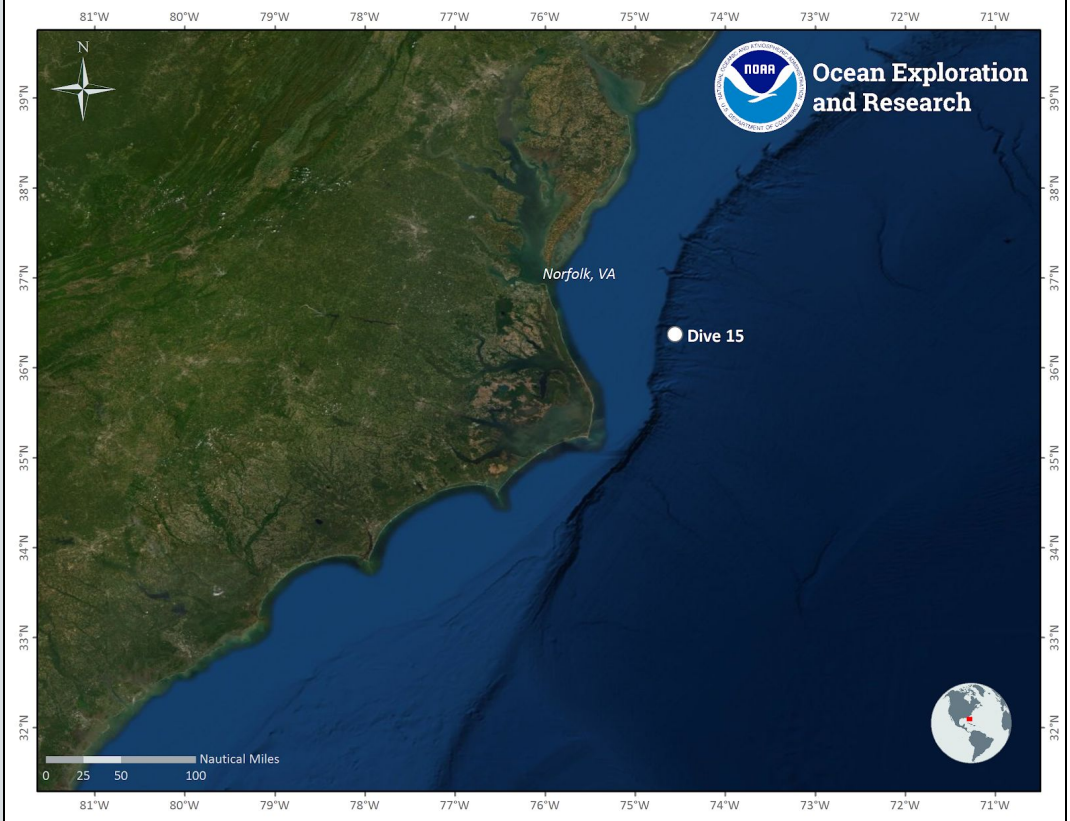
Ocean Exploration and Research

Okeanos Explorer ROV Dive Summary

Dive Information

General Location Map	
General Area Descriptor	U.S. Southeast, Currituck Landslide
Site Name	Currituck Base
Science Team Leads	Amy Wagner (CSUS) and Alexis Weinnig (Temple)
Expedition Coordinator	Kasey Cantwell (NOAA-OER)
ROV Dive Supervisor	Chris Ritter (GFOE)
Mapping Lead	Shannon Hoy (NOAA-OER)

