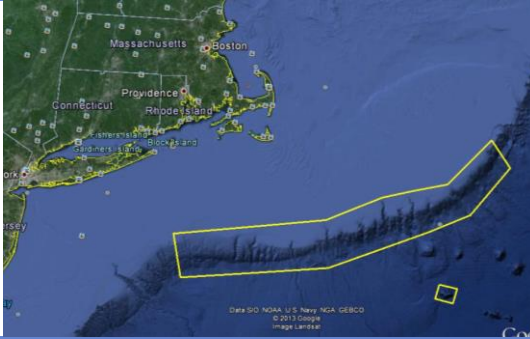


OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Block Canyon – Mid 2			
ROV Lead/Expedition Coordinator	Brian Bingham/ Kelley Elliott			
Science Team Leads	Tim Shank (Shore) Andrea Quattrini (Ship)			
General Area Descriptor	Northwest Atlantic Ocean; Northeast U.S. Canyons			
ROV Dive Name	Cruise Season	Leg	Dive Number	
	EX1304	1	DIVE11	
Equipment Deployed	ROV:	Deepwater Discoverer		
	Camera Platform:	Seirios		
ROV Measurements	<input checked="" type="checkbox"/> CTD	<input checked="" type="checkbox"/> Depth	<input checked="" type="checkbox"/> Altitude	
	<input checked="" type="checkbox"/> Scanning Sonar	<input checked="" type="checkbox"/> USBL Position	<input checked="" type="checkbox"/> Heading	
	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> HD Camera 1	
	<input checked="" type="checkbox"/> HD Camera 2	<input checked="" type="checkbox"/> Low Res Cam 1	<input checked="" type="checkbox"/> Low Res Cam 2	
	<input checked="" type="checkbox"/> Low Res Cam 3	<input checked="" type="checkbox"/> Low Res Cam 4	<input checked="" type="checkbox"/> Low Res Cam 2	
Equipment Malfunctions				
ROV Dive Summary (From processed ROV data)	In Water at:	2013-07-19T13:01:46.608000 39°, 47.212' N ; 071°, 15.509' W		
	Out Water at:	2013-07-19T20:30:39.846000 39°, 46.887' N ; 071°, 16.082' W		
	Off Bottom at:	2013-07-19T19:39:57.702000 39°, 47.038' N ; 071°, 15.943' W		
	On Bottom at:	2013-07-19T13:57:57.075000 39°, 47.088' N ; 071°, 15.975' W		
	Dive duration:	7:28:53		
	Bottom Time:	5:42:0		
	Max. depth:	1351.0 m		
Special Notes				
Scientists Involved <i>(please provide name / location / affiliation / email)</i>	Primary			
	<p>Tim Shank, Woods Hole (shore-based science team lead), WHOI, tshank@whoi.edu Andrea Quattrini, EX (onboard science team lead), Temple, Andrea.Quattrini@temple.edu Brendan Roark, EX, TAMU, broark@geos.tamu.edu Taylor Heyl, Woods Hole, MA; WHOI, theyl@whoi.edu Scott France, Lafayette, LA, U. Louisiana at Lafayette, france@louisiana.edu Bob Carney, Baton Rouge, LA; LSU, rcarne1@lsu.edu Jason Chaytor, Inner Space Center, USGS at Woods Hole, jchaytor@usgs.gov AJ Turner, Charleston, NOAA, aj.turner@noaa.gov Mike Vecchione, Washington, DC; SI/NOAA, vecchionem@si.edu Amanda Demopoulos, Gainesville, FL; USGS SE Ecological Science Center, ademopoulos@usgs.gov Les Watling, Darling Marine Center, Maine, watling@maine.edu Kerry McCulloch, Woods Hole, MA; WHOI, williamsk@allegheny.edu</p>			

Kelly Williams, Woods Hole, MA; WHOI, mcculloc@uoregon.edu

Passive

Inge Van Den Beld, Brest, France; IFREMER, inge.van.den.beld@ifremer.fr
Brian Kinlan, Silver Spring, MD; NOAA NCCOS, brian.kinlan@noaa.gov
Walter Cho, San Diego, CA; Point Loma Nazarene, waltercho@pointloma.edu
Cheryl Morrison, Kearneysville, WV, USGS, cmorrison@usgs.gov

