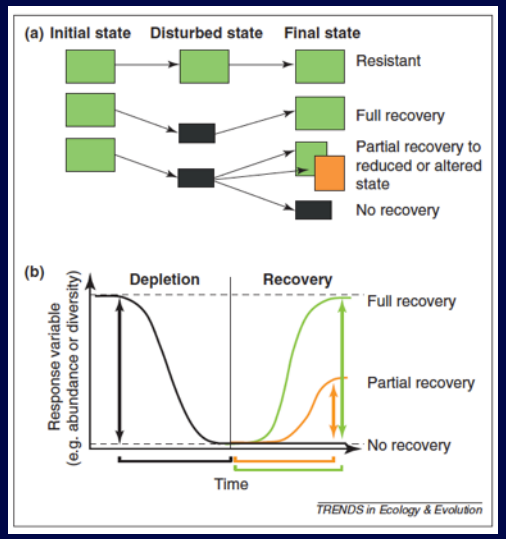
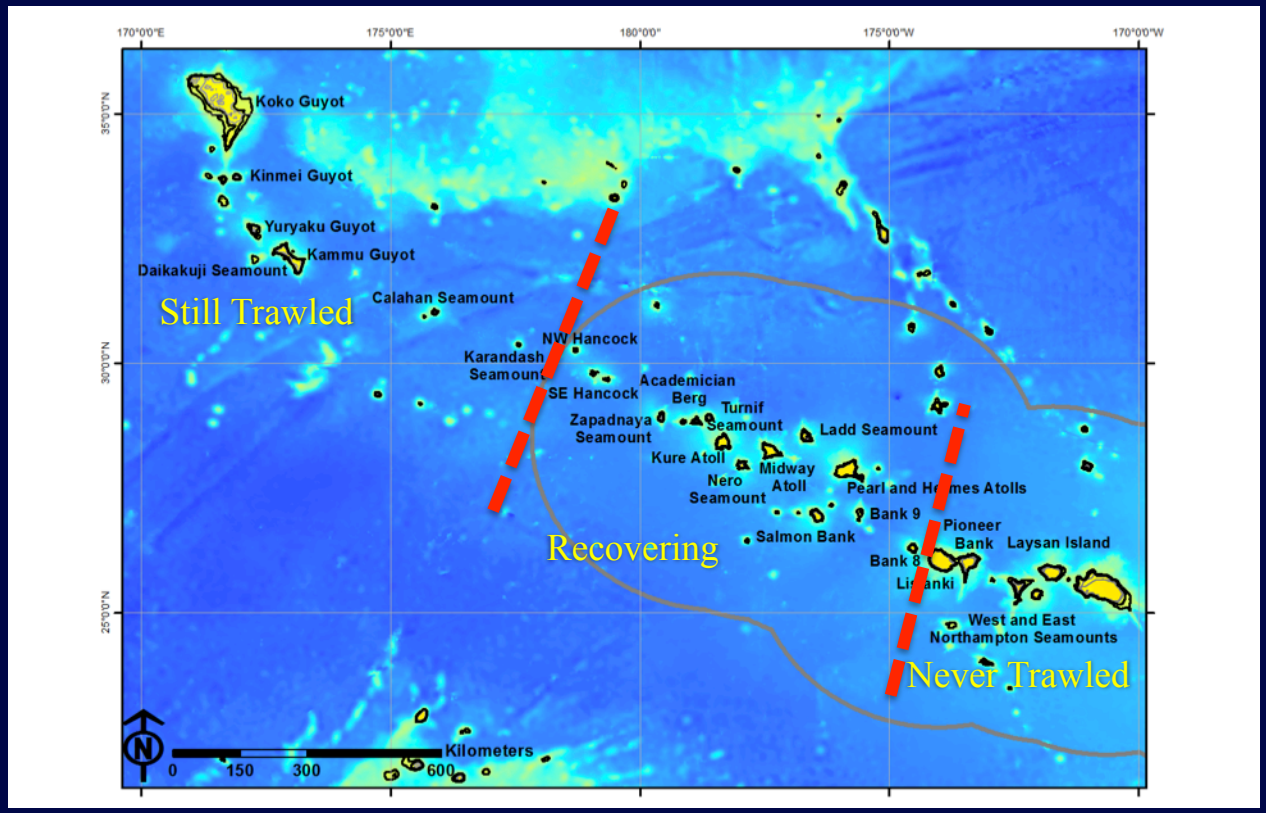
Collaborative Research: Recovery Of Seamount Precious Coral Beds From Heavy Trawling Disturbance

