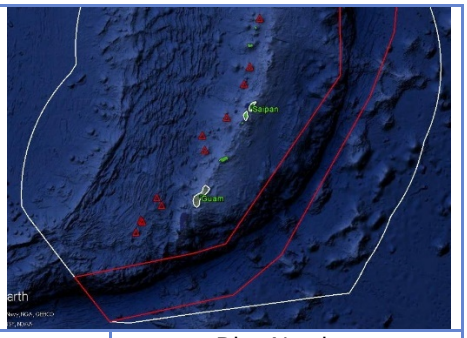
OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Zealandia 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 12
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			
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1605L1_DIVE12 In Water: 2016-05-02T20:26:18.897000 N/A ; N/A Out Water: 2016-05-03T04:33:27.522000 16°, 53.853' N ; 145°, 53.859' E Off Bottom: 2016-05-03T04:17:47.590000 16°, 53.786' N ; 145°, 53.811' E On Bottom: 2016-05-02T21:11:09.774000 16°, 54.205' N ; 145°, 53.980' E Dive duration: 8:7:8 Bottom Time: 7:6:37 Max. depth: 654.8 m		
Special Notes			
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Purpose of the Dive

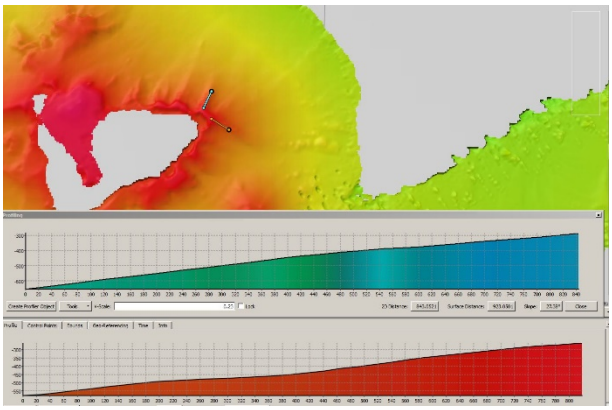
This dive will be on Zealandia Banks to explore for high-density communities of deep-sea corals, in this case precious corals that are under the management of NOAA Fisheries. While the precious coral fishery is listed as a managed fishery in Guam and CNMI, no precious coral beds have been identified 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.

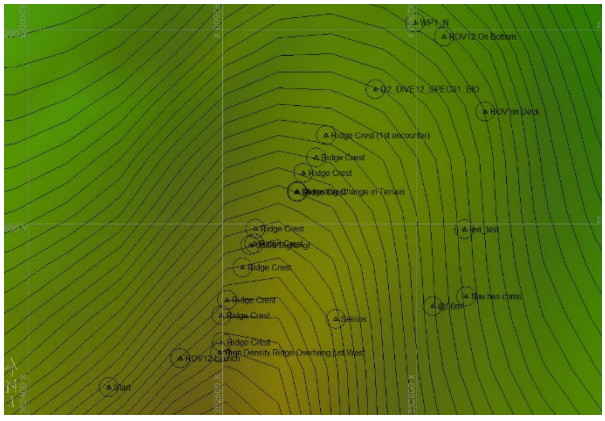
Description of the Dive:

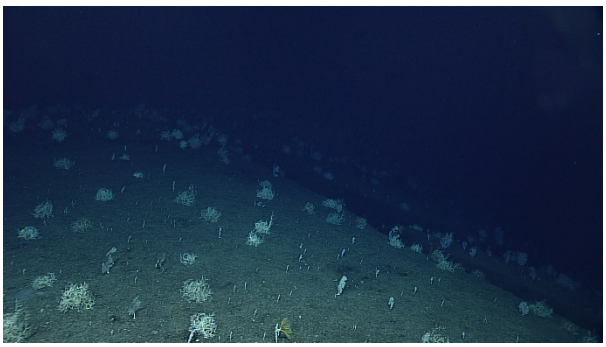
This dive began at a depth of 650 m at the base of a ridge on the north face of Zealandia Bank. We landed in conglomerate that appearing to be dipping downward. The clasts were cobble-sized and appeared to be cemented with a carbonate matrix. They were above blocky talus that was likely to be andesite, based on the local geology. We interpreted the conglomerate as possibly an old beach deposit. Further into the dive we saw some intact flows (andesite?), some flat, thick rocks that we interpreted as either a large igneous flow or a carbonate platform, and then a very cemented, low-relief crust for the latter part of the dive. No geology samples were taken.

