NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

Congressional Brief: Sample of 2011 NOAA Activities

NOAA's work touches the daily lives of every person in the United States and in much of the world. From weather forecasts in the Midwest to fisheries management on the East Coast, from safe navigation to coastal services in the Gulf, from remote sensing to climate research and ocean exploration, NOAA's products and services contribute to the foundation of a healthy economy and affect approximately one-third of the nation's gross domestic product.

NOAA worked with Congress to support important legislation including:

Consideration of bills in the Senate or House that addressed coastal jobs creation, hydrographic services, seafood safety, corals, fisheries, resource protection, climate change, marine debris, hurricane research, public safety, oil spills, illegal fishing, sanctuary expansion, and more.

Complete details on the stories highlighted below may be viewed at: http://www.noaa.gov/2011_newsarchive.html.

Did you know? NOAA protects critical habitats and builds sustainable fisheries.

January – **Scientists Successfully Use Sedation to Help Disentangle North Atlantic Right Whale**
Scientists from NOAA Fisheries Service and its state and nonprofit partners successfully used at-sea chemical sedation to help cut the remaining ropes from a young North Atlantic right whale off the coast of Cape Canaveral, Fla. The sedative given to the whale allowed the disentanglement team to safely approach the animal and remove 50 feet of rope which was wrapped through its mouth and around its flippers. This is only the second time a free-swimming whale has been successfully sedated to enable disentanglement efforts.

March – **National Ocean Observing System to See Marine Animal Migration, Adaptation Strategies**
For the first time, data from electronic tags attached to marine animals will be incorporated into the U.S. Integrated Ocean Observing System (IOOS®). The addition of this biological component will help scientists better understand how marine animals move with the flow of tides and currents and provide insight into how they may alter their behavior or migration patterns in response to climate change.

March – **NOAA's Announces Recovery of Spiny Dogfish Stock**
NOAA's Fisheries Service announced that it will propose increasing the spiny dogfish quota to 20 million pounds for 2011. Spiny dogfish are found throughout the northwest Atlantic between Labrador and Florida. In fishing year 2009, the U.S. commercial spiny dogfish fishery generated revenues of nearly $2.4 million. NOAA's Fisheries Service updated the spiny dogfish stock assessment in the fall of 2010 and indicated that the stock was healthy and not being overfished.

April – **Florida Wetlands Restoration Creates Habitat and Supports Local Jobs**

NOAA, the Ecosphere Restoration Institute, state and local partners celebrated the restoration of nearly 70 acres of wetlands that feed into Tampa Bay in Ruskin, Fla. Ecosphere Restoration Institute hired local contractors to remove invasive tree species like Brazilian pepper, transform stagnant and abandoned ponds into thriving wetlands, and reconnect those wetlands to the waters of Tampa Bay. NOAA provided $750,000 in *American Reinvestment and Recovery Act* funding for the project. This project expands upon a 17-year restoration effort of the adjacent Cockroach Bay Aquatic Preserve, which is nearing its final stage of completion. The restored wetlands provide important nursery and foraging habitat for numerous fish, wading birds, and frogs.

July – **U.S. Joins More Than 50 Nations in Adopting Recommendation to List Vessels Engaged in Illegal Fishing Around the World**

The United States joined more than 50 countries in a recommendation to regional fishery management organizations to better track vessels engaged in illegal, unreported and unregulated (IUU) fishing for tunas, swordfish, sharks and other highly migratory species. Annual global economic losses due to IUU fishing are estimated to be as high as $23 billion. This action is a first step toward procedures for sharing information about vessels engaged in IUU fishing. Global cooperation to prevent IUU fishing coupled with sound science and effective management are essential to the sustainability of these wide-ranging species that are highly valued in commercial and recreational fisheries. This outcome was a key goal for the NOAA-led U.S. delegation to the third joint meeting of the world's regional fisheries management organizations that manage tunas and other highly migratory species.

