OKEANOS EXPLORER ROV DIVE FORM

Site Name	Mississippi Canyon MC294/338							
ROV Lead/Expedition Coordinator	Dave Lovalvo/Jeremy Potter							
General Area Descriptor	~325nm northwest of Tampa, Florida (vicinity of Deepwater Horizon)							
UTC Date & Time	Deployment	3/28/2012 12:25 PM						
	Recovery	3/28/2012 20:16 PM						
Bottom Time [HH:MM]	7:91							
Landing Time & Location	UTC Time	12:54			Depth [m]	475		
	Latitude	29	º	28.46	'	N		
	Longitude	86	º	51.25	'	W		
Off Bottom Time & Location	UTC Time	20:16			Depth [m]	382		
	Latitude	29	º	28.628	'	N		
	Longitude	86	º	51.211	'	W		
ROV Dive Name	Cruise Season		Leg		Dive Number			
	EX1202		LEG02		ROV**11**			
Equipment Deployed	ROV:		Little Hercules					
	Camera Platfom:		Seirios Camera Platform					
ROV Measurements	☒ CTD		☒ Depth		☒ Altitude			
	☒ Scanning Sonar		☒ USBL Position		☒ Heading			
	☒ Pitch		☒ Roll		☒ HD Camera			
	☒ Low Res Cam 1		☒ Low Res Cam 2					
Equipment Malfunctions	None							
Special Notes	Click here to enter text.							
Scientists Involved *(please provide name / location / affiliation / email)*	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: The timing of today's dive is critical to a substantial effort by NOAA and other parties to track changes over time at a site in lease block MC294. We will explore and image corals growing on hard substrate for changes since previous visits in 2010 and 2011. Today's exploration in the time domain will be a wonderful complement to the work that we have be doing on this cruise.

Description of the Dive:

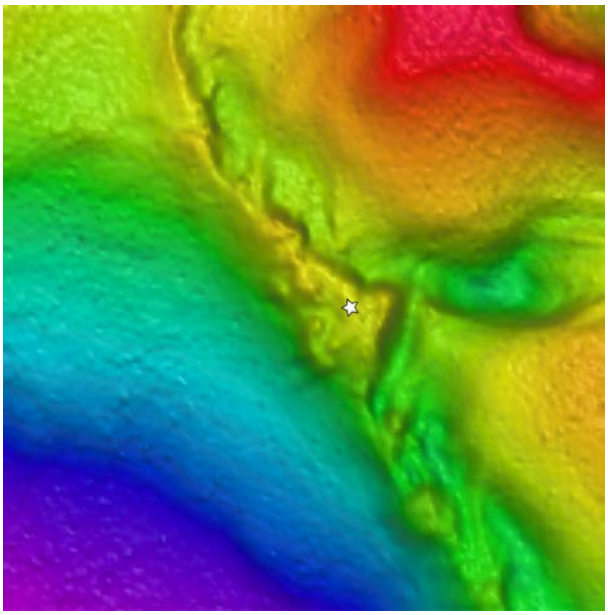
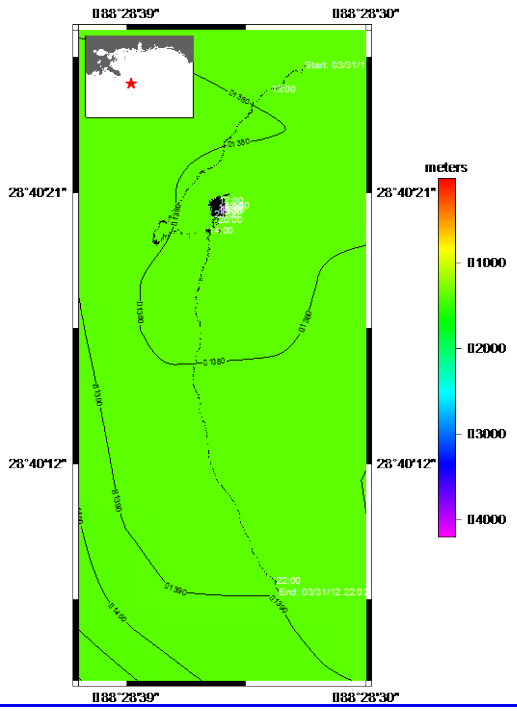
The ROV reached bottom at 09:48 EDT (28º40.322”N, 88º28.628”W) 50 m west of the dive target as planned, and we proceeded east to explore the coral communities here. On the way, we noted some stained sediment and small tubeworm tubes, fish (longnose chimera) and shrimp.

