

IOOS Private Sector Engagement: Program Office, Ocean Technology Transition Program and Ocean Enterprise Accelerators

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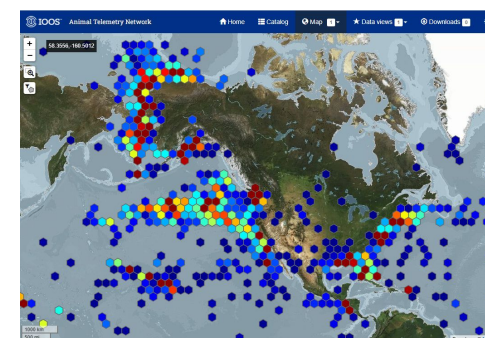
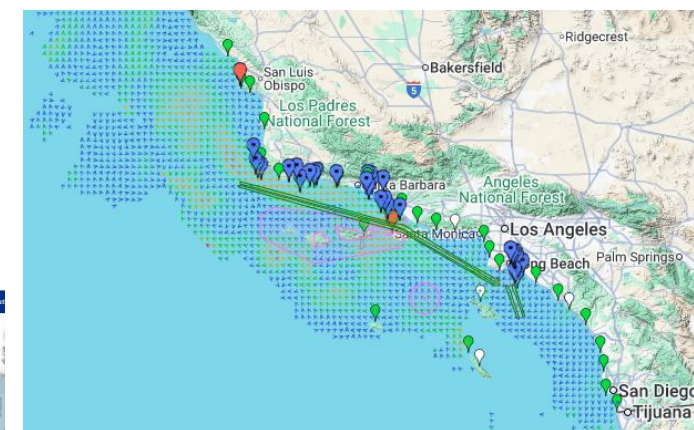
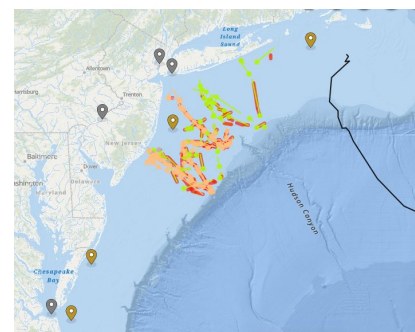
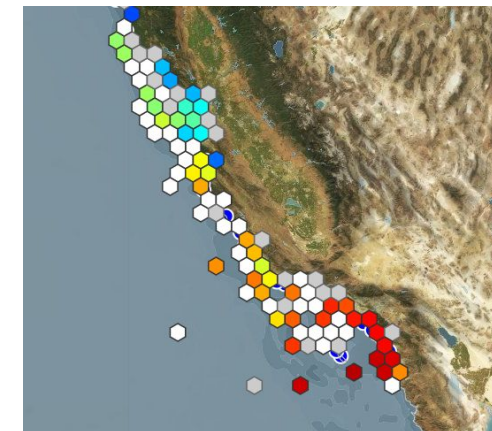


Private sector engagement with the IOOS office

IOOS consumes:

- IOOS as service consumer (Tetra Tech/Lynker etc.)
 - IOOS relies on technical expertise, especially in IT
- IOOS as a data consumer (data buys)
 - IOOS buys data via support for the RA partners and others
 - RAs are our data brokers
- RAs provide information via their web pages and services that the IOOS office then aggregates via Model Viewer, Sensor Map, HFRNet, ATNDAC etc.

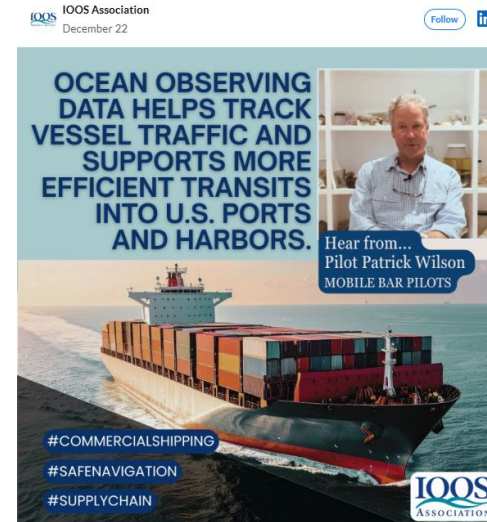
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Private sector engagement with the IOOS office

IOOS provides:

