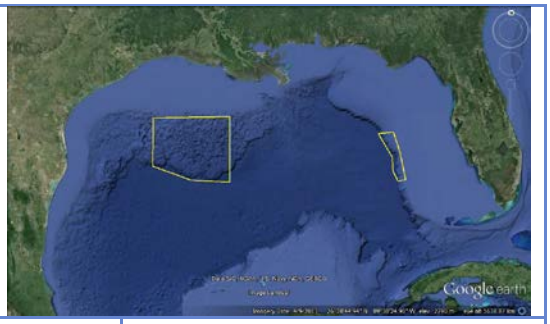
OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Large Mound Deep		
ROV Lead/Expedition Coordinator	Brian Bingham/ Kelley Elliott		
Science Team Leads	Jamie Austin (Geology) Stephanie Farrington (Biology)		
General Area Descriptor	Gulf of Mexico		
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1402	3	DIVE13
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	N/A		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1402L3_Dive13 ^^ In Water at: 2014-04-26T13:46:38.689000 26°, 18.211' N ; 085°, 01.788' W Out Water at: 2014-04-26T21:15:15.770000 26°, 18.631' N ; 085°, 01.546' W Off Bottom at: 2014-04-26T20:27:29.995000 26°, 18.500' N ; 085°, 01.600' W On Bottom at: 2014-04-26T15:14:12.096000 26°, 18.350' N ; 085°, 01.741' W Dive duration: 7:28:37 Bottom Time: 5:13:17 Max. depth: 2208.9 m		
Special Notes			
Scientists Involved *(please provide name / location / affiliation / email)*	**Primary** Jamie Austin, EX, UTIG, jamie@utig.ig.utexas.edu Stephanie Farrington, EX, FAU/HBOI, sfarrington@fau.edu Andrea Quattrini, PA, Temple, andrea.quattrini@temple.edu Brian Kinlan, MD, NOAA NCCOS, Brian.Kinlan@noaa.gov Jason Chaytor, Woods Hole, USGS, jchaytor@usgs.gov Jon Moore, VA, BOEM, James.Moore@boem.gov Michael Studivan, FL, FAU, mstudiva@fau.edu Michael Vecchione, Washington, DC, NOAA NMFS, VecchioneM@si.edu Peter Etnoyer, SC, NOAA NCCOS, peter.etnoyer@noaa.gov Robert Carney, LA, LSU, rcarne1@lsu.edu		

Purpose of the Dive

The primary objective of this dive, up the wall of a prominent salient of the central part of the West Florida Escarpment, was to assess coral habitats, along with any other biology observed (see summary below). The dive was nominated primarily by Brian Kinlan and Peter Etnoyer (NOAA).

Description of the Dive:

Geological Summary

The vehicles landed at a depth of 2187 m, on top of a gentle slope of massive carbonate outcrop. At the landing site, current was assessed at .032-.068 m/s, varying towards 162-148 degrees. Intermittent currents (strength not assessed) were encountered near the top of the wall towards the end of the dive, above 2,000 m.

The wall alternated between vertical intervals (some as large as ~30 m), and benches formed by bedding planes. Thicknesses of individual beds varied, from very thin (micritic) intervals to massive layers meters thick. Bedding planes were characterized by a number of interpreted primary (i.e., fossil) structures, e.g., burrows/burrow holes, algal mats. On the upper parts of the wall, cavernous porosity/caves/overhangs became more prominent. A possible collapse structure was observed at 2109 m. Debris of various sizes sat on bedding planes throughout the dive. Occasionally, chutes (widened joints) were filled with clastic sediment, with small accumulations of that sediment at the bottoms of these drainage pathways on bounding bedding planes. Botryoidal textures were also prominent on some planes (~2050-2020 m).

The dive ended atop a small high at the top of the salient at 1962 m.

Biological summary

Throughout the dive, there was an abundance of a wide variety of octocorals. These octocorals included: multiple species of bamboo (both branched and unbranched), namely: *Jasonisis* sp.? and *Keratosis* sp. There were bubble gum corals, increasing to common toward the top of the wall. Paracalyptrophora, Paramuricea, spiral coral - Iridogorgia, *Acanella* sp., and *Corallium* sp. Brian Kinlan (NOAA) noted after the dive that the dive encountered everything expected in his coral prediction model for this area.

Other corals observed were Stoloniferous, Clavularia, Anthomastus, and the first scleractinian corals seen during cruise leg 3: *Solenosmilia* sp. and *Enallopsammia* sp. Antipatharians included: *Bathypathes* sp., *Stauropathes* sp. and *Stichopathes* (whips).

