



Okeanos Explorer ROV Dive Summary

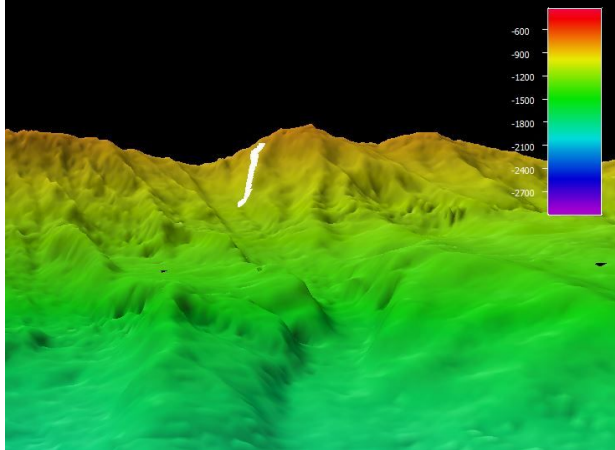
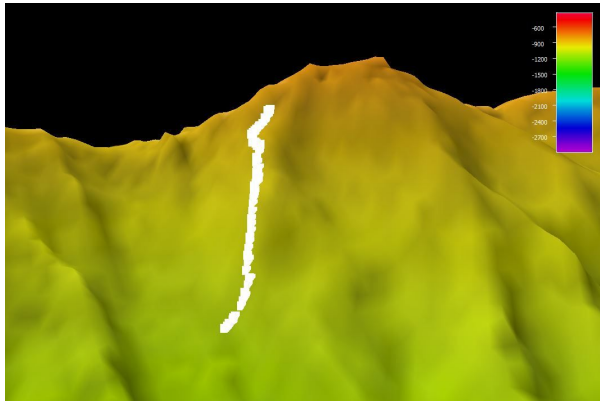
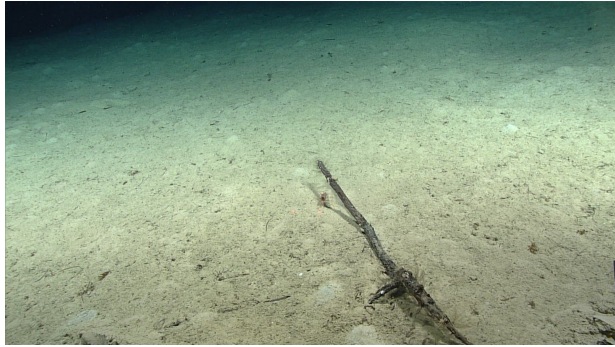
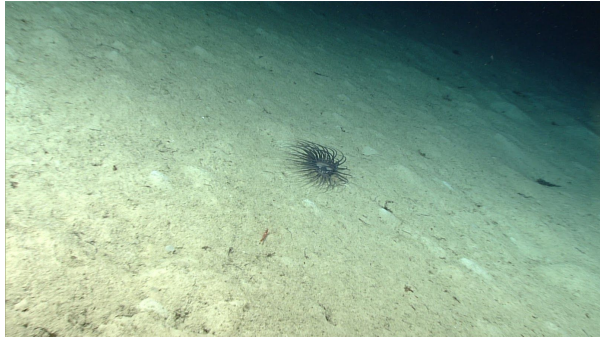
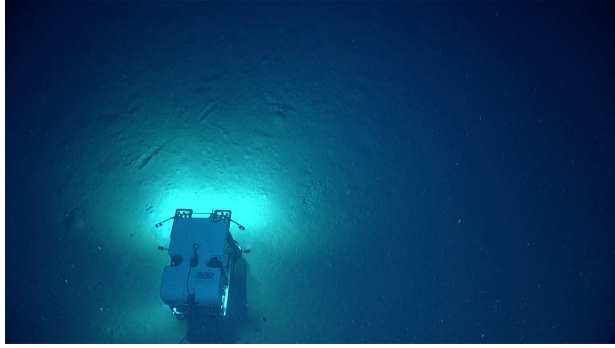
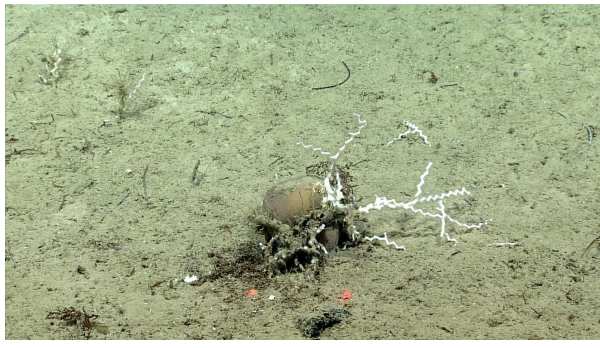
Dive Information	
General Location Map	
General Area Descriptor	U.S. Caribbean Sea
Site Name	La Parguera Ridges
Science Team Leads	Stacey Williams (ISER) Steven Auscavitch (Temple)
Expedition Coordinator	Daniel Wagner (NOAA-OER)
ROV Dive Supervisor	Chris Ritter (GFOE)
Mapping Lead	Derek Sowers (NOAA-OER)
ROV Dive Name	
Cruise	EX1811
Dive Number	DIVE08
Equipment Deployed	
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>

