Global Ocean Observing System

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3b. Areas of joint collaboration opportunities based on user needs

U.S. IOOS is a cooperative, coordinated network of federal and non-federal regional observing networks.

Global Ocean Observing System

U.S. IOOS: Technical advancement sharing

Presenter: Gabrielle Canonico
U.S. IOOS/NOAA

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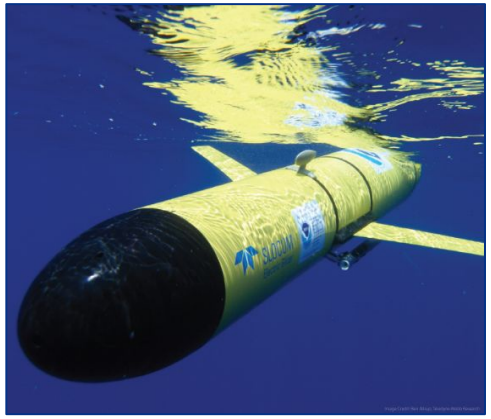
IOOS Supports Observing Assets and Communities

Fixed Moorings & Buoys

HF Radar

Shore Stations

Animal Borne Sensors



Gliders

Ships

Water Levels

MBON
Marine Biodiversity Observation Network

ATN ANIMAL TELEMETRY NETWORK

Marine Life

National systems - HFR and Gliders

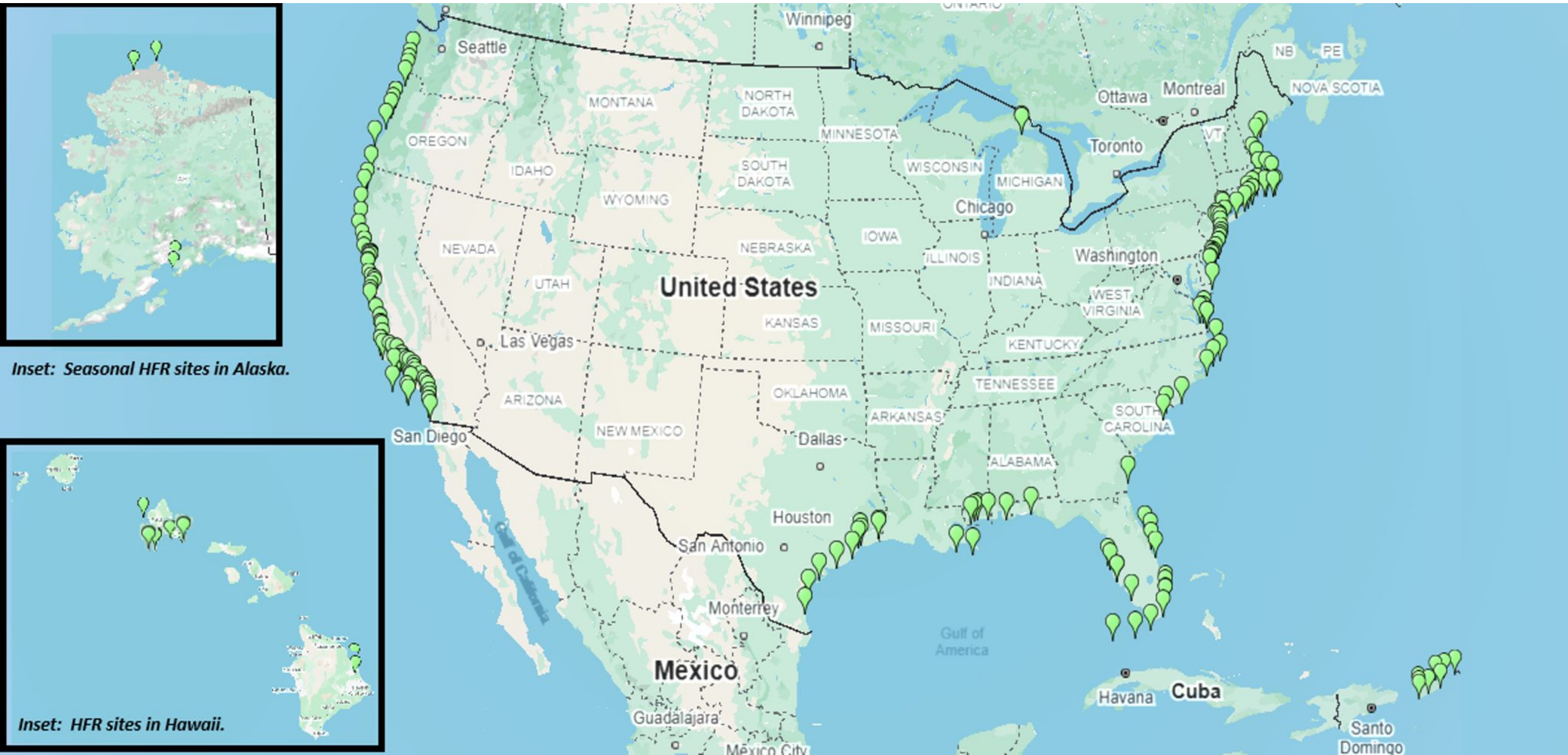
High Frequency Radar (HFR)

