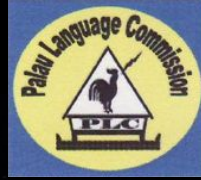


Omesubel a Nautilus

Ocean exploration vocabulary in Palauan language

Created by Adeeshia Imade Tellei¹, King Sam¹, Megan Cook², Jefferson Thomas³, Gregorio Ngirmang³, Nancy Renguul³, Jay Watanabe³, Lorenza Olkeriil³, Medangeliang Olkeriil³, and Vivian Ngingetrang³.
Audio recordings by Keobel V. Sakuma¹





This learning resource was developed in support of Lebuu's Voyage I & II – the 2024 deep ocean exploration expeditions led by Ocean Exploration Trust, Palau International Coral Reef Center, and NOAA Ocean Exploration in Palau National Marine Sanctuary. Its contents are certified by the Palau Language Commission.

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Citation:

Tellei, A., Sam, K., Cook, M., Thomas, J., Ngirmang, G., Renguul N., Watanabe, J., Olkeriil, L., Olkeriil, M., Ngirngetrang, V., and Sakuma, KV. 2024. Omesubel a Nautilus Ocean Exploration Vocabulary in Palauan Language. Ocean Exploration Trust. 57 pp. <https://doi.org/10.62878/bgj821>

Author contact — education@oceanexplorationtrust.org

Ngerchelel a Nautilus



Lebuu's Voyage Onboard Roles



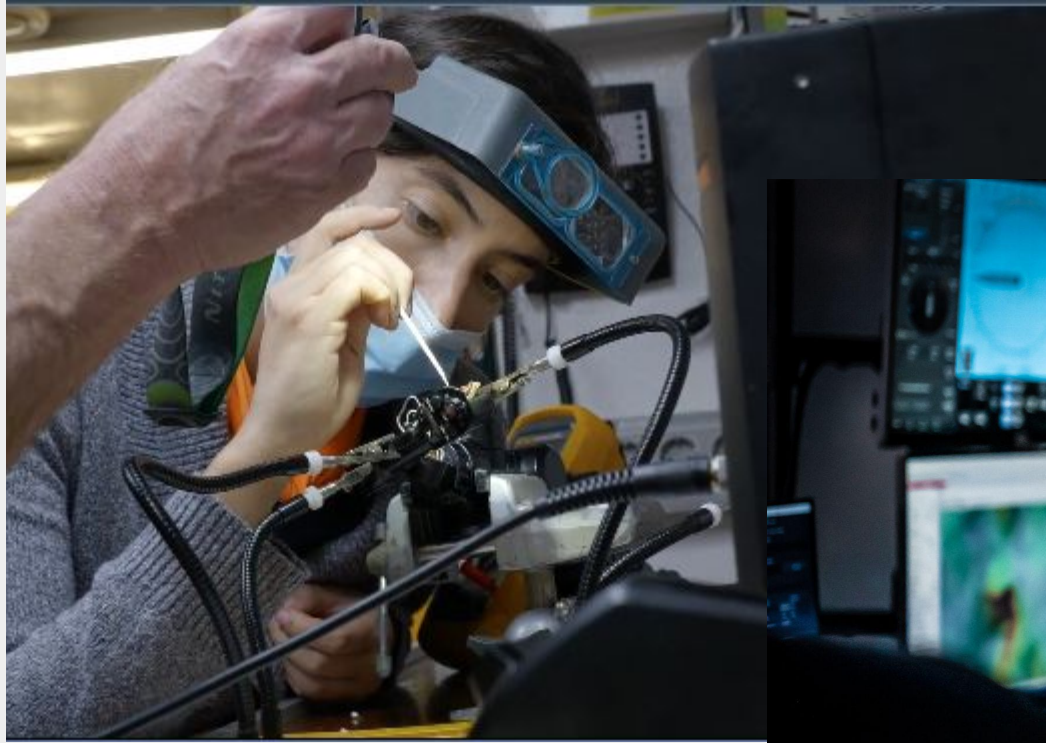
Menguteling er a omesub – Expedition Leader





Chellimosk – Scientists





Omekall er a ROV – ROV Pilot





Omekrael er a becall – Navigator





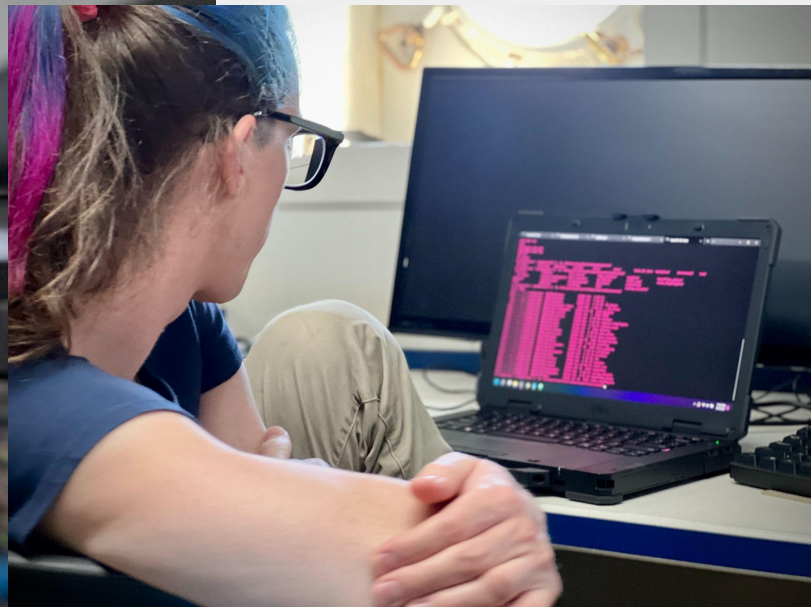
**Olsisechakl e mesaod a urerel tial omesuub
– Science Communication Educator**





**Rengalek er a skuul el ngar er a rekil a omesubir
— Student/ Intern**





Chellimosk er a ureor — Computer Scientists
Ulsemuul er a ureor — Computer Engineers





Chad el oungerachel a omelai el llecheklel a daob — Video Engineer 
Meruul, oldekdak e olecholt a llecheklel a daob — Filmmaker 



Rechad el oureor er a diall – Ship's Crew



Tekoi er a daob



Ocean Terms





Daob – Ocean





Chei/daob – Sea





Image: Pixabay CC4.0

Eolt – Wind





Chedesaoch – Wave



Image: Pixabay CC4.0



Image: Pixabay CC4.0

Meched — Shallows





Daimechesengel — Toward the ocean (offshore)





Dailechei — Toward the mountain (inshore)



Orretel a ureor

Exploration Operation Terms





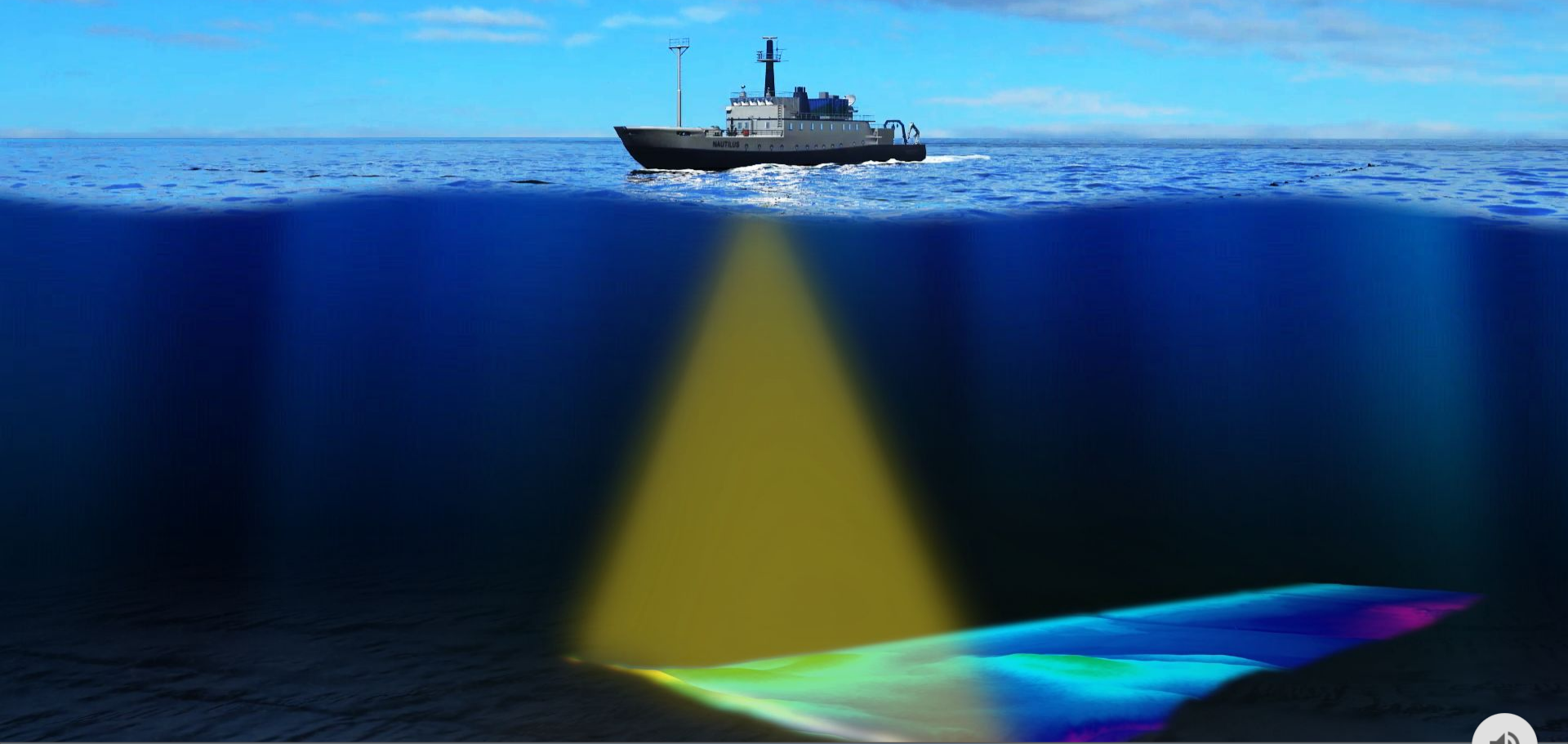
Diall er a omesub – Ship, Exploration Vessel