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 5																																																																																				
Equipment Malfunctions	None																																																																																						
ROV Dive Summary Data (from processed ROV data)	In Water:	2018-11-08T12:21:14.498731 17°, 51.088' N ; 67°, 3.427' W																																																																																					
	On Bottom:	2018-11-08T13:04:18.271158 17°, 51.118' N ; 67°, 3.318' W																																																																																					
	Off Bottom:	2018-11-08T20:01:21.986265 17°, 51.495' N ; 67°, 3.007' W																																																																																					
	Out Water:	2018-11-08T20:44:03.748931 17°, 51.251' N ; 67°, 2.408' W																																																																																					
	Dive duration:	8:22:49																																																																																					
	Bottom Time:	6:57:3																																																																																					
	Max. depth:	1101.0 m																																																																																					
Special Notes	N/A																																																																																						
Scientists Involved (provide name, affiliation, email)	<table border="1"> <thead> <tr> <th>Name</th> <th>Affiliation</th> <th>Email</th> </tr> </thead> <tbody> <tr><td>Asako Matsumoto</td><td>Chiba Institute of Technology</td><td>amatsu@gorgonian.jp</td></tr> <tr><td>Bruce Mundy</td><td>NOAA/PIFSC</td><td>bruce.mundy@noaa.gov</td></tr> <tr><td>Charles Messing</td><td>Nova Southeastern University</td><td>messingc@nova.edu</td></tr> <tr><td>Cheryl Morrison</td><td>U.S. Geological Survey</td><td>cmorrison@usgs.gov</td></tr> <tr><td>Daniel Wagner</td><td>NOAA/OER</td><td>daniel.wagner@noaa.gov</td></tr> <tr><td>Debi Blaney</td><td>NOAA/OER</td><td>debi.blaney@noaa.gov</td></tr> <tr><td>Enrique Salgado</td><td>NOAA/CSS</td><td>enrique.salgado@noaa.gov</td></tr> <tr><td>Graciela Garcia-Moliner</td><td>Caribbean Fishery Management Council</td><td>graciela_cfm@yahoo.com</td></tr> <tr><td>Jason Chaytor</td><td>US Geological Survey</td><td>jchaytor@usgs.gov</td></tr> <tr><td>Jaymes Awbrey</td><td>University of Louisiana at Lafayette</td><td>jawbrey@louisiana.edu</td></tr> <tr><td>Jim Masterson</td><td>Harbor Branch Oceanographic Institute</td><td>jmaste7@fau.edu</td></tr> <tr><td>Kenneth Sulak</td><td>US Geological Survey</td><td>jumpingsturgeon@yahoo.com</td></tr> <tr><td>Kevin Rademacher</td><td>NOAA/NMFS</td><td>kevin.r.rademacher@noaa.gov</td></tr> <tr><td>Lauren Walling</td><td>University of Louisiana at Lafayette</td><td>lauren.walling1@louisiana.edu</td></tr> <tr><td>Mashkoor Malik</td><td>NOAA/OER</td><td>mashkoor.malik@noaa.gov</td></tr> <tr><td>Megan Cromwell</td><td>NOAA/NCEI</td><td>megan.cromwell@noaa.gov</td></tr> <tr><td>Megan