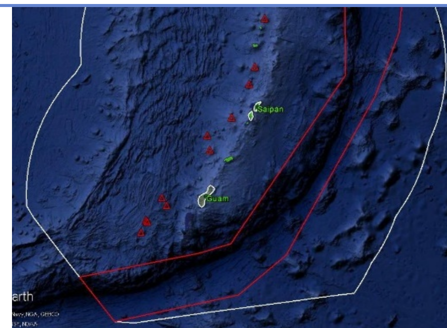
OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	(North) Esmerelda Bank		
ROV Lead/ Expedition Coordinator	Jim Newman / Kelley Elliott		
Science Team Leads	Deborah Glickson & Diva Amon		
General Area Descriptor	Southern Marianas		
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1605	1	DIVE 18
Equipment Deployed	ROV:	Deep Discoverer	
	Camera Platform:	Seirios	
ROV Measurements	☒ D2 CTD	☒ Depth	☒ Altitude
	☒ Scanning Sonar	☒ USBL Position	☒ Heading
	☒ Pitch	☒ Roll	☒ HD Camera 1
	☒ HD Camera 2	☒ ROV HD 2	☒ Seirios CTD
	Temperature Probe	☒ D2 DO Sensor	☒ Seirios DO sensor
Equipment Malfunctions	None.		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1605L1_DIVE18 ^^ In Water: 2016-05-08T20:13:46.117000 15°, 01.667' N ; 145°, 13.191' E Out Water: 2016-05-09T04:32:02.729000 15°, 02.136' N ; 145°, 13.569' E Off Bottom: 2016-05-09T04:17:46.597000 15°, 02.140' N ; 145°, 13.522' E On Bottom: 2016-05-08T20:44:09.828000 15°, 01.745' N ; 145°, 13.356' E Dive duration: 8:18:16 Bottom Time: 7:33:36 Max. depth: 530.2 m		
Special Notes			
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Purpose of the Dive

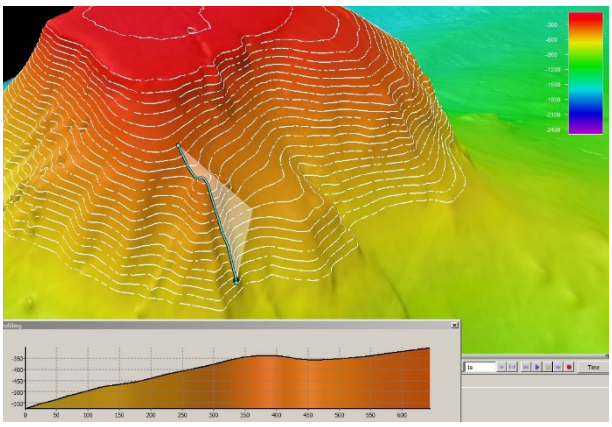
This dive explored for high-density communities of deep-sea corals, in this case precious corals that are under the management of NOAA Fisheries on the slope of Esmeralda Bank. While the precious coral fishery is listed as a managed fishery in Guam and CNMI, no precious coral beds have been identified to date and only anecdotal accounts have been published of their presence in this region of the Pacific. This particular site was chosen to also survey bottomfish fishery habitat, which has also not been characterized in Guam/CNMI and determine if there is a depth and site overlap between the two fisheries. The dive is planned to begin at 537 m, move along track for ~640 m, and end at a depth of 300 m.

Description of the Dive:

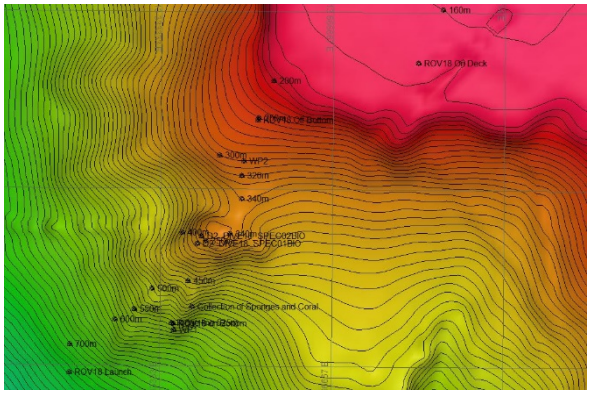
We landed at a depth of 530 m in volcanic rocks, possibly in volcaniclastics. It was a mixture of clasts and sediment, but was cemented in place (which we found out when we unsuccessfully attempted a rock sample). As we moved up the slope, we found large outcrops of volcanics that appeared to be intact. These volcanics made up the majority of the very sharp ridge we were following at the beginning of the dive. This sharp ridge was home to an astounding array of biology. This included a suite of colorful coral such as *Paragorgia* sp., *Victorgorgia* sp, stolonifera, primnoids, and tubular sponges. There were also many echinoderms observed such as urchins (Caenopedinidae), commensal ophiuroids, comatulid crinoids and even a slit shell gastropod. After the local high, we moved into an area that looked like poorly sorted conglomerate or breccia.