Mlai er a omesuib – Remotely Operated Vehicle (ROV)





Llecheklel a bertakl — Seafloor (or Multibeam) Mapping



Ch1: 3.5kHz Ch2: 15.0kHz

4630.23 m

Tx Pulse: 64.00000 ms

Tx Power: 3

Gain Mode: Manual

Gain Value: 88 dB

TVG Mode: 10logR

TVG Ref: N/A

TVG Ref Depth: N/A

Process Shift: 0

Sensitivity: Off

Draft: 5.00

Tx Blanking: 100.0

Primary Channel

Link All Controls

Global TX: On

Range: 500

Phase Mode: Manual

Overlap: 50%

Phase: 4500 - 5000

Shift Threshold: 50%

Depth Limits

Minimum: 10

Maximum: 6000

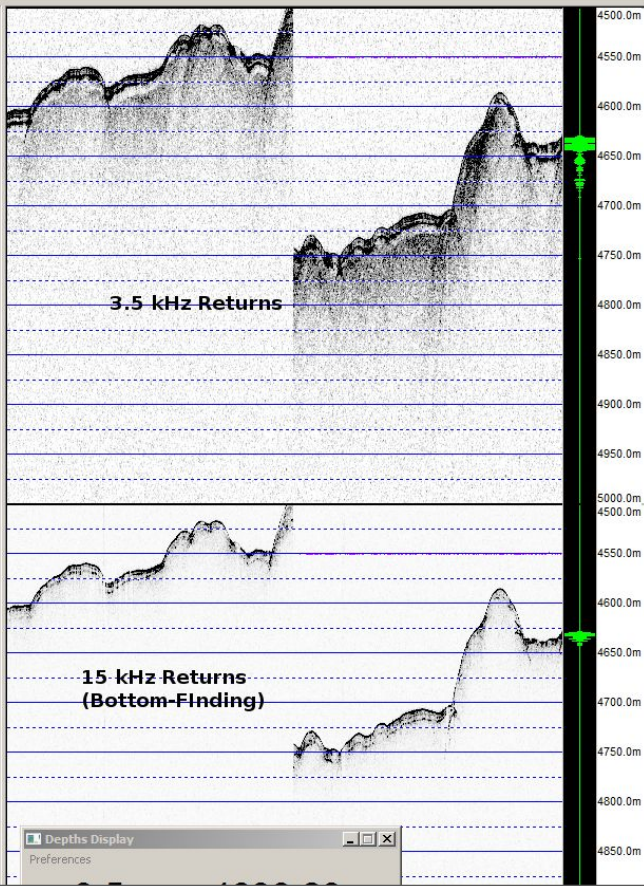
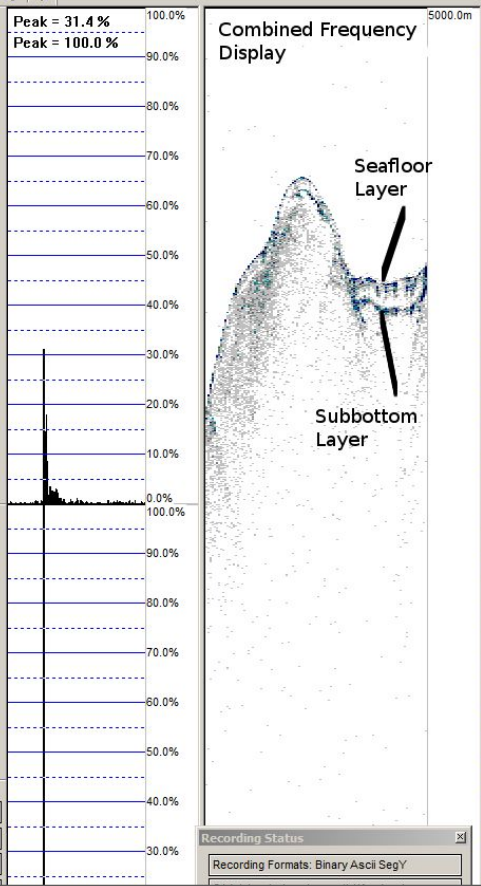
Multiple Pings: Disabled

Miscellaneous:

Working Units: Metres

Sound Speed: 1485

Ping Rate: 1000 ms



Omesubel a eungel a berteklel a daob – Sub-bottom Profiler



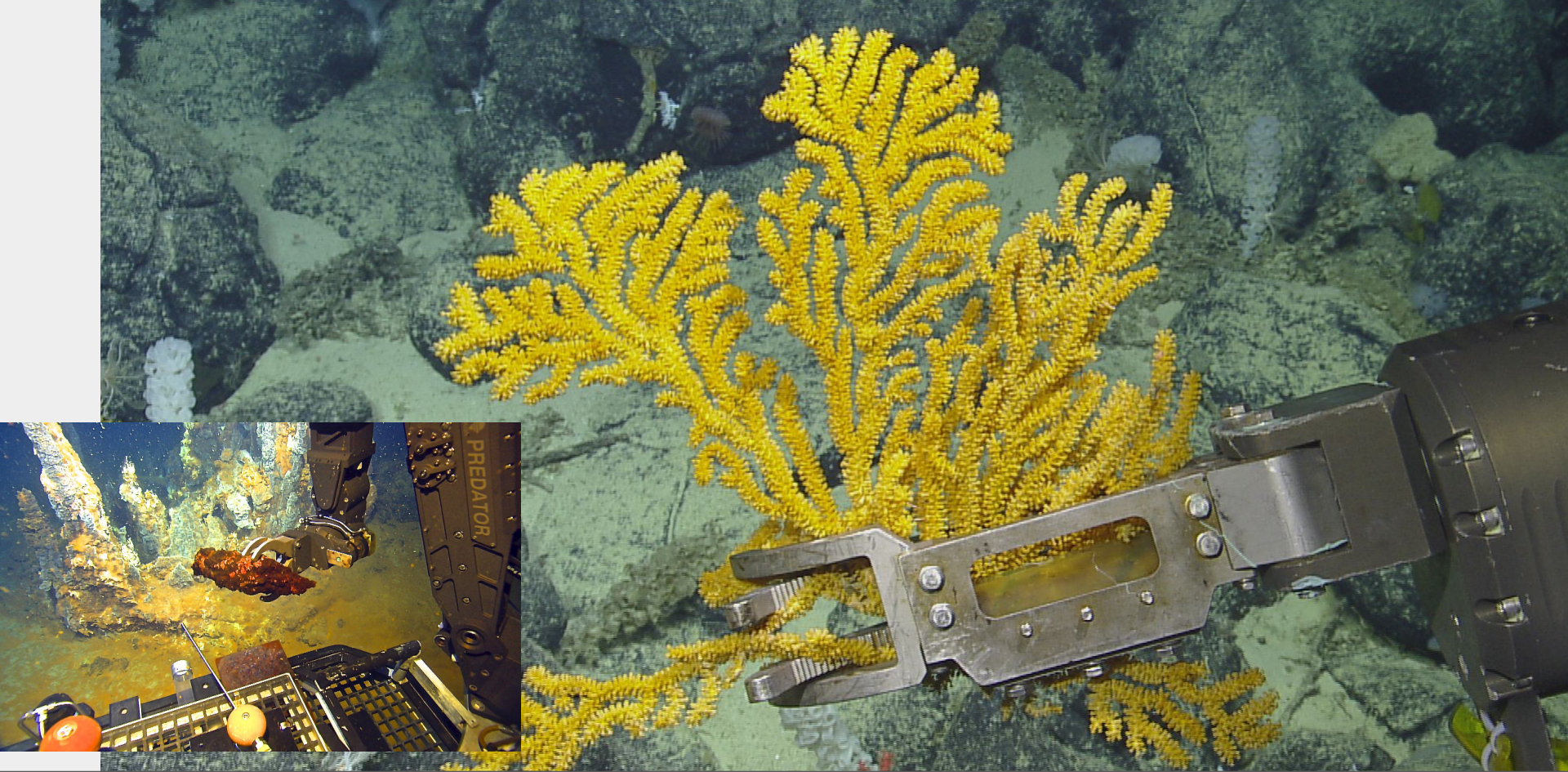
Olsechelel a omesuub — Science lab





Olidiuul er a tekoi/chais – Broadcast Studio





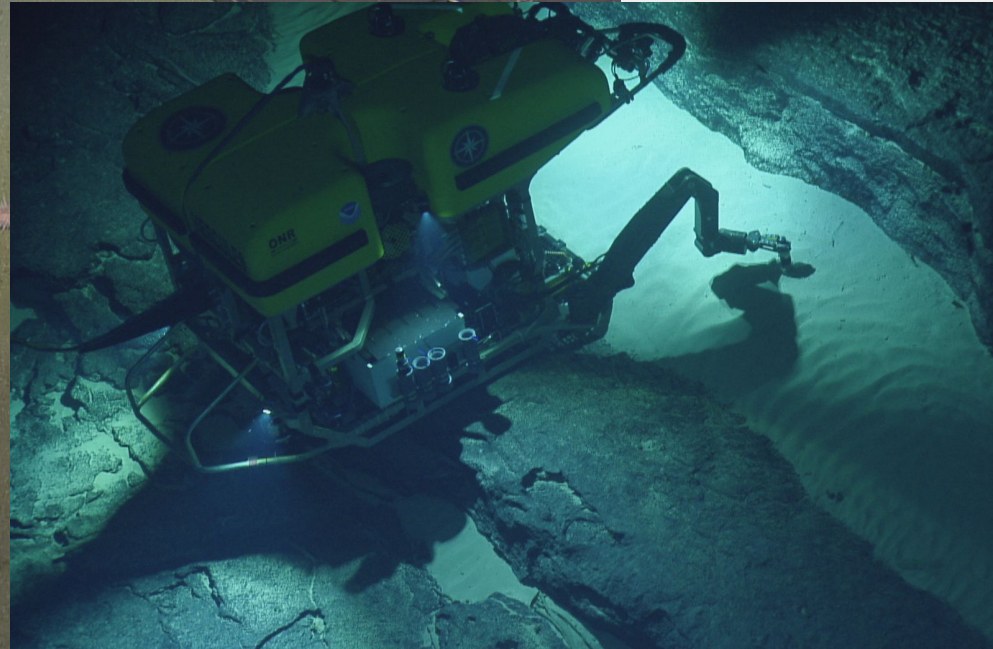
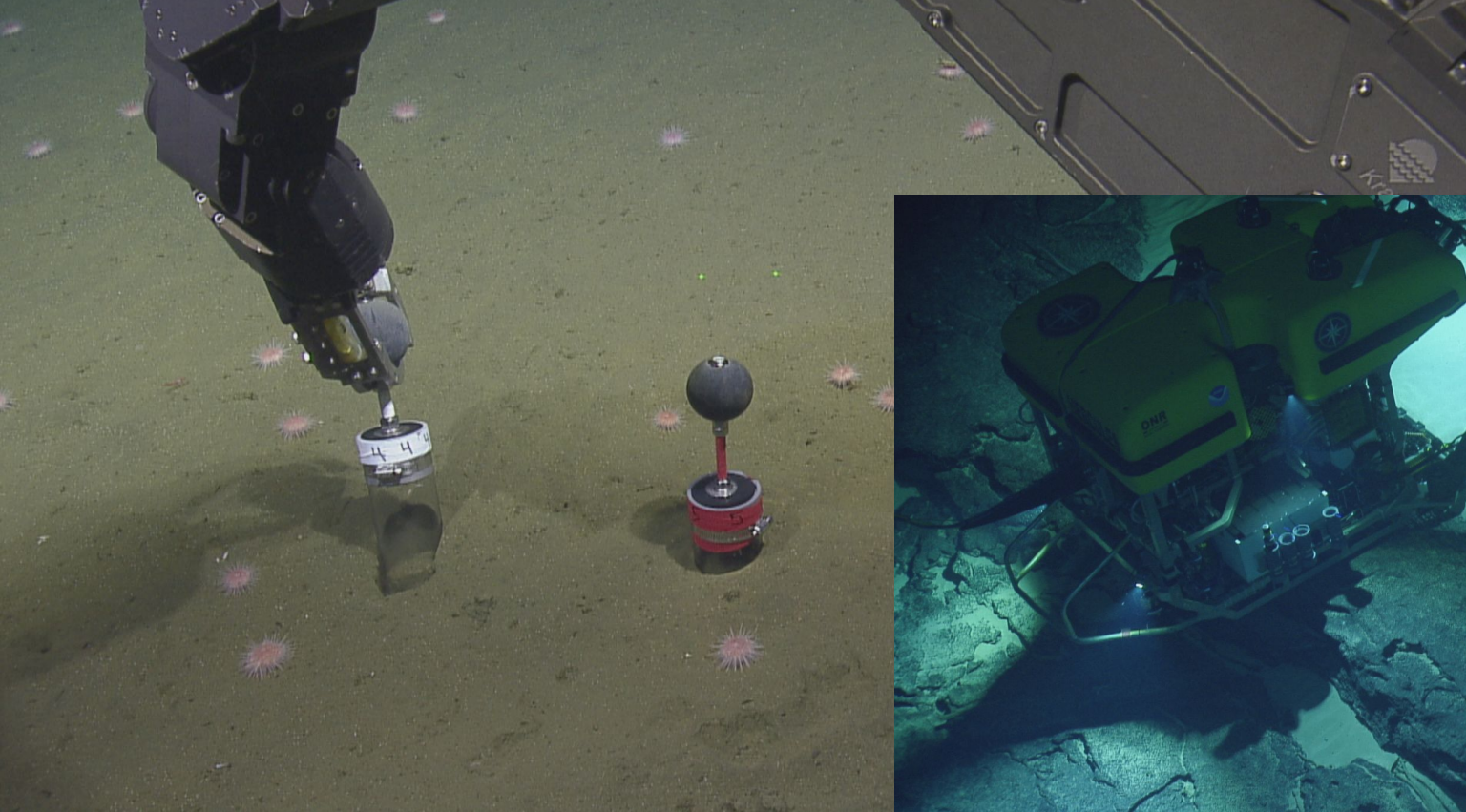
Ngiuul – Grab Sample