October – **New Sanctuary Research Area to Help Improve Understanding of Important Habitats**

The southern third of NOAA's 22-square mile Gray's Reef National Marine Sanctuary off the Georgia coast was designated a research area, where scientists can study how human activities and natural processes affect the sanctuary's marine resources. This new research area is specifically designed for conducting controlled scientific studies where human activities cannot affect the results. Scientists will be able to design and implement habitat studies where critical variables can be controlled over long periods of time. The research area will provide managers with the high-caliber science needed to improve understanding of the effects of human activities on the sanctuary's natural resources. The designated research area is relatively free of human activity, and therefore, it can be studied and compared to the rest of the sanctuary. The research area will help scientists study how natural events such as hurricanes and droughts affect the sanctuary, and serve as a place to monitor and study the effects of climate change and ocean acidification.

December – **Arctic Settles Into New Phase – Warmer, Greener, and Less Ice**

An international team of scientists who monitor the rapid changes in the Earth's northern polar region say that the Arctic is entering a new state – one with warmer air and water temperatures, less summer sea ice and snow cover, and a changed ocean chemistry. This shift is also causing changes in the region's life, both on land and in the sea, including less habitat for polar bears and walruses, but increased access to feeding areas for whales. Changes to the Arctic are chronicled annually in the Arctic Report Card. The report is prepared by an international team of scientists from 14 different countries. In 2006, NOAA's Climate Program Office introduced the *State of the Arctic Report* which established a baseline of conditions at the beginning of the 21st century. It is updated annually as the Arctic Report Card to monitor the often-quickly changing conditions in the Arctic. Peer-review of the scientific content of the report card was facilitated by the Arctic Monitoring and Assessment (AMAP) Program.

Did you know? NOAA conducts critical research and expeditions to advance our understanding of the oceans and atmosphere.

January – **North American Winter Storm Forecasts to Get Boost from High-Tech NOAA Plane**
NOAA dispatched one of its highly specialized aircraft to collect atmospheric data over the North Pacific Ocean to enhance forecasts of winter storms for the entire North American continent. The aircraft was tasked by the National Centers for Environmental Prediction — a division of NOAA's National Weather Service — to collect information such as wind speed and direction, pressure, temperature and humidity. The data will be sent via satellite to global operational weather forecasting centers and fed into sophisticated computer forecast models. The aircraft – part of NOAA's fleet of ships and aircraft – is managed by NOAA's Office of Marine and Aviation Operations and piloted by members of the NOAA Commissioned Officer Corps, one of the nation's seven uniformed services.

March – **Scientists Using Erie Tower to Study Not-So-Dormant Wintertime Air Chemistry**
NOAA scientists and their colleagues from Boulder, Colo., and across the country gathered in Erie, Colo., for a month-long study of the chemistry of the wintertime atmosphere, which they hope will shed light on some scientific mysteries. The central question they will tackle: Exactly why and how does a compound usually associated with the atmosphere near oceans — nitryl chloride — also form during the winter nighttime in land-locked regions such as the foothills of the Rocky Mountains? The question is important to answer because of the implications for both climate and air quality. Nitryl chloride breaks apart quickly as the sun rises to release chlorine atoms. Chlorine atoms can react with many other compounds, contributing to smog formation, and can also influence chemical cycles that destroy or produce various greenhouse gases, including ozone and methane.

August – **NOAA Launches New 'Smart Buoy' in Chesapeake Bay**
The tenth in a series of NOAA "smart buoys" was deployed near the Chesapeake Bay Bridge-Tunnel near Virginia Beach, Va. The highly sophisticated buoy is the newest addition to NOAA's Chesapeake Bay Interpretive Buoy System (CBIBS), a network of buoys that transmit multi-use oceanographic and meteorological data from the Bay to weather forecasters, maritime safety personnel, coastal decision makers, and recreational boaters and fishermen. These continuing observations provide NOAA and coastal officials with a better picture of how hypoxia, climate change and other marine stressors are changing the Bay environment.