High frequency (HF) radar systems measure the speed and direction of ocean surface currents in near real time.

Underwater Gliders

Gliders are a unique and important observing system used to serve a variety of subsurface observing missions. Gliders can monitor water currents, temperature, tagged animals and conditions that reveal effects from storms, impacts on fisheries, and the quality of our water.

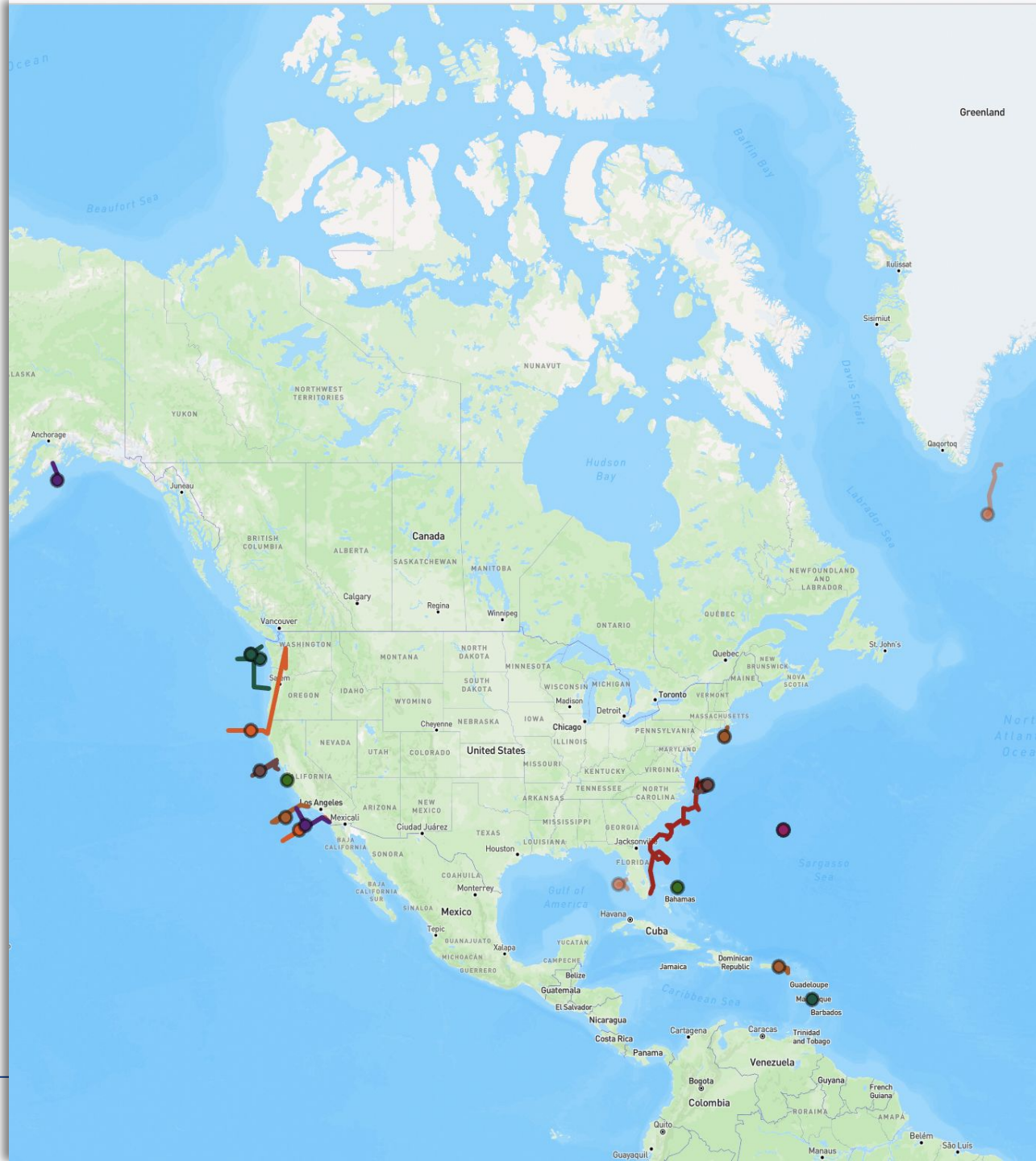
HFR: an IOOS Flagship National Observing System



