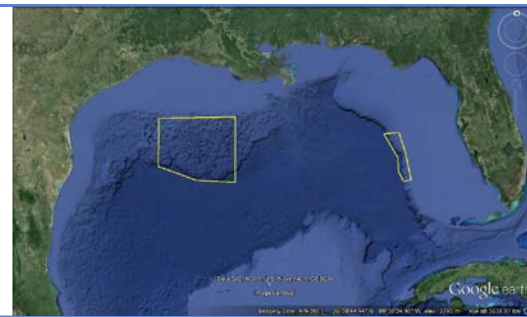
OKEANOS EXPLORER ROV DIVE SUMMARY



Site Name	Keathley Canyon Site KC2		
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	DIVE04
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_DIVE04_20140416 ^^ In Water at: 2014-04-16T13:40:43.372000 26°, 34.143' N ; 093°, 29.697' W Out Water at: 2014-04-16T21:54:10.686000 26°, 34.181' N ; 093°, 28.608' W Off Bottom at: 2014-04-16T20:46:20.677000 26°, 34.239' N ; 093°, 28.997' W On Bottom at: 2014-04-16T14:44:11.846000 26°, 34.122' N ; 093°, 29.682' W Dive duration: 8:13:27 Bottom Time: 6:2:8 Max. depth: 2003.6 m		
Special Notes			
Scientists Involved ***(please provide name / location / affiliation / email)***	**Primary** Jamie Austin, EX, UT Austin, jamie@utig.ig.utexas.edu Stephanie Farrington, EX, HBOI/FAU, sfarrington@fau.edu Bill Kiene, Galveston, TX, NOAA FGBNMS, william.kiene@noaa.gov Brendan Roark, College Station, TX, TAMU, broark@geos.tamu.edu Brian Kinlan, MD, NOAA NCCOS, Brian.Kinlan@noaa.gov Dan Warren, TX, C&C Technologies, dan.warren@cctechnol.com Erik Cordes, PA, Temple, erik.cordes@temple.edu Frank Cantelas, MD, NOAA OER, frank.cantelas@noaa.gov Jack Irion, LA, BOEM, Jack.Irion@boem.gov Scott France, LA, UL Lafayette, france@louisiana.edu		

Purpose of the Dive

Dive 4 was designed as a transect from the west side of the thalweg (main channel) of Keathley Canyon, in ~2,000 m, across that thalweg and upward, across two west-facing slopes and an intervening bench. The dive ended near the top of that longer second slope, in ~1760 m.

Description of the Dive:

Geological Summary

The thalweg was characterized by soft, unconsolidated sediment. Down-canyon current was estimated at ~1kt. The lower west-facing wall was composed of surficial sediment that was slightly more consolidated, but with no substantial outcrop. The intervening ~flat bench was transited at 0.4 kt; little of either biological or geological interest was encountered there.

The higher, steeper, longer slope became progressively steeper to the east. Rubble increased in both size and frequency as this slope was transected. The uppermost part of this slope was in places near-vertical. Numerous slump scars were visible, as were numerous meandering gullies that suggested brine seeps. However, no such seeps were encountered.

