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NERACOOS Receives \$2 Million in Federal Funding

The U.S. Integrated Ocean Observing System (IOOS®) program recently awarded NERACOOS \$2M in federal funding to help support all aspects of the organization including observations, modeling, program and data management, as well as education and outreach. The majority of the funds will go to our observing system partners to help maintain and operate the critical ocean observing system infrastructure that many rely on. This award is the second installment of funds from a 5-year award received by NERACOOS in 2011. Learn more about this award in our [news release](#).

Bats and Buoys: Monitoring Bat Activity in the Northeast

There is a growing interest in the development of offshore wind energy off of the Atlantic coast. Along with this interest comes the need to better understand the potential impacts of ocean based wind turbines on our offshore wildlife and fisheries resources. Several of the NERACOOS buoys in the Gulf of Maine owned and operated by the University of Maine are currently helping biologists detect bat activity over the ocean in the Northeast. Stantec, a private consulting company, is presently working with the US Department of Energy (DOE) to deploy bat sensors on coastal and offshore sites within the Gulf of Maine, Great Lakes, and mid-Atlantic coastal regions. The effort currently includes four NERACOOS buoys in the Gulf of Maine. This 3-year effort was initiated in April 2012 and is aimed at better understanding general bat and migration activity over ocean waters. Data gathered during the multi-year survey effort will ultimately help determine and overcome potential risks associated with offshore wind turbines. Prior to this study, Stantec had conducted a similar effort at 16 sites within the Gulf of Maine, including a test deployment on NERACOOS Buoy A, off of Gloucester MA in 2011.



The bat sensor detected bat activity approximately 25% of nights over the buoy during the four and a half month time period. More information about this project is available by contacting Steve Pelletier at steve.pelletier@stantec.com.

New [RSS feeds](#) for real-time ocean and weather data



Check out the [NERACOOS RSS feeds page](#) to learn more about using RSS to get real-time ocean and weather data from NERACOOS

Monitoring Ocean Acidification in the Northeast

The burning of fossil fuels has increased the amount of Carbon Dioxide (CO₂) in the earth's atmosphere and the oceans absorb about a quarter of this excess CO₂. Over the last decade, scientists have discovered that this excess CO₂ is actually changing the chemistry of the oceans and proving harmful for many forms of marine life. This process is known as ocean acidification because the increasing CO₂ is lowering the pH of the oceans and making them more acidic. NERACOOS has received funding through the NOAA Ocean Acidification and IOOS programs to help monitor ocean acidification in Northeast ocean waters. This funding is going to the University of New Hampshire's (UNH) Ocean Process Analysis Laboratory (OPAL).

For the past six years, UNH's sentinel buoy has bobbed about in waters northeast of Appledore Island in the Gulf of Maine taking 3-hourly readings of both atmospheric and oceanic carbon dioxide. It is one of just half a dozen such buoys nationwide making these crucial measurement that helps scientists know how much carbon the ocean is taking up globally as atmospheric carbon dioxide levels continue to rise. More specifically, the Gulf of Maine buoy measurements are aimed at better understanding the role complex coastal waters play in the increasing acidification of the global ocean. "The reason why these observations are important, and why NOAA is so focused on them, is that we don't yet have accurate predictive models for how carbon moves between the atmosphere and ocean, and the land and the ocean," says UNH scientist Dr. Joe Salisbury. To learn more about Ocean Acidification please visit the following links:

[NOAA's Pacific Marine Environmental Laboratory Ocean Acidification page](#)
[NOAA's Pacific Marine Environmental Laboratory Ocean Buoys page](#)



2012 NEOSEC Ocean Literacy Summit: The Ocean is Largely Unexplored

NEOSEC

New England
Ocean Sciences
Education Collaborative

The New England Ocean Science Education Collaborative (NEOSEC) is hosting its fourth biennial Ocean Literacy Summit this year on November 1 and 2 at the University of Rhode Island, Graduate School of Oceanography, located on the Narragansett Bay Campus. This year's event will be highlighting Ocean Literacy Principle 7, The Ocean is largely unexplored, with renowned ocean explorer Dr. Robert Ballard providing our keynote address. There will be an evening reception on November 1, featuring a "Gallery of Ocean Discoveries". These Ocean Literacy Summits provide a unique opportunity for educators, scientists, and decision makers to gather for networking, presentations, and hands-on workshops that highlight educator and scientist collaborations. NERACOOS is helping to sponsor this summit. [Sign up here](#) to receive more information as it becomes available, including registration information.

