

# JARVIS MAPPING (NA158)

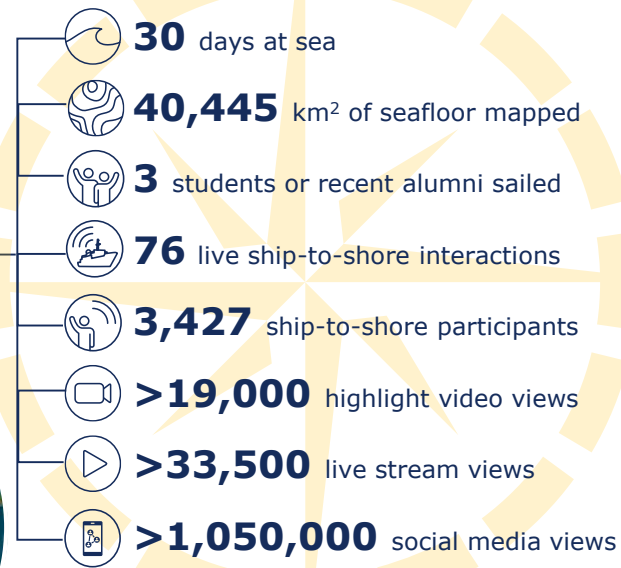
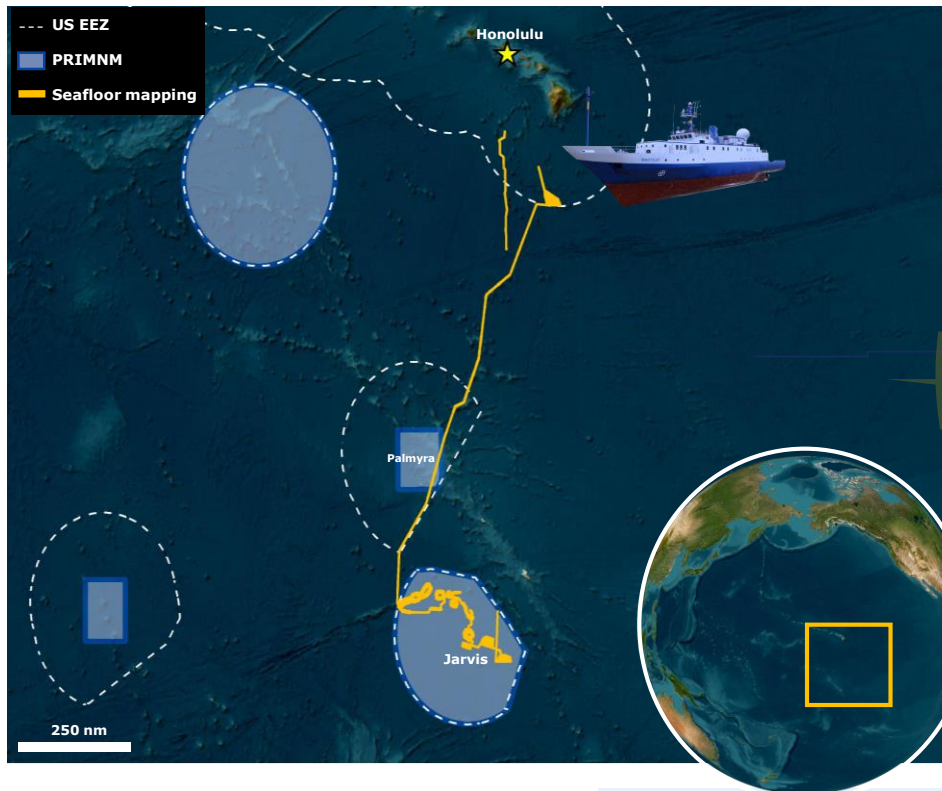
November 19 – December 19, 2023

**Geographic Focus:** Jarvis Unit of the Pacific Remote Island Marine National Monument (PRIMNM)

**Main Operations:** Seafloor mapping using ship-based sonars

**Sponsor:** NOAA Ocean Exploration via the [Ocean Exploration Cooperative Institute](https://www.oeci.org/)

**Expedition webpage:** <http://www.nautiluslive.org/cruise/NA158>

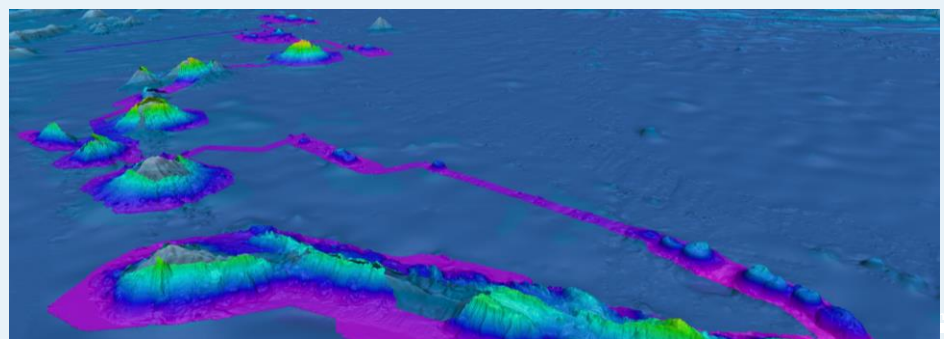


## OVERVIEW

From November 19 - December 19, 2023, E/V *Nautilus* conducted a telepresence-enabled expedition to map deep seafloor around Jarvis Island. The expedition used [E/V Nautilus' sonars](#) to map seafloor during transits between Hawai'i and Jarvis, in addition to dedicated mapping surveys in the Jarvis Unit of the Pacific Remote Islands Marine National Monument (PRIMNM). Throughout the planning and execution of the mission, the team worked closely with the science and resource management community to ensure that expedition activities addressed priority needs, including the [Monument Management Plan](#) that is currently being developed and the [proposed designation of the area as a National Marine Sanctuary](#).