Amy Baco-Taylor, Florida State University,
Brendan Roark, Texas A&M University



A conceptual diagram of resilience and recovery from Lotze et al. (2011).



3 sites in each treatment type

AUV Sentry 2014 and 2015 Expeditions

AUV Sentry photo survey along depth contours between 200-700m (50m interv

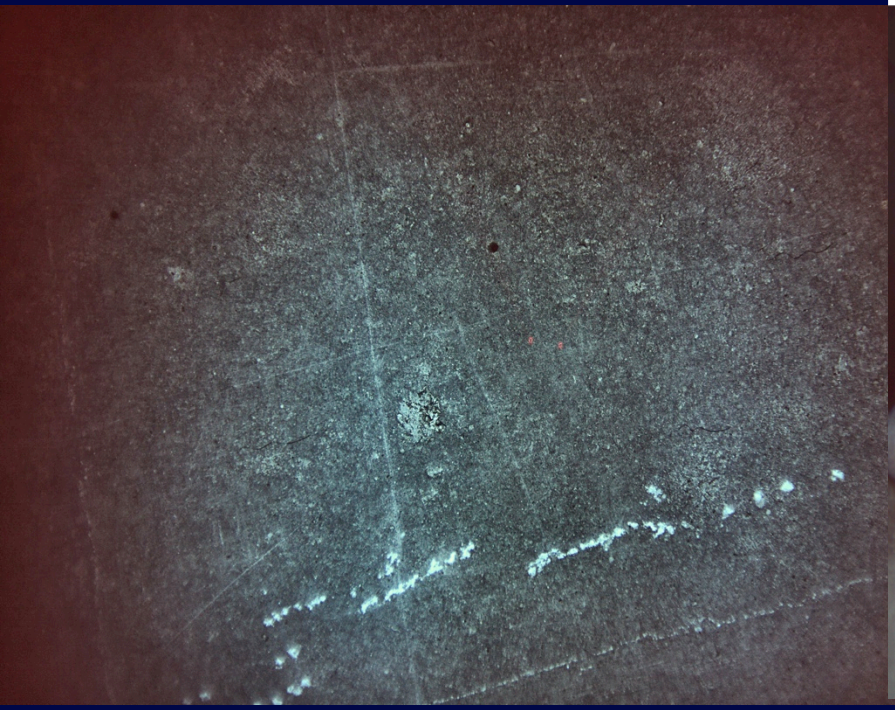
Maiden scientific voyage of the R.V. Sikuliaq (Nov 17 –Dec 12 2014)

R.V. Kilo Moana (Sept 24 – Nov 7 2015)