***September* – Argo floats help monitor ocean acidity**
Scientists can now remotely monitor the ocean's changing chemistry with help from some of the five-foot-tall Argo floats that drift with deep ocean currents and transmit data via satellite back to land. The ocean's absorption of CO_2 causes the level of acidity in seawater to rise. This process, called ocean acidification, can have adverse effects on organisms that form calcium carbonate shells, such as corals, mussels, oysters, and feed stock for salmon like pteropods. The NOAA scientists and researchers at the University of Washington will continue investigating how organisms are impacted by these conditions.

December – **NOAA activates GOES-15 satellite**
The new geostationary satellite, GOES-15, has taken the place of GOES-11 and now becomes NOAA's GOES West spacecraft in a fixed orbit over the Pacific Ocean, midway between Hawaii and the West Coast and 22,300 miles above the equator. GOES-15 joins NOAA's other operational geostationary satellite, GOES-13, which serves as the GOES East spacecraft. The GOES are not only used for weather applications, but also track space weather, oceanographic changes, forest fires and other hazards and provide scientific data collection and information for search and rescue operations.

Did you know? NOAA protects lives and livelihoods.

January – **NOAA Improves Marine and Weather Forecast Models for the Great Lakes**
NOAA is now using enhanced weather and marine forecast models for the Great Lakes that will extend forecasts from 36 hours to 60 hours into the future to better serve commercial and recreational mariners, the shipping industry, emergency responders, water resource managers and the private weather industry. The Great Lakes Operational Forecast System of NOAA's National Ocean Service, which predict currents, water level and water temperature, is now running on NOAA's National Weather Service's powerful and reliable super computers.

March – **New Website Tracks Coastal, Ocean Investments and Successes by State**
NOAA leads the nation's efforts to manage and conserve ocean and coastal resources. NOAA's Office of Ocean and Coastal Resource Management (OCRM) has launched a new interactive web page that shows the scope of coastal program investments and successes in NOAA's 34 partner states and territories. The website is located at http://coastalmanagement.noaa.gov/inyourstate. Carefully managing coastal resources has become increasingly important as impacts of climate change and human use threaten coastal communities and habitat. More than 53 percent of the nation's population lives in coastal counties, and that number is growing. Coastal areas also generate billions of dollars annually in jobs and revenue, including over half to the U.S. Gross Domestic Product.

June – **NOAA, Coastal States Discuss U.S. Tsunami Capabilities, Local Preparedness Needs**
NOAA and its federal partners met on Capitol Hill with East Coast, Gulf and Caribbean state officials to discuss U.S. tsunami warning capabilities and the need for better local preparedness. NOAA's two tsunami warning centers provide around-the-clock monitoring and warning of tsunami threats for the United States and many other parts of the world. Assisting in the effort to deliver accurate tsunami forecasts is a vast network of NOAA tsunami detection buoys, which use satellite technology to transmit wave height to the warning centers as a tsunami passes, and coastal tide and water level gauges positioned near coastlines and harbors to measure waves at impact. NOAA recently launched a new Caribbean Tsunami Warning Program, which aims to increase awareness and preparedness throughout the Caribbean.

September – **NOAA Ship Thomas Jefferson Conducts Sea Floor Surveys to Keep Shipping Safe Along Long Island Coast**
NOAA Ship *Thomas Jefferson* continued on a three-month survey of the sea floor off the coast of New York, Connecticut and Rhode Island, as part of a multi-year effort to update nautical charts for Block Island Sound and keep large ships and commerce moving safely.

Year Round – **NOAA Issues Millions of Forecasts, Warnings, Alerts, and Outlooks to Help Protect the Lives and Livelihoods of Every American.**

- Daily national, regional, and local weather forecasts and warnings
- Hurricane, tornado, and inland flooding warnings and watches
- Seasonal weather outlooks for hurricanes, wildland fire, drought, temperature, and precipitation
- Marine and aviation forecasts, advisories, and warnings and tsunami alerts and warnings
- Space weather warnings, watches, alerts, and predictions

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