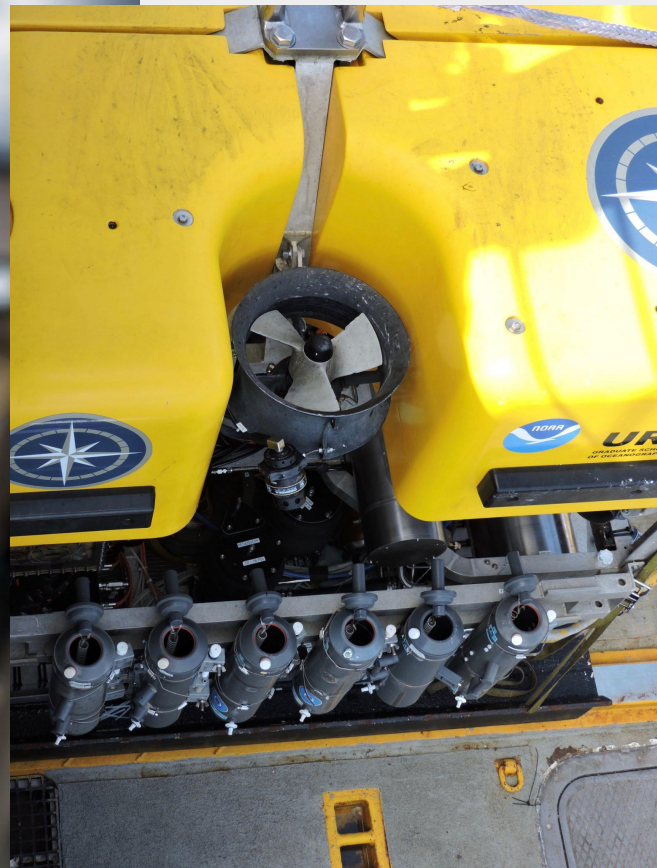
Melmotm – Suction/ Slurp Sample





**Klekedall el melai a dengitech er a daob
– Push Core/ Sediment Core**





Klekedall er a ngiul a Imel a daob – Water Sample



Omesuub ma ureor er a bebul a bertakl

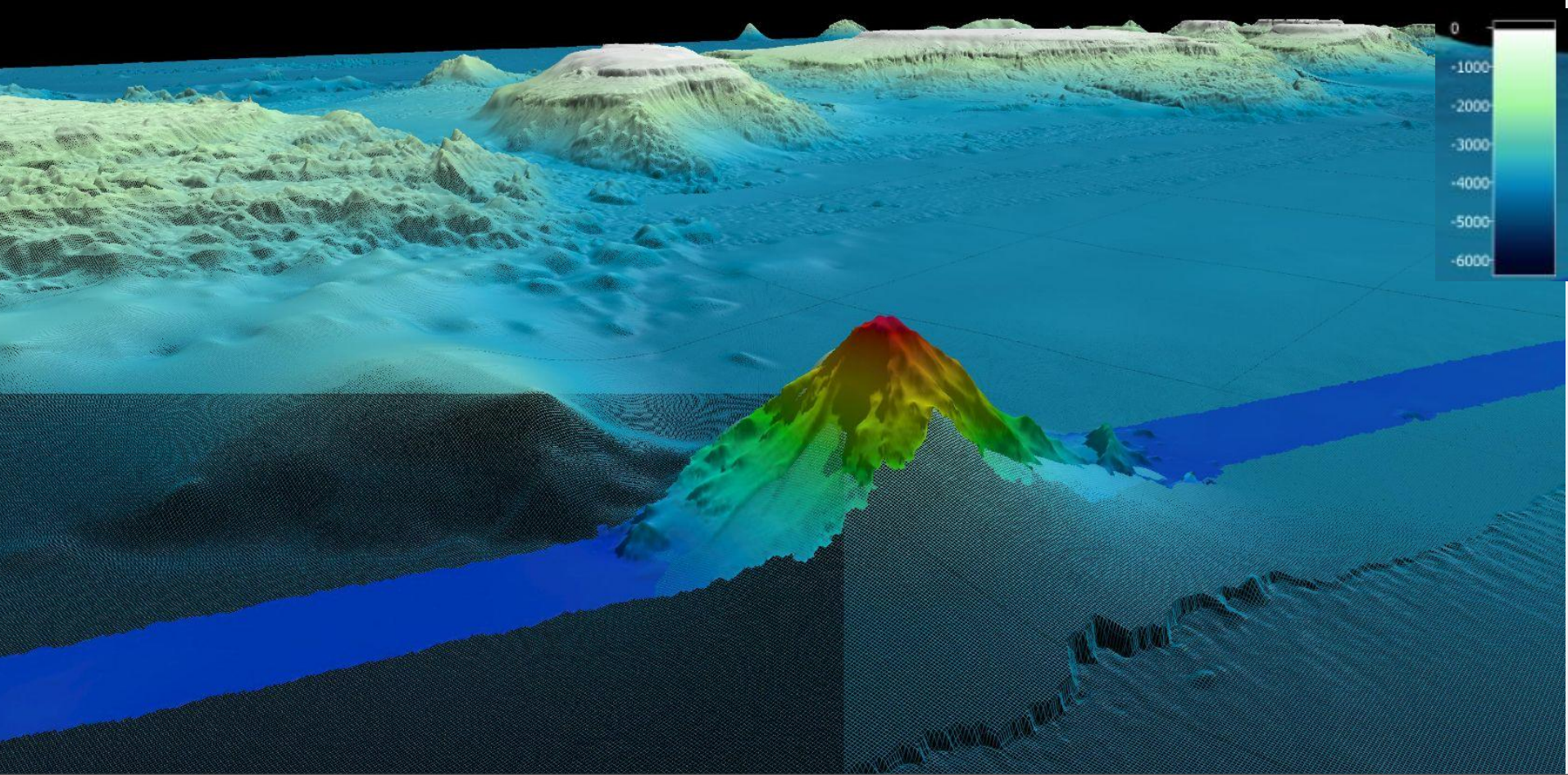
Geological Terms





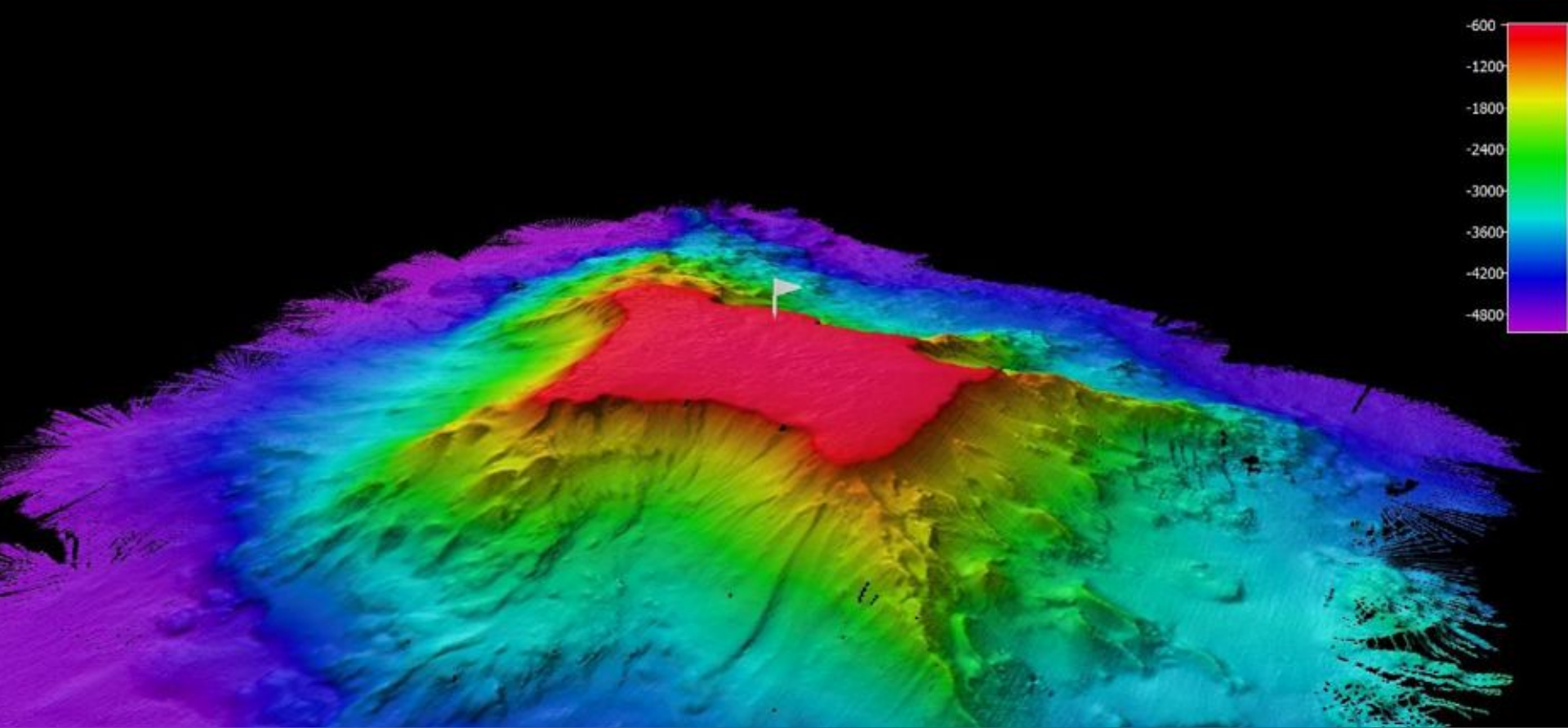
Baderitech – Basalt rock





Rois er a bertakl – Seamount





**Oberberk el bebul a rois er a bertaki
– Guyot (flat-topped seamount)**

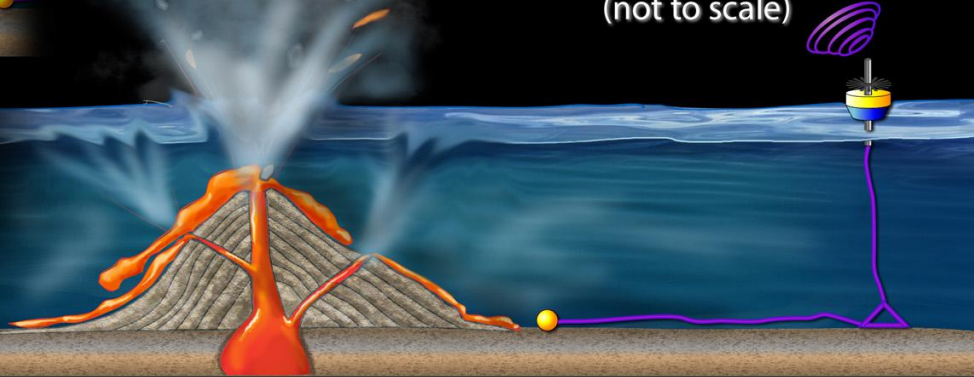


Submarine volcano

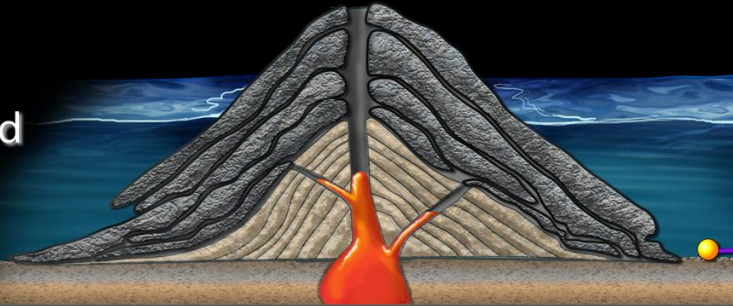


Real Time Offshore
Seismic Station
monitors activity and
sends signal to shore
(not to scale)