ROV Dive Name

Cruise	EX1903L2
Dive Number	DIVE15

Equipment Deployed

ROV	*Deep Discoverer*		
Camera Platform	*Seirios*		
ROV Measurements	✔CTD	✔Depth	✔Altitude
	✔Scanning Sonar	✔USBL Position	✔Heading
	✔Pitch	✔Roll	✔HD Camera 1
	✔HD Camera 2	✔Low Res Cam 1	✔Low Res Cam 2
	✔Low Res Cam 3	✔Low Res Cam 4	✔Low Res Cam 5
Equipment Malfunctions			
ROV Dive Summary Data (from Processed ROV)	Dive Summary: EX1903L2_DIVE15 ^^^ In Water: 2019-07-07T14:05:22.187651 36°, 21.125' N ; 74°, 37.561' W On Bottom: 2019-07-07T15:27:17.428251 36°, 21.216' N ; 74°, 37.475' W Off Bottom: 2019-07-07T19:40:48.474575 36°, 21.342' N ; 74°, 37.57' W Out Water: 2019-07-07T20:41:39.258768 36°, 21.144' N ; 74°, 37.668' W Dive duration: 6:36:17 Bottom Time: 4:13:31 Max. depth: 1645.0 m		
Special Notes	We started our dive a couple of hours delayed due to high winds, waves and currents during the drift test this morning. Fortunately, conditions improved through the morning and we launched the ROV at approximately 10:00 EDT.		

Scientists Involved (provide name, affiliation, email)

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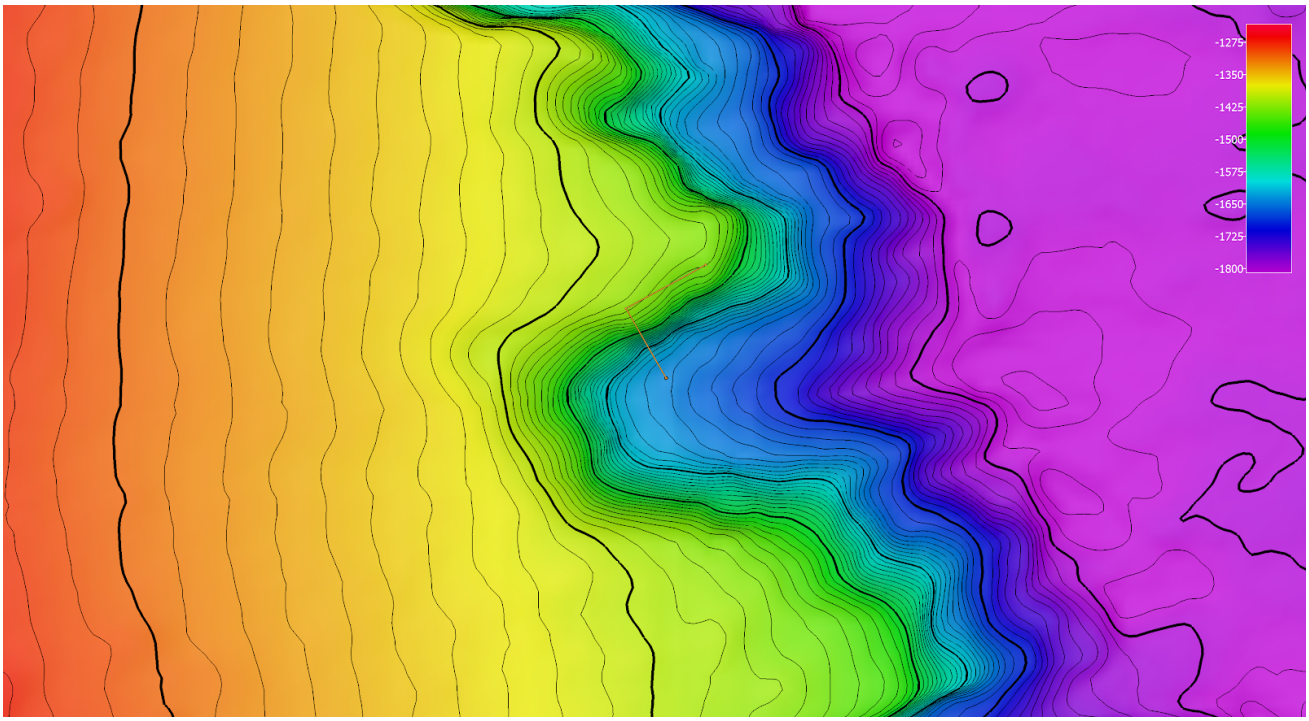
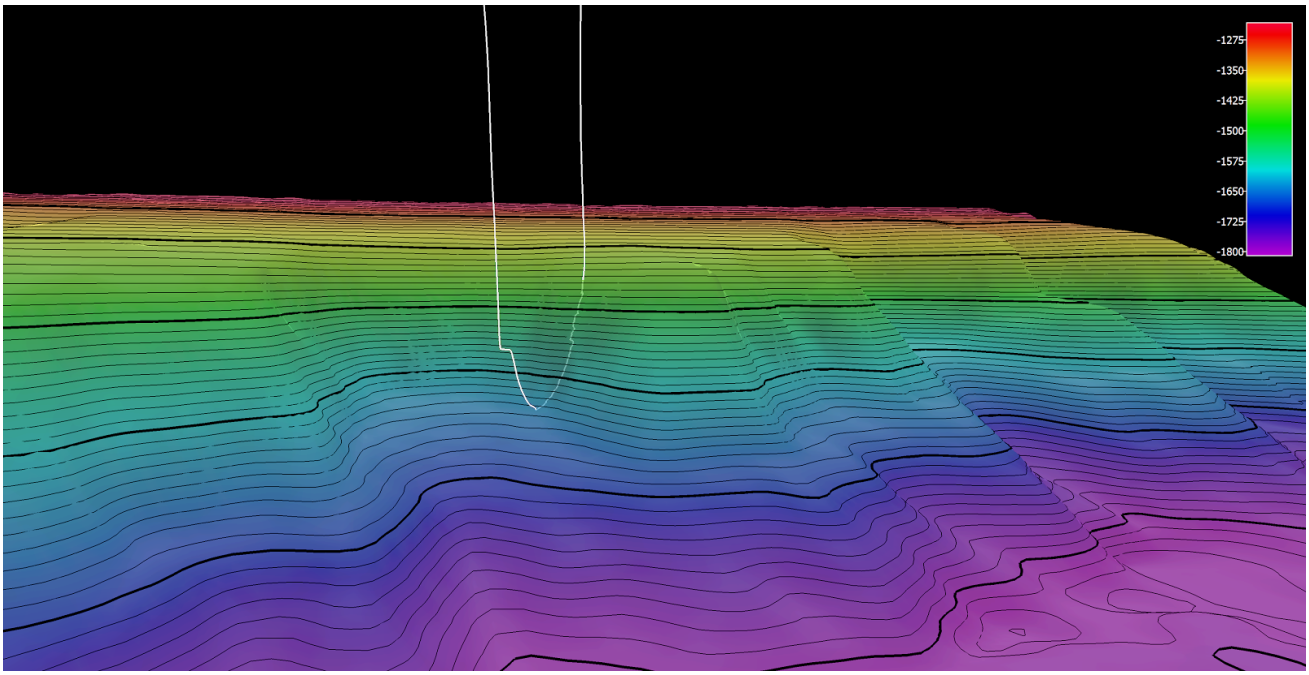
Dive Purpose	The primary objective of this dive is to explore and characterize an area with relatively steep slope on the Currituck landslide off the North Carolina coast.

