



Okeanos Explorer ROV Dive Summary

Dive Information	
Dive Map	
Site Name	Unnamed Seamount West of Winslow Reef
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ROV Lead(s)	Karl McLetchie
Science Team Lead(s)	Amanda Demopoulos and Steven Auscavitch
General Area Descriptor	US EEZ around Howland and Baker Islands
ROV Dive Name	
Cruise	EX-17-03

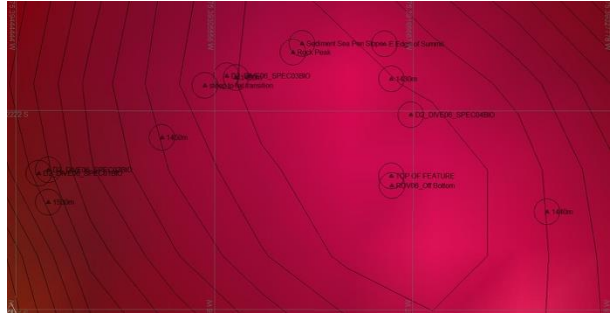
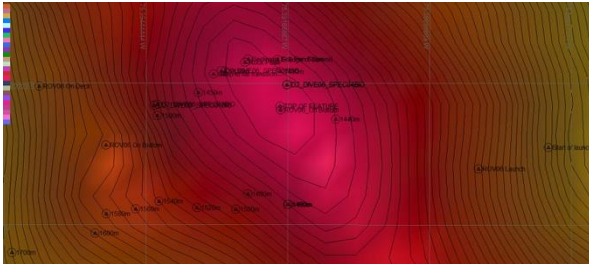
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Purpose of the Dive	<p>The goal of this dive is to acquire baseline information on deep sea habitats, seafloor geology, and biological communities on an unnamed seamount in the Winslow Reef complex. Winslow Reef proper lies within the Phoenix Islands Protected Area (PIPA). This feature appears to be part of the complex but lies across the US-Kiribati EEZ boundaries. Deep-sea environments in the US EEZ around Howland & Baker Unit of the PRIMNM are virtually unexplored leading to poor knowledge of biological resources protected by these reserves.</p>		
Description of the Dive	<p>EX1703 dive #6 was at an unnamed seamount west of Winslow Reef complex, within the US EEZ. The ROV descended to 1560 m depth and immediately encountered a steep slope with areas of sediment channels. Moving upslope, we observed several fishes, including cusk eels (<i>Dicrolene</i>, <i>Bassozetus</i>), brotula (<i>Diplacanthopoma</i>), slickhead (Alepocephalidae), and a cutthroat eel (<i>Synaphobranchus</i>, possibly a gravid female). Several large bamboo colonies were found attached to boulders, as well as large euplectellid sponges (<i>Saccocalyx?</i>), <i>Metallogorgia?</i> (juvenile), <i>Iridogorgia spp.</i> (<i>I. magnispiralis</i> and <i>I. bella?</i>), <i>Anthomastus</i>, xenophyophores, and a seastar (<i>Zoroaster spinulosus?</i>).</p> <p>The dive track transitioned to a sedimented gradual slope, where typical sediment dwellers were observed: high densities of seapens (<i>Umbellula</i>, <i>Halipteris?</i>), aspidodiadematid and echinothuriid (<i>Hygrosoma?</i>) urchins, holothurians, sea spider (pycnogonid), few spiny eels (Halosauridae: <i>Halosauropsis?</i>, <i>Aldrovandia</i>), and tripod</p>		

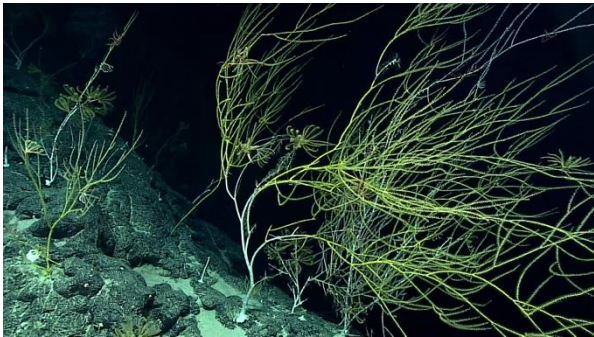
fish (*Bathypterois cf. atricolor*).

The final segment of the dive was characterized by sedimented ledges punctuated by high profile rocks and large boulders. Additional fauna encountered on this heterogeneous terrain included different bamboo species (*Lepidisis?* whip with amphipod associate and a branched form [collected]), zoanthids growing on a dead bamboo skeleton, black coral whips (*Stichopathes*), encrusting sponges, and a brisingid seastar. Additional fishes included a male halosaur, unknown cusk eels, and cutthroat eels. There were several dead bamboo skeletons and bases scattered throughout the beginning and end of the dive. We collected one base attached to manganese crust to estimate the coral age. We also continued to see the unknown yellow isidid (bamboo coral) observed at the beginning of the dive, so we collected a piece for identification. At the summit (~1366 m), we traversed exposed rock interspersed with patches of sediment. Here we saw the largest bamboo colonies with crinoids and several squat lobsters (Chirostylidae: *Gastroptychus*) attached to the rocks. On a topographic high, we found a very large, green-blue plexaurid with several associates (crinoids, ophiuroids). Because we were uncertain about the family-level identification of this coral and new observation, we collected a piece, with associates (crinoids and ophiuroids), for further study. There was a seastar at the base of the colony (Korethrasteridae, *Peribolaster?* or *Remaster?*) that was new to the expedition. This dive was characterized by the relatively high densities of one species of branched bamboo, with remarkably large colonies occurring at the summit. Given their size, and likely old age, there may be long-term environmental stability at this seamount, including adequate food supply, sufficient currents, and minimal direct human impact. However, the large density of dead bamboo bases and rock debris fields down slope may be indicative of periodic disturbance events, including landslides.

Overall Map of the ROV Dive Area	Close-up Map of Main Dive Site
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Representative Photos of the Dive



One of the many brambly Bamboo corals that were common at this location




One of several halosaurus imaged throughout the dive

Samples Collected

Sample

Sample ID	EX1703_20170313T214841_D2_DIVE06_SPEC01BIO
Date (UTC)	20170313
Time (UTC)	21:48:41
Depth (m)	1510.22
Temperature (°C)	3.18



Field ID(s)	Isididae branched	
Comments	S1 Clade?	
Sample		
Sample ID	EX1703_20170313T220926_D2_DIVE06_SPEC02BIO	
Date (UTC)	20170313	
Time (UTC)	22:09:26	
Depth (m)	1512.57	
Temperature (°C)	3.20	
Field ID(s)	Isididae	
Comments	Dead skeleton	
Sample		
Sample ID	EX1703_20170313T232218_D2_DIVE06_SPEC03BIO	
Date (UTC)	20170313	
Time (UTC)	23:22:18	
Depth (m)	1431.36	
Temperature (°C)	3.25	
Field ID(s)	Isididae	
Comments		
Sample		
Sample ID	EX1703_20170314T013208_D2_DIVE06_SPEC04BIO	
Date (UTC)	20170314	
Time (UTC)	01:32:08	
Depth (m)	1370	
Temperature (°C)	3.31	
Field ID(s)	Plexauridae	
Comments		

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