McCuller</td><td>North Carolina Museum of Natural Sciences</td><td>megan.mcculler@naturalsciences.org</td></tr> <tr><td>Michelle Schärer</td><td>HJR Reefscaping</td><td>michelle.scharer@upr.edu</td></tr> <tr><td>Nolan Barrett</td><td>Medical University of South Carolina</td><td>barrettmh@g.cofc.edu</td></tr> <tr><td>Ricardo Lugo</td><td>Boqueron Fishermen Association</td><td>ricardo.juan.lugo@gmail.com</td></tr> <tr><td>Santiago Herrera</td><td>Lehigh University</td><td>sherrera@alum.mit.edu</td></tr> <tr><td>Scott France</td><td>University of Louisiana at Lafayette</td><td>france@louisiana.edu</td></tr> <tr><td>Stacey Williams</td><td>Institute for Socio-Ecological Research</td><td>stcmwilliams@gmail.com</td></tr> <tr><td>Steven Auscavitch</td><td>Temple University</td><td>steven.auscavitch@temple.edu</td></tr> <tr><td>Tara Harmer Luke</td><td>Stockton University</td><td>luket@stockton.edu</td></tr> <tr><td>Tom Hourigan</td><td>NOAA/DSCRTP</td><td>tom.hourigan@noaa.gov</td></tr> <tr><td>Upasana Ganguly</td><td>University of Louisiana at Lafayette</td><td>upasana.ganguly1@gmail.com</td></tr> </tbody> </table>			Name	Affiliation	Email	Asako Matsumoto	Chiba Institute of Technology	amatsu@gorgonian.jp	Bruce Mundy	NOAA/PIFSC	bruce.mundy@noaa.gov	Charles Messing	Nova Southeastern University	messingc@nova.edu	Cheryl Morrison	U.S. Geological Survey	cmorrison@usgs.gov	Daniel Wagner	NOAA/OER	daniel.wagner@noaa.gov	Debi Blaney	NOAA/OER	debi.blaney@noaa.gov	Enrique Salgado	NOAA/CSS	enrique.salgado@noaa.gov	Graciela Garcia-Moliner	Caribbean Fishery Management Council	graciela_cfm@yahoo.com	Jason Chaytor	US Geological Survey	jchaytor@usgs.gov	Jaymes Awbrey	University of Louisiana at Lafayette	jawbrey@louisiana.edu	Jim Masterson	Harbor Branch Oceanographic Institute	jmaste7@fau.edu	Kenneth Sulak	US Geological Survey	jumpingsturgeon@yahoo.com	Kevin Rademacher	NOAA/NMFS	kevin.r.rademacher@noaa.gov	Lauren Walling	University of Louisiana at Lafayette	lauren.walling1@louisiana.edu	Mashkoor Malik	NOAA/OER	mashkoor.malik@noaa.gov	Megan Cromwell	NOAA/NCEI	megan.cromwell@noaa.gov	Megan McCuller	North Carolina Museum of Natural Sciences	megan.mcculler@naturalsciences.org	Michelle Schärer	HJR Reefscaping	michelle.scharer@upr.edu	Nolan Barrett	Medical University of South Carolina	barrettmh@g.cofc.edu	Ricardo Lugo	Boqueron Fishermen Association	ricardo.juan.lugo@gmail.com	Santiago Herrera	Lehigh University	sherrera@alum.mit.edu	Scott France	University of Louisiana at Lafayette	france@louisiana.edu	Stacey Williams	Institute for Socio-Ecological Research	stcmwilliams@gmail.com	Steven Auscavitch	Temple University	steven.auscavitch@temple.edu	Tara Harmer Luke	Stockton University	luket@stockton.edu	Tom Hourigan	NOAA/DSCRTP	tom.hourigan@noaa.gov	Upasana Ganguly	University of Louisiana at Lafayette	upasana.ganguly1@gmail.com
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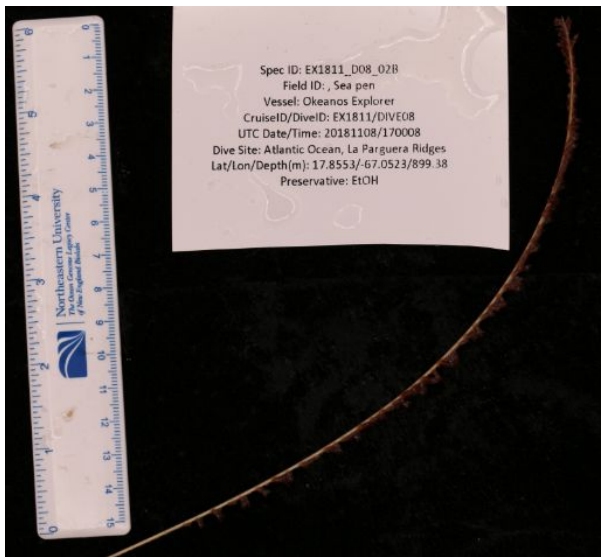