IOOS Glider Missions

All IOOS regions have glider capabilities.
Mission Areas include:

- Ecosystem dynamics monitoring
- Ocean acoustics
- Fish stock mapping
- Currents
- Harmful Algal Bloom (HAB) tracking
- Hurricane forecasts, hurricane intensity
- Economic Exclusion Zone Monitoring
- Hydrographic mapping
- Ocean acidification sampling
- Hypoxia monitoring
- Chemical and oil spill response



IOOS Marine Life Program

- Vision to provide access to species observations, data and information products for management, forecasting and decision-making.
- Supporting communities of practice and integrating across technologies:
  - eDNA
  - Passive acoustics
  - Animal tracking (satellite, acoustic, Digital Acoustic Recording Tags/DTAG)
  - Imagery (IFCB)
  - Satellite/*in situ* integration
  - AI and cloud for analysis and data management
- Mobilizing standardized data through trainings and workshops (with IODE/OBIS, other GRAs)

MBON
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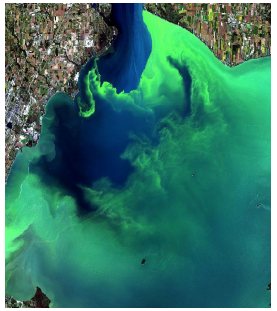
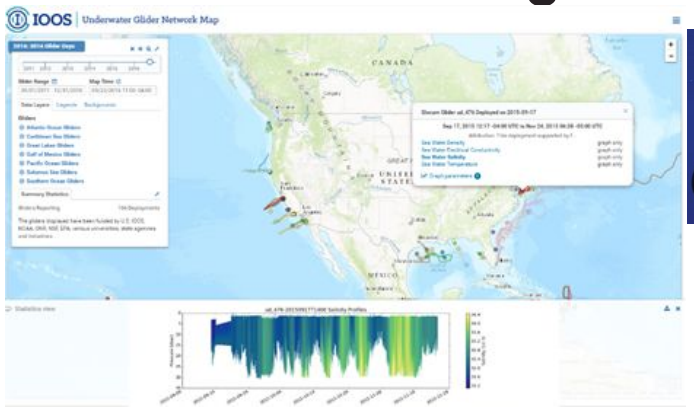
ATN ANIMAL TELEMETRY NETWORK

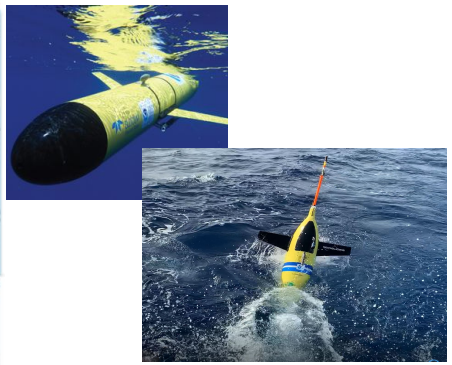


National HAB Observing Network (NHABON)

