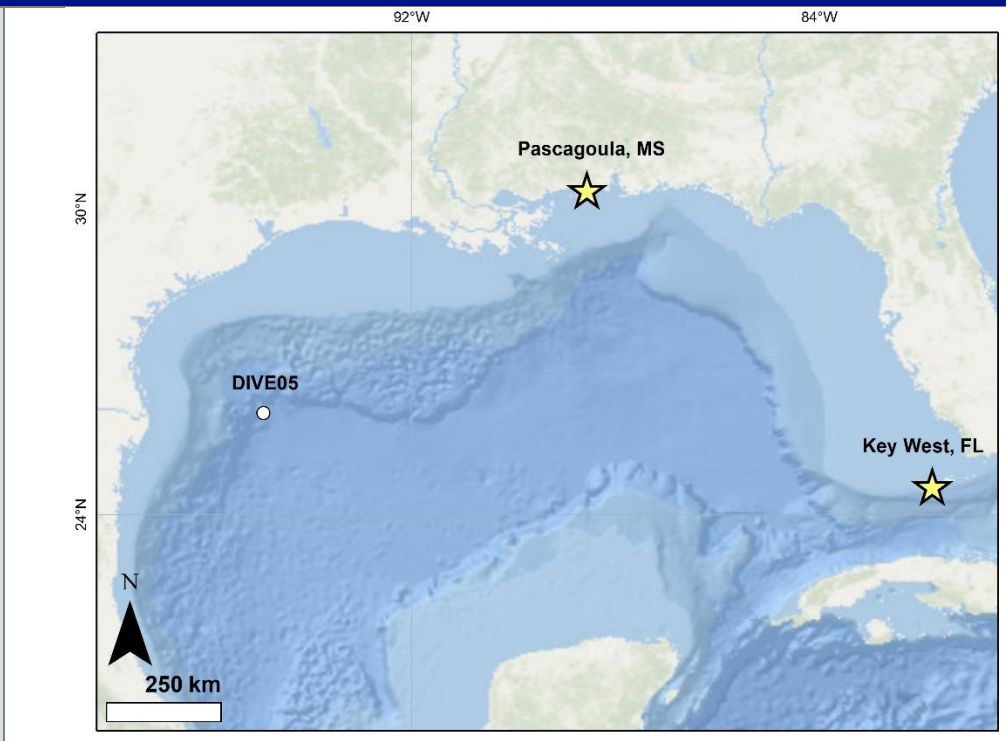
Ocean Exploration and Research

Okeanos Explorer ROV Dive Summary

Dive Information	
General Location Map	
General Area Descriptor	Gulf of Mexico
Site Name	North Wall of Perdido Canyon / AC 813
Science Team Leads	Daniel Wagner (Biology) Adam Skarke (Geology)
Expedition Coordinator	Nikolai Pawlenko
ROV Dive Supervisor	Karl McLetchie
Mapping Lead	Mike White
ROV Dive Name	
Cruise	EX1803
Dive Number	DIVE05

Equipment Deployed

ROV	Deep Discoverer
Camera Platform	Seirios
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	There was an issue with the ROV tether, and as a result the dive was aborted ~20 minutes early.
ROV Dive Summary (from processed ROV data)	Dive Summary: EX1803_DIVE05 ^^ In Water: 2018-04-18T13:28:33.350901 26°, 8.675' N ; 94°, 51.944' W On Bottom: 2018-04-18T15:07:32.377117 26°, 8.683' N ; 94°, 52.003' W Off Bottom: 2018-04-18T19:47:32.536074 26°, 8.998' N ; 94°, 51.936' W Out Water: 2018-04-18T21:21:39.236951 26°, 8.858' N ; 94°, 51.819' W Dive duration: 7:53:5 Bottom Time: 4:40:0 Max. depth: 2797.0 m
Special Notes	

