

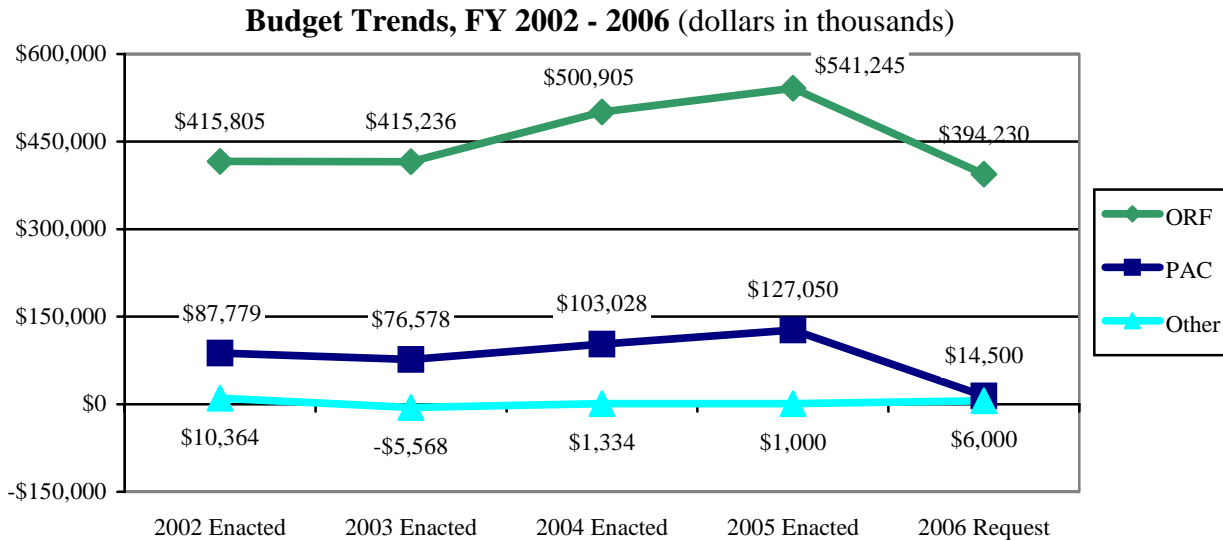
## Chapter 4

# NOAA Operations, Research and Facilities



## National Ocean Service

(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
National Ocean Service -- Operations, Research and Facilities (ORF)				
Navigation Services	\$144,002	\$120,746	\$18,759	\$139,505
Ocean Resources Conservation and Assessment	244,563	122,403	5,603	128,006
Ocean and Coastal Management	152,680	125,717	1,002	126,719
<b>Total, National Ocean Service - ORF</b>	<b>541,245</b>	<b>368,866</b>	<b>25,364</b>	<b>394,230</b>
Other National Ocean Service Accounts				
Total, National Ocean Service - PAC	127,050	12,000	2,500	14,500
Total, National Ocean Service - Other	1,000	6,000	0	6,000
<b>GRAND TOTAL NATIONAL OCEAN SERVICE (Direct Obligations)</b>	<b>\$669,295</b>	<b>\$386,866</b>	<b>\$27,864</b>	<b>\$414,730</b>
Total FTE	1,223	1,231	10	1,241



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



## National Ocean Service



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

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

More than 148 million people – over 53 percent of the national total – currently reside along the narrow coastal fringes. The population in these coastal areas is expected to increase to about 165 million by the year 2015. This population growth and development places many of the Nation's coastal areas under increasing environmental pressure. Growth in coastal areas creates jobs, generates economic prosperity, adds new industries, enhances educational opportunities, and increases tax revenues. However, it also burdens local environments, threatening the very resources that draw people to the coast.

As the global leader for integrated management of the oceans, NOS promotes a wide range of research activities to create the strong science foundation required to advance the sustainable use of our precious coastal systems. NOS contributes significantly to achieving two of NOAA's four Strategic Plan Mission Goals: (1) support the Nation's

commerce with information for safe, efficient, and environmentally sound transportation, and (2) protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management. While these two goals capture much of the National Ocean Services' activities, NOS also supports and makes important contributions to NOAA's other two mission goals: understand climate variability and change to enhance society's ability to plan and respond, and serve society's needs for weather and water information.

NOS provides improvements in the quality, quantity, geographic distribution, and timeliness of ocean and coastal observations. These observations are critical components of the Nation's Integrated Ocean Observing System, as well as fundamental contributors to the Global Earth Observation System of Systems. NOS mapping, charting, geodetic, and oceanographic activities build on the marine and coastal observations collected to increase the efficiency and safety of marine commerce and support coastal resource management. NOS protects and restores coastal resources injured by releases of oil and other hazardous materials. NOS also manages marine sanctuaries and, in partnership with the coastal states, helps manage the Nation's valuable coastal zones and nationally significant estuarine reserves. Understanding of the coastal environment is enhanced through coastal ocean activities, which support science and resource management programs.

### **FY 2006 Budget Summary**

NOAA requests a total of \$394,230,000 and 1,225 FTE to support the continued and enhanced operations of the National Ocean Service. The total includes \$7,290,000 for Adjustments to Base, \$25,364,000 for Program increases, and \$179,669,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

NOAA requests a net increase of \$7,290,000 and 8 FTE to fund adjustments to base in the National Ocean Service. Within these ATBs, increases will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Services Administration.

The above amount includes an internal transfer of \$153,000 to OMAO for partial funding of NOAA Corps Officer positions that benefit NOS. In addition, \$480,000 and 9 FTE are being realigned to the Office of General Counsel within Program Support.

In addition, NOAA proposes the following transfers of funding within the National Ocean Service. Under the Mapping and Charting line item, the budget proposes to transfer funding for the Vessel Time Charter to the Address Survey Backlog budget line.

Funds in the Address Survey Backlog line will continue to be used exclusively to contract for support in the acquisition and processing of hydrographic data. Under the Ocean Assessment Program line item, NOAA proposes to transfer funding from the Ocean Assessment Program Base to a new National Centers for Coastal Ocean Science line item in order to consolidate funding for this Program Office in one section of the NOS budget.

#### **NOS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$25,364,000 and 10 FTE over the FY 2006 base for a total request of \$394,230,000 and 1,225 FTE. These changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 7, *Special Exhibits*. More detailed descriptions are located in the NOAA FY 2006 Technical Budget.

#### **Navigation Services**

**\$139,505,000**

A net increase of \$18,759,000 and 5 FTE above the base is requested in the Navigation Services subactivity. The FY 2006 President's Budget requests funding for a suite of navigation products and services that help ensure the safety of marine transportation, while improving the economic efficiency and competitiveness of American commerce.

- **Mapping and Charting:** \$16,359,000 and 5 FTE in net increases above the base, for a total of \$91,619,000 and 323 FTE, are requested under the Mapping and Charting line item of the Navigation Services subactivity.
  - **NOAA requests an increase of \$1,000,000 and 1 FTE to develop and operationalize data collection and processing improvements for hydrographic and shoreline data.** Hydrographic and shoreline data are the most critical and time-sensitive elements of a nautical chart. Due to recent advancements in technology, the trend toward higher resolution datasets, and congressional support for increased data acquisition, NOAA is facing a situation wherein more data is collected than can be processed and applied to charting products in a timely manner. To help resolve this issue, NOAA will procure and deploy 3 portable GPS-enabled buoys to be used with survey vessels to improve the collection of hydrographic data. This effort will reduce the time required to process hydrographic survey data by up to 10 days per survey — a 5% improvement over current delivery times.

NOAA will also invest in data management research and technology development to improve the speed and accuracy of data acquisition, and accelerate the delivery of navigation information to the maritime community for safe, efficient, and environmentally sound marine transportation. NOAA will begin to implement its research in new technologies and delivery mechanisms, such as geographic information systems (GIS) and web-based interactive programs. NOAA also will improve shoreline data updates by procuring commercial satellite shoreline imagery for change analysis. Satellite imagery is a valuable tool for identifying significant shoreline changes and where new data collection is needed.



Tide buoy

- **NOAA requests \$2,000,000 and 2 FTE to implement the National Vertical Datum Transformation Tool database, or VDatum.** This tool supports NOAA's requirement for hydrographic and shoreline data for our nautical charting products, and continual improvement in surveying and data delivery techniques. VDatum will benefit NOAA's modernization efforts in shoreline measurement and hydrographic surveying for navigation safety. In addition, the tool will enable sharing of geospatial datasets among federal/state/local agencies and academia by translating data between disparate reference datums.

The requested increase will enable NOAA to transition VDatum from successful demonstration projects in areas such as Tampa Bay, Delaware Bay and South East Louisiana to a national scale. Airborne, land, and marine platforms will be able to exploit GPS technology for vertical location, fuse GPS height with other remote sensing technologies, and map the national coastline both above and below water with greater ease and accuracy. The tool will also improve the efficiency and accuracy of hydrographic surveys for nautical charts by eliminating the need for time-consuming water level corrections and post-processing. VDatum models have multiple uses in addition to mapping. For example, VDatum models developed for Puget Sound are now being used to improve inundation estimates from tsunamis.



**A loaded barge passes underneath the Oakland Bay Bridge with two feet of clearance - NOAA's state-of-the-art navigation tools make such maneuvers possible**

- **NOAA requests an increase of \$1,890,000, for a total of \$6,190,000 for Electronic Navigational Charts (ENCs) to continue the planned incremental investment in the effort to provide full contiguous ENC coverage of U.S. waters.** This increase will allow NOAA to add 145 ENCs in FY 2006, for a total of 670 built and maintained. At the requested funding level, NOAA should achieve complete Electronic Navigational Chart coverage for the Nation by the end of FY 2008. This funding level will allow NOAA to keep the full chart suite under continuous cartographic maintenance.
- **NOAA requests an increase of \$682,000 and 2 FTE for base activities in Mapping and Charting.** This increase will enable NOAA to rebuild capacity for its Navigation Response Teams (NRTs). The requested increase will allow NOAA to fully staff, train and implement NRTs 5 and 6. The increase request will restore contract support and FTE for full staffing, as well as funds for NRT launch maintenance and routine equipment replacement. NRTs support critical ENC field verification, emergency response activities associated with natural and man-made disasters, and National Homeland Security activities. Since their inception, the NRTs have received considerable acclaim from stakeholders such as Port Authorities and the U.S. Coast Guard whom NOAA has assisted with rapid-response hydrographic surveys after recent hurricanes and accidents.
- **NOAA requests an increase of \$300,000 to analyze its efforts in supporting the Nation's commerce with information for safe, efficient and environmentally sound transportation.** The increase will enable NOAA to study the socioeconomic value of its products and services in order to validate its

requirements and responsibilities, better articulate and quantify the benefits of its programs, and more effectively prioritize NOAA's resource investments.

Industry, public and government entities involved with commerce and transportation utilize a wide range of NOAA information, products and services. These include NOAA's navigation products and services; weather information for air, marine and surface transportation; positioning capabilities; emergency response to oil/chemical spills and natural disasters; and commercial remote sensing licensing. With the requested increase, NOAA will systematically collect, compile and analyze new or existing data from industry, academia and other federal, state or local agencies relating to the national socioeconomic benefit of NOAA's Commerce and Transportation-related programs. Using a consistent, rigorous, and scientifically defensible methodology, this approach will generate information about the social and economic effects, benefits, and costs of NOAA programs, information and services. NOAA will use these analyses to prioritize products/services/uses, as well as to identify areas requiring more focused research into economic benefits and social science information to meet future user needs. Data on the economic value and utility of NOAA's suite of Commerce and Transportation products and services will help NOAA to set funding priorities and better allocate taxpayer resources.

- **NOAA requests a total of \$7,499,000, unchanged from base levels, for the Joint Hydrographic Center located at the University of New Hampshire.** The Joint Hydrographic Center was established in FY 1999 as a partnership between NOAA and the University of New Hampshire. The center's activities focus on two major tasks: education aimed at creating a learning center that will promote and foster the education of a new generation of hydrographers and ocean mapping scientists, and research to develop and evaluate a wide range of state-of-the-art hydrographic and ocean mapping technologies and applications.
- **NOAA requests an increase of \$10,487,000, for a total of \$31,487,000, for contract hydrographic survey activities.** This increase will allow NOAA to maintain its planned FY 2006 survey schedule to collect and process approximately 3500 square nautical miles of hydrographic data. The increase will fund contracts for data acquisition.
- **Geodesy:** \$900,000 in net increases above the base, for a total of \$24,756,000 and 183 FTE, are requested under the Geodesy line item of the Navigation Services subactivity.
  - **A total increase of \$900,000 is requested for the South Carolina Geodetic Survey and the California Spatial Reference Center.** South Carolina's exemplary state program works to establish horizontal and vertical geodetic control throughout the state to allow land and land-related items to be referenced



to the national horizontal and vertical coordinate system. The Survey's efforts improve land records management, engineering, land planning, and economic development. NOAA's support of the California Spatial Reference Center has enabled the state to develop a plan to establish and maintain an accurate state-of-the-art network of GPS control stations necessary to meet the demands of government and private businesses for a reliable spatial reference system in California. This infrastructure will aid public health and safety, assist in the protection and preservation of natural resources, and improve the productivity of government and private business.

- **Tide and Current Data:** \$1,500,000 in net increases above the base, for a total of \$23,130,000 and 107 FTE, are requested under the Tide and Current Data line item of the Navigation Services subactivity.
- **NOAA requests an increase of \$1,500,000 for the National Current Program.** The requested increase will provide resources to ensure that NOAA's Annual Tidal Current Table predictions are maintained in an accurate status by systematically conducting observations to update potentially dangerous tidal current predictions based on old or insufficient data.

Accurate knowledge of tidal currents is essential for safe and efficient navigation. The proper maneuvering of the ever-larger vessels in our nation's constricted ports and harbors relies on accurate tidal current predictions. Knowledge of tidal currents can help vessels avoid collisions, as well as improve transit efficiency by allowing schedules to be aligned with, instead of against, current flows.



**Current meter deployment in Cook Inlet, Alaska**

Approximately 70% of the over 2,700 stations in the 2002 Tidal Current Tables are based on data that is well over 30 years old. Many of these stations are based on analysis of less than 7 days of data, rather than the 30-day minimum that is required to reflect the true range of tidal current conditions. Products related to the Tidal Current Tables have been withdrawn from publication due to potentially dangerous accuracy uncertainties. At present funding levels, measurements can be made at only the most critical locations (approximately 10 per year) and it will take over 200 years to completely re-observe all the locations in the Tidal Current Tables.

The requested funds would increase the number of current observation stations being observed from 10 per year to 70 per year (35 in priority areas and 35 in remaining areas), making significant progress toward the target recycle rate (130 stations/year total) for the system. Over 90% of the requested funds would be outsourced for data collection contracts after capital equipment investment of approximately \$250,000 in the first year.

## **Ocean Resources Conservation and Assessment**

**\$128,006,000**

A net increase of \$5,603,000 and 4 FTE above the base is requested in the Ocean Resources Conservation and Assessment subactivity, for a total of \$128,006,000 and 416 FTE.

- **Ocean Assessment Program:** \$1,903,000 in net increases above the base, for a total of \$55,159,000 and 65 FTE, are requested under the Ocean Assessment Program line item of the Ocean Resources Conservation and Assessment subactivity.
  - **NOAA requests an increase of \$403,000, for a total of \$2,903,000, for the Coastal Storms Program.** In FY 2005, NOAA is beginning initial efforts for its Southern California pilot, which will focus on addressing the impacts of winter storms (flooding, erosion, water quality problems). These impacts were particularly acute following the devastating fall 2003 fires. The FY 2006 Request level is necessary to fully implement the Southern California pilot and meet commitments made for the Pacific Northwest pilot (focusing on coastal storm impacts in the lower Columbia River and portions of the Oregon and Washington coasts), which will be in its third and final year. Without the requested increase, implementation of the Southern California pilot will be curtailed or terminated.
  - **NOAA requests a total of \$6,710,000, unchanged from base levels, for the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET).** The requested funding will allow this joint NOAA/UNH institute to conduct research and develop new technologies aimed at understanding environmental contamination and improving the effectiveness of restoration efforts.
  - **NOAA requests an increase of \$1,500,000, for a total of \$25,962,000 to improve the condition of coral reefs through support and implementation of locally driven 3-year action strategies.** The requested increase will be used to augment state and territory grants for implementation of Local Action Strategy (LAS) priority projects. In addition, the increase will allow for targeted training and technical assistance to meet LAS-associated needs.