Dive Description	This dive at Currituck landslide was slightly delayed due to weather, a system passed through around 12:00 UTC which delayed launch by approximately an hour. The vehicles launched at 13:55 UTC and reached the bottom at 15:27 UTC at 1,642 meters. The seafloor was comprised of soft, silty sediment with some large chunks of angular rocks dispersed across the seafloor. Among the sedimented seafloor was a relatively high density of ophiuroids (*Ophiomusa sp*.), a few different genera of sea pens including *Umbellula sp.* and *Kophobelemnon sp.*, echinoid urchins, and cup corals (*Flabellum alabastrum*). The cup corals occur more common as the seafloor became a little more rubbly as we continued up the slope. We also observed a number of fish throughout the dive including halosaurs (*Halosauropsis macrochir, Aldrovandia affinis)*, sorcerer eels (*Venefica procera*), ophidoid cusk eels (*Dicrolene introgigra*), macrourids, eelpouts (*Lycodes terraevona*), At a depth of approximately 1,550 m, the bottom became more steep and rocky. The ROV encountered large rock faces over 10 meters high. A number of brisingid sea stars were seen on the rocky outcrop, in addition to some sponges and anemones and a large (>10 cm) pycnogonida sea spider (*Colossendeis sp.*). Surprisingly, the rock surface did not have much sessile organism settlement that might be expected in such an area. We did observe two warty octopods (*Graneledone sp.*) along the sedimentary rock slopes and one bobtail squid. As we continued up the feature, beyond the large rock boulders, the slope decreased and became relatively sedimented again with angular rock chucks dispersed across the seafloor. The dive ended at 19:40 at a depth of 1,469 m. Two biological samples were collected (a *Flabellum alabastrum* and a benthic ctenophore) and one geological sample was collected.
Notable Observations	Large rock structures over 10 meters high at the steepest point on the dive track
Community Presence/ Absence (community is defined as more than two species)	X Corals and Sponges ✔ Chemosynthetic Community ✔ High biodiversity Community ✔ Active Seep or Vent ✔ Extinct Seep or Vent ✔ Hydrates
Feature Type	Submarine Slide Deposit (Underwater landslide), Submarine Slide Deposit, Scarp/Wall
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV2?resourceTypeId=1000&resourceId=23621&diveId=1483

