop cooperative centers, where the public and environmental decision makers can gain direct, objective and focused information on conservation issues. These facilities serve as important windows into the resources of the sanctuaries. The goal of these exhibits is to share with the public these ocean treasures. In addition to these outreach (i.e., exhibit) efforts, PAC funding supports operational facility requirements for NOAA-owned facilities, including safety improvements, ADA (Americans with Disabilities Act) upgrades, and replacement and repair.

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2006 & Prior	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Estimate to Complete*	Total Program Estimate
National Marine Sanctuaries Construction Base								
Change from FY 2007 Base		5,495	5,495	5,495	5,495	5,495		
Total Request	56,493	5,495	5,495	5,495	5,495	5,495	N/A	N/A

Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

\*Costs for this program are recurring.

**PROPOSED LEGISLATION:**

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

**SUMMARIZED FINANCIAL DATA**  
(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Construction/Acquisition					
Coastal and Estuarine Land Conservation Program	(60)	-	-	15,000	15,000
Armand Bayou and Genoa-Red Bluff, TX	339	-	-	-	-
Dos Pueblos, CA	(290)	-	-	-	-
Maumee River Basin, Ohio	1,479	-	-	-	-
Orange Beach (Robinson Island) AL	789	-	-	-	-
Babcock Ranch	2,959	-	-	-	-
Blackbird Creek Reserve	1,479	-	-	-	-
Brays Bayou	395	-	-	-	-
Chesapeake Bay	3,943	-	-	-	-
Coastal Ecosystems (Mobile & Baldwin)	4,931	-	-	-	-
Commencement Bay	1,529	-	-	-	-
Common Pasture	247	-	-	-	-
Detroit Riverfront West	2,959	-	-	-	-
Eastern Shore	534	-	-	-	-
Elmer`s Island	247	-	-	-	-
Ferolbink Farm	494	-	-	-	-
Grand River Big Pond	306	-	-	-	-
Herring River	494	-	-	-	-
Hidalgo Park	346	-	-	-	-
Jamestown	1,972	-	-	-	-
Maquoit Bay	542	-	-	-	-
Moose Mountain	986	-	-	-	-
Newfields	1,972	-	-	-	-
Oswegatchie Hills	875	-	-	-	-

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Piedras Blancas	494	-	-	-	-
Pond Brook	1,332	-	-	-	-
Potter Creek/Otis Bogs	494	-	-	-	-
South Carolina Coastal Initiative	1,479	-	-	-	-
Sowams Property	986	-	-	-	-
Tchefuncte Marsh	197	-	-	-	-
Tuniper`s Pond	494	-	-	-	-
Twelve Oaks	887	-	-	-	-
Webster Woods	740	-	-	-	-
Winnicut Headwaters	1,479	-	-	-	-
Subtotal: Coastal and Estuarine Land Conservation Program	38,049	-	-	15,000	15,000
National Estuarine Research Reserve Construction and Land Acquisition	4,846	-	7,178	7,178	-
Great Bay Partnership	5,917	-	-	-	-
Texas NERR	4,344	-	-	-	-
Village Point Park Preserve	986	-	-	-	-
Subtotal: NERRS Acquisition/Construction	16,093	-	7,178	7,178	-
Marine Sanctuaries Construction Base	(9)	-	5,495	5,495	-
Channel Islands National Marine Sanctuary	2,957	-	-	-	-
Thunder Bay NMS Exhibit	986	-	-	-	-
Monterey Bay National Marine Sanctuary	1,479	-	-	-	-
Flower Gardens Banks Patrol Craft	3,156	-	-	-	-
Gulf of Farallones	2,465	-	-	-	-
Small Boats	4,931	-	-	-	-
Subtotal: Marine Sanctuaries Construction/Acquisition	15,965	-	5,495	5,495	-
Conservation Institute	4,908	-	-	-	-

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Gulf Coast Lab at Cedar Point (USM)	(145)	-	-	-	-
Down East Inst. For Marine Research (ME)	986	-	-	-	-
Marine Environmental Health Research Laboratory Enhancement & Equipment	(1,639)	-	-	-	-
National Aquarium Partnership	(15)	-	-	-	-
Pier Romeo Hardening (Charlestown)	(1,777)	-	-	-	-
Kasitsna Bay Laboratory	(25)	-	-	-	-
Beaufort Lab Repairs	(3)	-	-	-	-
Center for Aquatic Resource Management	5,917	-	-	-	-
Pascagoula River Basin Estuarine Center	1,479	-	-	-	-
Oxford Cooperative Lab	1,480	-	-	-	-
Gulf Coast Marine Aquaculture Laboratory	5,897	-	-	-	-
Subtotal: Other NOS Construction/Acquisition	17,063	-	-	-	-
<b>TOTAL</b>	<b>87,170</b>	<b>-</b>	<b>12,673</b>	<b>27,673</b>	<b>15,000</b>
FTE	-	-	-	1	1

Note: The dollars in this table represent budget authority.

### PROGRAM CHANGES FOR FY 2008:

**Coastal and Estuarine Land Conservation Program (1 FTE and +\$ 15,000,000):** NOAA's National Ocean Service requests an increase of \$15,000,000 to conserve high priority coastal and estuarine lands that have significant ecological value and support NOAA's stewardship requirements. The Coastal and Estuarine Land Conservation Program (CELCP) was established "for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses." The program gives priority to lands which can be effectively managed and protected and which have significant ecological value. NOAA developed and issued guidelines delineating criteria for grant awards and a process for conducting a national competitive grants process under the CELCP.

#### Statement of Need

Coastal counties are home to almost 153 million people, about 53 percent of the total U.S. population. On average, about 3,600 people relocate to coastal areas each day, and by 2015 the coastal population is estimated to reach 165 million. As the coastal population continues to increase, there are many

competing demands for limited coastal areas and growing pressure to develop the remaining lands. Coastal lands and estuaries are ecologically productive and economically important. They serve as nursery habitat for two-thirds of the Nation's commercial fish and shellfish as well as nesting and foraging habitat for coastal birds, filter pollutants from stormwater runoff, control flooding after severe storm events, and provide opportunities for coastal recreation and nature-based tourism. The U.S. Ocean Action Plan states: "the continued health and biodiversity of marine and estuarine systems depends on the maintenance of high quality habitat" and that "habitat loss and degradation are key issues facing coasts and estuaries around the country." Program authority for the CELCP is codified at 16 U.S.C. 1456d.

**Proposed Actions**

With this increase, NOAA will provide funding for land conservation projects identified through a competitive selection process, based on habitat types or geographic areas identified by coastal states as having high ecological, conservation, recreational, historic or aesthetic value that are threatened by development, such as tidal or freshwater wetlands, stream buffers, and floodplains. Federal funding requires matching funds, which would leverage additional state, local or private contributions. As part of this voluntary program, coastal states assess their priority needs for land conservation and provide a clear process for identifying and nominating projects to a national selection process. The program's focus on "project areas" encourages public/private partnerships to protect priority areas. State or local governments would own the land or interests in land, which may be acquired from willing sellers only. They would ensure long-term protection and provide public access for passive recreational opportunities or other public benefit. An increase of \$14,250,000 for land conservation grants would support approximately 8-10 conservation projects per year. Program management and coordination costs of \$750,000 amount to 5 percent of the total request and will provide NOAA with resources to manage the program, assist coastal states in developing land conservation plans to participate in the program, and to conduct a competitive project selection process. This funding will also enable NOAA to ensure that conservation projects satisfy the requirements of NEPA and meet federal appraisal standards.

**Benefits**

This request would formally establish the program within the President's Budget and support the Administration's commitment to cooperative conservation of coastal wetlands and habitat. In particular, it would support efforts to protect important stream corridors and habitats important to anadromous fish, reduce the flow of polluted runoff into coastal waters, lessen the impacts of coastal flooding from severe storm events, and provide opportunities for coastal recreation and nature-based tourism. It would also enable NOAA to support strategic program planning and management of the CELCP as a competitive program.

**Performance Goals and Measurement Data**

This increase will support NOAA's strategic goal to "Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management."

<b>Performance Goal: Ecosystem</b>						
<b>Performance Measure:</b> Habitat acres acquired or designated for long-term protection (annual)	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>

Without Increase	0	0	0	0	0	0
With Increase	0	0	0*	~ 2,000 acres	~ 2,000 acres	~ 2,000 acres

\*Note: Project grants would be awarded in FY 2008 with performance results beginning in FY 2009.

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in thousands)</b>								
	FY 2007 & Prior**	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total Program Estimate
CELCP								
Change from FY 2008 Base		15,000	15,000	15,000	15,000	15,000	-	
Total Request	180,960	15,000	15,000	15,000	15,000	15,000	N/A	N/A

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

**National Marine Fisheries Service**  
**Activity: Systems Acquisition / Construction**

**GOAL STATEMENT:**

Provide the non-recurring costs of acquiring or improving capital assets used by NOAA's National Marine Fisheries Service (NMFS) in carrying out its mission.

**BASE DESCRIPTION:**

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Systems Acquisition / Construction					
Systems Acq. Computer Hardware & Software	(2,001)	-	-	-	-
Aquatic Resources	4,437	-	-	-	-
Pacific Regional Center (Honolulu Fisheries Lab)	(500)	-	-	-	-
Barrow Arctic Research Center	5,909	-	-	-	-
Phase III - Galveston Laboratory Renovation - NMFS	2,000	-	-	-	-
Center for Ecosystem-Based Fisheries Management	4,931	-	-	-	-
Pascagoula Laboratory	35,139	-	-	-	-
Fleet Replacement	(3)	-	-	-	-
<b>TOTAL</b>	<b>49,912</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
FTE	-	-	-	-	-

**PROGRAM CHANGES FOR FY 2008:**

No program changes are proposed.

**National Weather Service  
Activity: Construction**

**GOAL STATEMENT:**

See the Overview for the National Weather Service Operations, Research, and Facilities for a discussion of our goals.