In order to translate the broad national goals proposed by the U.S. Commission on Ocean Policy into on-the-ground action, the U.S. Coral Reef Task Force initiated the Local Action Strategy (LAS) process to develop local conservation initiatives with measurable results in each of the seven U.S. states and territories with coral reefs. The strategies are locally driven 3-year roadmaps for collaborative and cooperative action among federal, state or territory and nongovernmental partners to address specific threats to coral reef ecosystems. The goals and objectives of the LAS are linked to those found in the U.S. National Action Plan to Conserve Coral Reefs, which was produced and adopted by the U.S. Coral Reef Task Force in 2000. The following six focus areas were identified and prioritized by the USCRTF for local action: fisheries management and over-fishing, land-based sources of pollution, recreational overuse, lack of public awareness, climate change and coral bleaching, and disease. Using the six priority USCRTF focus areas as a guide, Florida, Hawaii, Guam, U.S. Virgin Islands, American Samoa, Puerto Rico, and Commonwealth of the Northern Mariana Islands led development of specific Local Action Strategies for each of the locally relevant threats. Implementing additional LAS projects will significantly reduce specific threats to valuable U.S. coral reefs in each jurisdiction. The requested funding will leverage non-NOAA resources for additional on-the-ground action.

- **Response and Restoration:** \$1,100,000 in net increases above the base, for a total of \$24,894,000 and 112 FTE, are requested under the Response and Restoration line item of the Ocean Resources Conservation and Assessment subactivity.
  - **NOAA requests an increase of \$800,000, for a total of \$16,394,000, for base activities in Response and Restoration.** This increase will allow NOAA to rebuild capacity for damage assessment, coastal protection, and hazardous materials response activities. With the requested increase, NOAA will: 1) better protect and restore NOAA trust resources at hazardous waste sites by providing technical assistance and solutions that protect and enhance recovery of coastal resources, their supporting habitats, and human health; 2) increase the number of damage assessments of coastal and marine habitats impacted from releases of oil or other hazardous materials; and 3) increase NOAA's capacity to respond to oil and chemical releases. NOAA provides scientific support to other federal agencies and community-level responders for oil and chemical spills and other hazards threatening coastal environments and communities.



**Cleanup following WESTCHESTER grounding and spill in Louisiana**

- **NOAA requests an increase of \$300,000, for a total of 7,300,000, to continue clean-up operations on the Pribilof Islands.** Approximately 90% of the contaminated sites on the Pribilof Islands have been remediated. The funds requested in FY 2006 are necessary for NOAA to fulfill the federal government's obligation to decontaminate these islands, and transfer the land back to the native population.

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

- **National Centers for Coastal Ocean Science:** \$2,600,000 and 4 FTE in net increases above the base, for a total of \$47,953,000 and 239 FTE, are requested under the National Centers for Coastal Ocean Science line item of the Ocean Resources Conservation and Assessment subactivity.

- **NOAA requests an increase of \$1,600,000 and 4 FTE to enhance the quality and quantity of ecosystem data collected in support of coastal resource conservation and management activities, conduct additional research in support of Protected Areas management, and provide more information on the types of stressors impacting the Chesapeake Bay.** NOAA will expand the National Status and Trends Program, which collects a wide range of chemical, biological and physical monitoring data that provides the information necessary for NOAA to assess the environmental health of coastal ecosystems. The long term nature of the monitoring data allows scientists to track changes in coastal environmental quality over time. The increase will allow NOAA to sample for new contaminants, and analyze other contaminants, such as mercury and copper, in greater detail. NOAA will also further develop its Harmful Algal Bloom forecasting capabilities, while working to transfer this technology to other agencies and the



**Sampling for National Status and Trends Program**

public. Finally, the requested funds will be used to support scientific and research activities in the Chesapeake Bay and marine protected areas (MPAs), including those managed by the National Marine Sanctuary Program (NMSP), the National Estuarine Research Reserve System (NERRS), and others, such as the National Park Service.

- **NOAA requests an increase of \$500,000 to conduct additional research into the processes and effects associated with growth and reproduction of Harmful Algal Blooms (HABs).** Harmful algal blooms produce toxins that contaminate shellfish, disrupt ecosystems, cause fish and marine mammal mortalities and have resulted in regional economic losses exceeding \$1 billion in the past two decades. Virtually every coastal state has reported major harmful algal blooms. Funding will be used for: 1) development of improved molecular tools to detect toxins and monitor harmful algal species; 2) experimental and field based studies on the transfer of toxins from harmful algae through the marine food web; and 3) development of conceptual and predictive, numeric models of HAB initiation and growth to facilitate forecasting of HABs. Development of more effective screening and monitoring methods has been requested by shellfish managers and public health officials in California and Washington. Pacific Northwest Tribal members need a rapid screening tool for field use to protect their people who harvest shellfish extensively. The toxin transfer studies will be used to identify the most appropriate bioindicators of toxin accumulation in the marine food web. The predictive models will help focus the monitoring efforts of public health officials and provide early warnings to resource managers and coastal businesses.
  
- **NOAA requests an increase of \$500,000 to strengthen its ability to identify causal agents of marine organism diseases.** One of the goals of the Chesapeake Bay 2000 Agreement is to develop, promote and achieve sound land-use practices that protect and restore watershed resources and water quality, maintain reduced pollutant loadings for the Bay and its tributaries, and restore and preserve aquatic living resources. To support this goal, NOAA requests an increase of \$500,000 to develop a better understanding of the effects of different land use practices on the health of the Bay's resources, particularly on the incidence of disease in commercially important species in the Bay. Multiple stressors are causing increased incidence of disease, but the precise relationships between these stressors, the causal agents of diseases, and the resource response is unknown. Better understanding of these relationships will provide managers around the Bay better information upon which to base management decisions to protect this environment while confronting pressure for economic growth.

## Ocean and Coastal Management

**\$126,719,000**

A net increase of \$1,002,000 and 1 FTE above the base is requested in the Ocean and Coastal Management subactivity, for a total of \$126,719,000 and 196 FTE.

- **Coastal Management:** A net program increase of \$1,002,000 and 1 FTE above the base, for a total of \$91,068,000 and 56 FTE, is requested under the Coastal Management line item of the Ocean and Coastal Management subactivity.
  - **NOAA requests an increase of \$575,000, for a total of \$16,975,000, to expand the National Estuarine Research Reserve System.** The increase will allow NOAA to improve monitoring through a new Texas NERR, which is scheduled for designation in late 2005. This new reserve is located in a biogeographic region that is not currently represented within the System. This increase will provide operational funds for education, stewardship and research activities at the new Reserve. Specifically, funding will provide equipment and staffing support for physical and biological monitoring to implement the NERRS System Wide Monitoring Program. It will also support implementation of NERRS education and coastal training programs at the reserve, as well as stewardship programming to support NERRS strategic goals and objectives.



**Proposed 235,000-acre Texas NERR in the Mission Bay-Copano Bay-Aransas Bay System**

- **NOAA requests an increase of \$427,000 and 1 FTE, for a total of \$7,328,000 and 48 FTE, in Coastal Zone Management Act Program Administration to administer the Coastal Zone Management Act and support an expanded National Estuarine Research Reserve System that includes a new reserve in Texas, as described above.** The increase will support NOAA staff at the Office of Ocean and Coastal Resource Management to work with the new reserve and fund the associated travel, equipment, training, rent and supply costs. When new reserves are designated, it is important that NOAA be able to provide technical assistance in research, monitoring, education, and resource stewardship to give new reserve programs a solid start. In addition, the increase will cover printing of revised reserve system information to include the Texas reserve, and contractual funds to update reserve system plans and performance measures for facilities, land acquisition, research and education to cover the addition of a new reserve.
  
- **Ocean Management:** No changes from the base, for a total of \$35,651,000 and 140 FTE, are requested under the Ocean Management line item of the Ocean and Coastal Management subactivity. Through this line item, NOAA administers the National Marine Sanctuary System under authority of the NMSA. There are 13 designated national marine sanctuaries, ranging in size from one-quarter square mile in Fagatele Bay, American Samoa to over 5,300 square miles in Monterey Bay, CA which is one of the largest marine protected areas in the world. Together, these sanctuaries encompass over 18,000 square miles of waters and marine habitats. In addition, the NMSP administers and manages the 131,818 square miles Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve that is undergoing the sanctuary designation process. The special habitats of the sanctuaries include deep ocean and near-shore corals, live bottom, whale migration corridors, deep sea canyons, areas of deep water upwelling, submerged banks that rise close to the ocean surface, kelp forests, and sea grass beds. With the increasing environmental pressures on our nation's coastal areas, the importance of maintaining a system of marine protected areas is evident. The National Marine Sanctuary System is increasing our knowledge and understanding of complex marine ecosystems. NOAA's sanctuaries help monitor both human and natural changes in the environment that can help us preserve our marine environments.



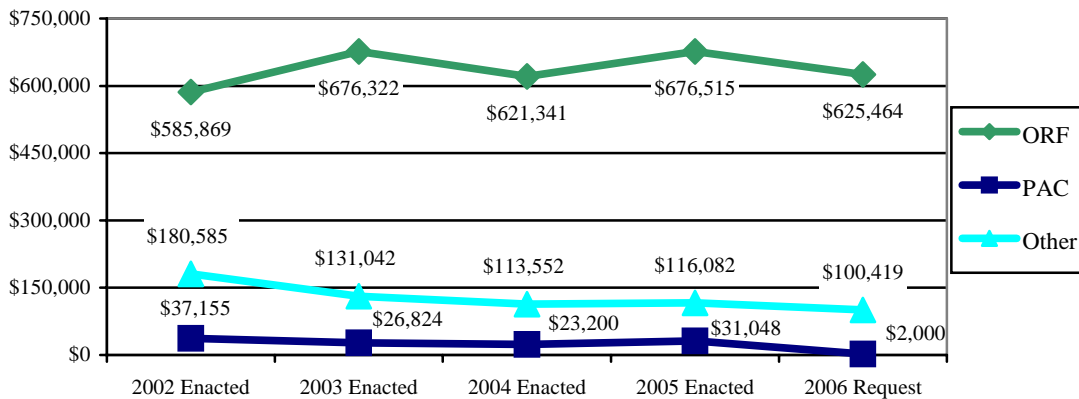
Monterey Bay National Marine Sanctuary



## National Marine Fisheries Service

(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
National Marine Fisheries Service -- Operations, Research and Facilities (ORF)				
Protected Species Research and Management	\$175,530	\$131,491	\$27,782	\$159,273
Fisheries Research and Management	297,873	280,355	13,645	294,000
Enforcement and Observers	70,347	72,267	7,896	80,163
Habitat Conservation and Restoration	53,248	36,135	(2,039)	34,096
Other Activities Supporting Fisheries	79,517	52,048	5,884	57,932
<b>Total, National Marine Fisheries Service - ORF</b>	<b>676,515</b>	<b>572,296</b>	<b>53,168</b>	<b>625,464</b>
Other National Marine Fisheries Service Accounts				
Total, National Marine Fisheries Service - PAC	31,048	2,000	0	2,000
Total, National Marine Fisheries Service - Other	116,082	100,359	60	100,419
<b>GRAND TOTAL NATIONAL MARINE FISHERIES SERVICE (Direct Obligations)</b>	<b>\$823,645</b>	<b>\$674,655</b>	<b>\$53,228</b>	<b>\$727,883</b>
<b>Total FTE</b>	<b>2,614</b>	<b>2,557</b>	<b>35</b>	<b>2,592</b>

**Budget Trends, FY 2002 – 2006 (dollars in thousands)**



ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction  
Other: Fishermen's Contingency Fund; Foreign Fishing Observer Fund; Fisheries Finance Program; Promote and Develop; Pacific Coastal Salmon Recovery Fund; Pacific Coastal Salmon Treaty; and Environmental Improvement and Restoration Fund





## National Marine Fisheries Service



NOAA's National Marine Fisheries Service (NMFS) is responsible for the management and conservation of living marine resources within the United States Exclusive Economic Zone (EEZ). NMFS also provides critical scientific and policy leadership in the international arena, and plays a key role in the management of living marine resources in coastal areas under state jurisdiction. NMFS implements science-based conservation and management measures and actions that are aimed at sustaining long-term use and promoting the health of coastal and marine ecosystems.

NMFS' ultimate mission and the focus of its day-to-day efforts is to maximize the benefits to the Nation from the protection and use (commercial, recreational, and aesthetic) of living marine resources. Under its numerous mandates, NMFS works to ensure the long-term health, productivity, and diversity of our Nation's ocean and coastal resources – fish, sea turtles, whales, and myriad other marine and coastal species and their habitats. At the same time, NMFS is charged with balancing multiple needs and

interests, including commercial, recreational, and subsistence fishing; aquaculture; and marine and coastal observation and research. These activities rely on a strong scientific and research competency to support the challenging public policy decision process associated with NOAA's stewardship responsibility.

NMFS continues to develop and track key performance measures that demonstrate meaningful results to our constituents and the American public. In FY 2006, NMFS will continue to focus resources on improving the status of overfished fisheries and endangered and threatened species; increasing the number of fish stocks and protected species whose population status is known; putting in place rebuilding, recovery, and conservation plans for major fish stocks and protected species; and restoring habitat for NOAA trust resources.

The FY 2006 President's Budget Request supports funding and program requirements to enable NMFS to be effective stewards of living marine resources for the benefit of the Nation through science-based conservation and management and the promotion of ecosystem health.

### **FY 2006 Budget Summary**

NOAA requests a total of \$625,464,000 and 2,592 FTE to support the continued and enhanced operations of the National Marine Fisheries Service. The total includes \$21,840,000 for Adjustments to Base, \$53,168,000 for Program increases, and \$126,059,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

NOAA requests a net increase of \$21,840,000 and a decrease of 57 FTE to fund adjustments to base across all accounts in NMFS. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration.

The above amount includes a transfer of \$1,035,000 and 60 FTEs to the Office of General Counsel within Program Support. It also includes a transfer of \$4,000,000 from the Facilities line in Program Support to fund various projects. These activities have traditionally been funded within the NMFS budget.

### **NMFS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$53,168,000 over the FY 2006 base for a total request of \$625,464,000. These changes are summarized at the sub-activity level below.

Detailed numeric breakouts are located in Chapter 7, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2006 Technical Budget.

## **Protected Species Research and Management**

**\$159,273,000**

A net increase of \$27,782,000 and 11 FTE above the base is requested in the Protected Species Research and Management subactivity, for a total of \$159,273,000 and 657 FTE.

- **Protected Species Research and Management Programs:** \$2,272,000 and 7 FTE in net increases above the base, for a total of \$30,925,000 and 381 FTE, are requested under the Protected Species Research and Management Programs line item of the Protected Species Research and Management subactivity.

- **NOAA requests \$1,100,000 and 2 FTE to investigate ocean sound and its effects on the recovery of protected species.** Rising levels of ocean sound and their potential effects on marine species, particularly on protected species, has become a significant emerging issue in marine conservation. Sources of ocean sound include natural events (e.g., earthquakes) and anthropogenic activities (e.g., seismic exploration, military sonars, and commercial shipping). Research on human and non-human species indicates that some levels of sound and chronic



### **Humpback Whales in Hawaii**

exposure to sound may affect health, reproduction, behavior, and survival. Recent strandings of marine mammals suggest there may be a relationship between some anthropogenic sound sources and these stranding events. Specific research will be directed at determining the characteristics of sound experienced by marine animals underwater, measuring the behavioral and auditory effects of exposure to ocean sound, and developing cost-effective mitigation measures for ocean sound effects.

- **NOAA requests \$1,172,000 and 5 FTE to expand and modernize protected resources stock assessments by implementing Tier II of the Protected Resources Stock Assessment Improvement Plan.** Currently, the status of more than 200 protected and at-risk marine species is unknown. The requested funding will allow NMFS to increase the number and quality of stock surveys and assessments on which to base regulatory decisions. These assessments provide timely and reliable estimates of distribution, abundance, and mortality for listed species. Imprecise estimates increase the possibility that species will be

misclassified under the Endangered Species Act or Marine Mammal Protection Act, resulting in increased risk to the species, delay of recovery, and additional mitigation measures which, in turn, pose significant economic losses to the regulated community. NOAA is required to evaluate the status of listed species every year for Marine Mammal Protection Act listings and every five years for Endangered Species Act listings, and to reclassify the affected listing as appropriate following these status reviews. Stock assessment priorities include large whales, Hawaiian cetaceans, loggerhead sea turtles, beaked and sperm whales, and coastal and oceanic bottlenose dolphins. This funding increase would enable NMFS to expand studies of stock structure through genetic profiling, improve telemetry techniques (e.g., satellite tagging) for documenting range and habitat use, and deploy new assessment technologies such as towed and autonomous passive acoustic arrays.