Submarine eruption



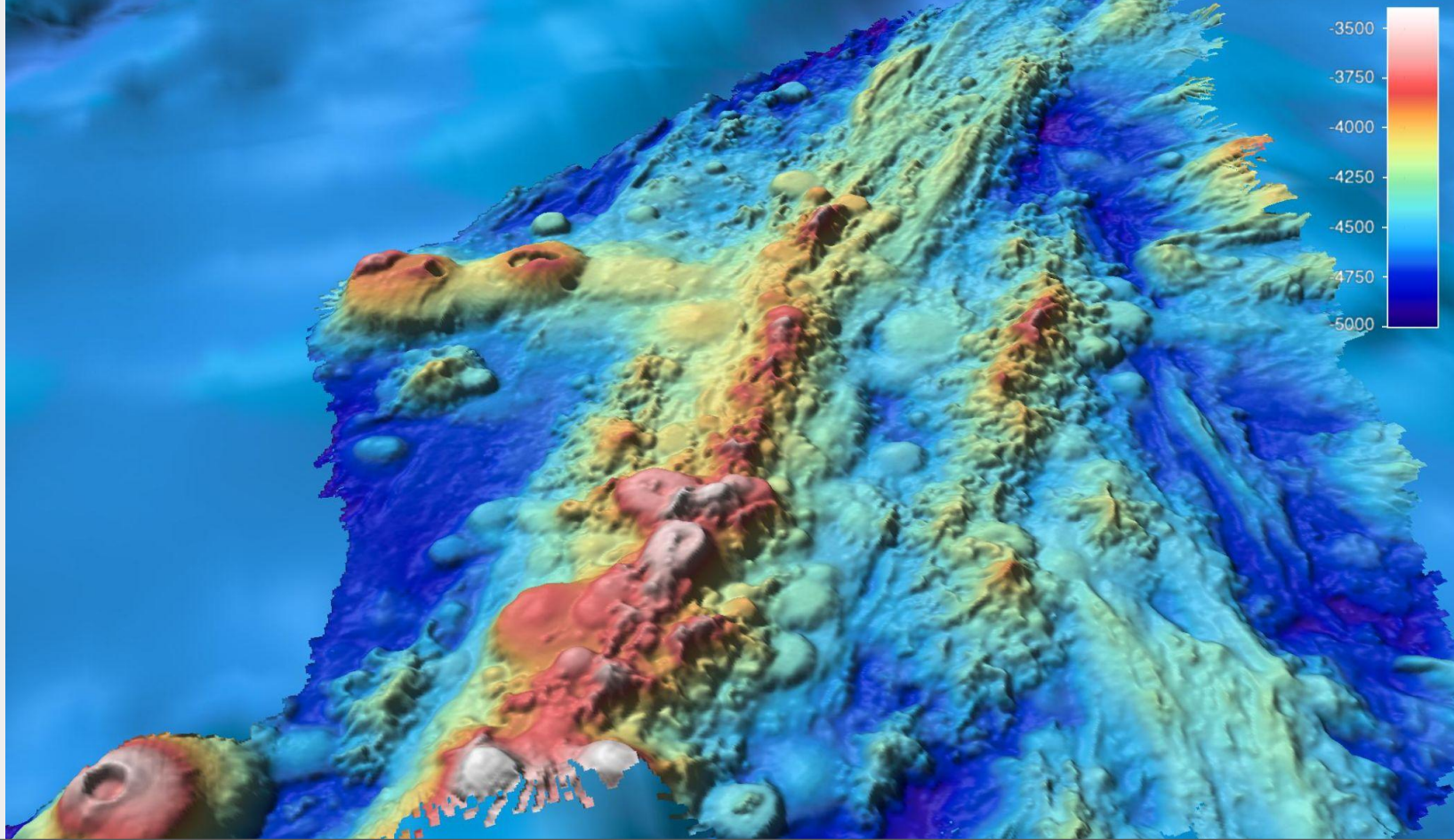
New island
emerges



Credit Zina Deretsky, National Science Foundation

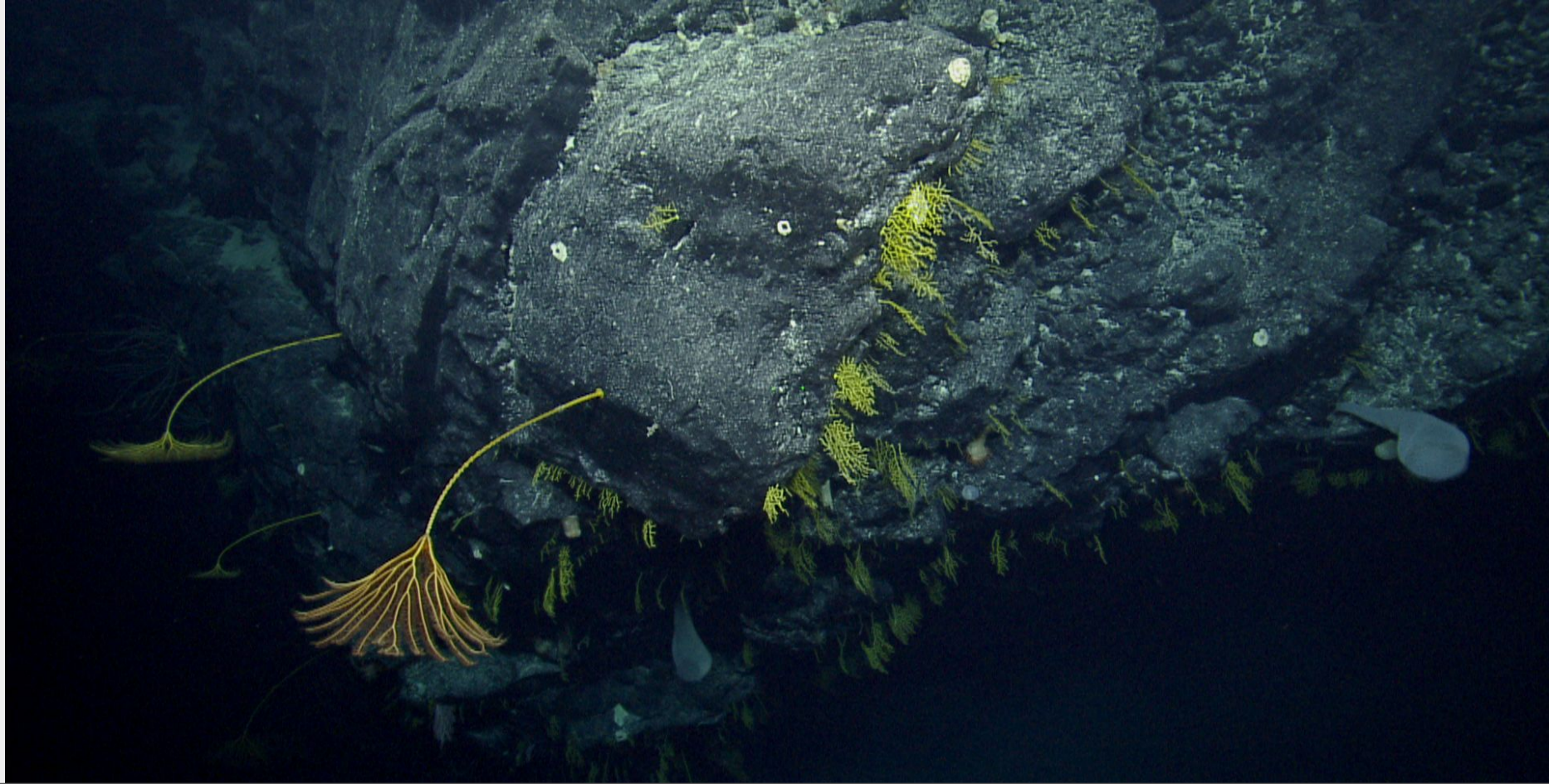
Tebedellel a mekeald el bad – Volcano





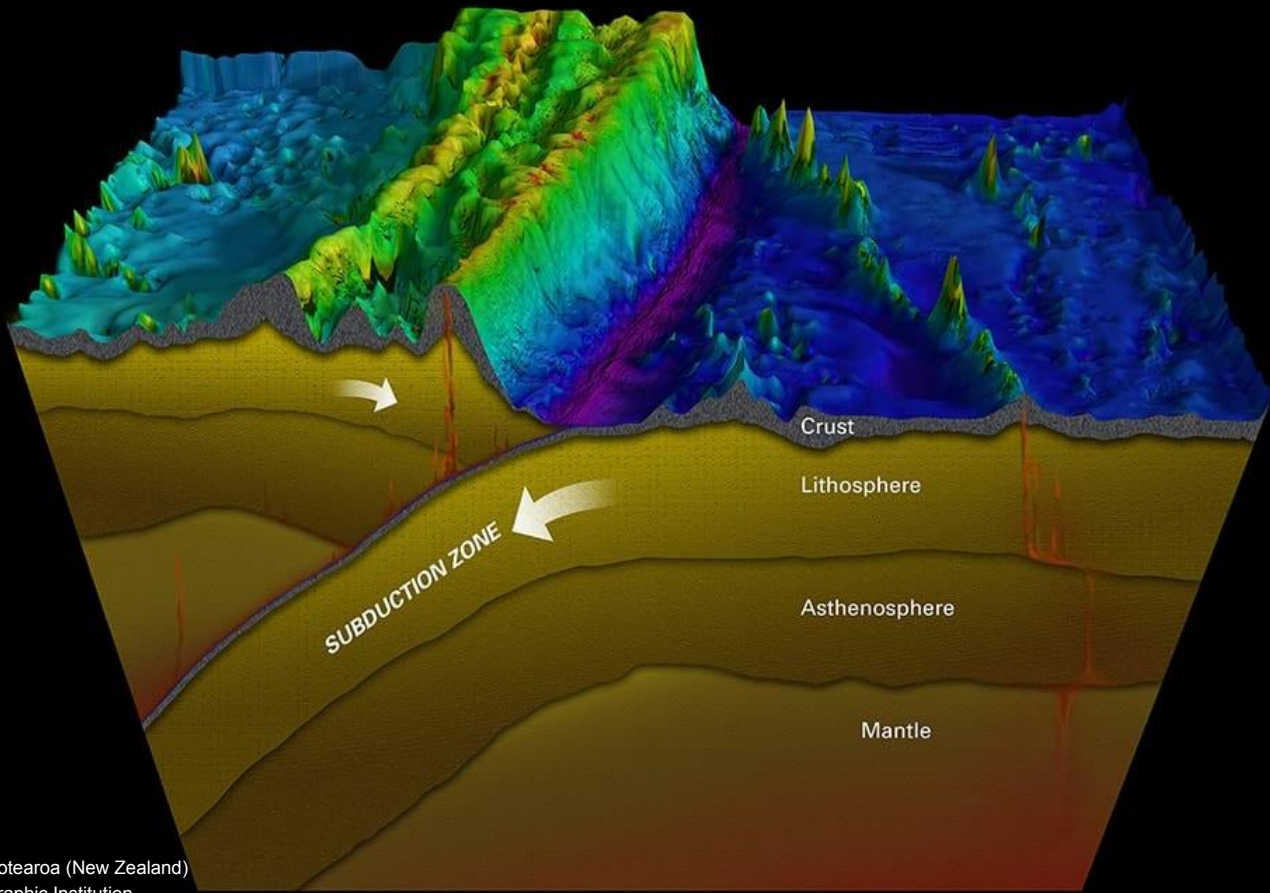
Ngurd er a bertakl – Ridge





Dellesul a bertakl – Slope

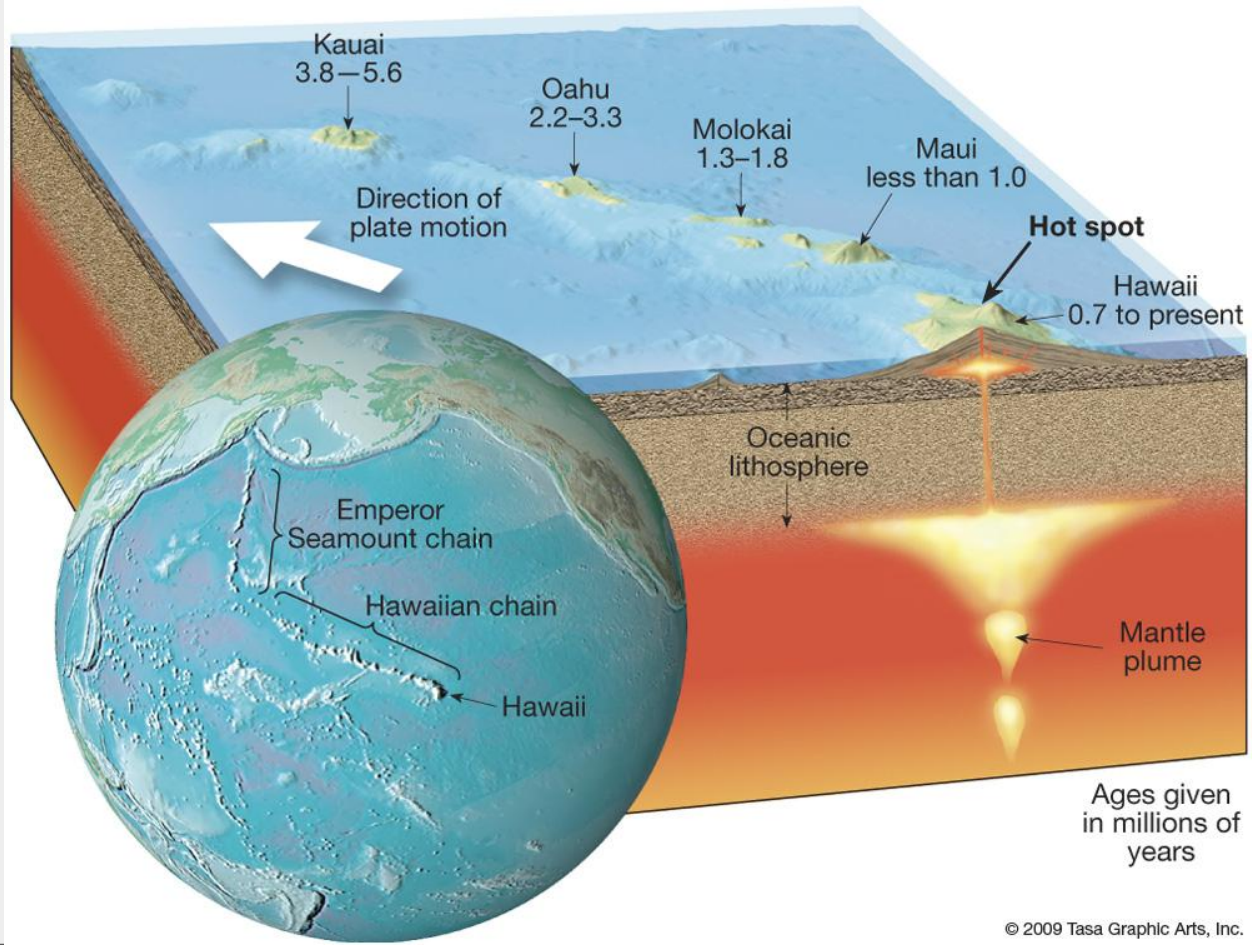
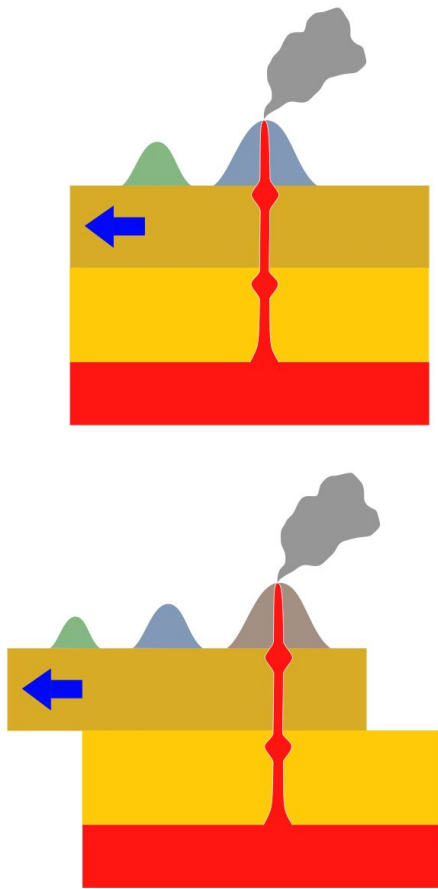




