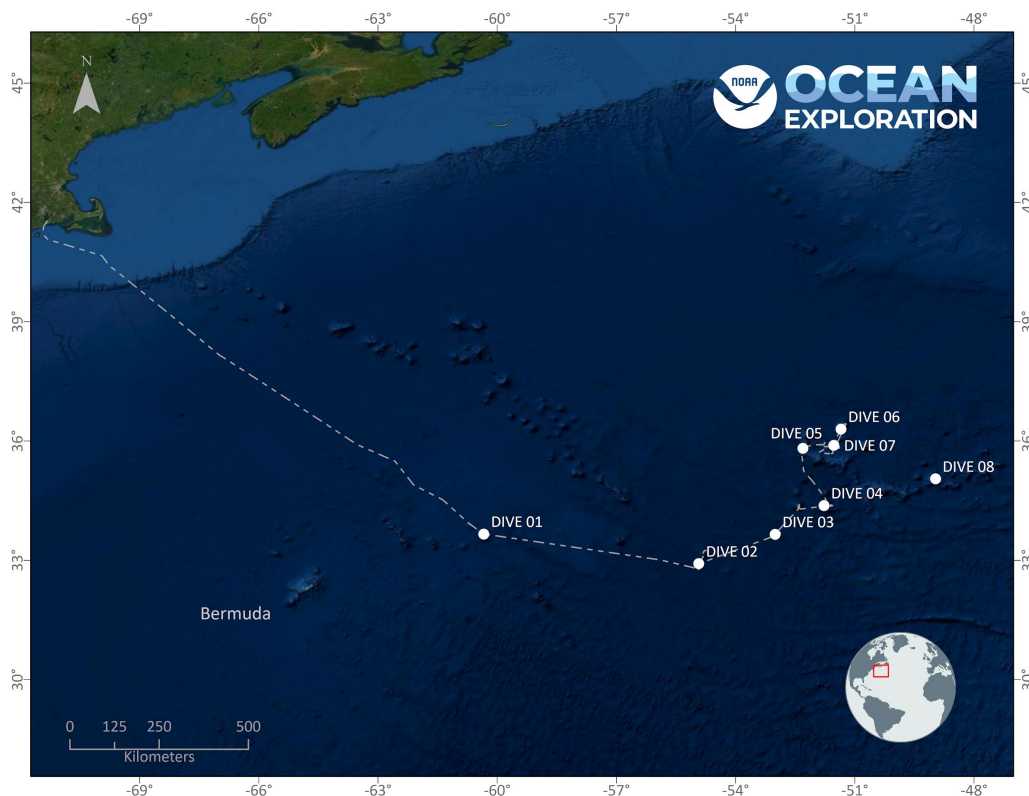


ROV Dive Summary, EX-21-04, Dive 08, July 11, 2021

General Location Map



Dive Information

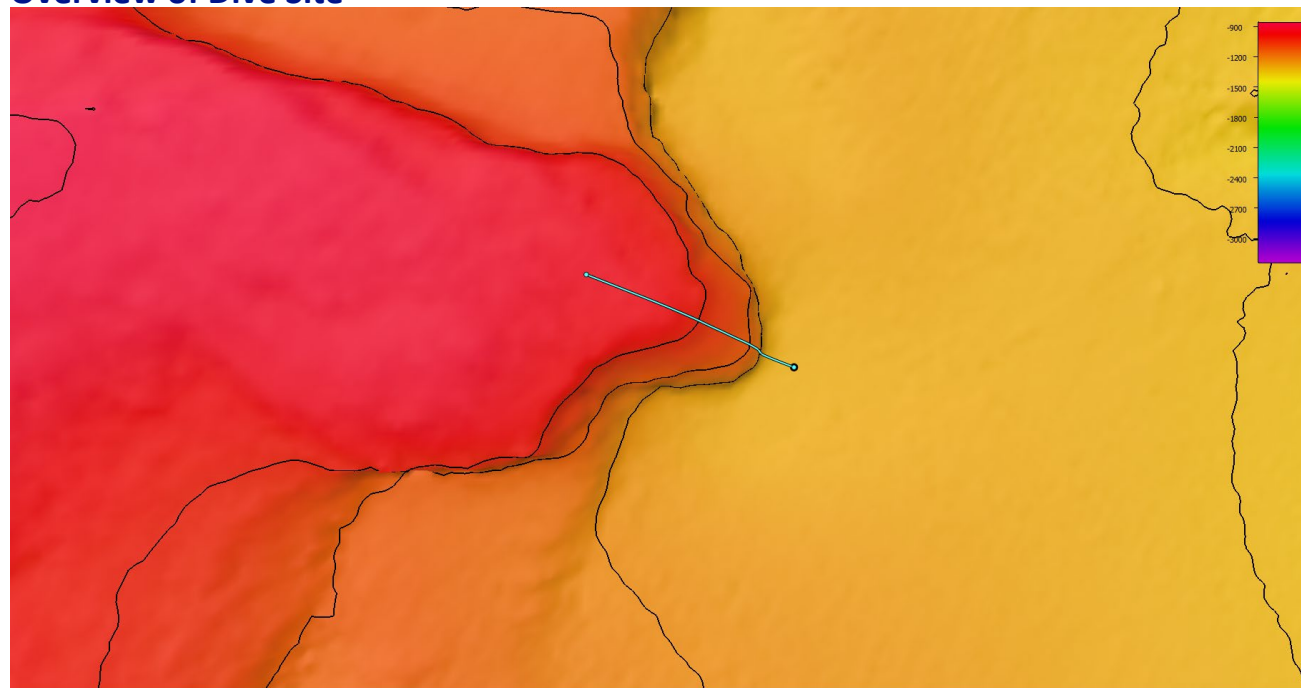
Site Name	MacGregor Seamount
General Area Descriptor	Large seamount within the Eastern portion of the Corner Rise Seamount Complex
Science Team Leads	Rhian Waller, Kira Mizell
Expedition Coordinator	Kasey Cantwell, Kimberly Galvez (Expedition Coordinator in Training)
ROV Dive Supervisor	Chris Ritter
Mapping Lead	Shannon Hoy
Dive Purpose	Explore an unexplored seamount

	<p>exceptionally large <i>Thourella</i> colonies dotted the wall, with interspersed <i>Iridiogorgia</i> and an unknown plexaurid branch was collected. Once we came back down onto the flat top of the seamount <i>Acanthagorgia armata</i>, potentially <i>paragorgia</i> (encrusting type), large corallium and <i>Narella</i> were seen, as well as the black corals <i>Leiopathes</i> and <i>Anthipathes</i>. Scleractinians were also observed during this dive on the top of the wall, <i>Caryophyllia</i> cup corals, unconfirmed <i>Lophelia pertusa</i> and <i>Madrepora oculata</i> (CITES port exemption has not arrived, so we could not collect to confirm ID). Though sponges were represented on the sediment and wall in mostly small numbers and sizes, at the top of the feature we encountered a large sponge garden, with innumerable diversity and high densities. Associates were present throughout the dive as well, particularly echinoderms (pencil urchins, brittle stars, cookie stars).</p>
Notable Observations	<p>Large, multi species sponge garden at shallowest depths Scleractinian reef building corals</p>
Community and habitat observations	<p>Corals and Sponges - (Present) Chemosynthetic Community - (Absent) High biodiversity Community - (Present) Active Seep or Vent - (Absent) Extinct Seep or Vent - (Absent) Hydrates - (Absent)</p>
CMECS Feature Type(s)	<p>Rock, Sediment (coarse unconsolidated)</p>
SeaTube Link (science annotation system)	<p>https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2313</p>