**BASE DESCRIPTION:**

**Weather Forecast Office (WFO) Construction:** As part of the National Weather Service (NWS) modernization and associated restructuring, the Weather Forecast Office (WFO) Construction program was started in the late 1980s to meet NWS WFO facility requirements supporting the provision of public weather services and the nationwide NEXRAD radar network. The original scope of the project, completed in FY 1999, included the construction or lease of 117 WFOs (13 of which were co-located with River Forecast Centers) and cost approximately \$250M. Since this time, the NWS has added five WFOs to address service coverage requirements in Guam, Northern Indiana, Caribou, ME, Huntsville, AL and Key West, FL. Other required construction elements currently ongoing include the upgrade and modernization of Alaska and Pacific Region Weather Service Offices, Tsunami Warning Centers, and associated employee housing units, upgrades of Heating, Ventilation, and Air Conditioning (HVAC) systems at approximately 60 WFOs, uninterruptible power supply (UPS) replacements, and mitigation of all building and fire code violations. This construction effort is essential to bring the NWS into full compliance with federal law and national and local building codes.

**FY 2006 Accomplishments**

Pacific Region:

- Honolulu WFO alterations made
- Koror WSO - Identified site and conducted environmental (NEPA) study
- Koror WSO - Awarded arch/eng design contract

WFOs:

- Key West - Posted award modifications/GFE acquisition
- Safety/Code - Safety compliance and code upgrades made
- Upgraded HVAC systems at 6 WFOs
- UPS - Upgraded/replaced systems
- Awarded architectural/engineering programming study for Glasgow WFO expansion

Alaska Region:

- St. Paul Housing - Posted award modifications/GFE acquisition
- McGrath Housing – Launched U.S. Army Corps of Engineers (CoE) real estate acquisition and completed National Environmental Policy Act (NEPA) study
- Annette WSO - Awarded construction contract
- Nome WSO – Awarded design & construction contract in collaboration with FAA
- Barrow WSO – Began architectural/engineering programming study and completed National Environmental Policy Act (NEPA) study.
- Yakutat UA programming study completed and design contract awarded

**FY 2007 Plans**

Pacific Region:

- Koror WSO - Award construction contract through the Navy Facilities Engineering Command
- Phonpei WSO - Identify site and conduct environmental (NEPA) study.
- Phonpei WSO - Award arch/eng design contract

WFOs:

- Safety/Code – Inspect and repair towers / antennas
- Upgrade HVAC systems at 6 WFOs
- Expand Glasgow WFO
- Sterling, VA facilities relocation (thru FAA/MWAA)

Alaska Region:

- Annette WSO/Upper Air Inflation Building (UAIB) – post award modifications/GFE acquisition
- McGrath – Award construction contract for 4 housing units
- Nome WSO - Post award modifications/GFE acquisition (thru FAA)
- Barrow WSO, UAIB and Housing – Award architectural/engineering contract
- Kodiak UAIB – Award construction contract

**FY08 Plans**

Pacific Region:

- Phonpei WSO - Award construction contract through the Navy Facilities Engineering Command
- Koror – Post award modifications/GFE acquisition

WFOs

- Safety/Code - Safety compliance and code upgrades
- Upgrade HVAC systems at 6 WFOs
- UPS - Upgrade/replace systems

Alaska Region:

- Barrow WSO, UAIB and Housing – Award construction contract
- Kodiak UAIB – Post award modifications
- McGrath Housing – Post award modifications

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior	FY 2008	FY 2008	FY 2009	FY 2010	FY 2011	Cost to Complete*	Total Program Estimate
WFO Construction								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	89,554	12,504	12,504	12,504	12,504	12,504	N/A	N/A

\*Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**NOAA Center for Weather and Climate Prediction (NCWCP):** This new facility will replace the current World Weather Building (WWB) with a new state-of-the-art facility to meet the operational requirements of the National Centers for Environmental Prediction (NCEP), the National Environmental Satellite, Data, and Information Service (NESDIS) Office of Research and Applications and Satellite Services Division, and the Office of Oceanic and Atmospheric Research (OAR) Air Resources Laboratory.

FY 2004 funding for the NCWCP enabled NOAA to support the General Services Administration (GSA) to award a build-to-suit lease for the NOAA NCWCP during FY 2004 and includes necessary above standard construction costs. The FY 2004 lease award for NCWCP will ensure occupancy of the new facility in 2008 when the current WWB lease expires. In FY 2005 GSA awarded a build-to-suit lease for NOAA NCWCP to OPUS East, LLC.

FY 2005 funding for the NCWCP enabled NOAA to develop detailed plans to move/transition critical IT infrastructure to the new facility. Once NOAA moves to the new facility, this infrastructure will allow NOAA to continue to provide weather and climate data that serve as foundation for nearly all of the weather forecasts prepared and disseminated in the United States each day. In addition, funds were used to hire contractors to support NCWCP project management.

In FY 2007, construction of the NCWCP will be completed. The \$19.3M will support:

- \$3.1M to implement procurements to complete all tenant improvements and outfitting such as but not limited to: telecommunications cabling (systems acquisition and installation)
- \$7.23M for interior design, system furniture acquisition and installation
- \$0.58M for relocation costs
- \$7.1M to support the one-time relocation of mission critical operational systems from the WWB to the NCWCP. This critical system relocation funding will ensure that NOAA will be able to operate its “mission critical” programs by providing an overlap in system functionality during the physical relocation from the WWB to the NCWCP.
- \$1.3M for project management includes a project manager, space planner, a project engineer and technical support, to provide continued coordination and oversight among all involved parties including GSA, users, contractors, and consultants.

In FY 2008, construction of the NCWCP and NOAA occupancy will be completed. NOAA will complete all tenant improvements and outfitting such as but not limited to:

- additional critical IT system infrastructure, needed to complete the 24x7 transition and other move costs
- additional systems furniture and other outfitting
- project management costs to provide project oversight,
- additional rent, utility, security, and operation & maintenance required for the new facility

The current facility infrastructure is inadequate for supporting NOAA’s technological requirements, as is detailed in the program change section of this document.

### **Implementation**

Department of Commerce senior management and the State of Maryland have agreed on a shared vision to build a Center of Excellence for Environmental Research, Education, Applications and Operations in close proximity to an academic institution. The NOAA/GSA facility acquisition process is underway: Congress has approved the lease prospectus and the site acquisition process has begun.

### **Outcomes**

The NWS has demonstrated the positive results of co-locating its facilities with academic institutions or laboratories to accelerate transitioning research into operations and to improve operational performance. Whenever possible, the NWS Modernization co-located NWS forecast offices with research laboratories or universities (22 forecast offices collocated with laboratories or universities). Synergistic interactions between NOAA and the academic community will lead to improved model performance and produce the following outcomes:

- Improved model forecasts and all aspects of the NWS forecast goals for climate and weather
- Accelerated use of global satellite data through state-of-the-art data assimilation systems

- Accelerated infusion of new science into operations. Experience with synergistic relationships shows a reduction from 7-10 years to 1-3 years (NWS WFOs co-located with academic institutions have shown accelerated performance improvement).
- Enhanced ability to recruit and retain key personnel, with the average number of applicants for key leadership and scientific positions at NCEP increasing from 2 to 3 to greater than 10

NOAA demonstrated improvement of weather forecast performance scores following the co-location of NWS Forecast Offices with research laboratories and universities. By following this model, NOAA intends to accelerate the transfer of weather and climate research into operations, improve forecast models, and provide a focus for improving environmental satellite data assimilation. Further, co-locating the new facility in a scientific, academic setting will increase the recruitment and retention of top scientists as needed to advance NOAA's Programs.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
WFO Construction	11,912	12,504	12,504	12,504	-
NOAA Center for Weather & Climate Prediction	8,413	19,305	19,305	14,100	(5,205)
<b>TOTAL</b>	<b>20,325</b>	<b>31,809</b>	<b>31,809</b>	<b>26,604</b>	<b>(5,205)</b>
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

**NOAA Center for Weather and Climate Prediction (NCWCP) (+0 FTE and -\$5,205,000)**: NOAA requests a decrease of \$5,205,000 and 0 FTE for a total of \$14,100,000 to complete the NOAA Center for Weather and Climate Prediction (NCWCP) building project. NOAA personnel will begin to occupy and operate the NCWCP in March 2008 and the move will be completed by July 2008. To avoid further project delays, NOAA must complete the purchase and installation and checkout of IT equipment, systems furniture, other government furnished equipment, hire movers and pay rent on the new facility. The restored funds will allow the implementation of overlap operations of 24x7 mission critical systems. This overlap operation has been planned and will be closely coordinated to ensure that data and products critical to the protection of life and property in the U.S. are not interrupted during the move to NCWCP.

**Statement of Need/Background**

The NCWCP is a joint project supported by NOAA, and the General Services Administration (GSA). The current World Weather Building (WWB) is leased under the authority of GSA. The lease expires in April 2008. GSA has determined that it is no longer viable to extend the lease, and has received prospectus authority from Congress to acquire a new lease to replace the WWB. It has been determined that the WWB infrastructure is no longer capable of supporting NOAA's technological requirements. The infrastructure is becoming increasingly unreliable and is impacting NOAA's ability to efficiently and reliably maintain sensitive 24-hour, 7-day per week, mission critical operations in a secure environment. The facility contains no raised flooring required for computer spaces and for the management of data and telecommunications cabling. It has obsolete mechanical and electrical systems that are no longer capable of sustaining the operations in the building and are becoming increasingly harder to repair due to the dwindling availability of parts. Further, the facility is located in a high crime area, and the growth in sensitive programs requires increased security. Lastly, the short-term steps to meet program growth have also perpetuated deficient working conditions for employees. The current facility deficiencies add risk to continuity of operations and provide an inadequate work environment. Because of these issues, it has become difficult to recruit and retain quality personnel at NCEP and NESDIS. The new

facility will provide reliable critical communications systems, and the facilities infrastructure required to support the operational requirements of the National Centers for Environmental Prediction (NCEP), the National Environmental Satellite, Data, and Information Service (NESDIS) Office of Research and Applications and Satellite Services Division, and the Office of Oceanic and Atmospheric Research (OAR) Air Resources Laboratory.