## MAPPING SUMMARY

Mapping focused on filling data gaps located northwest and east of Jarvis, as well as during transits to the expedition port in Honolulu. Over 40,445 km<sup>2</sup> of seafloor were mapped over the course of the expedition, including 32,408 km<sup>2</sup> in the US Exclusive Economic Zone around Hawai'i, Palmyra and Jarvis, as well as 19,549 km<sup>2</sup> inside PRIMNM. Dedicated mapping in the Jarvis Unit of the Monument revealed numerous cratered seamounts, ridges and mounds. Data collected on the mission will be archived publicly to provide a rich foundation for future deep-sea explorations in the region.



## AT SEA EDUCATION

The expedition included the participation of three [Seafloor Mapping Interns](#). Throughout their time at sea, these students obtained practical instruction on how to acquire, process and archive data collected by the E/V Nautilus systems. In addition to experiencing the life of at-sea exploration, interns were able to network with STEM professionals from different backgrounds and learn about the varied pathways leading to careers in ocean exploration.

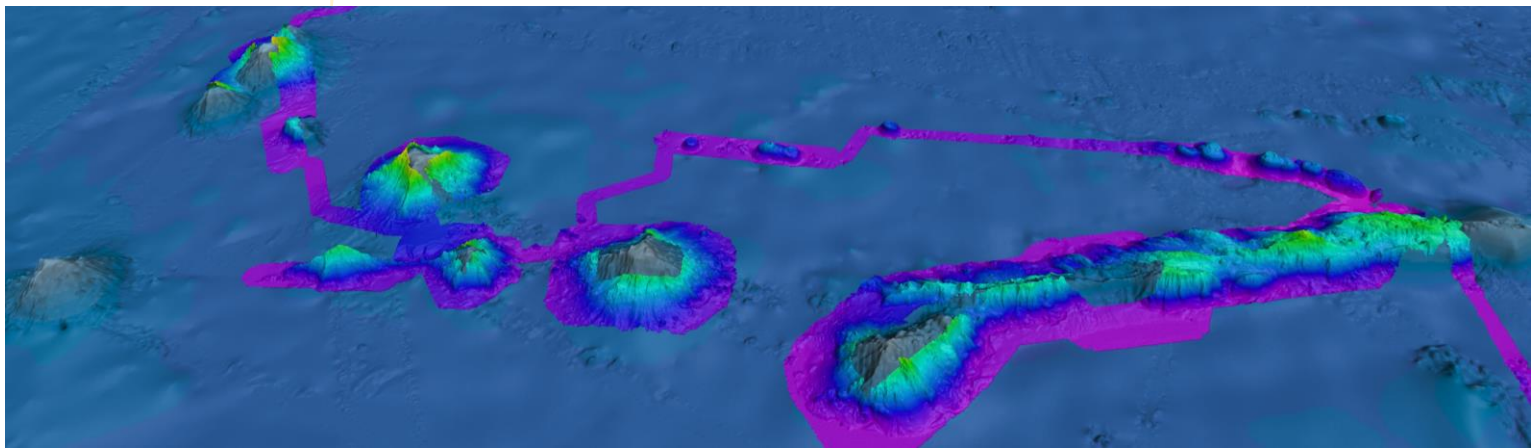


## EDUCATION & OUTREACH

Expedition highlight videos received over 19,030 views over the course of the expedition, with live streams garnering another 33,563 views. Expedition content on OET's [TikTok](#) gained over 727,000 views, plus posts on [Instagram](#), [Twitter](#), [Facebook](#), and [LinkedIn](#) attracted over 325,000 impressions. While at sea, the team hosted 76 [live ship-to-shore interactions](#) with schools, community events, and professional meetings, reaching over 3,400 people across 22 US States, Guam, Fiji, Canada, Brazil and Poland.

## BROADER IMPACTS

The expedition was planned and executed to close mapping data gaps. Seafloor mapping operations were conducted in unsurveyed areas, thus contributing directly to [Seabed 2030](#), the [US National Strategy for Ocean Mapping, Exploration and Characterization](#), and the [UN Decade of Ocean Science for Sustainable Development](#). Data collected on this mission will also support decision making relating to the [Monument Management Plan](#) that is currently being developed and the [proposed designation of the area as a National Marine Sanctuary](#). The expedition also provided opportunities for students to participate in expedition activities and gain valuable at-sea experience.



## DATA ACCESS

All mapping and environmental data collected on this expedition have been sent to repositories for archiving and public distribution. Ship navigation, meteorological and seafloor mapping data have been sent to the [Marine Geoscience Data System](#), and seafloor mapping data have been sent to the [Rolling Deck to Repository](#), both of which provide gateways through which data are also cataloged in [NOAA's National Centers for Environmental Information](#). Background information, highlight images, and educational materials are also available via the expedition website. These data sets are also available from [OET upon request](#).

## ACKNOWLEDGMENTS

Special thanks to the captain and crew of E/V *Nautilus*, the Nautilus Corps of Exploration, the Ocean Exploration Trust, and all that supported the expedition from shore. The expedition was funded by NOAA Ocean Exploration via the Ocean Exploration Cooperative Institute. Activities inside the Monument were conducted under permit 12543-23002 authorized by the US Fish and Wildlife Service.