

ROV Dive Summary, EX-22-01, Dive 04, February 27, 2022

General Location Map



Dive Information

Site Name	"Canyon Step"
General Area Descriptor	West Florida Shelf
Science Team Leads	Karl McLetchie, Thomas Morrow, Anna Lienesch
Expedition Coordinator	Kimberly Galvez
ROV Dive Supervisor	Karl McLetchie
Sample Data Manager	Anna Lienesch
Mapping Lead	Sam Candio
Dive Purpose	Engineering focus

Was the dive	No	
restricted for	NO NO	
Underwater		
Cultural Heritage?		
ROV Dive	Dive Summary: EX2201_DIVE04	
Summary Data	^^^^^^	
	Dive Type: Normal	
	In Maker. 2022 02 27744.44.22 FC2222	
	In Water: 2022-02-27T14:44:23.562323 26.831333991650965 ; -85.05809084830452	
	20.031333331030303 , -03.03003004030432	
	On Bottom: 2022-02-27T16:33:28.546257	
	26.833244266436143 ; -85.05483370588254	
	Off Bottom: 2022-02-27T20:59:58.698593	
	26.835039107477648 ; -85.05232240394352	
	Out Water: 2022-02-27T22:38:36.094919	
	26.83732378851546 ; -85.05421843953212	
	Dive Duration: 7:54:12	
	B 11 T 4 26 20	
	Bottom Time: 4:26:30	
	Max Vehicle Depth: 3015.9 m	
	Min Seafloor Depth: 2875.9 m	
	Distance Traveled: 390.4 m	
Dive Description	Beginning of the dive was engineering focused. Settled on an unconsolidated carbonate	
Dive Description	sediment bottom. Red shrimps were observed, along with brittle stars, one slime star, and the	
	occasional sea cucumber. Examined one unidentified species of fish (~0.5 m long, dark brown)	
	along the flat bottom before moving up slope. As the dive progressed up slope, encountered	
	several sheer rock faces ~3-4 m tall hosting several coral and sponge species. Notable	
	specimens included a >2 m <i>Iridigorgia megaspiralis</i> coral with several mysid associates. The	
	initial outcrop hosted several smaller iridigorgias and glass sponges. As the dive continued, encountered more rock faces with sponges and several small (~2 cm) cup corals. One	
	overhanging rock shelf hosted many small sponges (mostly not alive) along with cup corals).	
	The dive concluded at the top of a rocky outcrop, observing a ~1-2 m long dead trumpet	
	sponge. Sponge was detached and unclear if local or drifted from further upslope. Three water	
	samples were collected, one at the base of the rocky outcrop and two at the furthest extent of	
	the dive track.	
Notable	Notable engineers included a 52 m iridigerals cored with squarel mustidesessistes. The initial	
Observations	Notable specimens included a >2 m iridigorgia coral with several mysid associates. The initial outcrop hosted several smaller iridigorgias and glass sponges.	
Community and	Corals and Sponges - Present	
habitat	Chemosynthetic Community - Absent	
observations	High biodiversity Community - Absent	
	Active Seep or Vent - Absent	
	Extinct Seep or Vent - Absent	
	Hydrates - Absent	

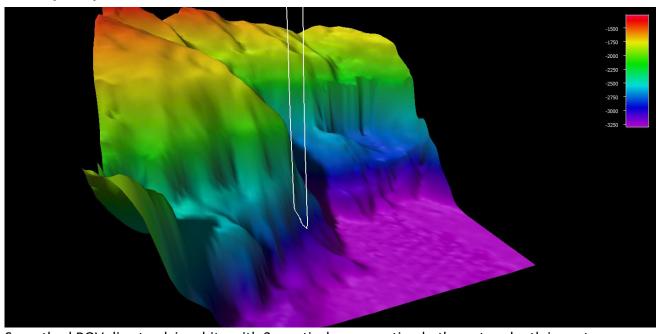


CMECS Feature	Unconsolidated sediments with large boulders and a cliff face.
Type(s)	
SeaTube Link	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=5890
(science	
annotation	
system)	

Equipment Deployed

ROV	Deep Discoverer
Camera Platform	Seirios
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The section below notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	None.

Close-up Map of Main Dive Site



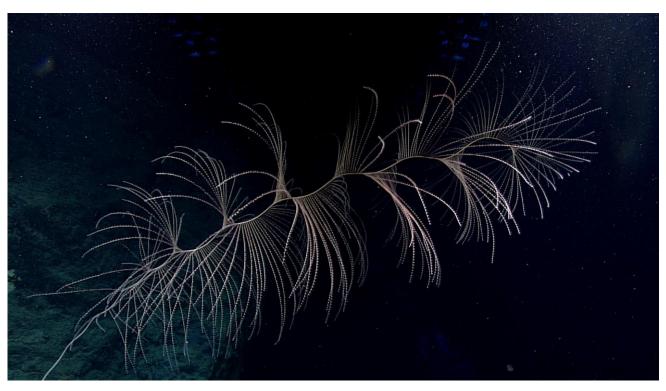
Smoothed ROV dive track in white with 3x vertical exaggeration bathymetry, depth in meters.

Representative Photos of the Dive





A purple slime star observed during the dive on fine to medium grained carbonate sediment.



An at least 2 meter long Iridigorgia megaspiralis coral observed in the middle of the dive on a hard substrate surface (likely fallen blocks from the canyon wall).



Samples Collected -

None.

Niskin Sampling Summary



Sample ID	EX2201_D04_01W
Date (UTC)	20220227
Time (UTC)	19:55:10
Depth (m)	2912.5242
Latitude (decimal degrees)	26.834471
Longitude (decimal degrees)	-85.052906
Bottle number	NISKIN 1
Temperature (°C)	4.36254
Dissolved Oxygen (ml/L)	4.642421
Treatment	Longmire's Buffer Solution





Sample ID	EX2201_D04_02W
Date (UTC)	20220227
Time (UTC)	20:53:58
Depth (m)	2864.5712
Latitude (decimal degrees)	26.835061
Longitude (decimal degrees)	-85.052325
Bottle number	NISKIN 2
Temperature (°C)	4.3734
Dissolved Oxygen (ml/L)	4.634231
Treatment	Longmire's Buffer Solution



Sample ID	EX2201_D04_03W
Date (UTC)	20220227
Time (UTC)	20:58:39
Depth (m)	2864.9429



Latitude (decimal degrees)	26.835073
Longitude (decimal degrees)	-85.052334
Bottle number	NISKIN 3
Temperature (°C)	4.43426
Dissolved Oxygen (ml/L)	4.630864
Treatment	Longmire's Buffer Solution

Scientists Involved (provide name, email, affiliation)

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