- **Other Protected Species (Marine Fish, Plants, and Invertebrates):** \$5,409,000 and 4 FTE in net increases above the base, for a total of \$8,153,000 and 45 FTE, are requested under the Other Protected Species (Marine Fish, Plants, and Invertebrates) line item of the Protected Species Research and Management subactivity.
  - **NOAA requests \$2,300,000 and 1 FTE to initiate pilot proactive conservation efforts for species nearing the need for listing under the Endangered Species Act (ESA).** This pilot program aims to implement threat-reducing, on-the-ground conservation actions or management agreements in order to lower the risk of extinction for two species. These conservation efforts include close partnerships with state and federal agencies, industry, environmental groups, and academia. Adequate and statistically valid stock assessment information will be provided by observer coverage to determine which two species will be addressed. On average, NOAA spends approximately \$5 million per year on fulfilling consultations and permitting requirements for each listed species. NOAA intends to use this \$2.3 million investment to implement measures which will prevent a listing of either species, thereby eliminating the need to complete costly ESA consultations and permitting requirements. The outcomes of these conservation efforts will serve as case studies and a basis for other pilot projects. Finally, NOAA will develop a performance measurement system in order to evaluate the success of the pilot's conservation efforts in decreasing the number of listed species.
  - **NOAA requests \$3,109,000 and 3 FTE to implement core protected species conservation and management activities.** Included is an increase of \$2,109,000 and 3 FTE to support ESA Section 7 consultations, programmatic NEPA reviews for ESA and MMPA permitting, mandatory ESA five-year status reviews, and reduced fishery interactions. This funding will allow the Protected Species Management program to “frontload” protected species issues into other management actions, feeding into a regional ecosystem management governance structure. In addition, an increase of \$1,000,000 will support Recovery Plan

development and implementation activities to increase NMFS' capacity to plan for and implement recovery actions for ESA-listed species. This funding will allow NMFS to complete plans for species that currently lack them, and to fund some of the highest priority actions needed to prevent extinction and start these species on the road to recovery.

- **Atlantic Salmon:** \$551,000 and 0 FTE in net increases above the base, for a total of \$5,881,000 and 12 FTE, are requested under the Atlantic Salmon line item of the Protected Species Research and Management subactivity. This request will be used to implement the Atlantic salmon recovery plan, including research and management activities within NMFS. The research initiatives and management activities that will start with the requested new funding will provide additional capacity and resources for managers to protect the Atlantic salmon stocks.
- **Pacific Salmon:** \$19,550,000 and 0 FTE in net increases above the base, for a total of \$66,591,000 and 193 FTE, are requested under the Pacific Salmon line item of the Protected Species Research and Management subactivity.
  - **NOAA requests an increase of \$11,000,000, a total of \$15,000,000 for research/monitoring/evaluation (RM&E) and recovery/subbasin planning as part of the implementation of the Federal Columbia River Power System (FCRPS).** The RM&E program provides scientific information necessary to assess achievement of the Biological Opinion (BiOp) performance measures. Certain actions are specified under BiOp to avoid jeopardy and begin rebuilding the anadromous fish resources of the Columbia River basin. The BiOp's success or failure will be judged according to the results of comprehensive monitoring for abundance, productivity, distribution, and diversity of listed salmon populations. The goal is to measure changes in habitat capacity, establish a link between habitat attributes and fish distribution, and track population growth rate and habitat trends. This initiative also ensures documentation and early alerts on progress toward performance measures. The funding request also will provide for needed research to address key uncertainties identified in the BiOp in the areas of estuary and near-shore ocean survival, delayed effects of dams passage, and the effects of hatchery programs on the productivity of naturally spawning fish.
  - **NOAA requests \$2,000,000 and 0 FTE to support Section 7 consultations in response to Environmental Protection Agency (EPA) Pesticide Court Decisions.** This increase will be used for necessary costs to meet court-ordered time lines to conduct ESA Section 7 consultations with EPA. Section 7 consultations are required by rulings on pesticide lawsuits in California, Oregon, Idaho, and Washington State. Other lawsuits are pending. NMFS can generally complete a draft biological opinion of average complexity in 135 days. However, because pesticide consultations are relatively new and often complex, NMFS estimates that initial development of draft biological opinions on pesticides may

take significantly longer. NMFS and EPA are conducting a pilot consultation to test EPA’s risk assessment methodology, which is the foundation of the new EPA Section 7 Counterpart Regulations. To date, NMFS has received more than 500 requests for consultation from EPA on approximately 40 pesticides subject to the aforementioned litigation. NMFS anticipates reviewing at least 100 pesticides each year for EPA, per standard Section 7 procedures, the Counterpart Regulations, and other general technical assistance. Where appropriate, NMFS’ concurrence on actions not likely to adversely affect ESA listed species and designated critical habitat will be incorporated into biological opinions with other pesticides to avoid the need to develop additional consultation documents.

- **NOAA requests an increase of \$6,550,000 for ESA status reviews and listings, critical habitat designation, recovery planning, Section 7 consultations, and Habitat Conservation Planning.** Efforts also include funding for research and technical support for analysis on factors affecting survival of at-risk salmon, evaluation of on-going conservation and habitat restoration efforts, and cumulative risk assessments. The requested funding will allow NOAA Fisheries to fulfill its mandates of completing and implementing recovery plans for species threatened and endangered with extinction. This new funding will strengthen the entire on-going management efforts currently in place for many species.



**Step pool fish passage provides salmon and trout access through a culvert to upstream spawning grounds**

## **Fisheries Research and Management**

**\$294,000,000**

A net increase of \$13,645,000 and 22 FTE above the base is requested in the Fisheries Research and Management subactivity, for a total of \$294,000,000 and 1,444 FTE.

- **Fisheries Research and Management Programs:** \$1,035,000 and 0 FTE in net increases above the base, for a total of \$127,831,000 and 1,360 FTE, are requested under the Fisheries Research and Management Programs line item of the Fisheries Research and Management subactivity.
  - **NOAA requests an increase of \$440,000 and 0 FTE to reduce harvesting overcapacity in commercial fisheries.** In FY 2006, NMFS will partner with the fishing industry to conduct a voluntary permit buyback program in the

commercial sector of the Atlantic pelagic longline swordfish fishery. The cost of reducing the current number of permits in this fishery from 180 to approximately 117 will be \$18,900,000. This reduction will achieve an appropriate balance between resource availability and harvesting capacity in this fishery and also help reduce the number of interactions between pelagic longline gear and endangered species of sea turtles.

NOAA proposes that the entire cost of this program be paid for through a long-term loan to permit holders who remain in the fishery under fishing capacity reduction program procedures specified in sections 312(b)-(e) under the Magnuson-Stevens Fishery Conservation and Management Act. If approved in a referendum of eligible permit holders, the loan will be issued under the Fishery Finance Program and will be repaid through an assessment on ex-vessel payments to remaining permit holders for landed swordfish. These assessments will be collected at point of first sale. The Federal Credit Act or subsidy cost of this loan, which must be appropriated, is estimated to be \$60,000 and is reflected in the Fisheries Finance Program account. The \$440,000 requested here will be used for detailed program planning, development, and execution of the swordfish buyback programs as well as planning for future programs in other fisheries.

- **NOAA requests an increase of \$595,000 for a total of \$3,095,000 for Regulatory Streamlining.** The request includes an increase to improve the quality and timeliness of regulatory processes and policy development for the Fishery Management Program. These funds will be used to support national oversight and agency-wide integration at NMFS headquarters and regional oversight and technical assistance at the field level. These funds will enable NOAA to more fully assist in the development, review, and implementation of Regional Fishery Management Council proposed actions and assist in the analysis, evaluation, and implementation efforts of NMFS regional offices. Also included is an increase to develop and maintain an electronic rulemaking system and associated databases. This increase will shorten the time to review and process rules and regulations, increase public participation, and generate long-term cost savings to the government. In addition, the requested increase would implement an electronic permitting system for fisheries and protected species that will allow applicants to obtain routine renewals and some first-time permits via the Internet.
- **Expand Annual Stock Assessments—Improve Data Collection:** \$4,597,000 and 8 FTE in net increases above the base, for a total of \$25,397,000 and 59 FTE, are requested under the Expand Annual Stock Assessments—Improve Data Collection line item of the Fisheries Research and Management subactivity. Additional resources will help address longstanding shortfalls in fisheries science, fishery monitoring, and fisheries data management capabilities identified by internal and external NOAA review panels. FY 2006 funds will support new assessment FTEs,

contract staff, and external academic and state partners so that more and better data may be collected and processed from NMFS resource surveys and from the commercial and recreational fisheries. Also addressed is the need for information technology development to improve the integration and management of fishery-independent and fishery-dependent data.

- **Economics and Social Sciences Research:** \$5,518,000 and 14 FTE in net increases above the base, for a total of \$9,618,000 and 25 FTE, are requested under the Economics and Social Sciences Research line item of the Fisheries Research and Management subactivity. This funding will enable NOAA to expand its economic and social science data collection capabilities. Researchers will be able to estimate the economic impact of fishing on the local, state, and national economies, as well as assess the human impacts from and responses to management decisions. The Magnuson-Stevens Act mandates NOAA to consider the effects of regulations on the fishing industry and on fishing communities.

Comprehensive analysis of economic and socio-cultural factors supports effective ecosystem-based management of marine resources and enables decision-makers to identify cost-effective approaches for achieving conservation goals while reducing the risk of court challenges.

With these resources, NOAA expects to: 1) complete economic analyses on commercial harvesters for 26 Fisheries Management Plans (FMP) by FY 2006 -- a 46% increase over FY 2005 projections; 2) complete profiles on 20 fishing communities -- a three-fold increase from FY 2005; and 3) estimate economic impacts on recreational and commercial fisheries from effort displacement in 20 federal marine managed areas -- also a three-fold increase from FY 2005. The increase in funding will enable NOAA to achieve 100% of all economic and social data collection performance goal targets by FY 2008.

- **Regional Councils and Fisheries Commissions:** \$1,305,000 and 0 FTE in net increases above the base, for a total of \$25,946,000 and 0 FTE, are requested under the Regional Councils and Fisheries Commissions line item of the Fisheries Research and Management subactivity. This increase will expand the capacity of the eight Regional Fishery Management Councils (RFMCs) to provide for their full participation in the Regulatory Streamlining Projects. This funding (through annual grants to the RFMCs) will allow RFMCs to analyze a greater range of alternatives as they develop new or amend current Fishery Management Plans (FMPs) to reduce levels of overfishing and overcapacity while considering the impacts of proposed actions on other components of the marine ecosystem. Increased RFMC capabilities and implementation of the regulatory streamlining program will allow policy issues to be addressed early and efficiently in the regulatory review process, rather than later when it becomes difficult to comprehensively address a new issue. Without this funding, the RFMCs and NOAA will likely continue to face a significant number of



legal challenges to regulatory actions. NOAA will make \$1.0 million available for RFMCs to develop dedicated access privilege (DAP) programs, such as individual fishing quotas (IFQs). Development of DAP programs requires significant resources for economic analysis and design of programs for eligibility determination, permit issuance, and fishery monitoring. These funds would be made available on a competitive basis to support RFMCs with projects that advance DAP systems.

## **Enforcement and Observers/Training**

**\$80,163,000**

A net increase of \$7,896,000 and 2 FTE above the base is requested in the Enforcement and Observers/Training subactivity, for a total of \$80,163,000 and 251 FTE.

- **Enforcement:** \$6,427,000 and 0 FTE in net increases above the base, for a total of \$54,171,000 and 188 FTE, are requested under the Enforcement line item of the Enforcement and Observer/Training subactivity.
  - **NOAA requests an increase of \$6,300,000 and 0 FTE for a total of \$9,300,000 for the Vessel Monitoring System (VMS).** This increase will support expanded use of vessel monitoring systems (VMS) for scientific and homeland security. VMS, which monitors vessel movement, is one of the most efficient mechanisms to improve NMFS' ability to monitor and enforce closed areas for protection of endangered species, critical habitat, and rebuilding and maintenance of sustainable fisheries. The number of vessels participating in this program is expected to continue to increase. The requested funding increase will maintain NMFS' ability to monitor vessel movement and respond effectively to potential and actual violations. Of this amount, \$4,800,000 is needed to support and maintain the existing infrastructure of the system. The remaining \$4,500,000 will cover the costs of purchasing and installing units on approximately 2,000 additional vessels.
- **Observers/Training:** \$1,469,000 and 2 FTE in net increases above the base, for a total of \$25,992,000 and 63 FTE, are requested under the Observers/Training line item of the Enforcement and Observer/Training subactivity. This level of funding will also enable NOAA to fully meet sampling design objectives in approximately three currently observed fisheries and initiate coverage in two additional fisheries to obtain preliminary estimates of catch and bycatch rates. This information will allow for development



**NMFS Fishery Observer**

and implementation of a statistically valid sampling design in these fisheries within three to five years. In addition, NOAA will deploy electronic monitoring (video cameras) in selected fisheries to supplement existing coverage, develop standards for hiring and training of observers, improve sampling design and analytical support, increase outreach to fishermen on observer program objectives and information collected, and publish summary reports of data collected. By the end of 2006, with the funds requested, NOAA will deploy observers in 43 fisheries, with adequate or near-adequate levels of observer coverage in approximately 29 of these fisheries.

## **Habitat Conservation and Restoration**

**\$34,096,000**

A net decrease of \$2,039,000 and 0 FTE below the base is requested in the Habitat Conservation and Restoration subactivity, for a total of \$34,096,000 and 235 FTE.

- **Fisheries Habitat Restoration.** No increase from the base of \$15,298,000 and 3 FTE is requested under the Fisheries Habitat Restoration line item of the Habitat Conservation and Restoration subactivity.



**NOAA volunteers restore herring runs in Massachusetts**

NOAA will utilize \$1,500,000 and 3 FTEs of base resources to establish a Great Lakes Habitat Restoration Program, emphasizing protection and restoration of NOAA trust resources at the watershed scale within the Great Lakes Areas of Concern. NOAA's program will focus on restoring Great Lakes aquatic resources and will provide technical support for commonly occurring lake-wide problems (e.g., invasive species, contaminated sediment and the presence of persistent contaminants, beach closings, and loss of high-quality fish and wildlife habitat).

The two primary components of the Great Lakes Restoration Program will be: 1) establishment of a cross-NOAA Great Lakes Habitat Restoration Program Office at NOAA's Great Lakes Environmental Research Laboratory (GLERL) and 2) coordination and funding for ecosystem-based, science-driven restoration projects that can be used to support the Great Lakes Interagency Task Force and the GLERL.

## **Other Activities Supporting Fisheries**

**\$57,932,000**

A net increase of \$5,884,000 and 0 FTE above the base is requested in the Other Activities Supporting Fisheries subactivity, for a total of \$57,932,000 and 0 FTE.

- **Climate Regimes and Ecosystem Productivity:** \$500,000 and 0 FTE in net increases above the base, for a total of \$2,000,000 and 0 FTE, are requested under the Climate Regimes and Ecosystem Productivity line item of the Other Activities Supporting Fisheries subactivity. These funds will be used to improve the understanding and prediction of climate change on major U.S. marine and coastal ecosystems in the Bering Sea and Gulf of Alaska. This initiative will study the effects of climate change on North Pacific coastal and marine ecosystems, their living marine resources, and human communities. NMFS will use its expertise in biological oceanography and fisheries and pursue sociological studies on effects of climate change on fishing-dependent coastal communities.
- **National Environmental Policy Act (NEPA):** \$4,997,000 and 0 FTE in net increases above the base, for a total of \$7,997,000 and 0 FTE, are requested under the National Environmental Policy Act (NEPA) line item of the Other Activities Supporting Fisheries subactivity. These funds would be used primarily to support existing NEPA specialists within regional and headquarters offices. Almost all regional offices, as well as headquarters, continue to need more NEPA specialists to accommodate our growing NEPA workload. The NEPA Coordinators frequently identify program actions requiring new or more comprehensive NEPA analyses than have previously been conducted. Additionally, the Agency's ecosystem-based approaches to management will increase our need for NEPA expertise, given the analytical complexity of this management task. Because many of our financial assistance and permitting actions are frequently initiated by headquarters components, we continue to have an unmet need for more NEPA staff within these headquarters programs. Almost half of the requested \$4,997,000 will be allocated to meeting regional and headquarters staffing needs.

