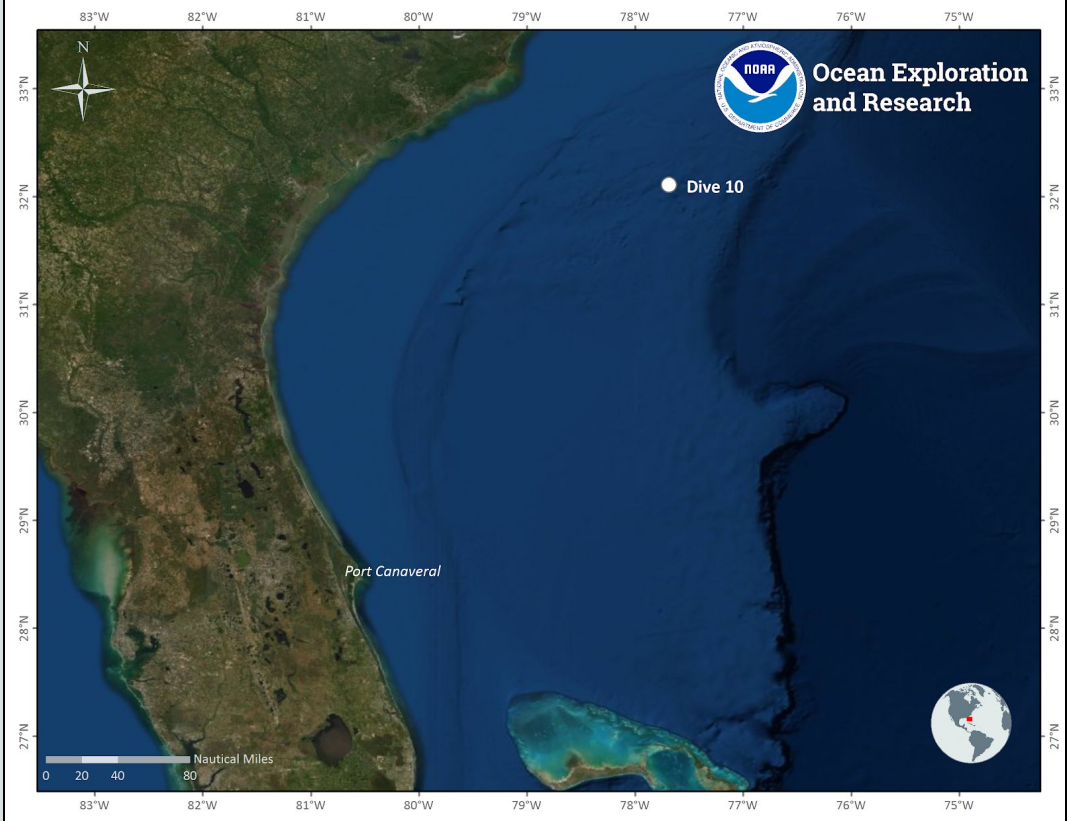
Ocean Exploration and Research

Okeanos Explorer ROV Dive Summary

Dive Information

General Location Map	
General Area Descriptor	U.S. Southeast
Site Name	Richardson "Jellyfish"
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	Dive 10

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_DIVE10 ^^^ In Water: 2019-07-01T12:27:12.805848 32°, 5.738' N ; 77°, 40.082' W On Bottom: 2019-07-01T13:04:56.553733 32°, 5.785' N ; 77°, 39.877' W Off Bottom: 2019-07-01T20:07:05.275798 32°, 5.346' N ; 77°, 40.22' W Out Water: 2019-07-01T20:34:45.821120 32°, 5.543' N ; 77°, 40.062' W Dive duration: 8:7:33 Bottom Time: 7:2:8 Max. depth: 886.0 m		
Special Notes			

Scientists Involved (provide name, affiliation, email)

