



CHAPTER 1

2009 NOAA Accomplishments & Performance Results

NOAA employees haul bays of oyster shells into Chesapeake bay to restore depleted populations



2009 ACCOMPLISHMENTS

In its first year, the Obama Administration has shown a strong commitment to science and to key NOAA mission areas, from climate and weather to ocean and coastal stewardship. Bolstered by that support, NOAA is making significant progress on many of its core strategic priorities. NOAA is already a recognized leader in the production and provision of both weather and climate information to the nation and the world. A top priority throughout 2009 has been to enhance the agency's capabilities in the area of climate science and service delivery and to provide more relevant and user-friendly information and data that people need to be prepared for a climate changed world.



NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) National Current Observation Program conducted several major surveys of tidal currents in response to user requests in 2009. Here, scientists deploy current meter buoys and anchors used for surveys.

Long-term continuity of our environmental data and our observing systems are critical to all NOAA mission areas and the recent progress toward strengthening the management and planning of our satellite programs marks a major step toward ensuring NOAA can continue to provide this critical data and information to the nation.

This administration has clearly stated that healthy oceans matter. The President's Ocean Policy Task Force, established in June 2009, with NOAA as one of the key federal participants, has taken significant steps toward formulating a National Ocean Policy. A draft policy for coastal and marine spatial planning is now being developed, which, coupled with the National Ocean Policy, will be key to improving our management and stewardship of the nation's ocean resources. These will help improve the resilience of coastal communities and contribute to the nation's food and energy security.

In an effort to support sustainable fisheries, fishing jobs and fishing communities, NOAA has established a Catch Shares Task Force that has consulted broadly with recreational and commercial fisherman and the regional fishery management councils around the country to discuss ways to encourage the use of catch shares programs to improve fisheries management. The draft catch shares policy has been completed and is currently open for public comment until April, 2010. NOAA has also initiated a new and more productive relationship with recreational fishermen, who represent an important constituency and partner in our efforts to better manage fisheries.



The American Recovery and Reinvestment Act, which directed \$830 million to NOAA, funded additional investments in coastal communities and elsewhere, including 50 quality habitat restoration projects around the country, investments in marine navigation, climate modeling and supercomputing, and allowed critical upgrades to ships and infrastructure, furthering NOAA's work and creating jobs across the country.

NOAA has made significant strides on many critical issues in one short year, but more work remains to be done. The President's budget request for fiscal year 2011 presents a significant investment in meeting those demands and demonstrates the Administration's continued commitment to NOAA's science and stewardship missions. The following are just a few of NOAA's accomplishments in 2009.



Coastal and Estuarine Land Conservation Program Protects Over 4,000 Acres

COASTAL AND ESTUARINE LAND CONSERVATION PROGRAM PROTECTS OVER 4,000 ACRES

In 2009, NOAA's Coastal and Estuarine Land Conservation Program (CELCP) worked closely with state and local partners to help protect high-priority coastal land in 13 different states. Approximately 15 CELCP-funded properties were, or are anticipated to be, acquired, or put under easement, protecting more than 4,000 acres of critical coastal habitat. Nine new CELCP projects totaling over \$14 million were also selected for funding from the 54 proposals during the 2009 annual CELCP competition. The 2009 awards will help protect coastal watersheds in Virginia, Puerto Rico, Massachusetts, Florida, Maine, New York, Washington, and Maryland. Since its creation, CELCP has distributed nearly \$200 million in 26 states. Completed projects have protected more than 35,000 acres of land, and the number of acres will grow as more projects come to completion. The program has further leveraged state, local, and private matching contributions, along with thousands of acres of land protected or donated as in-kind match for CELCP-funded land conservation projects.



The NOAA San Francisco Tide Station, in operation for more than 150 years

Throughout 2009, NOS calculated sea-level trends for 70 new global stations, bringing the number of global stations to 114. This information is available in Google Maps and Google Earth interfaces to allow users an easier way to navigate the data. NOS also completed a statistical analysis tool that provides critical sea level background information necessary for the successful design, implementation, and monitoring of sustainable habitat restoration projects. These tools are critical as coastal populations continue to increase (and coastal habitats continue to decline) along with their vulnerability to sea level rise.

MONITORING SEA LEVEL IN THE UNITED STATES



NOAA's air gap technology received the ultimate test on the morning of June 27, 2009. The technology passed with flying colors as the new U.S. Navy LPD ship, the USS New York, sailed down the Mississippi River, clearing the underside of the Huey P. Long Bridge just north of downtown New Orleans by 64 centimeters (2.1 feet).