The award of the lease by GSA in September 2005 ensures occupancy of the new facility by April 2008. FY 2005 funding provided project management for NOAA, and allowed NOAA to initiate the planning and engineering required to support the mission systems relocation. In FY 2006, \$8.4M allowed NOAA to (1) complete NCWCP construction documentation, (2) continue project management support and mission system relocation planning and (3) initiate the procurement of long lead furnishings, fixtures, and equipment. All outfitting requirements for FY 2006 were specifically tied to the building infrastructure, such as security and telecommunications systems that had to be integrated into the building design and construction work. The FY 2006 effort also involved the initial transition of the mission systems to the NCWCP. To support the transition of 24x7 communications, orders were placed for relocated high speed specialized data circuits between the new facility and other organizations obtaining critical weather data from NWS. This also involved implementing temporary communications bridges between the existing and new facility to facilitate testing and validation of the new installations in the NCWCP prior to closing down operational systems in the current facility. FY 2006 funding was used to complete the detailed planning of equipment layouts for mission systems, communications room, and technical spaces necessary to support the dissemination of information during major weather events. The relocation planning was fully coordinated to reduce the cost impact to the NCWCP project by implementing information technology infrastructure replacement in concert with planned NCEP cyclic replacement schedule.

FY 2007 NOAA requested \$19,305,000 to prepare the NOAA Center for Weather and Climate Prediction (NCWCP) for FY 2008 occupancy and operations. Phased delivery of NCWCP space is scheduled to begin in March of FY 2008. To avoid project delays and increased double rent costs that are not budgeted, NOAA must be ready to purchase furnishings, and install systems and equipment during the months immediately preceding completion of the move. The furniture must be installed to perform final fire marshal inspections and to obtain local jurisdiction occupancy permits. Lastly, the funding will be used for project management tasks supporting technical oversight of the construction, occupancy, and mission critical systems relocation processes.

### **FY 2008 Implementation Plan**

This project is a key component of the NWS' effort to improve its weather and climate modeling performance, to accelerate the transfer of newly developed scientific information into operations, and to improve the use of global environmental satellite data. NWS has demonstrated a direct linkage between establishing new facilities in the proximity of research organizations, and improved program performance. The expiration of the WWB lease dictates the timing of the NCWCP Project and affords an outstanding opportunity to enhance the NWS efforts to protect the continuity and flow of critical weather warning, forecasts and data products to the Public.

In FY 2008, construction of the NCWCP and NOAA occupancy will be completed. NOAA will complete all tenant improvements and outfitting such as but not limited to:

- Additional critical IT system infrastructure, needed to complete the 24x7 transition and other move costs (\$3.27M),

- Additional systems furniture and other outfitting (\$2.625M),
- Project management costs (\$1.505M) to provide project oversight,
- Additional rent, utility, security, and operation & maintenance required for the new facility (\$6.7M).

These funds are critical to the completion of the NCWCP project and have been well planned and activities coordinated.

**Schedule**

<b>Milestones</b>	<b>Scheduled Completion Date</b>
<b>Site Acquisition</b>	February 6, 2004
<b>Lease Acquisition</b>	
Lease Award	September, 2005
Design Start	September 2005
Construction Start	November, 2006
<b>Occupancy</b>	
Move Start	March, 2008
Move Complete	July, 2008
<b>Lease for World Weather Building Expires</b>	April 30, 2008

**Outcomes**

The NWS has demonstrated the positive results of co-locating its facilities with academic institutions or laboratories to accelerate research into operations and improve performance. Whenever possible, the NWS Modernization included the co-location of NWS Weather Forecast Offices (WFOs) with Research Laboratories/Universities (22 forecast offices collocated with laboratories, university campuses). Synergistic interactions between NOAA and the academic community will lead to improved model performance and produce the following outcomes:

- Accelerated use of global satellite data through state-of-the-art data assimilation systems.
- Improved model forecasts will improve all aspects of the NWS forecast goals for climate and weather.
- Decreased the time needed to infuse new science into operations.
- Experience with synergistic relationships shows a reduction in the time needed to infuse new science into operations from 7-10 years to 1-3 years  
NWS WFOs co-located with academic institutions have shown accelerated performance improvement.
- The new facility will significantly enhance NOAA’s ability to recruit and retain key personnel by increasing average number of applicants for key leadership and scientific positions at NCEP from 2 to 3 to greater than 10.

NOAA demonstrated improvement of weather forecast performance scores following the co-location of NWS WFOs with research laboratories and universities. By following this model, NOAA intends to accelerate the transfer of weather and climate research into operations, improve forecast models, and provide a focus for improving environmental satellite data assimilation. Further, co-locating the new facility in a scientific, academic setting will increase the recruitment and retention of top scientists needed to advance NOAA’s programs.

**Performance Goals and Measurement Data**

This increase will support both objectives under the DOC Strategic Goal of ‘Observe, protect, and manage the Earth’s resources to promote environmental needs’, as well as all four of NOAA’s mission goals. Specifically, this increase supports NOAA's Mission Support Strategic Goal and the performance measures below.

The finding increase will support both objectives under the DOG Strategic Goal of ‘Observe protect, and manage the Earth’s resources to promote environmental needs’, as well as NOAA’s Mission Support strategic goal.

OUTYEAR FUNDING ESTIMATES								
(BA in Thousands)								
	FY 2007 & Prior	FY 2008	FY 2009*	FY 2010*	FY 2011*	FY 2012*	Cost to Complete**	Total Program Estimate
NCWCP								
Change from FY2007 Base		(5,205)	(12,605)	(12,605)	(12,605)	(12,605)		
Total Request	40,278	14,100	6,700	6,700	6,700	6,700	N/A	54,378

\*The costs cited for FY 2009 onward represent increased lease payments for this facility and will be moved to the Operations, Research, and Facilities appropriation in FY 2009.

\*\* Outyear costs are estimates and are subject to change. Future requests will be determined through the annual budget process.

**National Environmental Satellite, Data, and Information Service**  
**Activity: Construction**

**GOAL STATEMENT:**

The Nation requires sound and secure facilities and infrastructure to house the equipment and workforce needed to ensure uninterrupted acquisition of data from its environmental satellites.

**BASE DESCRIPTION:**

**Satellite Command and Data Acquisition (CDA) Infrastructure – Protecting Critical Operational Capabilities:** NOAA’s CDA Infrastructure program at the Wallops and Fairbanks CDAs is to ensure continuation of the current 99.9 percent data availability for NOAA environmental satellite systems. The Wallops and Fairbanks facilities and infrastructure are over 40 years old. Major systems at both facilities are operating well past their design lives and require maintenance, repair, and in many cases, replacement. The Fairbanks facility is located in a seismic zone and operates in severe Sub-Arctic conditions, with temperatures routinely reaching minus 60 degrees Fahrenheit during the winter months. The Wallops facility, on the Atlantic coast, is subject to a corrosive salt air environment and lies in the path of hurricanes that hit the US East Coast. Both stations have been determined to be critical national infrastructure elements by Presidential Decision Directive.

NOAA has developed facilities master plans for Wallops and Fairbanks facilities. NOAA will incrementally implement the facilities master plans to support a phased, multi-year program to comprehensively renovate and modernize the facilities, infrastructure, and equipment to minimize or eliminate safety, hazardous materials, waste water treatment, and other deficiencies at the facilities that could lead to outages and service disruptions caused by failure of supporting infrastructure at the stations.

Base activities support Objective 3.5 “Provide critical support for NOAA’s mission” under the Department of Commerce Strategic Goal of "Observe, protect, and manage the Earth’s resources to promote environmental stewardship".

OUTYEAR FUNDING ESTIMATES (BA in Thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Cost to complete*	Total
<b>Continuity of Critical Facilities</b>								
Change from FY 2008 Base		-	-	-	-	-		
Total Request	6,695	2,228	2,228	2,228	2,228	2,228	11,140	28,975

\* Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process. Recurring costs are estimated through 2017.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
Satellite CDA Facility	2,249	2,228	2,228	2,228	-
TOTAL	2,249	2,228	2,228	2,228	-
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

None.

**Program Support**  
**Activity: Construction**

**GOAL STATEMENT:**

NOAA's facilities constitute a significant and important capital investment, and are integral to NOAA's mission accomplishment. NOAA's Facility Modernization program is designed to ensure that NOAA has safe, sound and secure facilities and infrastructure to house our workforce and the technology and equipment needed to ensure the uninterrupted accomplishment of its critical scientific and operational mission and programs. The Facility Modernization program will ensure excellence in NOAA's facilities, consistent with NOAA's Strategic Plan, Executive Order 13327 (*Federal Real Property Asset Management*) and Federal Real Property Council guidance. Improving the conditions of NOAA's facilities allows NOAA to accomplish our mission safely and successfully; it also promotes our attracting and retaining a high-performing workforce.

**BASE DESCRIPTION:**

NOAA uses over 800 different "facilities" (i.e., both owned and leased buildings), and owns more than 400. NOAA's owned and leased buildings have a current replacement value (CRV) of over \$4 billion. Of that, more than 50 percent (442) are owned and operated by NOAA with a CRV over \$2 billion. These buildings are aging, with more than 32 exceeding the target life expectancy of 50 years old. NOAA's facilities are often subject to extremes of climate and weather, and therefore require higher levels of maintenance and are more prone to unplanned repairs and investments needed to keep them safe, secure and environmentally sound. NOAA has historically undercapitalized repair and replacement investment, resulting in continued deterioration of the NOAA facility portfolio and increased safety and operational risks, overall risk of operational failure, and increased costs downstream. The clear lesson is that greater attention to facilities issues is needed, and additional investments in facilities is required to sustain mission readiness in the future.

The major components of NOAA's Facility Modernization Program supported under PAC are construction projects to repair and renovate facilities damaged by inadequate sustainment, excessive age, natural disasters, fires, accidents, or other causes; and recapitalization and modernization projects to keep the NOAA inventory of facilities modern and relevant in an environment of changing standards and missions.

The Office of the NOAA Chief Administrative Officer (CAO) has overall responsibility for the NOAA Facilities Program and specifically is responsible for the following:

- Provides planning guidance.
- Establishes priorities with Line Offices/Goals/Programs' input for restoration and recapitalization investments.
- Executes restoration and recapitalization projects as "Provider of Choice"—optimizing investments in strengthening NOAA's facility program.
- Oversight and corporate reporting on execution.

- Sustainment of corporate owned complexes.

