



## Dear Fellow Explorers,

I hope everyone is having a great summer and following along with all of OEI and NOAA Ocean Exploration's expeditions. This month's newsletter features a few examples of how OEI is conducting training and engaging with young people to introduce them to potential careers in the Blue Economy. This type of activity is central to OEI and recognizes the pressing need to foster the next generation of ocean explorers, scientists, technologists, communicators, policy makers, and more. The potential payoff is not only the ability to sustain our efforts into the future, but it also includes the great careers in the ocean enterprise that exist now and will grow into the future.

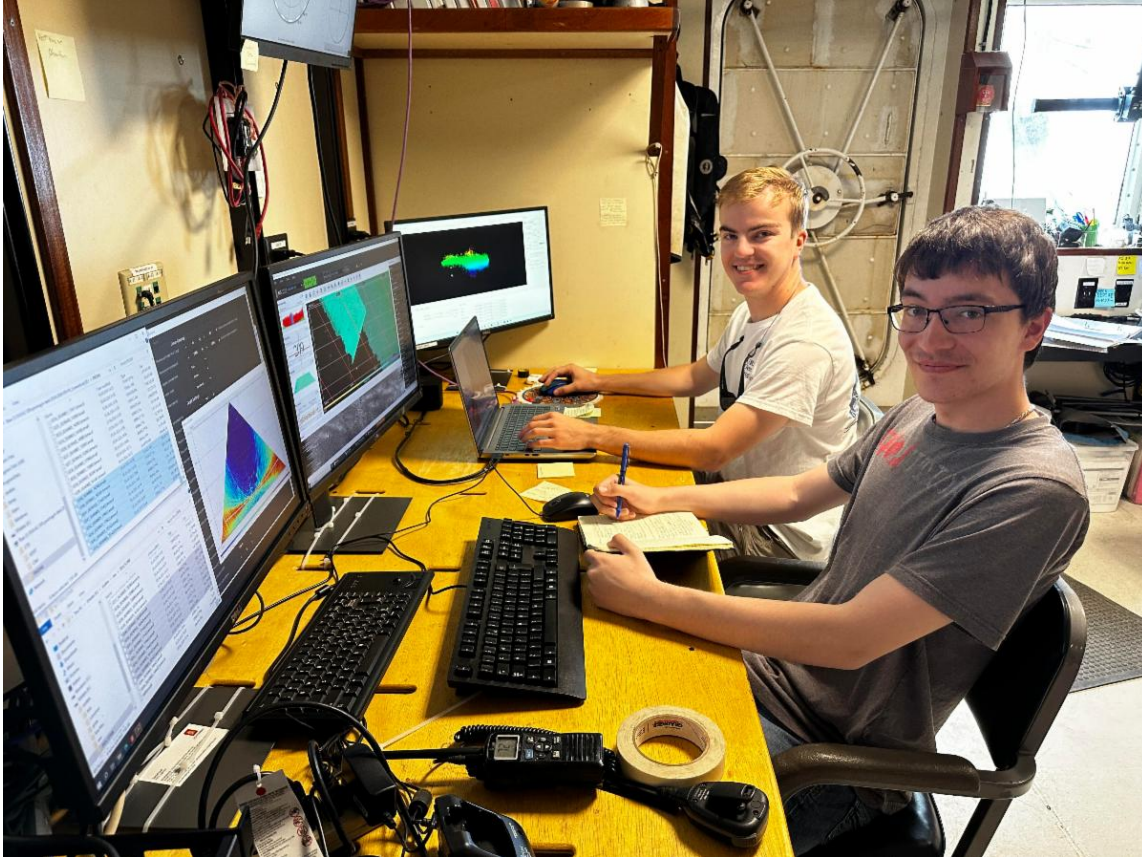
Deepest Regards,  
Adam

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## Building the Blue Economy Workforce Aboard the R/V *Connecticut*

Earlier this month, the OEI sent two students, Tim Melendez and Gavin Leeland, on a mapping expedition in the Gulf of Maine onboard the R/V *Connecticut*. The expedition focused on collecting baseline mapping and habitat data in an area recently deemed 'extremely urgent' by NOAA, federal, and state partners. The data collected during the expedition will be used to inform the Bureau of Ocean Energy Management's (BOEM's) upcoming offshore wind lease sale decisions.



