

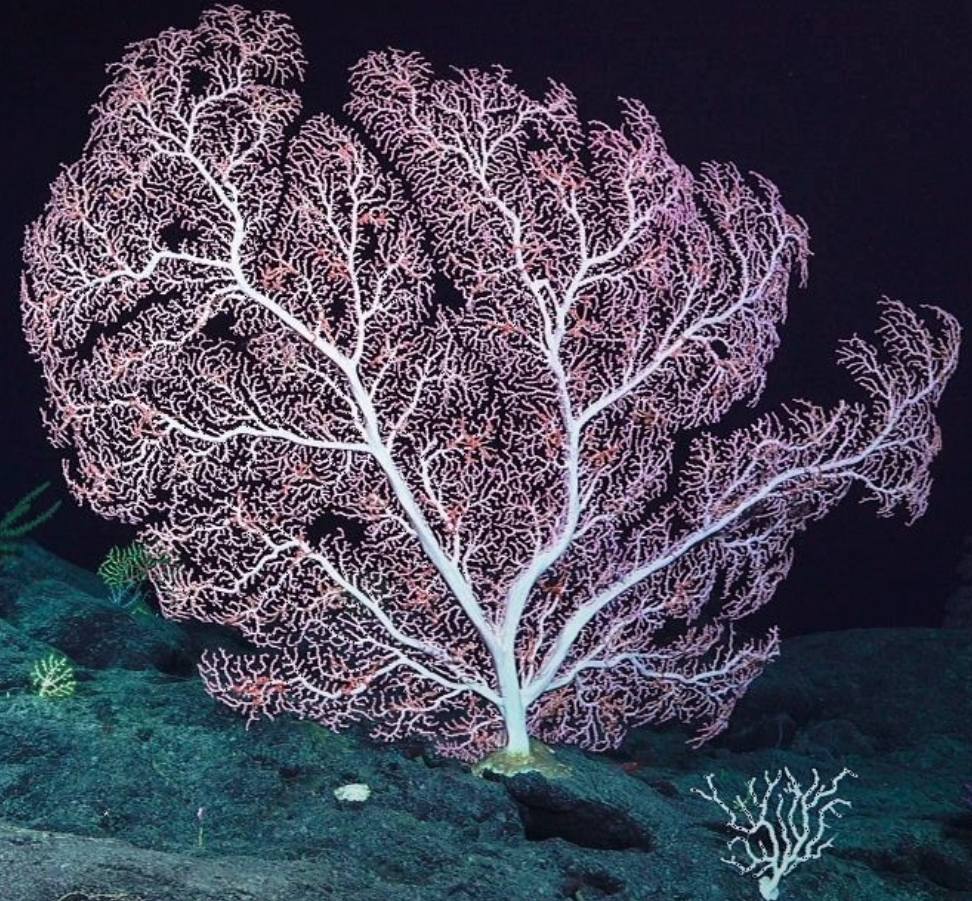
# Andy Collins

Education Coordinator

Papahānaumokuākea Marine  
National Monument

NWHI Reserve Advisory Council,  
1/9/20

Andy.collins@noaa.gov



View Videos at <https://schmidtocean.org/cruise/necker-ridge-bridge-or-barrier>



# Schmidt Ocean Institute

<https://schmidtocean.org/cruise/necker-ridge-bridge-or-barrier/>

- Schmidt Ocean Institute (SOI) is a non-profit started by Wendy and Eric Schmidt
- Collaborates with scientists worldwide
- Research Vessel (R/V) Falkor
- Remotely Operated Vehicle (ROV) SuBastian
- Mission for advancing oceanographic research and scientific outreach