PHYSICAL OCEANOGRAPHIC REAL-TIME SYSTEM EXPANDED

In 2009, NOAA's Physical Oceanographic Real-Time System (PORTS®) program expanded to two new locations in Louisiana at Lake Charles and New Orleans. These PORTS® are positioned to provide significant safety and economic benefits. Louisiana's lower Mississippi River moves about 500 million tons of cargo each year and provides jobs and income to the region. NOAA's PORTS® program provides accurate real-time oceanographic and meteorological data to mariners, helping reduce the risk of vessel groundings as well as increase the amount of cargo moved through a port. Real-time environmental observations are of ever-increasing importance to the U.S. military as well as recreational boaters and private industry. In the Houston/Galveston area alone, estimates suggest that PORTS® provides nearly \$12 million in direct annual economic benefits and it is estimated that benefits from the Tampa Bay PORTS® is \$4.4 to \$7.0 million. The data are freely accessible at <http://www.tidesandcurrents.noaa.gov/ports.html>.



In September 2009, out of work oystermen were hired with NOAA Recovery Act funds in North Carolina to help rebuild 49 acres of oyster reefs

In 2009, NOAA awarded 50 grants for habitat restoration with funds received from the American Recovery and Reinvestment Act of 2009. In an unprecedented effort to ensure these funds were made available as quickly as possible to sustain healthy coastal habitats and to support the U.S. economy, NMFS processed and evaluated more than 800 proposals from 34 states and 5 territories totaling more than \$3 billion in requests between the 30-day competitive solicitation announced in March. When complete, the projects will have restored 8,770 acres of habitat and removed obsolete and unsafe dams that will open more than 700 stream miles where fish migrate and spawn. The projects will also remove more than 850 metric tons of marine debris, rebuild oyster and other shellfish habitat, and reduce threats to 11,750 acres of coral reefs. These projects are located in 22 states and two territories, many in areas of high unemployment, including California, Oregon, and Michigan. The selected projects will employ Americans with a range of skills including laborers, nursery workers, design engineers, restoration ecologists, landscape architects, hydrologists, and specialized botanists, and will create indirect jobs in industries that supply materials as well as administrative, clerical, and managerial services.

NOAA AWARDS 50 GRANTS TO RESTORE HABITAT THROUGH THE AMERICAN RECOVERY AND REINVESTMENT ACT



Thousands of pounds of Jack Mackerel

NOAA TAKES CRUCIAL STEPS TOWARD SUSTAINABLE FISHERIES

NMFS has made significant progress toward meeting the Magnuson Stevens Reauthorization Act (MSRA) of 2007 deadlines. Overall, NOAA has successfully completed 54 of 79 specific tasks mandated in the MSRA, for a completion rate of 68 percent. More precisely, 83 percent of MSRA tasks that had mandatory deadlines have been completed. NMFS and regional Fishery Management Councils (FMCs) have made significant progress toward meeting the implementation of annual catch limits (ACL) and accountability measures (AMs). ACLs and AMs must be implemented in 2010 in fisheries subject to overfishing and in 2011 in all other fisheries. NMFS published guidelines for the FMCs to use in implementing ACLs and AMs, which became effective February 17, 2009. NMFS successfully worked with the Gulf of Mexico FMC to define ACLs and AMs for all stocks classified as experiencing overfishing in the Gulf of Mexico one year in advance of the 2010 deadline. For illegal, unregulated, and unreported (IUU) fishing, NMFS published a proposed rule regarding certification procedures to address fishing activities and bycatch of protected living marine resources. To support Limited Access Privilege Programs (LAPS), NMFS published guidelines and procedures for referenda required in the Northeast and Gulf of Mexico fisheries. In addition, NMFS published proposed regulations to govern the requests for determinations of fishery resource disasters; and drafted a proposed rule to strengthen National Standard 2 guidelines that mandate the use of the best available science.



Right whale and calf

NMFS implemented new measures in FY 2009 to protect highly endangered North Atlantic right whales. Due to the North Atlantic Right Whales' slow-moving nature and migration patterns through East coast shipping lanes, ship strikes have become their primary threat. NMFS implemented a requirement for large ships to reduce speeds to ten knots in areas where the whales feed and reproduce and moved shipping lanes into Boston. These measures are estimated to reduce the risk of right whale ship strikes by 74% during April-July. Approximately 3,500 ships move through the entire Boston shipping lanes every year and more than half of the world's North Atlantic right whales are known to be in this area during the spring. The new ship strike reduction measures combined with existing protective actions, including surveying whale migration routes by aircraft and mandatory ship reporting systems that provide advisories and information on right whale locations to mariners, form a comprehensive approach to help right whales recover. With approximately 300 right whales remaining in the population, these are among the most endangered whales in the world.