In supporting NOAA's mission and program accomplishment, the Facility Modernization Program has established the following Program objectives:

- Integrate facility requirements as part of NOAA's planning, programming, budgeting and execution system;
- Sustain, restore and modernize NOAA's facilities to optimize NOAA program and mission accomplishment;
- Maximize opportunities for collocation within NOAA, and with NOAA and its partners to promote programmatic synergy and effective use of real property assets.
- 

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Construction					
LaJolla Southwest Science Center	-	-	-	3,000	3,000
Pacific Regional Center	19,725	-	-	20,250	20,250
<b>TOTAL</b>	<b>19,725</b>	<b>-</b>	<b>-</b>	<b>23,250</b>	<b>23,250</b>
FTE	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

**Pacific Regional Center (+0 FTE and \$20,250,000):** NOAA requests an increase of 0 FTE and \$20,250,000 to begin construction of the next phase of the new Pacific Regional Center on Ford Island in Honolulu, HI. This requested increase will enable NOAA to continue consolidation of its current locations on the island of O’ahu.

**Statement of Need**

Continuing to defer critical capital investment improvements needed in the existing NMFS Dole Street Lab facility at the University of Hawai’i, Manoa, requires employees to work in facilities that are substandard and barely up to building occupancy codes. NOAA has made such emergency repairs as are necessary to continue the service life of the Dole Street Lab facilities through 2011, with the intended plan to abandon these facilities by this date and allow the property to revert to the University of Hawai’i. If the construction is delayed, science programs at the Dole Street Lab will continue to suffer because it is not possible to hire the staff necessary to conduct those programs and provide them with a place to work. Also, the seawater laboratory facility at Kewalo Basin is overcrowded, and NOAA has been notified that we are subject to cancellation of our current month-to-month agreement due to a larger development plan for this location by the State.

In July 2004, the Navy offered Ford Island as a possible site for a new construction. The Ford Island site consists of a 30-acre parcel on Ford Island, a federally owned (Navy) property. The site includes two piers (Piers F-9 and F-10), and small-boat piers. Ford Island is designated as a national historic landmark, with the NOAA site including several World War II-era buildings/hangars. NOAA, following completion of the required National Environmental Policy Act (NEPA) analyses, selected Ford Island as the site for the new Center. NOAA intends to develop the facility through a combination of adaptive re-use of existing structures and new construction. Funding to date has enabled initiation of ship operations facility (building #184) and pier renovations for NOAA ships, as well as initiation of construction activities for building #130. Funding

requested in FY 2008 will enable continuation of the phased construction program, specifically supporting the initiation of renovation of building #176.

**Proposed Actions**

The requested funding will support the renovation of building #176.

**Benefits**

The Ford Island location offers a number of benefits to NOAA:

- Unique opportunity for NOAA to be part of a major redevelopment of Federal (historic landmark) property.
- No-cost federal land for development.
- Substantial NOAA cost avoidance, given major (\$80-100 million) in new water and sewer infrastructure investments on Ford Island as part of unique Federal legislation.
- Expedited NEPA process (requires only an Environmental Assessment (EA); the result is a projected 12-15 month abbreviated process).
- Workable balance between public accessibility and a secure facility.
- Collocation with Naval UnderSea Warfare Command—which does extensive research on sonar and its impact on marine mammals—will promote improved partnership and collaboration on such issues as reducing Right Whale ship strikes.

**Performance Goals and Measurement Data**

This increase will support the Department of Commerce Strategic Goal of “Observe, protect, and manage the Earth’s resources to promote environmental stewardship.” Specifically, this increase supports the NOAA cross-cutting priority of organizational excellence, especially as it pertains to Facilities.

<b>Performance Goal: Mission Support</b>	<b>FY 2008 without Increase</b>	<b>FY 2008 with Increase</b>
Improved safety and condition indices at NOAA’s facilities	Deferment of construction continued accrued rent and increased maintenance/repair cost.	NOAA will be able to continue construction to deliver a quality facility that is both functional and cost effective to the government.

<b>OUTYEAR FUNDING ESTIMATES</b>								
<b>(BA in Thousands)</b>								
	<b>FY 2007 &amp; Prior</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>Estimate to Complete</b>	<b>Total Program Estimate</b>
<b>Pacific Regional Center</b>								
Change from FY 2008 Base		20,250	75,721	0	0	0		

Total Request	63,598	20,250	75,721	0	0	0	0	159,569
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**La Jolla Southwest Fisheries Science Center (+0 FTE and \$3,000,000):** NOAA requests an increase of 0 FTE and \$3,000,000 to begin the design phase for the construction of the replacement laboratory facility for the La Jolla Southwest Fisheries Science Center in La Jolla, California.

**Statement of Need**

NOAA’s National Marine Fisheries Service (NMFS) Southwest Fisheries Science Center (SWFSC) headquarters in La Jolla, California, is at risk due to continuing cliff erosion. Numerous geotechnical studies of the current site have identified natural cliff erosion as inevitable, and have stated that failure of the cliff (and facilities located on the cliff) is inevitable. The cliff erosion has forced NOAA to develop plans to abandon two of the four buildings at this facility and to move into temporary offsite leased space and modular units. This temporary housing arrangement adversely affects ongoing operations and science at the facility, and is not a long-term solution. NOAA has examined alternatives to the current situation including dispersing operations to other NOAA locations (none of which are in the La Jolla area) and reported these alternatives as part of a 2004 report to Congress on site alternatives, including dispersing operations to other NOAA locations (none of which are in the La Jolla area) and reported these alternatives as part of a 2004 report to Congress on site alternatives. The funding requested in FY 2008 will support design of a potential replacement facility.

**Proposed Actions**

The funding requested in FY 2008 will support design of a potential replacement facility.

**Benefits**

Support for this initiative would enable NOAA to address the ongoing natural bluff erosion threatening the current site, and the NOAA programs supported at this site. NOAA conducts scientific research on critical fisheries management issues at the SWFSC. These scientific research and fisheries management programs have extended social and economic impacts in the Pacific.

This project will enable NOAA to continue to conduct these important programs in a safe environment.

**Performance Goals and Measurement Data**

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

<b>Performance Goal: Mission Support</b>	<b>FY 2008 without Increase</b>	<b>FY 2008 with Increase</b>
Improved safety and condition indices at NOAA’s facilities	Deferment of construction of new building; extension of the term of the interim, temporary solution.	NOAA will be able to continue construction to deliver a quality facility that is both functional and cost effective to the government.

**OUTYEAR FUNDING ESTIMATES**  
(BA in Thousands)

	<b>FY 2007 &amp; Prior</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>Estimate to Complete</b>	<b>Total Program Estimate</b>
<b>Facilities - La Jolla SWFSC Design</b>								
Change from FY 2008 Base	-	3,000	0	0	0	0	0	0
Total Request	-	3,000	0	0	0	0	0	5,081

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 PROCUREMENT, ACQUISITION AND CONSTRUCTION  
 FLEET REPLACEMENT FY 2008 OVERVIEW

**SUMMARIZED FINANCIAL DATA**

(\$ in thousands)

Procurement, Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
<b>PS</b>					
Small Waterplane Area Twin Hull (SWATH) Vessel	1,692	0	0	0	0
Upgrades to NOAA Vessels	3,210	0	0	0	0
Vessel Equipment and Technology Refreshment	0	0	0	1,000	1,000
Fisheries Survey Vessels	50,937	0	13,791	0	-13,791
FSV Calibration	0	2,600	3,500	0	-3,500
Autonomous Underwater Vehicles Sensors	2,959	0	0	0	0
Hydro Survey Launch Construction	0	0	2,400	2,400	0
Temporary Berthing	0	1,000	1,000	1,000	0
Subtotal, PS	58,798	3,600	20,691	4,400	-16,291
<b>Total</b>	58,798	3,600	20,691	4,400	-16,291

**BASE DESCRIPTION:**

The objectives of this subactivity are to:

- Capture the non-recurring costs of acquiring or improving vessels used by NOAA in carrying out its varied missions.
- Allow NOAA to realize procurement efficiencies, management accountability, and to reflect the full cost of acquisition and/or improvement and upgrade of ships, ship systems, subsystems, and equipment.

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

**Program Support**  
**Activity: Fleet Replacement**

**GOAL STATEMENT:**

To modernize NOAA’s ship support for oceanographic research, fisheries research, hydrographic surveys, and environmental assessment to allow critical data collection requirements to be met effectively.

**BASE DESCRIPTION:**

The objectives of this subactivity are to:

- Capture the non-recurring costs of acquiring or improving vessels used by NOAA in carrying out its varied missions.
- Allow NOAA to realize procurement efficiencies, management accountability, and to reflect the full cost of acquisition and/or improvement and upgrade of ships, ship systems, subsystems, and equipment.

Base activities support the Department of Commerce objective, “Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.”

**Hydro Survey Launch Construction:** NOAA is constructing new hydrographic survey launches equipped with multibeam sonar equipment, as part of a multi-year initiative to replace aging launches, most over 20 years old, on various NOAA vessels. The plan is to replace two survey launches each year, until a total of twelve launches have been replaced.

	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Estimate to Complete	Total Program Estimate
Hydro Survey Launch Construction								
Change from FY 2008 Base		0	0	0	0	0		
Total Request	2,400	2,400	2,400	2,400	2,400	2,400		14,400

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

**Temporary Berthing:** To address berthing issues within the NOAA fleet, funding will be provided for temporary berthing for vessels until a permanent berthing plan is established.

OUTYEAR FUNDING ESTIMATE (BA in Thousands)								
	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Estimate to Complete	Total Program Estimate
Temporary Berthing								
Change from FY 2007 Base	0	0	0	0	0	0		
Total Request	1,000	1,000	1,000	1,000	1,000	1,000		6,000

\*Outyear costs are estimates and subject to change. Future requests will be determined through the annual budget process.

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Fleet Replacement					
Small Waterplane Area Twin Hull (SWATH) Vessel	1,692	-	-	-	-
Upgrades to NOAA Vessels	3,210	-	-	-	-
Vessel Equipment and Technology Refreshment	-	-	-	1,000	1,000
Fisheries Survey Vessels	50,937	-	13,791	-	(13,791)
FSV Calibration	-	2,600	3,500	-	(3,500)
Autonomous Underwater Vehicles Sensors	2,959	-	-	-	-
Hydro Survey Launch Construction	-	-	2,400	2,400	-
Temporary Berthing	-	1,000	1,000	1,000	-
<b>TOTAL</b>	<b>58,798</b>	<b>3,600</b>	<b>20,691</b>	<b>4,400</b>	<b>(16,291)</b>
<b>FTE</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>(5)</b>

Note: This table reflects the budget authority.