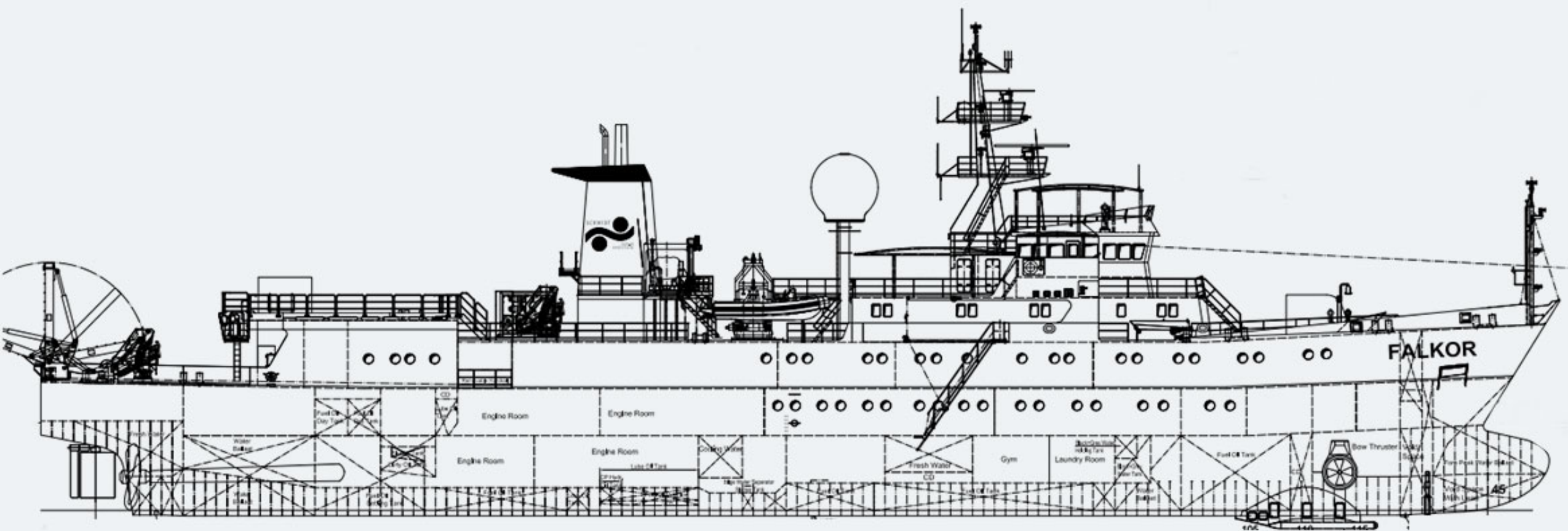






FALKOR





**Length: 257 Feet**

**Range: 8,000 Nautical Miles**

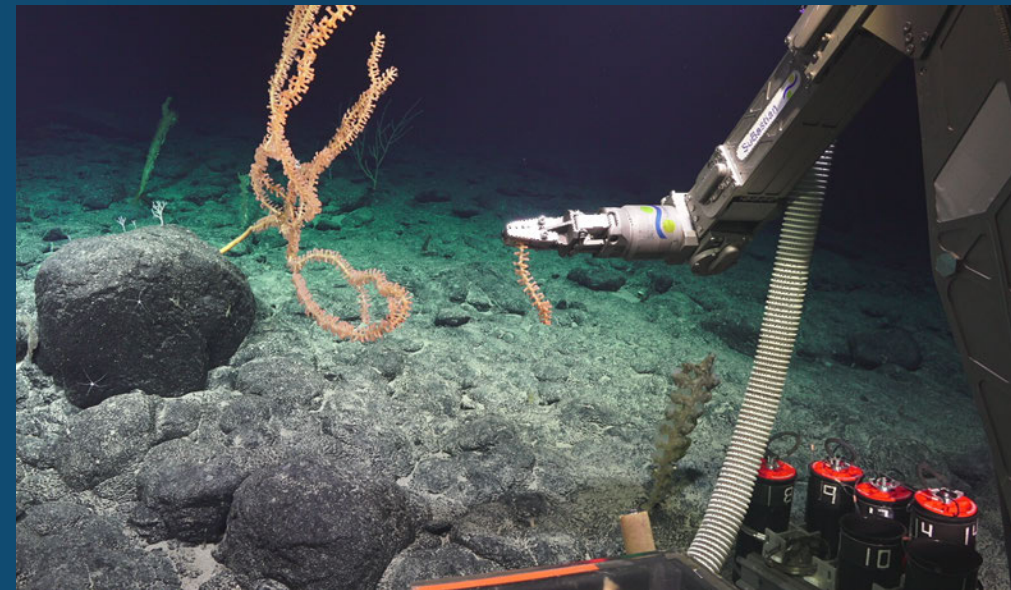
**Max Speed: 17 Knots**

**Staff: 23 Crew, 17 Scientists**



# Mission Overview

- Three Week Expedition to Mid-Pacific Mountains, Necker Ridge and Papahānaumokuākea MNM
- Objectives:
  - High resolution mapping of seafloor
  - Determine if Necker Ridge is a bridge or barrier to species movement
  - Species and habitat identification
  - Ocean pH measurements
- Methods: Mapping, Video Surveys, Selective Biological Sampling, CTD Measurements, Water Chemistry, DNA analysis, Boron isotope analysis, and Substrate Classification
- Tools: Multi-Beam Mapping, CTD Array, ROV SuBastian, Sampling Equipment, Laboratory Processing, HD Cameras.







North Pacific Ocean

Midway Atoll

R/V Falkor

650 Miles

HAWAII

Kea'au

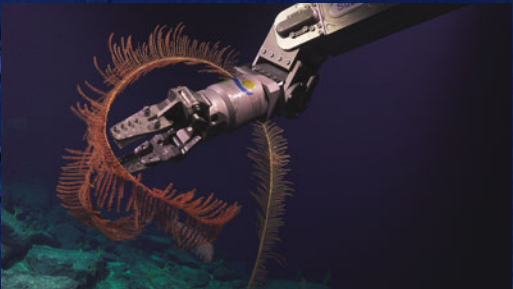
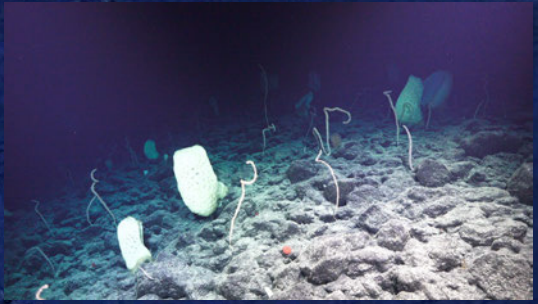
Wake Island