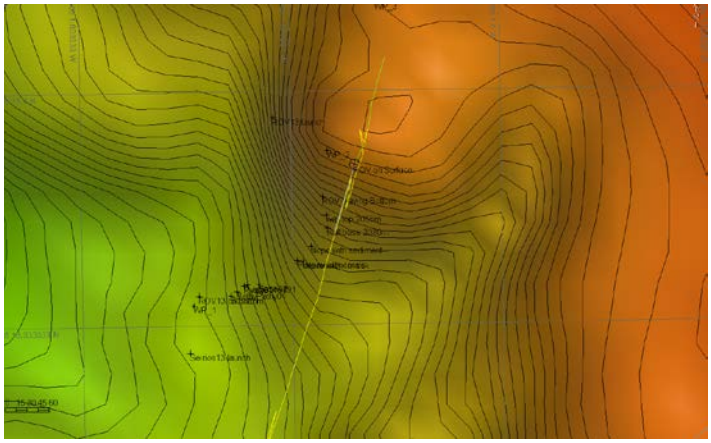
Echinoderms: Holothurians covered in sediments and pteropod shells were rare, slime star – Hymenaster (first observed during the expedition), bat stars - Goniasteridae, stalked crinoids, including Pentametrocinidae? (juvenile - pentacrinoid, post larvae), and comatulid crinoid - Thalassometridae (this family has a known depth max. of 1900 m; this could be a new species in a new, deeper depth range).

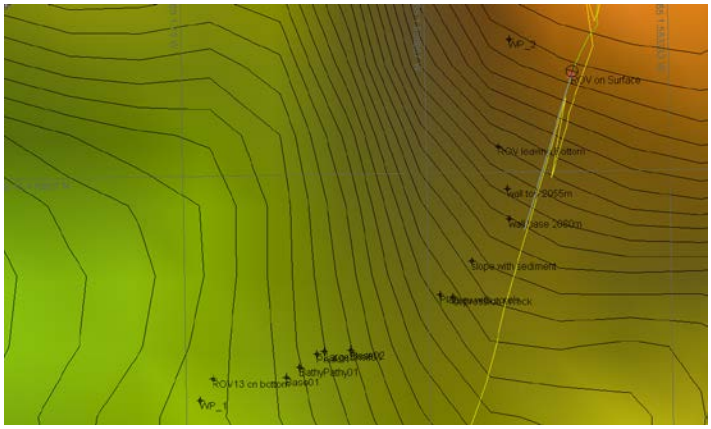
Fish were rare, with only 2 observed: *Scopelogadus* sp. and cusk eel - *Luciobrotula corethromycter*.

Sponges: hexactinellids were very common with at least 5 different species of note: *Hyalonema* sp.; wedding sponges: *Euplectella* sp.- type; unidentified: fluted, fine and translucent; Euretidae. Demosponges were rare, including Polymastia?, Geodia?,

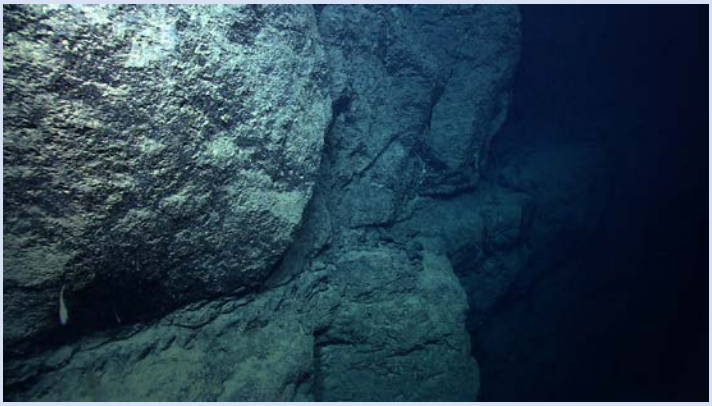
Other species included squat Lobsters, Pagurid (hermit crabs) and the star of today's dive: the dumbo octopus – who posed gracefully for the camera with his tentacles tightly wound in coils.

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





Representative Photos of the Dive



EX1402L3_IMG_20140426T152541Z_ROVHD_ROV_EXAMINES_WALL.jpg; D2 examines a wall.

EX1402L3_IMG_20140426T202323Z_ROVHD_CRI_COR_SPO.jpg; sponges, Bryozoans, crinoids and Stoloniferous corals.

Please direct inquiries to:

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