Tim Melendez recently completed the OECI Bridge to Ocean Exploration (B2OE) year-long training program, and Gavin Leeland is currently an undergraduate at the University of Rhode Island majoring in Ocean Engineering. Student positions on seagoing expeditions are a great mechanism to expose students to Blue Economy career opportunities. Leeland explained that this experience enabled him to learn “a lot about hydrography and sonar mapping. It was very interesting to see the whole process of how the seafloor is mapped and the days of work required to develop these bathymetries.” Programs such as OECI’s B2OE provide students opportunities that will fuel the Blue Economy workforce for years to come.

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### Islands Under Sea: Shipwreck Microbiomes of Keathley Canyon

In August 2023, Dr. Leila Hamdan (University of Southern Mississippi) and team collected data onboard the NOAA Ship *Nancy Foster* for the NOAA Ocean Exploration-funded Keathley Canyon project. This project aims to investigate microbiome communities surrounding shipwrecks in the Gulf of Mexico. The Keathley Canyon project builds on the discovery of historic shipwrecks, known as the Monterrey Shipwrecks, in the Gulf of Mexico as well as other work by Dr. Hamdan’s team. The goal of the August 2023 expedition was to investigate three known shipwreck locations and five additional suspected shipwreck sites to improve the understanding of how microbiomes respond to shipwrecks.

During the expedition the team performed nine successful ROV *Global Explorer* dives with support from Oceaneering, launched three Navy gliders, collected push core sediment samples at each Monterrey Shipwreck, and persevered through difficult weather. While no new shipwrecks were identified, a large, ship-shaped depression was probed and fully investigated by the ROV and determined not to be a shipwreck. The four remaining suspected shipwreck locations consisted of marine debris, including longline and other fishing gear.

However, the lack of ‘new’ shipwrecks did not deter the group. The focus of the expedition shifted to

sampling at the known Monterey Shipwreck sites. This resulted in new ROV video, still and sonar imagery, and 470 discrete sediment samples surrounding the Monterey Shipwrecks. The proximity of these sites provides a unique opportunity to investigate the sediment microbiome of anthropogenically influenced seafloor.

The push cores (pictured right) will be analyzed for DNA, bacteria, fungi, and archaea as well as metagenomic sequencing. The team received their first genetic results two weeks ago. While preliminary, the data provide new insight into the microbial community at the Monterey Shipwrecks.



Sediment depth is the key structuring feature of the bacterial community as is distance to the nearest shipwreck. This suggests that the site of origin of the sample could be determined by looking at the composition of the bacterial community. Growing this dataset will allow us to determine if microbiomes can be used as discrete indicators of the type and location of shipwrecks or other human-made features on the seafloor.