**PROGRAM CHANGES FOR FY 2008:**

NOAA requests a net decrease in this subactivity of 7 FTE and \$16,291,000 for a total of 5 FTE and \$4,400,000. This request will enable NOAA to replace two hydro survey launches that have exceeded their useful lives and provide technological improvements to NOAA vessels.

**Vessel Equipment and Technology Refreshment (+0 FTEs and \$1,000,000):** NOAA requests 0 FTE and \$1,000,000 to replace mission equipment on NOAA vessels to avoid obsolescence and maintain expertise in vital missions. There will be a rolling replacement schedule to ensure that ship instrumentation keeps up with technological improvements to ensure that NOAA data collection is accurate and up to date. In FY 2008, RONALD H. BROWN, NANCY FOSTER, THOMAS JEFFERSON, and RAINIER also will receive technological updates.

The request will create a sustainable method to update key technology and maintain our expertise throughout all NOAA programs. This initiative would contribute to replacing antiquated multibeam sonar systems and side scan sonars, updating fisheries scientific sounders, refreshing data management systems, replacing obsolete equipment, restoring vital instrumentation on NOAA ships that increase cost effectiveness and efficiency while supporting

program missions. Technology refreshment and support will also add additional capability to the NOAA fleet through innovation and expertise. Below is the pending profile planned for FY 2008:

Data Acquisition and Processing System (RONALD H. BROWN, NANCY FOSTER)	\$ 200,000
Side-Scan Sonars (THOMAS JEFFERSON)	200,000
Moving Vessel Profilers (RAINIER, NANCY FOSTER)	<u>600,000</u>
	\$1,000,000

### **Statement of Need**

Technology upgrades are needed on RONALD H. BROWN to ensure that it remains a state-of-the art oceanographic and atmospheric research vessel that supports research on the world's oceans and climate. Specifically, these funds will allow for the replacement of out-of-date computer and data storage systems used to support the multibeam system which is scheduled for replacement in FY 2009. Modern data-collection systems are required to enable NANCY FOSTER to acquire accurate data on the coastal areas along the U.S. Atlantic and Gulf coasts. Side scan sonars are crucial for THOMAS JEFFERSON to provide pictures of the ocean floor to conduct hydrographic surveys to update NOAA's nautical charts. Systems used aboard THOMAS JEFFERSON and her two hydrographic launches are approaching the end of their useful lives and will be replaced using the requested funds. A Moving Vessel Profiler System is necessary for RANIER to gather sound-velocity information without stopping operations to do individual sound-velocity casts. Addition of the Moving Vessel Profiler Systems to THOMAS JEFFERSON and FAIRWEATHER in FY2005 has produced dramatic increases in productivity. Increasing RAINIER's productivity in Alaska waters will decrease the backlog of critical charting requirements.

### **Proposed Action**

NOAA proposes to upgrade the technology on its vessels through an on-going, rolling replacement schedule to ensure that accurate and up-to-date collection of data.

### **Benefits**

Equipment needs to be updated every three years in order to sustain the influx of improved and increased data acquisition as well as replace antiquated systems that are obsolete from age and lack of memory capacity. Replacing and upgrading data acquisition and processing system will allow for increased speed and efficiency. Replacing computers and adding modern, high-volume memory storage alone can double the volume of data being processed in the same period of time.

Side scan sonars are specialized sonars used for searching and detecting objects on the seafloor. Like other sonars, a side scan transmits sound energy and analyzes the return signal (echo) that has bounced off the seafloor or other objects. The strength of the return echo is continuously recorded creating a "picture" of the ocean bottom. Multibeam sonars are similar to side scan sonars, but the output data is in the form of depths rather than images. Instead of continuously recording the strength of the return echo, the multibeam system measures and records the time for the acoustic signal to travel from the transmitter (transducer) to the seafloor (or object) and back to the receiver. Multibeam sonars are generally attached to a vessel, rather than being towed like a side scan. Moving vessel profilers will allow accurate data collection without the need to stop the vessels. The profiler can be deployed into the waters

while the vessels are underway. The system is completely autonomous and can be controlled by computer without the requirement for personnel on deck. This serves the purpose of extending operations by not relying on deck crew after normal working hours.

Technology refreshments on NOAA vessels will directly contribute to the performance objective to "increase number of ship operating days and aircraft flight hours that meet NOAA's data collection requirements with higher customer satisfaction" and the associated desired outcome of having "ship, aircraft and satellite programs that ensure continuous observation of critical environmental conditions". This initiative is an essential part of NOAA's cross-cutting and multi-mission objectives across the fleet.

**Performance Goals and Measurement Data**

This increase will support the objective, "Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs" under the Department of Commerce strategic goal of "Observe, protect, and manage the Earth's resources to promote environmental needs." Specifically, this increase supports the NOAA Commerce and Transportation Goal and the following performance measure.

<b>Performance Goal:</b> Vessel Equipment and Technology Refreshment (Support of hydrographic surveys and physical oceanographic data collection)	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
<b>Without Technology Refresh</b>	Risk sustaining productivity	Risk sustaining productivity	Risk sustaining productivity	Risk sustaining productivity	Risk sustaining productivity	Risk sustaining productivity
<b>With Technology Refresh</b>						
Data Acquisition and Processing Systems	Increase processing by 0%	Increase processing by 0%	Increase processing by 8%	Increase processing by 30%	Increase processing by 35%	Increase processing by 40%
Side Scan Sonars	Sustain survey productivity	Sustain survey productivity	Sustain survey productivity	Sustain survey productivity	Sustain survey productivity	Sustain survey productivity
Moving Vessel Profilers	Increase data acquisition by 0%	Increase data acquisition by 0%	Increase data acquisition by 7%	Increase data acquisition by 25%	Increase data acquisition by 31%	Increase data acquisition by 37%

Technology Refreshment and Vessel Equipment	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Estimate to Complete	Total Program Estimate
Change from FY 2007 Base		1,000	3,000	3,000	3,000	3,000	N/A	13,000
Total Request	0	1,000	3,000	3,000	3,000	3,000	N/A	13,000

**Fisheries Survey Vessels (FSV) (-0 FTE and -\$13,791,000):** A reduction of \$12,791,000 for completion of FSV 4 construction and \$1,000,000 for FSV 3 contract close out.

FSV Construction	FY 2007 & Prior	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Estimate to Complete	Total Program Estimate
Change from FY 2007 Base		(13,791)	(12,826)	(13,791)	(13,791)	(13,791)		
Total Request	119,000	0	965	0	0	0	0	119,625

**TERMINATIONS FOR FY 2008:**

**Fisheries Survey Vessel (FSV) calibration (HENRY B. BIGELOW Overlap with ALBATROSS IV (-7 FTE and -\$3,500,000):** The FSV calibration is terminated because it will be completed in FY 2007. ALBATROSS IV will be retired in FY 2008.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 PROCUREMENT, ACQUISITION AND CONSTRUCTION  
 AIRCRAFT REPLACEMENT FY 2008 OVERVIEW

**SUMMARIZED FINANCIAL DATA**

(\$ in thousands)

Procurement, Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
<b>PS</b>					
Required Safety & Regulatory Upgrades to Various Aircraft	-46	0	0	0	0
WP-3D	8,985	0	0	0	0
Aircraft Equipment and Technology Refreshment	4,495	0	0	0	0
Aircraft Acquisition and Replacement	11,988	0	0	0	0
Subtotal, PS	25,422	0	0	0	0
<b>Total</b>	25,422	0	0	0	0

**Program Support**  
**Activity: Aircraft Replacement**

**GOAL STATEMENT:**

To modernize NOAA's aircraft support to allow NOAA data-collection requirements to be met effectively.

**BASE DESCRIPTION:**

The objectives of this subactivity are to:

- Capture the non-recurring costs of acquiring or improving aircraft used by NOAA in carrying out its varied missions.
- Allow NOAA to realize procurement efficiencies, management accountability and to reflect the full cost of acquisition and/or improvement of and upgrades of aircraft, aircraft systems, subsystems, and equipment.

Base activities support the Department of Commerce objective, "Provide critical support for NOAA's mission."

**PROPOSED LEGISLATION:**

None.

**SUMMARIZED FINANCIAL DATA**

(Dollars in thousands)

Procurement Acquisition and Construction	FY 2006 ACTUALS	FY 2007 CURRENTLY AVAILABLE	FY 2008 BASE PROGRAM	FY 2008 ESTIMATE	INCREASE / DECREASE
Line Item: Aircraft Replacement					
Required Safety & Regulatory Upgrades to Various Aircraft	(46)	-	-	-	-
WP-3D	8,985	-	-	-	-
Aircraft Equipment and Technology Refreshment	4,495	-	-	-	-
Aircraft Acquisition and Replacement	11,988	-	-	-	-
<b>TOTAL</b>	<b>25,422</b>	-	-	-	-
<b>FTE</b>	-	-	-	-	-

Note: The dollars in this table represent budget authority.

**PROGRAM CHANGES FOR FY 2008:**

None.