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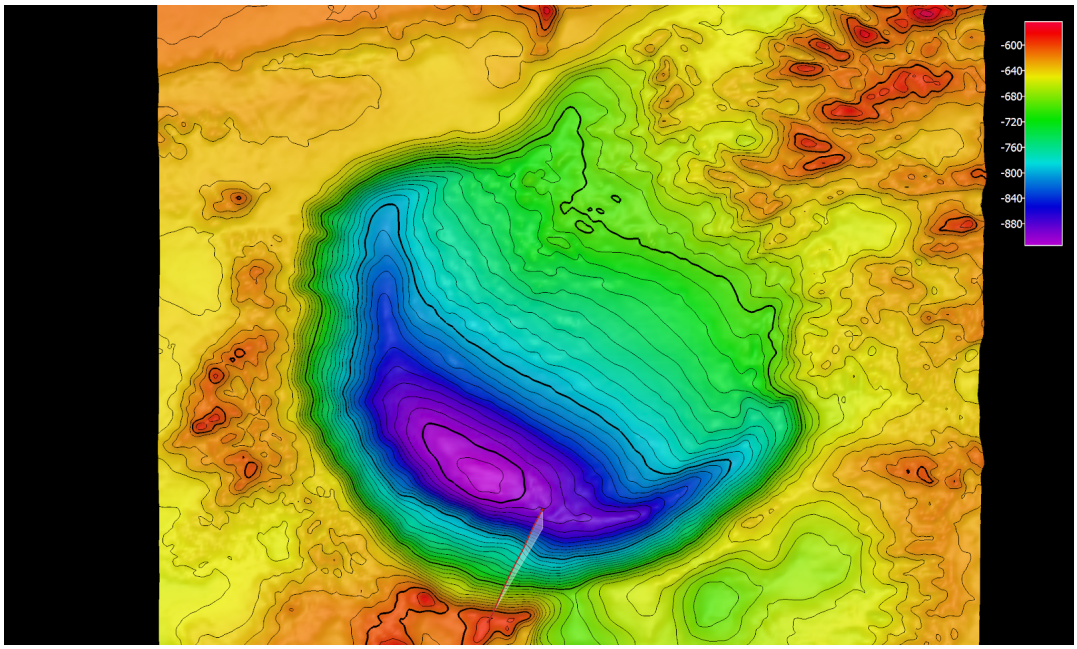
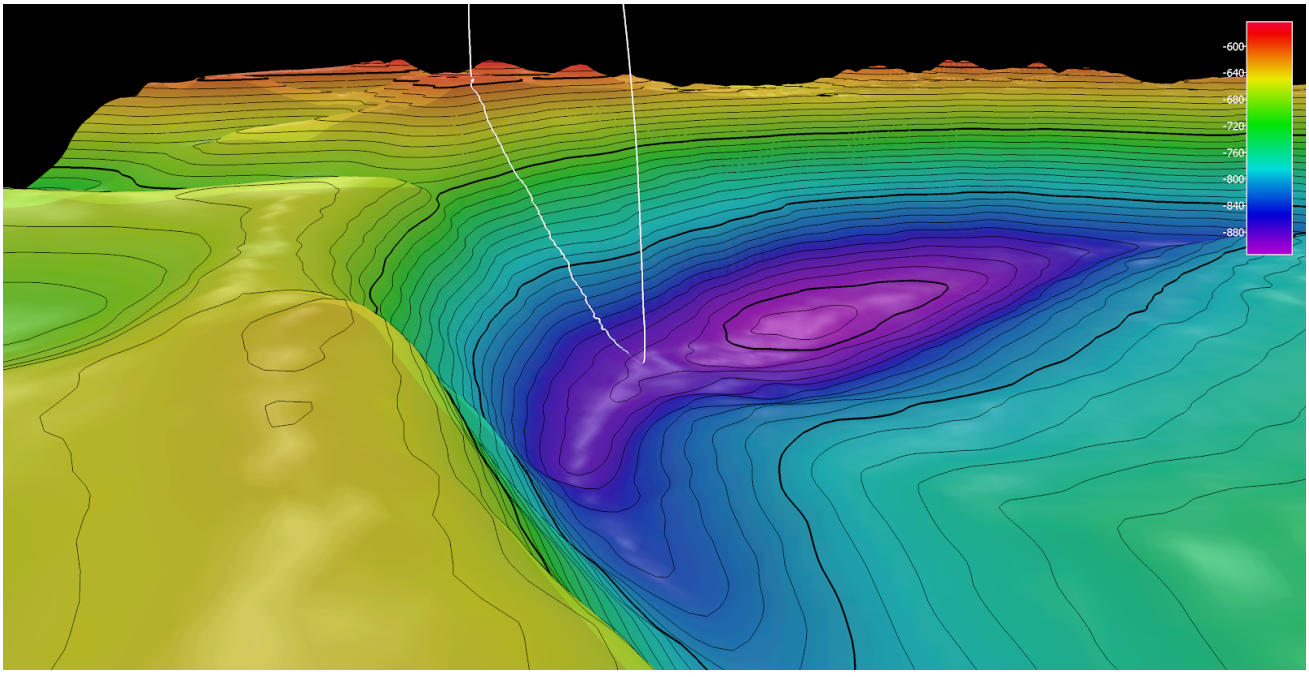
Dive Purpose	This site is to the south of the region explored on the Windows to the Deep 2018 expedition when a large deep sea reef was discovered. Leg 1 of the Windows to the Deep 2019 mapped more of the area and found this feature that appears to be an underwater slump and has the same characteristic mounds around the top of the feature as those seen in Richardson Reef. This dive will help to identify any further extent of the reef complex.