Overall Map of the ROV Dive Area



Close-up Map of Main Dive Site



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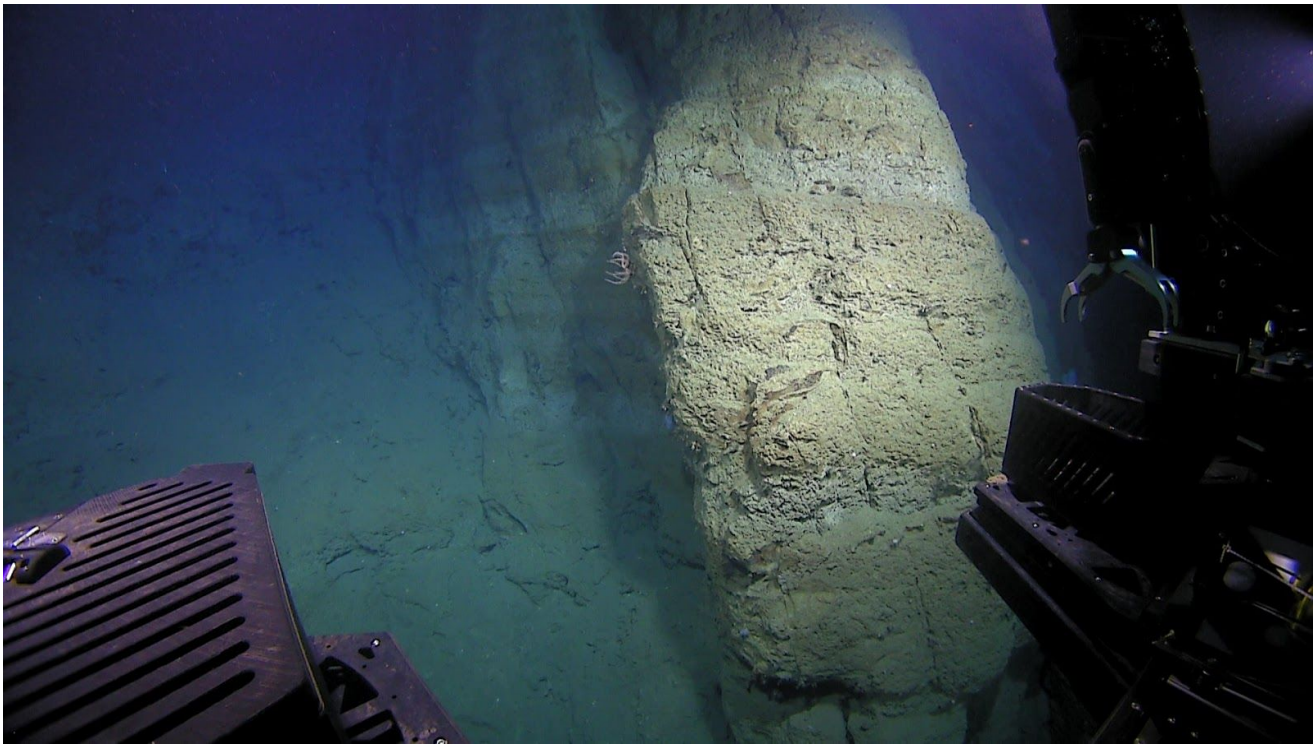
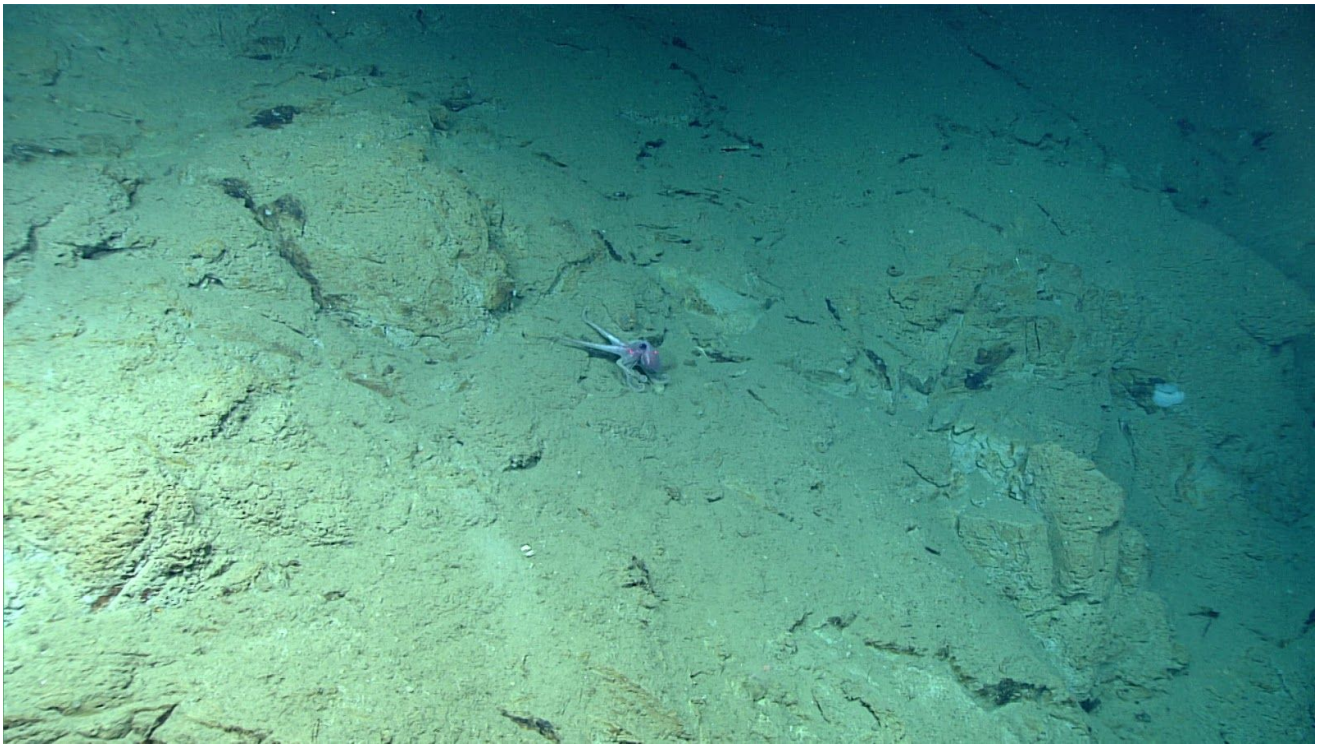
Representative Photos of the Dive