Equipment Deployed

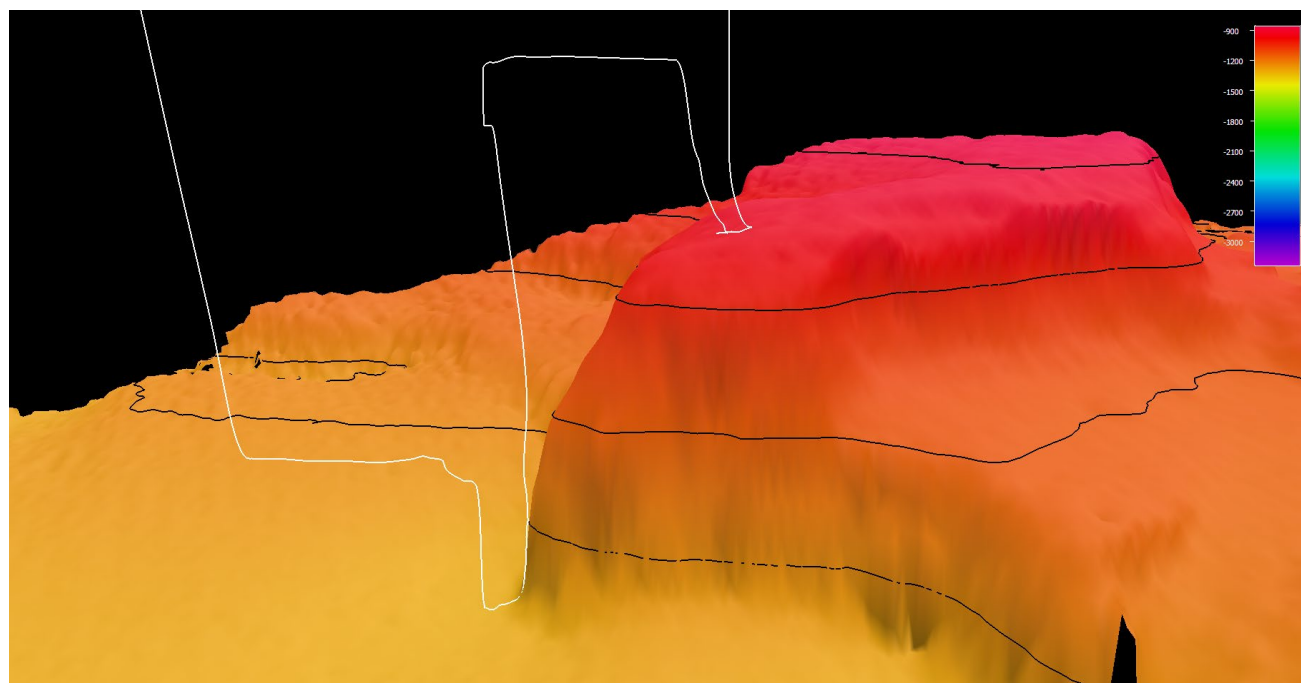
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	<p>The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The section below notes if any of these sensors were malfunctioning or not operational</p>
Equipment Malfunctions	<p>Ship's bow-thruster experienced a failure, repaired and dive resumed.</p>

Overview of Dive Site



Smoothed ROV dive track (blue) on an overview bathymetry of the seamount, 3x vertical exaggeration.