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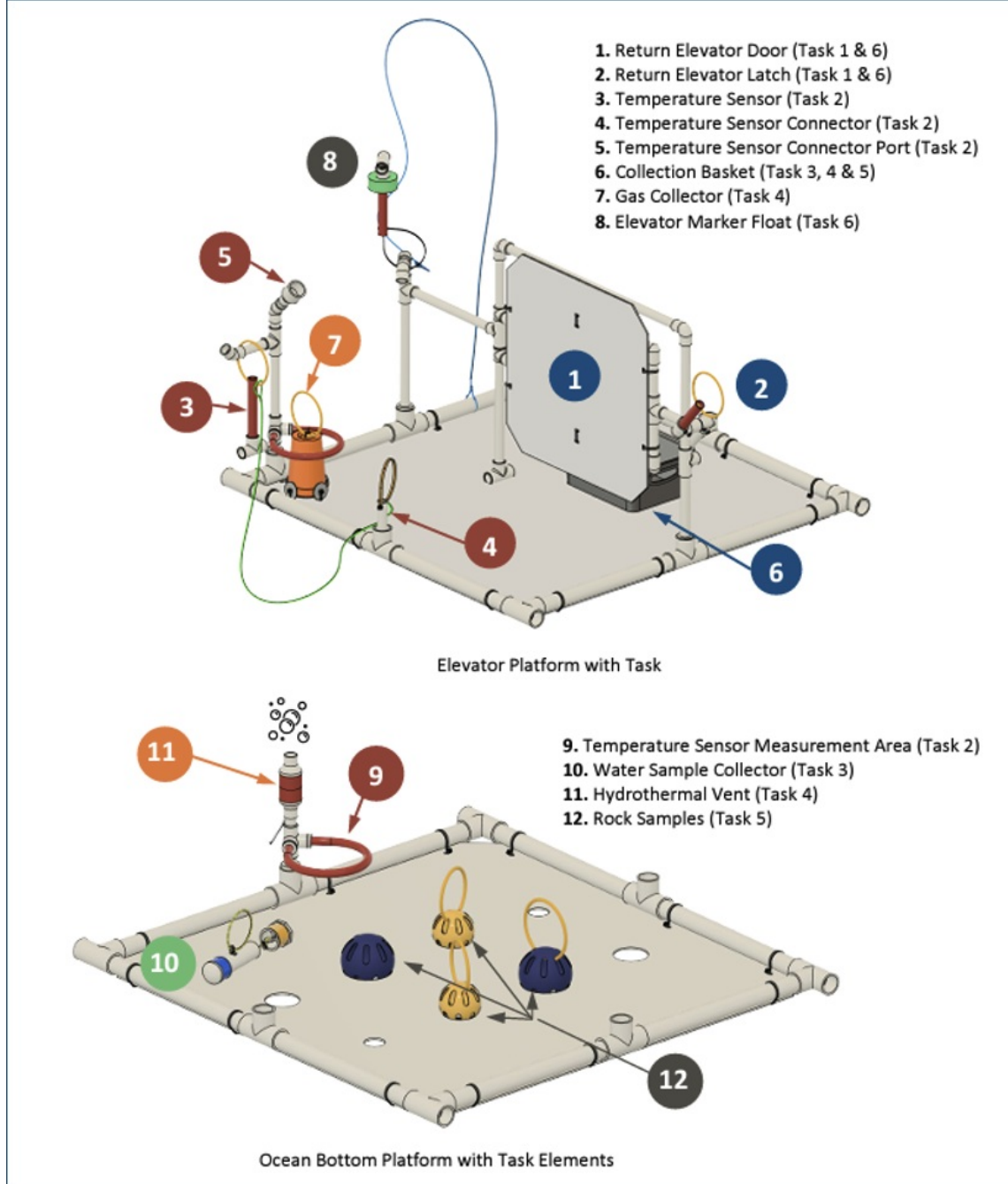
## 'Deep-Sea' Exploration with Seaperch

Members from NOAA Ocean Exploration and the OECI attended Robonation's International Seaperch Challenge competition held at the University of Maryland in late May. The Seaperch competition brings together groups of middle-school and high-school students that team up locally to build a small ROV from a kit. NOAA Ocean Exploration and the OECI were both title sponsors of the event and provided grounding for the competitors in the real-world application of ROVs.



Over two days, 174 teams from across the globe competed and gained insight into deep-sea exploration through the Challenge Course modeled after real-world OECI exploration. Teams deployed their ROVs in an olympic-sized pool and collected gas samples from a 'seafloor' vent (11), deposited rock samples (12) into a sample elevator, and collected temperature data (3-5 & 9) among other tasks (see diagram below). During pool-side judging, the NOAA Ocean Exploration and OECI team witnessed extreme ingenuity, perseverance, and spirit from all of the participating students. After the competition, teams had the opportunity to engage with ROV pilots onboard the E/V *Nautilus* in a tele-presence Q&A session.