Flabellum alabastrum on the sedimented seafloor



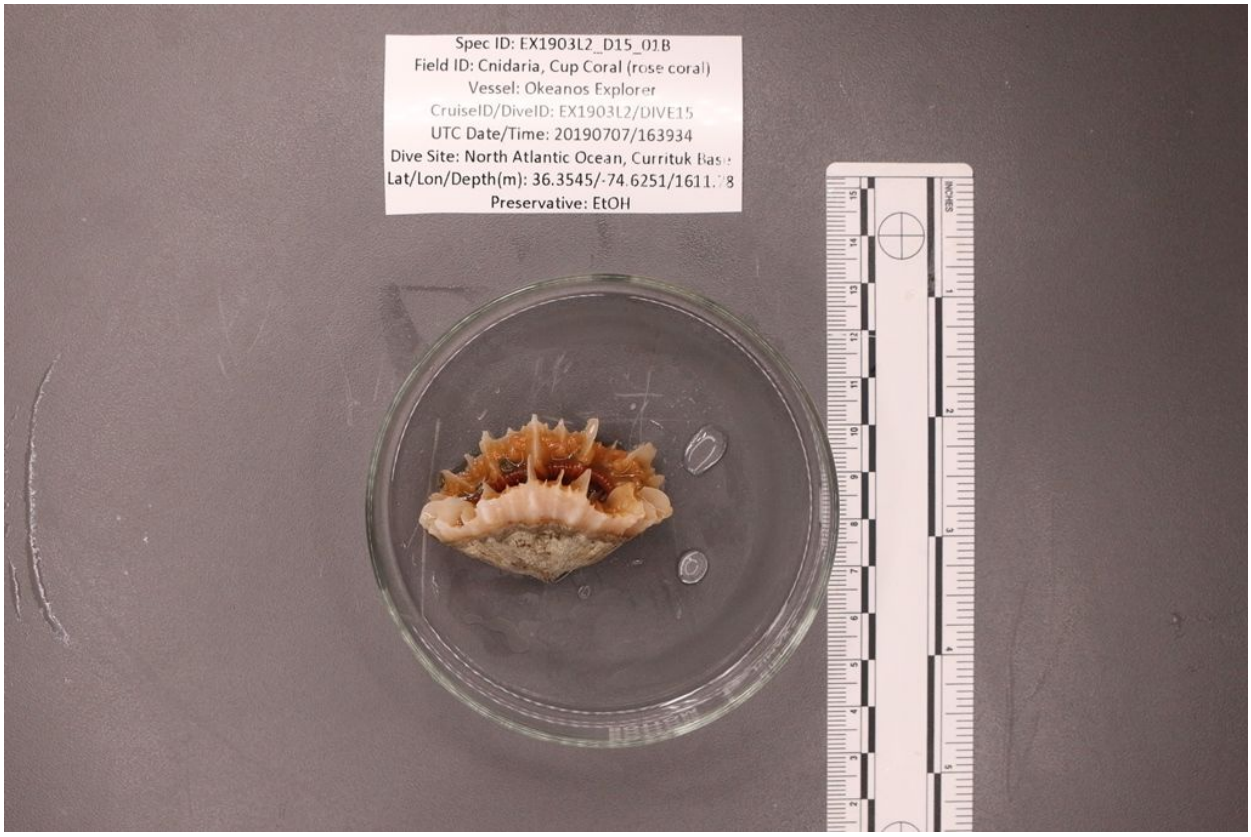
The large boulders observed around 1,550 meters (wide angle camera)