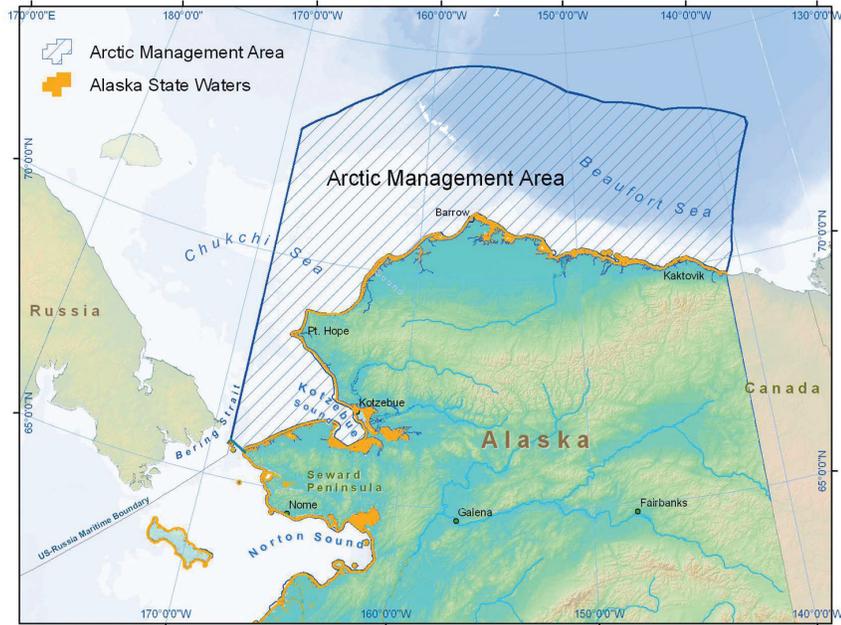
NOAA TAKES KEY ACTIONS TO PROTECT ENDANGERED NORTH ATLANTIC RIGHT WHALES FROM SHIP STRIKES



Chesapeake Bay shellfish farming

NOAA WORKS WITH PARTNERS TO DELIVER RECOMMENDATIONS FOR IMPLEMENTING THE EXECUTIVE ORDER FOR CHESAPEAKE BAY PROTECTION AND RESTORATION

NOAA launched three interagency teams in June 2009 to develop strategies and actions to meet the charge of the Executive Order on Chesapeake Bay Protection and Restoration (E.O. 13508). The Executive Order calls for greater shared federal leadership and acceleration of efforts to restore and protect the Chesapeake Bay, the Nation's largest estuary. NMFS served as co-lead for development of three of the seven reports required by the Executive Order. These reports emphasized actions to connect timely and accurate science to management decisions via a recommended ecosystem-based management framework; established priorities to deliver climate information and adaptation strategies to managers and jurisdictions for realistic adaptation planning; and drew the connections between protecting and restoring habitats to promoting sustainable resources and communities in the watershed. In September 2009, the three reports were delivered to the Executive Order's Federal Leadership Committee for a coordinated implementation strategy designed to transform the Bay's restoration activities into a true application of ecosystem-based management.



The Arctic Management Area is the EEZ waters north of Bering Strait (Cape Prince of Wales to Cape Deshneva) including the Chukchi and Beaufort Seas

In February 2009, the North Pacific Fishery Management Council, with scientific support from NMFS, recommended a Fishery Management Plan for the fish resources of the Arctic Management Area. This Plan was approved by the Secretary of Commerce on August 20, 2009. This Plan is vital as the loss of seasonal sea ice in the Alaskan Arctic from warming ocean temperatures due to climate change may lead to commercial fishing activities in areas with little or no scientific information. The emergence of inadequately regulated commercial fisheries in the Arctic EEZ could have adverse effects on the sensitive ecosystem and marine resources of this area. The Plan initially prohibits commercial fishing in this region until more information is available, but it does not prohibit subsistence or recreational fishing. It proactively establishes a framework for sustainably managing Arctic marine resources using judicious and responsible fisheries management practices based on sound scientific research and analysis.