Dive Description	The ROV launched at 12:17 UTC and reached bottom, slightly to the south of the first waypoint, at 13:04 UTC and a depth of 885 m. The bottom was primarily fine-coarse sediment and coral rubble with very little coral or sponge coverage. There was a high amount of detritus in the water column and visibility was relatively low compared to previous dive sites. The dive proceeded up the feature at a constant pace due to the long dive track, observing many fish including cusk eels and Atlantic roughy, and fan-shaped bryozoans (Phidoloporidae family). Several swimming polychaetes (*Tomopteris sp.*) were seen swimming near the bottom and in the Seirios camera. As the bottom became more rocky, there were more bamboo (*Isididae sp.*) and primnoid corals present. Towards the top of the feature, there were large outcrops of exposed manganese encrusted rocks with large *Lophelia pertusa* colonies on the edges. At the top of the feature as the slope flattened out, there was a smaller abundance of stony corals and a softer, sediment bottom with smaller octocorals and sponges. During the dive, we collected five biological samples. The ROV began the ascent to the surface from a depth of 591 meters at 20:07 UTC.
Notable Observations	
Community Presence/ Absence (community is defined as more than two species)	✔ Corals and Sponges ✔ Chemosynthetic Community ✔ High biodiversity Community ✔ Active Seep or Vent ✔ Extinct Seep or Vent ✔ Hydrates
Feature Type (CMECS)	Colonized Deepwater/Coldwater Reef; Rock Outcrop, Hole/Pit, Ridge
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV2?resourceTypeId=1000&resourceId=23621&diveId=1433