Sampling cruise (47 days) with ROV Jason in 2016

Can Deep-Sea Coral Beds Recover after Fishing Impacts

Example photos

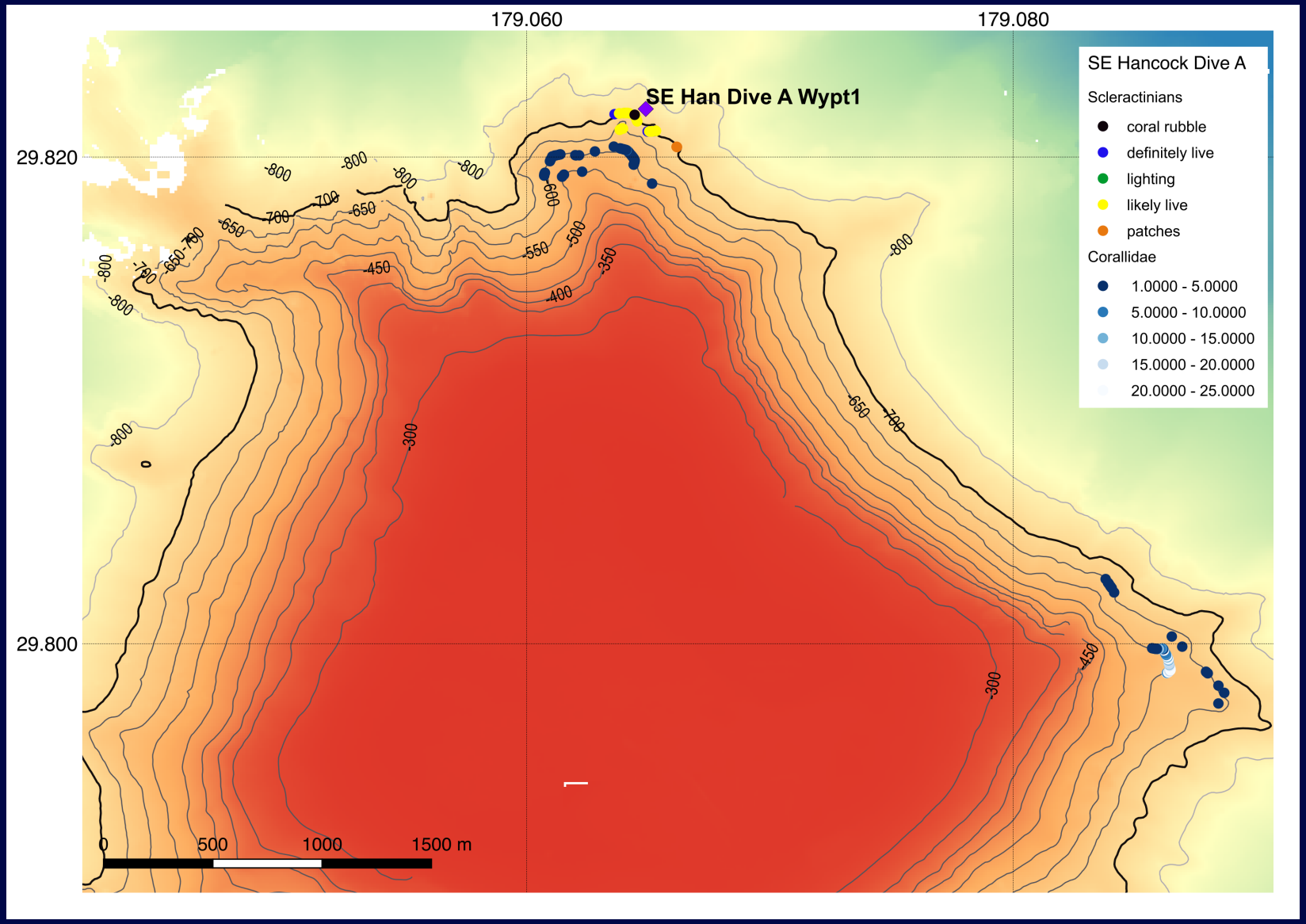


Fished sites with trawl marks

Never fished sites

27 AUV Sentry dives generating ~700,000 photos

Southeast Hancock Coral Distribution



Sampling Cruise Objectives

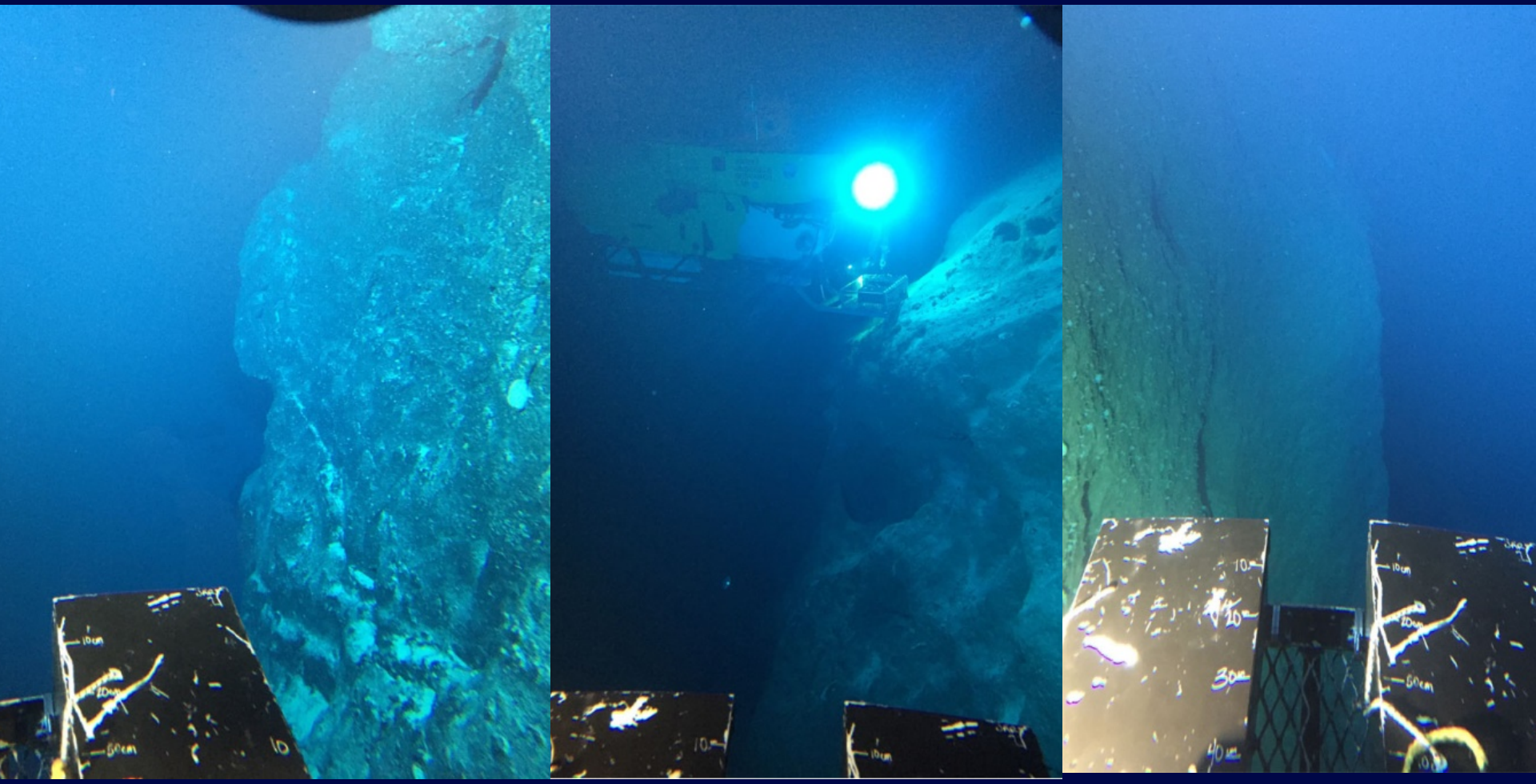
- Video transects along depth contours – augment AUV transects and new data
- Voucher specimens of dominant fauna (no urchins)
- Collecting population genetic samples of Corallidae
- Collecting aging samples of Corallidae
- Size-Frequency data
- Opportunistic additions – lander recover, lander redeployment.

RV Kilo Mauna mechanical issues cancelled ROV Jason cruise.