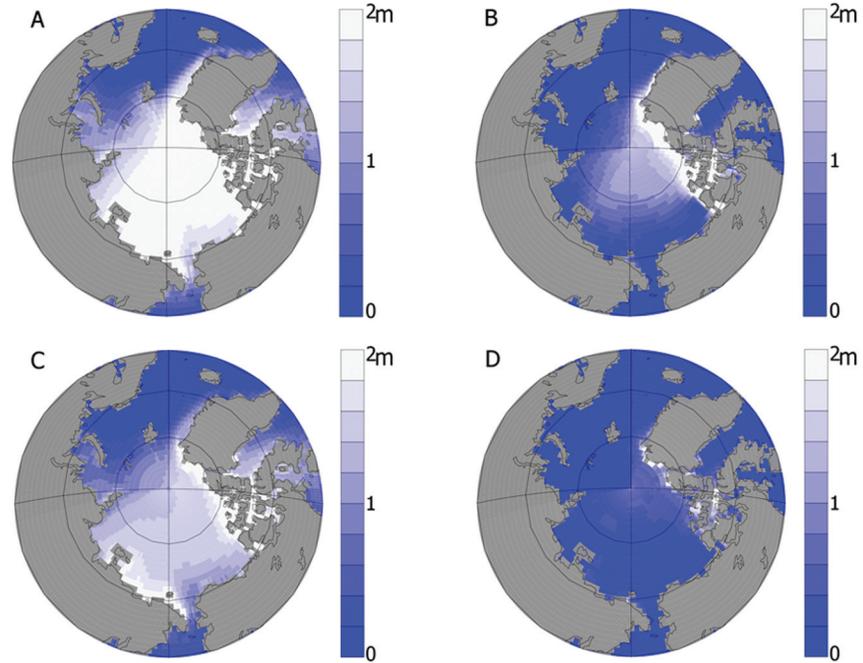
NOAA IMPLEMENTS FISHERY MANAGEMENT PLAN FOR FISH RESOURCES IN THE ARCTIC



Lightning striking behind a VORTEX2 mobile mesonet

COMPLETION OF LARGEST TORNADO FIELD EXPERIMENT

The National Severe Storms Laboratory (NSSL) in Norman, OK, and numerous research partners conducted the first phase of the Verification of the Origins of Rotation in Tornadoes Experiment – 2 (VORTEX2) in 2009. VORTEX2 is the largest tornado field experiment in history and aims to answer detailed questions about how, when, and why tornadoes form. New advances will allow for a more detailed sampling of a storm's wind, temperature and moisture environment and lead to improved warnings and increased warning time for people to reach safety. NSSL also used VORTEX2 as an opportunity to reach out to the public through social networking, including Facebook and Twitter.



Mean sea ice thickness in meters for March (left) and September (right) based on six models. Top panels: September ice extent reached the current level by these models. Bottom panels: Arctic reached nearly "ice-free summer" conditions

Arctic summers may be ice-free in as few as 30 years, not at the end of the century as previously thought, based on research conducted by NOAA's Pacific Marine Environmental Laboratory in Seattle, WA. The updated forecast is the result of a new analysis of computer models coupled with the most recent summer ice measurements. The area covered by summer sea ice is expected to decline from its current 4.6 million square kilometers (about 1.8 million square miles) to about 1 million square kilometers (about 390,000 square miles). Much of the sea ice would remain in the area north of Canada and Greenland and decrease between Alaska and Russia in the Pacific Arctic. Temperature increases, a near-record loss of summer sea ice, and melting of surface ice in Greenland are among some of the evidence of continued warming in the Arctic, according to an annual review of conditions in the Arctic issued by NOAA and its university, agency, and international partners. The Arctic is a sensitive system and often reflects changes in relatively fast and dramatic ways. The year 2007 was the warmest on record for the Arctic, continuing a general Arctic-wide warming trend that began in the mid-1960s.

ICE-FREE ARCTIC SUMMERS LIKELY SOONER THAN EXPECTED



U. S. Climate Reference Network (USCRN) operational station in San Diego's Santa Margarita Ecological Reserve

NOAA INSTALLS 10 HISTORICAL CLIMATOLOGY NETWORK MODERNIZATION SITES

The U.S. Historical Climatology Network Modernization program deployed a new automated network for Regional Climate monitoring focused on collecting temperature and precipitation with greater temporal resolution (5-minute observations). This Network will meet the nation's growing need for higher quality climate data at the regional level. In June and July 2009, 10 new sites were installed in the Southwest Climate Region (Arizona, Colorado, New Mexico, Utah). The new sites have a triple configuration of high-quality sensing equipment that allows for early identification and correction of errors, leading to higher confidence in the regional climate signal. The network will provide future long-term homogeneous observations of temperature and precipitation that can be coupled to long-term historical observations for the detection and attribution of present and future climate change.



