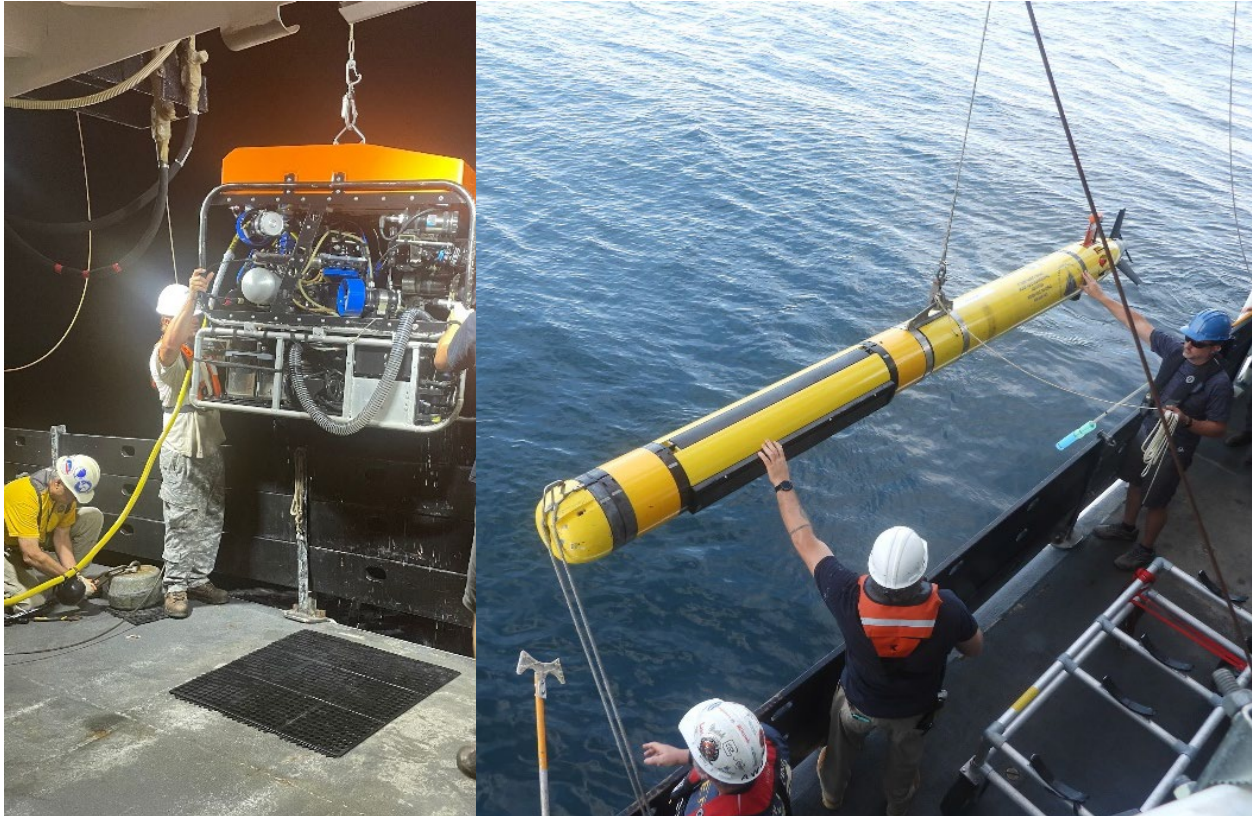


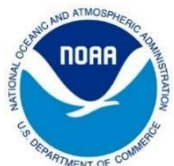
Cruise Report:

MDBC Expedition NOAA Ship *Pisces*, June 29–July 30, 2022



May 2023

DWH MDBC Cruise Report CR-23-01



DWH
**Mesophotic &
Deep
Benthic
Communities
Restoration**

Suggested Citation

Harter, S., David, A., Taylor, J. C., and Shukla, A. (2023). Cruise Report: MDBC Expedition NOAA Ship *Pisces* June 29–July 30, 2022. National Oceanic and Atmospheric Administration. DWH MDBC Cruise Report CR-23-01. <https://doi.org/10.25923/wdgd-bz66>

Cover image credits: Stacey Harter, NOAA SEFSC (left); Jennifer Herting, NOAA SEFSC (right)

Disclaimer

This publication does not constitute an endorsement of any commercial product or intend to be an opinion beyond scientific or other results obtained by the National Oceanic and Atmospheric Administration (NOAA) or the Department of Commerce. No reference shall be made to NOAA, or this publication furnished by NOAA, to any advertising or sales promotion, which would indicate or imply that NOAA recommends or endorses any proprietary product mentioned herein, or which has as its purpose an interest to cause the advertised product to be used or purchased because of this publication.

