OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Nygren Canyon Shallow		
ROV Lead/Expedition Coordinator	David Lovalvo/ Brian Kennedy		
Science Team Leads	Amanda Demopoulos Martha Nizinski		
General Area Descriptor	Northwest Atlantic Ocean; Northeast U.S. Canyons		
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1304	2	DIVE08
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 2
Equipment Malfunctions			
ROV Dive Summary (From processed ROV data)	In Water at: 2013-08-08T14:49:35.498000 40°, 45.384' N ; 066°, 40.792' W Out Water at: 2013-08-08T23:08:08.992000 40°, 45.234' N ; 066°, 40.281' W Off Bottom at: 2013-08-08T22:44:25.085000 40°, 45.379' N ; 066°, 40.331' W On Bottom at: 2013-08-08T15:25:31.341000 40°, 45.138' N ; 066°, 40.588' W Dive duration: 8:18:33 Bottom Time: 7:18:53 Max. depth: 914.6 m		
Special Notes	ROV went in the water a little later today due to swordfish gear in the dive site and technical issues with the ROV		
Scientists Involved *(please provide name / location / affiliation / email)*	**Primary** Amanda Demopoulos (Science Lead), USGS, ademopoulos@usgs.gov Amy Baco-Taylor, FSU, abacotaylor@fsu.edu Andrea Quattrini, Temple, andrea.quattrini@temple.edu Brian Kinlan, NOAA NOS, Brian.Kinlan@noaa.gov Ellie Bors, WHOI, ekbors@gmail.com Erik Cordes, Temple, ecordes@temple.edu Jamie Austin, Texas, UTIG, jamie@ig.utexas.edu Jason Chaytor, USGS, jchaytor@usgs.gov Les Watling, UH, watling@hawaii.edu		

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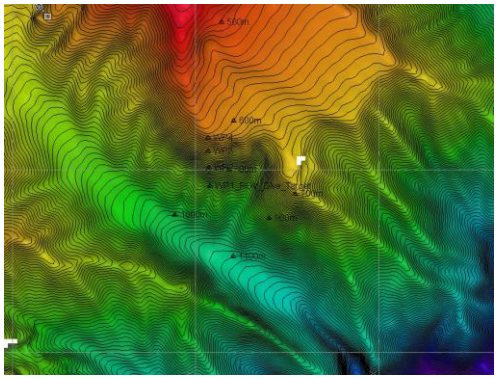
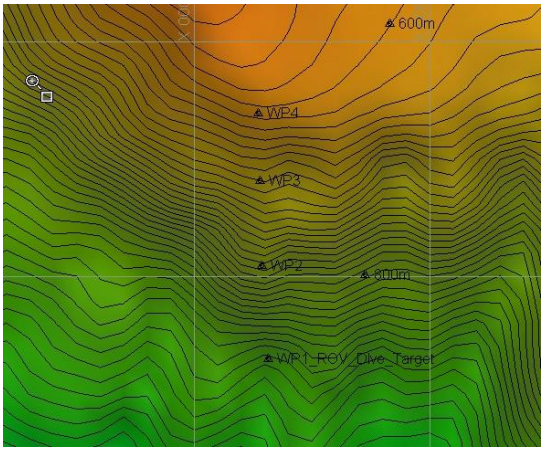
Purpose of the Dive

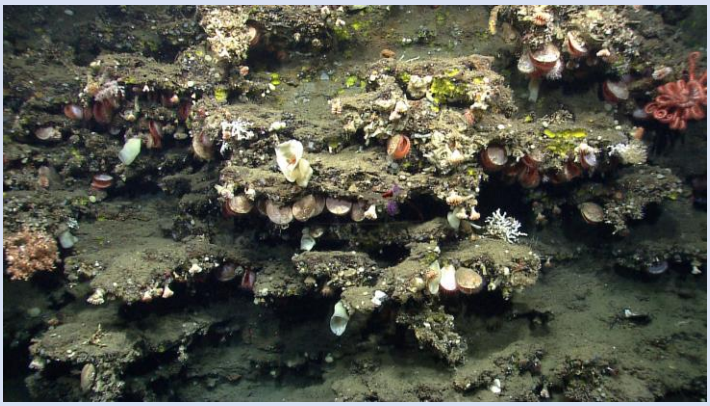
The purpose of the dive was to characterize 1) the submarine canyon geomorphology and benthic habitats, including possible coral and sponge communities at a depth of ~1400-1700 m on the southwestern wall of Heezen Canyon and 2) groundtruth a model of predicted deep-sea coral occurrence.