Close-up Map of Main Dive Site

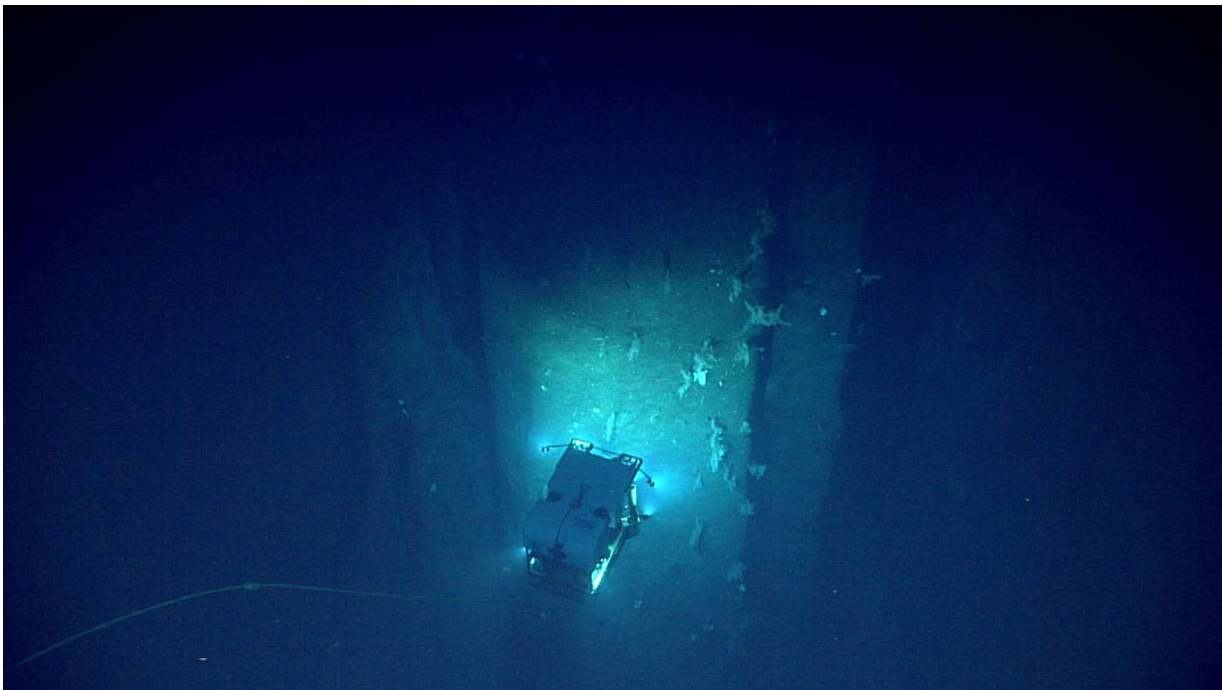


Smoothed ROV dive track in white on 25x25 cell size bathymetry, 3x vertical exaggeration, depth in meters.

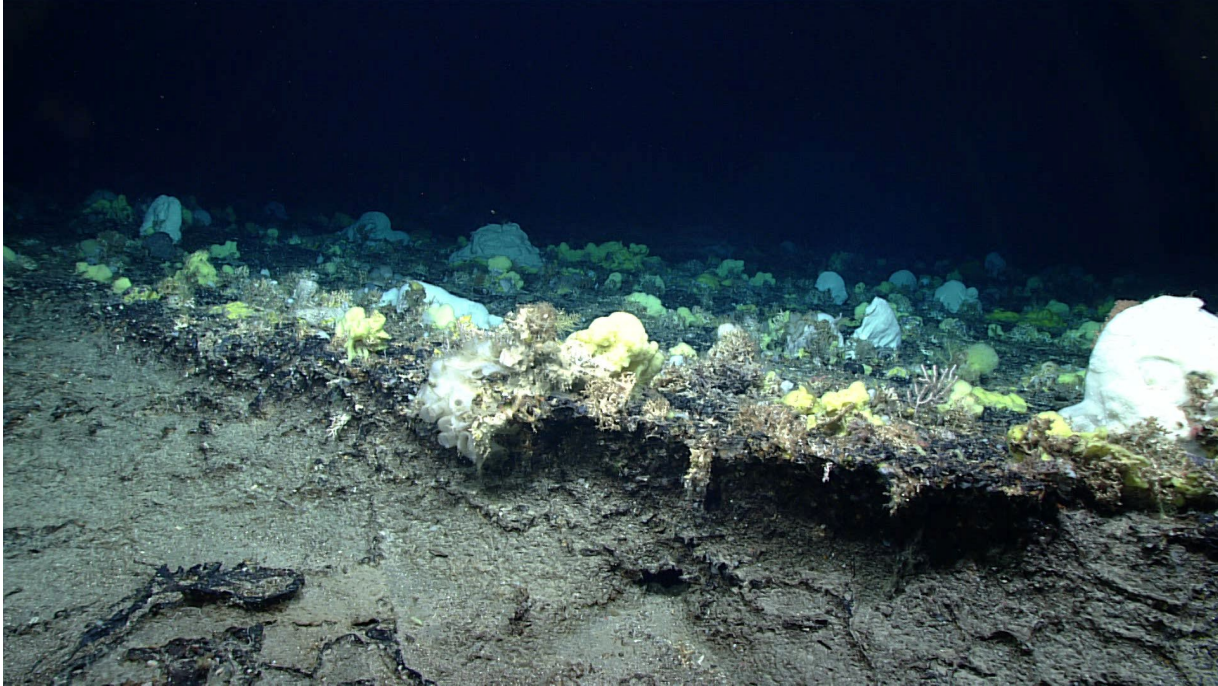
Representative Photos of the Dive



Start of the dive showed coarse sediments and loosely consolidated material, as well as high currents. Here a crinoid is shown bending in the current.