- IOOS as an information provider to industry
 - IOOS provides data and information to industries such as shipping, aquaculture, tourism ...
- IOOS as a supporter of the tech development industry
 - IOOS funds development, testing, and use of new technologies via OTT, Ocean Accelerators, Synchro, RA use of emerging technologies
- 2025 NOPP Ocean Life Forum 2.0: Improving observations of marine life through technology and innovation
- Dialogues with Industry series (HAB sensors, low cost sensors, AI), Deep Sea Mining,



OCEAN ENTERPRISE
ACCELERATOR PROGRAM

OCEAN TECHNOLOGY
TRANSITION



Supporting Technology Development at IOOS

- The **Ocean Technology Transition Program** acts as a bridge to operations for mature, proven technologies.
 - The goal is to ensure tools and technologies are integrated into widespread use
- The **Ocean Enterprise Accelerators Program** is a startup accelerator program for early-stage ocean businesses.
 - Emphasis on private sector partnerships, commercialization, and market adoption of new technologies.

**OCEAN TECHNOLOGY
TRANSITION**

**OCEAN ENTERPRISE
ACCELERATOR PROGRAM**

IOOS Ocean Enterprise/Ocean Technology Funded Projects

Ocean Technology Transition-

<u>Project</u>	<u>Funding</u>	<u>Source</u>	<u>Period of Performance</u>
Six IOOS Base funded	\$2.75M/ year	IOOS Regional	6/23 - 6/26 assuming we get FY25 funds approved Possible FY26 NOFO depending on funding
Seven one time IRA funded*	\$8M	IRA	funded through June 2027

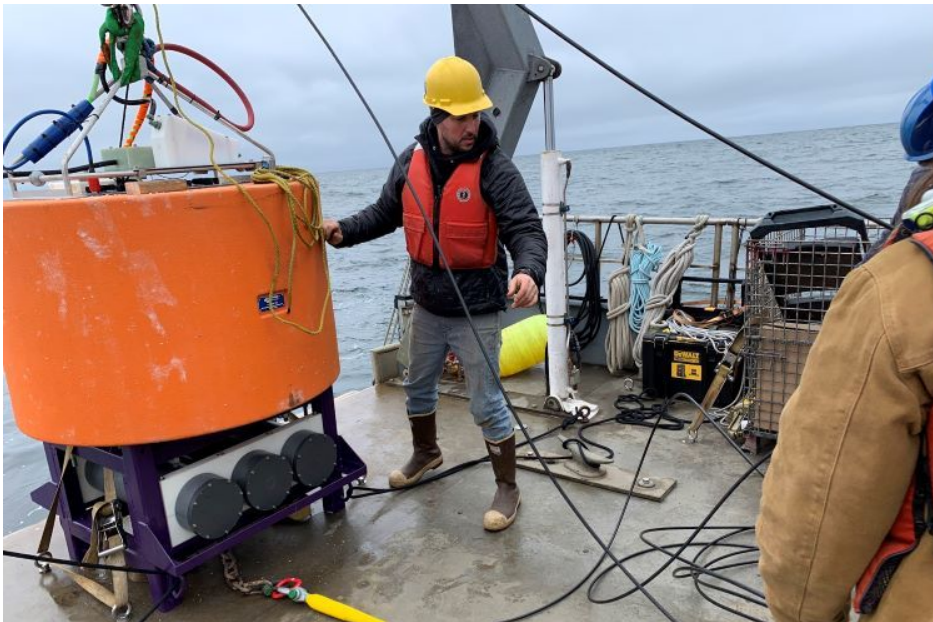
Ocean Enterprise-

<u>Project</u>	<u>Funding</u>	<u>Source</u>	<u>Period of Performance</u>
Ocean Enterprise Accelerators	\$60M	IRA	Phase 1 complete, Phase 2 through Dec 2028
MTS Ocean Enterprise Initiative	\$4.3M	IRA	through Dec 2027
Ocean Enterprise Study	\$400k	base	through Feb 2026

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Ocean Technology Transition (OTT)

- 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.
- Transitioning to operations will result in improved ocean, coastal, and Great Lakes observing capabilities to improve environmental intelligence for decision making



Focus and History

LOW COST SENSORS/ACCESSIBLE OCEAN TECHNOLOGY

Low cost sensors enable more observations over a wider area to fill data gaps and provide a lower bar to entry for new markets and developers.

