



2010 HIGHLIGHTS | NATIONAL OCEAN SERVICE

WE ARE A COASTAL NATION. More than half of us live in coastal areas. These areas generate nearly 60 percent of the nation's gross domestic product each year. The health of our coasts is directly tied to the health of our economies. To address issues threatening our coasts, such as climate change, population growth, ecosystem management, port congestion, and contaminants in the environment, NOAA's National Ocean Service translates science into action, delivering needed information, tools, and technical services.

Fiscal year 2010 was a busy one for us. Front and center was our response to the Deepwater Horizon/BP oil spill. NOS staff were on hand—and continue to be on hand—in responding to this unprecedented environmental incident. NOS served as the lead scientific resource to the U.S. Coast Guard and the Environmental Protection Agency and delivered aerial photographs, observations, maps and charts, trajectory forecasts, assessments, and restoration plans to support the response.

And while the Deepwater Horizon response dominated the headlines, before, during, and after the spill, NOS was hard at work. From developing tools and conducting surveys that support coastal and marine spatial planning to helping mariners navigate safely and outlining steps to combat marine debris and reduce impacts on coral reefs, NOS remained on the front lines in protecting our nation's coasts. For a full overview of our year's accomplishments, visit us online at: oceanservice.noaa.gov/annualreport10.

Through a diversity of programs, NOAA's National Ocean Service supports healthy, resilient coastal **communities**; promotes sustainable, robust coastal **economies**; and protects the productivity and diversity of **coastal and marine places**. We've captured a few highlights from the year here, but visit the NOS website for a more comprehensive list of the activities we were involved with throughout the 2010 fiscal year: oceanservice.noaa.gov/annualreport10.

Supporting Healthy, Resilient Coastal Communities

IF YOU LIVE NEAR THE COAST, you aren't alone—over half of all Americans call coastal areas home. And as more and more people flock to our coasts, communities in these areas become increasingly vulnerable to damages from hazards such as sea level rise or storms, habitat loss, and other threats that can negatively impact our economy and our quality of life. In fiscal year 2010, NOS was engaged in a range of activities to support healthy, resilient coastal communities.

- NOS developed numerous products to support **coastal and marine spatial planning**, including a website (www.cmsp.noaa.gov) and a tool called the Multipurpose Marine Cadastre, which provides data, visualizations, and information for select ocean locations.
- From broadcasting harmful algal bloom (HAB) warnings in Maine via NOAA Weather Radio to providing forecasts of blooms in Texas and Oregon, NOS helped keep coastal communities safe from **HAB-toxin related shellfish poisoning**.
- NOS implemented a new program that addresses research, tool and technology development, and engineering or testing of **sensors for the detection** of ocean- or coastal-borne human and marine animal health threats from marine toxins, pathogens, and chemical contaminants.
- NOS awarded over \$68 million to state and territory **coastal zone management programs** to help states plan for climate change, protect and restore coastal habitats, and enhance access to coastal areas.

Promoting Sustainable, Robust Coastal Economies

DID YOU KNOW that 57 percent of our nation's gross domestic product is generated in the 673 counties that line our ocean and Great Lakes waters? Or that nearly 80 percent of our overseas trade by volume comes and goes along our marine highways? In fiscal year 2010, NOS was once again hard at work providing the right information, tools, and services needed to keep this coastal economic engine running.

- **Visibility sensors** were integrated into the Physical Oceanographic Real-Time System at Mobile Bay in Alabama to help mariners navigate safely during periods of dense fog, ensuring **safe and secure port operations**.
- NOS introduced plans to **modernize the National Spatial Reference System** (NSRS), including removing inaccuracies and helping the user community transition to new infrastructure and methodologies, all to improve the accuracy and efficiency of survey and mapping projects.
- Using approximately \$40 million in funds from the American Recovery and Reinvestment Act, NOS awarded contracts to **collect hydrographic data** essential for safe navigation, as well as applications such as marine spatial planning and emergency response.
- NOAA worked with Integrated Ocean Observing System partners to complete a three-year project to make selected NOAA and partner **ocean observation data work together**, thereby increasing their value and use for decision-support tools, products, and services.