Scientists Involved (please provide name, location, affiliation, email)			
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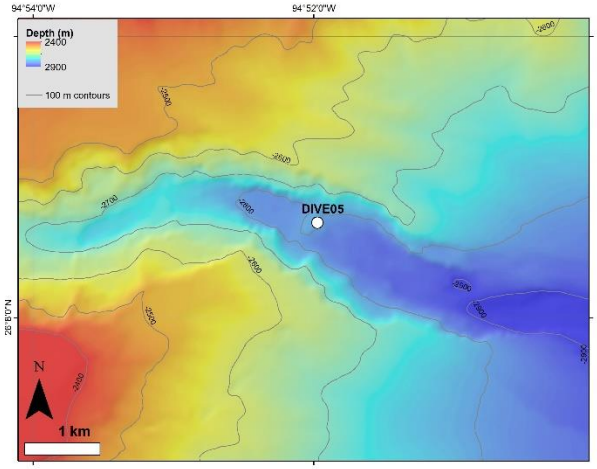
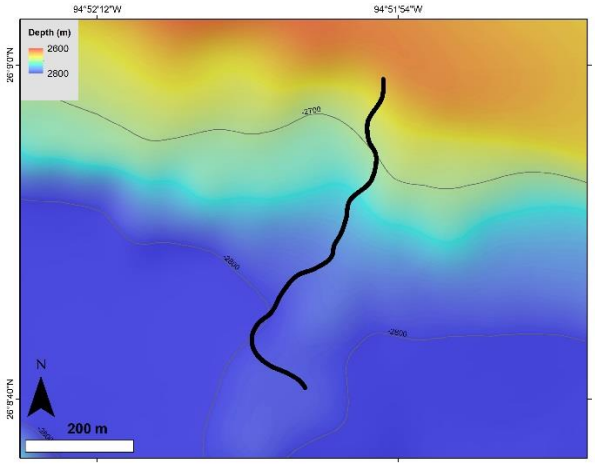
Purpose of the Dive	The purpose of Dive 5 was to survey the biology and geology of the north wall of Perdido Canyon, a submarine canyon that has never before been explored using deep-sea submersibles by the scientific community. The closest scientific dives to the site, two 2006 surveys by AUV *Alvin*, were conducted in Alaminos Canyon close to 25 km to the east. Therefore, this dive sought to provide important baseline information about an unexplored deep-sea canyon. Submarine canyons are generally regarded as hotspots of abundance and biodiversity, but have been particularly undersurveyed in many remote and offshore locations like the Western Gulf of Mexico.			
Description of the Dive	The ROV reached the bottom on a heavily-sedimented, flat area at a depth of 2786 m at 15:07 UTC. An *Umbellua* sp. seapen was observed close to the landing spot. The dive started on the floor of Perdido Canyon and proceeded northwest up a sediment covered mound that was oriented across the canyon axis. At approximately 16:22 UTC the ROV preceded north up the canyon wall. The lower portions of the canyon wall were characterized by fine grained sediment cover with periodic excavation burrows and linear ripples. The ripple crests were oriented north-south indicating that prevailing currents move parallel to the canyon axis. Notably, the ROV pilots indicated that currents during the dive were observed to move from north to south across the canyon axis. Higher portions of the canyon wall exhibited limited sub angular rock rubble as well as outcrops of bedded sedimentary rock. The ROV arrived at the top of the canyon wall at a depth of 2600 m at approximately 19:08 UTC and briefly explored the canyon rim to the northwest. At 19:24 UTC the ROV came off bottom to address a problem with the configuration of the tether between D2 and Serios. After the problem was addresses it was determined there was not sufficient time remaining to return to the seafloor and the dive concluded at approximately 19:40 UTC. The most commonly observed animals were the seapen *Umbellula* sp., the holothurian *Benthodytes typica*, the glass sponge *Hyalonema* sp., *Nematocarcinus ensifer* shrimp, a			

	Hometheiid anemone, an unidentified anemone, tubeworms, and the tripod fishes *Bathypterois phenax* and *B. grallator*. Star-shaped impressions on the sediment were also commonly observed throughout the dive, a few of which with the mudstar *Dytaster* sp. partially burrowed. Other species observed during the dive included several species of fish (*Coryphaenoides mediterraneus, Acanthonus armatus*, and *Bassogigas*? sp.), glass sponges, the ophioroid *Ophiomusa lymeni*, *Anthopthilum* sp. seapen, unidentified bryozoans, the holothurian *Benthothuria* sp., a ceriantharian, and the crab *Parapagurus* sp. with commensal cup corals.
Notable Observations	*[Can include number of communities, notable collections or observations, high density communities, etc.]*

Community Presence/ Absence (*community is defined as more than two species*)		
	☒Corals and Sponges Present	☐Active Seep or Vent
	☐Chemosynthetic Community Present	☐Extinct Seep or Vent
	☐High biodiversity Community Present	☐Hydrates Present

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

Representative Photos of the Dive

[Descriptive caption here]	[Descriptive caption here]
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Samples Collected	
No samples were collected during the dive.	

Please direct inquiries to:

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