Purpose of the Dive

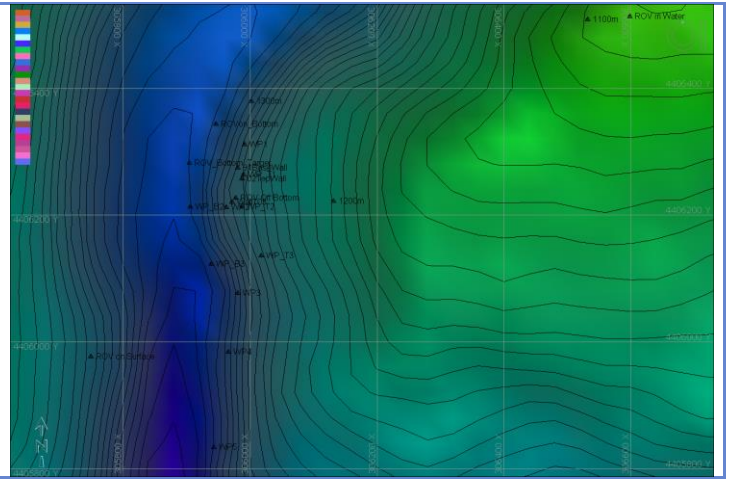
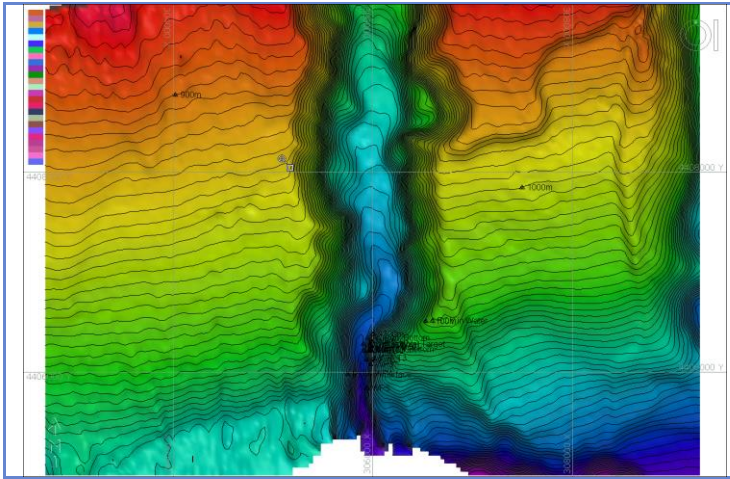
The purpose of the dive was to characterize 1) the submarine canyon geomorphology and benthic habitats, including possible coral and sponge communities at a depth of ~1300 m on the east wall of Alvin Canyon and 2) groundtruth a model of predicted deep-sea coral occurrence.

Description of the Dive:

The ROV reached bottom at 13:58 UTC at a depth 1340 m (temperature 4.2 deg C) to survey the east wall of Block Canyon. Burrowed soft sediment was prevalent in the area, with red crabs and cutthroat eels abundant. Numerous salps were in the water column. Scattered rock rubble and boulders occurred, and attached to the rocks included flytrap anemones, hydroids, and a few bamboo corals and *Anthomastus*, many of which were small recruits. In addition, a potential new species of black coral and *Paragorgia* sp. were observed. A noteworthy observation of an oreo, *Neocyttus helgae*, was documented at 14:33 UTC at a depth of 1345 m. The ROV then began to move upslope a promontory feature. As the ROV approached the base of the wall at 14:46 UTC (DVL 01), a high amount of coral rubble was observed. Growing on the wall, a dense and diverse coral and sponge community was apparent. Corals included numerous species of bamboo corals, cup corals, large black corals, and *Solenosmilia variabilis*. Small horizontal cracks in the wall were evident. This dense, sessile community was consistent until we reached the top of the wall at 1245 m at time of 16:59 UTC (DVL02 top of wall). Large bamboo and black coral colonies were observed near the top of the wall. The ROV then came back down slope to a depth of 1335 m at a time of 17:15 UTC. At the base, coral rubble was dense, including cup corals and *Solenosmilia*. Two additional oreos were observed. The ROV then moved up the slope, noting similar corals with a high abundance until we reached the top of the wall at 19:39 (DVL03) at a depth of 1239 m. The ROV then left bottom at 19:45. Numerous squat lobsters, shrimps, and ophiuroid brittle star associates were seen throughout the dive on coral colonies. Of note, chirostylid squat lobsters were only observed in black corals. At least one skate egg case was observed during this dive as well. Hard substrata in this area were visually similar to those in both Alvin and Atlantis Canyon, and are possibly the same age range (Cretaceous/Eocene). They also appear to have a higher concentration of carbonate, with a similar texture to shallow water carbonates. A strong current was evident at this site.

Overall Map of ROV Dive Area

Close-up Map of Main Dive Site



Representative Photos of the Dive



Abundant bamboo corals (Isididae) on a prominent feature along the east wall of Block Canyon. Time 19:33. Depth 1253 m.



A chirostyliid squat lobster inhabiting a black coral colony along the east wall of Block Canyon. Time 19:15. Depth 1259 m.

Please direct inquiries to:

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