Overall Map of the ROV Dive Area

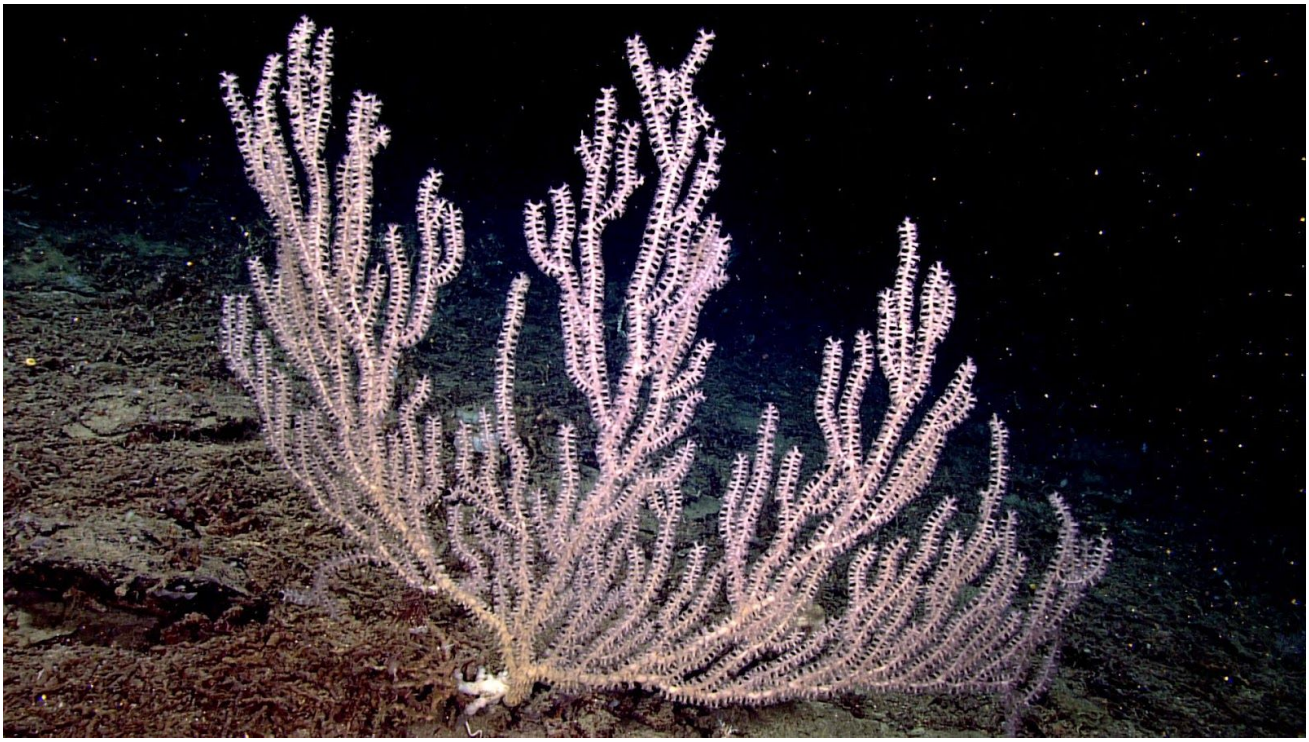


Close-up Map of Main Dive Site

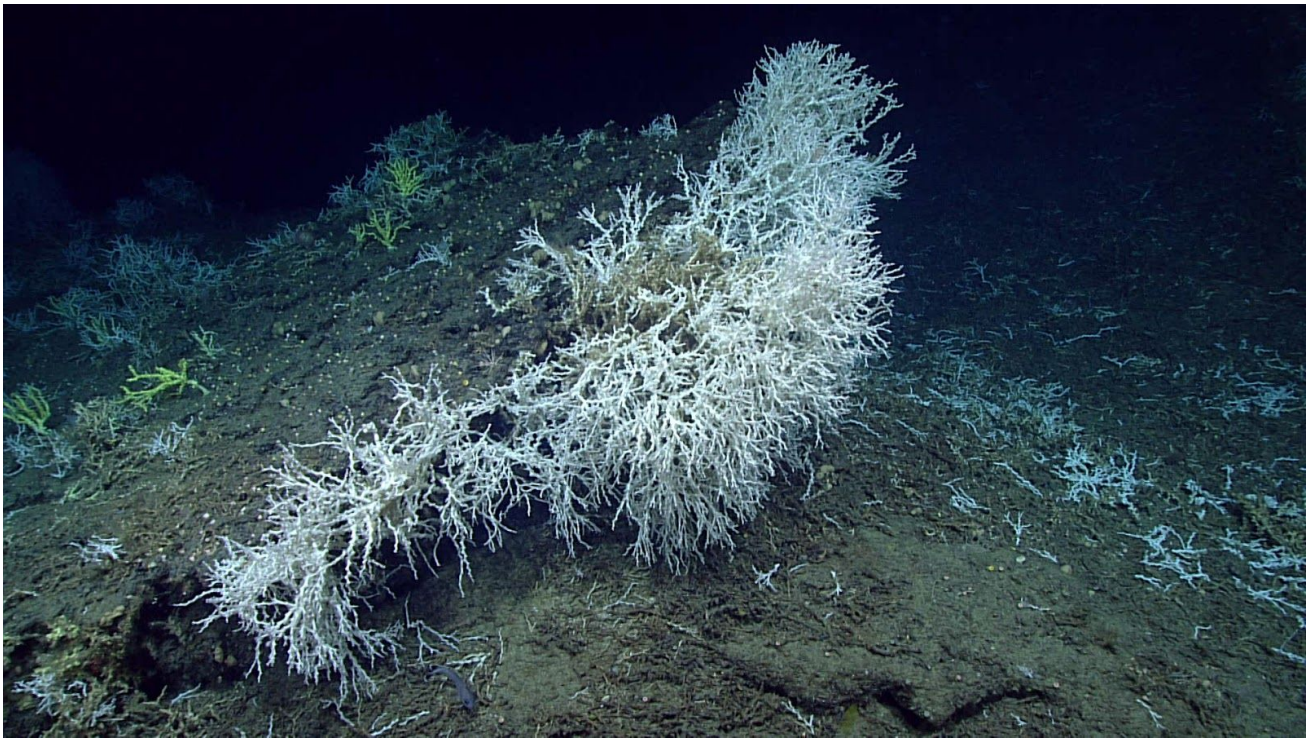


Representative Photos of the Dive