The ROV traverses the steep wall of a paleo-reef structure taken from Seirios with large *Thourella* sp. colonies



A large and extensive sponge garden was observed at the top of the carbonate reef platform, alongside reef-building hard corals and associated fauna. Shown here is an erosional ledge feature that may have once been a shoreline.

Samples Collected -





Sample ID	EX2104_D08_01G
Date (UTC)	20210711
Time (UTC)	155808
Depth (m)	1269.371948
Latitude (decimal degrees)	35.05280304
Longitude (decimal degrees)	-48.97148132
Temp. (°C)	4.489999771
Field ID(s)	Carbonate Conglomerate Rock
Comments	FeMn patina, stalked crinoid and other attached biota, 26 cm long 15 cm wide 7 tall, fossilized coral cemented in rock and fragments

Associates Sample ID	Field Identification	Count
EX2104_D08_01G_A01	Carbonate Conglomerate Rock	1



Spec_ID: EX2104_D08_02B
 Field ID: Cnidaria, Plexauridae
 Vessel: Okeanos Explorer
 CruiseID/DiveID: EX2104/DIVE08
 UTC Date/Time: 20210711/171451
 Dive Site: North Atlantic Ocean, MacGregor Seamount
 Lat/Lon/Depth (m): 35.0525/-48.9714/851.28
 Preservative: 95% EtOH
 Formalin Used? No

Sample ID	EX2104_D08_02B
Date (UTC)	20210711
Time (UTC)	171451
Depth (m)	851.2769775
Latitude (decimal degrees)	35.05252075
Longitude (decimal degrees)	-48.97143173

Temp. (°C)	5.236999989
Field ID(s)	Plexauridae
Comments	Ship move between begin and end sampling times, sample was in claw during move, tan skeleton, over 20 cm total