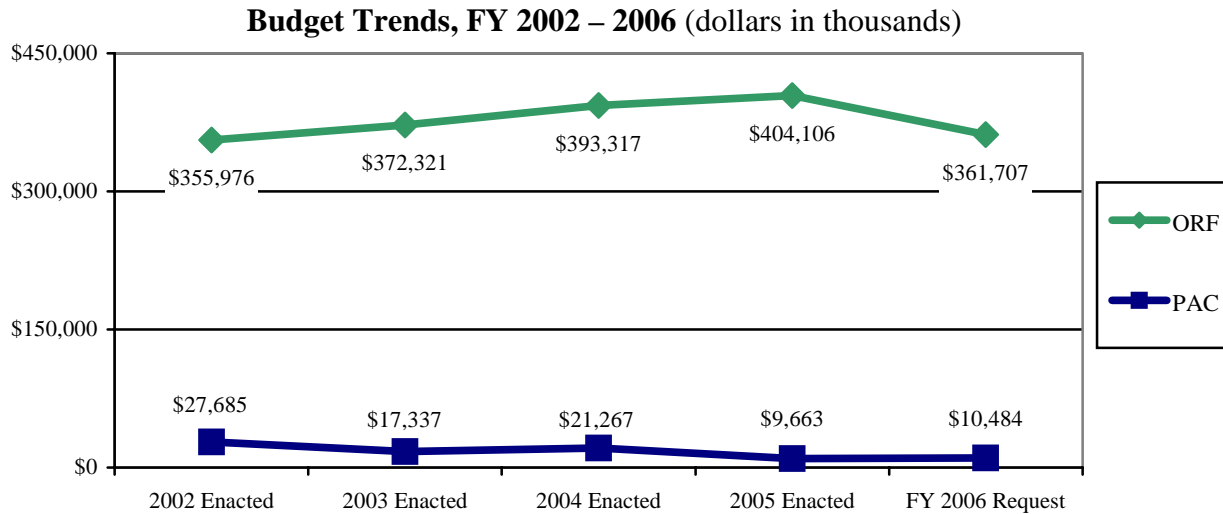
Funding would also be provided for the eight Regional Fishery Management Councils (FMC) to assist in implementing NEPA. By providing both fishery management expertise and staff assistance to produce our NEPA documents, the FMCs play a major role in our implementation of NEPA. We would continue our traditional support of this FMC role with approximately 15% of the total requested funds. We also would expand our NEPA training program to all staff with NEPA implementation responsibilities and tailor the training to those responsibilities.

NOAA's NEPA program offers a number of training courses for staff conducting NEPA analysis. Requested increases would support contractors hired on a multiyear basis to help design and conduct these courses. About 8% of the requested funds would be allocated for these expanded training efforts. In addition, about 27% of the requested funds would be used for contractor support to prepare high-priority, complex environmental impact statements (EIPs).



## Office of Oceanic & Atmospheric Research

(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
Office of Oceanic & Atmospheric Research -- Operations, Research and Facilities (ORF)				
Climate Research	\$177,311	\$159,556	\$18,034	\$177,590
Weather and Air Quality Research	50,890	36,499	1,700	38,199
Ocean, Coastal, and Great Lakes Research	146,826	114,438	4,124	118,562
Information Technology, R&D, and Science Education	29,079	27,130	226	27,356
<b>Total, Office of Oceanic &amp; Atmospheric Research - ORF</b>	<b>404,106</b>	<b>337,623</b>	<b>24,084</b>	<b>361,707</b>
Other Office of Oceanic & Atmospheric Research Accounts				
Total, Office of Oceanic & Atmospheric Research - PAC	9,663	9,500	984	10,484
Total, Office of Oceanic & Atmospheric Research - Other	0	0	0	0
<b>GRAND TOTAL OFFICE OF OCEANIC &amp; ATMOSPHERIC RESEARCH (Direct Obligations)</b>	<b>\$413,769</b>	<b>\$347,123</b>	<b>\$25,068</b>	<b>\$372,191</b>
<b>Total FTE</b>	<b>698</b>	<b>697</b>	<b>14</b>	<b>711</b>



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



## Office of Oceanic & Atmospheric Research



The primary focus for research and development within NOAA is the Office of Oceanic and Atmospheric Research (OAR), often referred to as NOAA Research. OAR conducts the scientific research, environmental studies, and technology development needed to improve NOAA's operations and broaden our understanding of the Earth's atmospheric and marine environmental systems. OAR currently consists of 11 internal research laboratories, and manages or facilitates extramural research at 30 National Sea Grant colleges, universities and research programs, 6 undersea research centers, a research grants program through the Office of Global Programs, and 13 cooperative institutes with academia.

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

- Understand complex climate systems to improve predictions.
- Understand atmospheric events to assist in saving lives and property worldwide.
- Explore, investigate, and understand the complexities of all our coastal, Great Lakes, and ocean habitats and resources.

- Accelerate adoption of advanced computing, communications, and information technology throughout NOAA and support science education, expanding the pipeline of potential future environmental scientists and researchers for industry, academia, and government.

The research is carried out through a national network of 60 Federal laboratories and university-based research programs. With this diverse research “tool kit,” OAR:

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

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

### **FY 2006 Budget Summary**

NOAA requests a total of \$361,707,000 and 711 FTE to support the continued and enhanced operations of the Office of Oceanic & Atmospheric Research. The total includes \$3,961,000 for Adjustments to Base, \$24,084,000 for Program increases, and \$70,444,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

NOAA requests an increase of \$3,961,000 and a decrease of 1 FTE to fund adjustments to base for NOAA Research activities. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration.

The above amount includes \$1,520,000 for amortized construction costs and net rent cost increases associated with the new National Weather Center on the South Campus of the University of Oklahoma. Based upon the February 2006 Beneficial Occupancy Date of the National Weather Center (NWC), NOAA will relocate its National Severe Storms Laboratory, Norman Weather Forecast Office, Storm Prediction Center, Warning Decision Training Branch and NEXRAD Radar Operations Center’s Application Branch to the NWC. The rent payments for FY 2006 will be \$234,000 per month or \$1,870,000 for 8 months of NOAA occupancy of the NWC. Current NOAA lease costs that can be applied to this new rental costs are \$520,000 a year (\$350,000 for the eight-month period of FY 2006) for a total net new requirement of \$1,520,000.

It also includes a base transfer of \$3,200,000 and 0 FTE from the Climate Change Research Initiative line item in OAR to NWS (Local Warnings and Forecasts line item) to reflect the successful transition from research to operations of the Tropical Atmosphere Ocean (TAO) buoy array; and a transfer of \$500,000 and 0 FTE to return U.S. Weather Research Program funding to NWS.

Finally, it includes transfers of \$40,000 to OMAO for partial funding of NOAA Corps Officer positions that benefit OAR. In addition, \$14,000 and 1 FTE are being realigned to the Office of General Counsel within Program Support.

### **OAR – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$24,084,000 and 14 FTE over the FY 2006 base for a total request of \$361,707,000 and 711 FTE. These changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 7, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2006 Technical Budget.

#### **Climate Research**

**\$177,590,000**

A net increase of \$18,034,000 and 11 FTE above the base is requested in the Climate Research subactivity, for a total of \$177,590,000 and 352 FTE.

- **Climate Observations & Services:** \$18,034,000 and 11 FTE in net increases above the base, for a total of \$69,227,000 and 31 FTE, are requested under the Climate Observations & Services line item of the Climate Research subactivity.
  - **NOAA requests an increase of \$7,441,000 and 11 FTE to support activities under its Climate Research and Observations, Climate Operations, and Climate Data and Information programs** that are essential to the accomplishment of key NOAA missions. These programs are needed as the foundation for NOAA's participation in the interagency U.S. Climate Change Science Program by providing the base support fundamental to the success of activities conducted under the Climate Change Research Initiative.

Within this request, \$3,233,000 and 8 FTE will support Climate Research and Observations. This program includes research activities ranging from long-term monitoring of key climate variables to improved forecasts and more sophisticated applications of climate information to state-of-the-science assessments and information products. These activities are central to NOAA's provision of end-to-end climate services and products. The funding request would support full-time staffing of the Mauna Loa Observatory, as well as staffing support for the Barrow, Samoa, and South Pole Observatories. Funding would also enable continued

participation in the Dobson total ozone global network (includes 20 stations plus the WMO World Standard instrument used to calibrate about 80 global ozone-layer measurements) and ensure continuation of long-term climate monitoring of atmospheric properties critical to tracking changes in long-term trends (e.g., the 47-year records of atmospheric carbon dioxide at the Mauna Loa and South Pole Observatories), stratospheric ozone depletion, and surface radiation. These actions are critical for assessing the impacts of the Montreal Protocol and other remedial actions aimed at reducing stratospheric ozone depletion. Funding would also enable the eight current Regional Integrated Sciences and Assessments (RISA) teams to develop the decision support tools needed to better prepare for and mitigate the effects of drought as called for in the National Integrated Drought Information System plan. The implementation includes conducting applied research to develop these tools to solve drought related problems facing State officials in water, land, and ecosystem management, as well as fire mitigation strategies. This funding would also benefit the public and our environment through the dissemination of information products that serve our Nation's environmental decision makers, e.g., Intergovernmental Panel on Climate Change reports, WMO Ozone Assessments, and U.S. Climate Change Science Program synthesis and assessment products.



**Mauna Loa observatory**

Also within this request, \$895,000 and 1 FTE will support Climate Operations. The activities would provide the operational interface between users and developers of reliable climate products and services as well as support the effective transfer of new forecasting techniques to NWS to improve operational settings, particularly in the areas of short- and medium-range climate forecasts. For example, this funding would support the NOAA Climate Test Bed through the evaluation of NCEP's new Climate Forecast System, the development of multi-model ensembles for climate, model comparison activities with the Geophysical Fluid Dynamics Laboratory, and the development of new climate forecast applications. Finally, this program supports the application of improved climate information at local forecast offices and encourages its incorporation into everyday decision making at the community level. This is achieved through development and implementation of new regional and local climate products and



web based customer services.

In addition, \$3,313,000 and 2 FTEs will support Climate Data and Information. This effort seeks to make available the robust climate record and climate benchmarks needed to document long-term changes in climate (50-100 years). Specifically, the funding will enable NOAA to maintain 16 stations or 21% of the U.S. Climate Reference Network whose reference measurements of temperature and precipitation are critical to NOAA's development of an Integrated Surface Observing System, integrating both in-situ and satellite measurements along a common reference scale. In addition, the requested funding will enhance the Observing System Monitoring Program's ability to identify and communicate early warnings of network problems that can adversely affect our ability to track variations and changes in climate, which also are key to a fully functional integrated observing system. Finally, funding would provide NOAA the processing capability to merge data from NOAA, NASA, and other satellites, enabling scientists to track changes in global cloud cover, a currently fundamental uncertainty in understanding climate whose resolution is required for many energy-related applications.

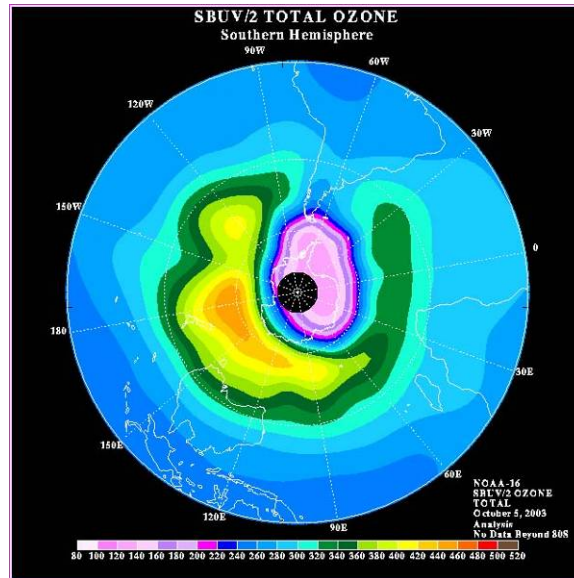
- **NOAA requests an increase of \$3,200,000 and 0 FTEs to conduct further research on the Tropical Atmosphere Ocean (TAO) array and the Pilot Research Moored Array in the Tropical Atlantic (PIRATA).** This funding will expand the TAO array into the Indian Ocean and support the technological development of the next generation of moored buoys. Both efforts will cost-effectively enhance TAO's capability to accurately document the state of ocean climatic conditions and improve our seasonal forecasting capability. NOAA will also add salinity sensors to the TAO array to improve seasonal-interannual (S/I) forecasting. In addition, system upgrades for 4 TAO and 3 PIRATA buoys will bring them up to ocean-reference-station quality for satellite and model validation. Finally, providing 4 additional buoys for the PIRATA array in the hurricane-genesis region of the Atlantic Ocean is critical to improved understanding of the effects of ocean-atmosphere interactions on hurricane development.
- **NOAA requests \$2,000,000 and 0 FTE to develop new climate reanalysis data sets that will enable us to explain more adequately the causes for observed climate variability and change.** This effort represents a key NOAA contribution to the interagency U.S. Climate Change Science Program (CCSP) goal of improving knowledge of the Earth's past and present climate and environment, including its natural variability, and improving understanding of the causes of observed variability and change. These datasets will substantially reduce current uncertainty about historical climate variations and improve our ability to analyze and detect interannual-to-decadal variability and weather-climate trends for the 20th century (vs. current capacity to do so for just the second half of the 20th

century). Finally, OAR climate attribution research will greatly improve our ability to interpret causes of observed climate variability and, thereby, provide policy-makers with critically needed explanations of current and future regional climate conditions, including major droughts, floods, prolonged warm or cold conditions, climate trends and extremes, and multi-decadal variability.

- **NOAA requests an increase of \$800,000 and 0 FTE for the Regional Integrated Sciences and Assessments (RISA) program.** This funding will initiate a multi-year research effort to: (1) refine existing regional integrated research and address new issues of importance to decision-making communities in regions currently served; (2) link, in an integrated manner, climate research and information to decision-making processes in regions not currently supported by NOAA to ensure NOAA is providing effective climate services across the Nation; and (3) increase research capacity to address climate-sensitive issues of importance to NOAA's constituents at spatial scales that transcend the current regional foci (e.g., Colorado River system and national drought management issues). The funding will also support a new RISA team in a region that demonstrates a need for applied climate research to improve operational products and policies. These will support research in such NOAA mission areas as improved wildfire forecasting and response; water systems management; enhanced agricultural management; improved vulnerability assessment and management option development; and continued applied research on climate-related health issues, e.g., West Nile Virus, Hanta Virus, and respiratory ailments.
  
- **NOAA requests an increase of \$3,515,000 and 0 FTE to continue building and maintaining a global ocean observing system, (which will be a component of the planned Integrated Ocean Observing System) that will accurately document climate-scale changes in ocean heat, carbon, and sea level.** This effort will complete 55% of the ocean observing system, keeping us on track with our international commitment of completing the ocean climate observing system by 2010. Improvements to the system will focus on: (1) reducing uncertainty in estimating sea-level change, sea-surface temperature, and changes in the global ocean carbon inventories; (2) documenting/tracking changes in how the ocean stores heat energy, a key driver of long-term climate variability and change; and (3) monitoring the ocean's role in the global freshwater cycle (by deploying additional sensors for sea-surface salinity, an indicator of air-sea exchange of freshwater via evaporation and precipitation). Expansion of the ocean observing system will ultimately enable society to better anticipate and respond to changes in the Earth's climate system, through improved observations of oceanic indicators of climate change and more accurate initial conditions for seasonal climate forecasts.

- NOAA requests an increase of \$2,078,000 and 0 FTE for expanded research efforts in Aerosols, Clouds, and Climate Change: Observations and Predictions.** This research effort is part of a multi-year program of observations to quantify how aerosols (airborne fine particles) influence climate change by their interactions with clouds. The observations will be used to test, validate, and improve aerosol-cloud and global climate models so that they more accurately represent aerosol-cloud interactions. Specifically, funding for this research will support:

  - (1)



**Ozone hole over South Pole**

observation-based determinations of the effect of aerosols on cloud brightness during FY 2006 field studies over oceans close to the U.S. and a continental site in the Eastern U.S.; (2) quantifying basic processes involved in aerosol effects on clouds (by studies under controlled laboratory conditions and over surface sites) to gather information that will improve the models' predictive capability; (3) building a detailed model of the microphysics and aerosol-cloud-radiation interactions using information gained in the studies in tasks (1) and (2); and (4) incorporating aerosols' impact on climate in global climate models and comparing model results with observations to improve the models' performance. The result will be an improved capability to simulate global and regional climate change and determine the roles of various aerosols in this change. This will assess/improve the reliability of future climate projection scenarios associated with anthropogenic activity done for CCSP and the Intergovernmental Panel on Climate Change (IPCC) as well as help craft the next generation of decision-support needs.

**Weather and Air Quality Research**

**\$38,199,000**

An increase of \$1,700,000 and 0 FTE above the base is requested in the Weather and Air Quality Research subactivity, for a total of \$38,199,000 and 180 FTE.

- Laboratories & Joint Institutes:** \$1,700,000 and 0 FTE increase above the base, for a total of \$37,197,000 and 178 FTE, are requested under the Laboratories & Joint Institutes line item of the Weather and Air Quality Research subactivity.



**Houston skyline on hazy day**

- **NOAA requests an increase of \$1,700,000 and 0 FTE for an Air Quality regional assessment that will characterize key atmospheric processes that drive air pollution problems in east Texas.** The centerpiece of this effort is a comprehensive month-long field experiment that will measure many aspects of weather and air quality. OAR will build on the results of the previously conducted Texas 2000 regional assessment to provide a comprehensive characterization of the key processes that drive air pollution in that region. In particular, NOAA will extend the assessment activities to include a comprehensive study of the sources and processes responsible for the emission, atmospheric formation, growth, and transport of particulate matter (PM). The field study will include detailed measurements of weather and air quality at the surface and aloft. Air quality measurements will include concentrations and composition of particles and precursor species. The FY 2006 funding supports development and field testing of improved observing techniques for PM, preparation for the field study, and initial evaluation of the results. In later years, NOAA will continue to evaluate the results and communicate them to stakeholders.