Necker Ridge

Dive Sites

Johnston Atoll

Marshall Islands

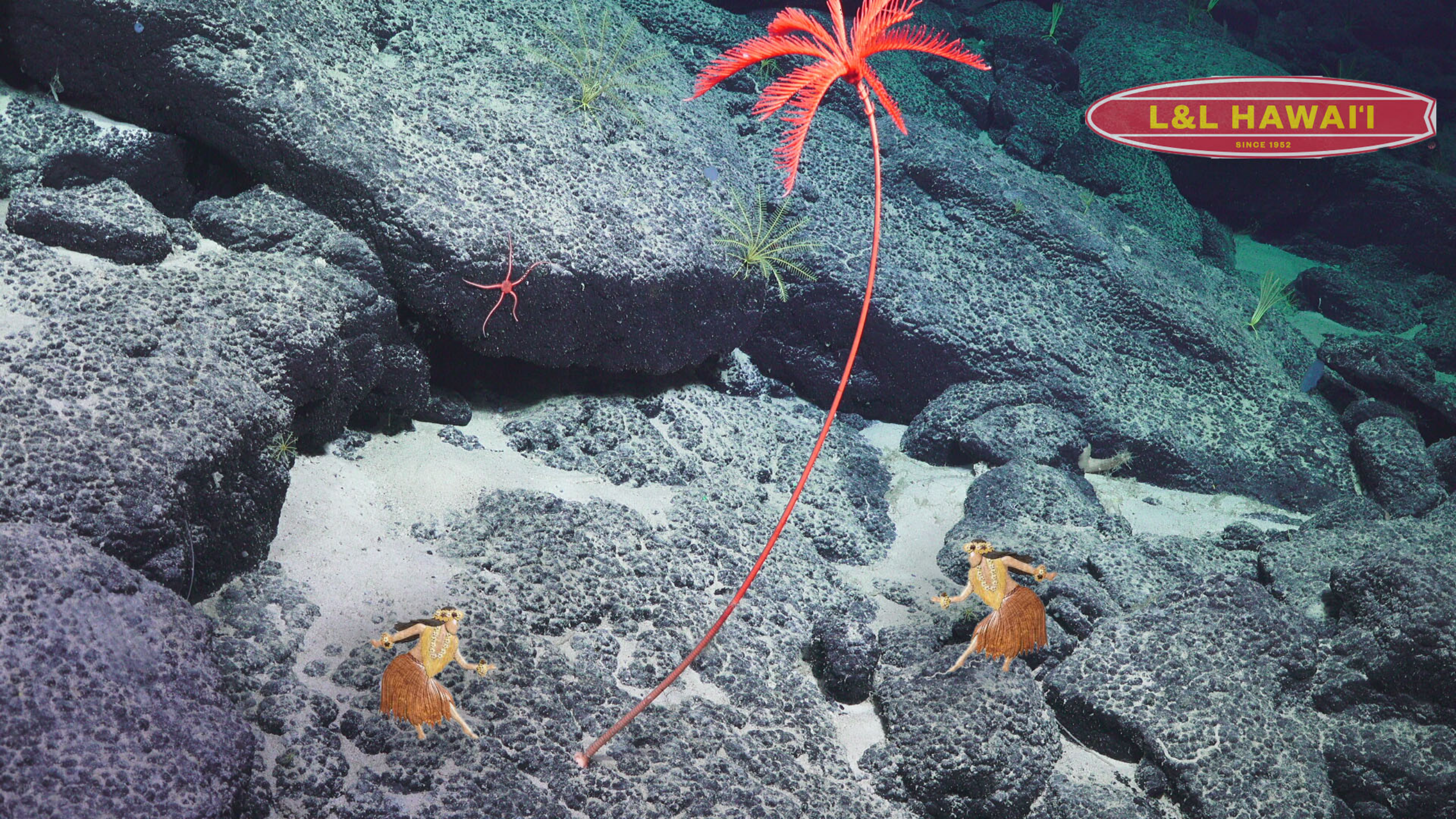


A set of navigation and interaction icons typically found in 3D mapping software. It includes a person icon for user settings, a compass for orientation, a "3D" button to toggle the 3D view, a red rectangle icon for selection, a magnifying glass for search, and zoom in (+) and zoom out (-) buttons.

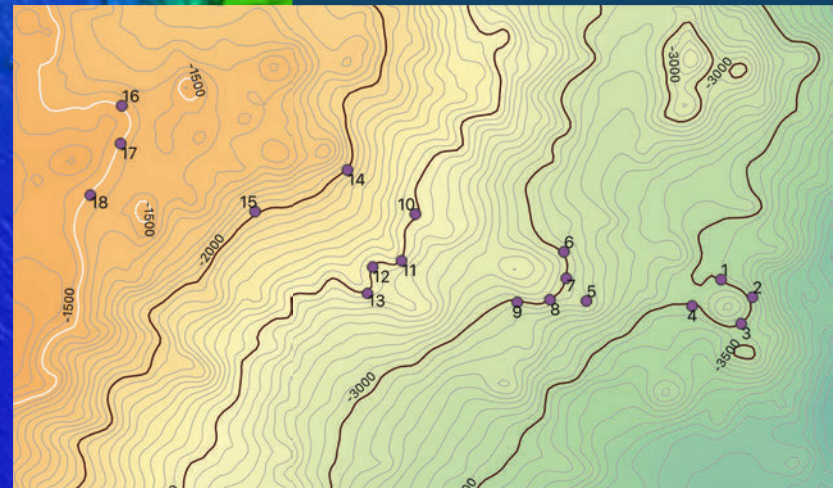
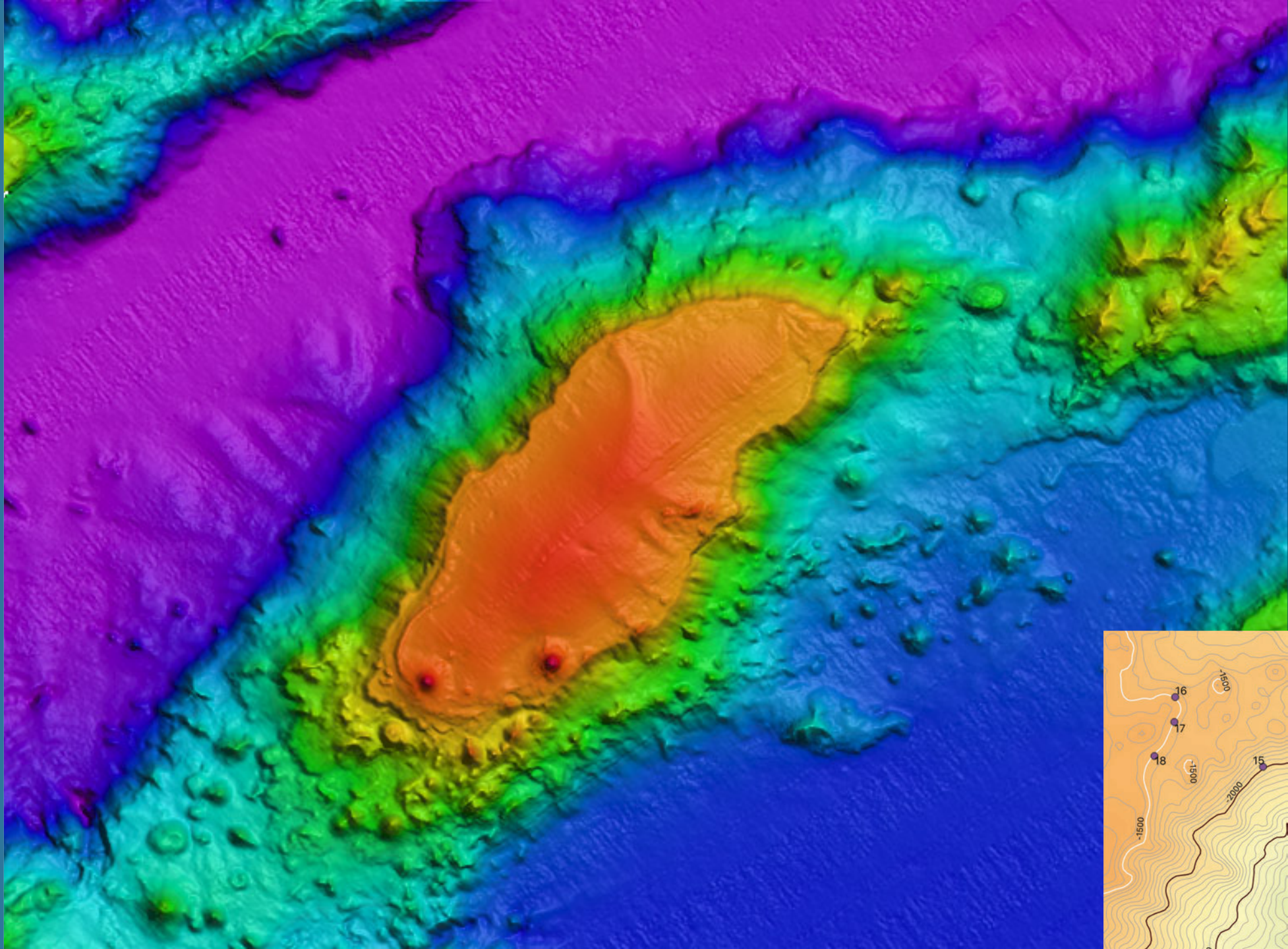


