OCEAN EXPLORATION COOPERATIVE INSTITUTE | EXPLORING THE NATION'S BLUE FRONTIER OCEAN EXPLORATION TRUST | UNIVERSITY OF NEW HAMPSHIRE | UNIVERSITY OF RHODE ISLAND UNIVERSITY OF SOUTHERN MISSISSIPPI | WOODS HOLE OCEANOGRAPHIC INSTITUTION



It is a great time of year to take some time to reflect on what's happened in the past year and think about what we are grateful for. For the OECI, I am grateful to be able to work with the tremendous set of institutions and individuals that make up the OECI to help NOAA in its mission to explore the oceans. Likewise, I am thankful to NOAA Ocean Exploration for being wonderful partners and both collaborating and supporting the array of exploration, technology, education, engagement, and data related projects in the OECI portfolio. This year, I am very grateful to be able to announce that NOAA has approved the renewal of the OECI for another five years! The opportunity to continue the OECI's momentum on our core mission areas and to explore new avenues for exploration science, technology, and education is the best gift we could receive in this season of giving. In return, I have no doubt that the OECI will continue to deliver exceptional results for the good of NOAA, the ocean science community, and the nation.

Happy Holidays. Adam

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AGU-OECI connections

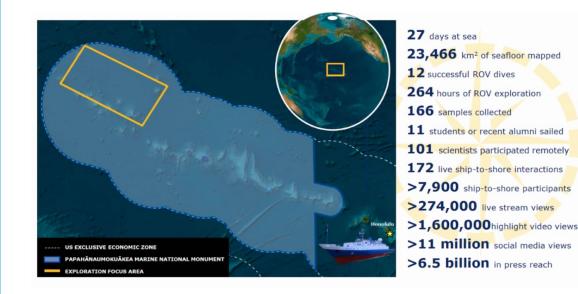
An anticipated 25,000+ attendees will convene in San Francisco, CA, from December 11-15, 2023, to participate in AGU23. We encourage you to engage with the many OECI-funded and/or related presentations, posters, and exhibits that will be taking place during the event (some of which are linked here).



E/V Nautilus Expedition Summary: Ala 'Aumoana Kai Uli (NA154)

From September 1-28, 2023, E/V *Nautilus* conducted a telepresence-enabled expedition to explore the deep-sea natural and cultural resources of the Papahānaumokuākea Marine National Monument (PMNM). Funded by NOAA Ocean Exploration via the Ocean Exploration Cooperative Institute, the expedition used E/V *Nautilus'* remotely operated vehicles (ROVs) and acoustic sonars to survey the northwestern most and least explored portion of the Monument. During 27 days at sea, the expedition mapped 23,466 square kilometers of seafloor and conducted 12 successful ROV dives for a total dive time of over 264 hours surveying depths between 589-5,437 meters, which included the deepest dives ever conducted off E/V *Nautilus*.

Nine ROV dives were conducted to explore the deep-sea biodiversity and geological history of the region, which documented numerous high biodiversity areas and an extensive forest of pink corals. The other three ROV dives focused on conducting non-invasive, ROV-based archaeological surveys of three historically significant aircraft carriers lost during the Battle of Midway, including the first visual survey of Akagi 22, the first detailed views of USS Yorktown since it was first located 25 years ago, and a complete visual survey of Kaga 22.



Please visit the Nautilus Live website for more information about this expedition (NA154) and more recent ocean exploration activities!

Expedition Overview: 2023 OECI Multi-Vehicle Exploration



Over the last three years, the OECI has led technology focused expeditions in support of NOAA's goal of advancing the tools and techniques available to the exploration community. Our most recent expedition featured three autonomous vehicles; an Autonomous Surface Vessel called DriX (UNH), Mesobot (WHOI), and the Deep Autonomous Lander (URI). Using these three vehicles we collected eDNA samples on and off the Geologist Seamounts (in the Pacific Ocean, south of

Hawaii). Two highlights from this expedition: we routinely had all three autonomous systems deployed simultaneously while the ship mapped up to 38km away, and the other takeaway was that we developed a new sampling protocol called "verified directed sampling" that yielded exceptional imagery and supported over 200 eDNA samples. It was a phenomenal cruise!

2024 Sea Perch - OECI Update

The 2024 SeaPerch season is now underway, with a theme of Deep-Sea Exploration (https://seaperch.org/programs/2024-season/). The NOAA OECI is once again a sponsor of this year's competition, and will be planning outreach activities to engage with the SeaPerch community building up to the International

Competition in May 2024 and at the event itself in College Park, Maryland. For information about how you can get involved with this program, at a regional or National level, please contact Tara Hicks Johnson at tjohnson@ccom.unh.edu.

Robonation also hosts other competitions geared towards undergraduate students called RoboBoat and RoboSub. The OECI is exploring additional ways to engage with these groups. More information will be forthcoming- please stay tuned!