This work is part of a series of assessments that provide both general and region-specific information to air quality decision-makers, including policy-makers at all levels of government, enabling them to develop plans that protect both public health and economic vitality. NOAA's assessments also provide essential

information for improving and evaluating numerical models of air pollution that are used to predict unhealthful conditions and evaluate potential policies. The regional assessment will be a collaborative effort among multiple institutions, including NOAA Laboratories (administered by the Aeronomy Laboratory), Office of Marine and Aircraft Operations, NOAA joint institutes, the U.S. Environmental Protection Agency (EPA), the State of Texas, and university grantees.

## **Ocean, Coastal, and Great Lakes Research**

**\$118,562,000**

An increase of \$4,124,000 and 3 FTE above the base is requested in the Ocean, Coastal, and Great Lakes Research subactivity, for a total of \$118,562,000 and 166 FTE.

- **NOAA requests no increase for a total of \$61,208,000 and 23 FTE for the National Sea Grant College Program.** This sustains the program at approximately the level in the FY 2005 appropriation. Sea Grant is developing a system of regional networks that allows for organizing multi-state responses to regional/ecosystem-level problems. This effort supports a key Ocean Commission recommendation that NOAA move to a regional ecosystem management approach and develop information plans to coordinate ocean and coastal activities in each region. NOAA is in the process of defining regional ecosystem boundaries to implement this recommendation. Sea Grant will use its extensive working relationships at the state and local level to facilitate NOAA's development of regional priorities by expanding the research and information planning efforts initiated in FY 2005 to include three additional regions. As the regional ecosystem information plans are developed, Sea Grant research, education, extension, and outreach will be targeted at the priority actions identified in those plans. This new regional focus will enhance Sea Grant's ability to make a critical contribution to this NOAA effort.
- **NOAA requests no increase for a total of \$22,693,000 and 11 FTE for the Ocean Exploration Program.** This sustains the program at approximately the level in the FY 2005 appropriation. This program seeks to increase our national understanding of unknown or poorly known ocean systems and processes by conducting 25-30 expeditions per year. In addition, the program spends ten percent of all funds for education and outreach to improve ocean literacy in America and to stimulate student interest in ocean science. The data and information from these cruises are made available to all researchers and the general public on our award winning website [www.oceanexplorer.noaa.gov](http://www.oceanexplorer.noaa.gov). The majority of the research on these expeditions is carried out by external partners. Accordingly, the program spends the majority of its funds on science and education activities conducted by non-NOAA personnel to enhance NOAA's and our Nation's understanding of the deep oceans and ocean ecosystems. In FY 2005, a portion of the increased OE base is being used to purchase a remotely operated vehicle (ROV) and other infrastructure for NOAA's first

designated exploration vessel, scheduled for sea trials in FY 2007. With this infrastructure completed, FY 2006 base funds will support an expanded set of expeditions and projects selected through a peer-reviewed process.

- **Other Ecosystems Programs:** \$4,124,000 and 3 FTE in increases above the base, for a total of \$4,124,000 and 3 FTE, are requested under the Other Ecosystems Programs line item of the Ocean, Coastal, and Great Lakes Research subactivity.

- **NOAA requests an increase of \$2,502,000 and 2 FTE for its Aquatic Invasive Species (AIS) Program.** This augmentation represents a strategic decision by NOAA to develop the critical mass needed to address a growing worldwide threat. Zebra mussels have cost the Great Lakes region \$3 billion over the past decade. These are only one out of hundreds of aquatic invasive species affecting the U.S. The current budget for this program is insufficient to cover multiple requirements including monitoring, control, education and research to prevent new introductions, as mandated by the National Invasive Species Act (NISA) [reauthorization as the National Aquatic Invasive Species Act (NAISA)], the National Sea Grant College Program Act of 2002, and Executive Order 13112, “Invasive Species” (1999). NOAA needs to



**Zebra mussels**

continue to implement the national program to finalize survey methods and sampling protocols, to add regions to the Early Warning System for Aquatic Invasive Species Introduction, to complete additional aquatic species baseline assessments, and enhance control activities of established populations of species that are determined to be high concern. The Department of Commerce also supports the interagency Aquatic Nuisance Species Task Force and National Invasive Species Council with NOAA as co-chair of both. The NOAA AIS Program is part of a crosscutting budget initiative involving eight other Federal agencies and is a cooperative effort between NOAA Research, the National Ocean Service, and the National Marine Fisheries Service.

- **NOAA requests an increase of \$1,622,000 and 1 FTE for its Marine Aquaculture Program.** This increase will reactivate NOAA’s cutting-edge research operations and activities in aquaculture to: spur environmentally safe domestic marine aquaculture production, helping to offset the current \$7 billion annual U.S. trade deficit in seafood; rebuild wild fisheries stocks; and enhance job creation in both the production and processing of fishery products, thereby revitalizing communities devastated by collapsing fisheries industries. The NOAA Marine Aquaculture Program will be a national leader in growing the U.S. marine aquaculture industry through its integration of research, education, and technology transfer focused on key scientific, engineering, environmental, and socioeconomic issues that currently inhibit this emerging industry. The requested funds will be used to run NOAA’s annual national competition to develop new offshore aquaculture research, enhance wild fisheries stock programs, and develop and transfer re-circulating aquaculture systems to an operational mode. The increase will strengthen aquaculture research in three of the five regions where partnerships between NOAA and the external community have already been established. NOAA’s aquaculture education and extension network will be maintained, facilitating the transfer of research into business operations as well as informing the public and practitioners about key issues and information related to aquaculture. This increase will fund the highest-priority research proposals and involve multiple NOAA partners in an effort to grow our domestic seafood production while we rebuild and sustain our wild fisheries.

**Information Technology, R&D, and Science Education \$27,356,000**

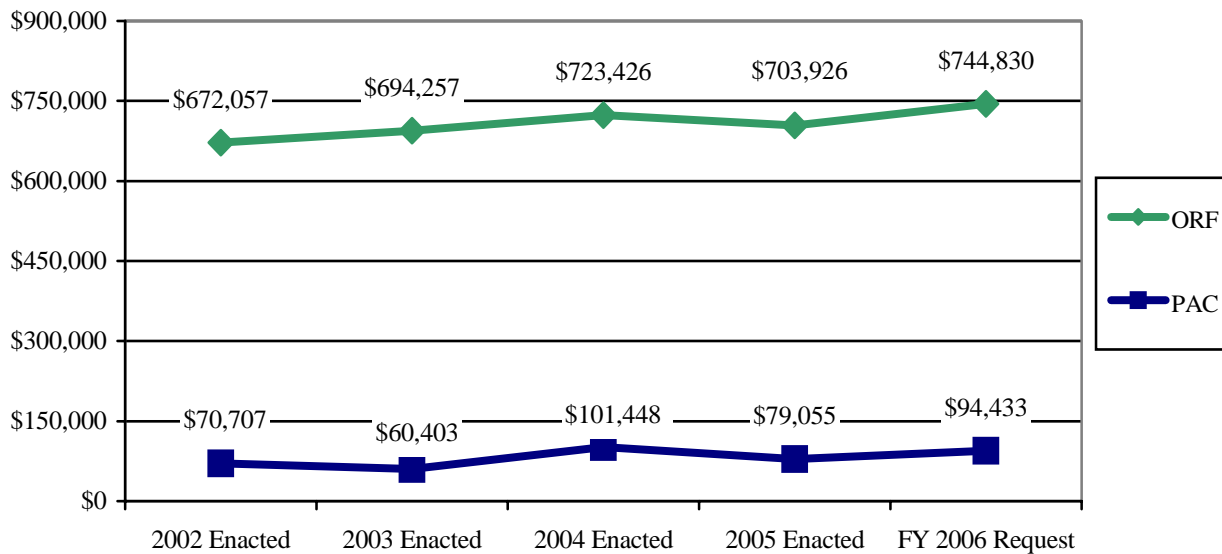
An increase of \$226,000 and 0 FTE above the base is requested in the Information Technology, R&D, and Science Education subactivity, for a total of \$27,356,000 and 13 FTE.



## National Weather Service

(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
National Weather Service -- Operations, Research and Facilities (ORF)				
Operations and Research	\$617,189	\$634,277	\$18,010	\$652,287
Systems Operation & Maintenance (O&M)	86,737	89,607	2,936	92,543
<b>Total, National Weather Service - ORF</b>	<b>703,926</b>	<b>723,884</b>	<b>20,946</b>	<b>744,830</b>
Other National Weather Service Accounts				
Total, National Weather Service - PAC	79,055	79,887	14,546	94,433
Total, National Weather Service - Other	0	0	0	0
<b>GRAND TOTAL NATIONAL WEATHER SERVICE (Direct Obligations)</b>	<b>\$782,981</b>	<b>\$803,771</b>	<b>\$35,492</b>	<b>\$839,263</b>
<b>Total FTE</b>	<b>4,654</b>	<b>4,651</b>	<b>0</b>	<b>4,651</b>

**Budget Trends, FY 2002 – 2006 (dollars in thousands)**

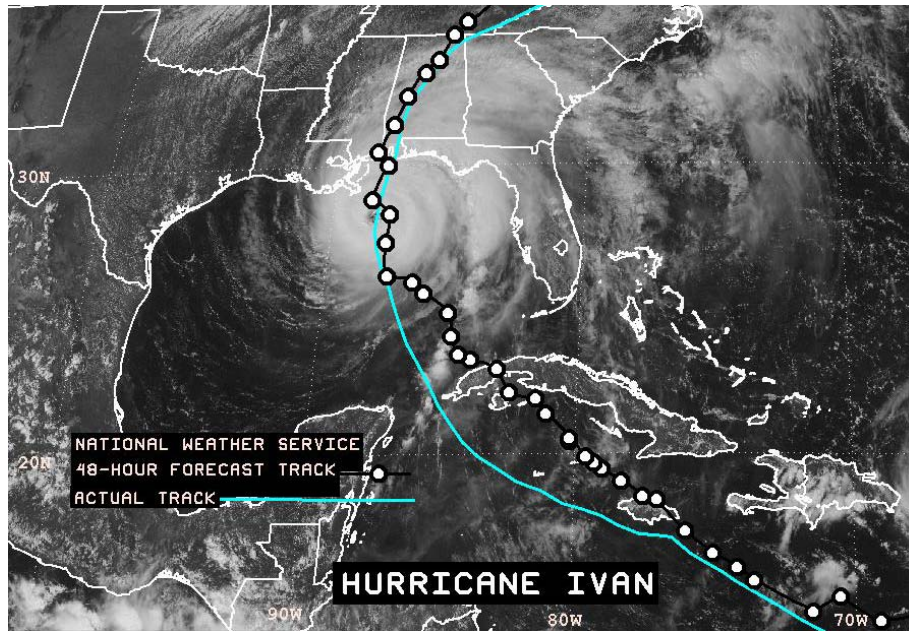


ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction





## National Weather Service



The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other government agencies, the private sector, the public, and the global community.

The United States is one of the most severe-weather prone countries on Earth. Each year, Americans cope with an average of 10,000 thunderstorms, 2,500 floods, 1,000 tornadoes, as well as 6 deadly hurricanes. Some 90% of all Presidentially-declared disasters are weather related, causing approximately 500 deaths per year and \$11 billion in damage. According to the American Meteorological Society, weather is directly linked to public safety and about one-third of the U.S. economy (about \$3 trillion) is weather sensitive.

More and more sectors of the U.S. economy recognize the impacts of weather, water, and climate on their businesses, and are becoming more sophisticated at using weather, water, and climate information to make better decisions. To meet this growing demand for information and to improve the timeliness and accuracy of warnings for all weather-

related hazards, the NWS will continue to enhance observing capabilities, improve data assimilation to use effectively all the relevant data NWS and others collect, improve collaboration with the research community, make NWS information available quickly, efficiently, and in a useful form (e.g., the National Digital Forecast Database) and include information on forecast uncertainty to help customers make fully informed decisions.

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

The FY 2006 President's Budget Request supports the funding and program requirements necessary to address established NOAA strategic goals and sets NWS on a path to achieve its vision: Produce and deliver forecasts that can be trusted; use cutting-edge technologies; provide services in a cost-effective manner; strive to eliminate weather-related fatalities; and improve the economic value of weather, water, and climate information.

### **FY 2006 Budget Summary**

NOAA requests total of \$744,830,000 and 4,597 FTE to support the continued and enhanced operations of the National Weather Service. The total includes \$33,433,000 for Adjustments to Base, \$20,946,000 for Program increases, and \$13,475,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

NOAA requests an increase of \$33,433,000 and a decrease of 3 FTE to fund adjustments to base for National Weather Service activities. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including

service contracts, utilities, field office lease payments, and rent charges from the General Services Administration.

The above amount includes several transfers:

- \$3,200,000 to reflect the transition of the TAO-Array from NOAA Research to an operational mode in the National Weather Service. This buoy array, located in the Pacific Ocean, provides real-time in-situ data from the tropical Pacific Ocean for monitoring, prediction, and improved understanding of El Niño. Having demonstrated its viability as a research activity, NOAA seeks to transfer the array into operations. NWS is best position to operate and maintain the array.
- \$500,000 from OAR to return funding for the U.S. Weather Research Program to NWS.
- \$7,390,000 from Program Support, Facilities Maintenance to fund WFO maintenance in NWS, where it has traditionally been appropriated.
- \$20,000 to OMAO for partial funding of a NOAA Corps Officer position that benefits NWS.
- \$37,000 and 3 FTE to the Office of General Counsel within Program Support.

#### **NWS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$20,946,000 and 0 FTE over the FY 2006 base for a total request of \$744,830,000 and 4,597 FTE. These changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 7, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2006 Technical Budget.

**Operations and Research** **\$652,287,000**

A net increase of \$18,010,000 and 0 FTE above the base is requested in the Operations and Research subactivity, for a total of \$652,287,000 and 4,415 FTE.

- **Local Warnings and Forecasts:** \$14,975,000 and 0 FTE in net increases above the base, for a total of \$602,395,000 and 4,116 FTE, are requested under the Local Warnings and Forecasts line item of the Operations and Research subactivity.

- **NOAA requests \$5,970,000 and 0 FTE to strengthen the U.S. tsunami warning program.** Lessons learned from the 2004 Indian Ocean Tsunami indicate that to mitigate a similar event in the U.S., the following actions are required: 1) quickly confirm potentially destructive tsunamis and reduce false alarms; 2) address local tsunami mitigation and the needs of coastal residents; 3) improve coordination and exchange of information to better utilize existing resources; and 4) sustain support at state and local level



**TsunamiReady Community information and warning sign**

This funding will be used to begin the planned deployment of the 32 deep ocean assessment and reporting of tsunamis (DART) buoys for the Pacific Ocean Basin and the Caribbean/Atlantic Ocean region, next generation DART buoy research and development, and for upgrades and operations and maintenance of sea level monitoring sensors. Funds will also be used to provide for 24/7 operations at the Richard H. Hagenmeyer Pacific Tsunami Warning Center (PTWC), the West Coast/Alaska Tsunami Warning Center (WC/ATWC), upgrade the operations of the NWS International Tsunami Information Center (ITIC), and to expand the U.S. TsunamiReady Community efforts on the East and West Coasts.

- **NOAA requests \$4,000,000 and 0 FTE to begin efforts to develop a nationwide water resources forecasting capability.** Through this capability, NOAA will provide America with economically valuable water and soil condition forecasts via: 1) a national digital database incorporating assimilation of all available hydro-meteorological data and observations; and 2) a community hydrologic prediction system (CHPS) necessary to advance water prediction science. This will allow NOAA's research and development enterprise and operational service delivery infrastructure to be integrated and leveraged with other federal water agency activities to form the basis of a national backbone water information system. The initiative provides the water modeling capability to support the U.S. Commission on Ocean Policy mandate for a national water quality monitoring and prediction system. Furthermore,



**Drought in U.S. southwest**

the initiative enables NOAA to deliver a national database of drought analyses and predictions, and generate user friendly GIS products for monitoring drought. The initiative will provide water users – farmers, utilities, land managers, business owners, and decision makers – the ability to assess water availability in real time and make informed decisions to mitigate impacts of extreme water events, e.g., droughts.

This initiative is expected to provide a return of \$12 annually for each \$1 invested due to improved decisions associated with irrigation scheduling and water supply management (National Hydrologic Warning Council, May 2002). NOAA's NWS is the only federal entity positioned to lead this activity because of its unique capabilities in data acquisition and processing, existing operational water modeling infrastructure, and robust national service delivery system to provide predictions of water resource variables for forecast periods of hours to months.