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Department of Commerce  
National Oceanic and Atmospheric Administration  
Procurement Acquisition and Construction  
Contribution to the NOAA Strategic Planning Goals and Objectives  
(Dollar amounts in thousands)

<b>Procurement Acquisition and Construction</b>	FY 2006 Actuals	FY 2007 Currently Available	FY 2008 Base Program	FY 2008 Estimate	Inc/Dec from Base
	Amount	Amount	Amount	Amount	Amount
<b>Climate</b>					
Climate	8,876	6,971	6,971	6,971	-
Total C	8,876	6,971	6,971	6,971	-
<b>Ecosystems</b>					
Ecosystems	59,538	-	7,178	22,178	15,000
Total ECO	59,538	-	7,178	22,178	-
<b>Mission Support</b>					
MS	955,408	907,792	930,378	870,334	(60,044)
Total MS	955,408	907,792	930,378	870,334	(60,044)
<b>Weather and Water</b>					
Weather and Water	109,518	83,940	85,210	82,410	(2,800)
Total WW	109,518	83,940	85,210	82,410	(2,800)
Total Procurement Acquisition and Construction	1,133,340	998,703	1,029,737	981,893	(47,844)

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**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

Activity: Procurement,  
 Acquisition, and Construction  
 Subactivity: Systems Acquisition

		FY 2006		FY 2007		FY 2008		FY 2008		Inc/Dec	
		Actuals		Currently Available		Base Program		Estimate		from Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
<b>OAR</b>											
Research Supercomputing /	Pos/BA	-	9,369	-	10,379	-	10,379	-	10,379	-	-
CCRI	FTE/OBL	-	9,521	-	10,379	-	10,379	-	10,379	-	-
Air Force Radiometer Hurricane	Pos/BA	-	-	-	-	-	-	-	-	-	-
Processing	FTE/OBL	-	15	-	-	-	-	-	-	-	-
<hr/>											
Total OAR	Pos/BA	-	9,369	-	10,379	-	10,379	-	10,379	-	-
	FTE/OBL	-	9,536	-	10,379	-	10,379	-	10,379	-	-
<b>NWS</b>											
ASOS	Pos/BA	-	6,206	-	3,935	-	3,935	-	1,635	-	(2,300)
	FTE/OBL	8	6,206	9	3,935	9	3,935	9	1,635	-	(2,300)
AWIPS	Pos/BA	68	13,197	68	12,764	68	12,764	68	12,764	-	-
	FTE/OBL	12	10,307	15	16,146	15	12,764	15	12,764	-	-
NEXRAD	Pos/BA	-	8,197	-	8,376	-	8,376	-	8,376	-	-
	FTE/OBL	4	8,343	5	8,376	5	8,376	5	8,376	-	-
NWSTG Legacy Replacement	Pos/BA	-	493	-	495	-	495	-	1,195	-	700
	FTE/OBL	-	493	-	495	-	495	-	1,195	-	700

**Department of Commerce**  
**National Oceanic and Atmospheric Administration**  
**Procurement, Acquisition, and Construction**  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Radiosonde Network Replacement	Pos/BA	-	6,299	-	6,014	-	4,014	-	4,014	-	-
	FTE/OBL	-	6,299	-	6,014	-	4,014	-	4,014	-	-
Weather and Climate Supercomputing	Pos/BA	-	19,019	-	19,092	-	19,092	-	19,092	-	-
	FTE/OBL	-	19,019	-	19,092	-	19,092	-	19,092	-	-
Weather and Climate Supercomputing Backup	Pos/BA	-	7,026	-	7,077	-	7,077	-	7,077	-	-
	FTE/OBL	-	7,050	-	7,077	-	7,077	-	7,077	-	-
Cooperative Observer Network Modernization	Pos/BA	-	4,153	-	4,234	-	4,234	-	4,234	-	-
	FTE/OBL	2	4,218	2	4,234	2	4,234	2	4,234	-	-
Complete and Sustain NOAA Weather Radio	Pos/BA	-	5,572	-	5,594	-	5,594	-	5,594	-	-
	FTE/OBL	-	5,572	-	5,594	-	5,594	-	5,594	-	-
NOAA Profiler Conversion	Pos/BA	-	-	-	-	-	3,270	-	5,100	-	1,830
	FTE/OBL	-	-	-	-	-	3,270	-	5,100	-	1,830
Strengthen US Tsunami Warning Network	Pos/BA	-	3,796	-	1,030	-	1,030	-	-	-	(1,030)
	FTE/OBL	-	8,839	-	1,030	-	1,030	-	-	-	(1,030)
All Hazard National Warning Network: NOAA Weather Radio	Pos/BA	-	1,998	-	-	-	-	-	-	-	-
	FTE/OBL	-	951	-	1,067	-	-	-	-	-	-
Total NWS	Pos/BA	68	75,956	68	68,611	68	69,881	68	69,081	-	(800)
	FTE/OBL	26	77,297	31	73,060	31	69,881	31	69,081	-	(800)

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

NESDIS											
GOES	Pos/BA	36	329,772	36	439,607	36	439,607	36	359,379	-	(80,228)
	FTE/OBL	59	359,860	61	439,839	61	439,607	61	359,379	-	(80,228)
POES	Pos/BA	32	101,261	32	89,906	32	89,906	32	114,906	-	25,000
	FTE/OBL	22	101,356	31	90,271	31	89,906	31	114,906	-	25,000
NPOESS	Pos/BA	43	316,580	43	337,870	43	337,870	43	331,300	-	(6,570)
	FTE/OBL	59	316,592	61	338,347	61	337,870	61	331,300	-	(6,570)
EOS	Pos/BA	-	2,960	-	990	-	990	-	990	-	-
	FTE/OBL	6	2,959	-	996	-	990	-	990	-	-
CIP	Pos/BA	-	2,798	-	2,772	-	2,772	-	2,772	-	-
	FTE/OBL	-	2,798	-	2,772	-	2,772	-	2,772	-	-
Comprehensive Large Array Data Stewardship Sys (CLASS)	Pos/BA	-	8,876	-	6,476	-	6,476	-	6,476	-	-
	FTE/OBL	7	8,869	-	6,483	-	6,476	-	6,476	-	-
NPOESS Preparatory Data Exploitation	Pos/BA	-	4,437	-	4,455	-	4,455	-	2,455	-	(2,000)
	FTE/OBL	-	4,438	-	4,455	-	4,455	-	2,455	-	(2,000)
Total NESDIS	Pos/BA	111	766,684	111	882,076	111	882,076	111	818,278	-	(63,798)
	FTE/OBL	153	796,872	153	883,163	153	882,076	153	818,278	-	(63,798)

Program Support

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

CAMS/NOAA Financial Data System	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	750	-	-	-	-	-	-	-	-
NOAA Maintenance - Cyclical	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	233	-	-	-	-	-	-	-	-
NOAA Maintenance - Backlog	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	55	-	-	-	-	-	-	-	-
NOAA IOOS Observing Systems (NOS)	Pos/BA	-	8,876	-	-	-	-	-	-	-	-
	FTE/OBL	3	8,832	-	44	-	-	-	-	-	-
Convert NOAA Weather Buoys with NDBC (NOS)	Pos/BA	-	3,945	-	-	-	-	-	-	-	-
	FTE/OBL	1	3,943	-	1	-	-	-	-	-	-
Coastal Global Ocean Observing System (NWS)	Pos/BA	-	1,477	-	-	-	-	-	-	-	-
	FTE/OBL	-	1,472	-	4	-	-	-	-	-	-
Strengthen US Tsunami Warning Network (NWS)	Pos/BA	-	3,432	-	-	-	-	-	-	-	-
	FTE/OBL	1	3,432	-	-	-	-	-	-	-	-
Total Program Support	Pos/BA	-	17,730	-	-	-	-	-	-	-	-
	FTE/OBL	5	18,717	-	49	-	-	-	-	-	-

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Activity: Procurement,  
Acquisition, and Construction  
Subactivity: Construction

		FY 2006		FY 2007		FY 2008		FY 2008		Inc/Dec	
		Actuals		Currently Available		Base Program		Estimate		from Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
<b>NOS</b>											
Coastal and Estuarine Land Conservation Program	Pos/BA	-	38,049	-	-	-	-	1	15,000	1	15,000
	FTE/OBL	4	42,880	-	2,916	-	-	1	15,000	1	15,000
NERRS Acquisition/Construction	Pos/BA	-	16,093	-	-	-	7,178	-	7,178	-	-
	FTE/OBL	1	16,989	-	172	-	7,178	-	7,178	-	-
Marine Sanctuaries Construction/Acquisition	Pos/BA	-	15,965	-	-	-	5,495	-	5,495	-	-
	FTE/OBL	6	15,968	-	29	-	5,495	-	5,495	-	-
Other NOS Construction/Acquisition	Pos/BA	-	17,063	-	-	-	-	-	-	-	-
	FTE/OBL	2	31,927	-	212	-	-	-	-	-	-
<b>Total NOS</b>	Pos/BA	-	87,170	-	-	-	12,673	1	27,673	1	15,000
	FTE/OBL	13	107,764	-	3,329	-	12,673	1	27,673	1	15,000
<b>NMFS</b>											
Systems Acq. Computer Hardware & Software	Pos/BA	-	(2,001)	-	-	-	-	-	-	-	-
	FTE/OBL	-	1,475	-	11	-	-	-	-	-	-
Aquatic Resources	Pos/BA	-	4,437	-	-	-	-	-	-	-	-
	FTE/OBL	1	4,430	-	8	-	-	-	-	-	-

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

Pacific Regional Center (Honolulu Fisheries Lab)	Pos/BA	-	(500)	-	-	-	-	-	-	-
	FTE/OBL	3	1,076	-	987	-	-	-	-	-
Barrow Arctic Research Center	Pos/BA	-	5,909	-	-	-	-	-	-	-
	FTE/OBL	-	5,917	-	-	-	-	-	-	-
Phase III - Galveston Laboratory Renovation - NMFS	Pos/BA	-	2,000	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	-	-	-	-	-	-
Center for Ecosystem-Based Fisheries Management	Pos/BA	-	4,931	-	-	-	-	-	-	-
	FTE/OBL	-	5,129	-	5	-	-	-	-	-
Pascagoula Laboratory	Pos/BA	-	35,139	-	-	-	-	-	-	-
	FTE/OBL	4	9,357	-	28,030	-	-	-	-	-
Ketchikan Facilities	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	573	-	3	-	-	-	-	-
Alaska Facilities Fisheries Center Juneau	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	1,724	-	1,576	-	-	-	-	-
Kodiak Pier	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	240	-	-	-	-	-	-	-
Fleet Replacement	Pos/BA	-	(3)	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	3	-	-	-	-	-