Bridge to Ocean Exploration, 2023-24 Cohort

The University of Rhode Island is pleased to continue its collaboration with the Community College of Rhode Island (CCRI) for the third year of the OECI's Bridge to Ocean Exploration Experiential Learning Program. The 2023-24 cohort is comprised of **ten** CCRI students participating in teams as well individually on a variety of part-time, paid opportunities in ocean science, machine learning, exploration technologies, and science communication as described below.

Mentor(s)	B2OE Student(s)
Carlos Prada	Rachel Cheney
Chris Roman	Zander Drivere Jeffrey Ferris Don Royce Creppin
Alex DeCiccio, Patrick Flanagan	Gabriella Torres Keagan James Maxwell Charles Coelho
Jonathan Fiely, Jason Fahy	Nathan Lannon
Andrew Davies	Harold Matthew Alexieff, Timothy Israel Melendez
	Carlos Prada Chris Roman Alex DeCiccio, Patrick Flanagan Jonathan Fiely, Jason Fahy

Announcements, Events, and Opportunities

NOAA Science Seminar Series Restoration of Deep Gulf of Mexico Coral Communities NOAA Gulf of Mexico Forum Webinar Series

For December, the Gulf of Mexico Forum webinar series will focus on mesophotic and deep benthic (mid-depths and deep-sea) communities in the Gulf of Mexico. In particular, this month's speaker, Sasha Francis, will focus on the ongoing efforts to restore these hard-to-reach habitats that were injured by the 2010 Deepwater Horizon oil spill. This presentation will feature imagery and stories about fascinating deep-sea coral propagation techniques, exploration and sample collections a mile below the surface, connecting scientists at sea with the community, and more.

The webinar will take place on **Thursday, December 7, 2023, 10 – 11:00am ET**. https://attendee.gotowebinar.com/register/5311921428427346517

After registering, you will receive a confirmation email containing information about joining the webinar. For your awareness, this webinar will be recorded and shared.

Ocean Exploration Trust At Sea Opportunities for 2024



Ocean Exploration Trust is seeking educators to

join a variety of cruises across 2024 in the Central Pacific as Science Communication Fellows. The Science Communication Fellowship immerses formal and informal educators in the Nautilus Corps of Exploration as communicators for exploration and empowers them to bring the excitement of ocean exploration - specifically in the fields of science, technology, engineering, arts, and mathematics (STEAM) - to students and public audiences around the world. Fellows share accounts of ocean research, expedition operations, STEAM careers, and daily life with audiences of all ages through live audio commentary on the Nautilus Live website and through outreach to classrooms and communities via ship-to-shore live interactions.

For more details, requirements, and an application link visit: https://nautiluslive.org/join/science-communication-fellowship

Apply by January 2, 2024, to be part of the season ahead!

DeSSC New Users Program

The UNOLS Deep Submergence Science Committee (DeSSC) is a committee of scientists who provide recommendations and advice to the



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operator and supporting funding agencies of the National Deep Submergence Facility (NDSF). The NDSF manages and operates the U.S. submersible Alvin, the remotely operated vehicle Jason/Medea, and the autonomous underwater vehicle Sentry. These deep submergence vehicles are renowned for facilitating and advancing deep-sea research. From **February 17-18**, **2024**, a workshop for new deep-submergence science facility users, including students, early career scientists and engineers or scientists with little or no previous experience in deep-sea research, will be hosted at Loyola University in New Orleans (before the 2024 Ocean Sciences meeting).

Students, early career scientists, and engineers can apply for financial support to offset the cost of travel and lodging for the program. Participants must attend the entire Saturday program, dinner, and Sunday DeSSC meeting. To apply for the DeSSC New Users Program, please complete the online application form at: https://forms.gle/GGQwnkr2WkL9zykS7. Please direct questions to Alice Doyle (alice@unols.org). The deadline for application is Friday, December 8, 2023.

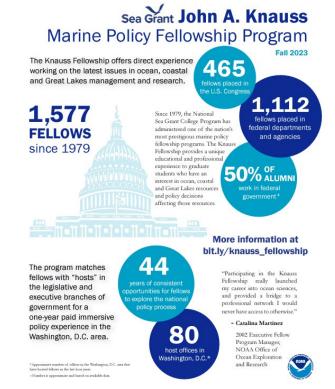
2024 UNOLS-MATE Marine Technical Internship Program

The U.S. Academic Research Fleet of UNOLS-designated research ships will host one long-term (approximately 6 months) and 12-14 short-term (2-12 weeks each) marine technical internships in 2024. Departure dates will depend on the schedule of each research cruise. Candidates for internships will first be selected starting in Winter, Spring, and then in Summer and Fall. Apply early if you are available the entire year in 2024; applications will stay on file.

For more details, elibility requirements, and an online link, please visit: https://www.marinetech.org/internships/ Read about past intern experiences: https://www.marinetech.org/internship-blog/

The Knauss Fellowship Application Period is Open

Interested in becoming a 2025 Knauss Marine Policy Fellow? This **one-year, paid** fellowship opportunity for qualified **graduate students** offers direct experience working on the latest issues in ocean, coastal, and Great Lakes management and research. **Applications are due February 15, 2024.** To learn more, please visit: https://seagrant.noaa.gov/knaussfellowship-program/



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