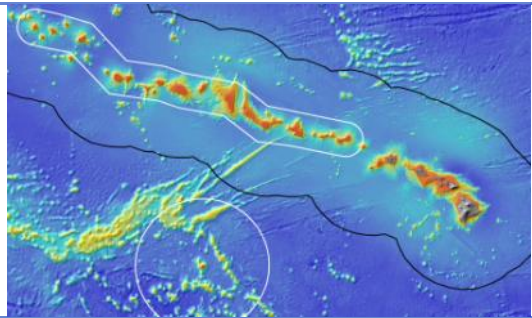


OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Unnamed Seamount east of Pearl & Hermes		
ROV Lead/Expedition Coordinator	Karl McLetchie Kelley Elliott		
Science Team Leads	Chris Kelley (Biology) Daniel Wagner (Biology)		
General Area Descriptor	Northwestern Hawaiian Islands		
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1504	2	DIVE13
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	There were only few communications issues between the shore-based and shipboard science team. Only 1 feed was available to the ECCs, however other than that, all other equipment worked properly.		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1504L2_DIVE13 ~~~~~		
	In Water at:	2015-08-14T18:13:07.609000 27°, 51.135' N ; 175°, 10.007' W	
	Out Water at:	2015-08-15T00:41:11.125000 27°, 50.958' N ; 175°, 09.555' W	
	Off Bottom at:	2015-08-14T23:29:45.515000 27°, 51.293' N ; 175°, 10.200' W	
	On Bottom at:	2015-08-14T19:38:52.640000 27°, 51.199' N ; 175°, 09.775' W	
	Dive duration:	6:28:3	
	Bottom Time:	3:50:52	
	Max. depth:	2306.0 m	
Special Notes			
Scientists Involved (please provide name / location / affiliation / email)	Allen Andrews, IRC, NMFS, Allen.Andrews@noaa.gov Amy Baco-Taylor, HBOI ECC, FSU, abacotaylor@fsu.edu Andrea Quattrini, Pasadena, CA, USGS, aquattrini@usgs.gov Asako Matsumoto, Tokyo, PERC/CIT, amatsu@gorgonian.jp Brendan Roark, TX, TAMU-CC, broark@geos.tamu.edu Bruce Mundy, IRC, NMFS, bruce.mundy@noaa.gov Chris Kelley, EX, UH, ckelley@hawaii.edu Chris Mah, SI, SI, mahch@si.edu Daniel Wagner, EX, PMNM, daniel.wagner@noaa.gov Espirit Saucier, LSU, LSU, heestand.saucier@louisiana.edu John R Smith, UH, UH, jrsmith@hawaii.edu Jonathan Tree, UH, UH, jtree@hawaii.edu Les Watling, Maine, UH, watling@hawaii.edu Mackenzie Garringer, UH, UH, mgerring@hawaii.edu Mary Wicksten, TX, TAMU, wicksten@bio.tamu.edu Michael Parke, IRC, NMFS, Michael.Parke@noaa.gov Scott France, ULL, ULL, france@louisiana.edu Tina Molodtsova, Washington, DC, PPSIO, tina@ocean.ru		
	Purpose of the Dive		
This dive was on a ridge that extends to the southeast of an unnamed seamount east of Pearl and Hermes Atoll. The objectives of the			

dive were to explore the ridge for high density communities of deep-sea corals and sponges. The target start point of the dive was on the crest of the ridge at a depth of 2300m. The plan was to then head up the ridge crest until reaching a depth of 2120m, documenting in particular the abundance of corals and sponges.

Description of the Dive:

The ROV landed close to the edge of the ridge at 2305m. The substrate consisted of heavily Mn-crusting and broken pillow lava that was covered with mostly planar bamboo corals (genus *Keratoisis* sp) and a few *Chrysogorgia* sp, and mushroom corals (*Anthomastus* sp). There was a moderate current from the south towards the north. As the ROV moved up along the crest of the ridge, it became evident that the bamboo corals were all densely aggregated on the narrow ridge crest, oriented perpendicular to the current which was moving across the ridge. A Mn-crusting basalt sample was collected at 2286m. As the ROV continued moving upwards along the crest of the ridge, it passed through a couple of patches where the substrate consisted of cobble and did not contain any animals. At 2160m, the ROV collected a sample of the species of bamboo coral, which was the most dominant at the site. A second Mn-crusting basalt sample was collected at 2163m. Further up the ridge, the ROV collected a sea star (possible *Pythonaster* sp), which appeared to be feeding on a toppled over stalked sponge, at 2163m. The ROV left the bottom at a depth of 2118m after a total bottom time of 3:48h, having covered a linear distance of 700m.

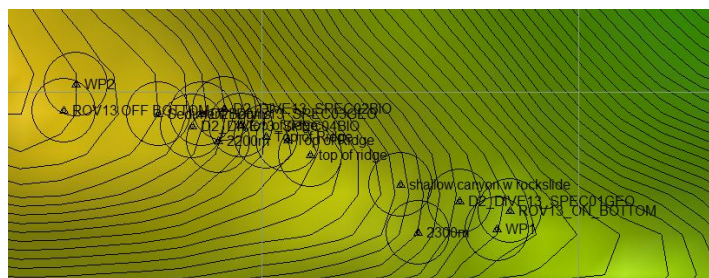
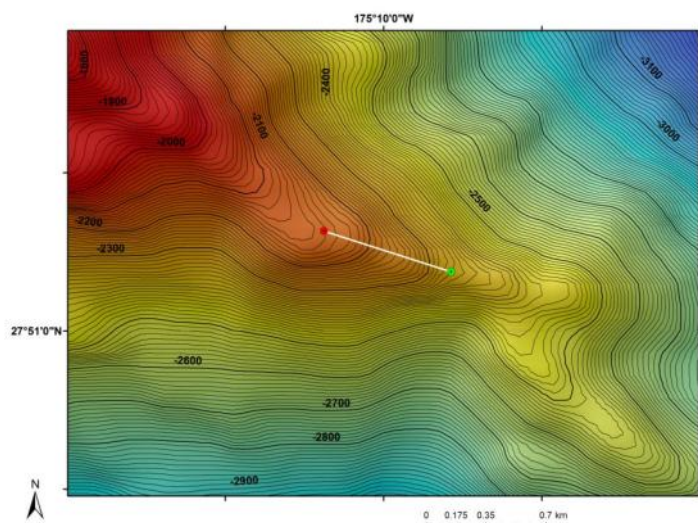
Animals observed during the dive are listed below:

Phylum	Group	Species
Arthropod	Crab	<i>Lithodes nintokuae</i>
Arthropod	Crab	Unidentified crab
Arthropods	Amphipod	Amphipod
Arthropods	Shrimp	<i>Aristopenaeus?</i> sp.
Arthropods	Shrimp	<i>Nematocarcinus tenuistrotris</i>
Arthropods	Squat lobsters	Munidae
Arthropods	Squat lobsters	<i>Munidopsis</i> sp.
Cnidarians	Actinarians	Actinostolidae
Cnidarians	Actinarians	<i>Exocoelactis</i> sp.
Cnidarians	Alcyonaceans	<i>Anthomastus</i> sp.
Cnidarians	Antipatharians	<i>Trissopathes</i> sp.
Cnidarians	Corallimorpharian	Corallimorpharian?
Cnidarians	Ceriantharian	Ceriantharian?
Cnidarians	Gorgonians	<i>Acanella weberi?</i>
Cnidarians	Gorgonians	<i>Chrysogorgia geniculata</i>
Cnidarians	Gorgonians	<i>Chrysogorgia</i> sp.
Cnidarians	Gorgonians	<i>Corallium</i> sp.
Cnidarians	Gorgonians	<i>Isidella trichotoma?</i>
Cnidarians	Gorgonians	<i>Jasonisis</i> sp.
Cnidarians	Gorgonians	<i>Keratoisis/Eknomisis</i> sp.
Cnidarians	Gorgonians	<i>Lepidisis</i> sp.
Cnidarians	Gorgonians	<i>Paragorgia</i> sp.
Echinoderms	Asteroids	<i>Henricia</i> sp.
Echinoderms	Asteroids	<i>Pythonaster</i> sp. (collected)
Echinoderms	Crinoids	Unidentified comatulids
Echinoderms	Holothuria	Unidentified pink holothurian
Echinoderms	Holothuria	Unidentified purple holothurian
Fishes	Eels	Synaphobranchid
Fishes	Macrourids	<i>Trachonurus/Malacocephalus</i> sp.
Fishes	Ophidiidiformes	Ophidiidiformes
Sponges	Hexactinellids	<i>Bolosoma</i> sp.
Sponges	Hexactinellids	<i>Caulophacus (Caulodiscus)</i> sp.
Sponges	Hexactinellids	<i>Caulophacus (Oxydiscus)</i> sp.
Sponges	Hexactinellids	Euplectellidae sp.

Sponges	Hexactinellids	Farrrea nr occa erecta
Sponges	Hexactinellids	Uncinateridae new genus sp.
Sponges	Hexactinellids	Walteria cf. leukarti
Tunicate	Ascidacea	Culeolus sp.
Tunicate	Ascidacea	Larvacean

Overall Map of Dive Area

Actual track of ROV dive



Bathymetry data for the dive site. Planned dive start and end points are shown as green and red dots, respectively.

Hypack screen grab showing waypoints dropped during actual ROV dive.

Representative Photos of the Dive







Dense forest of bamboo coral (*Keratoisis* sp) encountered at touchdown. The forest continued throughout the dive, diminishing only when in areas of sediment and cobbles.

Sample of what we suspect is very old basalt that will help determine if this seamount is Cretaceous or not.

Samples Collected

Sample ID	EX1504L2_20150814202148_D2_Dive13_SPEC01GEO
Date (UTC)	2015/08/14
Time (UTC)	20:21:48
Depth (m)	2286

Temperature (°C)	1.80698	
Oxygen (mL/L)	2.99612	
Field ID(s)	Mn-crust basalt	
Comments		
Sample ID	EX1504L2_20150814215719_D2_Dive13_SPEC02BIO	
Date (UTC)	2015/08/14	
Time (UTC)	21:57:19	
Depth (m)	2149	
Temperature (°C)	1.86554	
Oxygen (mL/L)	2.88004	
Field ID(s)	Keratoisis/Eknomisis sp.	
Comments	This species was by far the most abundant at the dive site.	
Sample ID	EX1504L2_20150814220810_D2_Dive13_SPEC03GEO	
Date (UTC)	2015/08/14	
Time (UTC)	22:08:10	
Depth (m)	2161	
Temperature (°C)	1.88578	
Oxygen (mL/L)	2.87054	
Field ID(s)	Mn-crust basalt	
Comments		
Sample ID	EX1504L2_20150814223849_D2_Dive13_SPEC04BIO	
Date (UTC)	2015/08/14	
Time (UTC)	22:38:49	
Depth (m)	2160	
Temperature (°C)	1.76615	
Oxygen (mL/L)	2.97893	
Field ID(s)	Pythonaster sp.	
Comments	Specimen collected was feeding on a topped over Caulophacus (Oxydiscus) sp. sponge.	
Please direct inquiries to:	NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10 th Floor) Silver Spring, MD 20910	

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