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The need for data and information about our coasts and Great Lakes to help protect lives, economies and the environment has never been greater. Flood protection, safe and efficient marine operations, fisheries, aquaculture, water quality and safe recreation require an expanded network of observing systems and enhanced analysis that will improve predictive and forecasting capabilities for all users.

The Integrated Ocean Observing System (IOOS®) is an innovative federal partnership with regional organizations that is improving our understanding of the diverse characteristics of the nation’s regions. Through IOOS, the observing network is filling critical information gaps from federal and non-federal sources.

IOOS information aids:

- **SAFETY**  
  By enabling preparedness and emergency response

- **ECONOMY**  
  By supporting safe and efficient marine operations

- **ENVIRONMENT**  
  By providing timely information on ocean conditions

**FOR MORE INFORMATION:**

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**IOOS regional systems** enhance the ability of federal agencies to provide the scale of information needed to address national issues that manifest themselves differently at regional and local scales.

**IOOS enterprise** is overseen and coordinated by the IOOS Program Office in NOAA’s National Ocean Service.

**OVER 3,000** oceanographic data sets readily available

**OVER 50%** of marine data used by the National Weather Service are provided by IOOS non-federal sources

**U.S. IOOS**

17 Federal Agencies  
11 Regional Associations
More than 163 million Americans earn their livings and raise their families along U.S. coasts.

Coastal observing systems include many components — from hardware to humans — needed to gather data and to turn them into useful products that support human populations, coastal economies and a healthy and sustainable environment.

Eleven Regional Associations design, operate and maintain systems to meet the needs of their unique regions and their populations.

Each system includes:

**OBSERVING CAPACITY**
- **Sentinel fixed platforms** (such as buoys) that relay data about the surface and subsurface
- **Transect lines** that use gliders or ships to complement the point measurements
- **Satellite information** that provides synoptic views of surface conditions

**SERVICES**
- **Data management and integration** for seamless access to existing and new data
- **Regional-scale models** to provide predictive capacity
- **Product development** that uses technical expertise to translate raw data into useful and meaningful information products

**WATER QUALITY, FISHERIES AND ECOSYSTEMS**
Over 40 million people rely on the Great Lakes for drinking water. Modeling forecasts for the Huron-Erie corridor, which includes Detroit, assist water quality managers in tracking contaminants.

New sensors provide shellfish growers with early warning of when corrosive ocean waters may impact their hatcheries and field sites.

**SAFE COMMERCE**
The U.S. Department of Transportation projects that the total freight moving through U.S. ports will increase by more than 50 percent by 2020. Real-time and predictive sea conditions are critical to safe and efficient transport of goods.

**COASTAL HAZARDS, OIL SPILLS, FLOODING, EXTREME STORMS**
The National Weather Service estimates that annual damages from flooding cost an average of $8.2 billion. Regional-scale models in the Northeast provide forecasts based on high-resolution hydrodynamic models tailored to the unique geography and oceano- graphic conditions of the harbors, enabling informed decisions about protecting lives and property.

**NATIONAL SURFACE CURRENT SYSTEM - CRITICAL GAPS**
Data on the speed and direction of surface currents are critical for search and rescue and spill recovery operations. The Coast Guard estimates that real-time surface current data can reduce their search area by two thirds. Similar information aided in responses to the Deep Water Horizon and Cosco Busan oil spills. IOOS has initiated a national network of land-based radars that provide broad coverage, but critical gaps remain.