- **NOAA Requests \$2,072,000 and 0 FTE, for a total of \$6,790,000 to accelerate nationwide implementation of ozone air quality (AQ) forecasting capability from FY 2009 to FY 2008 and to deliver an initial particulate matter forecasting capability by FY 2011.** Of the increase requested, \$1,290,000 is requested in the U.S. Weather Research Program and \$782,000 is requested in the Air Quality Forecast program, for a total of \$1,290,000 in the U.S. Weather Research Program and \$5,500,000 in the Air Quality Forecast program. The effect of poor air quality on the national economy is estimated at \$150 billion/year from health effects alone. Accurate air quality forecast guidance, provided in time to take action, can lead to significant savings in these costs. For example, if the public has advance warning of the onset of poor air quality conditions, mitigating actions can be taken, such as not jogging or engaging in other outdoor activity. NWS and OAR are working closely together to develop and deliver these new capabilities. This funding will accelerate benefits to the public. Accelerating deployment of particulates predictions will provide, one year earlier than currently planned, the information needed for people to take protective actions against a significant health risk – a risk that is especially harmful for those with cardiac and respiratory ailments.
- **NOAA Requests and additional \$1,115,000 for the U.S. Weather Research Program (above the amount requested to accelerate AQ forecasting – see above) and 0 FTE for a total of \$7,457,000 to accelerate improvements in global weather forecasting and accelerate hurricane and other high-impact weather research activities.** This increase will restore funding to the U.S. Weather Research Program (USWRP) and The Observing-system Research and Predictability EXperiment (THORPEX) requested in FY 2005. Key activities directed to hurricane forecasting and research include development, testing, and transition to operations of the hurricane weather research and forecasting (HWRF) community model that promises to significantly improve predictions of the

intensity and precipitation of hurricanes at landfall. Other activities include testing and development of promising hurricane research at the Joint Hurricane Testbed, which can be adopted to improve warnings and forecasts by operations centers and numerical assimilation of tropical cyclone data for use in numerical weather prediction models.

- **NOAA requests an increase of \$1,100,000 and 0 FTE for a total of \$3,500,000 to continue a 10-year plan to improve U.S. aviation safety and economic efficiencies by providing state-of-the-art weather observation and forecast products responsive to aviation user needs.** This increase will allow the NWS to procure, install and operate 50 aircraft based water vapor data systems. Water vapor information is critical



**Deicing an aircraft - Unnecessary deicing is a costly proposition for the transportation industry -- photo courtesy BBC**

to depicting weather hazards and reducing forecast errors. This initiative addresses Federal Aviation Administration (FAA) joint safety implementation team (JSIT) recommendations and provides a means for NWS to improve its aviation weather forecast services through three major efforts: 1) increase the number and quality of aviation weather observations; 2) transition successful NOAA, NASA and FAA applied research efforts to operational products; and 3) develop and implement new training programs for forecasters, pilots, and controllers. The aviation program has the FY 2012 goal of a 10% reduction in National Airspace System (NAS) weather-related air traffic delays, which would save \$1 billion annually in potential economic losses, while also reducing general aviation weather related fatalities by 25% or 50 lives annually. The Airline Transport Association estimates \$10 billion lost to the U.S. economy each year due air-traffic delays.

- **NOAA requests an increase of \$298,000 and 0 FTE for a total of \$6,098,000 for the Advanced Hydrologic Prediction Service (AHPS).** AHPS is NOAA's program to modernize the river forecasting capability and expand it to new waterways. This increase will restore funds requested in FY 2005. With full funding for FY 2006, AHPS will provide enhanced river forecasts, including web accessible displays of probabilistic information, for 308 additional locations throughout the Southeast, South, and West. AHPS priorities are to sustain current

hydrological services, deliver more precise forecasts with magnitude and certainty of occurrence information, leverage collaborative research to infuse new science, and provide better water information to benefit the public and the Nation's commerce. Through AHPS, NOAA's National Weather Service will deliver better forecast accuracy; more specific and timely information on fast-rising floods; new types of forecast information; longer forecast horizons; easier to use products; increased, more timely, and consistent access to products and information and expanded outreach.

- **Central Forecast Guidance:** \$3,035,000 and 0 FTE in net increases above the base, for a total of \$49,892,000 and 299 FTE, are requested under the Central Forecast Guidance line item of the Operations and Research subactivity.
  - **NOAA requests \$1,000,000 and 0 FTE to fund focused research, development, and testing of advanced data assimilation algorithms and techniques.** Expected improvements include: development of advanced techniques in global and mesoscale atmospheric, ocean and land data assimilation systems; use of new satellite data from the National Polar-orbiting Operational Environmental Satellite System (NPOESS), the NPOESS Preparatory Project and European operational instruments; and increased use of high resolution surface and radar observations for initializing high resolution mesoscale forecasts. Current resources are insufficient to fully utilize current and future observations including radar and satellite data, and inadequate for finer resolution forecast applications. This investment has the potential to provide breakthroughs in storm track prediction performance, as well as increasing the realism of all parts of the systems and improving forecast accuracy across the board. Outcomes include improved winter storm warnings, precipitation forecasts, and lead-times for flash flood and Red Flag warnings.
  - **NOAA requests \$2,035,000 and 0 FTE to provide for the cyclic replacement of information technology (IT) infrastructure at the National Centers for Environmental Prediction (NCEP)** in order to enable the effective use of increasing volumes of model guidance, imagery and observational data and to comply with IT security requirements and related challenges which are projected to increase through the FY06 – FY07 timeframe. By FY06, current resources devoted to NCEP IT cyclic replacement will be insufficient to meet projected data volume demands related to ensemble model systems for weather and climate forecasts and the expanding suite of ocean and coastal model forecasts. The IT cyclic replacement program for operational systems will entail replacement of PCs, workstations, servers, and operating systems to meet data volume demands and ensure against interference from hackers and denial of service attacks.

**Systems Operation & Maintenance (O&M)**

**\$92,543,000**

A net increase of \$2,936,000 and 0 FTE above the base is requested in the Systems Operation & Maintenance subactivity, for a total of \$92,543,000 and 182 FTE.

- **NOAA requests an increase of \$2,936,000 and 0 FTE for a total of \$43,367,000 for NEXRAD Operations and Maintenance.** NEXRAD is the cornerstone of the NWS Modernization and this increase will restore funds requested in FY 2005 for operations and maintenance of the NEXRAD system. Specifically, the requested increase will allow the NWS to implement planned retrofits to WSR-88D communications lines (copper to fiber optic) at 8 sites where deteriorating copper lines make communications unreliable, thus creating a moderate to high risk of communications failure and lost radar data (particularly during severe weather events). Furthermore, NWS will be able to perform planned radar radome and tower maintenance, eliminating the risk of catastrophic radar failure due to lack of structural integrity.

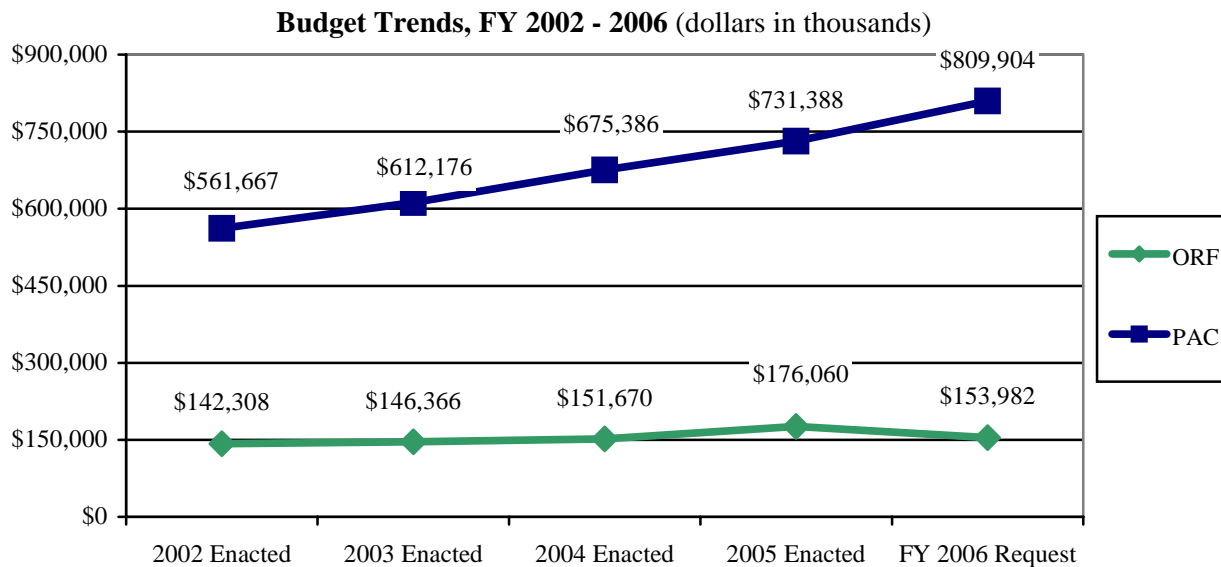


[Page intentionally left blank]



## National Environmental Satellite, Data, and Information Service

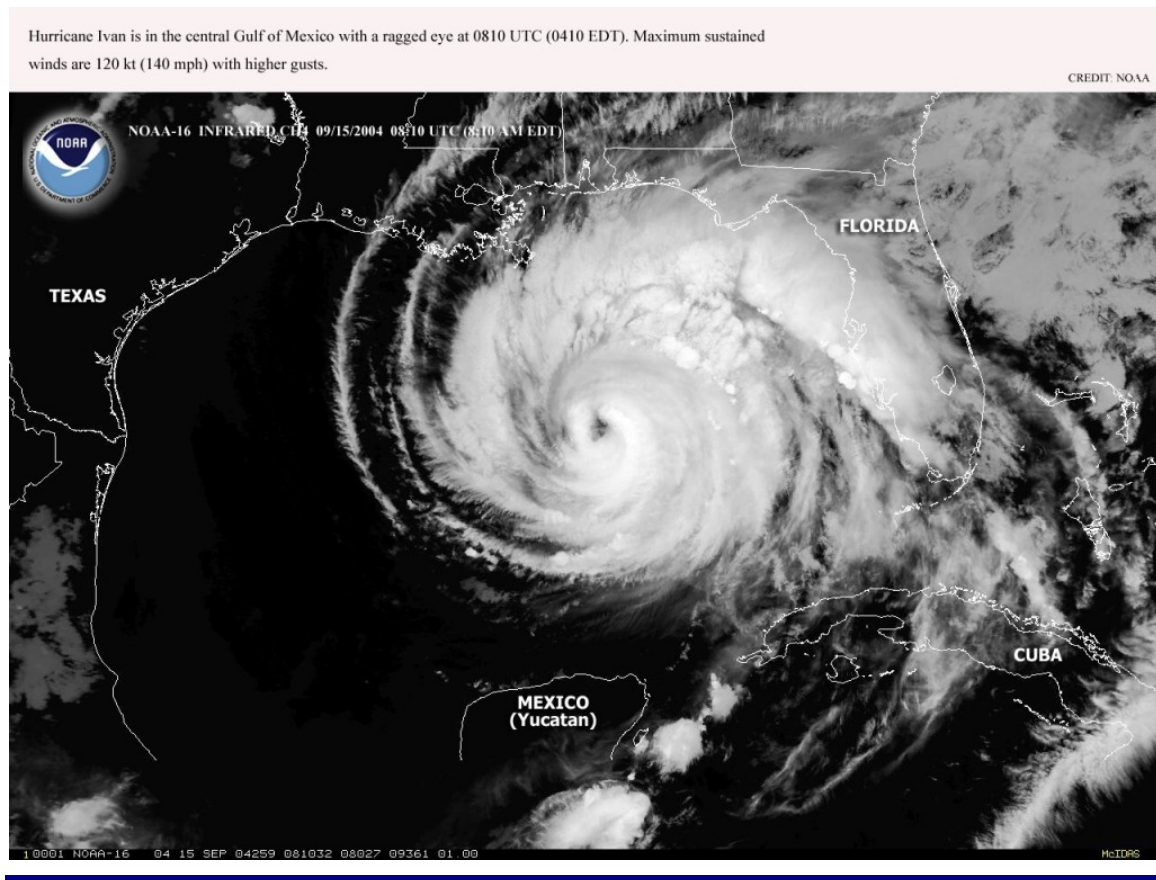
(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
National Environmental Satellite, Data, and Information Service -- Operations, Research and Facilities (ORF)				
Environmental Satellite Observing Systems	\$101,460	\$96,815	\$3,463	\$100,278
NOAA's Data Centers & Information Services	74,600	52,759	945	53,704
<b>Total, NESDIS - ORF</b>	<b>176,060</b>	<b>149,574</b>	<b>4,408</b>	<b>153,982</b>
Other National Environmental Satellite, Data, and Information Service Accounts				
Total, NESDIS - PAC	731,388	742,030	67,874	809,904
Total, NESDIS - Other	0	0	0	0
<b>GRAND TOTAL NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE (Direct Obligations)</b>	<b>\$907,448</b>	<b>\$891,604</b>	<b>\$72,282</b>	<b>\$963,886</b>
<b>Total FTE</b>	<b>829</b>	<b>832</b>	<b>0</b>	<b>832</b>



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



## National Environmental Satellite, Data, and Information Service



The NOAA National Environmental Satellite, Data, and Information Service (NESDIS), is responsible for managing all aspects of remotely gathered environmental data. This includes procurement, launch, operation, product development, and product distribution for the nation's civil operational environmental satellites. Additionally, NESDIS manages the NOAA environmental data collections, and disseminates data and information to meet the needs of users in commerce, industry, agriculture, science and engineering, as well as federal, state, and local governments.

Through NESDIS, NOAA manages the Nation's operational environmental satellite systems; takes in, processes, and distributes satellite-derived products and services; and archives and provides global environmental meteorological, oceanographic, solid-earth

geophysics, and solar-terrestrial data. NOAA's polar-orbiting satellites work together with geostationary satellites stationed at the equator over the Americas to provide daily global data on weather conditions, atmospheric temperature structure, volcanic activity, sea surface temperature, forest fires, ozone levels, hurricanes, and typhoons. These satellites monitor storms and support NOAA's National Weather Service and Federal and local emergency management agencies, enabling them to provide advance warnings of emerging severe weather such as hurricanes, tornadoes, flash floods, winter storms, wildland fires, and floods. The satellites and the products and services NESDIS provides are essential to protect human life, property, and critical infrastructure. In support of the Nation's environmental data needs, NESDIS gathers global data about the oceans, Earth, air, space, the sun, and their interactions to describe and predict the state of the physical environment. NOAA's data centers archive the data which are necessary for scientists and industry to fully understand Earth's systems and long-term climatic, oceanographic, and geophysical effects on the environment and the economy. Through the Office of Space Commercialization, NESDIS manages commercial space activities for the Department. NESDIS supports the President's priorities in climate sciences, ocean and coastal management, energy, and forest resources protection by developing products from its satellite and data archives to meet user needs. As an important part of this support, NESDIS seeks opportunities to transition research satellite capabilities to operational products and services.

### **FY 2006 Budget Summary**

NOAA requests a total of \$153,982,000 and 717 FTE to support the continued and enhanced operations of the National Environmental Satellite, Data, and Information Service. The total includes \$6,821,000 for Adjustments to Base, \$4,408,000 for Program increases, and \$33,307,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

NOAA requests an increase of \$6,821,000 and 3 FTE to fund adjustments to current program for National Environmental Satellite, Data, and Information Service activities. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration (GSA), including rent for the new NOAA Satellite Operations Facility (NSOF). The NSOF will be GSA-owned and NOAA-leased. Due to the condition of Federal Building 4 (FB 4), the current location of NSOF activities, GSA has charged a below-market rental rate. NSOF is larger than the existing space in FB 4, and has a highly technical facility infrastructure that will be considerably more complex to operate. The FY 2006 request is based on occupancy expenditures for the entire fiscal year in the new facility, versus partial year funding in FY 2005. The increase in the rent will be \$4.8 million annually,

with consolidated annual operating costs of \$7.7 million for FY 2006 and beyond, an increase of approximately 120 percent over current FB 4 rental rates. Another component of the increased costs is NOAA will be the sole occupant of the new facility, and will no longer share costs with a second tenant.

The above amount includes a transfer of \$20,000 to OMAO for partial funding of a NOAA Corps Officer position that benefits NESDIS. In addition, \$37,000 and 1 FTE are being realigned to the Office of General Counsel within Program Support. Finally, NOAA has identified \$600,000 in off-sets to manage Space Commercialization activities for the Department of Commerce.