APPLICATIONS OF MACHINE LEARNING AND AI

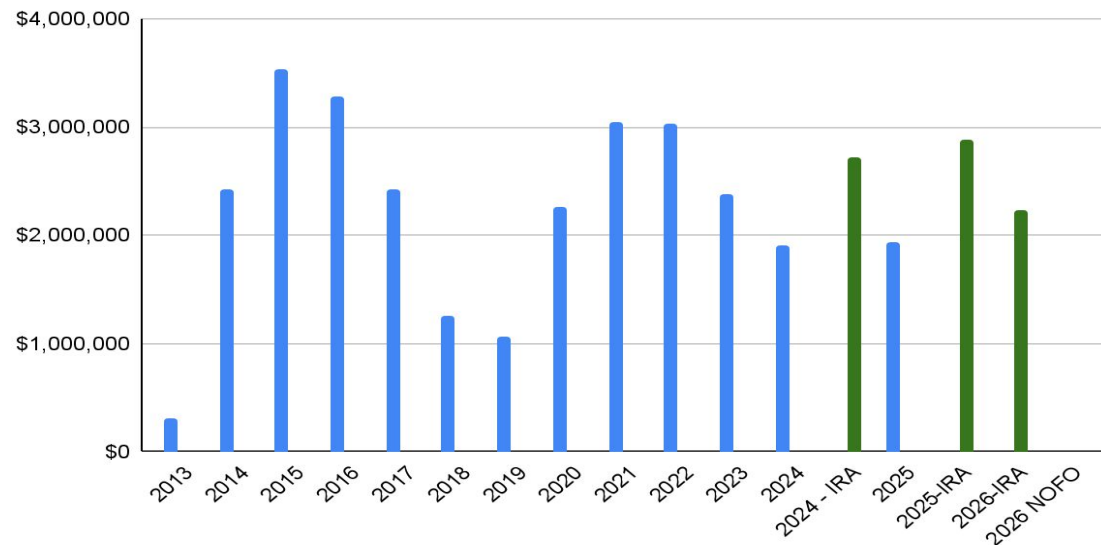
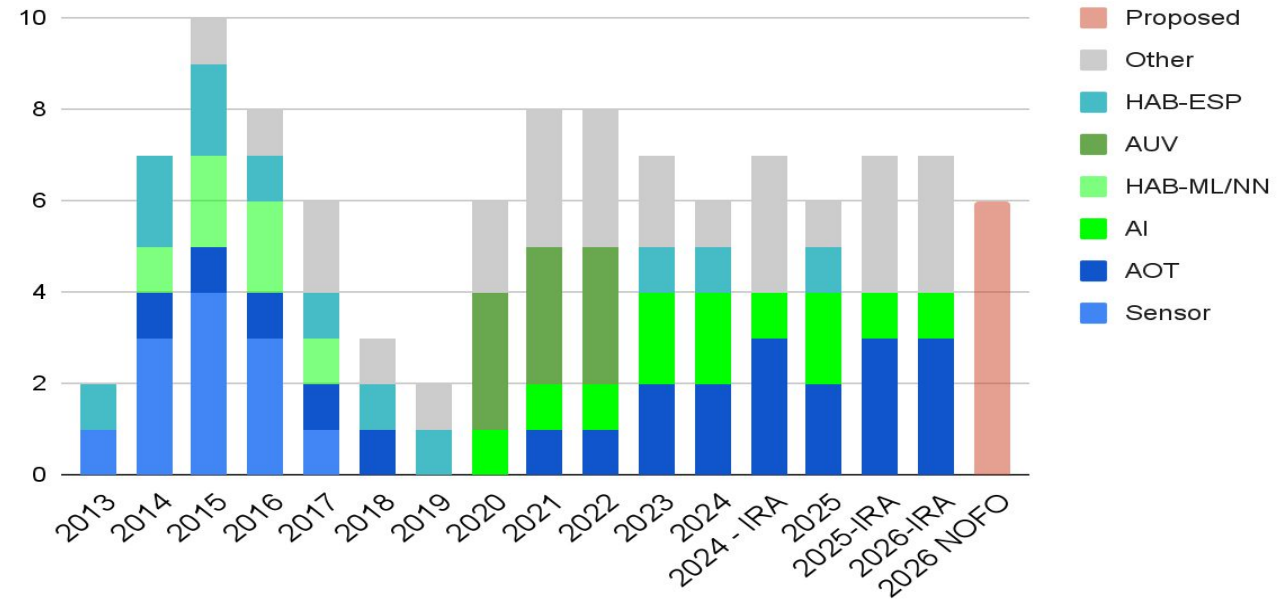
Advances in machine learning and artificial intelligence are enabling new ways to automate, interpret, and apply ocean observation data.

HABs and HYPOXIA

Improved sensors address water quality issues including Harmful Algal Blooms (HAB) and Hypoxia.