**L&L HAWAII'I**

SINCE 1952











Temperature: 34 degrees – near freezing

Total Darkness

Pressure: One small African elephant per square inch,  
5000 lbs/square inch!

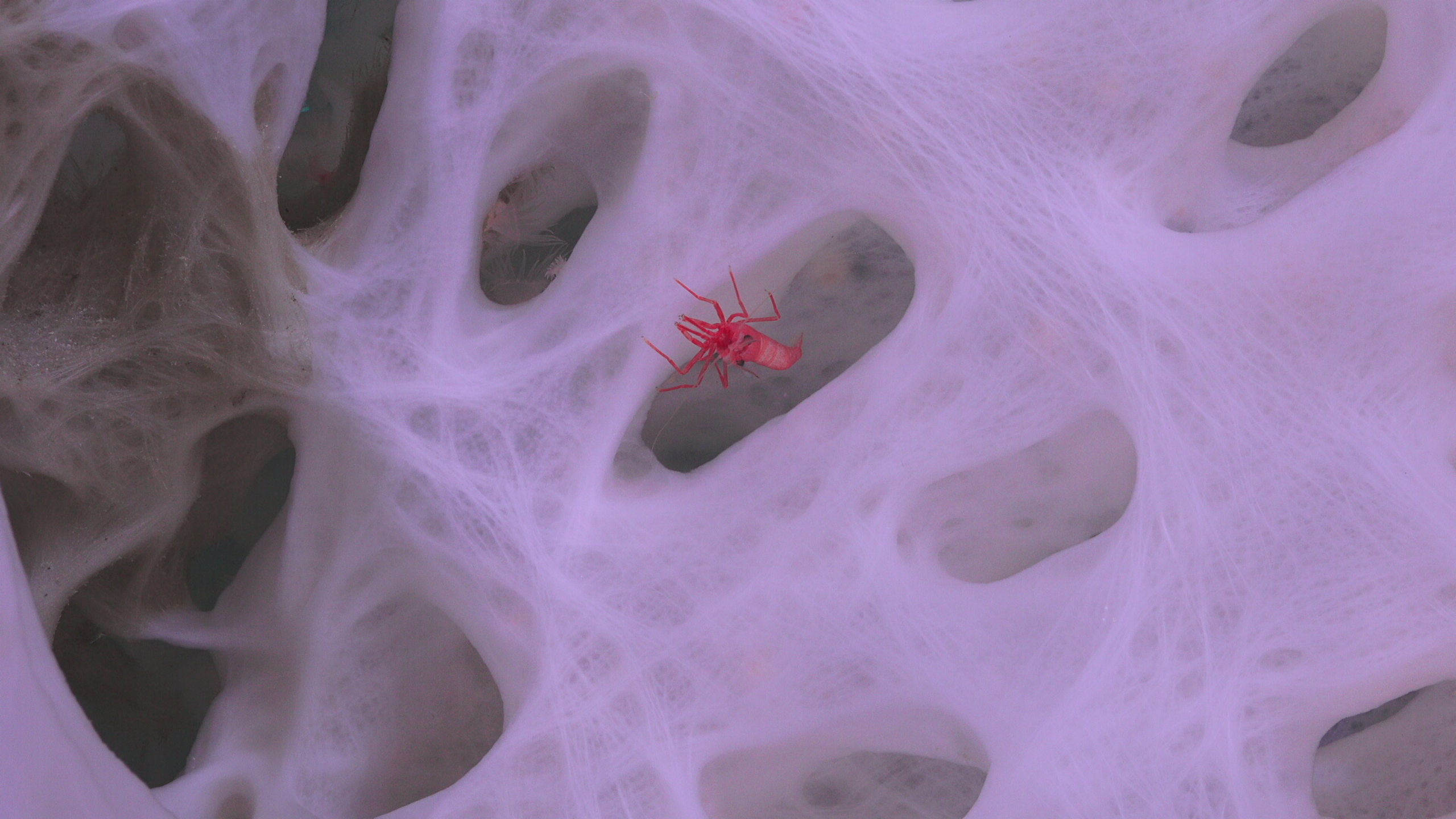






This sponge is 3 feet tall!





