

Guam - Solomon Islands Mapping (NA172)

June 21 - 28, 2025

Geographic Focus: Transit route between Guam and Solomon Islands

Main Operations: Seafloor mapping using ship-based sonars and topside marine fauna surveys

Sponsor: NOAA Ocean Exploration via the [Ocean Exploration Cooperative Institute](#)

Expedition Webpage: www.NautilusLive.org/cruise/NA172



7 days at sea



13,691 km² of seafloor mapped



90 hours of marine fauna surveys



6 Argo floats deployed



4 educators sailed on expedition



62 live ship-to-shore interactions



3,050 ship-to-shore participants



52,210 live stream views



1,278,928 social media views

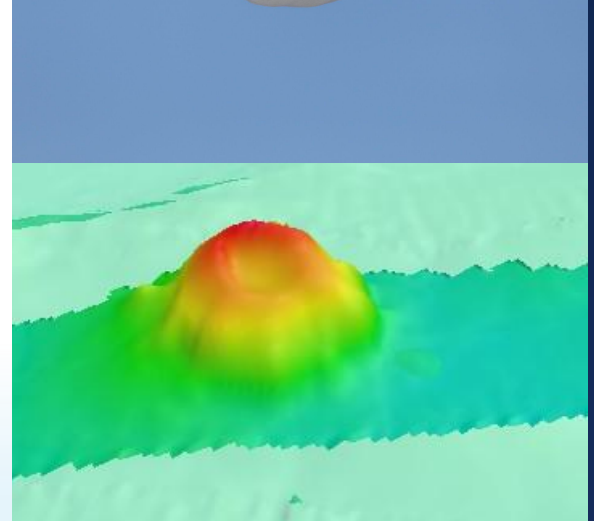


OVERVIEW

From June 21-28, 2025, E/V *Nautilus* conducted a telepresence-enabled expedition to map seafloor in the Western Pacific Ocean. While the original goal was to explore the Mariana Trench and adjacent mud volcanoes through the use of remotely operated vehicles, hadal profilers and landers, the expedition start date had to be delayed significantly due to unforeseen ship repairs. As a result, the expedition shifted its primary focus to transit mapping operations between Guam and the Solomon Islands. In addition to transit mapping, the expedition included the deployment of Argo floats, as well as topside surveys for seabirds and other marine fauna from the observation deck on E/V *Nautilus*. Alongside operational personnel, the expedition included the at-sea participation of four professional educators, who supported various outreach efforts with communities around the world.

MAPPING SUMMARY

A total of 13,691 square kilometers of seafloor were mapped over the course of the expedition. This included dedicated surveys covering 1,660 square kilometers in the US Exclusive Economic Zone around Guam, prior to beginning the transit to Solomon Islands, during which an additional 12,031 square kilometers were mapped around the Federated States of Micronesia and the Solomon Islands. All of these data will be publicly archived, and contribute directly to [Seabed 2030](#), the [US National Strategy for Ocean Mapping, Exploration, and Characterization](#), and the [Beyond the Blue: Illuminating the Pacific campaign](#).



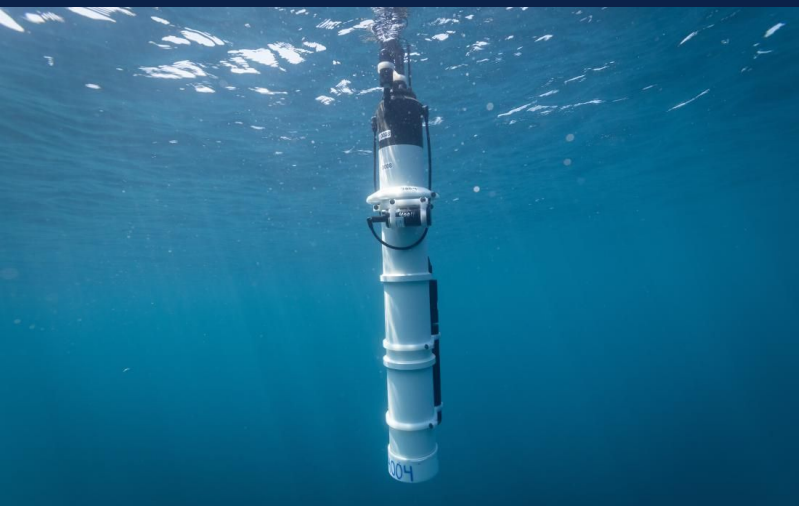
TOPSIDE MARINE FAUNA SURVEYS

Topside surveys for marine fauna were conducted during daylight hours for a cumulative time of 90 hours, during which trained observers documented 631 individuals from 11 species of seabirds, including Bulwer's Petrels, Wedge-tailed Shearwaters with two colour morphs, frigatebirds, boobies, tropicbirds, noddies, and terns. Furthermore, these surveys also documented several species of cetaceans, including sperm and short-finned pilot whales, and schools of tuna.



ARGO FLOAT DEPLOYMENTS

The expedition included the deployment of six biogeochemical floats from the Global Ocean Biogeochemistry. Five floats were deployed in waters of the Federated States of Micronesia and one in waters of the Solomon Islands. This adds important Western Pacific coverage to the over 3,800 Argo floats that are currently operational globally in support of large-scale oceanographic monitoring efforts.



ACKNOWLEDGEMENTS

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, and executed under permits Research and Monitoring Activity Special Use Permit #12540-25001 authorized by the US Fish and Wildlife Service, Research Permit FM25-VC2025RS-26142 authorized by the National Oceanic Resource Management Authority of the Federated States of Micronesia, and Research Permit MEHRD/RU/25/24 authorized by the Ministry of Education and Human Resources development of the Solomon Islands.

EDUCATION & OUTREACH

Live feeds from the expedition received 52,210 views, with expedition content posted OET's [TikTok](#), [Instagram](#), [X](#), [Facebook](#), and [LinkedIn](#) social media accounts garnering over 1.27 million impressions over the course of the expedition. While at sea, the team created nine [new blogs with highlight images and background information](#), and hosted 62 [live ship-to-shore interactions](#) with schools, community events, and professional meetings, reaching over 3,050 people across 18 US States, Guam, Commonwealth of the Northern Mariana Islands, and seven other countries. The expedition included the participation of four professional educators, including three supported via the [OET Science Communication Fellowship Program](#). Expedition content was featured in eight media stories published by seven different press outlets.



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 the [NOAA National Centers for Environmental Information](#). Marine fauna observations will be summarized in a [publicly-available report to the Secretariat of the Pacific Regional Environment Programme](#). Argo float data can be accessed via the [Global Ocean Biochemistry Array data page](#), or the [Argo data portal](#). Background information, highlight images, and educational materials are also available via the [expedition website](#). These data sets are also available from [OET upon request](#).

