Shared Data Gives Everyone a Better View

RESEARCH

GOVERNMENT

INDUSTRY
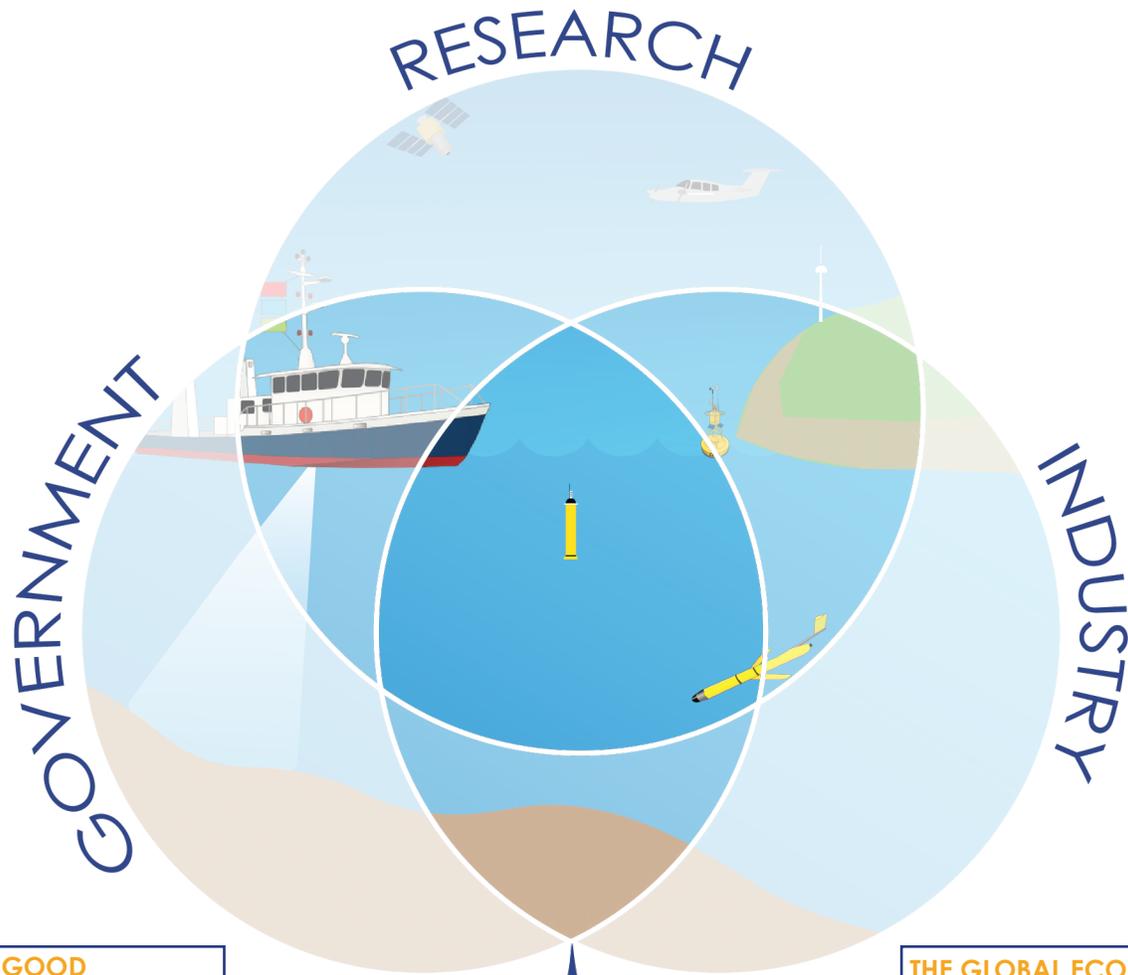
THE PUBLIC GOOD
Information is the foundation of effective decision-making. From public health warnings to forecasting and disaster response, open data makes every community safer and smarter.