**Department of Commerce**  
**National Oceanic and Atmospheric Administration**  
**Procurement, Acquisition, and Construction**  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Total NMFS	Pos/BA	-	49,912	-	-	-	-	-	-	-
	FTE/OBL	8	29,921	-	30,623	-	-	-	-	-
OAR										
Norman Consolidation Project	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	2,019	-	10	-	-	-	-	-
Total OAR										
Total OAR	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	2,019	-	10	-	-	-	-	-
NWS										
WFO Construction	Pos/BA	-	11,912	-	12,504	-	12,504	-	12,504	-
	FTE/OBL	-	11,970	-	12,543	-	12,504	-	12,504	-
NOAA Center for Weather & Climate Prediction	Pos/BA	-	8,413	-	19,305	-	19,305	-	14,100	(5,205)
	FTE/OBL	-	8,471	-	19,305	-	19,305	-	14,100	(5,205)
Total NWS										
Total NWS	Pos/BA	-	20,325	-	31,809	-	31,809	-	26,604	(5,205)
	FTE/OBL	-	20,441	-	31,848	-	31,809	-	26,604	(5,205)
NESDIS										
Satellite CDA Facility	Pos/BA	-	2,249	-	2,228	-	2,228	-	2,228	-
	FTE/OBL	-	2,247	-	2,229	-	2,228	-	2,228	-
Suitland Facility / NSOF	Pos/BA	-	-	-	-	-	-	-	-	-
	FTE/OBL	-	1,050	-	59	-	-	-	-	-

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

Total NESDIS	Pos/BA	-	2,249	-	2,228	-	2,228	-	2,228	-	-
	FTE/OBL	-	3,297	-	2,288	-	2,228	-	2,228	-	-
Program Support											
LaJolla Southwest Science Center	Pos/BA	-	-	-	-	-	-	-	3,000	-	3,000
	FTE/OBL	-	-	-	-	-	-	-	3,000	-	3,000
Pacific Regional Center	Pos/BA	-	19,725	-	-	-	-	-	20,250	-	20,250
	FTE/OBL	-	18,610	-	1,259	-	-	-	20,250	-	20,250
Total Program Support	Pos/BA	-	19,725	-	-	-	-	-	23,250	-	23,250
	FTE/OBL	-	18,610	-	1,259	-	-	-	23,250	-	23,250

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Activity: Procurement,  
Acquisition, and Construction  
Subactivity: Fleet Replacement

		FY 2006		FY 2007		FY 2008		FY 2008		Inc/Dec	
		Actuals		Currently Available		Base Program		Estimate		from Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
<b>Program Support</b>											
Small Waterplane Area Twin	Pos/BA	-	1,692	-	-	-	-	-	-	-	-
Hull (SWATH) Vessel	FTE/OBL	-	10,275	-	1,021	-	-	-	-	-	-
Upgrades to NOAA Vessels	Pos/BA	-	3,210	-	-	-	-	-	-	-	-
	FTE/OBL	-	3,209	-	-	-	-	-	-	-	-
Vessel Equipment and	Pos/BA	-	-	-	-	-	-	-	1,000	-	1,000
Technology Refreshment	FTE/OBL	-	-	-	-	-	-	-	1,000	-	1,000
Fisheries Survey Vessels	Pos/BA	5	50,937	5	-	5	13,791	5	-	-	(13,791)
	FTE/OBL	5	49,310	5	10,832	5	13,791	5	-	-	(13,791)
FSV Calibration	Pos/BA	-	-	5	2,600	5	3,500	-	-	(5)	(3,500)
	FTE/OBL	-	-	5	2,600	5	3,500	-	-	(5)	(3,500)
Autonomous Underwater	Pos/BA	-	2,959	-	-	-	-	-	-	-	-
Vehicles Sensors	FTE/OBL	-	2,651	-	12	-	-	-	-	-	-
Hydro Survey Launch	Pos/BA	-	-	-	-	-	2,400	-	2,400	-	-
Construction	FTE/OBL	-	-	-	-	-	2,400	-	2,400	-	-
Sonar for Long Range Fisheries	Pos/BA	-	-	-	-	-	-	-	-	-	-
Research	FTE/OBL	-	4	-	-	-	-	-	-	-	-

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
 (Dollar amounts in thousands)

Temporary Berthing	Pos/BA	-	-	-	1,000	-	1,000	-	1,000	-	-
	FTE/OBL	-	-	-	1,000	-	1,000	-	1,000	-	-
Total Program Support	Pos/BA	5	58,798	10	3,600	10	20,691	5	4,400	(5)	(16,291)
	FTE/OBL	5	65,449	10	15,465	10	20,691	5	4,400	(5)	(16,291)

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Activity: Procurement, Acquisition, and Construction Subactivity: Aircraft Replacement		FY 2006		FY 2007		FY 2008		FY 2008		Inc/Dec	
		Actuals		Currently Available		Base Program		Estimate		from Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
<b>Program Support</b>											
G-IV Instrumentation Upgrades	Pos/BA	-	-	-	-	-	-	-	-	-	-
	FTE/OBL	2	9,906	-	228	-	-	-	-	-	-
Required Safety & Regulatory Upgrades to Various Aircraft	Pos/BA	-	(46)	-	-	-	-	-	-	-	-
	FTE/OBL	-	216	-	-	-	-	-	-	-	-
WP-3D	Pos/BA	-	8,985	-	-	-	-	-	-	-	-
	FTE/OBL	-	8,876	-	443	-	-	-	-	-	-
Aircraft Equipment and Technology Refreshment	Pos/BA	-	4,495	-	-	-	-	-	-	-	-
	FTE/OBL	-	4,196	-	-	-	-	-	-	-	-
Aircraft Acquisition and Replacement	Pos/BA	-	11,988	-	-	-	-	-	-	-	-
	FTE/OBL	-	-	-	11,988	-	-	-	-	-	-
Total Program Support	Pos/BA	-	25,422	-	-	-	-	-	-	-	-
	FTE/OBL	2	23,194	-	12,659	-	-	-	-	-	-

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**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Program Support  
 Subactivity: Fleet Replacement

Title	Grade	Number	Annual Salary	Total Salaries
Commissioned Officers	Woods Hole, MA CO	-5	(80,469)	402,345
Total		-5		402,345
Less Lapse	25%	1		(100,586)
Total full-time permanent (FTE)		-4		301,759
2008 Pay Adjustment (3%)				9,053
2007 Pay Adjustment (2.2%)				6,838
Total				317,649
<u>Personnel Data</u>		<u>Number</u>		
Full-time permanent		-5		
Other than full-time permanent		0		
Total		-5		
<u>Authorized Positions</u>				
Full-time permanent		-5		
Other than full-time permanent		0		
Total		-5		

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**PROGRAM CHANGE PERSONNEL DETAIL**

Activity: National Ocean Service  
 Subactivity: Construction/Acquisition

Title	Grade	Number	Annual Salary	Total Salaries
Program Analyst	Silver Spring, MD ZP4	1	91,407	91,407
Total		1		91,407
Less Lapse	25%	0		(22,852)
Total full-time permanent (FTE)		1		68,555
2008 Pay Adjustment (3%)				2,057
2007 Pay Adjustment (2.2%)				1,553
Total				72,165
<b>Personnel Data</b>		<b>Number</b>		
Full-time permanent		1		
Other than full-time permanent		0		
Total		1		
<b>Authorized Positions</b>				
Full-time permanent		1		
Other than full-time permanent		0		
Total		1		

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
Subactivity: Systems Acquisition

Object Class	2008 Increase
25.2 Other services	2,530
25.3 Other purchases of goods and services from Govt accounts	25,000
99 Total Obligations	27,530

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
 (Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
 Subactivity: Systems Acquisition

	Object Class	2008 Decrease
25.1	Advisory and assistance services	(2,000)
25.2	Other services	(3,330)
25.3	Other purchases of goods and services from Govt accounts	(86,798)
99	Total Obligations	(92,128)

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
Subactivity: Construction

Object Class	2008 Increase
11 Personnel compensation	
11.1 Full-time permanent	69
11.8 Special personnel services payments	2
11.9 Total personnel compensation	71
12 Civilian personnel benefits	20
21 Travel and transportation of persons	115
22.1 Transportation of things	2
23.1 Rental payments to GSA	25
24 Printing and reproduction	15
25.1 Advisory and assistance services	4,815
25.2 Other services	18,814
26 Supplies and materials	10
31 Equipment	8
32 Lands and structures	105
41 Grants, subsidies and contributions	14,250
99 Total Obligations	38,250

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
 (Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
 Subactivity: Construction

	Object Class	2008 Decrease
25.2	Other services	(5,205)
99	Total Obligations	(5,205)

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
 (Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
 Subactivity: Fleet Replacement

	Object Class	2008 Increase
25.1	Advisory and assistance services	200
31	Equipment	800
99	Total Obligations	1,000

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement Acquisition and Construction  
**PROGRAM CHANGE DETAIL BY OBJECT CLASS**  
(Dollar amounts in thousands)

Activity: Procurement Acquisition and Construction  
Subactivity: Fleet Replacement

Object Class	2008 Decrease
11 Personnel compensation	
11.1 Commissioned officers	(402)
11.9 Total personnel compensation	(402)
12 Civilian personnel benefits	(410)
21 Travel and transportation of persons	(90)
23.3 Communications, utilities and miscellaneous charges	(80)
25.2 Other services	(1,989)
26 Supplies and materials	(529)
31 Equipment	(13,791)
99 Total Obligations	(17,291)

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction Account  
**SUMMARY OF REQUIREMENTS BY OBJECT CLASS**  
(Dollar amounts in thousands)

<u>Object Class</u>	FY 2006 Actuals	FY 2007 Currently Available	FY 2008 Base	FY 2008 Estimate	Increase/ (Decrease)
11 Personnel compensation					
11.1 Full-time permanent	19,703	20,298	18,101	17,768	(333)
11.3 Other than full-time permanent	71	104	70	70	0
11.5 Other personnel compensation	557	922	987	987	0
11.6 Personnel Compensation	0	0	0	0	0
11.7 Military Pay-Base	277	4	(31)	(31)	0
11.8 Special personnel services payments	0	0	0	2	2
11.9 Total personnel compensation	20,608	21,328	19,127	18,796	(331)
12 Civilian personnel benefits	4,964	5,597	5,411	5,021	(390)
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	3,741	3,651	1,743	1,768	25
22 Transportation of things	687	672	330	332	2
23.1 Rental payments to GSA	4,319	4,523	2,982	3,007	25
23.2 Rental payments to others	4,221	4,969	2,969	2,969	0
23.3 Commun., util., misc. charges	14,178	15,846	11,886	11,806	(80)
24 Printing and reproduction	172	71	17	32	15
25.1 Consulting services	62,656	60,501	57,486	60,501	3,015
25.2 Other services	218,100	124,409	114,713	125,533	10,820