**Cruise Report:
MDBC Expedition NOAA Ship *Pisces*,
June 29–July 30, 2022**

**Mapping, Ground-truthing, and
Predictive Habitat Modeling Project
and
Habitat Assessment and Evaluation Project**

Stacey Harter¹, Andy David¹, J. Christopher Taylor², and Asmita Shukla³

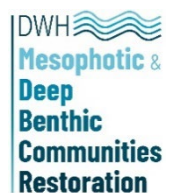
¹ NOAA, National Marine Fisheries Service, Southeast Fisheries Science Center

² NOAA, National Ocean Service, National Centers for Coastal Ocean Science

³ CSS, Inc., under contract to NOAA, National Ocean Service, National Centers for Coastal Ocean Science

May 2023

DWH MDBC Cruise Report CR-23-01



Deepwater Horizon Mesophotic and Deep Benthic Communities Restoration

This report is part of the NOAA Mesophotic and Deep Benthic Communities (MDBC) series of publications that share the results of work conducted by the *Deepwater Horizon* MDBC restoration projects.

The 2010 *Deepwater Horizon* oil spill was an unprecedented event. Approximately 3.2 million barrels of oil were released into the deep ocean over nearly three months. The plume of oil moved throughout the water column, formed surface slicks that cumulatively covered an area the size of Virginia, and washed oil onto at least 1,300 miles of shoreline habitats. More than 770 square miles (2,000 square kilometers) of deep benthic habitat were injured by the oil spill, including areas surrounding the Deepwater Horizon wellhead and parts of the Pinnacles Trend mesophotic reef complex, located at the edge of the continental shelf.

Under the Oil Pollution Act, state and federal natural resource trustees conducted a Natural Resource Damage Assessment (NRDA). The Trustees assessed damages, quantifying the unprecedented injuries to natural resources and lost services. They also developed a programmatic restoration plan to restore injured resources and compensate the public for lost services.

In April 2016, a settlement was finalized that included up to \$8.8 billion in funding for the Deepwater Horizon Trustees to restore the natural resource injuries caused by the oil spill as described in their programmatic restoration plan, Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement. The Deepwater Horizon Open Ocean Trustee Implementation Group is responsible for restoring natural resources and their services within the Open Ocean Restoration Area that were injured by the oil spill. The Open Ocean Trustees include NOAA, U.S. Department of the Interior, U.S. Environmental Protection Agency, and U.S. Department of Agriculture.

In 2019, the Open Ocean Trustee Implementation Group committed more than \$126 million to implement four restoration projects to address the injury to MDBC. The MDBC projects are: Mapping, Ground-truthing, and Predictive Habitat Modeling; Habitat Assessment and Evaluation; Coral Propagation Technique Development; and Active Management and Protection. NOAA and the Department of the Interior are implementing the projects, in cooperation with a range of partners, over eight years.

Together, the projects take a phased approach to meet the challenges involved in restoring deep-sea habitats. Challenges to restoration include a limited scientific understanding of these communities, limited experience with restoration at the depths at which these communities occur, and remote locations that limit accessibility.

More information about *Deepwater Horizon* restoration and the MDBC restoration projects is available at: www.gulfspillrestoration.noaa.gov.

Table of Contents

Background.....	1
Objectives of Mission	1
Science Team.....	2
Operations.....	3
Results and Discussion.....	6
Data Accessibility.....	12
Tissue Samples	13
Lander Deployments.....	15
CTD Casts and Water Samples	15
ROV Dive Summaries	20
Appendix 1. Detailed Tissue Sample List	53

Background

Two mesophotic expedition legs were completed June 29–July 30, 2022, on the NOAA Ship *Pisces*. Operations consisted of remotely operated vehicle (ROV) dives, multibeam surveys, autonomous operated vehicle (AUV) dives, and conductivity, temperature, and depth (CTD) profiler operations at known impacted and reference mesophotic sites (depths of 50–150 m) in the northern Gulf of Mexico. Project objectives from Mapping, Ground-truthing, and Predictive Habitat Modeling (MGM) and Habitat Assessment and Evaluation (HAE) were addressed on this mission. Habitat characterization and analysis of biological samples collected with the University of North Carolina at Wilmington Underwater Vehicles Program (UNCW-UVP) Mohawk ROV will fill critical data gaps on the biology and ecology at impacted and reference sites, assess potential ongoing impacts from threats, refine predictive habitat models, help target locations for direct restoration and protection, and determine a baseline for health and condition. Multibeam echosounder (MBES) data from the ship's EM2040 system and seafloor reflectivity data from a synthetic aperture sonar (SAS) equipped on Woods Hole Oceanographic Institute's (WHOI) Remus 600 AUV will help document the broad-scale abundance and distribution of MDBC, characterize benthic habitats, and provide information that will help guide future ROV surveys.