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A

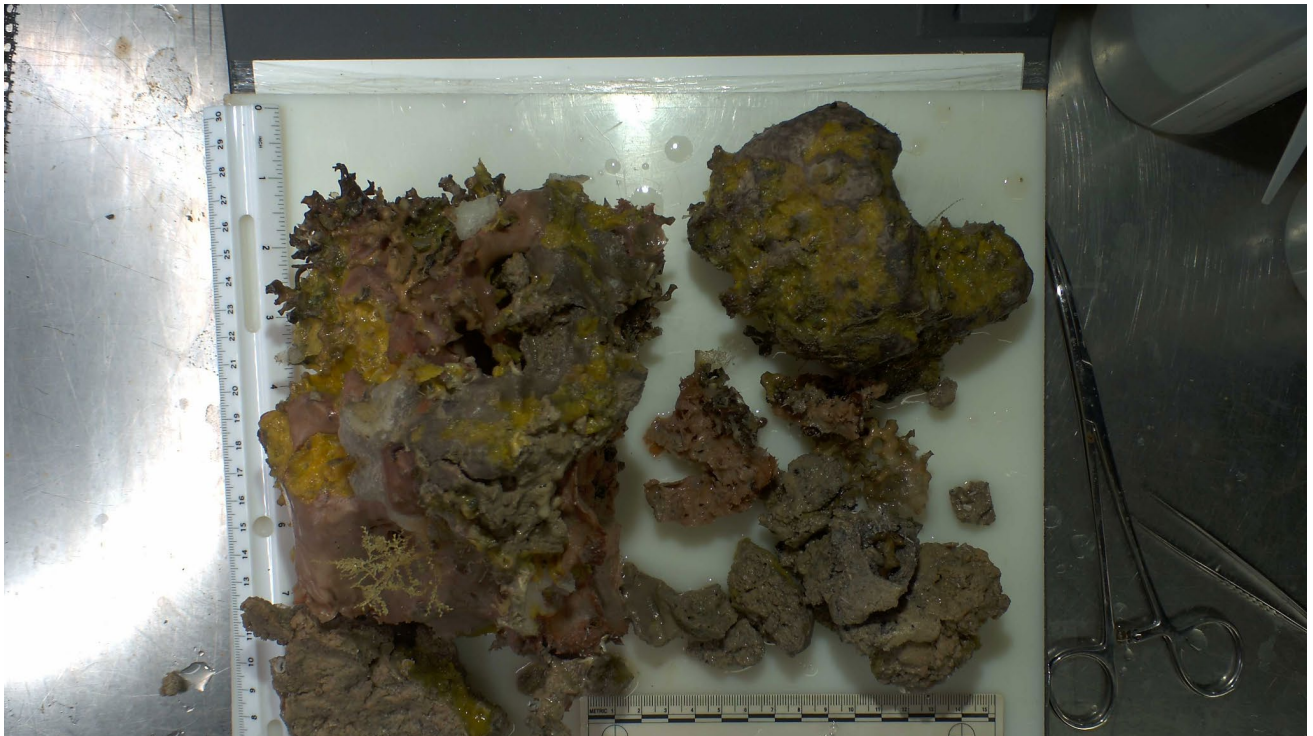
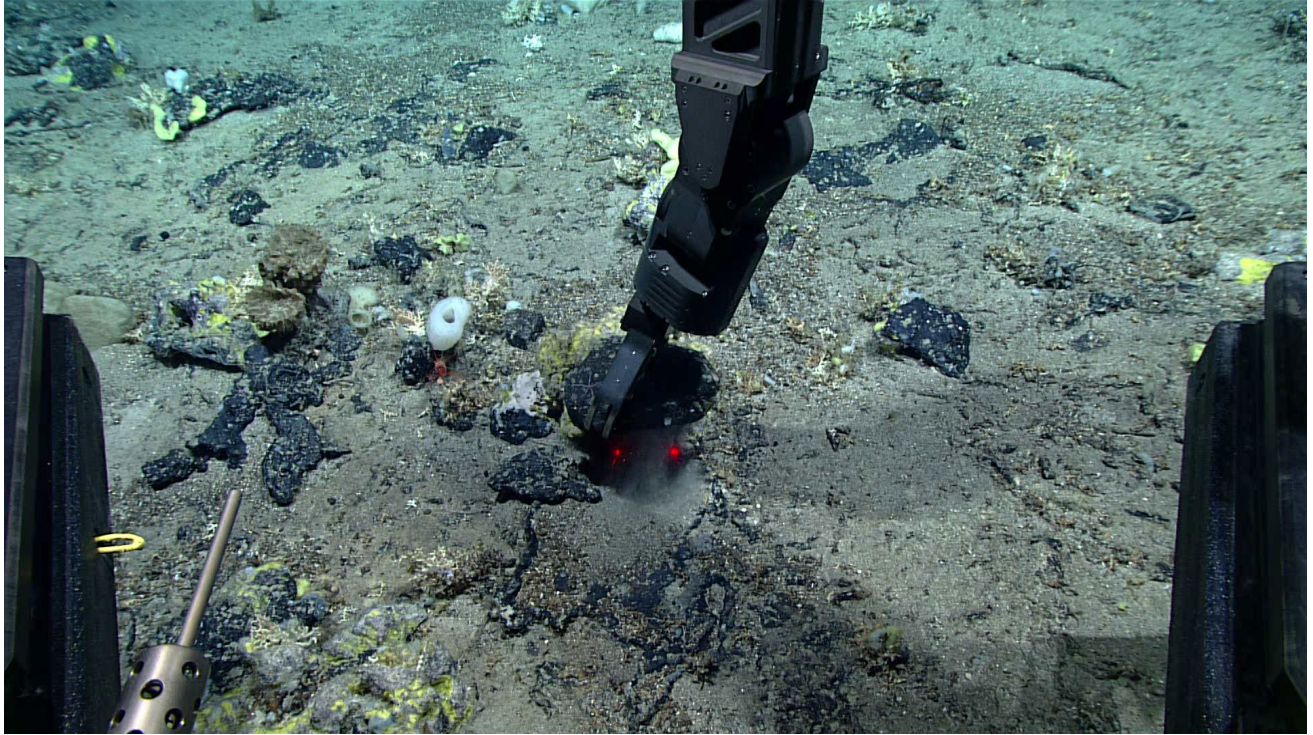


