



Northeastern Regional Association of Coastal Ocean Observing Systems

Mission: produce, integrate and communicate high quality information that helps ensure safety, economic and environmental resilience, and sustainable use of the coastal ocean.

Ocean Data Types:

- Biological- chlorophyll, right whale presence
- Chemical- pH, CO₂, dissolved oxygen
- Physical- wind speed and direction, wave height and period, air temperature, water temperature (at various depths), salinity, air pressure, and water level.

Relevant Tools:

- Real Time Portal, neracoos.org/realtime_map

Description: Data portals integrate real-time observations with historical records, revealing climate variability and long-term trends. Ocean temperatures, sea level, and the saturation state (ocean acidification) are among the many climate variables that can be accessed through coastal ocean data portals. Using real-time observations, teachers can link their curricula and lesson plans to events in the news.

- Data Products, neracoos.org/datatools/data-products

Description: NERACOOS offers several products of interest to educators including: graphing and download, and ocean climate graphing.

- Educational Resources, neracoos.org/education/resources

Description: Page includes downloadable lesson plans and other resources, teacher workshops, lectures, and outreach materials.



NERACOOS spans from Long Island Sound to the Scotian Shelf, including the Gulf of Maine.



Students at Thoreau School with their student built drifter. Photo Credit: James Manning.

Regional Example:

NERACOOS works with educators and scientists to make real world connections between the ocean and the classroom, in formal and informal settings. Specific activities include drifter deployments and tracking, engagement in the New England Ocean Science Collaborative, presentations and tutorials.

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Waves



Temperature



Wind



Currents



Water Level



U.S. Integrated Ocean Observing System (IOOS®)

Our Eyes on the Ocean, Coasts, and Great Lakes

Ocean Data Types:

- Biological- chlorophyll
- Chemical- pH, CO₂, dissolved oxygen
- Physical- wind speed and direction, ocean currents, wave height and period, air temperature, water temperature, salinity, air pressure, and water level.
- Biodiversity – Species presence/absence/abundance: phytoplankton, zooplankton, fish, coral, marine mammal, sea turtles, and more.

Relevant Tools:

- Data Catalog: <http://data.ioos.us/>

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- Data Tools: <http://www.ioos.us/>

Access the IOOS Data Catalog and data tools, such as the Data Assemble Centers (DACs), the Environmental Sensor Map, the Coastal and Ocean Modeling Testbed, and much more.

- Educational Resources:

<https://ioos.noaa.gov/community/education/>

Description: Access to ways to use real data in the classroom, lesson plans, and links to regional resources.

Description:

IOOS is our eyes on the ocean, coasts, and Great Lakes. We are an integrated network of people and technology gathering observing data and developing tracking and predictive tools to benefit the economy, the environment, and public safety at home, across the nation, and around the globe.



U.S. IOOS is the national integrated ocean observing system, working with Regional Associations across the U.S., Caribbean, and Pacific.



U.S. IOOS Director Zdenka Willis talks to ocean observing students about their presentations while visiting Rutgers University.

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