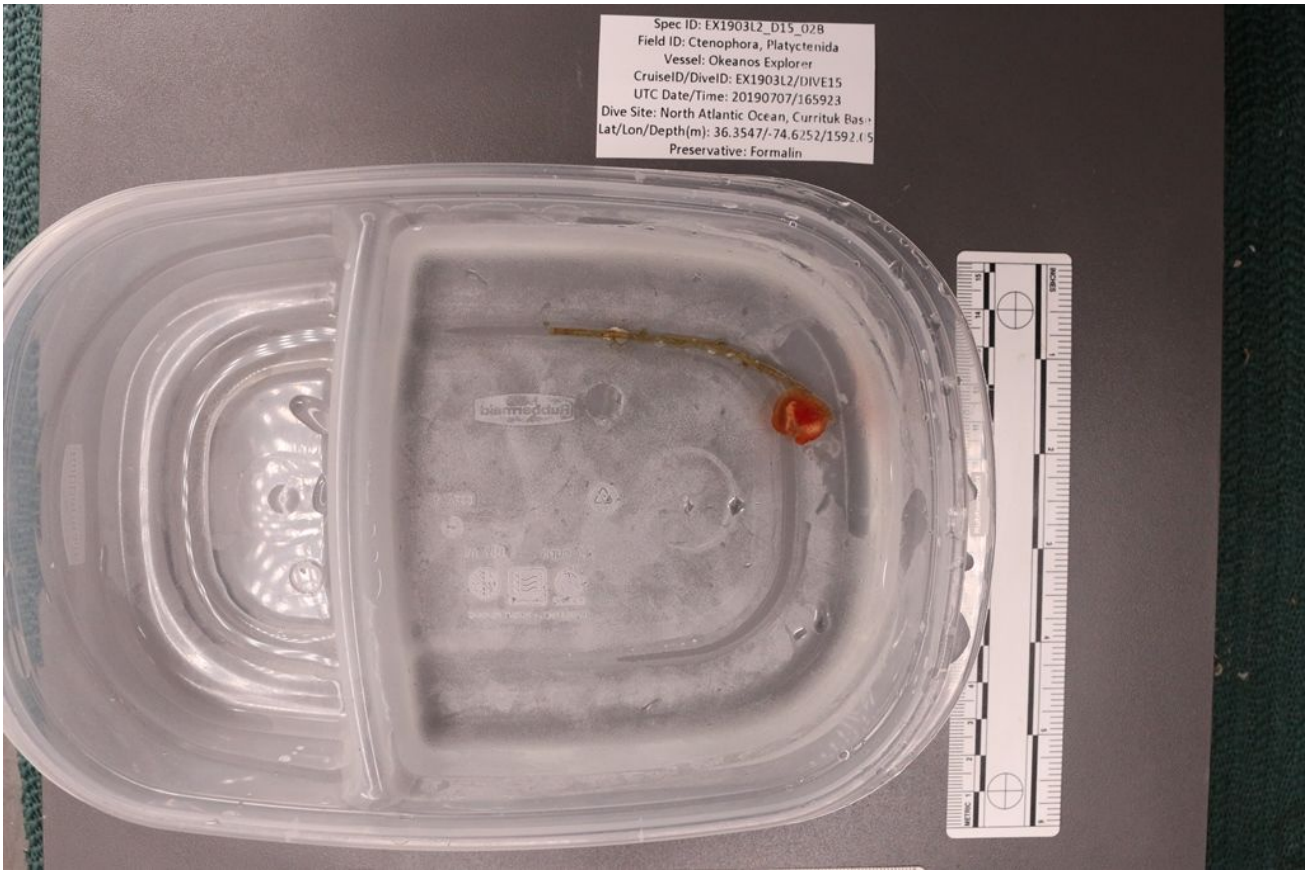
Graneledone sp. on the sedimentary rock slopes

[CAPTION]

Samples Collected



Sample ID	EX1903L2_D15_01B
Date (UTC)	20190707
Time (UTC)	163934
Depth (m)	1611.8
Temp. (˚C)	3.881
Field ID(s)	*Flabellum sp.* (rose coral)
Associates	Associates Sample ID: No associates; Field Identification:
Comments	



Sample ID	EX1903L2_D15_02B
Date (UTC)	20190707
Time (UTC)	165923
Depth (m)	1592.0
Temp. (°C)	3.925
Field ID(s)	Platyctenida
Associates	Associates Sample ID: EX1903L2_D15_02B_A01 — Field Identification: Gastropod
Comments	

Sample ID	EX1903L2_D15_03G
Date (UTC)	20190707
Time (UTC)	191538
Depth (m)	1500.7
Temp. (°C)	4.007
Field ID(s)	Rock
Associates	

Associates Sample ID	Field Identification
EX1903L2_D15_03G_A01	Unknown
EX1903L2_D15_03G_A02	Polychaeta
EX1903L2_D15_03G_A03	Polychaeta

Comments	

Please direct inquiries to:

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