

## Okeanos Explorer ROV Dive Summary

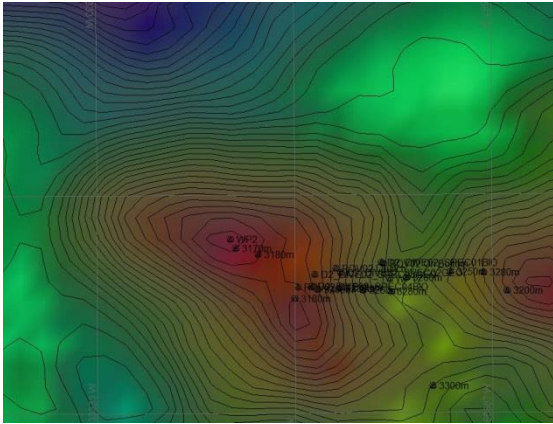
Dive Information	
General Location	
General Area Descriptor	Musicians Seamounts
Site Name	“Beach” Ridge
Science Team Leads	John R. Smith/Meagan Putts
Expedition Coordinator	Kasey Cantwell
ROV Dive Supervisor	Karl McLetchie
Mapping Lead	Mike White
ROV Dive Name	
Cruise	EX1708
Leg	-
Dive Number	DIVE02
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



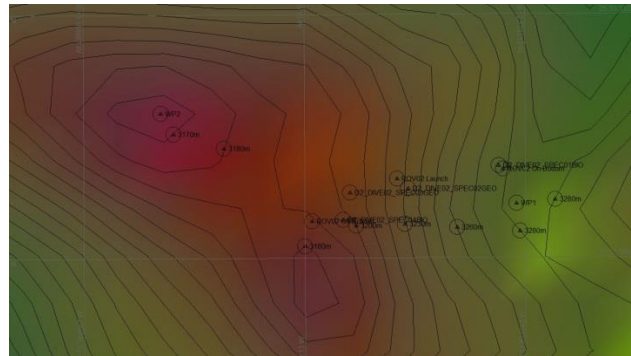
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Purpose of the Dive	<p>Deep-sea environments around the Musician Seamounts are unexplored. This dive was the first in a series whose purpose is to investigate the similarities and differences in community composition between seamounts and ridges in different parts of the Musicians Seamounts. Sharp elongate ridge features have been shown to harbor large-scale, high-density coral communities on the NW Hawaiian Ridge. Therefore, there was a high potential that the elongate ridge-like feature of “Beach” Ridge was host to similar communities.</p> <p>The primary objective for this dive was to characterize the distribution and abundance of benthic fauna and acquire baseline information on deep sea habitats, seafloor geology, and biological communities with particular interest in deep-sea coral and sponge communities. A comparison of the diversity and distribution of coral and sponge communities across the seamounts to the north and to the Hawaiian Ridge and the broader North Pacific is important to understanding the biogeography and connectivity of communities in the Pacific. In addition, the biological and geological sampling at depth will enable a comparison with other areas of the Pacific sampled as part of NOAA’s CAPSTONE program.</p>		
Description of the Dive	<p>The dive began in a saddle between two volcanic cones on the summit of “Beach” Ridge at a depth of 3280 m. Upon acquiring bottom, we observed a uniform field of cobble-sized talus and sediment. Few coral, sponges, and shrimp were spotted in the area, and an unbranched Primnoidae coral of a possible new genus was collected. Near the beginning of the dive track, there was a rare sighting of the hydromedusa, <i>Angina citrea</i>, predating upon a Keratoisidinae colony (bamboo coral). Numerous colonies of <i>Iridogorgia magnisprialis</i> were also observed at depth, likely extending the known depth range for this species. As we transected upslope, the geology changed to a more consolidated substrate of broken pillows. This area was more densely populated with corals including Primnoids, Antipatharians, and Isidids. Throughout the dive, numerous high quality images of some representative deep-sea fishes were acquired, including those of: cusk eels, <i>Bassogigas</i> sp. and <i>Bassozetus</i> sp., an arrow-tooth eel, <i>Illyophis</i> sp., and the goosefish, <i>Chaunachops coloratus</i>.</p>		