Kermadec Trench, north of Aotearoa (New Zealand)
Credit Woods Hole Oceanographic Institution

Toachel – Trench



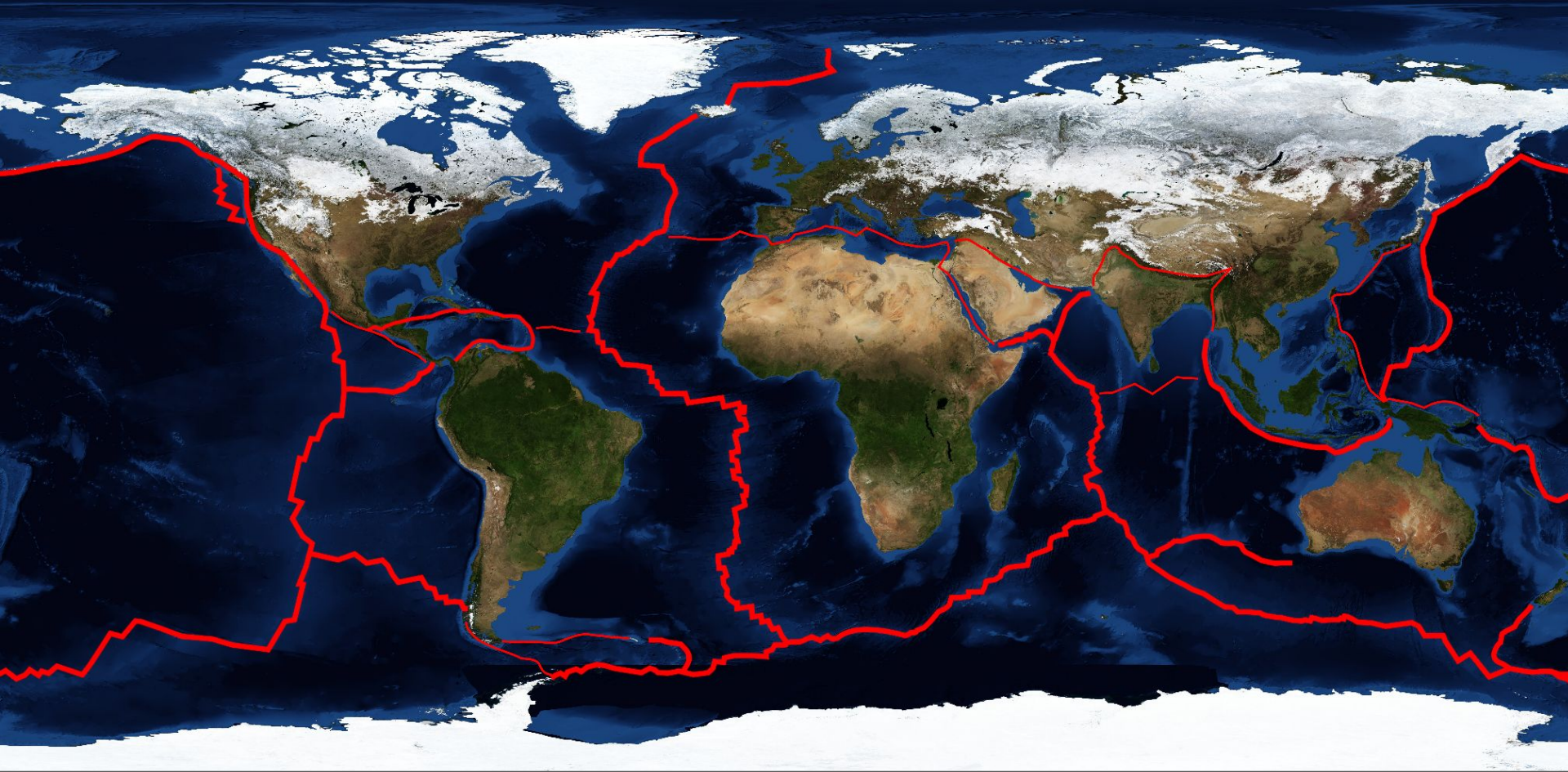


Credit Los688 WikiCommons

© 2009 Tasa Graphic Arts, Inc.

Tebedellel a kleald – Hotspot





Ngesekel a beluulechad – Earth's Crust





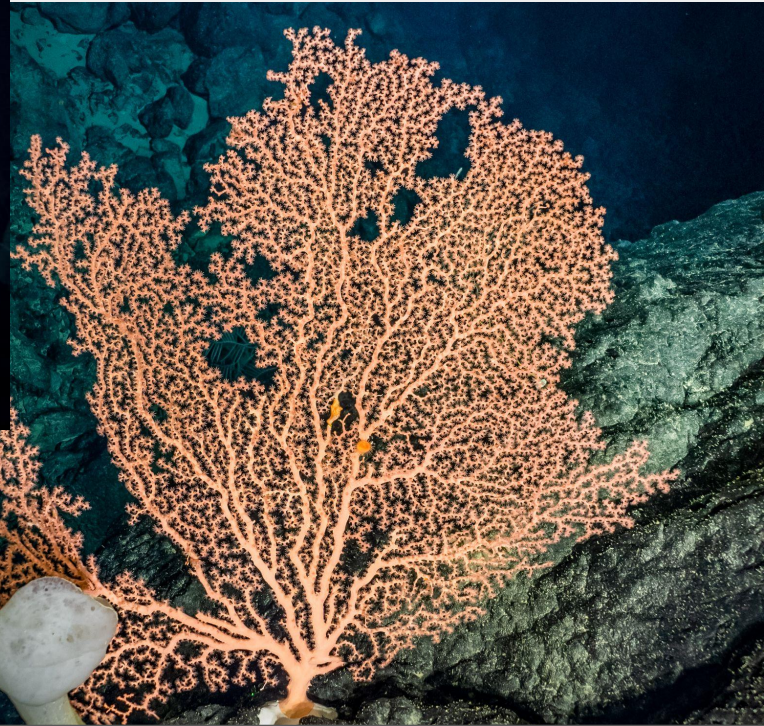
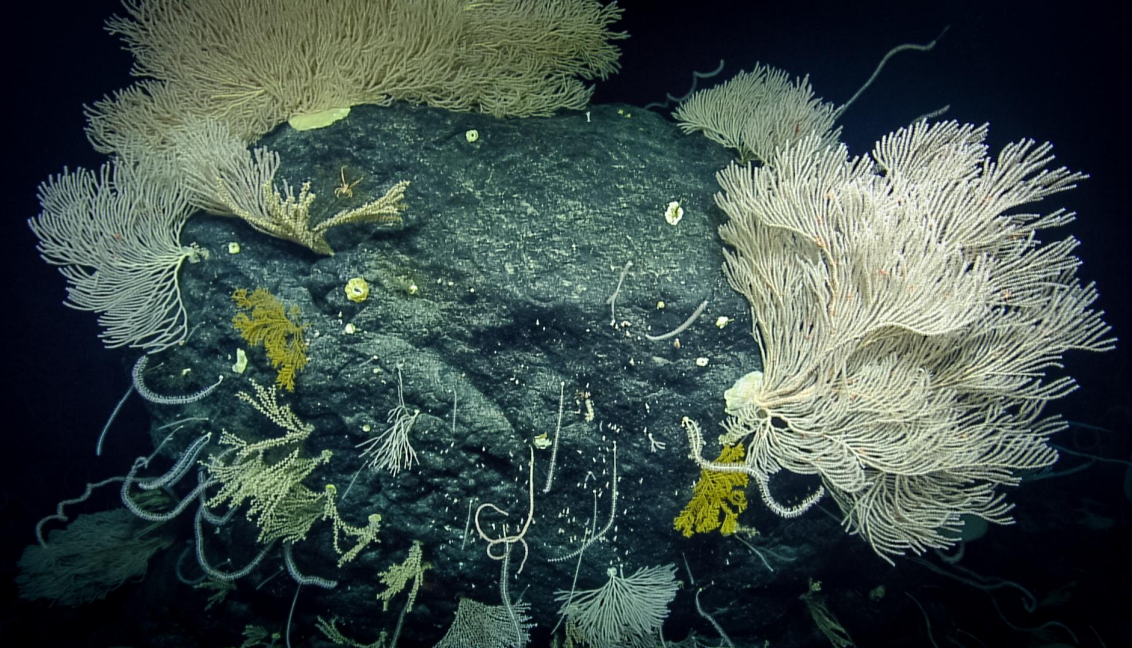
Oterkekel a rak – Carbon Dating



