2012: A year in review

ADDRESSING SOCIETAL PRIORITIES in the NORTHEAST

NERACOOS focuses on priority themes:

- **MARITIME OPERATIONS**
  Helping to improve efficiency and safety of shipping and other maritime industries, and enhancing search-and-rescue and spill response efforts.

- **COASTAL HAZARDS RESILIENCY**
  Equipping managers and property owners with forecasts and observations to help save lives and property.

- **OCEAN AND COASTAL ECOSYSTEM HEALTH**
  Providing critical information for forecasting and management of red tides, beach closures, and water quality.

- **OCEAN ENERGY PLANNING AND MANAGEMENT**
  Delivering essential data for energy development.

- **CLIMATE VARIABILITY**
  Detecting and predicting changes in key ocean properties such as sea level and ocean acidity.

- **COASTAL AND MARINE SPATIAL PLANNING**
  Supplying critical ocean and weather data for more effective coastal and marine spatial planning.

- **EDUCATION AND OUTREACH**
  Contributing to increased knowledge and understanding of the ocean.
US Integrated Ocean Observing System (IOOS)

• A tool that enables the Nation to track, predict, manage and adapt to changes in our marine environment and delivers critical information to decision makers to...

  Improve safety  Enhance our  Protect our

IOOS Northeast – Annual Meeting, December 4, 2012
US Integrated Ocean Observing System (IOOS)

Global Component: Global Ocean Observing System

Regional Component: 11 Regional Associations

National Component: Composed of 17 U.S. Federal Agencies

Global Component:

- Integrated Ocean Observing System (IOOS)
- MARACOOS
- US Integrated Ocean Observing System (IOOS)

Regional Component:

- NANOOS
- CoNCOOS
- SCICOS
- PACIOOS
- NERACOOS
- MARACOOS
- GCOS
- GCODS
- SIO
- CARA

National Component:

- NOAA
- ONR
- NSF
- NASA
- USDA
- FAA
- NOS
- CGIAR-CSI
- USGS
- BOEMRE
- NAVAIR
- NASA
- JPL
- NOAA
- NOS
- NDBC
- USGS
- BOEMRE
- NAVAIR
- NASA
- JPL
- NOAA
- NOS
- NDBC
The purpose of Regional Associations is to gather “required System observation data, supporting and integrating all aspects of coastal and ocean observing and information programs within a region and that reflects the needs of” stakeholders and users (ICOOS Act, 2009).

Regional Observation Network
A partnership of federal and non-federal organizations, including industry, academia, state, local and tribal governments.
Data returns in excess of 90%
The NERACOOS mission is:

• To lead the development, implementation, operation, and evaluation of a sustained, regional coastal ocean observing system for the northeast United States and Canadian Maritime provinces, as part of the United States Integrated Ocean Observing System (IOOS).

• To promote the development, assessment, and dissemination of data and data products that meet the needs of end users.

• To advocate through education and outreach for the regional, national, and global ocean observing system and the application of scientific assessments using environmental data to meet societal needs.
This is NERACOOS

• NERACOOS is the trusted source of regional ocean weather and information from Long Island Sound to the Gulf of Maine.
• We are one of eleven regions, the northeast Integrated Ocean Observing System (IOOS)
• We are a network of observers, modelers, forecasters, data managers, and tool developers.
• With our partners we produce practical solutions to real-world problems.
• These protect and enhance peoples’ lives, livelihoods, and quality of life.
"I trust the weather buoys with my life. Thank you." - Maine Fisherman; "Love your service...I believe your service is a lifesaver. Thanks!" - Dave, Pilot; and "I would like you to know that information you are providing us not only aids us in our work, it almost certainly has saved lives." - Roy Atkinson, Fisherman.
Surface Currents
Universities of Maine and Connecticut

“The forecasts are instrumental in planning both training and routine operations, especially in winter... I cannot imagine operating without this buoy. We check it constantly throughout the day.” - USCG
Hurricane Sandy

- Storm surges in LIS and RI were between 8-12 feet
- All buoys survived the storm
- Loss of two surface current radars
- Largest waves ever observed by the Long Island Sound array
- Many buoys reported wave heights around 30 feet.
- Web traffic was up 800% on Monday.
“The close relationship that NERACOOS and a front line office such as NWS GYX has was really important. I received quick responses in real-time for data requests during the storm, making the support from NERACOOS and others terrific!”  John Cannon, NWS WFO Gray ME

Bob Thompson from the Taunton, Massachusetts office noted that “the IOOS buoy data were invaluable for Sandy,”
Hampton-Seabrook Coastal Inundation Forecast

The NERACOOS Northeast Coastal Ocean Forecast System (NeCOFS) team is currently working with the NWS, NH DES, and the Town of Hampton, NH, PREP and NextEra Energy to develop a coastal inundation forecast system for the Hamptons area of NH.
Harmful Algal Blooms