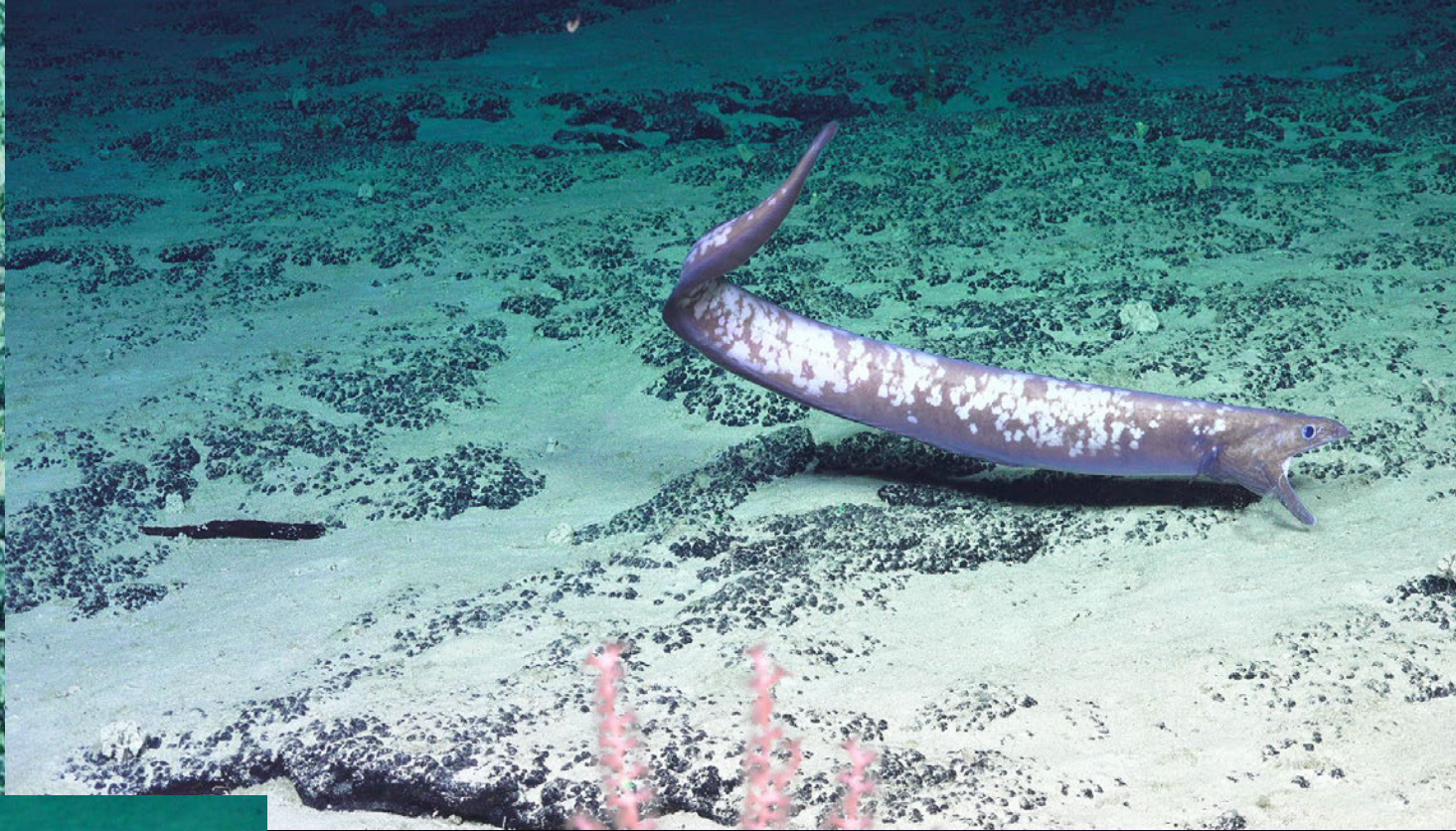




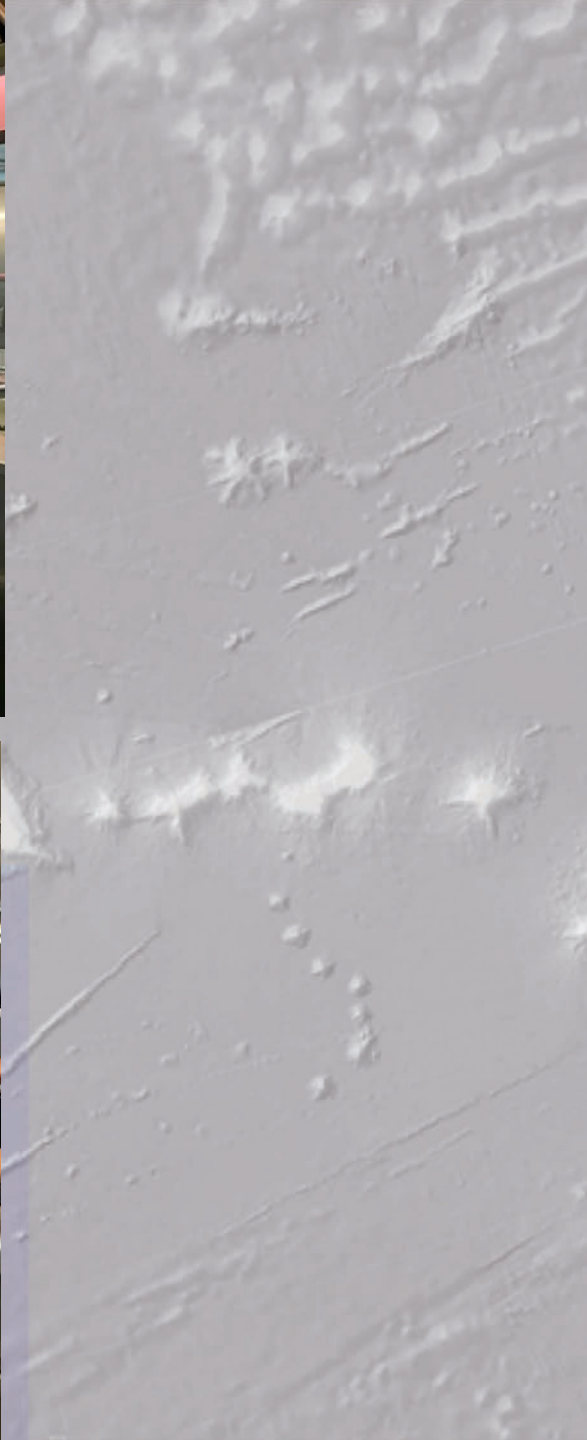
