PHYSICAL OCEAN OBSERVATIONS

Observing physical oceanographic variables such as sea surface currents, temperature, salinity, external and internal tides, and surface waves support a vast array of stakeholders and missions.



Current Projects

FY23 - 26 (National Line Funded)

Validating the Aqusens imaging platform to expand networked cell detection capabilities

Fishing for Hypoxia: An Academic-Industry-Tribal Partnership to Observe the Coastal Ocean

A Proposal to Scale from a Regional to a National Webcam Coastal Observation System (WebCOOS)

Improving HF Radar Ocean Observation with AI

Intuitive Model-Driven Marine Particle Tracking and Visualization Tools for Coastal Incident Response, Maritime Domain Awareness and Research Applications

Institutionalizing Long-term Offshore ESP Monitoring in the Pacific Northwest

FY24 - 27 (IRA funded)

Building Capacity to Measure and Assess Offshore, Full-frequency Water Level Fluctuations to Support Coastal Hazard Observation and Prediction

Assessing the emerging threat of sargassum inundation on coastal carbonate chemistry in the U.S. Caribbean by streamlining and operationalizing observing technologie

An in situ system for combined pH and alkalinity measurements

Streamlining Integration and Distribution of Metocean Data from Offshore Operations for Marine Stakeholders

NOAA build-a-buoy: meeting the operational and scientific needs in Stellwagen Bank National Marine Sanctuary through innovation and collaboration

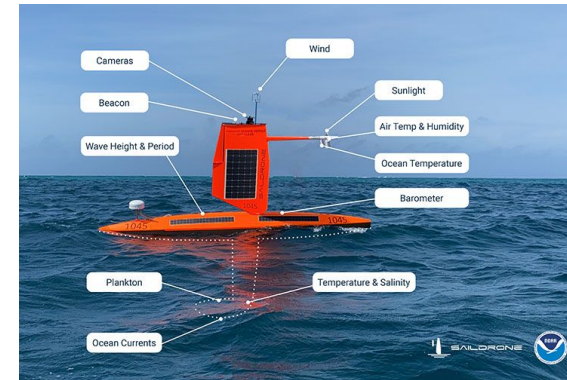
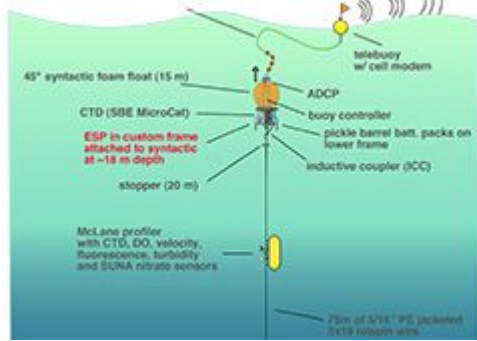
Development & Implementation of a Low-cost Modular Ocean Discovery System

Optimization of PhytO-ARM harmful algal bloom sensing for low-bandwidth, satellite-based telemetry

Transitions to Commercial Production and Use

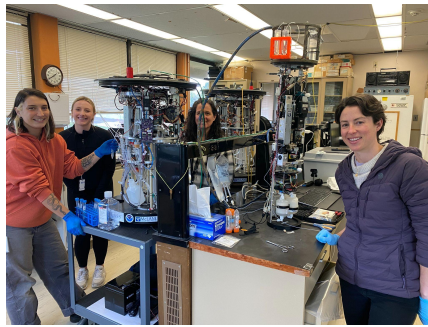
The Environmental Sample Processor [ESP]

- developed by MBARI,
- implemented by Univ. of WA via OTT
- used by NANOOS and others for sustained monitoring. sold by McLane Research Laboratories, Inc.



Autonomous Surface Vehicle CO₂ sensor

- developed at NOAA's Pacific Marine Environmental Laboratory
- technology transferred to commercial partners, Saildrone, Inc. and The Jupiter Research Foundation
- incorporated onto ASVs Saildrone and Wave Glider.
- manufactured by Saildrone for their platforms.



Sensors to automate the collection of oceanographic data with smarter fishing vessels

- fleet-based (citizen science) observations,
- significantly increasing the number of available dissolved oxygen measurements
- pH measurements
- commercializing by Sexton Corporation



Ocean Enterprise Accelerators

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



Ocean Enterprise Accelerators Mission and Goals

Purpose: NOAA is providing a combined total of \$60M in funding over the course of ~4 years to support businesses developing and commercializing new ocean products and services related to NOAA's mission in support of US economic and security goals.