Nicholas Younghaus of Hoggard High School in Wilmington, North Carolina receives the NWS StormReady designation

In December 2008, the teachers and students of John T. Hoggard High School in Wilmington, NC, became part of the first high school in the country to prepare an action plan and practice drills making them ready for a tornado or other severe weather. This preparation has earned them the designation as a NWS StormReady Supporter. To achieve this status, the school met rigorous guidelines, which included developing severe weather safety plans, actively promoting severe weather safety through awareness activities and conducting safety training. StormReady® communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. No community is storm proof, but being Storm-Ready can help communities save lives.

This achievement is largely the result of Nicholas Younghaus, an autistic Hoggard High School senior who interned at the NWS Wilmington Weather Forecast Office.

NOAA DECLARES NATION'S FIRST HIGH SCHOOL STORMREADY SUPPORTER



Installing a RECON (Real-time Environmental Coastal observations Network) buoy, a wireless Internet observation system that collects meteorological data and provides sub-surface measurements of chemical, biological, and physical parameters

NOAA IMPROVES GREAT LAKES COASTAL MARINE OBSERVATION NETWORK AND FORECASTS

NOAA's NWS has made a significant investment in the expansion of the Great Lakes coastal marine observation network that provides access to information on the climate, meteorology, chemistry, geology, biology, and human activities that affect the Great Lakes. This investment includes the formation of the Great Lakes Observing System (GLOS), a regional component of the U.S. National Integrated Ocean Observing System (IOOS). In the past 5 years, the NOAA NWS Central and Eastern Regions have added over 30 new meteorological observing packages along the Great Lakes coasts. Another critical component of NOAA operations is the recent transition from research to operations of the Great Lakes Forecasting System (GLFS). This system creates forecasts of prevailing over-lake winds, waves, water level, water temperature, and lake circulations. All of these investments enhance NOAA's abilities to help the region improve safety and efficiency of navigation, monitor and adapt to climate change, and protect drinking water supplies.



NOAA-N Prime launch from Vandenberg Air Force base

On February 6, 2009, NOAA-N Prime successfully launched from the Vandenberg Air Force Base in California aboard a Delta-II rocket. The new NOAA polar-orbiting operational environmental satellite supports NOAA's efforts to forecast and monitor the environment by circling the globe every 102 minutes taking images and measurements. NOAA-N Prime, renamed NOAA-19 after reaching orbit, joins METOP-A, a European satellite, as the operational satellites in polar orbit that NOAA uses in its forecasts. NOAA-19 carries six scientific instruments, two search and rescue instruments, and a data recording system. Unique with this satellite is an advanced data collection system that will relay meteorological and oceanographic data—even track migration patterns of wildlife—to help researchers improve their study of Earth's environment. Data from NOAA-19 supports several NOAA programs, including: weather analysis and forecasting; climate research and prediction; global sea surface temperature measurements; atmospheric soundings of temperature and humidity; ocean dynamics research; volcanic eruption monitoring; forest fire detection; global vegetation analysis; and search and rescue operations. NOAA-19 data helps NOAA monitor current conditions in the atmosphere and oceans and keep tabs on long-term climate trends. These data are increasingly important in Polar Regions, given the potential effects of climate change on the polar ice cap and sea ice extent. NESDIS is working closely with the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) to ensure seamless polar satellite coverage. Under an agreement, two of NOAA's polar-orbiting satellites—NOAA-18 and NOAA-19, both in afternoon orbits—carry a EUMETSAT instrument. In return, EUMETSAT is carrying key NOAA instruments on board its first three Metop satellites, which fly in morning orbits.