Seaperch is an excellent venue to amplify Blue Economy career opportunities to excited and creative members of the future workforce.



## OECI and NOAA Ocean Exploration Lead Special Issue of *Frontiers in Marine Sciences*

OECI is pleased to announce a special issue of the journal *Frontiers in Marine Sciences* focused on state of the art technology and research in the field of ocean exploration. The [‘Advances in Ocean Exploration’ special issue](#) was edited by Adam Soule (URI), Leila Hamdan (USM), Daniel Wagner (OET), and Aurora Elmore (NOAA Ocean Exploration) and features 11 articles written by the ocean exploration research community, both within OECI and from other organizations. Research papers from OECI include; [Annette Govindarajan \(WHOI\)](#) and [Julie Huber \(WHOI\)](#). Additionally, a perspective article on [Broadening Inclusivity at Sea](#) was published by authors including Lu Wang, Aurora Elmore, Mashkoor Malik, Kelley Suhre, and Liang Wu (NOAA Ocean Exploration); Allison Fundis (OET); Casey Machado (WHOI); and Coralie Rodriguez and Adam Soule (URI).

# FY26 Rear Admiral Richard T. Brennan Ocean Mapping Fund



In honor of RDML Richard T. Brennan

The FY26 Brennan Matching Fund opportunity is now open and invites non-Federal entities to partner with the ocean and coastal mapping programs of NOAA's National Ocean Service on jointly-funded projects of mutual interest, and establishes selection criteria and submission requirements for such projects under the NOAA Rear Admiral Richard T. Brennan Ocean Mapping Fund program.

**August 1, 2024:** Informational Webinar at 1 p.m. ET. To participate, please register at

<https://attendee.gotowebinar.com/register/8298435806847389269>

FRN: <https://www.federalregister.gov/documents/2024/06/18/2024-13387/notice-of-matching-fund-opportunity-for-ocean-and-coastal-mapping-and-request-for-partnership>

**September 13, 2024:** Virtual office hours between 8:00 a.m. and 5:00 p.m. by emailing [iwgocm.staff@noaa.gov](mailto:iwgocm.staff@noaa.gov).

**October 11, 2024 by 5 p.m. Eastern Time (ET):** All application materials due to [iwgocm.staff@noaa.gov](mailto:iwgocm.staff@noaa.gov).

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## Hydrographic Services Review Panel

The solicitation period for new Hydrographic Services Review Panel members is now open!

<https://www.federalregister.gov/documents/2024/06/03/2024-12106/hydrographic-services-review-panel>

2025 is a "bye" year, so the closing date for this solicitation is February 21, 2025 with new members, if selected, starting their four year term on January 1, 2026.

Please see the linked Federal Register Notice above for more information and please share broadly! We are looking for an array of experts in the disciplines related to hydrographic data and services, marine transportation, port administration, vessel pilotage, coastal and fishery management, and others from all regions of the country.

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## NOAA Job Opportunity!

NOAA OAR is seeking a Physical Scientist in Boulder, CO, Silver Spring, MD, Stennis Space Center, MS, or Asheville, NC. The position is open to the public. See full job description at the link below. The application deadline is July 8, 2024.

[Physical Scientist](#)

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## Schmidt Ocean Institute Expression of Interest

Schmidt Ocean Institute (SOI) is soliciting Expressions of Interest (EOI) for collaborative, multidisciplinary research at any time and for any location and year identified as an area of

operation for R/V *Falkor (too)*. EOIs and full proposals are accepted on a rolling basis and are reviewed twice per year. Investigators may request R/V *Falkor (too)*'s full berthing allotment for science in an EOI or may be partnered with additional projects at the full proposal stage to maximize the use of the vessel.

Find submission details [here](#)! The deadline for submission is **September 30, 2024**.

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