Coordinated data management

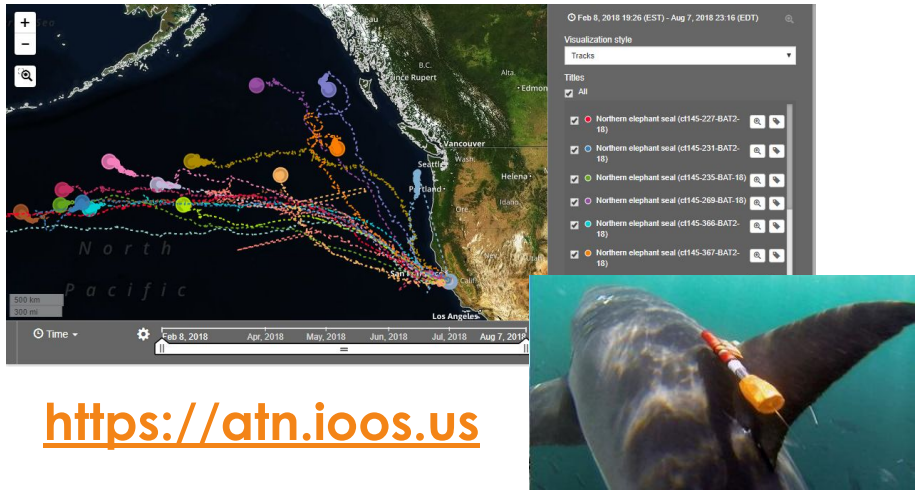
Underwater Profiling Gliders (GliderDAC)





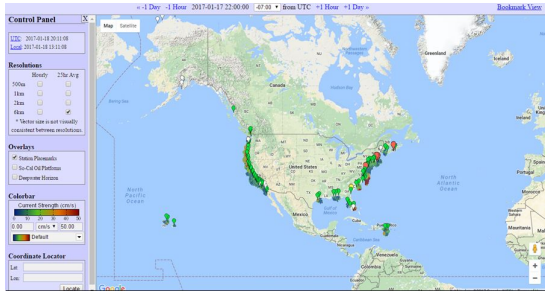
https://gliders.ioos.us

Animal Telemetry Network (ATN DAC)



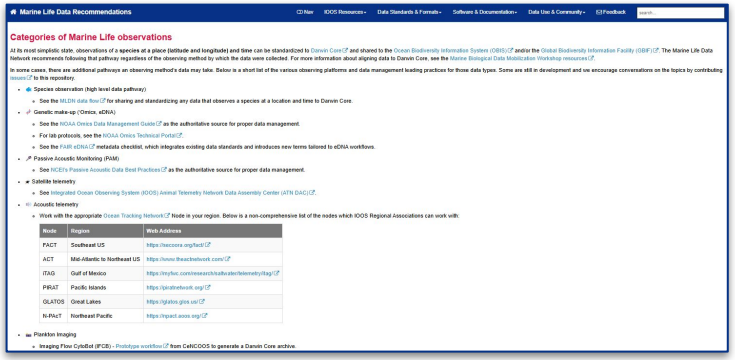
https://atn.ioos.us

High-frequency (HF) Radar (HFRNet)



