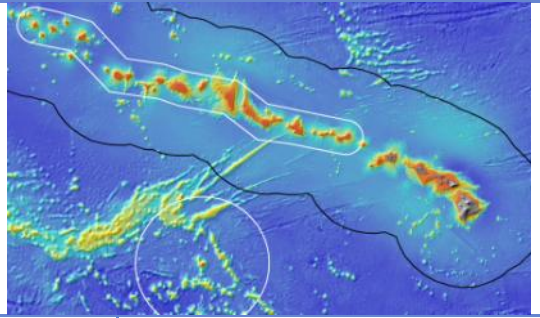


OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Southeast Maro Ridge		
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	DIVE05
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 few communications issues between the shore-based and shipboard science team. Other than that all other equipment worked properly.		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1504L2_DIVE05 ~~~~~		
	In Water at:	2015-08-06T18:21:22.234000 24°, 35.130' N ; 169°, 54.839' W	
	Out Water at:	2015-08-07T02:28:30.015000 24°, 35.259' N ; 169°, 53.471' W	
	Off Bottom at:	2015-08-06T23:50:03.687000 24°, 35.108' N ; 169°, 54.890' W	
	On Bottom at:	2015-08-06T20:53:15.687000 24°, 35.029' N ; 169°, 54.741' W	
	Dive duration:	8:7:7	
	Bottom Time:	2:56:47	
	Max. depth:	4831.2 m	
Special Notes			
Scientists Involved (please provide name / location / affiliation / email)	Allen Andrews, IRC, PIFSC, Allen.Andrews@noaa.gov Amy Baco-Taylor, HBOI ECC, FSU, abacotaylor@fsu.edu Andrea Quattrini, Pasadena, CA, USGS, aquattrini@usgs.gov Astrid Leitner, UH, UH, aleitner@hawaii.edu Bruce Mundy, IRC, NOAA, bruce.mundy@noaa.gov Charlotte Reid, NEU, NEU, c.seid@neu.edu Chris Kelley, EX, UH, ckelley@hawaii.edu Daniel Wagner, EX, NOAA, daniel.wagner@noaa.gov Diva Amon, UH, UH, divaamon@hawaii.edu Espirit Saucier, LSU, LSU, heestand.saucier@louisiana.edu Jeff Drazen, UH, UH, jdrazen@hawaii.edu John R Smith, UH, UH, jrsmith@hawaii.edu Jonathan Tree, UH, UH, jtree@hawaii.edu Michael Garcia, UH, UH, mogarcia@hawaii.edu Mike Ford, SS, NMFS, Michael.ford@noaa.gov Nicole Morgan, HBOI ECC, FSU, nbmorgan11@gmail.com Santiago Herrera, U. Toronto & WHOI, sherrera@alum.mit.edu Scott France, ULL, ULL, france@louisiana.edu Tina Molodtsova, SI (Washington, DC), PPSIO, tina@ocean.ru		
Purpose of the Dive			

This dive was located on a ridge that is Southeast of Maro Reef. This dive was the deepest conducted during this cruise and its objective was to explore biological communities at depths that have never previously been explored inside the Monument. The target start point of the dive was on the abyssal seafloor located at a depth of 4830m, which transitioned into a steep slope at approximately 4800m. The plan was to survey up a steep slope to a final target depth of approximately 4450m, documenting in particular the abundance of corals and sponges.

Description of the Dive:

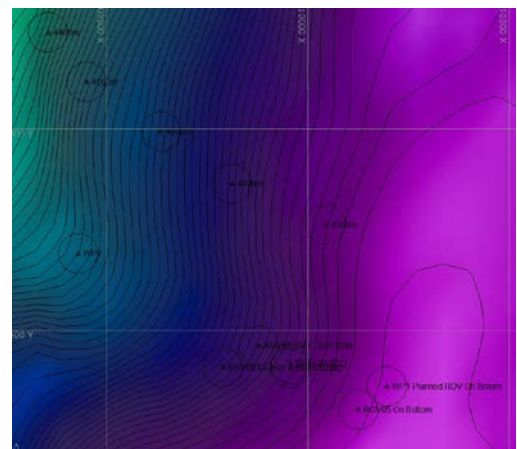
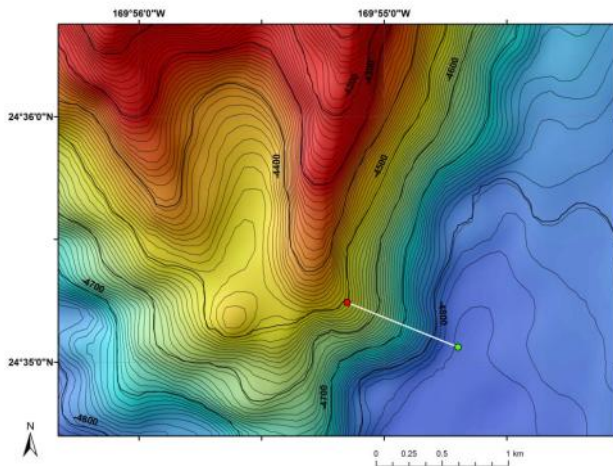
The ROV landed on flat, lightly sedimented pavement at 4829m. The current was very weak. An attempt was made to collect a rock sample but once pieced up, it just crumbled indicating the specimen was just mn crusted consolidated sediment. As the ROV moved westward towards the base of the ridge, a few animals were seen that included sea stars, sponges, a swimming cucumber, a shrimp and an ophiidiid fish, as well as a plastic cup. At the base of the wall, the substrate changed to pillow lava flows that were lightly covered with sediment. Many of these pillows were small, which according to Mike Garcia, suggested they came from a source close by. As the ROV moved up the slope, the density of animals remained very low, and included sea stars, sponges, polychaete worms, shrimps, an anemone, a hydroid, a stalked crinoid overgrown by hydroids and an ophiidiid fish. Two samples were collected towards the end of the dive, including a manganese-crusting pillow basalt at 4698m and a stalked sponge at 4691m. The ROV left the bottom after a total bottom time of 2:49h, having covered a linear distance of 280m.

Animals observed during the dive are listed below:

Cnidarians	Actinarians Hydrozoans	Unidentified actinarian Hydroids (on crinoid) Unidentified hydroid
Sponges	Hexactinellids	Farrea sp. Caulophacus sp. Atlantisella? sp. Bolosominae (collected) Unidentified cladorhizid
Echinoderms	Demosponges Asteroids Crinoids Holothuria	Freyastera sp. Unidentified stalked crinoid Elpidiidae with sail Peniagone/Amperina sp.
Arthropods	Shrimp	Mysid (on sponge) Aristaeopsis sp. Plesiopenaeus armatus
Anellida	Polychaetes	Large white polynoid Swimming polychaete Worm tubes
Fishes		Holocomycteronus? sp. Leucicorus luciosus?

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



Amazing huge polynoid polychaete worm see during the dive.

Very important rock sample collected during the dive showing pillow lavas in the background.

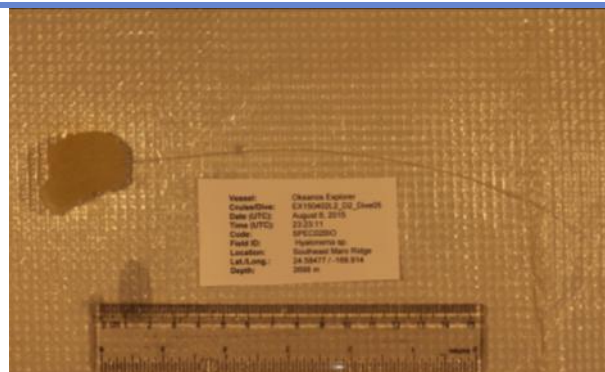
Samples Collected

Sample ID	EX1504L2_20150806230833_D2_Dive05_SPEC01GEO
Date (UTC)	2015/08/06
Time (UTC)	23:08:33
Depth (m)	4698
Temperature (°C)	1.47608
Oxygen (mL/L)	4.65431
Field ID(s)	Mn-crusted pillow basalt



Comments

Sample ID	EX1504L2_2015080623:23:11_D2_Dive05_SPEC02BIO
Date (UTC)	2015/08/07
Time (UTC)	23:23:11
Depth (m)	4691
Temperature (°C)	1.47986
Oxygen (mL/L)	4.61365
Field ID(s)	Hyalonema sp.



Comments

Please direct inquiries to:

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