- Bedford Institute of Oceanography
  - Monitoring *Alexandrium* in Bay of Fundy
  - Finalizing Satellite Based HAB warning system
- Woods Hole Oceanographic Initiation
  - Environmental Sample Processors (ESP)
  - Transitioning forecast system to NOAA

“... having uninterrupted access to these NERACOOS mooring time series is critically important to our Alexandrium forecasts.” - Don Anderson, WHOI.
Water Quality

- University of Connecticut
  - Hypoxia monitoring and modeling in Long Island Sound for NY and CT waste load allocations
- University of Rhode Island
  - Testing autonomous sampling technology
  - Incorporating Narragansett Bay Fixed Site Monitoring Network
- Bedford Institute of Oceanography
  - Monitoring nutrients at entrance to Gulf of Maine
- University of New Hampshire
  - Informing NH DES nutrient criteria work
Leveraging Biological Monitoring on Buoys

- University of Maine
  - Fish telemetry since 2005, NMFS
  - Bats since 2011, Stantec

"If the marine environment is not sufficiently characterized, developers will not risk starting offshore wind projects in the Gulf of Maine. These buoys and model information will improve the viability of the Gulf of Maine as a strong candidate for offshore wind farm developments ... We look forward to working with NERACOOS on sharing monitoring information". DeepCwind Consortium
NERACOOS Informing Regional Climate Monitoring

NERACOOS part of 2012 National Climate Assessment
NERACOOS Informing Regional Climate Monitoring: Ocean Acidification
Testing new technology
Wave Glider and Fetch Node Mission

Launched on May 3 and recovered July 27

Northeast IOOS – Annual Meeting, December 4, 2012
New website and products

Web stats 2011 vs. 2012

Visits: up 778%
120,954 vs 13,770

Unique visitors: up 1,260%
84,823 vs 6,237

Page views: up 178%
197,641 vs 70,985
New website and products

- GoMOOS.org retired on April 15, 2012
- Integrated GoMOOS products
- Text a buoy/Twitter
- USGS tide gauges online
- RSS feed developed- neracoos.org/RSS
- Drifters online- neracoos.org/datatools/drifter
- Created Forecast Viewer Tool for participants at the Newport America’s Cup June 23-July 1
New website and products - Climatologies

Daily Climatology

To view different plots, select buoy, data type and the averaging time period from the selections below. Use the check box to display the Standard Deviation.

Buoy Location
- A01, Massachusetts Bay - UMaine

Data Type
- Water Temperature 1m

Averaging Time Period
- Daily

Mean Water Temperature 1 meter depth at A01 for 2001 thru 2012

Daily Means for 2012

Northeast IOOS – Annual Meeting, December 4, 2012
Data Management
Data for Ocean Planning

The Northeast Ocean Data Working Group is developing an interactive atlas of human and environmental aspects of the ocean in New England. The maps listed above are preliminary components of the atlas. We release new maps on an ongoing basis, and we continually improve and revise the existing maps to present the best available information in a useful format. We are working closely with many public- and private-sector organizations to identify information needs, data sources, and the most effective ways to present information in these maps.

This website is a decision support tool for ocean planning in the northeastern United States, providing resource managers, planners, scientists, and stakeholders with interactive maps, data, tools, and information on human and natural dimensions of the ocean.

 NEWS
• Redesign of Northeast Ocean Data website
• Updates to NE Ocean Data databases
• Working Waterfront article on NE Ocean Data

 DATA
• Data Download
• External Data Sources
• Policies and Standards
NERACOOS Communication and Outreach Activities

• 89 new likes since 2011
• participation in events
• focus groups
• quarterly newsletters
DATA and RESOURCES for EDUCATORS

“I believe the ocean literacy principles give us a very firm foundation on which to stand.” – Dr. Kathryn Sullivan

“a truly useful and energizing event” – attendee

NEOSEC Ocean Literacy Summit 2012
The ocean is largely unexplored
The New England Ocean Literacy Biennial Summit 2012

The ocean is largely unexplored

- Co-sponsored and Coordinated
- NERACOOS Speakers
- NERACOOS Buoys second most exciting ocean data to use in class after Dr. Ballard’s Teacher at Sea program

NEOSEC Ocean Literacy Summit 2012

The ocean is largely unexplored

November 1-2, 2012 at the University of Rhode Island
Strategic Planning and Implementation Team

- April 3 and September 25 Meetings
- New Membership
- Operational Efficiencies
- Future Equipment needs
- Alternative Funding Options and Plans
- Merged working groups with NROC
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“Around here, however, we don’t look backwards for very long. We keep moving forward, opening new doors and doing new things … and curiosity keeps leading us down new paths.”

- Walt Disney
2013: The year ahead

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NERACOOS 2013: Sustaining critical infrastructure
NERACOOS 2013: Stakeholder Engagement

Intra and Inter -Regional Collaboration
NERACOOS 2013: More information and better access
DATA and RESOURCES for EDUCATORS
Business Model

Private – Public Partnerships

Breaking News: December 4, 2012 Portsmouth NH

NERACOOS Board approves development of a membership structure. The Benefits are huge!
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