As we moved along this feature, there were small outcrops as well as talus cemented in place (scene of another unsuccessful sampling attempt). As we moved onto a flat at about 350 m, we first encountered a flat area covered in sediment. This changed to a carbonate terrain with karstic features, such as dissolution pits. We saw far less biology in this area, except for many tiny stylasterid corals. There were few other animals noted in this area. As we continued upslope, the upslope angle became more gentle and we saw less carbonate outcrops, more reddish-orange sediment (often with ripple marks from currents) and very small, dark clasts that could be mineralized carbonates, or possibly (but unlikely) volcaniclastics. There were many fish observed during this dive including scorpaenids, boarfish, (*Antigonia*), batfish, and a jellynose eel. Commercial fish species included *Etelis carbunculus*, *E. coruscans, Pristipimoides argyrogrammicus, Gymnosarda* (tuna) and a species of *Hoplostethus* but there were no commercially-sought after corals observed. There were two samples collected: a demospongiae (likely Astrophorida), which had commensal pagurids (D2_DIVE18_SPEC01BIO) and a Chrysogorgiidae with commensal ctenophores, shrimp, squat lobster, and zoanthids (D2_DIVE18_SPEC02BIO).

Map of ROV Dive Area

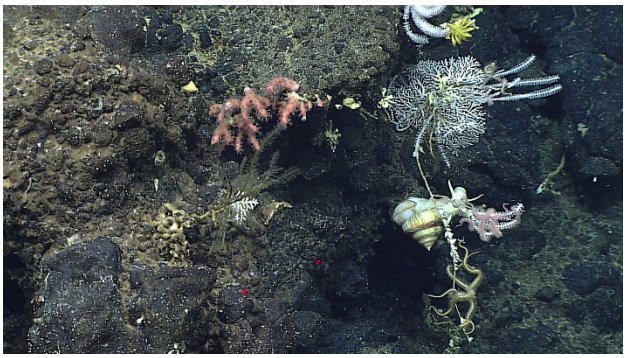


Fledermaus map of planned dive EX1605L1-DIVE18 track.

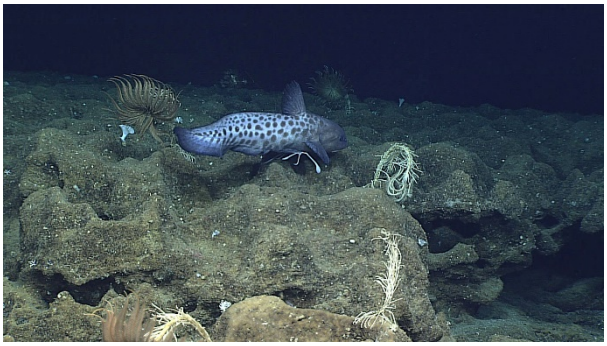


Hypack screengrab of actual dive EX1605L1-DIVE18 track.

Representative Photos of the Dive



A slit snail (Pleurotomariacea) amongst octocorals, hydroids, ophiuroids and crinoids seen on Dive 18.

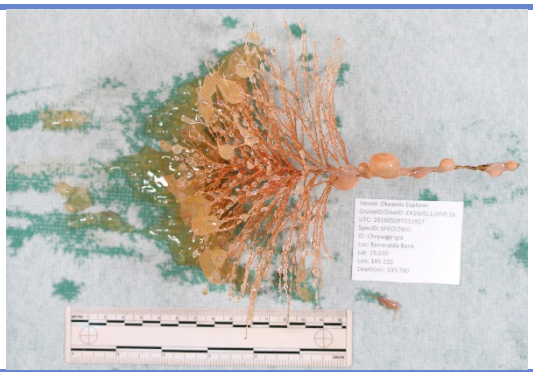


A jelly-nose eel (*Guenpherus kapoi*) that is a new record for this family of fish in the Marianas region.

Samples Collected

Sample ID	D2_DIVE18_SPEC01BIO
Date (UTC)	20160509
Time (UTC)	00:49:03
Depth (m)	364.260
Temperature (ºC)	11.42
Field ID(s)	Sponge
Comments	This specimen had 5 commensal pagurids living on it.

Sample ID	D2_DIVE18_SPEC02BIO
Date (UTC)	Dive 20160509
Time (UTC)	01:39:27
Depth (m)	339.780
Temperature (ºC)	10.21
Field ID(s)	*Chrysogorgia* sp.
Comments	Ctenophores and other stuff



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