There was much biology living on the conglomerate observed at the beginning of the dive, especially suspension feeders such as sponges including some *Farrea* that were overgrown by zoanthids, comatulid crinoids, brisingids and octocorals including *Corallium* (a commercially-sought coral) with commensals (ophiuroids, crinoids, squat lobsters etc). Many orange squat lobsters were also observed resting on the seafloor. As the dive continued up slope, a number of zonations in the biology were observed. A zone dominated by coral and suspension feeders, progressed into a field of thousands of gorgonocephalid basket stars and stalked crinoids, which then turned into mostly *Parisis* corals. A number of fish were also noted including a silver scabbardfish, deepwater cardinal fish (*Epigonus* sp.), two sand tiger sharks (*Carcharias taurus*), a monkfish and also three commercially sought after species: *Etelis carbunculus, Hoplostethus* sp., and *Pristipimoides* sp. The bottomfish were seen at shallow depths towards the end of the dive, however *Heterocarpus laevigatus* was noted at deeper depths at the beginning of the dive. Three biology samples were collected: an antipatharian (*Hexapathes* sp.), a gorgonocephalidae basket star, and a lithistid sponge.

Map of ROV Dive Area

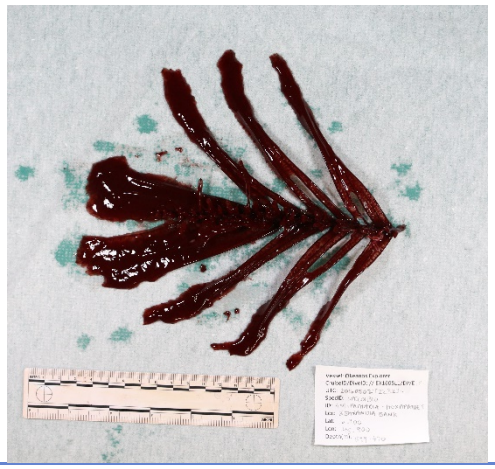




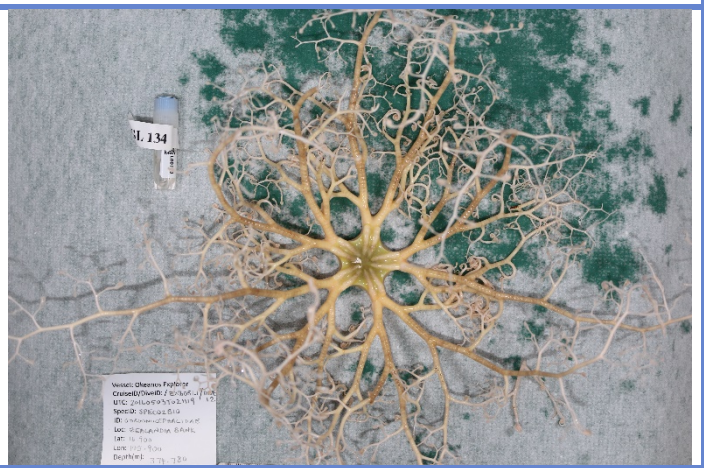
Fledermaus map of planned dive EX1605L1-DIVE12 track. We ended up choosing the more northern track based on currents.	Hypack screengrab of actual dive EX1605L1-DIVE12 track.
Representative Photos of the Dive	
	
An *Etelis carbunculus,* a deepwater snapper targeted by bottom fisheries.	Dense aggregations of basket stars were seen during Dive 12.

Samples Collected

Sample ID	D2_DIVE12_SPEC01BIO
Date (UTC)	20160502
Time (UTC)	22:32:30
Depth (m)	599.47
Temperature (ºC)	6.303
Field ID(s)	Antipatharia – *Hexapathes* sp.
Comments	There were two commensal chirostylid squat lobsters on this sample (likely a mating pair) (D2_DIVE12_SPEC01BIOCO1). The antipathiarian sample was split between 95% ETOH and 4% Formalin.



Sample ID	D2_DIVE12_SPEC02BIO
Date (UTC)	20160503
Time (UTC)	02:11:19
Depth (m)	374.78
Temperature (ºC)	12.471
Field ID(s)	Gorgonocephalidae sp.



Comments	No commensals.	
Sample ID	D2_DIVE012_SPEC03BIO	
Date (UTC)	20160503	
Time (UTC)	03:57:41	
Depth (m)	310.21	
Temperature (ºC)	15.055	
Field ID(s)	Lithistida (Heteroscleromorpha) sp.	
Comments	There were some commensal cnidarians on this sample (D2_DIVE12_SPEC03BIOCO1).	
Please direct inquiries to:	NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10th Floor) Silver Spring, MD 20910 (301) 734-1014	