Omesubel a teletelel a klengar

Biological Terms





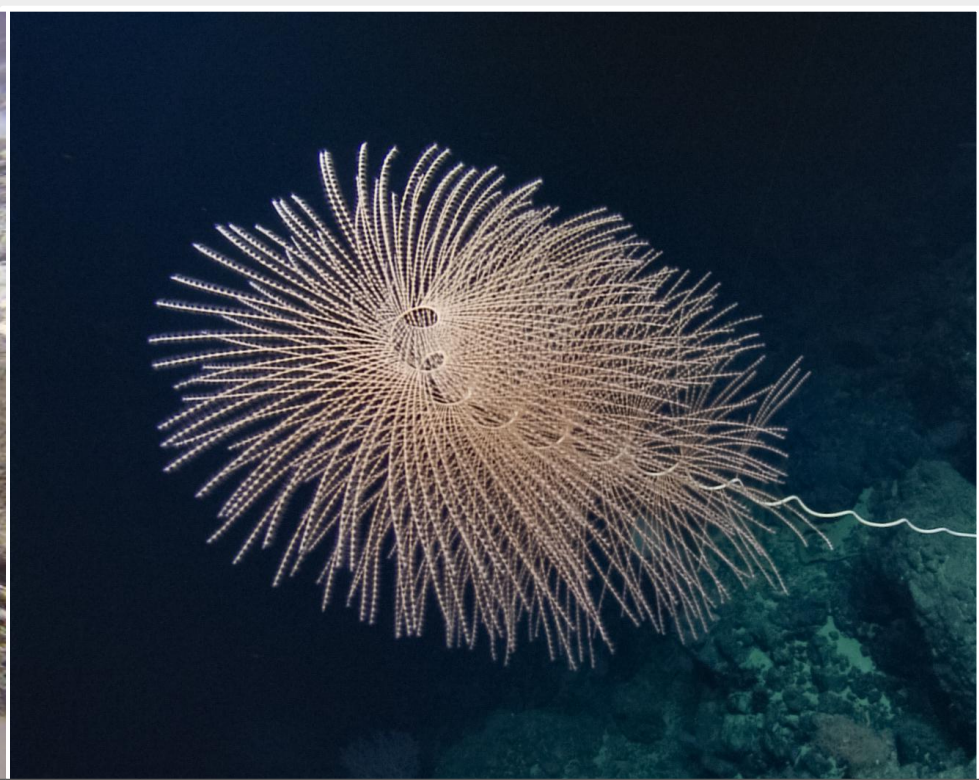
Merangd – Coral





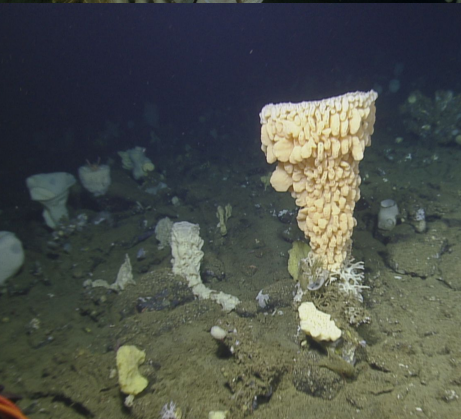
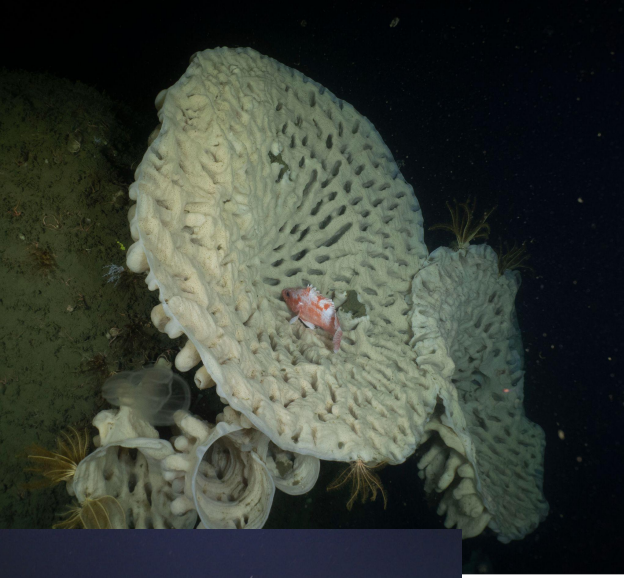
Credit Papahānaumokuākea Marine National Monument

**Merangd er a kereker –
Shallow Coral Reef**



**Merangd er a toachel –
Deep water Coral**





Rurout – Sponge





Image: Christian Sardet, Plankton – Wonders of the Drifting World, Univ. Chicago Press 2015