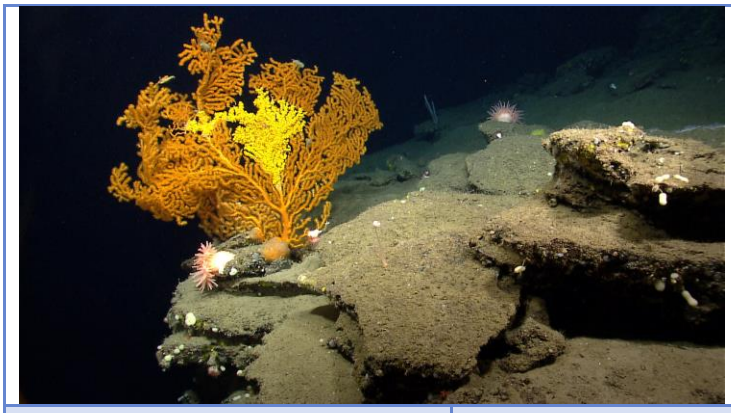
Description of the Dive:

Dive # 8 was on a shallow section of the northeastern flank of Nygren Canyon. The ROV was on the bottom at 1526 UTC at 910 m depth. The dive track transited over soft sediment with large boulders to a steeply sloped terrain, with rocks that were heavily encrusted and layered with sediment. Various fauna populated the dramatic rock features throughout the dive. The edges of large rock ledges were colonized by high abundances of solitary corals, sponges, brisingid sea stars, and colonial scleractinians. Later in the dive, the following corals were observed: *Acanella*, *Paramuricea*, *Jasonisis* and *Paragorgia* on ledges or small sedimented patches. In some areas, there were large surfaces of the rocks encrusted with stoloniferous octocorals. At least 12 additional species of corals were documented, including 4 types of stoloniferans (*Clavularia,* white, pink, and yellow type), unknown bamboo, cup corals (at least 2 species), *Solenosmilia*, *Lophelia pertusa*, *Parantipathes*?, *Anthomastus*, and *Anthothela*. There were several examples of one coral colonizing another, including *Anthothela* on *Paramuricea*, and *Anthothela* on *Paragorgia*. As with the previous canyon dives, sea stars were diverse and included *Chondraster*, *Tremaster,* brisingids, and a yellow sea star. Squat lobsters appeared more abundant on sediment than corals, with a few individuals observed on *Jasonisis* that differed from the sediment associates. Red crabs were relatively abundant and 2 red crabs were noted eating a pyrosome (colonial, free floating tunicate). There seemed to be a higher diversity of shrimp, with multiple species observed on individual coral colonies. A high diversity of fish fauna was noted throughout the dive and included black dogfish, *Antimora*, synaphobranchid eels, rattails, Psychrolutidae (fathead), *Sebastes*, *Helicolenus*, *Hoplostethus*, *Coryphaenoides*, *Symphurus*, and *Hydrolagus*. A few highlights from the dive included a large parasitic isopod attached to *Hoplostethus*, which seemed to interfere with the fish's ability to swim. Also, a *Sebastes* was observed eating another fish, with the tail sticking out of its mouth. Several shark egg cases were found attached to *Paramuricea* throughout the dive, which was the first time during this leg that this association had been noted. Overall, very few cephalopods were observed, including a bobtail squid, an unknown squid (possible *Illex* or *Gonatus*), and an octopus (*Graneledone verrucosa*). As we transited up slope, the rock wall appeared to be composed of sandstone, with patches of dark, manganese coated surfaces. As with our previous canyon dives, we found trash along the dive track, including plastic, traps, and coiled cord. The dive ended over soft sediments where burrows, red crabs, and a variety of fishes were observed. The ROV was off bottom at 661 m at 2240 UTC.

Overall Map of ROV Dive Area	Close-up Map of Main Dive Site
	

Representative Photos of the Dive





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