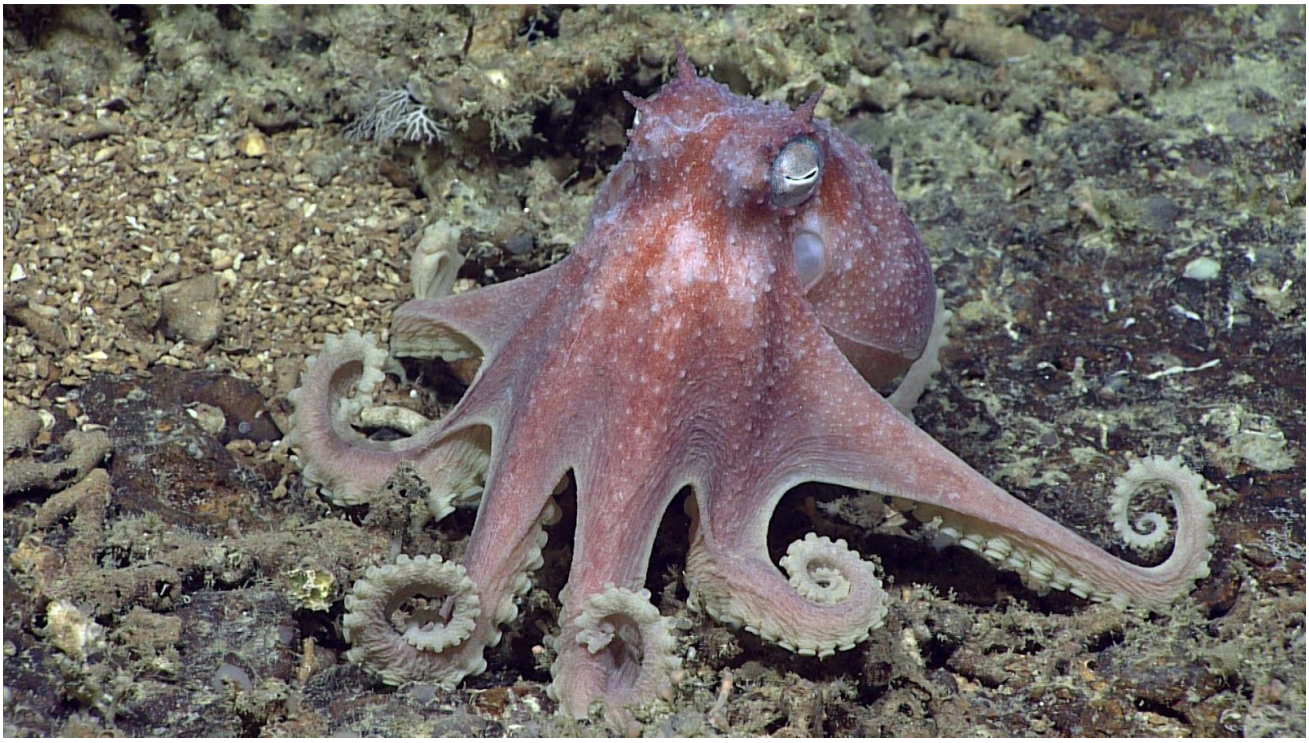
Three sea toads, or coffinfish, (family Chaunacidae) were seen throughout the dive.



Several large bamboo coral (*Isididae sp.*) were seen on rock outcroppings.

