

Okeanos Explorer ROV Dive Summary

Dive Information

General Location	79°W 78°W 77°W 76°W 75°W 74°W 73°W 72°W 71°W 70°W
Мар	Ocean Exploration and Research
	N.8E
	Norfolk, VA
	N.9E
	• Dive 12
	NL/E
	N.E N.Z 0 25 50 100 Nautical Miles
	79 [°] w 78 [°] w 77 [°] w 76 [°] w 75 [°] w 74 [°] w 73 [°] w 72 [°] w 71 [°] w 70 [°] w
General Area Descriptor	U.S. Southeast
Site Name	Deep Pamlico Canyon
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 12

Equipment Deployed

ROV	Deep Discoverer				
Camera Platform	Seirios				
	✓ CTD	✓ Depth	✓ Altitude		
ROV Measurements	✓ 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	Dive Summary: EX1903L2_DIVE12				
Processed ROV)	^^^^				
	In Water:	2019-07-04T12:25:40.93309	5		
	34°	, 34.709' N ; 74°, 40.617' W			
	On Bottom:	2019-07-04T14:26:45.26753	3		
	34°	, 34.735' N ; 74°, 40.637' W			
	Off Bottom:	2019-07-04T18:40:28.84622	8		
	34°	, 34.454' N ; 74°, 40.944' W			
	Out Water:	2019-07-04T20:43:18.76602	0		
	34°.	, 34.224' N ; 74°, 40.949' W			
	Dive duration:	8:17:37			
	Bottom Time:	4:13:43			
	Max. depth:	3498.0 m			
Special Notes	Between 3100 and 3200 meters, a dense turbidity layer was reported by the ROV pilots. At the				
	bottom, visibility was too poor to be able to see the tether between Seirios and D2. After				
	consultation with the Dive Supervisor, ROV pilots, Expedition Coordinator and science leads, a new dive site was chosen. It took approximately 1 hour to bring the ROV to 3100 m and be towed				
			to bring the ROV to 3100 m and be towed		
	to the new dive locati	on.			



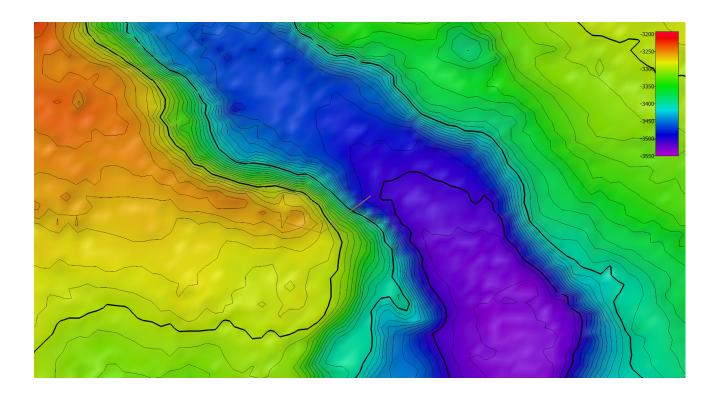
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Dive Purpose	The primary objective of this dive is to explore and characterize a small canyon that has the potential to be suitable habitat for deep-water coral, sponges, and associated fauna.
Dive Description	The ROV reached the bottom at 14:26 UTC at 3490 m water depth. The bottom was a very soft, silty sediment with a high amount of sediment in the water column. After consultation with the ROV and science team, a new dive target and track were identified and the ROV ascended to 3100 m to be towed to the new site. The ROV reached the bottom for the second time at 16:33 UTC at 3273 m to a similar bottom and only slightly better visibility. The ROV pilots were able to keep D2 and the tether in view so we proceeded with the dive. Throughout the dive, the bottom remained very soft and silty with poor visibility. A relatively small abundance and diversity of fauna was observed but included several abyssal grenadier (<i>Coryphaenoides armatus</i>), sea cucumber (Holothurian) and brittle stars (Ophiuroidea). Additionally, a few hermit crabs with zoanthid (<i>Epizoanthus sp.</i>) "house", a <i>Radicipes</i> octocoral and a few species of sea pens (order Pennatulacea) were also observed.



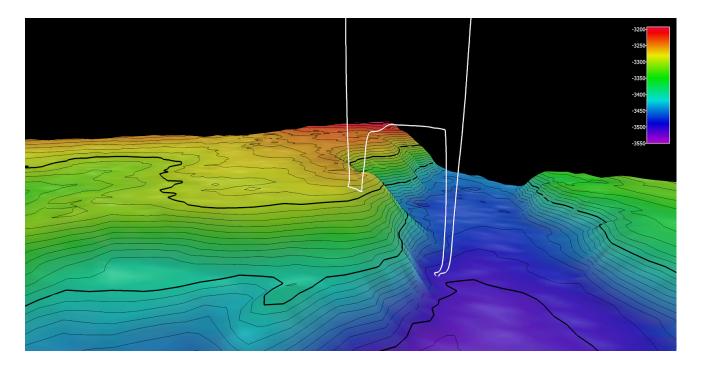
Notable Observations	
Community Presence/ Absence (community is defined as more than two species)	 X Corals and Sponges Chemosynthetic Community High biodiversity Community Active Seep or Vent Extinct Seep or Vent Hydrates
Feature Type	Deep canyon base, submarine canyon
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV2?resourceTypeId=1000&resourceId=23621&diveId=1 453

Overall Map of the ROV Dive Area

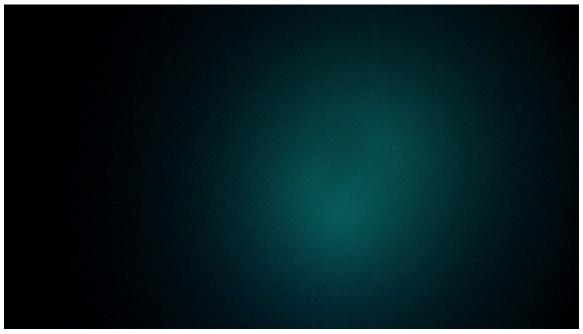


Close-up Map of Main Dive Site





Representative Photos of the Dive



View from Sierios camera looking down at D2 when the ROV reached bottom at 3,500 m. Evidence of the low visibility that required a move up to 3,200 to continue the dive.





A few Coryphaenoides armatus fish that were commonly seen throughout the dive



A hermit crab (Paguridae) with zoanthid (Epizoanthus sp.) "house"





Seapen (Order Pennatulacea) in the soft sediment bottom

Samples Collected

There were no samples collected on this dive.

Please direct inquiries to:

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