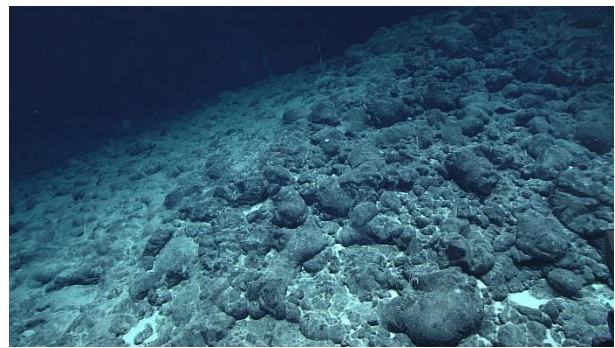
Overall Map of the ROV Dive Area



Close-up Map of Main Dive Site

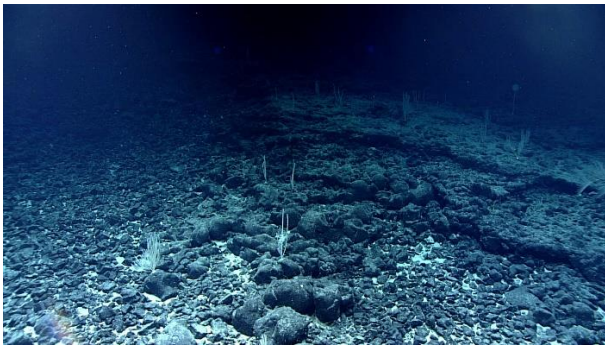


Representative Photos of the Dive



Hydromedusa, *Angina citrea*, preying on Keratoisidinae bamboo coral.

Volcanic cone flank consisting of intact pillow lava forms coated with Mn-crust and Primnoid, Isidid, and Antipatharian coral communities in the distant background.



Stable volcanic rock outcrop with Primnoid coral communities surrounded by talus and


Bright red goosefish, *Chaunacops coloratus* posing proudly upon Mn-coated talus, likely

sediment.


from fractured pillow lavas.

### Samples Collected


#### Sample

Sample ID	EX1708-DIVE01_SPEC01BIO	
Date (UTC)	9/8/2017	
Time (UTC)	21:50	
Depth (m)	3282.3	
Temperature (°C)	1.5	
Field ID(s)	Primnoidae	
Commensal ID and Field Identification		
Comments		


#### Sample

Sample ID	EX1708-DIVE02_SPEC02GEO	
Date (UTC)	9/8/2017	
Time (UTC)	23:46	
Depth (m)	3207.0	
Temperature (°C)	1.5	
Field ID(s)	Manganese crusted basalt	
Commensal ID and Field Identification	EX1708-DIVE02_SPEC02GEO_A01 Bryozoa EX1708-DIVE02_SPEC02GEO_A02 Primnoidae EX1708-DIVE02_SPEC02GEO_A03 Actiniaria EX1708-DIVE02_SPEC02GEO_A04 Cladorhizidae EX1708-DIVE02_SPEC02GEO_A05 Stichopathes sp.?	
Comments		

#### Sample

Sample ID	EX1708-DIVE02_SPEC03GEO	
Date (UTC)	9/9/2017	
Time (UTC)	00:10	
Depth (m)	3176.3	
Temperature (°C)	1.5	



Field ID(s)	Manganese crusted basalt	
Commensal ID and Field Identification	EX1708-DIVE02_SPEC03GEO_A01 Bryozoa?	
Comments		
<b>Sample</b>		
Sample ID	EX1708-DIVE02_SPEC04BIO	
Date (UTC)	9/9/2017	
Time (UTC)	00:34	
Depth (m)	3148.6	
Temperature (°C)	1.5	
Field ID(s)	<i>Bathypathes</i> sp.	
Commensal ID and Field Identification		
Comments		

**Please direct inquiries to:**

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