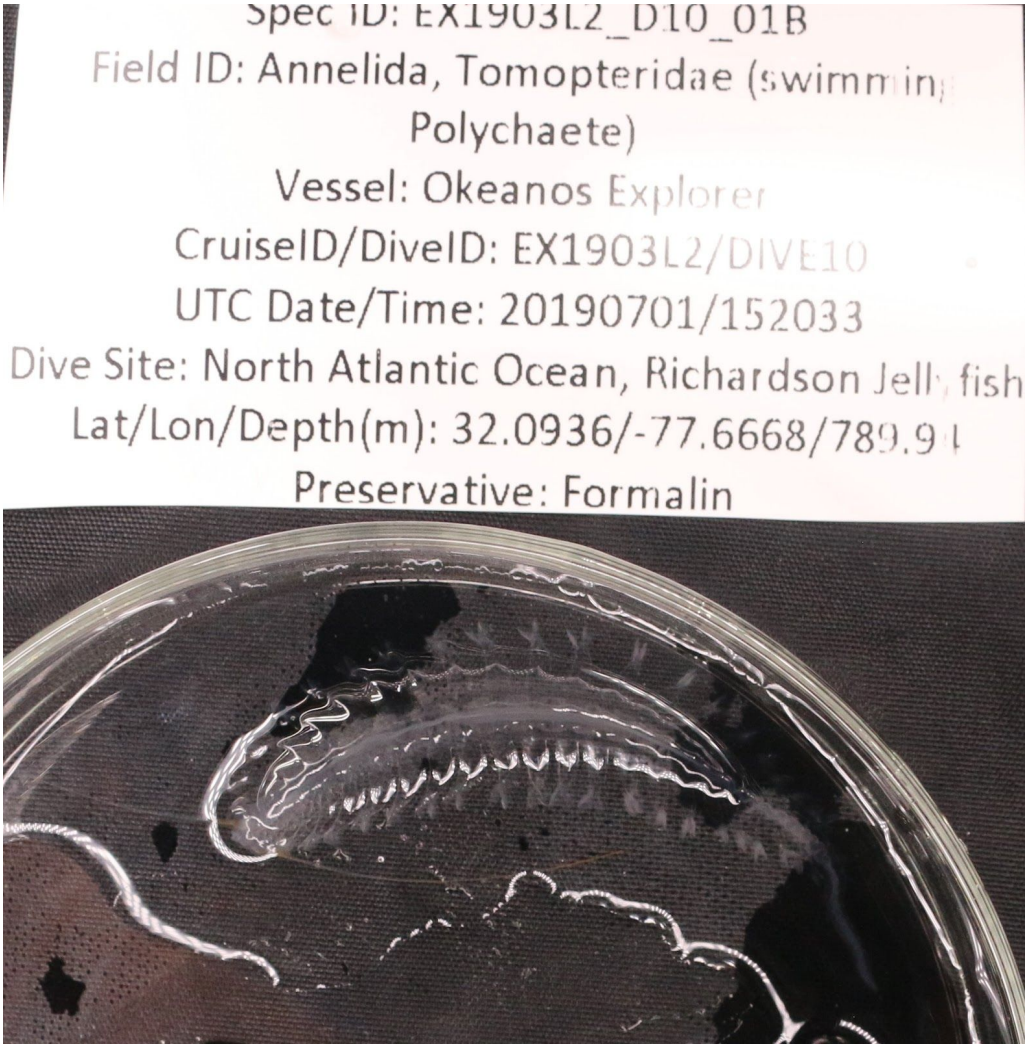


Large *Lophelia pertusa* colonies were seen near the top of the feature at a depth around 600 m on the edges of exposed rock slabs.



Octopus seen towards the end of the dive at the top of the feature.