Mekekerei el charm el diak lemeues er a mad – Microorganism





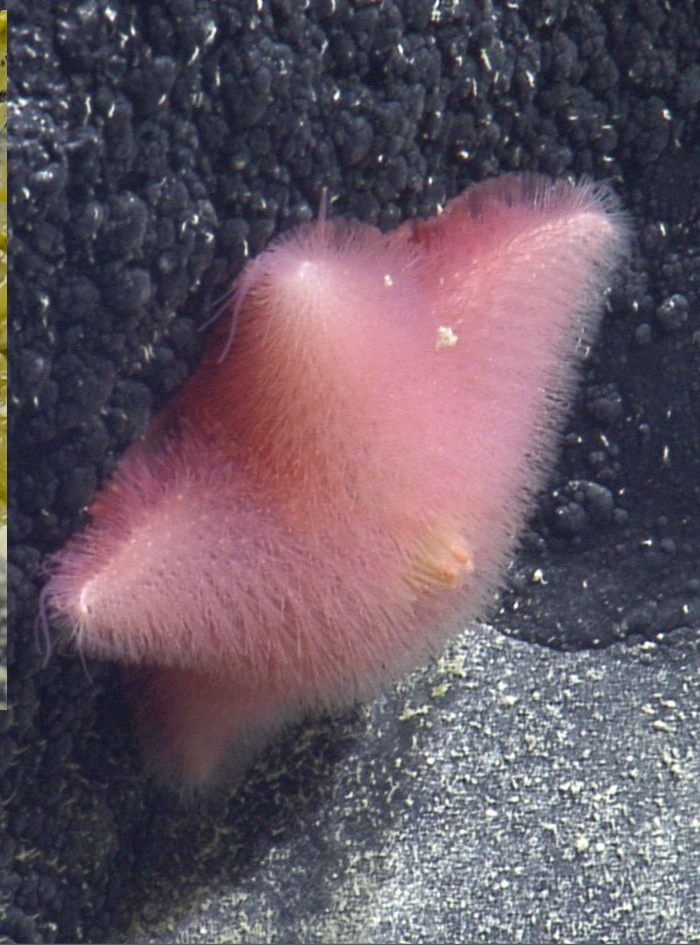
Ngikel – Fish





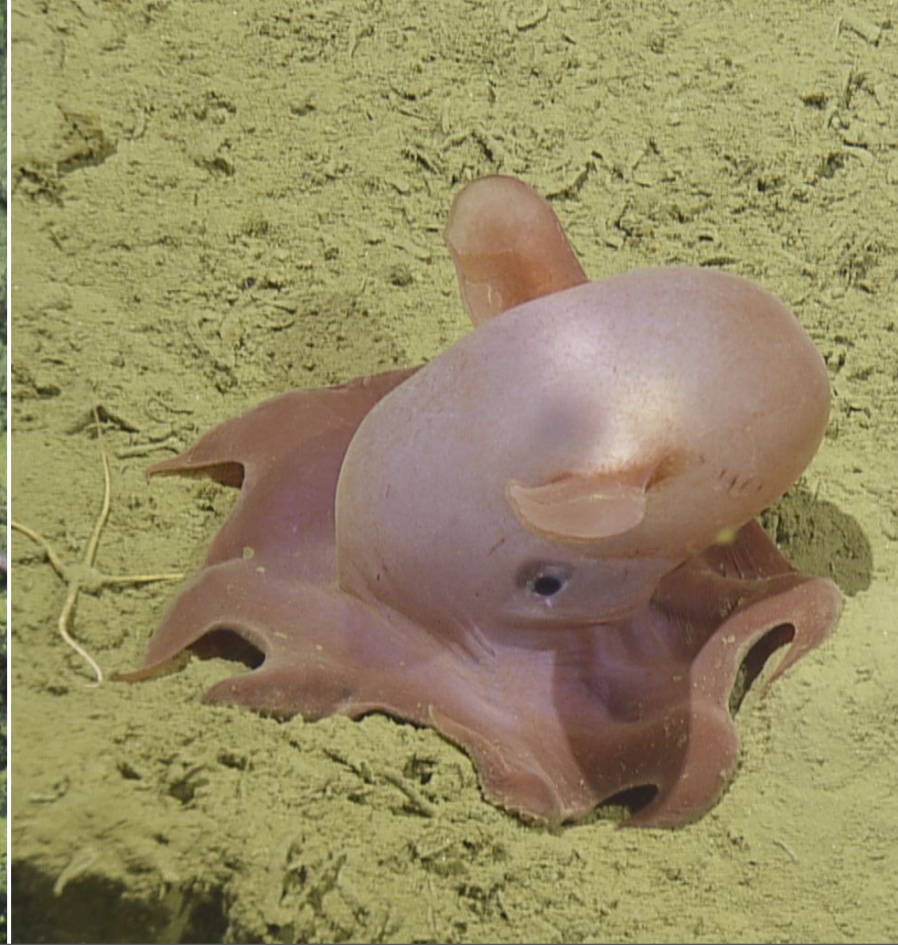
Chedeng – Shark





Btuch er a daob – Seastar





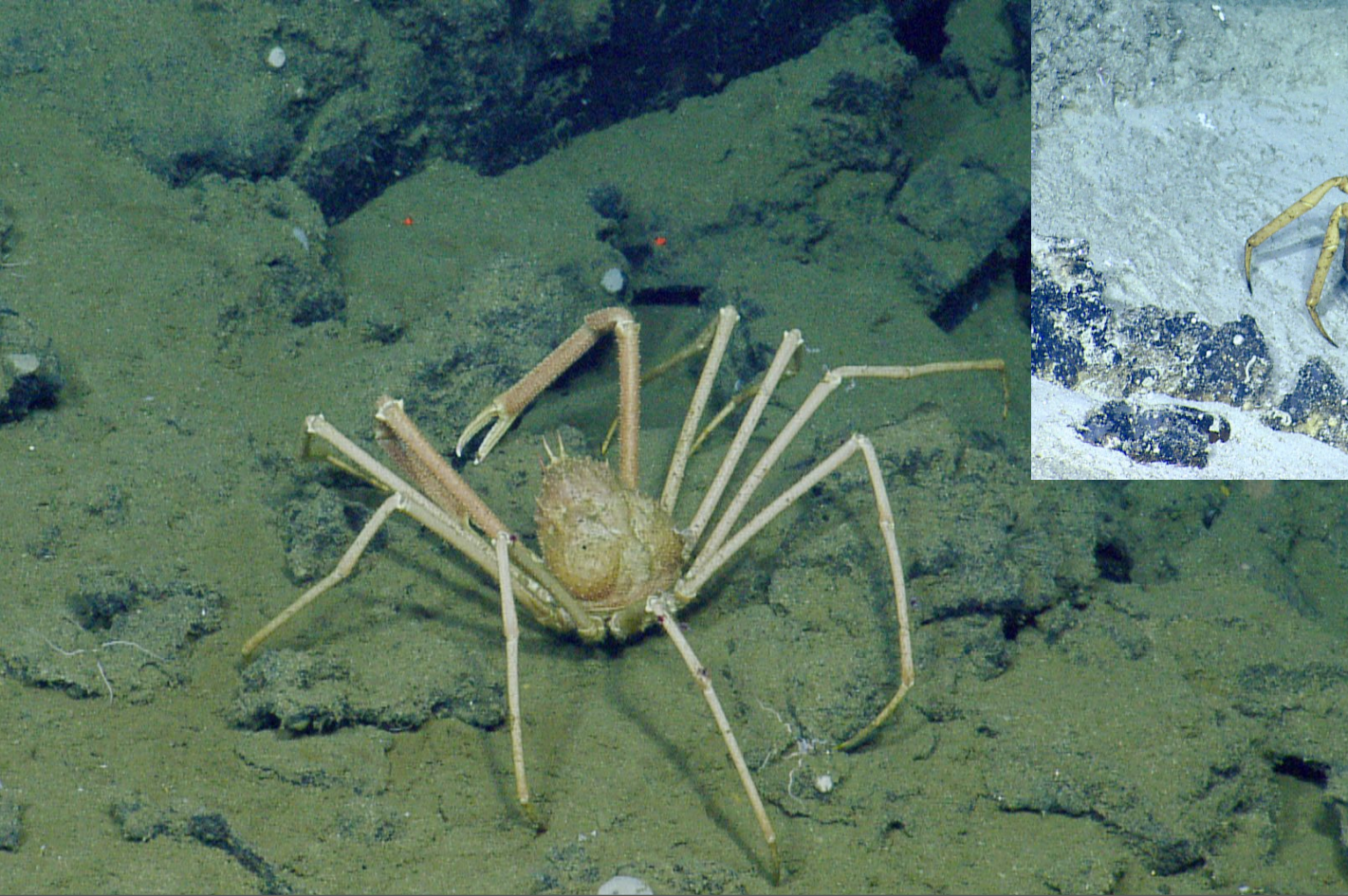
Bukitang – Octopus





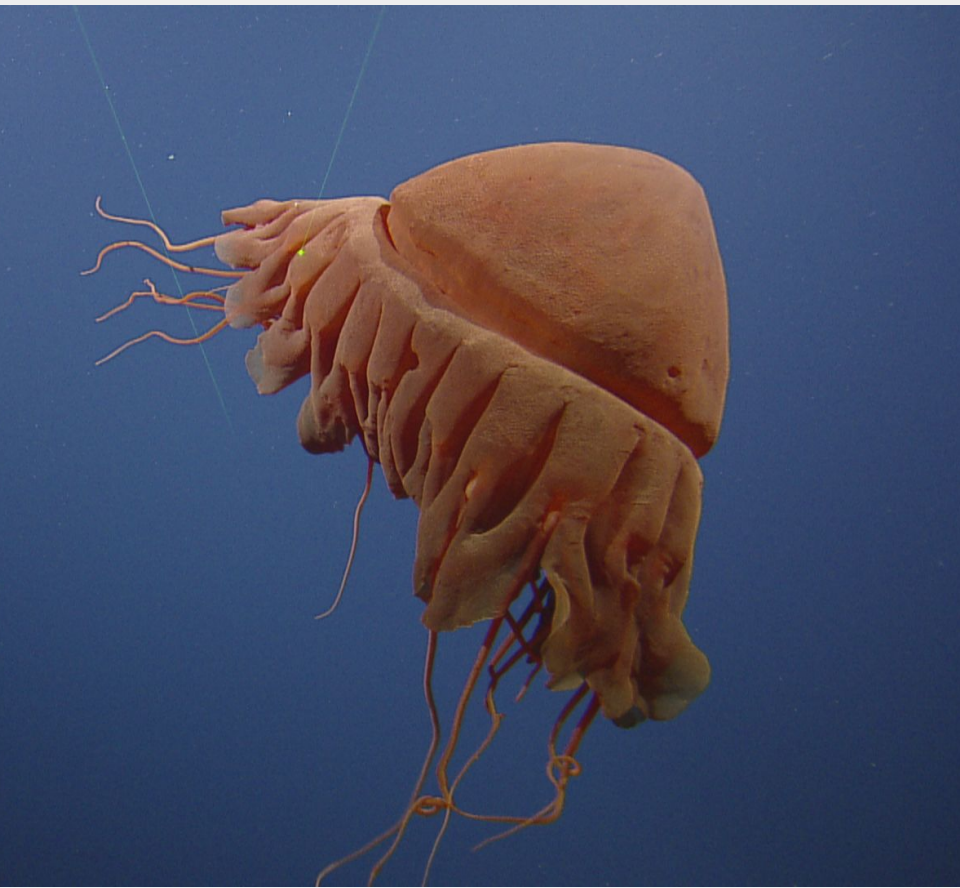
Lut – Squid





Chemang – Crab





Chedead – Jellyfish





Ta er a bedengel a merangd – Sea Anemone





Suebek el charm er a daob — Seabird



OCEAN LIFE BY DEPTH

SUNLIT ZONE
0-200 m (0-650 ft)

MANATEE

- Up to 4 m (13 ft) long
- Lives in waters up to 5 m (16 ft) deep
- Found in coastal areas of the Caribbean, Gulf of Mexico, the Amazon basin and West Africa

WALRUS

- Up to 3.5 m (11.5 ft) long
- Can dive up to 90 m (300 ft) below surface
- Found in cold northern waters of Arctic, Atlantic and Pacific Oceans

SPINNER DOLPHIN

- Up to 2.35 m (7.75 ft) long
- Can dive up to 300 m (1000 ft) below surface
- Found in tropical waters worldwide

GREAT WHITE SHARK

- Up to 3 m (10 ft) long
- Lives in depths of up to 200 m (660 ft)
- Found in warmer waters of oceans worldwide

LEOPARD SEAL

- Up to 3.5 m (11.5 ft) long
- Can dive up to depths of 300 m (985 ft)
- Found in Antarctic waters

CLOWNFISH

- Up to 12 cm (7 in) long
- Lives in depths of up to 10 m (33 ft)
- Found in Pacific and Indian Oceans, the Red Sea and Great Barrier Reef

FLYING FISH

- Up to 45 cm (18 in) long
- Lives in depths of up to 200 m (650 ft)
- Found in warm, tropical waters

CORAL

- Up to 25 cm (10 in) long
- Most live in depths of up to 70 m (230 ft)
- Found in oceans worldwide

CRILL

- Up to 15 cm (6 in) long
- Can live near surface and to depths of up to 4000 m (13000 ft)
- Found in oceans worldwide

TWILIGHT ZONE
200-1000 m (650-3300 ft)

JAPANESE SPIDER CRAB

- Up to 5.5 m (18 ft) across
- Lives in depths of up to 600 m (1950 ft) below surface
- Found in the southern coast of Honshu, Japan

EMPEROR PENGUIN

- Up to 1.2 m (4 ft) long
- Can dive up to 565 m (1850 ft) below surface
- Found in the Southern Ocean, Antarctica

HUMBOLDT SQUID

- Up to 1.5 m (5 ft) long
- Lives at depths of up to 700 m (2300 ft)
- Found in eastern Pacific Ocean

JELLYFISH

- Up to 2 m (6.5 ft) across
- From surface to 9000 m (30000 ft) below surface
- Found in oceans worldwide

COELACANTH

- Up to 2 m (6.5 ft) long
- Lives in depths of up to 240 m (800 ft)
- Found on coastlines of Indian Ocean and Indonesia

GIANT PACIFIC OCTOPUS

- Up to 5 m (16 ft) long
- Lives in depths of up to 2000 m (6500 ft)
- Found in North Pacific Ocean

MIDNIGHT ZONE
1000m (3300 ft) going down to about 6000 m (20000 ft)

SPERM WHALE

- Up to 20 m (65 ft) long
- Can dive to depths of 2250 m (7400 ft)
- Found in warmer oceans worldwide

DEEP SEA ANGLERFISH

- Up to 1 m (3.5 ft) long
- Usually 1000 m (3300 ft) below surface
- Found in warmer oceans worldwide

PELICAN EEL

- Up to 75 cm (2.5 ft) long
- Usually up to 3000 m (10000 ft) below surface
- Found in warmer oceans worldwide

COOKIECUTTER SHARK

- Up to 60 cm (2 ft) long
- Lives in depths of up to 3700 m (12000 ft)
- Found in warm waters in oceans worldwide

SEA CUCUMBER

- From 20 cm (0.75 m) to 3 m (10 ft) long
- Up to 10500 m (34500 ft) below surface
- Found in oceans worldwide

Image: Hinkler, ISBN 9781488933714

Uldekial a kakerous el klengar – Ecosystem