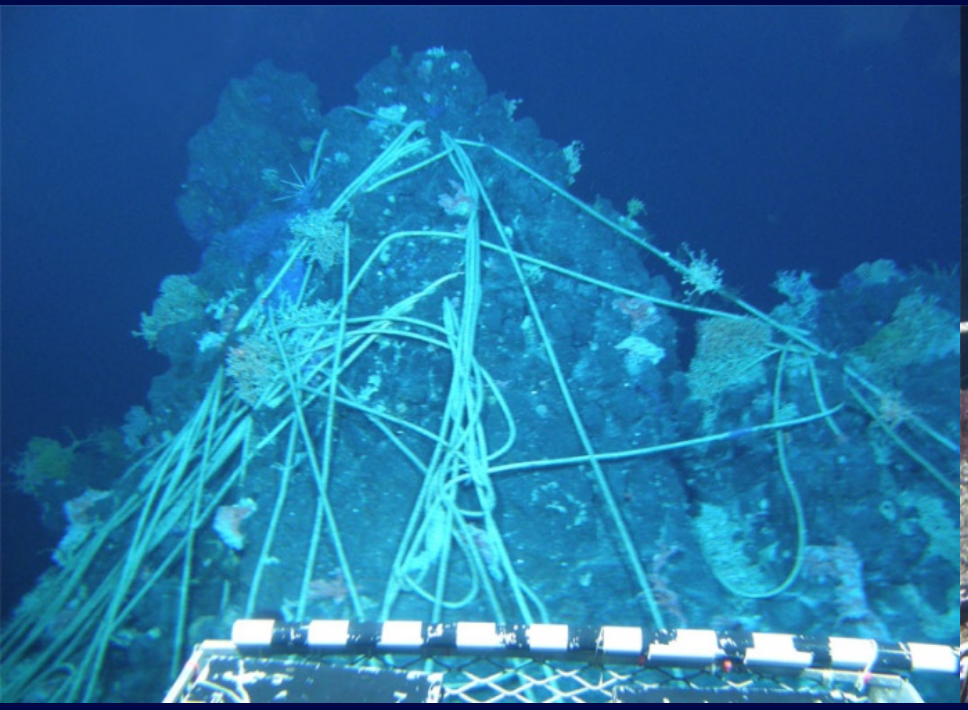
Hawaii Undersea Research Laboratory Pisces IV/V

- Research plan using a submersible v ROV.
- Bottom time (~75 hours on station)
- Sampling large number of specimens
- Changing vehicles next year – impact on video transects?