Samples Collected



Sample ID	EX1903L2_D10_01B
Date (UTC)	20190701
Time (UTC)	152033
Depth (m)	789.9
Temp. (°C)	8.115
Field ID(s)	Tomopteridae (swimming Polychaete)
Associates	

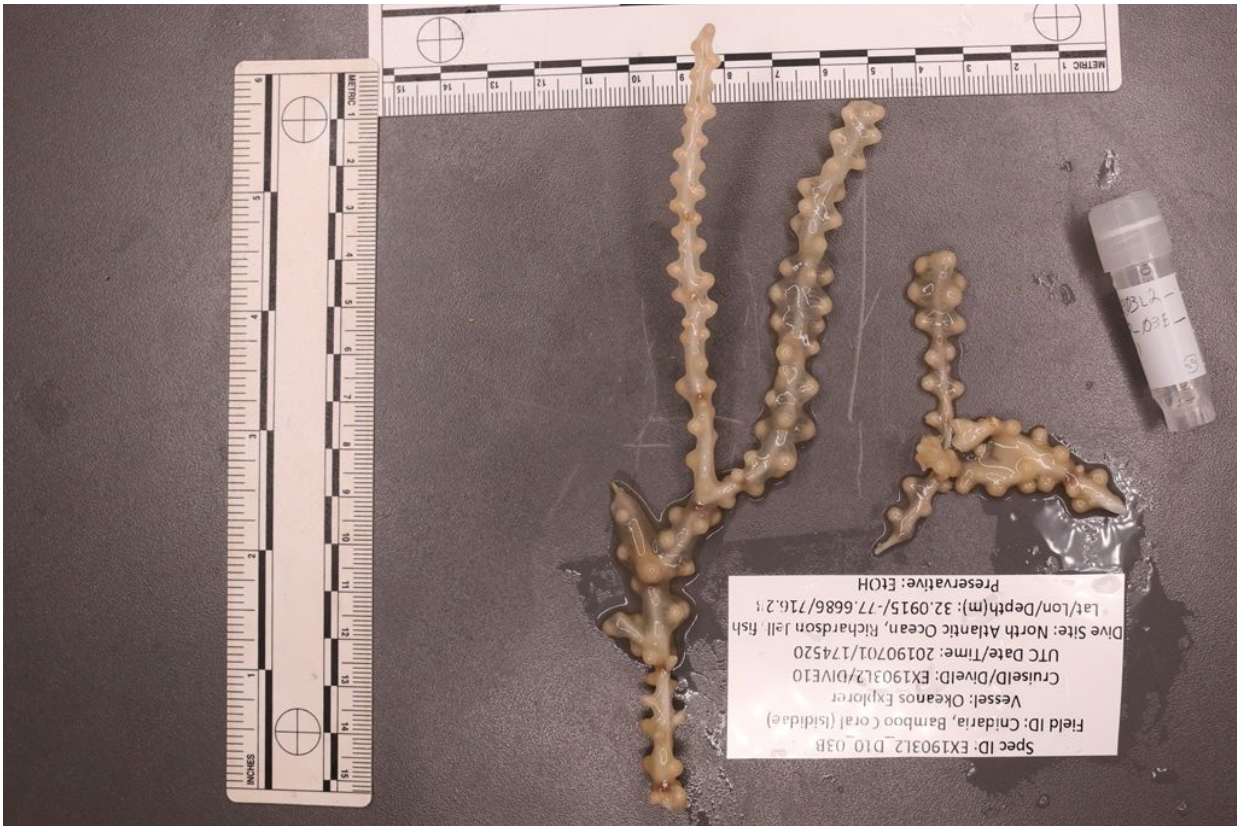
Associates Sample ID	Field Identification
No associates	

Comments	

Sample ID	EX1903L2_D10_02B
Date (UTC)	20190701
Time (UTC)	163532
Depth (m)	756.3
Temp. (°C)	8.181
Field ID(s)	Bryozoan
Associates	

Associates Sample ID	Field Identification
EX1903L2_D10_02B_A01	Ophiuroids
EX1903L2_D10_02B_A02	Microfossils
EX1903L2_D10_02B_A03	Unknown