Protecting the Productivity and Diversity of Coastal and Marine Places

THE BEAUTY OF OCEAN AND COASTAL AREAS is hard to dispute. These areas are also essential to satisfying our increasing appetite for energy, food, goods, and services. Through innovative management and protection activities, NOS worked in 2010 to balance environmental conservation, economic development, and recreational enjoyment to ensure our special coastal and ocean areas are available today and for future generations.

- NOS released a series of strategic planning documents to help focus efforts and resources on priority needs of the management community to **reduce impacts on coral reef ecosystems** from climate change, fishing, and land-based sources of pollution.
- A settlement agreement was reached between NOAA and the Boeing Corporation regarding injury to natural resources from the release of hazardous substances along the Lower Duwamish River, which runs through Seattle. The agreement includes **restoration projects to create habitat** for fish, crabs, and shorebirds.
- The NOAA Marine Debris Program led the coordination of the **Hawaii Marine Debris Action Plan**, which outlines steps to reduce marine debris backlog, decrease the amount of solid waste and fishing gear dumped into ocean and coastal areas, reduce the number of abandoned and derelict vessels, and reduce land-based marine debris.
- The World Heritage Committee of the United Nations Educational, Scientific and Cultural Organization voted to **add Papahānaumokuākea Marine National Monument to its list of significant places** around the world. Inclusion of the monument, which is one of 14 marine protected areas that form the National Marine Sanctuary system, recognizes the significance of its near-pristine habitats, diverse marine life, and cultural connections to the sea.

Responding to the Deepwater Horizon / BP Oil Spill

ON APRIL 20, an explosion and subsequent fire damaged a deepwater drilling platform approximately 50 miles southeast of Venice, Louisiana. Eleven people lost their lives. The spill that followed would become one of the largest spills in history. As the nation's leading scientific resource for oil spills, NOAA was on the scene of the Deepwater Horizon incident from the start, providing coordinated scientific services to federal, state, and local organizations.

- Within hours of the incident, NOS specialists were **providing scientific support** directly to the U.S. Coast Guard and Unified Command, advising the Coast Guard on **cleanup options**, developing **trajectory forecasts**, and helping **identify marine resources at risk** within the Gulf of Mexico. These efforts continued throughout the duration of the spill response.
- One day after the release was discovered, NOAA scientists began work to **assess damages from the spill** and to ensure that actions taken minimized harm to natural resources. Teams also began surveying lost human use and designing economic studies, so that the **public can be compensated for losses** associated with the spill.
- To support the continuation of safe and efficient maritime commerce, NOS produced **nautical chart products that displayed oil spill zone forecasts** based on NOAA spill projections.
- Because the effects of oil on estuaries can be particularly damaging, staff at the five Gulf Coast National Estuarine Research Reserves **collected water and sediment samples** to establish baseline measurements of contaminants, should oil reach their bays and wetlands.
- NOS continued to **operate and maintain an extensive network of approximately 60 coastal measurement systems** throughout the Gulf of Mexico to collect and provide information about how the water and wind were moving. Such information helped determine the path of spilled oil.
- NOAA investigators and partners **collected oyster, sediment, and water samples at 60 sites** in the Gulf before any oil washed ashore, to provide background information for post-spill impact assessments. NOS also sampled water in the Gulf to help determine the size, location, and composition of underwater oil plumes.

Many Responsibilities, One Mission

WITH PROGRAM AND STAFF OFFICES covering a broad range of topics, the diversity of expertise within the National Ocean Service is one of our greatest strengths. Bringing together scientists, natural resource managers, and specialists, NOS is well equipped to support coastal communities, promote a robust economy, and protect coastal and marine ecosystems.

The offices of the National Ocean Service Program Offices include:

- **Center for Operational Oceanographic Products and Services**
- **NOAA Integrated Ocean Observing System Program**
- **National Centers for Coastal Ocean Science**
- **National Geodetic Survey**
- **NOAA Coastal Services Center**
- **Office of Coast Survey**
- **Office of National Marine Sanctuaries**
- **Office of Ocean and Coastal Resource Management**
- **Office of Response and Restoration**
- **International Program Office**
- **Management and Budget**



oceanservice.noaa.gov