https://hfradar.ioos.us

Marine Life Data Network



https://ioos.github.io/marine_life_data_network/

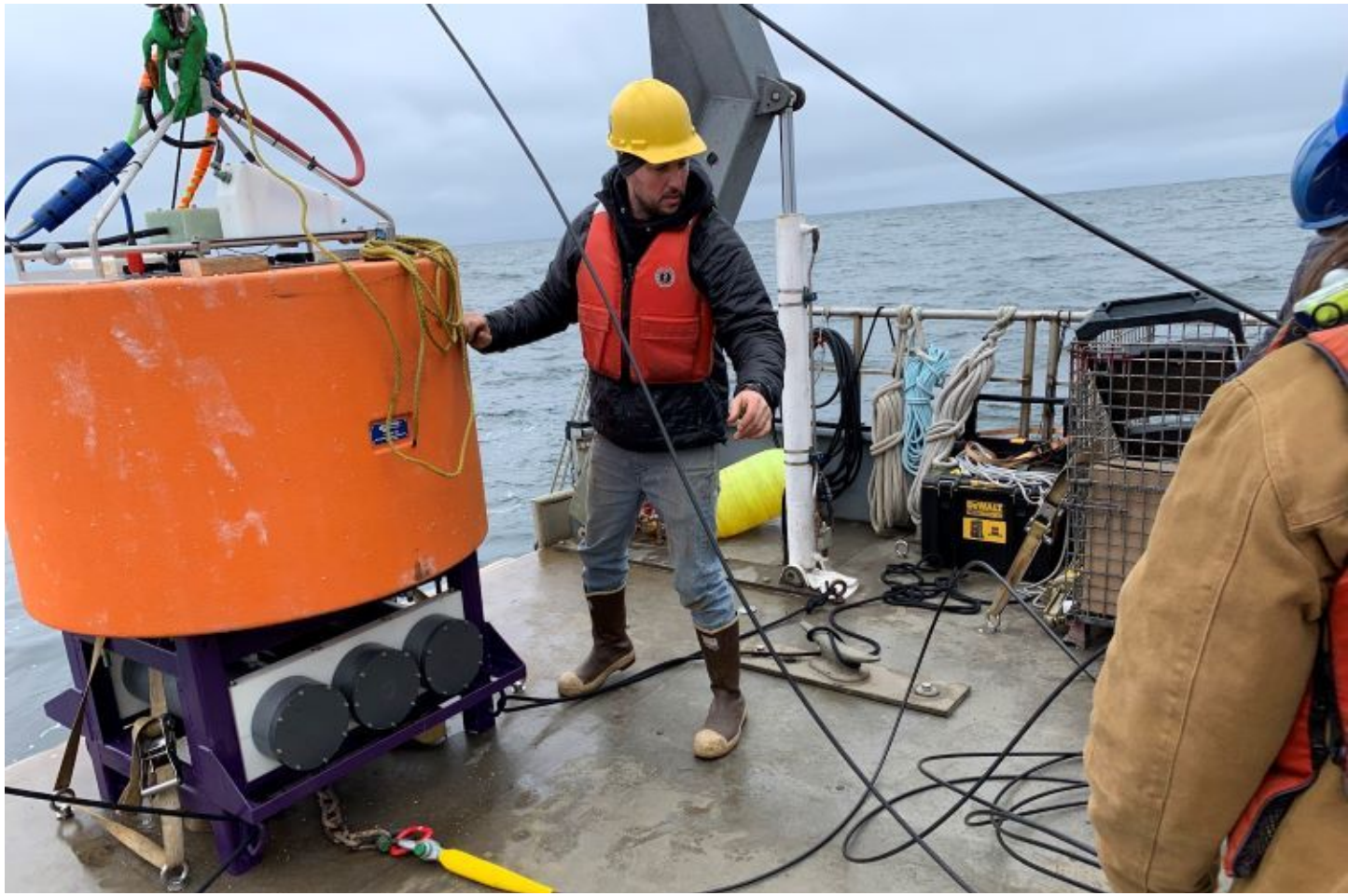
Ocean Technology Transition

US IOOS advances technology through the transition of ocean, coastal, and marine sensors and platforms to operations.

The OTT Program sponsors the transition of emerging marine observing technologies, for which there is an existing operational requirement and a demonstrated commitment to integration and use, to operations.

Technology Areas

- HABs and Hypoxia
- Low Cost / Accessible Ocean Technology
- Animal Borne Sensors
- Physical Ocean Observations
- Applications of Machine Learning and AI
- Ocean Acidification



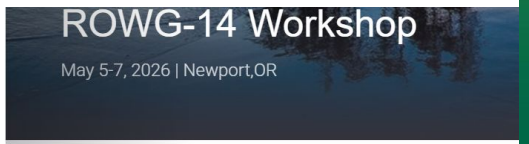
OCEAN ENTERPRISE
ACCELERATOR PROGRAM

The Ocean Enterprise Accelerators Program supports the development and commercialization of new ocean technologies, data products, and services for economic and societal benefit to the US ocean economy. (modeled after similar programs in DOE, DOD, and NIH)

OCEAN ENTERPRISE INITIATIVE

The Ocean Enterprise Accelerators Program is part of a larger industry engagement portfolio, the NOAA/Marine Technology Society (MTS) Ocean Enterprise Initiative.

Community engagement and growth is critical



About

Hosted by Oregon State University (OSU) with the Northwest Association of Networked Ocean Observing Systems (NANOOS) and sponsored by the NOAA U.S. IOOS Office's Surface Currents Program with support from CODAR Ocean Sensors, Ltd., the ROWG-14 workshop will focus on fostering collaboration between new and experienced coastal high-frequency radar (HFR) operators, developing procedures governing operations, and providing recommendations to users, developers, manufacturers, and program managers.