Coordination: NOAA-NOS is collaborating with other NOAA offices (TPO) as well as DOD, DOE, and many private sector partners and finance organizations to identify and support US Ocean Enterprise small businesses and entrepreneurs.

Goal: U.S. businesses commercializing their products and services, directly addressing marine industry identified needs and opportunities.

A critical ethos of the program is that these companies should be positioned to ultimately achieve commercial “exit velocity” and graduate from direct grant support to commercial adoption.



Ocean Enterprise Accelerators



This network of Ocean Enterprise Accelerators provides a continuum of support for early stage ocean entrepreneurs, from ideation and customer discovery to scale up and fund-raise.

Example Partnerships: (over 40)



Ocean Enterprise Accelerators

BRIDGING THE “VALLEY OF DEATH” IN MARINE TECHNOLOGY FINANCING

EARLY-STAGE: GOVERNMENT & ACCELERATORS



NOAA & Public Agencies
(Grants, R&D Support, Policy)



Accelerators & Incubators
(Mentorship, Prototyping,
Seed Funding)

**Marine Tech
Companies**
(Prototypes, Pilot Projects)

**Developing Solutions,
Initial Validation**

THE “MISSING MIDDLE” / VALLEY OF DEATH (Funding & Support Gap)

Strategic Handoff:
De-risking, Joint Funding,
Shared Expertise, Policy Alignment



**PARTNERSHIP &
COLLABORATION
(HAND-OFF MECHANISM)**

**Enabling Smooth Transition &
Accelerated Commercialization**

COMMERCIAL-STAGE: PRIVATE SECTOR & SCALING



Venture Capital & Private Equity
(Growth Capital, Equity Investment)



Banks & Financial Institutions
(Debt Financing, Infrastructure Loans)



**Commercially
Viable Solutions**
(Scale-up, Full Deployment)



**Industry Partners
& Market Adoption**
(Deployment, Acquisition,
Supply Chain)

**Market Entry, Revenue
Generation, Sustainability**

Collaborative Ecosystem for Sustainable Ocean Economy Growth.

Ocean Enterprise Accelerators

The 4 primary accelerator programs include...

- **Scripps StartBlue**
 - Scale-up accelerator
- **The Continuum (Seaworthy Collective, Tampa Bay Wave, Braid Theory)**
 - Seaworthy Collective (early stage pre-seed)
 - Tampa Bay Wave- (dual-use)
 - Braid Theory- (scaling and funding)
- **VentureWell Ocean Enterprise Accelerator**
 - Multi-tiered impact accelerator
- **Gener8tor Great Lakes Accelerator**
 - Freshwater/Great Lakes focused accelerator



Ocean Enterprise Accelerators

While the Accelerators are regionally based, we are sourcing cohort companies from across the United States. Companies from 30 different states have been represented in just the first rounds of cohorts!



Ocean Enterprise Accelerators Technology Areas

- Supporting navigation, water quality, forecasting, aquaculture, data integration, and many others areas.
- AI and Machine Learning applications are involved in a significant portion of early cohort companies and we anticipate a continued focus in this area.
- Early cohort companies include:
 - **SunFish AI**- AUV leveraging AI and simultaneous localization mapping (\$2.6M new contract w/ state of FL)
 - **bluemvmt**- “Tower of Babel” for incompatible sensors (data integration)
 - **Mira Intel**- AI systems for monitoring structural conditions of coastal infrastructure
 - **Dirac Labs**- Quantum navigation and detection platform for GPS-denied subsurface applications



Ocean Enterprise Accelerators Success Metrics

Example Ocean Enterprise Accelerators success metrics:

- Number of ventures ready for market entry across core components of development framework
- Follow-on funding secured
- Number and types of patents filed
- Number and types of commercialized technologies that directly address ocean economy use cases

Dirac Labs Success Story:

- Partnering with Air Force operators to apply quantum navigation when GPS is jammed or hacked.
- Secured partnership with Nvidia (Nvidia Inception Program)
- Raised over \$800k in their \$1M Pre-Seed Investment Round