Dive Purpose	<p>The purpose of the dive was to characterize deep-sea coral and sponge communities in an unexplored ridge feature off La Parguera. The dive also sought to identify occurrences of deepwater demersal fish species, as well as their habitat preferences along the dive track. The dive track began near the bottom of a steep slope (average 30 degree incline) and continued eastward toward a more moderate ridge.</p>
Dive Description	<p>During this dive we slowly climbed a gentle slope dominated by soft sediment. The fish diversity was relatively high, considering there was not much structure or refuge during the dive. We observed 13 fish species. The most common fish along the dive were ophidiform (<i>Dicrolene?</i> sp.) and a halosaur (<i>Aldrovandia</i> sp.). Congrid eels (<i>Arisoma</i> sp.) and <i>Bathypterois</i> spp. were also abundant towards the second half of the dive. The other fish observed were halosaurs (<i>Aldrovandia affinis</i>), <i>Bathypterois</i> sp., unknown ophidiform (big with black head, navy blue, and black pectoral fins), <i>Bathytyphlops</i> sp., bristlemouth, <i>Neoscopelus</i> sp., <i>Bathypterois viridensis</i>, <i>Squalus cubensis</i>, <i>Peristedion</i> sp. and the skate <i>Fenestraja ishiyamai</i>. Several fish had ectoparasites (parasitic copepods and isopods), as well as scars.</p> <p>Corals were not particularly well represented in this area. The majority of the species observed were sea pens (Protoptilidae), one of which was collected for identification purposes (?Anthoptilidae). Sea pens were not abundant in this area. Curiously, one live colonial scleractinian (<i>Madrepora oculata</i>) was observed growing on soft bottom. One sponge was observed to be colonizing part of the exposed skeletal material, often growing over branch material. Upon collection, it was revealed that a significant mass of dead skeleton was hidden under the soft substrate.</p> <p>The sponge diversity was low in this area compared to previous dives. We only saw two species of glass sponges, <i>Euplectella</i> sp. and a stalked sponge in the family Hyalonematidae. Their stalks were mostly covered with zoanths and usually had commensal squat lobsters or crinoids on them. One sponge was collected (?<i>Geodia</i> sp.) It was observed growing on dead and live <i>Madrepora oculata</i> skeleton. In addition, we made several observations of cladorhizids sponges, one of which was collected off St. Croix (<i>Chondrocladia</i> sp.) on an earlier dive, and the other is new for the expedition (possibly <i>Asbestopluma</i> sp.).</p> <p>Echinoderms were by far the most diverse and most abundant taxa. Sea cucumbers were very abundant throughout the dive. We observed four different species of holothurians. A small opaque holothurian (Elpidiidae), <i>Enypniastes</i> sp., one Deimatidae, and an unknown smooth pinkish sea cucumber. One of the first holothurians observed had numerous gastropod and amphipod parasites on its back. Crinoids were also present throughout the dive, both stalked and unstalked. Most common was a 10-armed species from the Atelecrinidae. One stalked crinoid was <i>Rouxicrinus vestitus</i> and was recently described in 2010 by Chuck Messing. The deepest record for this species was 887 m, and we saw it deeper on this dive. We saw only one species of sea star (mud star, Asteropectinidae), and one had a really enlarged madreporite. We saw two urchin species, <i>Phormosoma</i> sp. and <i>Cidaris blakei</i>.</p>
Notable Observations	<p>There was quite a few pieces of wood fall (one fragment was collected for faunal identification) and debris, like seagrass blades and <i>Sargassum</i>. For anthropogenic debris, we saw an aluminum can and a glass jar during the dive. Large burrows in the sand were common in the slope-side and could be from large isopods (<i>Bathynomus gigantea</i>) or the blind lobsters observed on this dive.</p>
Community Presence/Absence (community is defined as more than two species)	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Corals and Sponges <input type="checkbox"/> Chemosynthetic Community <input type="checkbox"/> High biodiversity Community <input type="checkbox"/> Active Seep or Vent <input type="checkbox"/> Extinct Seep or Vent <input type="checkbox"/> Hydrates