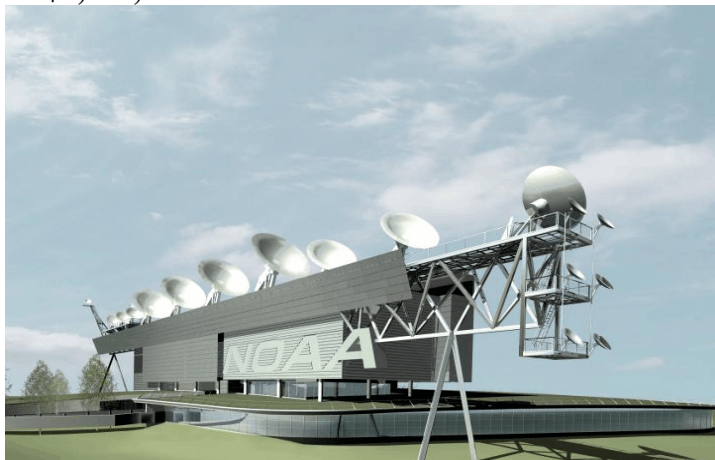
### **NESDIS – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$4,408,000 over the FY 2006 base for a total request of \$153,982,000. These changes are summarized at the sub-activity level below. Detailed numeric breakouts are located in Chapter 7, *Special Exhibits*. Descriptions of each request by line item are located in the NOAA FY 2006 Technical Budget.

#### **Environmental Satellite Observing Systems \$100,278,000**

A net increase of \$3,463,000 and 0 FTE above the base is requested in the Environmental Satellite Observing Systems subactivity, for a total of \$100,278,000 and 414 FTE.

- **Satellite Command and Control:** \$1,408,000 and 0 FTE in net increases above the base, for a total of \$44,592,000 and 179 FTE, are requested under the Satellite Command and Control line item of the Environmental Satellite Observing Systems subactivity.
  - **NOAA requests an increase of \$1,408,000 and 0 FTEs for Satellite Command and Control.** Of these funds, \$800,000 will support additional operational requirements for NOAA and non-NOAA satellites, including preparation for Jason-2 operations. Jason-2 is a NASA satellite altimetry mission that includes partnership with NOAA, other federal agencies, and the international community.



**Artist's conception of the NOAA Satellite Operations Facility (NSOF)**

NOAA's role of providing continuous operations of Jason-2 will result in benefits to NOAA's weather and climate missions. These funds will be used for software and engineering support necessary to ensure uninterrupted flow of environmental data from NOAA and non-NOAA satellites to fulfill NOAA requirements. NOAA is also requesting an increase of \$608,000 for increases in the rent, security, and above standard operations and maintenance costs associated with the occupancy of the NOAA Satellite Operations Facility (NSOF) in Suitland, Maryland. The NSOF has been a joint General Services Administration (GSA) and NOAA activity and is a replacement facility for NOAA's satellite operations which were housed in Suitland Federal Office Building #4 (FB 4).

- **Product Processing and Distribution:** \$400,000 and 0 FTE in net increases above the base, for a total of \$27,628,000 and 126 FTE, are requested under the Product Processing and Distribution line item of the Environmental Satellite Observing Systems subactivity.
  - **NOAA requests an increase of \$400,000 and 0 FTEs to enable NOAA to process the expected increase in the amount of satellite data required to meet NOAA's mission requirements.** The increased funding will provide additional contractor support for operations, and hardware and software maintenance, and will allow NOAA to maintain critical services. It will support efforts to process non-NOAA satellite data from Jason-2 on an operational basis, and provide products to NOAA customers. This funding level continues to support the transition of specific products, using non-NOAA data, into operational products (i.e., 24 hours per day, 365 days per year). Products derived from data from NASA Earth Observing Satellite (EOS) research and DoD satellites provide value to products developed from NOAA's geostationary and polar satellites, and will enhance NOAA's warning and forecast efforts in tracking hurricanes, winter storms, flash flood warnings, and in monitoring oceanic and coastal ecosystem health. These products will enhance the over 450 environmental data products now processed and distributed to support customers including the National Weather Service, the Federal Aviation Administration, and the Departments of Agriculture, Defense, Energy, Homeland Security, and Interior.
- **Product Development, Readiness & Application:** \$1,531,000 and 0 FTE in net increases above the base, for a total of \$26,214,000 and 103 FTE, are requested under the Product Development, Readiness & Application line item of the Environmental Satellite Observing Systems subactivity.
  - **NOAA requests an increase of \$400,000 and 0 FTEs for the continued development of satellite data applications and products in advance of the next generation instruments on future satellite systems, reducing the time between availability of the data and operational use.** Product development supports atmospheric, climatic, oceanic, and terrestrial applications. A key

component of this sub-activity includes collaboration with the scientific and academic community to leverage the best expertise into NOAA's satellite research and development activities. Funding in FY 2006 will support the development of applications and products from non-NOAA satellites, including Jason-2, so that NOAA can make operational use of the data for forecasts and assessments.

- **NOAA requests an increase of \$1,094,000 and 0 FTEs for the Joint Center for Satellite Data Assimilation (JCSDA) to accelerate the application of satellite data for improving weather forecast models.** NOAA (including NWS, OAR, and NESDIS), NASA, and DoD are partners in this coordinated effort to more fully realize the potential of the vast quantities of satellite data that are becoming available. This program remains a critical risk reduction activity in preparation for the NPOESS Preparatory Project and NPOESS.
- **NOAA requests an increase of \$124,000 and 0 FTE for the Commercial Remote Sensing Licensing and Enforcement program.** The request will fully support implementation of the Department of Commerce's regulatory responsibilities for the licensing of commercial remote sensing systems and ensure compliance with the terms of the licenses.

#### **NOAA's Data Centers & Information Services**

**\$53,704,000**

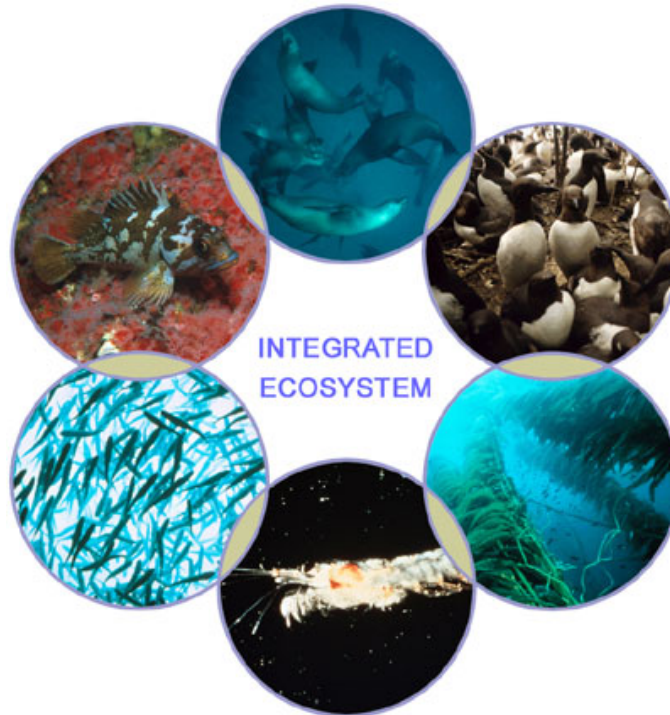
A net increase of \$945,000 and 0 FTE above the base is requested in the NOAA Data Centers and Information Services subactivity, for a total of \$53,704,000 and 303 FTE.

- **NOAA requests an increase of \$945,000 and 0 FTE, for a total of \$39,744,000 to the Archive, Access, and Assessment program.** Over 5 million customers per year access data from NOAA's National Data Centers, an increase from over 1 million users in 2001. Data Centers include the National Climatic Data Center (NCDC), located in Asheville, North Carolina; the National Oceanographic Data Center (NODC), located in Silver Spring Maryland; the National Geophysical Data Center (NGDC), located in Boulder Colorado; and the National Coastal Data Development Center (NCDDC) at the Stennis Space Center, Mississippi. The requested increase will enhance NOAA's ability to keep pace with user demands for data and assessment products for climate, oceans, space weather, and other geophysical phenomena. It will help ensure that the highest quality data are used in sound economic and environmental decisions. The funds will also enable NOAA to meet anticipated demands by its constituents for data in response to the Oceans Commission report, the Administration's Climate Research Plan, the evolving deployment of integrated coastal and ocean observing systems, and other policy directives.



## Program Planning and Integration

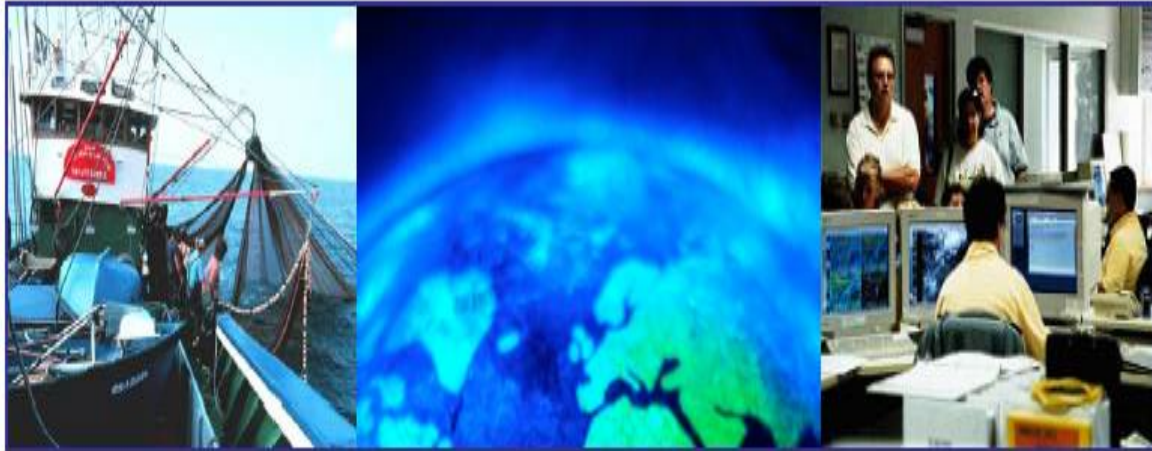
(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
Program Planning and Integration (Direct Obligations)	\$2,464	\$2,004	\$0	\$2,004
Total FTE	10	10	0	10







## Program Planning and Integration



The Office of Program Planning and Integration (PPI) is responsible for overseeing NOAA's strategic planning programs, mandated by GPRA. It monitors and tracks accomplishment of goals and objectives stated in the NOAA strategic plan. PPI ensures that NOAA stays aligned with our stated mission and mandates. It ensures that NOAA is accountable for results. PPI guides management decisions across organizational lines. It creates more efficient and effective operations, including assisting in budget and performance integration and making financial performance improvements.

To meet societal needs – spanning from short term weather warnings to fishery population assessments to decadal climate prediction – NOAA must actively engage with stakeholders to formulate strategic goals, link goals to specific program activities and objectives, and ensure that all decisions, from the employee level to corporate decisions, are driven by strategic vision. NOAA's Office of Program Planning and Integration (PPI) was created to lead NOAA in these important endeavors. It provides leadership in strategic planning, National Environmental Policy Act (NEPA) compliance, matrix management, and development of economic and social science capacity. PPI leads the integration of the strategic planning process (including performance measurement) with all management units. It analyzes short and long-term strategic issues and produces planning decision documents for senior management. PPI works with NOAA Line Offices to engage stakeholders in planning with an emphasis on maintaining an on-going dialogue.

PPI houses the NOAA NEPA Coordinator, who is responsible for ensuring NEPA compliance in NOAA. To carry out this function, PPI employs a small staff to review and clear all NEPA documents; develop and train NOAA and DOC staff on national policy and guidance; and provide a liaison to the Environmental Protection Agency (EPA) and the White House Council on Environmental Quality (CEQ).

PPI is also the focus for matrix management in NOAA. Achieving NOAA's strategic plan goals requires the integration of resources across NOAA's line offices. NOAA has adopted matrix management as the prime mechanism to achieve this integration. Participants in the matrix program share responsibility for achieving the desired outcomes. To support the success of the matrix managed programs, PPI provides management, training, and evaluation functions.

The NOAA Chief Economist also resides in PPI and is focused on implementing the NOAA economics and social science research and analysis initiative. A key aspect of this effort is to ensure that NOAA investments are based on sound economic analysis and social considerations.

Desired outcomes of PPI's functions are:

- NOAA plans, investments, and actions are guided by a strategic plan that is responsive to societal needs
- NOAA investments are based on sound socio-economic analysis
- NOAA actions comply with the National Environmental Policy Act (NEPA)
- NOAA has effective programs that integrate talent, resources, and capabilities from across NOAA

### **FY 2006 Budget Summary**

NOAA requests a total of \$2,004,000 and 10 FTE to support the continued and enhanced operations of the Office of Program Planning and Integration. The total includes \$4,000 for Adjustments to Base and \$464,000 for Terminations.

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

NOAA requests an increase of \$4,000 and 0 FTE to cover inflationary increases to current programs in PPI. This amount includes transfers of \$20,000 to OMAO for partial funding of a NOAA Corps Officer position that benefits PPI.

**PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

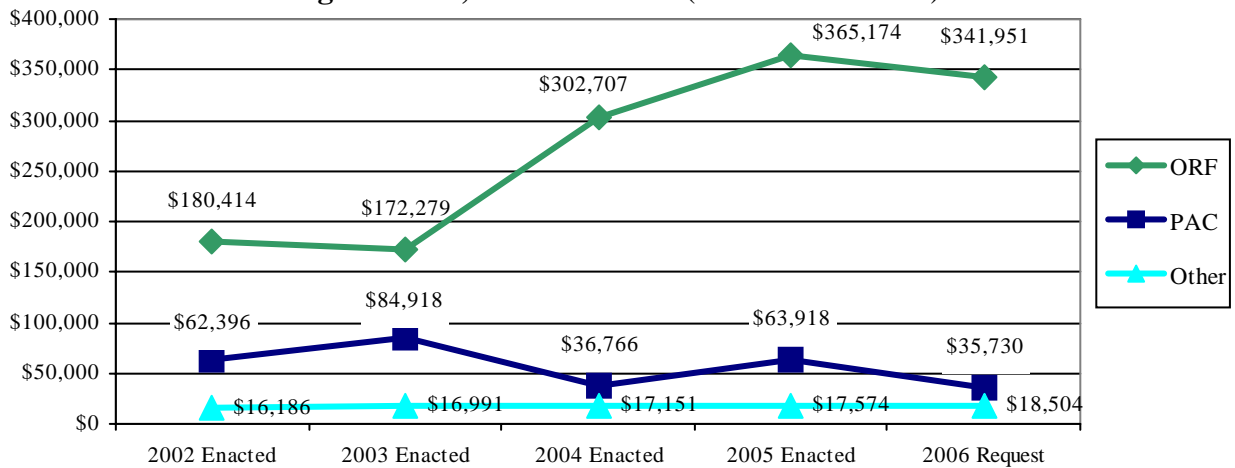
NOAA requests no increase over the FY 2006 base, for a total request of \$2,004,000, to support the continued and enhanced operations of the Office of Program Planning and Integration. There are no program changes in FY 2006.



## Program Support

(Dollars in Thousands)	FY 2005 Enacted	FY 2006 Base	Program Changes	Total Request
<b>Program Support -- Operations, Research and Facilities</b>				
Corporate Services	\$169,069	\$174,812	\$24,592	\$199,404
NOAA Education Program	18,275	0	0	0
Facilities	33,281	17,057	5,025	22,082
NOAA Marine and Aviation Operations	144,549	120,465	0	120,465
<b>Total Program Support - ORF</b>	<b>365,174</b>	<b>312,334</b>	<b>29,617</b>	<b>341,951</b>
<b>Other Program Support Accounts</b>				
Total Program Support - PAC	63,918	36,733	(1,003)	35,730
Total Program Support - Other	17,574	18,504	0	18,504
<b>GRAND TOTAL PROGRAM SUPPORT (Direct Obligations)</b>	<b>\$446,666</b>	<b>\$367,571</b>	<b>\$28,614</b>	<b>\$396,185</b>
<b>Total FTE</b>	<b>1,901</b>	<b>1,980</b>	<b>1</b>	<b>1,981</b>

**Budget Trends, FY 2002 - 2006 (dollars in thousands)**



ORF: Operations, Research & Facilities  
PAC: Procurement, Acquisition & Construction  
Other: NOAA Corps Commissioned Officers Retirement



## Program Support



Program Support consists of Corporate Services, Facilities, and the Office of Marine and Aviation Operations (OMAO). NOAA Program Support provides the administrative, financial, and infrastructure services that are essential to the successful performance of NOAA's mission. In addition to NOAA-wide policy formulation and direction, the Program Support activities specifically support the *people* of NOAA, ensuring that they have the proper work environment, the necessary tools and equipment, and the vital personnel and finance services which, in turn, allow them to provide the finest possible service to the American people, our economy and our environment

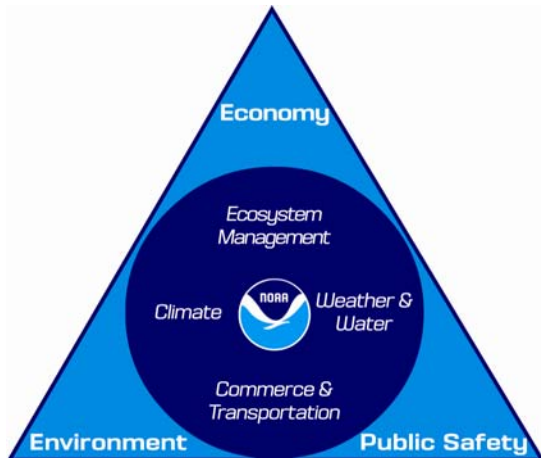
### CORPORATE SERVICES

The Under Secretary and Associate Offices (USAO), including the Office of General Counsel, provide the top leadership and management for NOAA. USAO formulates and executes policies and programs for achieving the objectives of NOAA; develops, plans, and coordinates major program efforts; exercises delegated authority in committing NOAA to courses of action; and represents NOAA in executive level liaison with other federal agencies, the Congress, and private industry. The Under Secretary, Assistant Secretary, and Deputy Under Secretary comprise the top of NOAA leadership. The Associate Offices, more commonly known as NOAA's Staff Offices, are described below.

