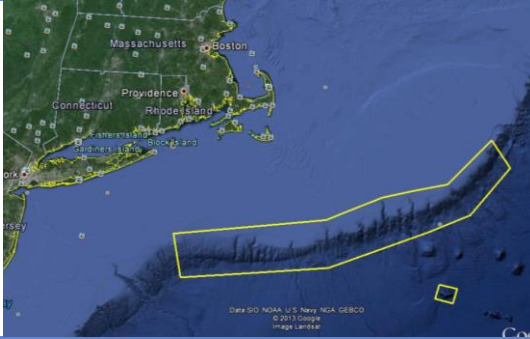


OKEANOS EXPLORER ROV DIVE SUMMARY

| | | | | |
|---|--|--|---|---|
| Site Name | Nygren Mid Deep | | |  |
| 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 | DIVE06 | |
| Equipment Deployed | ROV: | Deep 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: | 2013-08-06T12:29:26.669000 40°, 43.645' N ; 066°, 39.613' W | | |
| | Out Water at: | 2013-08-06T20:39:07.149000 40°, 43.930' N ; 066°, 39.920' W | | |
| | Off Bottom at: | 2013-08-06T19:45:37.602000 40°, 43.799' N ; 066°, 39.691' W | | |
| | On Bottom at: | 2013-08-06T13:20:39.685000 40°, 43.620' N ; 066°, 39.652' W | | |
| | Dive duration: | 8:9:40 | | |
| | Bottom Time: | 6:24:57 | | |
| | Max. depth: | 1590.4 m | | |
| Special Notes | | | | |
| 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 | | | |
| | Bernie Ball, Duke, bernieb@duke.edu | | | |
| Jason Chaytor, USGS, jchaytor@usgs.gov | | | | |

Katherine Coykendall, USGS, dcoykendall@usgs.gov

Les Watling, UH, watling@hawaii.edu

Martha Nizinski (science lead), NOAA NMFS, nizinski@si.edu

Morgan Kilgour, UCONN, morgan.kilgour@uconn.edu

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Passive

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Esprit Saucier, UL Lafayette, heestand.saucier@louisiana.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 ~1300-1600 m on the southwestern wall of Nygren Canyon and 2) groundtruth a model of predicted deep-sea coral occurrence.

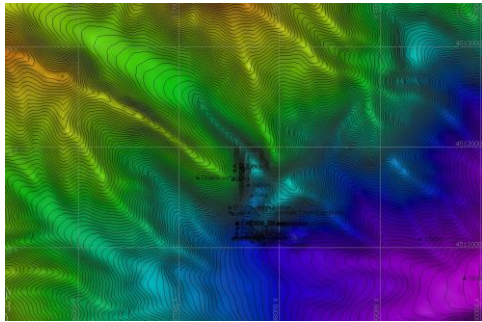
Description of the Dive:

Dive #6 at Nygren Canyon was very exciting. The ROV was on bottom at 1325 UTC at a depth of 1579 m. While traversing over soft sediments, the seafloor was scattered with shell debris that transitioned to more abundant shell, coral skeleton, and small, dark rocks. Abundant organisms observed over or on the sediments included synphobranchid eels, unicellular xenophyophores, and ophiuroids. There were a few sea pens and sea urchins also observed. The slope changed to more rugged topography, composed of dark, manganese encrusted rock. The hard substrate was populated by several taxa that have been documented previously on this expedition, including limid bivalves, stony corals, and sponges. On the rock surface, a coiled, pink mass, possibly a gastropod egg mass was observed. At 1558 m, the rock face changed to a lighter color, consistent with carbonate, and multiple patches of mussels populated cracks within the rock. We had discovered a seep. Other organisms found within the mussel patches included serpulids, scaleworms, gastropods, and bacterial mats. Light, white fluffy material floated away from one of the mussel patches. This white fluff also was present at the seeps to the west (near Veatch and Nantucket Canyons).

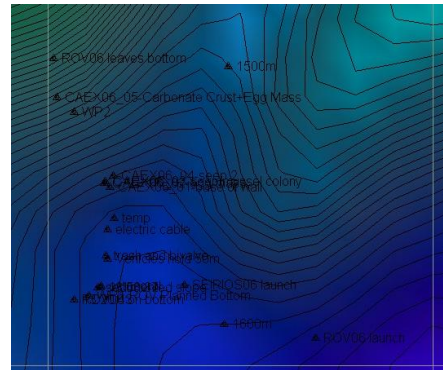
Several species of corals were documented throughout the dive, most of which occurred on the exposed rock face, but some were also found within the softer sediment at the beginning of the dive (e.g., sea pens). At least 17 octocoral

species, 3 black coral species, 3-4 scleractinian species, including colonial (*Solenosmilia*) and solitary (cup corals, cf. *Javania*, *Desmophyllum*) forms, and 3 sea pens were noted. Other interesting observations were the first documentation of the black coral, *Leiopathes* and a corallimorpharian for this expedition. An unusual sediment laden crab had its carapace decorated with a sponge. Dead coral skeleton provided a substrate for several species, including three species of corals, *Acanthogorgia*, *Anthothela* and *Clavularia*, as well as anemones, hydroids, barnacles, and crinoids. Not all colonies of *Paramuricea* were found with associated ophiuroids. Other species associated with corals included squat lobsters on the *Parantipathes* (black coral) and *Jasonis* (bamboo coral), and amphipods on other black corals. Large sponges with associated brittle stars and crinoids were found on the steep slope. Fish species included *Antimora*, synbranchid eels, ophiidiid, oreo, and rattails. The dive ended on steep feature composed of dark, manganese coated rock. The ROV was off bottom at 1945 UTC at a depth of 1310 m.

Overall Map of ROV Dive Area

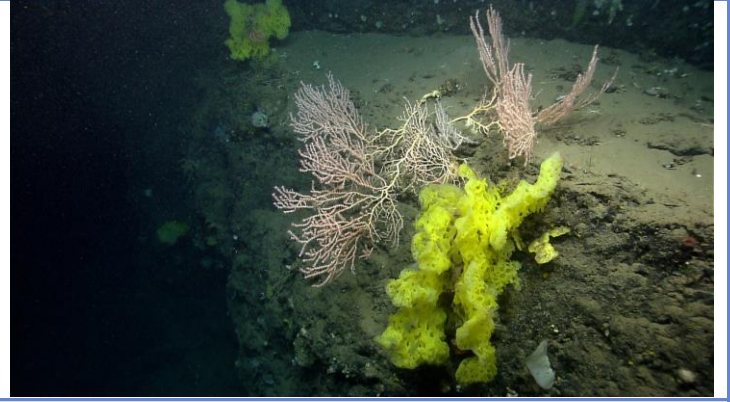


Close-up Map of Main Dive Site



Representative Photos of the Dive





Please direct inquiries to:

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