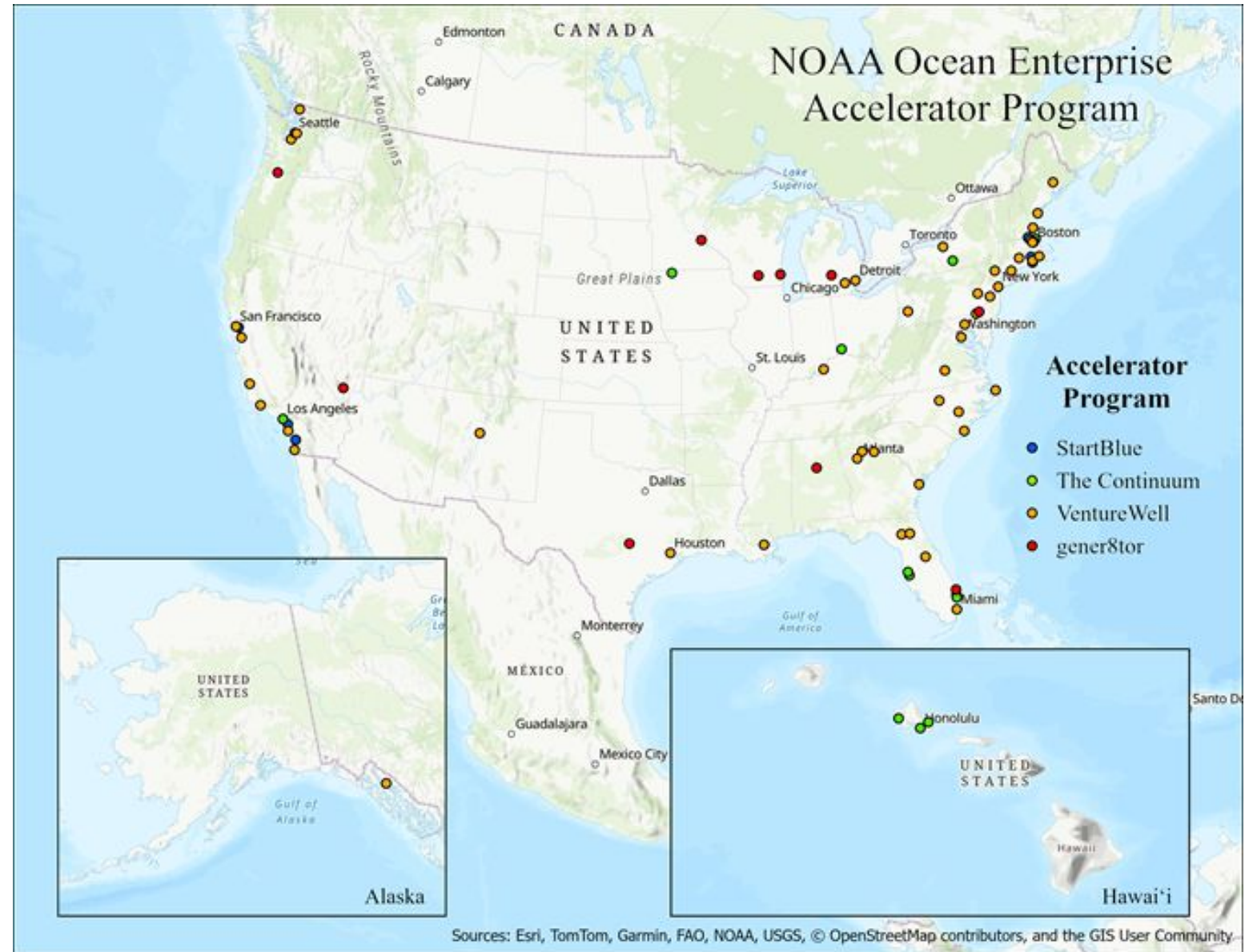
Ocean Enterprise Accelerators Events and News

- EarthX E-Capital Summit: Ocean Investment leads (April 2026)
- Oceans25 “Startup Alley” (Sept 2025)
- Featured in The Economist World Ocean Initiative (June 2024)
- Oceanology International (Mar 2026)
- S2G Ocean track presenters (Mar 2024)
- Ocean News & Technology profile (April 2025)



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Future of OE Accelerators and OTT

- IOOS Regional Associations are integral to OTT projects as principals, participants, and transition managers
- Regional Associations NOFO for the next 5 years, Disaster Supplemental NOFO, and OTT NOFO are with NOAA Policy for approval
- Ocean Enterprise Accelerators are currently funded by IRA
 - Ocean Regional Opportunity and Innovation Act (H.R. 3048 / S. 1392) is on the Hill, would expand the OE Accelerators projects if delegated to IOOS
 - Oceans25 (Sept 29 - Oct 2 in Chicago)
 - Ocean Enterprise Accelerators will be attending EarthX E-Capital Summit in April.

Discussion