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction Account  
**SUMMARY OF REQUIREMENTS BY OBJECT CLASS**  
(Dollar amounts in thousands)

	FY 2006 Actuals	FY 2007 Currently Available	FY 2008 Base	FY 2008 Estimate	Increase/ (Decrease)	
25.3	Purchase of goods & services from Gov't accounts	580,934	546,300	549,807	488,009	(61,798)
25.4	Operation of GOCOs	0	0	0	0	0
25.5	Research and Development Contracts	21,216	18,453	17,700	17,700	0
26	Supplies and materials	19,765	26,371	21,558	21,039	(519)
31	Equipment	93,876	112,565	110,430	97,447	(12,983)
32	Lands and structures	4,656	16,614	16,207	16,312	105
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	118,972	102,156	97,289	111,539	14,250
43	Interest and dividends	52	106	82	82	0
44	Refunds	0	0	0	0	0
99	Total Obligations	1,173,117	1,064,132	1,029,737	981,893	(47,844)
	Cash Refund	(1,070)				
	Federal Funds	0				
	Deobligations	(5,391)	(2,000)	(2,000)	(2,000)	
	Less prior year recoveries	0				
	Unobligated balance, start of year	(99,037)	(65,429)			
	Unobligated balance, end of year	65,429				

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction Account  
**SUMMARY OF REQUIREMENTS BY OBJECT CLASS**

(Dollar amounts in thousands)

	FY 2006 Actuals	FY 2007 Currently Available	FY 2008 Base	FY 2008 Estimate	Increase/ (Decrease)
Unobligated balance, transferred, net	292				
<b>Total Budget Authority</b>	<b>1,133,340</b>	<b>996,703</b>	<b>1,027,737</b>	<b>979,893</b>	<b>(47,844)</b>
<b>Personnel Data</b>					
Positions	184	189	189	185	(4)
FTE	212	194	194	190	(4)

Note: FTE in this document include small adjustments not included in the President's budget submission.

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**Exhibit 17**

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
(dollar amounts in thousands)

Object Class	FY 2006 Actuals	FY 2007 Currently Available	FY2008 Base	FY 2008 Estimate	Increase/ (Decrease)
11.1 Full-time permanent	19,703	20,298	18,101	17,768	(333)
11.3 Other than full-time permanent	71	104	70	70	0
11.5 Other personnel compensation	557	922	987	987	0
11.6 Personnel Compensation	0	0	0	0	0
11.7 Military Pay-Base	277	4	(31)	(31)	0
11.8 Special personnel services payments			0	2	2
11.9 Total personnel compensation	20,608	21,328	19,127	18,796	(331)
12.1 Civilian personnel benefits				0	0
Civil service retirement	457	584	532	502	(30)
Federal Employee Retirement	1,364	1,147	1,089	1,071	(18)
Medicare	293	296	283	284	1
Thrift savings plan	543	1,064	1,342	1,074	(268)
Federal insurance contribution act	811	828	789	768	(21)
Health insurance	1,263	1,296	1,194	1,164	(30)

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
 (dollar amounts in thousands)

Object Class	FY 2006 Actuals	FY 2007 Currently Available	FY2008 Base	FY 2008 Estimate	Increase/ (Decrease)
Life insurance	30	80	69	45	(24)
Cost of Living Allowance (COLA)	1	0	0	0	0
Other	197	302	113	113	0
Subtotal	4,958	5,597	5,411	5,021	(390)
12.2 Other	6	0	0	0	0
13.0 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	3,741	3,651	1,743	1,768	25
22 Transportation of things	687	672	330	332	2
23.1 Rental payments to GSA	4,319	4,523	2,982	3,007	25

**Exhibit 17**

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
(dollar amounts in thousands)

Object Class		FY 2006	FY 2007	FY2008	FY 2008	Increase/
		Actuals	Currently Available	Base	Estimate	(Decrease)
23.2	Rental payments to others	4,221	4,969	2,969	2,969	0
23.3	Communications, utilities and miscellaneous charges	14,178	15,846	11,886	11,806	(80)
24	Printing and reproduction	172	71	17	32	15
25.1	Consulting services	62,656	60,501	57,486	60,501	3,015
25.2	Other services	218,100	124,409	114,713	125,533	10,820
25.3	Purchases of goods & services from Gov't accounts	580,934	546,300	549,807	488,009	(61,798)

**Exhibit 17**

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
(dollar amounts in thousands)

Object Class		FY 2006	FY 2007	FY2008	FY 2008	Increase/
		Actuals	Currently Available	Base	Estimate	(Decrease)
25.4	Operation of GOCOs			0	0	0
25.5	Research and development contracts	21,216	18,453	17,700	17,700	0
26	Supplies and materials	19,765	26,371	21,558	21,039	(519)
31	Equipment					
	Office machines and equipment			0	0	0
	ADP hardware	562	1,806	1,785	1,785	0
	Other capitalized	65,466	77,625	85,862	72,871	(12,991)
	Depreciation on capitalized equipment			0	0	0
	Non-capitalized	27,848	33,134	22,783	22,791	8
	Subtotal	93,876	112,565	110,430	97,447	(12,983)

**Department of Commerce**  
 National Oceanic and Atmospheric Administration  
 Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
 (dollar amounts in thousands)

Object Class	FY 2006 Actuals	FY 2007 Currently Available	FY2008 Base	FY 2008 Estimate	Increase/ (Decrease)
32 Lands and structures					
Building and Other Structures	4,656	16,614	16,207	16,312	105
33 Investments and loans		0	0	0	0
41 Grants, subsidies and contributions	118,972	102,156	97,289	111,539	14,250
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest/dividends..	52	106	82	82	0
44 Refunds	0	0	0	0	0
99 <b>Total Direct Obligations</b>	<b>1,173,117</b>	<b>1,064,132</b>	<b>1,029,737</b>	<b>981,893</b>	<b>(47,844)</b>
Cash Refund	(1,070)	0	0	0	0

**Exhibit 17**

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
**DETAILED REQUIREMENTS BY OBJECT CLASS**  
(dollar amounts in thousands)

Object Class	FY 2006 Actuals	FY 2007 Currently Available	FY2008 Base	FY 2008 Estimate	Increase/ (Decrease)
Federal Funds		(2,000)	(2,000)	(2,000)	0
De-Obligation	(5,391)	0	0	0	0
Prior year recoveries		0	0	0	0
Less unobligated balance, start of year	(99,037)	(65,429)	0	0	0
Less unobligated balance, transfer	65,429	0	0	0	0
Plus unobligated balance, end of year	292				
<b>Budget Authority</b>	<b>1,133,340</b>	<b>996,703</b>	<b>1,027,737</b>	<b>979,893</b>	<b>(47,844)</b>
Positions	184	189	189	185	(4)
FTE	212	194	194	190	(4)

Note: FTE in this document include small adjustments not included in the President's budget submission.

**Department of Commerce**  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition, and Construction  
SUMMARY OF INFORMATION TECHNOLOGY RESOURCES  
(Dollar amounts in thousands)

<b>IT Projects by activity/subactivity:</b>	<b>FY 2006</b>		<b>FY 2007</b>		<b>BY 2008</b>
	<b>Enacted</b>		<b>President's</b>		<b>Estimate</b>
			<b>Budget</b>		
<b>Total Systems Acquisition</b>	<b>204,130</b>		<b>200,378</b>		<b>179,926</b>
Construction	1,039		1,039		1,039
Fleet Replacement	0		0		0
Aircraft Replacement	0		0		0
<b>Total Procurement Acquisition and Construction</b>	<b>205,169</b>		<b>201,417</b>		<b>180,965</b>

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**DEPARTMENT OF COMMERCE**  
**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**  
Procurement, Acquisition and Construction  
**APPROPRIATION SUMMARY STATEMENT**

For procurement, acquisition and construction of capital assets, including alteration and modification costs, of the National Oceanic and Atmospheric Administration, \$979,893,000, to remain available until September 30, 2010, except funds provided for construction of facilities which shall remain available until expended: Provided, That of the amounts provided for the National Polar-orbiting Operational Environmental Satellite System, funds shall only be made available on a dollar for dollar matching basis with funds provided for the same purpose by the Department of Defense: Provided further, That except to the extent expressly prohibited by any other law, the Department of Defense may delegate procurement functions related to the National Polar-orbiting Operational Environmental Satellite System to officials of the Department of Commerce pursuant to section 2311 of title 10, United States Code.

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**Department of Commerce  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition and Construction  
CONSULTING AND RELATED SERVICES  
(Obligations in thousands of dollars)**

	<b>2006</b>	<b>2007</b>	<b>2008</b>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
Management and Professional Support Services	4,675	4,754	4,840
Studies, Analysis and Evaluations	13,267	13,493	13,735
Engineering and Technical Services	<u>44,714</u>	<u>42,254</u>	<u>41,926</u>
Total	62,656	60,501	60,501

Consulting Services are those services of a pure nature relating to the governmental functions of agency administration and management and agency problem management. These services are normally provided by persons or organizations generally considered to have knowledge and special abilities that are not usually available within the agency. Such services can be obtained through personnel appointments, procurement contracts, or advisory committees.

Management and professional services deal with management data collection, policy review or development, program development, review or evaluation, systems engineering and other management support services. Special studies and analyses deal with the highly specialized areas of agency activity, e.g., air quality, chemical, environmental, geophysical, oceanographic, technological, and etc. Management and support services for research and development are procurement actions that meet the description of management and professional services or special studies and analyses but are funded under research and development.

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Department of Commerce  
National Oceanic and Atmospheric Administration  
Procurement, Acquisition and Construction  
PERIODICAL, PAMPHLETS, AND AUDIOVISUAL PRODUCTS  
(Obligations in thousands of dollars)

	<u>2006</u> <u>Actual</u>	<u>2007</u> <u>Estimate</u>	<u>2008</u> <u>Request</u>
Periodicals.....	0	0	0
Pamphlets.....	153	156	158
Audiovisuals .....	<u>610</u>	<u>620</u>	<u>632</u>
Total	763	776	790

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