Spec_ID: EX2104_D08_03B_S02
 Field ID: Cnidaria, Plexauridae
 Vessel: Okeanos Explorer
 Cruise/DiveID: EX2104/DIVE08
 UTC Date/Time: 20210711/185309
 Dive Site: North Atlantic Ocean, MacGregor Seamount
 Lat/Lon/Depth (m): 35.0550/-48.9766/947.90
 Preservative: 70% EtOH
 Formalin Used? Yes



Sample ID	EX2104_D08_03B
Date (UTC)	20210711
Time (UTC)	185309
Depth (m)	947.9000244
Latitude (decimal degrees)	35.05496216
Longitude (decimal degrees)	-48.97657776
Temp. (°C)	5.092999935
Field ID(s)	Plexauridae
Comments	White, found in sponge garden, over 20 cm

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A



Sample ID	EX2104_D08_04G
Date (UTC)	20210711
Time (UTC)	190105
Depth (m)	947.9359741
Latitude (decimal degrees)	35.05492783
Longitude (decimal degrees)	-48.97666168

Temp. (°C)	5.084000111
Field ID(s)	Basalt Rock
Comments	FeMn thin patina, large sponge attached , roundness may suggest metamorphic rock, lots of worm tubes, 28 cm long 19 cm wide 15 cm tall, various encrusting organisms

Associates Sample ID	Field Identification	Count
EX2104_D08_04G_A01	Yellow Porifera	1
EX2104_D08_04G_A02	Pink Porifera	1
EX2104_D08_04G_A03	Brown Porifera	1
EX2104_D08_04G_A04	Hydrozoa	1

Scientists Involved (provide name, email, affiliation)

First Name	Last Name	Email	Affiliation
Carolyn	Ruppel	cruppel@usgs.gov	USGS
Charles	Messing	messagingc@nova.edu	Nova Southeastern University
Christopher	Kelley	ckelley@hawaii.edu	University of Hawaii
Christopher	Mah	brisinga@gmail.com	Dept. Invertebrate Zoology, National Museum of Natural History
Ciara	Larence	ciara.larence@maine.edu	University of Maine
Cindy	Van Dover	clv3@duke.edu	Duke University
David	Vousden	davidvousden@oceangov.org	United Nations and Global Environment Facility
Emily	Crum	emily.crum@noaa.gov	NOAA Ocean Exploration
George	Matsumoto	mage@mbari.org	MBARI
Jason	Chaytor	jchaytor@usgs.gov	USGS
Jaymes	Awbrey	C00227433@louisiana.edu	University of Louisiana at Lafayette
Jocelyn	Cooper	jocelyn.cooper@maine.edu	University of Maine
John	Deitz	johncdeitz@comcast.net	Long Island University
Kasey	Cantwell	kasey.cantwell@noaa.gov	NOAA Ocean Exploration
Kelsey	Viator	ksviator2000@gmail.com	University of Louisiana at Lafayette
Kevin	Konrad	Kevin.Konrad@unlv.edu	University of Nevada, Las Vegas
Kimberly	Galvez	kimberly.galvez@noaa.gov	NOAA Ocean Exploration

Kira	Mizell	kmizell@usgs.gov	USGS
Les	Watling	watling@hawaii.edu	University of Hawaii at Manoa
Michael	Vecchione	vecchiom@si.edu	NOAA & NMNH
Peter	Auster	peter.auster@uconn.edu	UConn & Mystic Aquarium
Rhian	Waller	rhian.waller@maine.edu	University of Maine
Robert	Carney	rcarne1@lsu.edu	LSU Dept Oceanography and Coastal Sciences
Tina	Molodtsova	tina@ocean.ru	P.P.Shirshov Institute of Oceanology RAS
Upasana	Ganguly	upasana.ganguly1@louisiana.edu	University of Louisiana at Lafayette
Vonda	Wareham-Hayes	vonda.wareham-hayes@dfo-mpo.gc.ca	DFO Newfoundland and Labrador Region
Gordon	Rees	gordrees@uvic.ca	Ocean Networks Canada

Please direct inquiries to:

NOAA Office of Ocean Exploration & Research
1315 East-West Highway, SSMC3 RM 10210
Silver Spring, MD 20910
oceanexplorer@noaa.gov