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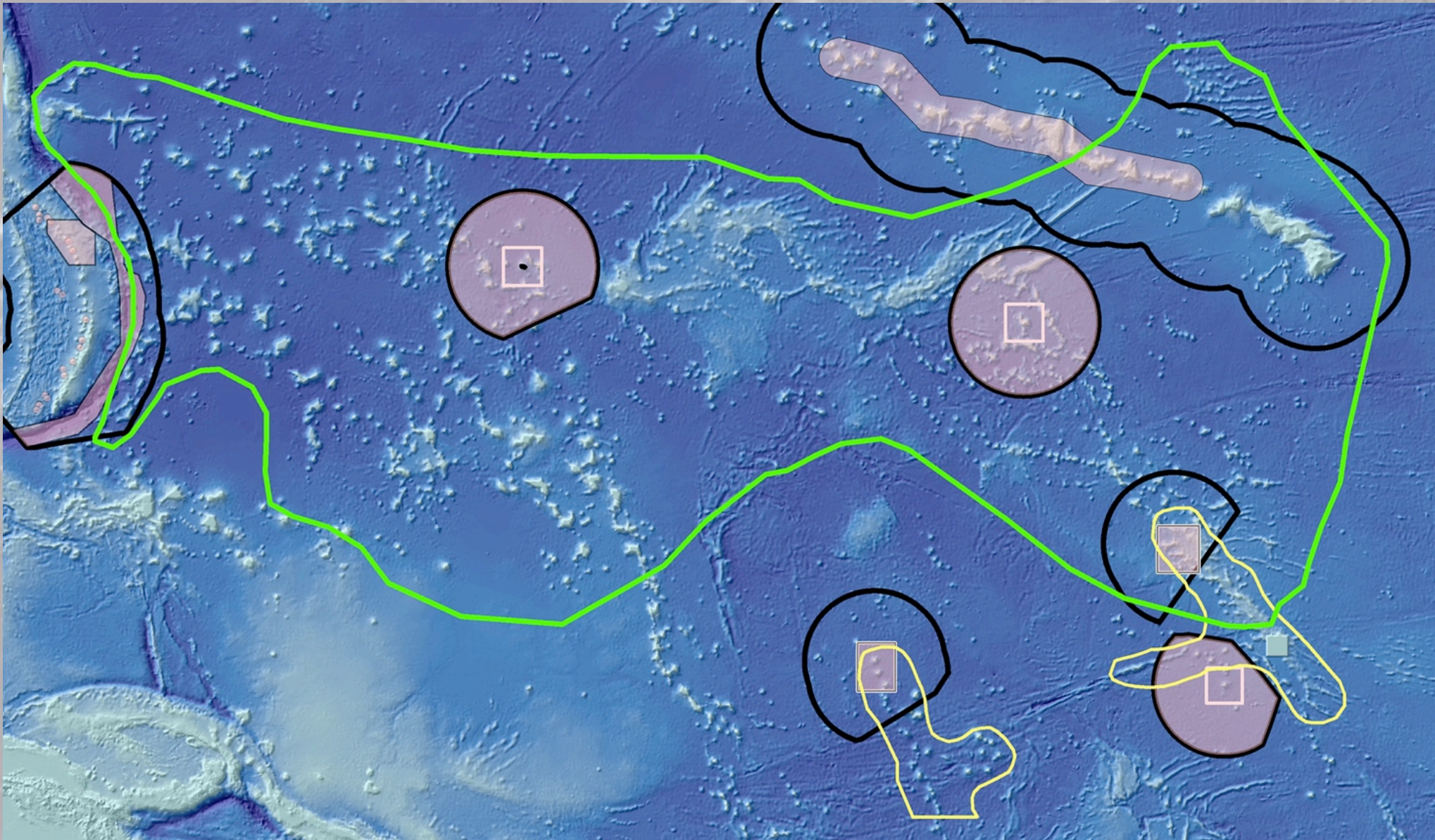
*Story by* Wil S. Hylton