LAUNCHED NEW POLAR-ORBITING SATELLITE



GOES-14 launching from Kennedy Space Center

LAUNCHED NOAA GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE-0 (GOES-0)

On June 27, 2009, the NOAA and NASA announced that the GOES-O Satellite, now renamed GOES-14, successfully launched and reached orbit from the Kennedy Space Center and joined three other GOES spacecraft that help NOAA forecasters track life-threatening weather and solar storms. With more than a thousand tornadoes touching down in the United States each year, and with hurricanes posing a serious risk to residents along the Gulf and East coastlines, it is critical that GOES-14 is in orbit and ready when needed. GOES-14 is the second spacecraft in the GOES-N/O/P series and carries instruments that capture high-resolution images of weather patterns and atmospheric measurements. The imagery and data that NOAA gets from GOES spacecraft are key to NOAA's ability to continuously monitor and diagnose weather in the tropics. Continued improvements in the type and quality of GOES data will improve tropical cyclone forecasts. GOES-14 also provides expanded measurements for space and solar environment monitoring using a Solar X-Ray Imager (SXI). The SXI data are improving forecasts and warnings for solar disturbances, protecting billions of dollars of commercial and government assets in space and on the ground and lessening the effect of power surges for satellite-based electronics and the communications industry.



Emergency Position Indicating Radio Beacons (EPIRBs) and Personal Locator Beacons (PLBs), tracking transmitters which aid in the detection and location of boats, aircraft, and people in distress, interface with COSPAS-SARSAT

In fiscal year 2009, NOAA satellites were key factors in the rescues of 184 people throughout the United States and its surrounding waters thanks to the Search and Rescue Satellite-Aided Tracking (SARSAT) Program. In each incident, NOAA satellites detected and located a distress signal from an emergency beacon and relayed the information to first responders on the ground. In FY2009, NOAA phased out the older beacons and ushered in a new 406 MHz standard for instant detection capabilities and to provide global coverage. The newer beacons are also more accurate and provide Search and Rescue responders with important registration information from the owner NOAA's polar-orbiting and geostationary satellites, along with Russia's COSPAS spacecraft, which are part of the international Search and Rescue Satellite-Aided Tracking system, called COSPAS-SARSAT. This system uses a network of satellites to quickly detect and locate distress signals from emergency beacons on board aircraft and boats and from handheld personal locator beacons. When a satellite finds the location of a distress signal within the United States or its surrounding waters, the information is relayed to the SARSAT Mission Control Center at NOAA's Satellite Operations Facility in Suitland, Maryland. From there, it is sent to a Rescue Coordination Center, operated by either the U.S. Air Force, for land rescues, or the U.S. Coast Guard, for water rescues. Now in its 27th year, COSPAS-SARSAT has been credited with supporting more than 25,000 rescues worldwide, including 6,134 in the United States and its surrounding waters. The four original member nations (Canada, France, Russia, and the United States) have been joined by 36 other nations that operate 66 ground stations and 29 mission control centers worldwide or serve as search and rescue points of contact.

SARSAT RESCUES 184 PEOPLE



King Air 350ER

AIRCRAFT OPERATIONS

In 2009, Aircraft Operations Center (AOC) provided the newly acquired King Air 350ER aircraft to support NOAA's coastal mapping mission. Aerial surveys are flown in support of the National Ocean Service (NOS) National Geodetic Survey (NGS) Remote Sensing Division (RSD). Coastal mapping surveys are on-going aerial missions conducted to meet the requirements mandated by the Coast and Geodetic Survey and Hydrographic Services Improvement Acts, and provide updates and productions for nautical charts. AOC also provided support for the Chukchi Offshore Monitoring in Drilling Area (COMIDA) project, Bowhead Whale Feeding Study (BOWFEST), and Bowhead Whale Aerial Survey Project (BWASP). In addition, NOAA Twin Otter aircraft were stationed in Barrow, Deadhorse, and Kotzebue, Alaska to target high priority observation areas located in and around rapidly developing petroleum fields. Bowhead whales are an endangered species and the rapid development of petroleum in the Chukchi and western Beaufort Seas presents a potential hazard to the species. The aerial flights provided critical documentation on distribution of marine mammals, effects of environmental factors on distribution patterns and variability in feeding behaviors, and temporal and spatial patterns of large marine mammals.



NOAA Ship *Pisces* is the third of four newly constructed fisheries survey vessels and is homeported in Pascagoula

NOAA Ship, *Pisces*, the Nation's most advanced fisheries survey vessel, was commissioned Nov. 6, 2009, in Pascagoula, MS. The vessel will support fisheries research in the Gulf of Mexico, southeastern United States and the Caribbean. Built by Pascagoula based VT Halter Marine, *Pisces* is equipped with high tech research equipment and quiet-hull technology, allowing scientists to study fish populations and collect oceanographic data with minimal impact on marine animal behavior. The 208-ft ship is the third of four newly constructed NOAA fisheries survey vessels of the same class. *Pisces* is operated by the NOAA Office of Marine and Aviation Operations and is home ported in Pascagoula.