THE GLOBAL ECONOMY
About 71% of the earth is covered with water, and we rely on it as a source of transportation, jobs, and food. Accurate data is essential for safe maritime operations and environmental services.
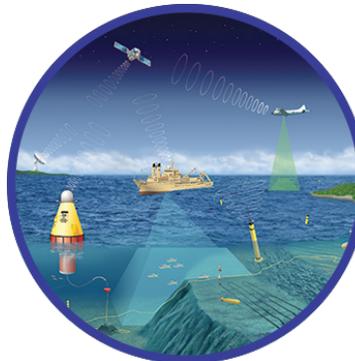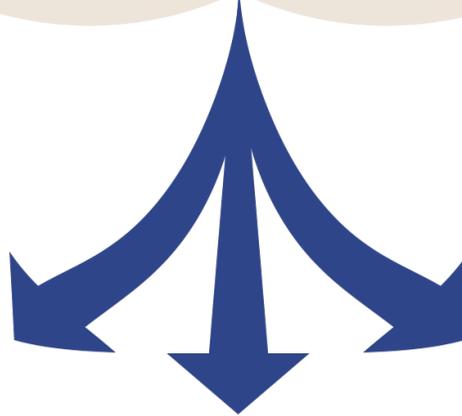
RESEARCH & INNOVATION
Sharing data means researchers can build on existing data to move projects forward faster, create products to target existing needs, and develop and integrate new technologies seamlessly.

IOOS

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Data Sharing: A Good Idea

Sharing observing data benefits everyone. Think of a series of time lapse photographs, showing one view at a time, or a policeman at a crime scene questioning all of the witnesses—it takes many parts to build a whole picture. It's the same with data. To see the big picture—to spot changes, identify trends, and make forecasts, you need as much information as possible.

For the U.S. Integrated Ocean Observing System (IOOS®) making data discoverable, available and useable is the foundation for the program. **Over 15,000 datasets are available—to anyone, anywhere—in real-time**. And IOOS isn't alone.

- The **Global Ocean Observing System** (GOOS) and the **Group on Earth Observations** (GEO) data sharing policies advocate for free and open availability of data.

- The **World Meteorological Organization** (WMO) Resolution 40 calls for near instantaneous exchange of weather information across the globe.

- The **European Union Copernicus Regulation** establishes full, open data access policy for Sentinel data and Copernicus services to promote their use, support European research, technology and innovation communities, and strengthen European Earth observation markets, aiding economic growth and job creation.

Freely sharing federally-funded observing data is mandated by U.S. policy, but is also just a good idea. **Data sharing saves lives and improves livelihoods, encourages sustainable business practices, and helps us bounce back stronger when disaster strikes.** By sharing ocean observing data, the world becomes a safer, more interconnected, and economically viable place.

Data helps people

- When Ocean Acidification began devastating shellfish growers in the Pacific Northwest, new observing technology and a tailored data portal helped a $100 million local industry recover, saving thousands of jobs.
- The United States Coast Guard uses IOOS real-time data & models in their maritime search planning software to save lives.

Data benefits the public good

- Communities can go to *How's the Beach* (howsthebeach.org) for open access to data that can warn of water-borne bacteria--critical information for monitoring the safety of swimming beaches.
- A toxic algae bloom in Lake Erie contaminated drinking water and left 400,000 people in Toledo, Ohio without safe water for 2 days. In response, NOAA increased their HAB bulletin frequency from weekly to biweekly to meet the needs of Ohio water agencies.
- In 2015 the Dungeness Crab season was delayed by 4 months when high levels of domoic acid were detected. IOOS HAB data portals and NOAA forecasts support swift, effective response.

Data builds resilience

- When a pipeline ruptured near Refugio State Beach in California, spilling 10,000 gallons of oil, data from temporary high frequency radars, gliders and models were seamlessly integrated into the existing network and routed to the Incident Command Center to support trajectory modeling and speed response.
- Recurrent flooding has increased by 500% since 1960s-- with rising seas, even high tide can pose a threat. Information from tide gauges allows coastal communities to assess flooding risk and develop ways to mitigate and adapt to the effects of sea level rise.

Data boosts the economy

- A 2016 IOOS study shows that private sector revenues in the U.S. Ocean Enterprise amount to $7B annually.
- Ocean observing and fisheries managers teamed up in 2014 to create more accurate models of the butterfish population, turning a previously indirect fishery into a multi-million dollar direct fishery.
- U.S. IOOS networks foster overseas markets for U.S. companies by increasing product and data visibility, utility, and interoperability by integrating them into national and international observing platforms.
- Free flow of commerce has enabled unparalleled economic growth worldwide. Without ocean observations and open data, the movement of goods would be severely hindered.

IOOS | Eyes on the Ocean, Coasts and Great Lakes