| JANUARY/FEBRUARY 2020 ISSUE

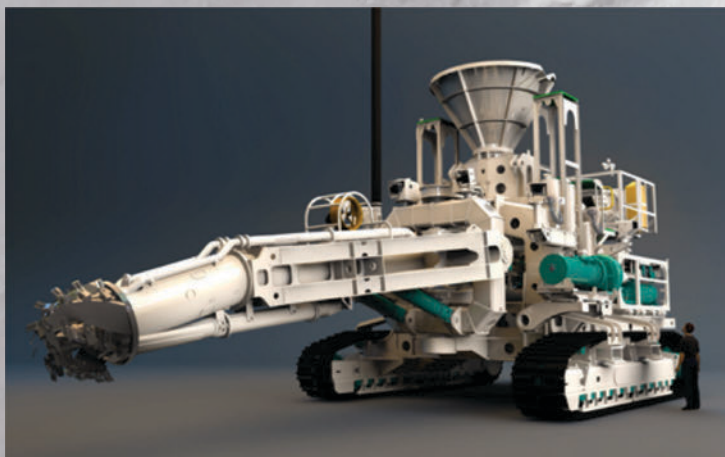
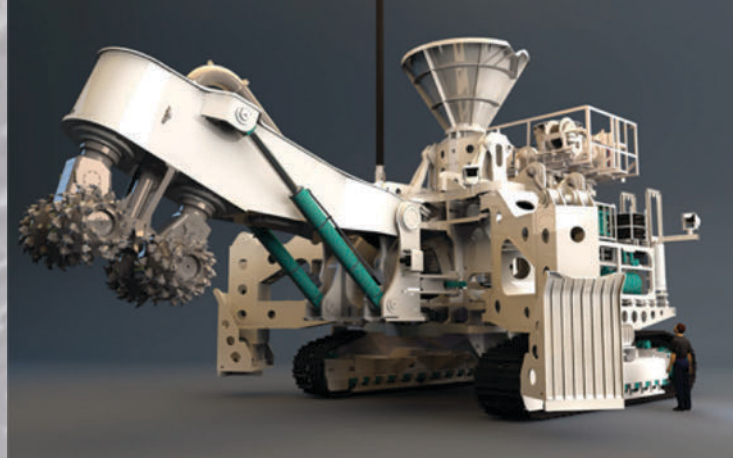
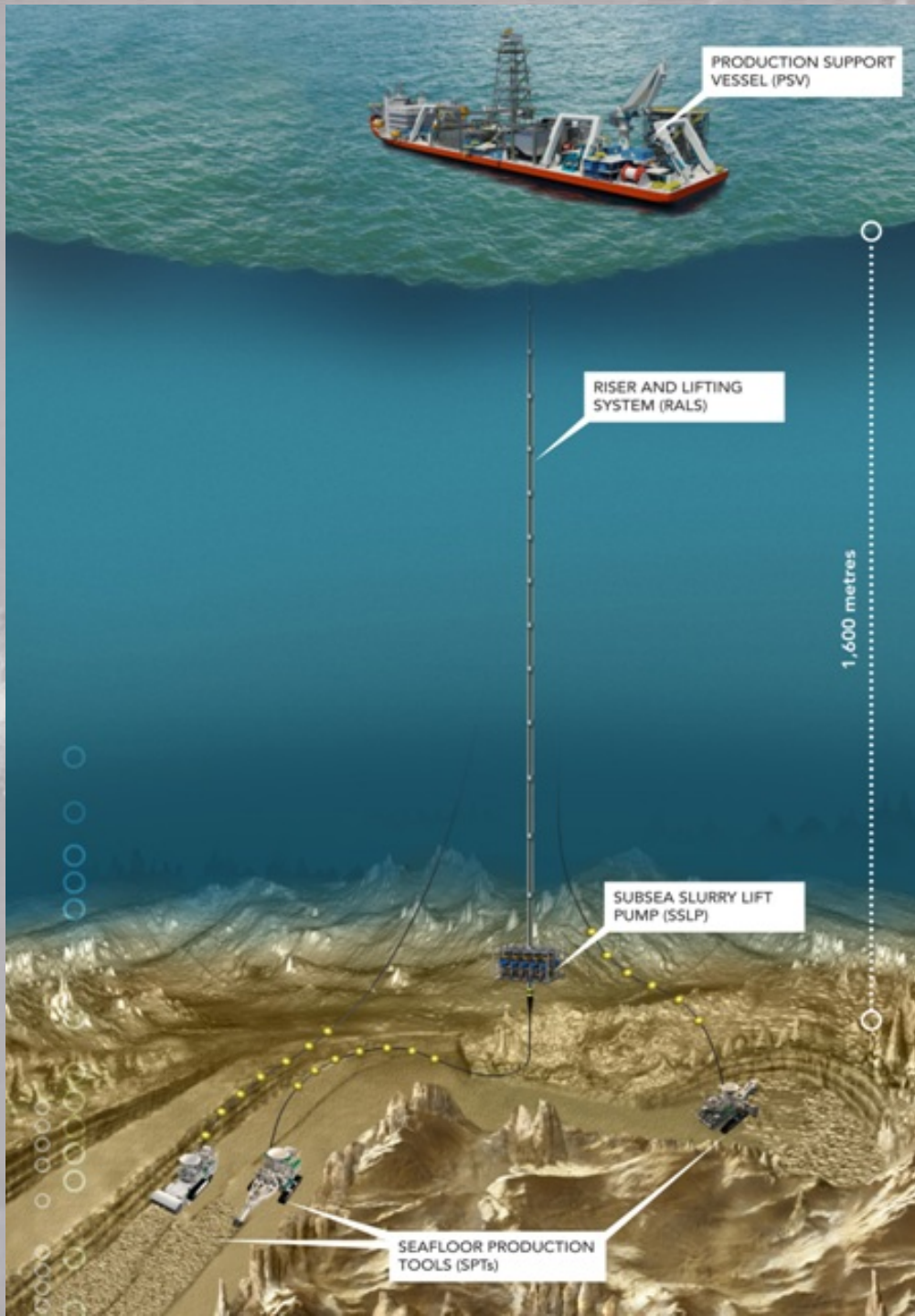
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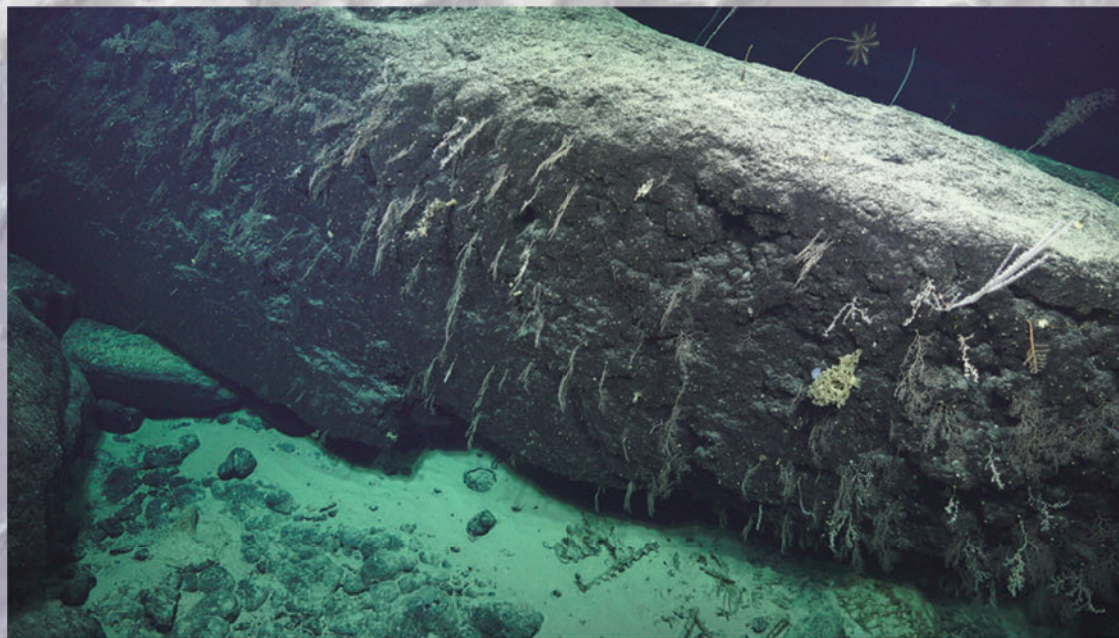