NOAA SHIP *PISCES* ENTERS SERVICE



In July 2009, NOAA Recovery Act funds helped hire out of work fishermen to remove abandoned crab pots from the Oregon coast. With their removal, crab – some of which are threatened in Oregon – continue to be caught in the traps and will eventually die

NOAA SUCCESSFULLY MANAGED AND INVESTED AMERICAN RECOVERY AND REINVESTMENT ACT FUNDS IN 2009

Since the passage of the American Recovery and Reinvestment Act, NOAA has been able to fund 50 quality habitat restoration projects around the country, invest in marine navigation, climate modeling and supercomputing, and further NOAA's critical mission areas by creating jobs for Americans. At the end of FY 2009, NOAA obligated approximately \$528 million of the \$830 million appropriated funds, with plans to obligate the remainder by the FY 2010. NOAA accomplished 89 contract actions and 50 grants for \$223 million and \$297 million in interagency agreements supporting projects with Department of Energy, NASA, Air Force, Navy and Army Corps of Engineers. ARRA funds provided to NOAA are having a positive effect on jobs, research capabilities and livelihoods. For example, of the \$167M for Marine and Coastal Habitat Restoration, NOAA has awarded \$155 million to 50 grantees for habitat restoration to coastal and Great Lakes communities and businesses. The projects will employ Americans with a range of skills including laborers, nursery workers, design engineers, restoration ecologists, landscape architects, hydrologists, and specialized botanists.





NOAA GPRA PERFORMANCE RESULTS

NOAA's mission goals in ecosystems, climate, weather and water, and commerce and transportation are integrated from a funding and organizational perspective, in order to maximize support for the Departmental performance goal: observe, protect, and manage the Earth's resources to promote environmental stewardship. NOAA currently has 31 Government Performance & Results Act (GPRA) measure targets. In FY 2009, NOAA achieved or exceeded targets on 26 of 31 measures, or 84 percent of the targets. The funding requested in this budget is essential for employing new and modified measures to better represent and assess NOAA's performance in achieving our mission.

In February 2009, NOAA received \$830 million from the American Recovery and Reinvestment Act (ARRA) to assist key sectors of the U.S. economy, such as: (1) reducing the hydrographic survey backlog to facilitate shipping transportation; (2) habitat restoration projects that benefit marine fisheries and endangered species; (3) supporting critical development activities of the Joint Polar Satellite System, to provide essential data for weather prediction and climate monitoring; and (4) completing construction work on various facilities and vessels to meet mission needs and provide jobs.

Per 2009 GPRA measures, NOAA continued to improve the fish stock sustainability index (FSSI), its comprehensive measure for sustainability of 230 U.S. fish stocks selected for their importance to commercial and recreational fisheries. In FY 2009, four stocks—Atlantic bluefish, Gulf of Mexico king mackerel, and two stocks of monkfish in the Atlantic were declared rebuilt, the largest number in a single year since NOAA first declared a stock successfully rebuilt in 2001. NOAA continues to work with the eight Fishery Management Councils to implement statutory annual catch limits. NOAA's Navigation Services programs awarded \$40 million in ARRA funds for critical hydrographic survey projects for over 1,800 square miles of additional survey area. The program exceeded their GPRA measure of 3,000 miles in FY2009, by 219 miles for a total of 3,219 miles. Without the surveys, ocean bottom conditions that are hazardous to navigation will not be located, identified, and placed on nautical charts to help mariners navigate safely and avoid accidents, spills, loss of life, and cargo, and damage to the environment. NOAA's hydrographic data supports planning, management, and science applications in the coastal zone. NOAA satellites provided key support in the



rescues of 184 persons throughout and near the United States during FY 2009, providing their locations to first responders.

NOAA's GPRA goals are focused on the results of key programs and services, support decision-making and congressional oversight, and are designed to measure and improve the performance of NOAA in meeting its mission. GPRA is unique in its requirement that agency "results" be integrated into the budgetary decision-making process. NOAA is continuously striving to improve its measures to better the service it provides to the American public. For more information on NOAA's FY 2009 performance, please refer to the Department of Commerce FY 2009 Performance and Accountability Report (PAR), located at: http://www.osec.doc.gov/bmi/budget/09PAR/DOCFY2009PAR_111609.pdf. Some of the actuals reported here are slightly different from what was reported in the FY 2009 PAR, as only estimates were available at the time.