Biological summary

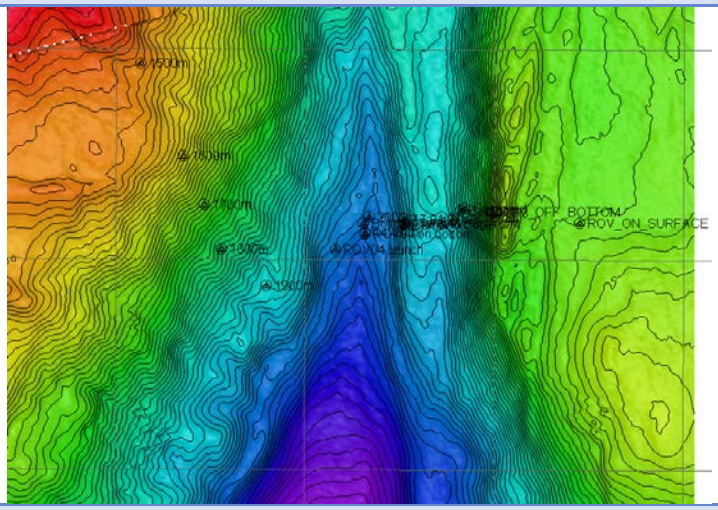
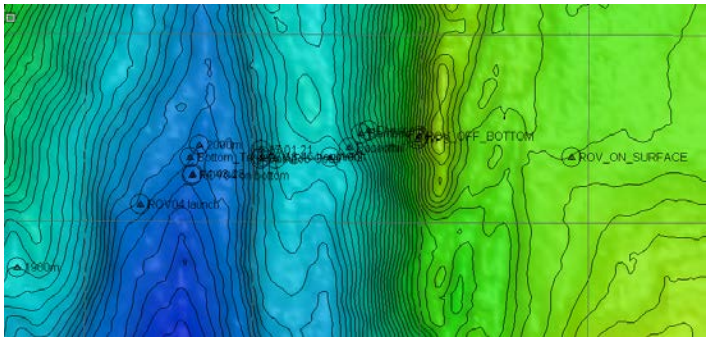
In the thalweg, the following organisms were encountered: Holothurians - *Enypniastes*, *Pseudostichopus* and *Benthothuria* were present, but rare. Asteroid – *Goniasteridae* (likely *Tethiaster grandis*), a few thread shrimp, a globe head grenadier (or a Liprid - snail fish), and halosaur (common).

Coming up the first (~20^{o}) slope and across the ensuing bench to the east, there were two dead, as well as a few living, bamboo coral (*Acanella* sp.?). More *T. grandis* were present during this part of the dive, as were two parchment tube worms - *Chaetopterid*.

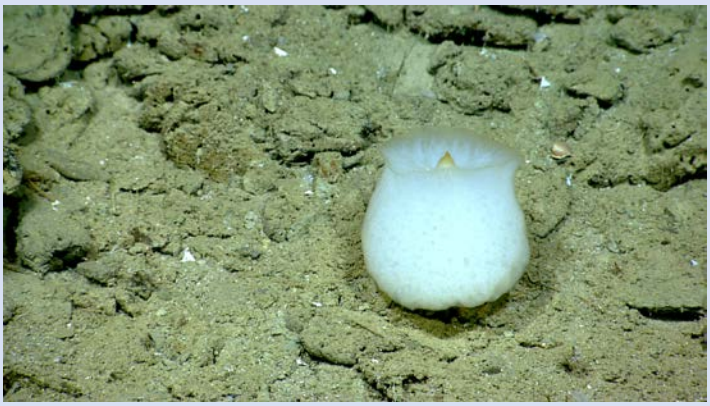
Traveling up the second slope, there was one unidentified branching sponge, Octocorals: *Swifita* sp., Stoloniferous type - growing on dead coral rubble, comatulid crinoids, a few of the *Hexactinellida* sponges: *Hyalonema* sp., and a few fly traps anemones (*Actinoscyphia* sp.).

Midway up the easternmost slope, most corals included *Paramuricea*, an unidentified white octocoral (possible *Anthelia* sp.), bamboo corals, and *Paragorgia* sp. There were also *Pennatulacea*, egg mass, and the squat lobster - *Munida* sp. Burrows associated with the latter appeared common, and these may have contributed to the increase in downslope gravitational sediment movement on this part of the slope.

On the upper part of the eastern wall, outcrops for fauna increased; this area also appeared unstable, possibly from recent brine seepage leading to evident landslides. Comatulid crinoids (unattached to the bottom) were abundant, and all appeared to be the same species. There also were more *Hyalonema* sp. (stalks and living specimens), as well as living bamboo corals, cerianthid anemones, *Paramuricea* sp., and rare *Paragorgia* sp. (bubble gum coral) octocorals.

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

Representative Photos of the Dive

	
A tripod fish rests on the sediment	*Hyalonema* sp. on consolidated sediment/rubble

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