NERACOOS at the America's Cup World Series

The America's Cup World Series visited Newport, RI from June 23rd through July 1st. This event was hosted at Fort Adams State Park and included four days of racing where spectators watched sailors from around the world compete in the brand new AC45 wing-sailed catamarans. The University of Rhode Island's Graduate School of Oceanography invited NERACOOS to participate in their Exploration Zone tent, which was a main attraction at this event. This provided a great outreach opportunity for NERACOOS and all the organizations participating in the Explorations Zone. We were able to demonstrate our forecasting and real-time data tools to hundreds of people from all around New England and beyond who were interested in sailing and the marine environment.



Northeast Wave Glider Mission Update

The Wave Glider is nearly finishing a successful first half of the mission in the Northeast. As expected, difficult environmental conditions - including strong tidal currents, abundant ship traffic, large amounts of commercial fishing and low sea state - made for demanding operational considerations. Over the last two months, the Wave Glider team learned a lot about running in the Gulf of Maine, especially during the busy summer months, and in the strong tidal current areas in the northern section.



The Wave Glider team successfully accomplished both of their desired missions for this portion of the deployment - they've collected data from the subsea Fetch nodes multiple times, including gathering data in real time from the nodes. The other goal was to run a lawnmower pattern over the entire Gulf of Maine, which was accomplished by traveling over 1000 nautical miles.

Later this summer the Wave Glider and Fetch nodes will be re-deployed in the mid-atlantic region for the second part of this technology demonstration mission.

Observing System Update

Throughout the summer, NERACOOS partners have been working on various buoys to repair, test and update sensors and systems. They are also preparing some buoys for late summer and fall deployments.

The University of Connecticut's LISICOS program has hauled, repaired, and redeployed three of their four axial buoys: Execution Rocks, Western Sound and Central Sound. All of these buoys now have a downward looking acoustic Doppler profiling current meter providing a snapshot of the current speed and direction throughout the entire water column. The current meter data is an important supplement to the water quality, wave and meteorological data being collected and is available in near real-time on the website. As a result of the Central Sound station breaking its mooring in February, 2012, all buoys have also been equipped with GPS units enabling the daily monitoring of each buoy's location. The mooring systems at Execution Rocks and Western Sound stations have been redesigned allowing for the easy snap in and out of a variety of water quality sensors, giving the those systems greater versatility. The Eastern Sound buoy is now in the shop for repair and reconditioning, and will also receive a current meter and GPS unit. It is scheduled to be re-deployed in early to mid-August.

The University of New Hampshire (UNH) team has re-deployed the Great Bay buoy and is working on a data transmission issue so that the data will be available in real time. The UNH CO2 buoy (see ocean acidification article) will be collecting data to help study ocean acidification and carbon cycling. The UNH coastal marine Lab station (CML) at the Piscataqua River Mouth is collecting salinity, temperature and oxygen data and CO2 measurements will be added in August.



The Physical Oceanography Group at the University of Maine recovered the DeepCWind buoy F02 (Upper Penobscot Bay) in June and their plan is to redeploy it for Feb-Jun 2013. They are getting new buoys A (Massachusetts Bay), M (Jordan's Basin) and N (Northeast Channel) ready for deployment in the fall. They will also continue testing of directional wave sensors with new sensors to be added to buoys M and N in September. Testing of the sensors started in the spring when they were added to Gulf of Maine buoys A, B, E, I and F in April.

Real-time information from these buoys and other stations in the Northeast are available at the [NERACOOS real-time data portal](#).

Upcoming Meetings and Events

August 22, NERACOOS Board of Directors Meeting, Webinar

September 25-26, NERACOOS Strategic Planning and Implementation team meeting, Rye, NH

October 14-19, [Oceans 2012 MTS/IEEE](#), Hampton Roads, Virginia

November 1-2, NEOSEC Ocean Literacy Conference, URI Narragansett Bay, [Sign up to receive more information](#)

November 13-16, [IOOS Summit 2012](#), Herndon, VA