NOAA PERFORMANCE SUMMARY FOR FY2009				
GOAL	MEASURE	FY2009 TARGET	FY2009 ACTUAL	STATUS
ECOSYSTEMS	Fish Stock Sustainability Index (FSSI)	548.5	565.5	Exceeded Target
	Percentage of Living Marine Resources (LMR) with adequate population assessments and forecasts	42.1%	43.9%	Met Target
	Number of protected species designated as threatened, endangered, or depleted with stable or increasing population levels	22	25	Met Target
	Number of habitat acres restored (annual/cummulative)	9,000/58,742	9,232/58,974	Met Target
	Annual number of coastal, marine, and Great Lakes ecological characterizations that meet management needs	50	50	Met Target
	Cummulative number of coastal, marine, and Great Lakes issue-based forecasting capabilities developed and used for management	41	41	Met Target
	Percentage of tools, technologies, and information services that are used by NOAA partners/customers to improve ecosystem based management	86%	86%	Met Target
	Annual number of coastal, marine, and Great Lakes habitat acres acquired or designated for long-term protection (annual)	2,000	2,246	Met Target

Key To Color Coding: ■ Exceeded Target ■ Met Target ■ Slightly Below Target ■ Did Not Meet Target



NOAA PERFORMANCE SUMMARY FOR FY2009				
GOAL	MEASURE	FY2009 TARGET	FY2009 ACTUAL	STATUS
CLIMATE	U.S. Temperature Forecasts (Cumulative Skill Score computed over the regions where predictions are made)	20	27.5	Exceeded Target
	Reduce the Uncertainty in the Magnitude of the North American Carbon Uptake	0.40 GtC/yr	0.40 GtC/yr	Met Target
	Reduce the Uncertainty in Model Simulations of the Influence of Aerosols on Climate	20% Improvement	20% Improvement	Met Target
	Determine the National Explained Variance (%) for Temperature and Precipitation for the Contiguous United States Using U.S. Climate Network (USCRN) Stations	Temp - 98.0% Precip - 95%	Temp - 98.3% Precip - 95.1%	Met Target
	Reduce the Error in Global Measurement of Sea Surface Temperature	0.50°C	0.50°C	Met Target
	Regionally focused climate impacts and adaptation studies communicated to decision makers	37 risk assessments / evaluations	37 risk assessments / evaluations	Met Target
WEATHER & WATER	Cummulative percentage of U.S. shoreline and inland areas that have improved ability to reduce coastal hazard impacts	32%	32%	Met Target
	Lead time (min) for severe weather warnings for tornadoes (storm based)	12	12	Met Target
	Accuracy (%) for severe weather warnings for tornadoes (storm based)	69	66	Slightly Below Target
	False Alarm Rate (FAR) (%) for severe weather warnings for tornadoes (storm based))	72%	77%	Did Not Meet Target
	Lead time (min) for severe weather warnings for flash floods	49	73	Exceeded Target
	Accuracy (%) for severe weather warnings for flash floods	90%	91%	Met Target
	Hurricane forecast track error (48 hour) (nautical miles)	108	86	Met Target
	Hurricane forecast track error (48 hour) (difference in knots)	13	14	Slightly Below Target
	Accuracy (%) (threat score) of day 1 precipitation forecasts	29%	30%	Met Target
	Winter storm warnings -Lead time (hours)	16	18	Met Target
Winter storm warnings- Accuracy (%)	91%	90%	Slightly Below Target	

Key To Color Coding: ■ Exceeded Target ■ Met Target ■ Slightly Below Target ■ Did Not Meet Target



NOAA PERFORMANCE SUMMARY FOR FY2009				
GOAL	MEASURE	FY2009 TARGET	FY2009 ACTUAL	STATUS
COMMERCE & TRANSPORTATION	Reduce the hydrographic survey backlog within navigationally significant areas (square nautical miles surveyed per year)	3,000	3,219	Exceeded Target
	Percentage of U.S. counties rated as fully enabled or substantially enabled with accurate positioning capacity	69%	72%	Met Target
	Marine wind speed accuracy (%)	69%	73%	Met Target
	Marine wave height accuracy (%)	74%	77%	Met Target
	Aviation forecast accuracy of ceiling/visibility (3 mile/1,000 feet or less) (%)	64%	63%	Slightly Below Target
	Aviation forecast False Alarm Rate (FAR) (3 mile/1,000 feet or less) (%)	43%	38%	Met Target

Key To Color Coding: Exceeded Target Met Target Slightly Below Target Did Not Meet Target