Overall Map of the ROV Dive Area	Close-up Map of Main Dive Site
	
Representative Photos of the Dive	
	
<p>Wood falls, based on visual counts, were likely the most biodiverse communities observed on this dive. Mangrove material was suspected to be the dominant type, but bamboo pieces were also seen.</p>	<p>Seafloor here was largely homogeneous in composition, but some areas contained substantial evidence of burrowing or otherwise bioturbated sediments.</p>
	
<p>Scours and burrows were also common in this area. Burrows were possibly created by crustaceans observed on this dive. Long scours were thought to be created by beaked whale activity.</p>	<p><i>Madrepora oculata</i> and <i>Geodia</i> sp. sponge found on hard bottom. This observation was unusual for this soft bottom habitat. This specimen was collected.</p>

Samples Collected

Sample ID	EX1811_D08_01B		
Date (UTC)	20181108		
Time (UTC)	163721		
Depth (m)	907.436		
Temp. (°C)	6.294		
Field ID(s)	wood fall		
Commensals	Commensal Sample ID	Field Identification	Count
	EX1811_D08_01B_A01	Crinoidea	1
	EX1811_D08_01B_A02	Crinoidea	1
	EX1811_D08_01B_A03	Gastropoda	1
	EX1811_D08_01B_A04	Polyplocophora	3
	EX1811_D08_01B_A05	Polychaeta	1
Comments			
Sample ID	EX1811_D08_02B		
Date (UTC)	20181108		
Time (UTC)	170008		
Depth (m)	899.384		
Temp. (°C)	6.339		
Field ID(s)	<i>Pennatula</i> sp.		
Commensals	No commensals		
Comments			

Sample Information										
Sample ID	EX1811_D08_03B									
Date (UTC)	20181108									
Time (UTC)	174656									
Depth (m)	890.817									
Temp. (°C)	6.372									
Field ID(s)	<i>Madrepora oculata</i>									
Commensals	<table border="1"> <thead> <tr> <th>Commensal Sample ID</th> <th>Field Identification</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>EX1811_D08_03B_A01</td> <td>Porifera</td> <td>1</td> </tr> <tr> <td>EX1811_D08_03B_A02</td> <td>Polychaeta</td> <td>1</td> </tr> </tbody> </table>	Commensal Sample ID	Field Identification	Count	EX1811_D08_03B_A01	Porifera	1	EX1811_D08_03B_A02	Polychaeta	1
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	EX1811_D08_03B_A01	Porifera	1							
EX1811_D08_03B_A02	Polychaeta	1								
Comments										



Please direct inquiries to:

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