

**How we turn raw data into useful information:**

- **Observations:** Ocean and coastal data is continuously collected with thousands of tools in the water, on land, in the air, and from space. These include buoys, ships, underwater vehicles, satellites and radar systems.
- **Data Management & Communications:** IOOS will make data compatible and easily accessible to save users time and money. The NOAA IOOS Data Integration Framework is guiding this effort by adopting and adapting standards for such things as units of measure, data formats, how users search for and retrieve data, and descriptions of sensors.
- **Modeling & Analysis:** Users turn integrated data into forecasts and models that improve weather and natural hazard predictions, enhance pollutant tracking, and create a bigger picture of our oceans, coasts, and Great Lakes.



NOAA is proud to lead a national partnership of 17 federal agencies and 11 regions working together to link marine data in an easy-to-use format that will provide users with a more complete picture of our nation's waters in an accurate and timely manner.

**FOR MORE INFORMATION:**

Visit us at - [www.ioos.gov](http://www.ioos.gov)

**NOAA IOOS**

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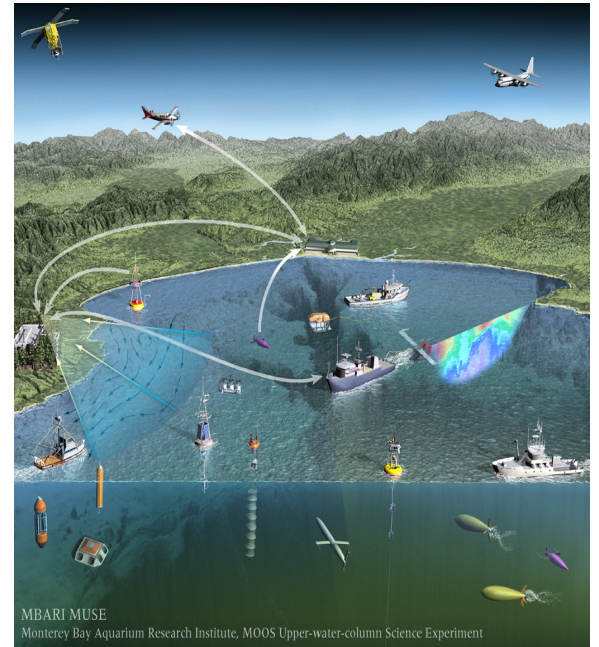
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As “our eyes on the oceans, coasts, and Great Lakes”, the Integrated Ocean Observing System (IOOS®) is a tool for tracking, predicting, managing, and adapting to changes in our marine environment.



IOOS delivers the data and information needed to increase understanding of our coastal waters, so decision makers can take action to improve safety, enhance the economy, and protect the environment.

**YOUR SUPPORT IS NEEDED TO ADVANCE THE INTEGRATED OCEAN OBSERVING SYSTEM (IOOS®) -  
A VITAL TOOL THAT WILL REAP MANY BENEFITS TO OUR NATION AND THE WORLD.**

**SAFETY**

**IOOS helps ensure the safety and security of our citizens:**

- Consolidated information will increase understanding of how oceans drive storms to enable earlier and more accurate severe weather predictions, so people can get to safety before disaster strikes.
- Integrated ocean data will enhance scientific ability to forecast environmental changes and hazardous events, so decision makers can take targeted actions, such as beach closures to avoid illness caused by toxic algae.
- Rapid access to integrated data such as surface current speed and direction, weather conditions, and wave heights will help search and rescue crews track the probable path of victims lost at sea.
- Ocean observation technologies can detect and track ships to improve the security of our ports, harbors, and nation.
- Combined data will improve coastal community abilities to monitor water quality and protect public health through earlier warnings.



**ECONOMY**

**IOOS unlocks economic and business benefits of the ocean:**

- Enables longer-term forecasts mariners can use to optimize shipping routes for increased fuel efficiency and faster deliveries.
- Provides earlier and enhanced information decision makers need to enhance zoning, coastal construction, and offshore oil and gas operations to minimize impacts of weather, sea level rise, and flooding.
- Supplies data that improves predictions farmers can use to decide what crops to plant, when to plant, and when to harvest.
- Supplements bridge clearance data to NOAA's Physical Oceanographic Real-Time System (PORTS®), so mariners know when the heaviest ships can navigate narrow channels - increasing cargo loads and translating to millions of dollars in goods being more efficiently distributed.
- Enables identification and evaluation of alternative energy sources - including wave, tidal, and wind energy.



**ENVIRONMENT**

**IOOS enables the protection of our environment for future generations:**

- Allows rapid incorporation of ocean observations into computer models to improve forecasts of harmful algal blooms and how they will travel, thus enhancing response time.
- Combines critical data to enable tracking of oil spills and pollutants, so responders can minimize harmful impacts.
- Provides data mariners can use to decrease risk of vessel groundings, thus reducing damage to marine ecosystems.
- Enables fisheries managers to improve decisions regarding harvest seasons and protected areas, allowing fishermen to maximize harvests while protecting fish populations.
- Combines data, such as the shape of the ocean floor and aerial images of the coastline, that communities can use to track ecological change and identify vulnerable environments that need protection, such as coral reefs.