Marine Biodiversity Data Mobilization Workshop 2025

OBIS-USA, IOOS, Hakai, CIOOS, MBON, OTN, OBIS Secretariat, Caribbean-OBIS, OBIS-Chile

Online

November 4-6, 2025

13:00 - 17:00 EDT

Instructors: Mathew Biddle, Steve Formel, Elizabeth Lawrence, Tylar Murray, Carolina Peralta, Jonathan Pye, Tim van der Stap

Helpers: Stace Beaulieu, Nicolas Bralic, Carlos Carmona, Bruce Delo, Braulio Fernandez, Dheemanth Kumawat, Erika Montoya

Opportunities and discussion

Opportunities

- Technology advancement and sharing applies to observing effort as well as data management
  - New tech deployments, transitioning new tech to operations, promoting data standards and interoperability
- Mechanism:
  - Recognizing where Communities of Practice exist or are emerging around methods, assets, data types
  - Engage Communities or Practice that support our observing priorities to bring technology solutions and common data practices to new areas

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Thank you

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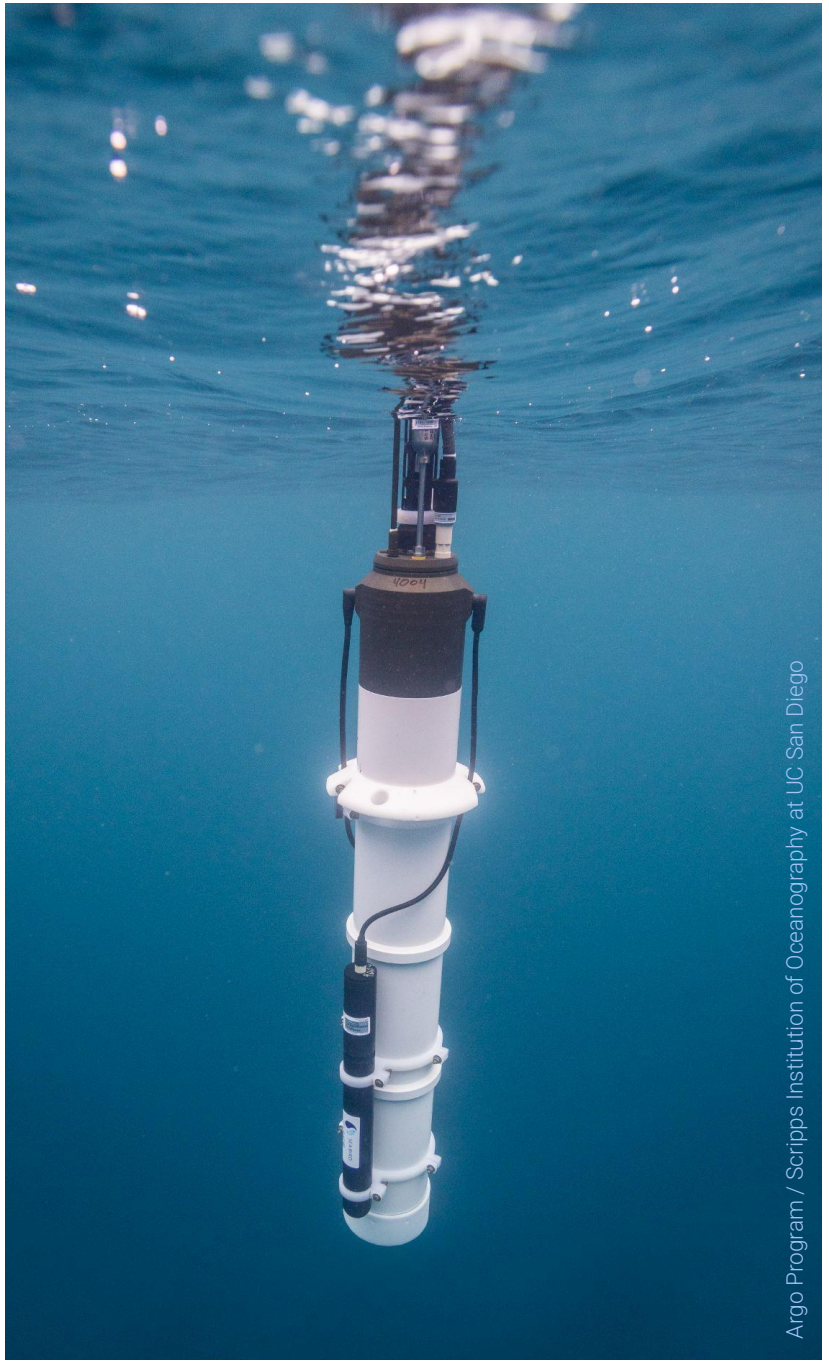

Argo Program / Scripps Institution of Oceanography at UC San Diego