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Northeastern Regional Association of Coastal Ocean Observing Systems

News and Updates

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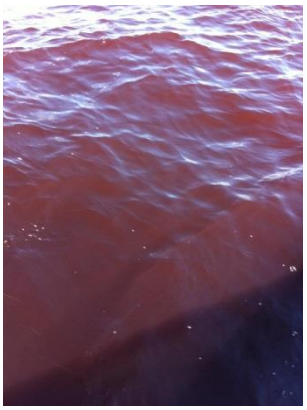
Buoys Help Show Record Warming of Northeast Coastal Waters

A recent research communication from NOAA's Northeast Fisheries Science Center stated that "during the first six months of 2012, sea surface temperatures in the Northeast Shelf Large Marine Ecosystem were the highest ever recorded... Above-average temperatures were found in all parts of the ecosystem, from the ocean bottom to the sea surface and across the region, and the above average temperatures extended beyond the shelf break front to the Gulf Stream." Click here to read the entire research communication.

The impacts of these warmer coastal waters were particularly dramatic in Long Island Sound (LIS) where both the biology of LIS and the energy supply to the region were affected. NERACOOS Partner, the University of Connecticut coastal observation program, includes four buoys along the axis of LIS, measuring wind, water quality and currents. Two of the buoys are located in the western basin of LIS, an area subjected to hypoxic (low oxygen) events every summer. This past summer both western buoys documented one of the earliest occurrences of hypoxia in LIS since the buoy observation program started just over 10 years ago. Additionally, the effects of the unusually warm summer were immediately observed from the western buoys' data stream as the entire water column warmed up, with temperatures from surface to bottom near 23 degrees C (74 degrees F). These warmer waters in LIS caused the shutdown of a nuclear reactor at the Millstone Nuclear Power Station in Waterford, Conn. Water from LIS is used to cool the reactor and the water temperature was above the permitted temperature allowed for cooling. (Click here to read more about the shutdown) The warm temperatures were also hypothesized to have contributed to an abnormally large bloom of the red ciliate *Mesodinium rubrums* that encompassed a large area of the western end of the Sound in August. Continuing to monitor ocean conditions will be critical as we attempt to understand the full impact of the warmer waters experienced in 2012.



Red ciliate bloom in LIS

Northeast Ocean Climatology Data Product

We are often asked how current ocean conditions, like water temperature, compare to the past and average conditions. The record surface water temperatures (see warming article) recorded earlier this year has also heightened interest in this question. Many of the NERACOOS buoys have been collecting hourly weather and ocean data for over 10 years. The NERACOOS products team is using this data to develop an ocean climatology data product that will display the average daily, weekly and monthly ocean conditions at the buoy locations. The display will also include current observations from the buoys so that a user can compare current observations to the average for the past decade. We plan to launch the initial product in December 2012. If you'd like to learn more about this product please contact Tom Shyka (tom@neracoos.org)

NERACOOS Hosts Strategic Planning and Data Management Workshops

The membership of the NERACOOS Strategic Planning and Implementation (SPI) team was recently updated and the team held its first meeting with the new membership in September. During this meeting various strategic planning areas were discussed including gaining efficiencies in shared functional areas, future equipment needs, funding opportunities, and working groups. The SPI team is in the process of developing a work plan to move these efforts forward. The NERACOOS Ocean and Coastal Ecosystem Health and Coastal Hazards work groups have merged with similar work groups of the Northeast Regional Ocean Council. If you are interested in learning more about the SPI team, please contact Dr. Al Hanson (akhanson@gso.uri.edu).

NERACOOS SPI Team

Following the SPI team meeting, NERACOOS hosted a data management workshop with Northeast Coastal and Ocean Data Partnership (NeCODP). The Partnership reviewed and discussed its role and scope and agreed to focus its efforts on being an information sharing and training forum for regional data managers, providers and integrators. The Partnership agreed to have NERACOOS be its host and provide logistical support. The data management workshop also included presentations on IOOS recommended data management approaches and standards as well as presentations from several other data management efforts in the Northeast. The presentations are available on the NERACOOS website. If you would like more information about the workshop or the Partnership please contact Tom Shyka. (tom@neracoos.org).

NERACOOS Welcomes New Administrative Assistant

We are pleased to welcome Jackie Ball to the NERACOOS Team. Jackie will be providing administrative support for NERACOOS. She recently moved to New Hampshire from New York and holds a Wildlife Biology degree from the University of Alaska.

