


OKEANOS EXPLORER ROV DIVE FORM

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|---|--|---|---|--|-----|-----|
| Site Name | Shallow Ridge, W. FL Escarpment | | |  | | |
| ROV Lead/Expedition Coordinator | Dave Lovalvo/Jeremy Potter | | | | | |
| General Area Descriptor | ~150nm southwest of Tampa, Florida | | | | | |
| UTC Date & Time | Deployment | 3/22/2012 13:03 PM | | | | |
| | Recovery | 3/22/2012 20:38:48 PM | | | | |
| Bottom Time [HH:MM] | 6:48:36 (max depth 429.7 m) | | | | | |
| Landing Time & Location | UTC Time | 13:24:52 | | Depth [m] | 400 | |
| | Latitude | 26 | ° | 26.299N | | ' N |
| | Longitude | 84 | ° | 45.811W | | ' W |
| Off Bottom Time & Location | UTC Time | 20:13:29 | | Depth [m] | 398 | |
| | Latitude | 26 | ° | 26.299 | | ' N |
| | Longitude | 84 | ° | 45.905W | | ' W |
| ROV Dive Name | Cruise Season | Leg | | Dive Number | | |
| | EX1202 | LEG02 | | ROV1 | | |
| Equipment Deployed | ROV: | Little Hercules | | | | |
| | Camera Platform: | Seirios Camera Platform | | | | |
| 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 | | |
| | <input checked="" type="checkbox"/> Low Res Cam 1 | <input checked="" type="checkbox"/> Low Res Cam 2 | | | | |
| Equipment Malfunctions | None | | | | | |
| Special Notes | Click here to enter text. | | | | | |
| Scientists Involved <i>(please provide name / location / affiliation / email)</i> | Tim Shank (on-board Science Lead), EX, WHOI, tshank@whoi.edu Pen-Yuan Hsing, PSU, penyuan.hsing@psu.edu Eleanor Bors, WHOI, WHOI, ekbors@gmail.com Catriona Munro, WHOI, WHOI, cmunro@whoi.edu | | | | | |

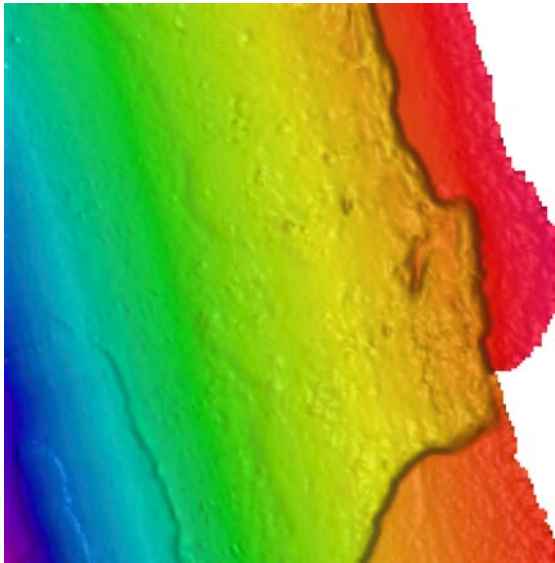
Purpose of the Dive: Today we are exploring a shallow ridge that runs along the north-south direction, just west of the scarp. This site is 3.9 km to the SE of our first dive at Rocky Scarp, and is a prominent feature in our multibeam bathymetry data. The plan is to start the dive at the southern tip of the ridge, follow its western edge to the north, loop back from the east, and end the dive at where we started. This allows us to characterize the biology and geology of the ridge on its current facing side (west) and its lee side (east).

Description of the Dive:

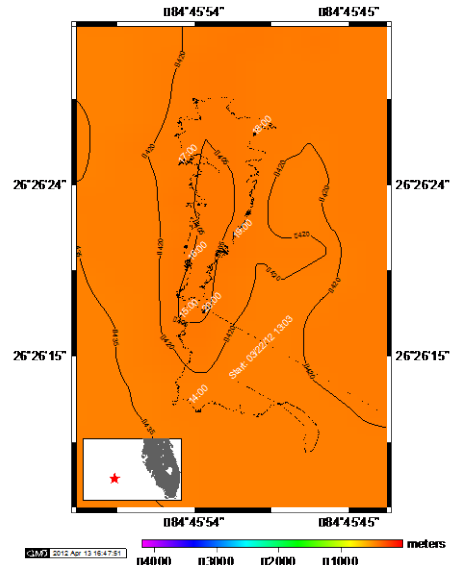
EX1202 L2 - Dive 2 explored a shallow ridge that runs along the north-south direction, just west of the scarp. It is located at 26.436°N 84.765°W, depth 410 m. The ROV touched bottom over sediment approximately 200 m south east of the southern tip of the ridge. As we made our way north towards the ridge at about 0.2 knots, we noted greeneye, rattail, and sea robin fish, pteropod shells, golden crabs, jellies, a solitary coral, and euphausiids. As we got close to the ridge at 13:52, we established a virtual target WFL-4 at a small rocky outcrop (26°26.204"N 84°45.875"W). On it we observed a gastropod, assorted encrusting sponges, a white coral, and *Gephyroberyx* and blackbelly rosefish. We chased a sonar target in front of us and found squat lobsters, a solitary cup coral (*Stylasterid*), a spider crab, rattail fish, and a holothurian. This is near virtual target WFL-5, dropped at 13:56 near the southern tip of the ridge. We continued north, encountering at least three species of fish, noting another cup coral, numerous shrimp, and jellies along the way. At 14:09, as we are following the west side of the ridge northward, we discovered what appeared to be a rusty coil of heavy metal wire at virtual target WFL-6. This object seemed to have possible serpulid and zoanthid growth. We continued north, noting numerous shrimp and two species of fish. At this point we were flying over rocks that looked like shattered pavement, and made our first observations of crinoids in this area. Most crinoids occurred in patches on top of a rock, and had two visually apparent morphs: white and brown. The rocks they occur on may have a variety of urchins, small octocorals, squat lobsters, and assorted sponges. We intensively imaged and documented at least two of these crinoid patches. Also along the west margin of the ridge were multiple *leiopathes* corals. For each one, we used the lasers to get a size estimate, did close up imaging to look for associates (usually squat lobsters), and noted any nearby organisms. Of these congregations of fish (probably *Benthcometes*) near these *leiopathes*. We imaged at least 10 *leiopathes* between 14:00 and 15:30, dropping virtual targets WFL-8 and WFL-9 along the way. One of the *leiopathes* had a branch covered by zoanthids, and possible hydroids at the tip. During this time we also observed a hermit crab in a spotted shell, more fish including *Benthcometes*, squat lobsters, sponges of different colours on scattered boulders, a possible ctenophore, and cidaroid urchins. Near 26°26.3"N 84°45.99"W (depth 397 m) at about 15:15, we noted a bright blue sponge, yellow and orange crinoids. At 15:30 we imaged a *leiopathes* nestled between rocks with patches of crinoids on top. When we finished a cougar eel swam out from behind the coral. Other fish seen during this time included *Geophyroberyx* and *tracyscorpia*. At about 15:50 we imaged another crinoid patch on a rock, virtual target WFL-10. The rock had the coral *Plumarella*, and possibly *Neptheidae* and *Plexauridae*. At 16:00 we discovered a pink looking black coral on top of a rock. We measured this coral with lasers and dropped a virtual target WFL-11. The ROV was at 26°26.36"N 84°45.890"W at 16:15, where we noticed small patches of maroon *terribellid* worms on the scattered rocks. At about 16:20 we started heading east, over the very top of the ridge, characterized by a more sedimented region with small, scattered rocks. By 16:40 we were about 25 m from the western edge of the ridge, still noting *terribellid* worms, numerous fish, encrusting sponges. We briefly went back west towards a mini-scarp and noted numerous attached fauna there, such as cnidarians and a Venus fly-trap anenome. We noted a pink *leiopathes* at 26°26.459"N 84°45.891"W (time 17:15), and we started heading east at about 17:30 to find the east margin of the ridge. We reached the margin at about 17:50 and headed south, the plan was to end up where we started the dive. Most of the east margin was characterized by a steep, rocky wall, sometime almost vertical. Fauna was visibly less dense here, and we noted the presence of encrusting sponges, several corals, and multiple fish of which we have seen before. At 18:45 we discovered a pink *anthomastus* (WFL-12 near 26°26.34"N 84°45.86"W). Another discovery was a *Plumarella* octocoral that had visible gonads on its branches with possible developing embryos at 19:15 (WFL-13 near 26°26.336"N 84°45.873"W). As we were leaving we imaged a ball like urchin (*Gracilechinus gracilis*) at WFL-14, and a pink octocoral at WFL-15. There was also a white octocoral there with some mucous on its branches. The ROV left bottom at about 20:00, the last marker is

WFL-15, and the water temperature was consistent near 10.6°C to 10.7°C throughout the dive.

Overall Map of ROV Dive Area



Close-up Map of Main Dive Site



Representative Photos of the Dive



EX1202L2_IMG_20120322T191408Z_ROVHD_CO R.jpg (cropped from original to show detail)
Near the end of the dive, as we looped back from the east side of the ridge, we observed an octocoral with developing embryos clearly visible.



EX1202L2_IMG_20120322T143945Z_ROVHD_COR L_00.jpg
We saw many individual Leiopathes corals during this dive, and they were mostly on the western side of the ridge.

Please direct inquiries to:

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