Office of Public, Constituent, and Intergovernmental Affairs (OPCIA) provides advice and counsel on media, constituent, and intergovernmental relations. The OPCIA consists of four elements, each addressing a unique audience: Public Affairs (media

relations), Constituent Affairs (non-government organizations), Intergovernmental Affairs (state, tribal, territorial, regional, and local government), and Outreach.

Office of Education and Sustainable Development (OESD) provides expert support on education activities to NOAA Line, Program, and Staff Offices, while promoting NOAA services and products and their benefits to the public. OESD consults within NOAA and with the Department of Commerce, and identifies opportunities for the deployment of coordinated interagency/intergovernmental policy strategies that recognize the importance of linking economic and environmental goals.



Office of Legislative Affairs (OLA) serves as the primary liaison for NOAA with the members and staff of Congress. The office is also responsible for the planning, direction, and coordination of legislative programs that are of immediate concern to the Office of the Under Secretary.

Office of International Affairs (OIA) plans and coordinates NOAA's international programs and carries out, as directed by the Office of the Under Secretary, tasks of special interest related to international

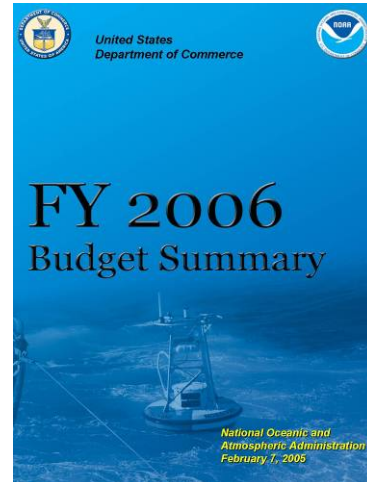
activities. The Deputy Assistant Secretary for International Affairs exercises a leadership role in establishing policies, guidelines, and procedures for NOAA's international programs.

Office of the Federal Coordinator for Meteorology (OFCM) establishes procedures for systematic and continuing review of national basic and specialized meteorological and oceanographic requirements for services and supporting research, and brings federal agencies concerned with international activities and programs in meteorological and oceanographic programs into close consultation and coordination.

Office of General Counsel (OGC) serves as the chief legal office for all legal matters arising in connection with the functions of NOAA, except for legal issues common to all Department bureaus handled by the Department of Commerce General Counsel.

The Office of the Chief Administrative Officer (OCAO) provides management and support services to include the Executive Secretariat, Audits and Civil Rights. OCAO oversees the NOAA facilities and property management program and provides a full range of administrative support functions across NOAA.

The Office of the Chief Financial Officer (CFO) serves as the principal financial manager for the NOAA organization with approximately \$7 billion in capital assets. The CFO's office, containing Budget and Finance branches, has primary responsibility for budget formulation and execution, resource management, financial systems development and financial management. The CFO Act of 1990 requires the CFO's Office to provide the leadership necessary for NOAA to obtain a yearly unqualified opinion in the audit of its consolidated financial statements. Under the direction of the CFO, the Budget and Finance Offices perform methods and procedures analysis and systems and organizational research to support senior management in making executive decisions to ensure operational efficiencies within NOAA.



**The NOAA CFO's Office produces the Budget Summary each year**

The Office of Acquisition and Grants (OAG) provides support to NOAA line offices with planning, solicitation, award, administration and closeout of acquisitions, grants, and cooperative agreements. It works closely with mission partners (universities, individuals, non-profit and for-profit organizations, as well as state, tribal, and local government entities).

The Office of the Chief Information Officer (OCIO) develops policies for, and provides oversight of, IT throughout NOAA as required under the Clinger-Cohen Act, the Federal Information Management Security Act, the Paperwork Reduction Act, and statutory and other legal requirements. The line also provides management of NOAA's Homeland Security Activities; enterprise networks, network services, and IT security; and high performance computing and communications activities.

The Office of Human Resources (HR) services NOAA's most important asset - its employees. HR provides the policies, programs, and processes that facilitate the recruitment, hiring, development, and retention of a diverse, highly skilled, motivated, and effective workforce capable of accomplishing NOAA's mission.

The Office of Program Analysis and Evaluation (PA&E) provides independent and objective analysis in support of corporate management. This Office makes NOAA more efficient and effective in its programmatic decision making process.

## **FACILITIES**

NOAA Facilities Management, Construction and Maintenance program provides effective and efficient services to keep facilities in well-maintained condition, construct and renovate facilities to meet mission needs, and dispose of facilities no longer required. NOAA's capital assets total 513 installations across all 50 states and territories. Many facilities exceed 30 years of age. NOAA Facilities Management initiatives are directed at reducing operating costs associated with these older structures.

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

### **Marine Operations**

OMAO operates NOAA's fleet of vessels, ensuring operational readiness and maximum platform utilization in support of NOAA's at-sea data requirements. It provides centralized management for operations, fleet planning, and maintenance support. OMAO also has responsibility for NOAA's fleet safety programs, diver training program, and Teacher-at-Sea program. NOAA Corps officers, crews, and scientists with at-sea duty are required to train and be certified through OMAO. NOAA's vessels support nautical charting, bathymetric mapping, fisheries research, marine environmental assessments, coastal-ocean circulation studies, and oceanographic and atmospheric research. The 18 active ships perform approximately 4,950 operating days in support of NOAA programs. The vessels operate on both the East and West Coasts. OMAO's Marine Operations Center (MOC) has Atlantic and Pacific regional offices located in Norfolk, Virginia, and Seattle, Washington, respectively, and the vessels are assisted by a small support staff at the home port of most ships. The centers provide maintenance, stores, supplies and repair facilities for the vessels.



**Launching of NOAA's newest Fisheries Survey Vessel, OSCAR DYSON**

The NOAA Commissioned Corps is the nation's seventh and smallest uniformed service. Corps officers support the fleet and NOAA Line Offices. Marine Services funds the majority of the NOAA Corps payroll. The officers of the NOAA Corps command



NOAA's research and survey vessels, fly NOAA's "hurricane hunter" and environmental monitoring aircraft, support field operations, and serve in a variety of technical and management positions throughout the agency.

## **Aviation Operations**



**NOAA Gulfstream IV (G4)  
Hurricane Hunter**

OMAO's Aircraft Operations Center (AOC), located at MacDill Air Force Base in Tampa, Florida, ensures the availability and readiness of NOAA's uniquely configured aircraft. AOC provides centralized management of a fleet of 13 aircraft that are used as observation platforms equipped with comprehensive data-collection systems in support of missions related to the Earth's environment, coastal and marine resources, and severe-weather data. In FY 2006, Aircraft Services will provide 2,050 hours flight hours in support of NOAA missions. NOAA

aircraft are fitted with specialized instrumentation for research, data collection, and required data processing. One of NOAA's two WP-3D hurricane hunters and the G-IV high-altitude jet will be mission-ready with instruments and personnel for hurricane surveillance, reconnaissance and research during the hurricane season from June 1 to December 1. In addition to various projects, the other P-3 also will be used for an air-chemistry project from July 1 to September 30. The G-IV will also be mission-ready with instruments and personnel to collect data for West Coast winter-storm predictions from December 1 to April 1. The Turbo Commander or Shrike will be mission ready with equipment and personnel for snow surveys needed for flood forecasts and water management from October 1 to May 1.

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

The retirement system for the uniformed services provides a measure of financial security after release from active duty for service members and their survivors. It is an important factor in the choice of a career in the uniformed services and is mandated by Federal statutes under Title 10, United States Code. NOAA transfers retirement pay funds to the Coast Guard, which handles the payment function for retirees and annuitants. Health care funds for non-Medicare-eligible retirees, dependents, and annuitants are transferred to the U.S. Public Health Service, which administers the health care program.

## **FY 2006 Budget Summary**

NOAA requests a total of \$341,951,000 and 1,976 FTE for NOAA Program Support. The total includes \$1,479,000 for Adjustments to Base, \$29,617,000 for Program increases, and \$54,319,000 for Terminations.

### **ADJUSTMENTS TO BASE:**

#### **Corporate Services**

NOAA requests an increase of \$6,306,000 and 74 FTE to fund adjustments to base for Corporate Services. The increase will fund the estimated FY 2006 Federal pay raise of 2.3 percent and annualize the FY 2005 pay raise of 3.5 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration (GSA).

The above amount includes a transfer of \$1,600,000 and 74 FTE from various Line Offices to the Office of General Counsel in USAO.

#### **Facilities**

NOAA requests a net decrease in the Facilities line of \$9,614,000 and 0 FTE, including a reduction of \$11,133,000 from the NOAA-wide Facility Maintenance (Consolidated) line and a reduction of \$689,000 from the Western Regional Center Operations and Maintenance line. These items are offset by increases of \$2,101,000 to the NOAA Facility Management and Construction line, \$64,000 for Boulder Facilities Operations, and \$43,000 for Environmental Compliance and Safety.

#### **OMAO**

NOAA requests a net increase of \$4,787,000 and 5 FTE for ATBs in OMAO. This includes gross increases of \$12,841,000 for pay raises, expenses and data acquisition, \$1,235,000 for Fleet Planning and Maintenance, and \$558,000 for Aircraft Services. The gross increases are offset by decreases of \$1,478,000 for UNOLS, \$4,533,000 for HI'ALAKAI, \$2,484,000 for OSCAR DYSON and FAIRWEATHER, and \$542,000 for NANCY FOSTER, all under Marine Services. Likewise, Fleet Planning and Maintenance is reduced by \$908,000 for the same vessels, netting an increase of \$327,000.

The above amount includes a technical adjustment to move \$280,000 from various Line Offices to OMAO. This request will centrally fund and manage 16 NOAA Corps Officers to support the goals and cross-cutting priorities identified in the NOAA Strategic Plan and to support several staff offices. Program managers have identified the need for

NOAA Corps officers to be detailed to their programs. These officers bring diverse field and staff experience to programs. Through the regular rotation process, an officer develops experience in more than one Line or Staff Office and at various locations within that organization. Program managers also need the responsiveness and flexibility inherent in a Commissioned Corps system. Officers can be assigned, on very short notice, to a different geographical location or program to meet the needs of the agency.

**Program Support – ORF PROGRAM CHANGE HIGHLIGHTS FOR FY 2006:**

NOAA requests a net increase of \$29,617,000 and 1 FTE for a total program of \$341,951,000 in FY 2006 to support continued and enhanced operations of NOAA’s mission support personnel and activities. Detail numeric breakouts are located in Chapter 7, *Special Exhibits* and more detail descriptions are found in the NOAA FY 2006 Technical Budget.

**Corporate Services** **\$199,404,000**

**NOAA requests an increase of \$1,600,000 for the Office of General Counsel within the USAO.** These funds will support salaries and benefits, travel, rent, contractual services, and IT support services, which have previously been covered by direct billing of NOAA line offices.

**NOAA requests an increase of \$1,830,000 for the OCIO for the capital projects described below:**

- **An increase of \$1,370,000 and 1 FTE for improvements to the Capitol Planning and Control Process.** The requested funds will implement a formal independent verification and validation (IV&V) project-status-assessment program, and continue the development and maintenance of an Enterprise Information Technology Architecture that is essential for the investment decision process. This will also fund a critically needed staff succession plan.
- **An increase of \$460,000 and 0 FTE for NOAA IT Refreshment.** The funds will be used for CAMS and local area network switch replacements. This increase is required to establish recurring program funding to refresh obsolete IT equipment which poses increasing IT security risks.

**NOAA requests an increase of \$4,050,000 and 0 FTE to implement, operate, and maintain the NOAA enterprise IT security architecture.** This will fund response teams; firewalls and intrusion detection at internet-access points; proactive patch management; security education and training; and penetration testing of critical systems. These funds will provide the enterprise-level structure to effectively respond to OMB-directed IT security architecture requirements.

**NOAA requests an increase of \$1,500,000 and 0 FTE for the Office of the Chief Financial Officer (CFO) to support the End-to-End Resource Management System and Activity Based Budgeting and Planning (ABB/P).** Of the funding requested for the CFO, \$1,000,000 will be used to develop an end-to-end formulation and execution capability for the financial management of NOAA's 41 programs. A seamless end-to-end process will modernize/streamline the formulation, execution and presentation of NOAA's budget, and continue to move NOAA from the time intensive manual process to a streamlined and efficient process. These resources will provide funding for acquisition and implementation of software and resources for planning and will allow NOAA to integrate existing systems providing end user interfaces. Software and hardware maintenance upgrades for the existing systems will be provided.

The remaining CFO request will be used to support Activity Based Costing/Management (ABC/M). Funding will be used to fully realize the NOAA- wide strategic value and tangible benefits of ABC/M, the next step is to implement the Business Management Fund using Activity Based Budgeting and Planning (ABB/P). These funds will provide resources for contractor support to employ ABB/P for the first year of implementation. Investing in technology to automate manual processing, and change business practices will reduce redundant and unnecessary processes.

**NOAA requests an increase of \$1,500,000 and 0 FTE for the CAO to support business process reengineering and improvements in the automation of administrative support functions and introduction of new technology.** A series of management studies have identified various NOAA administrative and financial management areas that will benefit from streamlining business processes, automating paper intensive tasks, and redefining NOAA's service delivery model. This change will benefit NOAA's regional service center operations, as well as the headquarters activities.

**NOAA request an increase of \$9,294,000 and 0 FTE for Payment to the Business Management Fund.** This increase will support the provision of corporate administrative services across all NOAA Line Offices. Funding will be used to cover NOAA overhead assessments for each of the Line Offices based on consumption of services associated with financial, procurement, facilities management and human resource activities. In the past these services have been supported by a corporate assessment against the various Line Offices. The FY 2005 Appropriation consolidated NOAA corporate costs in Program Support at a level below the FY 2005 President's Budget. This increase continues this policy and restores the FY 2005 requested level.

**NOAA requests an increase of \$5,229,000 and 0 FTE to support the Commerce Business System (CBS).** This increase fully funds the CBS system. This funding will support crucial financial system improvements and enhancements to the NOAA Data Warehouse. Vital information technology hardware and security upgrades and increased disaster recover capability will also be made.

**Facilities****\$22,082,000**

**NOAA requests an increase of \$3,938,000 and 0 FTE to provide for contractor support/software costs and staff training needed to achieve efficiencies described in the FY 2004 management study of NOAA administrative services and the Facilities Program Re-engineering Initiative.** Substantial retraining is required to enhance current workforce skills. In addition, ongoing professional certification training for professional engineers and architects is required as part of retaining professional certification of facilities professionals hired in FY 2004 and FY 2005. Contract support (including software licensing and maintenance) for implementing automated processes to support project management, personal and real property management, and integrated facilities assessments; and contract support for project management services and capital investment/facilities master planning (NOAA-wide) is required to achieve GAO-recommended improvements in implementing an integrated capital planning process, and in implementing sound project management principles and processes as part of the NOAA facilities management program. Failure to support these increases would result in continuing inefficiencies in the program, continuing failure to effectively plan and manage major construction projects, and the inability to leverage state-of-the-art software to support an effective construction project management program.

**NOAA requests an increase of \$1,087,000 and 0 FTE, for a total of \$4,087,000, for NOAA's Environmental Compliance, Health & Safety Programs.** This additional funding will allow NOAA to begin to address deficiencies in the following areas: 1) inventory, upgrades/replacements, and Operations & Maintenance (O&M) plans for all hazardous material storage tanks; 2) inspection, abatement/encapsulation, and O&M plans for all asbestos and lead-based paint materials; 3) provide workplace employee training; 4) provide required employee and facility safety equipment; 5) provide facility safety inspections; and 6) provide program support at field locations. Efforts will focus on the identification of operational and facility deficiencies, implementing corrective actions and improving environmental compliance and health & safety in the NOAA workplace. NOAA will strive to ensure that its facilities and operations are in compliance with all laws and regulations. Additionally, the funding will enable NOAA to reduce the risk of incurring regulatory citations that could result in financial penalties, employee civil or criminal citations, or both. These new requirements are in addition to the environmental compliance base funding program requirements.

**OMAO****\$120,465,000**

**NOAA requests no program changes to the Office of Marine and Aviations ORF accounts.**

[Page intentionally left blank]