Buoy Data Displayed at Marine Science Magnet High School

Students can now learn about the Long Island Sound in a fun, interactive, and immersive environment, created by Float4 Interactive. The display, installed at the Marine Science Magnet High School in Southeastern Connecticut, displays data in Long Island Sound directly from the NERACOOS buoys. The installation is composed of two large plasma screens placed back to back creating a unique interactive immersive experience where multiple users can play and discover simultaneously. The students can interact directly with the installation while they explore the latest developments in the world of marine science technology in the Long Island Sound.

Observing System Update

Operating and maintaining the NERACOOS observing system is a year round endeavor. To ensure real-time weather and ocean observation our operations partners have been conducting critical maintenance and upgrading various sensors and data systems.

The Physical Oceanography Group at the University of Maine has been preparing and testing various buoys for a fall deployment cruise. The cruise is scheduled for late October and they plan to turn around buoys A (Massachusetts Bay), M (Jordan Basin), and N (Northeast Channel). Servicing buoy I (Eastern Maine Shelf) is also on the schedule. After this cruise, all Gulf of Maine buoys will have digital wave sensors and will be able to provide enhanced wave information.

The University of New Hampshire (UNH) - Pacific Marine Environmental Lab (PMEL) buoy for monitoring of acidification and CO2 is now delivering data to NERACOOS.org. This system measures physical, chemical and biological data at the surface. These data are being used to unravel the relative contributions of atmospheric carbon dioxide, biological processes and freshwater dynamics to the ocean acidification issue. The data can be seen on the NERACOOS site and also on

the NOAA ocean acidification site. The Great Bay Buoy, UNH CO2 Buoy, and the Coastal Marine Lab station continue to collect biogeochemical, optical and meteorological data on schedule. The UNH team plans to haul the Great Bay Buoy out for the winter in early December, which will conclude our eighth year of monitoring in the Great Bay Estuary.

The University of Connecticut coastal observation program continues to maintain the four buoys in Long Island Sound, which are critical to monitoring above average water temperatures and their impacts. The current meters installed last year are providing current measurements that are being used in the analysis of the western Sound's hypoxic (low oxygen) evolution and duration. The Central Sound buoy was the focus of glider operations at the end of July with the deployment of UConn's Glider Frank for several days. The glider ran a series of transects measuring temperature, salinity and dissolved oxygen. These measurements will be compared with the buoy data providing insight regarding the extent of the spatial scales of variability in the vicinity of the buoy. The Central Sound buoy is also being used this fall by the Connecticut Department of Energy & Environmental Protection as a site for the installation of a receiver to monitor movement and congregation behavior of tagged fish.

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

2012 Ocean Literacy Summit: The Ocean is Largely Unexplored

Don't miss your chance to register for the fourth biennial NEOSEC Ocean Literacy Summit! Join the 100+ formal and informal educators and ocean scientists who have already signed up. We'll gather on November 1 and 2 at University of Rhode Island's Narragansett Bay Campus. Come for the Thursday evening Gallery of Ocean Exploration, featuring photos by Brian Skerry, David Arnold, Rhonda Moniz, and Kevin Lee, and to meet and hear from the Deputy Administrator of the National Oceanic and Atmospheric Administration, Dr. Kathryn Sullivan. On Friday, enjoy a keynote address by Dr. Robert Ballard, learn from 15 concurrent sessions, each of which features scientists and educators as co-presenters, tour the Inner Space Center, and join the discussion with a multi-disciplinary panel of explorers, moderated by Ari Daniel Shapiro. To learn more, visit the Ocean Literacy Summit page.

NERACOOS Annual Meeting

NERACOOS will be holding its annual meeting on December 5, 2012 at the Seacoast Science Center in Rye, NH. The theme of the meeting is "the value of ocean observing" and will feature a presentation on the economic value of ocean observing and a panel discussion of users of ocean observing information. If you are interested in learning more about the meeting please contact Ru Morrison (ru.morrison@neracoos.org).

Upcoming Meetings and Events

November 1-2, NEOSEC Ocean Literacy Summit, URI Narragansett Bay

November 13-16, IOOS Summit 2012, Herndon, VA

November 20-21, NE Regional Planning Body Meeting, Portland, ME

December 5, NERACOOS Annual Meeting, Seacoast Science Center, Rye, NH