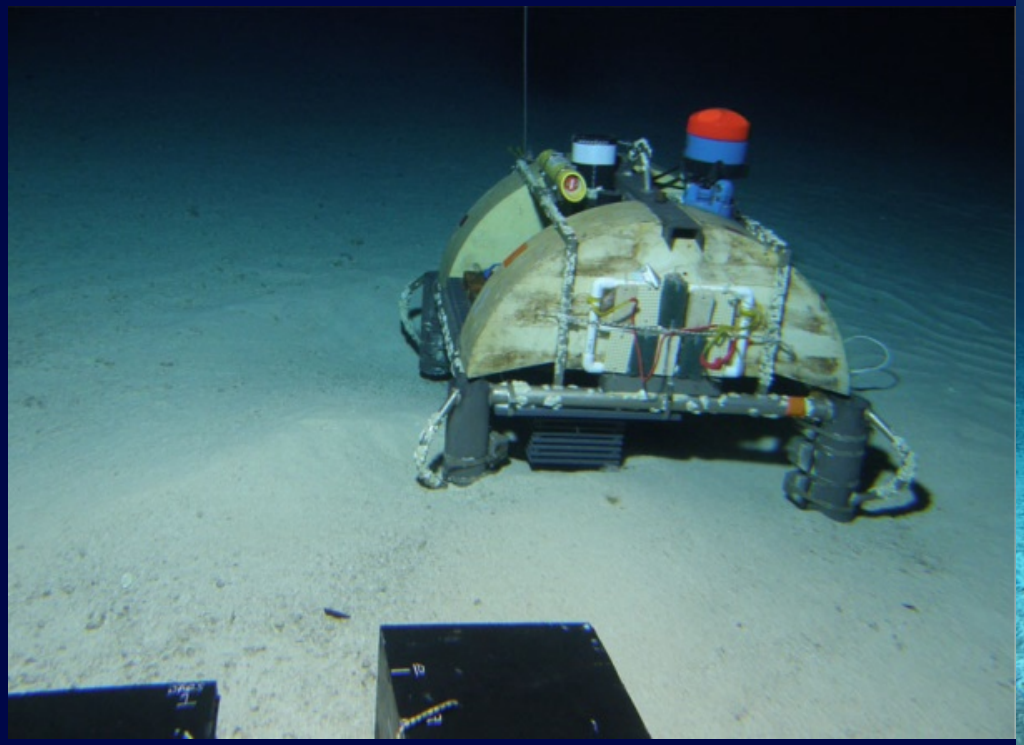
Vertical and Rough Terrain

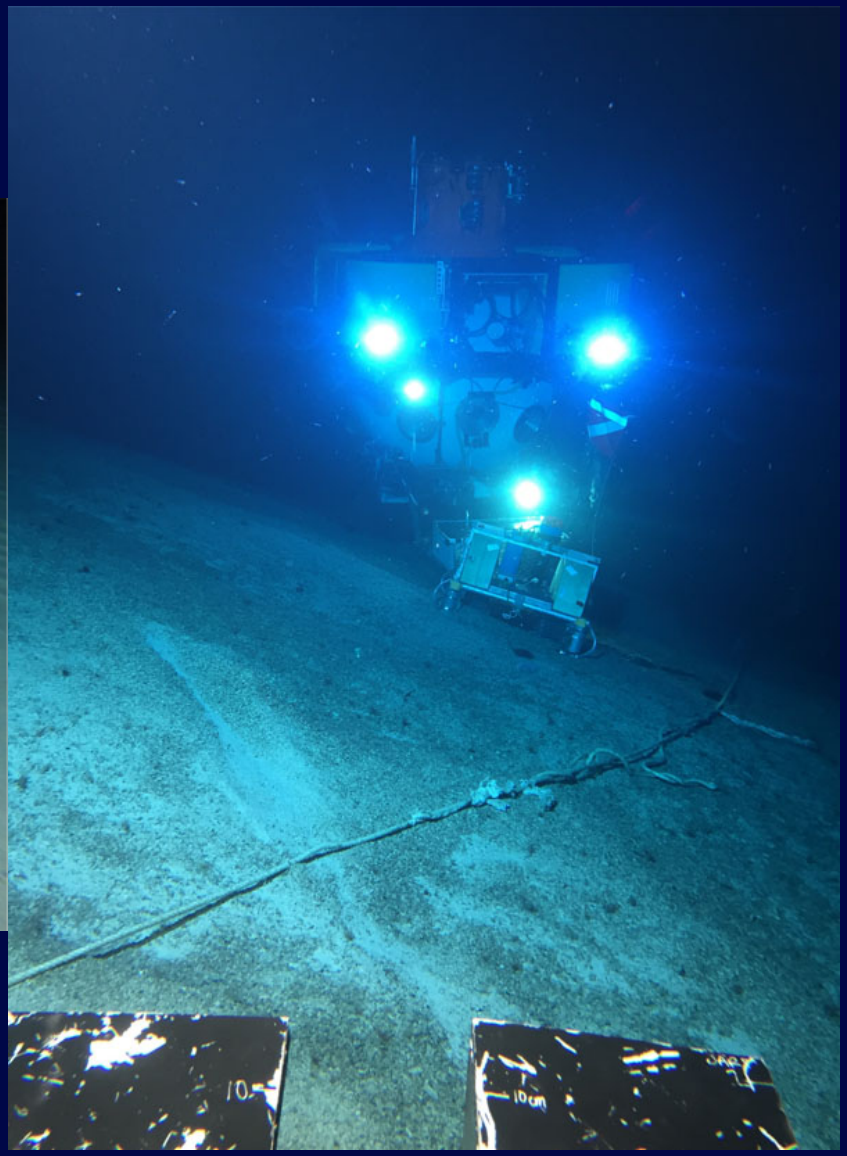


Fishing Gear



DSC Lander Recovery and Deployment





Cruise Summary

- Completed 24 submersible dives at 4 sites.
- With 2 sub dives, we completed all of our transect dives, including covering ~14 km in one day.
- Collected ~125 aging specimens and 500 genetic samples
- Weather (as expected) and ship mechanical issues cause the loss of 3 dive days.