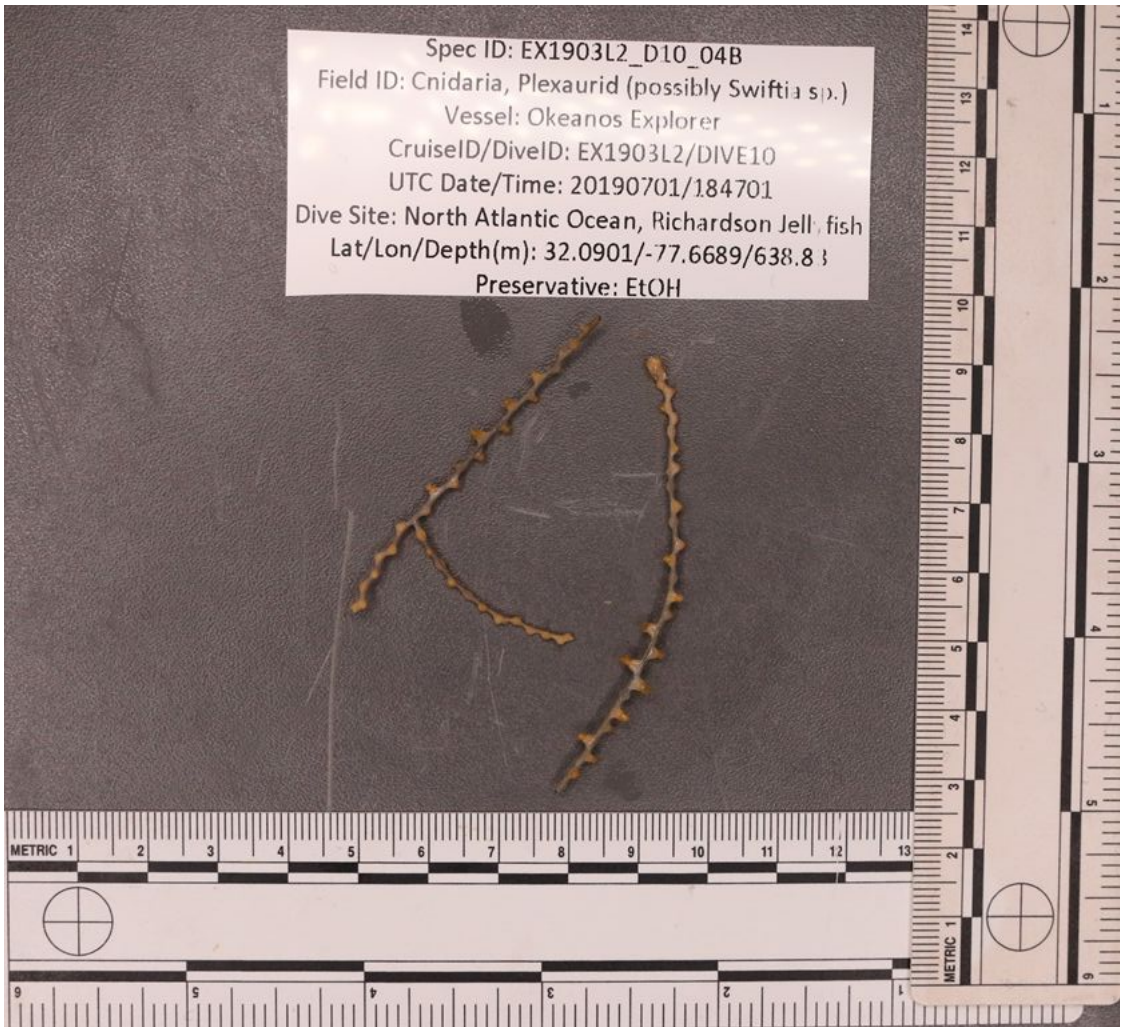
Comments	



Sample ID	EX1903L2_D10_03B
Date (UTC)	20190701
Time (UTC)	174520
Depth (m)	716.3
Temp. (°C)	8.317
Field ID(s)	Isididae
Associates	

Associates Sample ID	Field Identification
No associates	

Comments	



Sample ID	EX1903L2_D10_04B
Date (UTC)	184701
Time (UTC)	174520
Depth (m)	638.8
Temp. (°C)	8.823
Field ID(s)	Plexaurid (possibly Swiftia sp.)
Associates	

Associates Sample ID	Field Identification
EX1903L2_D10_04B_A01	Amphipoda

Comments	

Sample ID	EX1903L2_D10_05B
Date (UTC)	20190701
Time (UTC)	200218
Depth (m)	593.0
Temp. (˚C)	9.188
Field ID(s)	*Gilbertaster* sp.
Associates	

Associates Sample ID	Field Identification	Count
EX1903L2_D10_05B_A01	Primnoidae	
EX1903L2_D10_05B_A02	Hydrozoa	

Comments	

Please direct inquiries to:

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