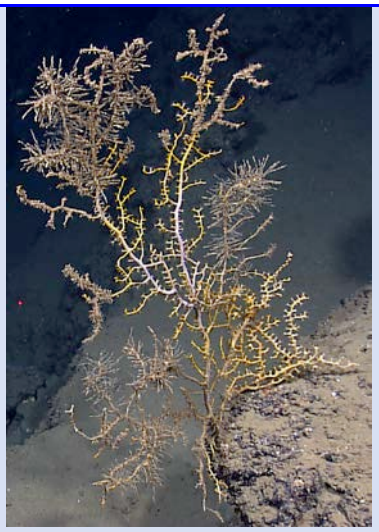
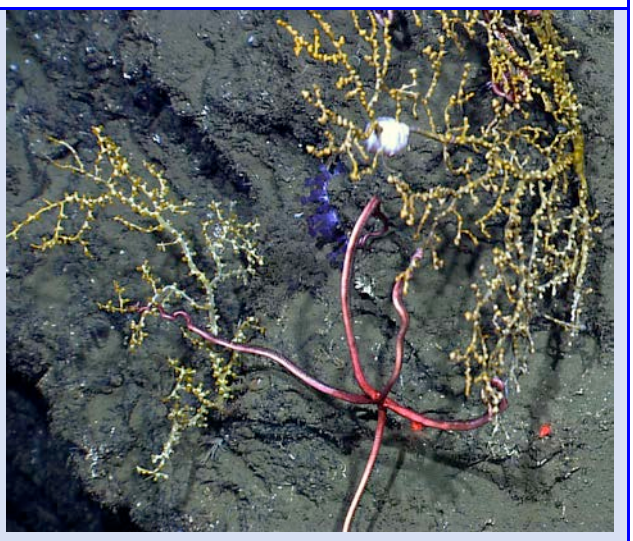
We reached the dive target at 10:10 EDT (28.67232ºN, 88.47658ºW, depth 1371.5 m), and did a transect across the two carbonate slabs hosting about 50 corals. Site location was confirmed with sightings of two physical markers, AA and 44, deployed here in November 2010.

Starting from 10:30 EDT, we started close up imaging of each coral on the two carbonate slabs. For each coral, imaging started with a full frame view where the coral filled the entire image, followed by closeups of all associate fauna on the coral. They may include ophiuroids, amphipods, shrimps, or squat lobsters. When imaging associates, we focused on obtaining clear views of features that enable us to identify them down to the lowest possible taxonomic level. In addition, the presence of hydroids on branches were noted for some corals. For each coral, we also noted the ROV heading and other pertinent information that allow future revisits to image them from the same perspective. When deemed useful for providing spatial context information, we also made overview video clips of groups of corals. We imaged at least 50 individual coral colonies.

The last coral, named E-1, was imaged at 16:37 EDT. Afterwards we continued to explore the area and discovered a new paramuricea coral on a rock, just behind E-1. Also, (16:57 EDT, 28.67229ºN, 88.47655ºW, 1370.7m) we observed an ophiuroid in the process of moving from one coral (B-1) to another (B-6), this is a phenomenon that, to the best of our knowledge, has never been observed in the deep-sea before.

The water temperature was consistent through the dive at about 9.3ºC. Virtual targets were deployed for the physical markers and imaged corals.

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

Representative Photos of the Dive	
	
EX1202L2_IMG_20120331T192345Z_ROVHD_MC294_A10_A14_00.jpg (cropped from original) One of the Paramuricea corals (A-10) imaged during this dive. Most of the more than 50 corals we imaged occurred on one of two carbonate slabs, covering an area roughly 10x10m.	EX1202L2_IMG_20120331T205642Z_ROVHD_MC294_B_OVERVIEW_00.jpg Ophiuroid moving from one coral to another. This behaviour has not been observed in the deep-sea before.
Please direct inquiries to:	NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10th Floor) Silver Spring, MD 20910 (301) 734-1014