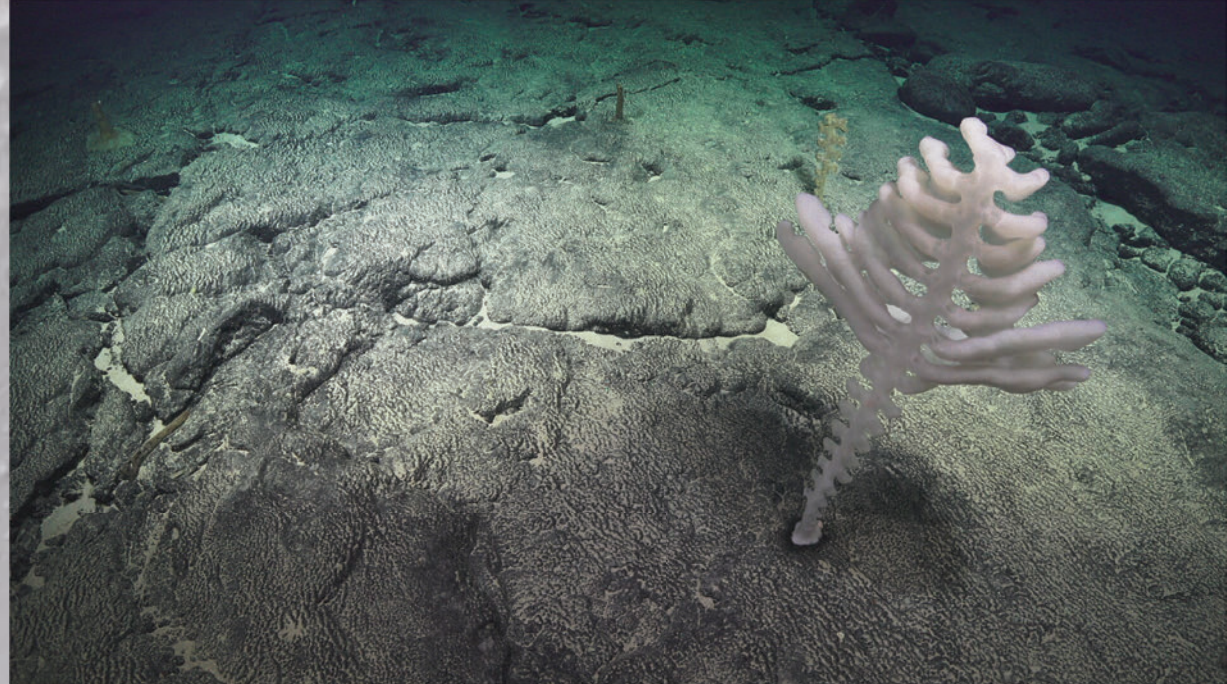
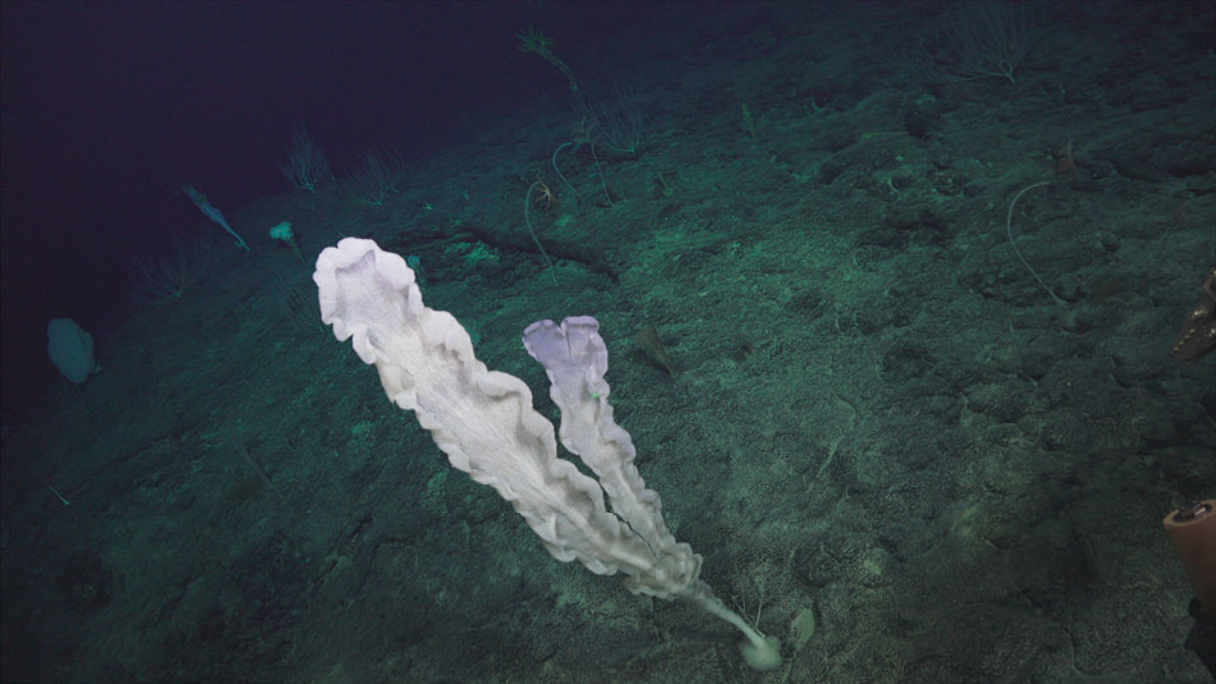
Branching Isididae (Bamboo Coral)



Hemicorallium







Glass sponge communities





