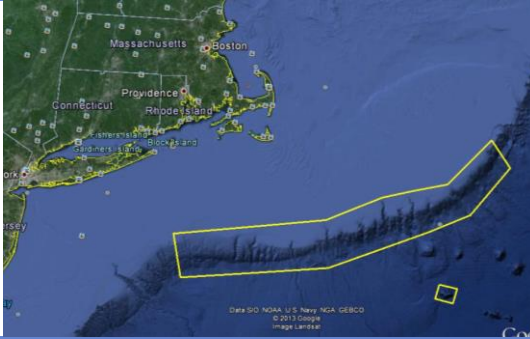


OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Atlantis Deep			
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	DIVE08	
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:	2013-07-16T12:30:17.119000 39°, 47.301' N ; 070°, 13.092' W		
	Out Water at:	2013-07-16T20:32:05.942000 39°, 47.174' N ; 070°, 13.382' W		
	Off Bottom at:	2013-07-16T19:17:40.190000 39°, 47.181' N ; 070°, 13.007' W		
	On Bottom at:	2013-07-16T13:29:57.234000 39°, 47.184' N ; 070°, 13.228' W		
	Dive duration:	8:1:48		
	Bottom Time:	5:47:42		
	Max. depth:	1793.9 m		
Special Notes				
Scientists Involved <i>(please provide name / location / affiliation / email)</i>	<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 Santiago Herrera Woods Hole, MA; WHOI, sherrera@whoi.edu Scott France, Lafayette, LA, U. Louisiana at Lafayette, france@louisiana.edu Jason Chaytor, Inner Space Center, USGS at Woods Hole, jchaytor@usgs.gov AJ Turner, Charleston, NOAA, aj.turner@noaa.gov 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 Kelly Williams, Woods Hole, MA; WHOI, mccullocc@uoregon.edu Shirley Pomponi, Inner Space Center, RI; CIOERT, SPomponi@hboi.fau.edu</p>			

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
Sandra Brooke, Tallahassee, FL; FSU, sbrooke@fsu.edu
Mike Vecchione, Washington, DC; SI/NOAA, vecchionem@si.edu

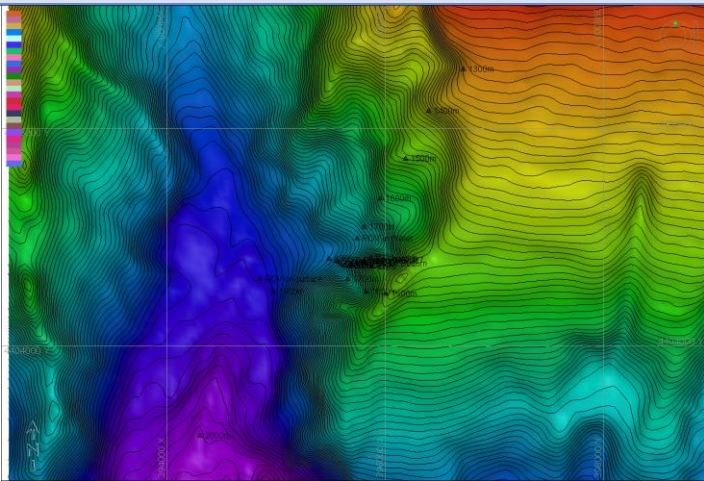
Purpose of the Dive

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 ~1800 m on the east wall of Atlantis Canyon and 2) groundtruth a model of predicted deep-sea coral occurrence.

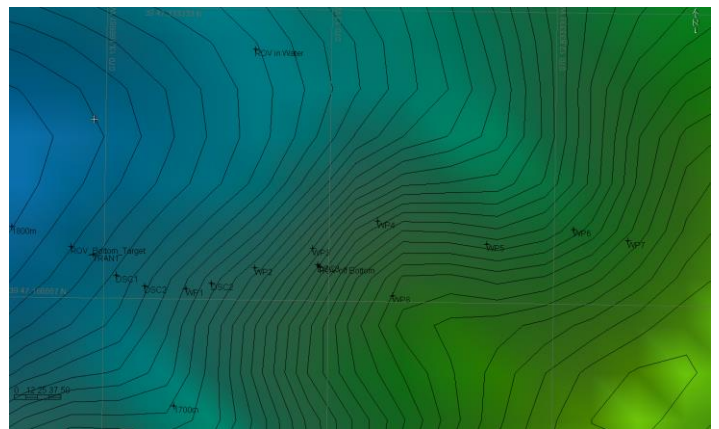
Description of the Dive:

At 13:30 UTC, the ROV reached the bottom at a depth of 1795 m (3.7 deg C), where the seafloor was covered in soft sediment with scattered rock rubble and rock outcrops. Halosaurs and cutthroat eels were prevalent in this area, four species of sea urchins were noted, and white ophiuroids (*Ophiomusium* sp.) were abundant on the seafloor. Sea pens (morphology of a whip coral) were noted in this area, each with an ophiuroid wrapped tightly around the central rachis. At 13:54, the ROV moved up slope to our first waypoint from the launch target area, noting more sea pens along the way on the sediments between the scattered rock outcrops. At 14:02 UTC the ROV approached the base of a rock wall, that appeared to be calcareous mudstone/siltstone and chalky in appearance. Few conspicuous sessile fauna were evident on this wall. A DVL target was dropped at 14:37 (DVL TRAN 1) for the transition between soft sediment and the vertical rock face. Staining was noted here on the rock, and a few corals (*Swiftia* sp., *Paramuricea* sp., *Bathypathes* sp.) and hexactinellid sponges were attached. An ophiuroid brittle star was noted on *Swiftia*; one association not previously known. The ROV continued to move up slope over sediment covered (think layer) rock. Sponges were among the most abundant attached fauna, and included *Aphrocallistes beatrix*. Numerous shrimps were often associated with the sponge structure. Although corals were not abundantly attached to the rocks, they were diverse, as we noted a few sea pens (*Calibelemon* sp.), cup corals (*Javania* sp., *Desmophyllum* sp.) and other octocorals including *Chyrsogorgia* sp., *Metallogorgia melanotrichos*, and large colonies of *Keratoisis* sp. at a depth of ~1750 m. The multiple observations of *M. melanotrichos* with the brittle star *Ophicreas oedipus* are noteworthy, as this species had been previously only known from the seamounts in this region. The ROV continued towards waypoint 2, and at a depth 1710 m (DVL DSC 2 target), a large aggregation of *Desmophyllum* cup corals and demosponges (Geodiidae) were seen growing on a ledge. On the sediments below the ledge, numerous dead cup coral rubble was accumulated. At 17:48 UTC, the ROV came across an octopus (*Muusoctopus johnsonianus*) guarding eggs at a depth of 1643 and a debris chute was noted. At 18:15 UTC at a depth of 1663 m, the ROV began moving along the wall to waypoint 3, noting extensive fracturing along parts of the wall. The afternoon portion of the dive was interrupted with fire and abandon ship drills on the ship. This took up about 50 min of time total. However, in the mean time, we were able to capture amazing footage of a benthic ctenophore at ~18:37. As the end of the dive approached, the ROV turned upslope to cover a broader depth range. One large vertical wall (DVL DSC3) at 19:20 and a depth of 1637 had numerous sponges, *Desmophyllum* and a clump of live *Solenosimila variabilis*. Also, the first colonies of *Acanthogorgia* and *Acanella* were seen. The ROV left bottom at 19:33 UTC and a depth of 1622 m. In general, the currents at this site were not very strong. Few fishes were noted at this depth range.

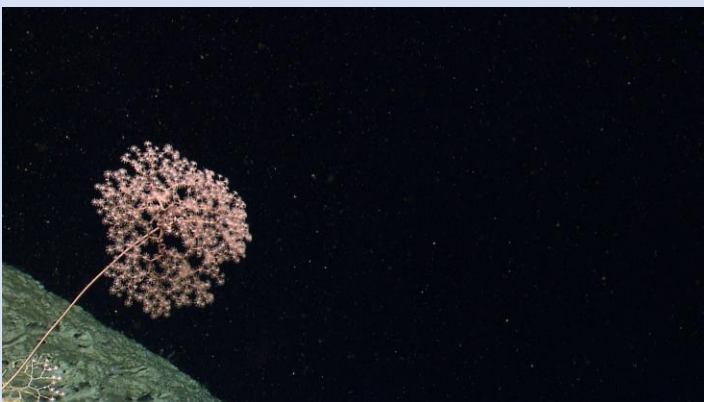
Overall Map of ROV Dive Area



Close-up Map of Main Dive Site



Representative Photos of the Dive



Metallogorgia melanotrichos with an *Ophiocreas oedipus*, an obligate coral-associate relationship. Time 15:34. Depth 1760 m.



A rare sighting of a benthic Ctenophore wrapped around a likely hydroid stalk. Time 18:38. Depth 1675 m.

Please direct inquiries to:

NOAA Office of Ocean Exploration & Research
1315 East-West Highway (SSMC3 10th Floor)
Silver Spring, MD 20910
(301) 734-1014