Objectives of Mission

The primary mission objectives were to: survey benthic habitat using an ROV, collect and preserve coral and other invertebrate samples, map benthic habitat using multibeam and AUV, and collect oceanographic data and water samples with CTD casts. These objectives were addressed by the following activities:

- a. Conduct high-resolution (2-m resolution) multibeam echosounder surveys using the ship's EM2040 system to produce high-resolution bathymetry and standardized backscatter/reflectivity of sufficient quality to distinguish seabed types for guiding ground-truthing observations with AUV and ROV.
- b. Define water column oceanographic properties and sound velocity through CTD profiles to ensure highest quality bathymetry and backscatter data.
- c. Conduct ROV transects at target reefs and collect video and photographic imagery for habitat characterization.
- d. Collect samples with the ROV at all reefs except those where injury has been documented (Alabama Alps Reef, Roughtongue Reef, and Yellowtail Reef) for population genetic connectivity, systematics, and stable isotope analysis.
- e. Conduct total water column CTD rosette casts and water sampling at ROV sites for nutrient and environmental deoxyribonucleic acid (eDNA) analysis.
- f. Conduct AUV surveys to collect high-resolution (3-cm resolution) SAS bathymetry and reflectivity of sufficient quality to differentiate seabed types for substrate and MDBC.
- g. Deploy two short-term landers (one at a reef where injury was documented and one at a reef where injury has not previously been documented) that are equipped with temperature, salinity, oxygen, and current sensors. Retrieval will occur in August 2022 on the NOAA Ship Nancy Foster mission.
- h. Conduct water-column echosounder (Simrad EK80) survey simultaneously with seafloor mapping to document relative abundance of pelagic and demersal organisms over MDBC.

Science Team

Table 1. Participant list for NOAA Ship *Pisces* PC-22-02. NOAA = National Oceanic and Atmospheric Administration; USGS = U.S. Geological Survey; UNCW UVP = University of North Carolina at Wilmington Underwater Vehicles Program; URI = University of Rhode Island; USM = University of Southern Mississippi.

Name	Role	Affiliation	Email
Stacey Harter	Chief Scientist leg 1	NOAA	stacey.harter@noa.gov
Andy David	Chief Scientist leg 2	NOAA	andy.david@noaa.gov
Stephanie Farrington	ROV Ops & Data Management legs 1 & 2	TESA, LLC under contract to NOAA	stephanie.farrington@noaa.gov
Chris Taylor	AUV and Mapping Ops leg 2	NOAA	chris.taylor@noaa.gov
Stephen Formel	Data Manager leg 1	USGS (previously NOAA)	sformel@usgs.gov
Jennifer Herting	AUV & CTD Ops leg 2	TESA, LLC under contract to NOAA	jennifer.herting@noaa.gov
Asmita Shukla	Data Manager leg 2	CSS, Inc under contract to NOAA	asmita.shukla@noaa.gov
Eric Glidden	ROV Operator leg 1	UNCW UVP	gliddene@uncw.edu
Jason White	ROV Operator leg 1	UNCW UVP	whitejh@uncw.edu
Samantha Flounders	ROV Operator leg 1	UNCW UVP	flounderss@uncw.edu
Jane Carrick	Lander Ops leg 1	URI	jvcarrick@uri.edu
Vernon Asper	Lander Ops leg 1	USM	vernon.asper@usm.edu
Zach Gray	Hydrographer leg 1	Geodynamics Group	zach@geodynamicsgroup.com
Alexis Weinnig	ROV & CTD Ops leg 1	USGS	aweinnig@usgs.gov
Hannah Joss	CTD & ROV Ops legs 1 & 2	USGS	hej18@humboldt.edu
Cheryl Morrison	AUV & CTD Ops leg 2	USGS	cmorrison@usgs.gov
Greg Packard	AUV Operator leg 2	WHOI	gjpacakard@whoi.edu
Nina Ramos	ROV Ops leg 1	Smithsonian	ramosni@si.edu
Sam Vohsen	ROV Ops leg 1	Lehigh University	sav419@lehigh.edu

Operations

The operating area focused on three Habitat Areas of Particular Concern (HAPCs) within the Pinnacles Trend area of the northern Gulf of Mexico (Alabama Alps HAPC, Roughtongue Reef HAPC, and L&W Pinnacles and Scamp HAPC) as well as the northern DeSoto Canyon rim (hereafter “DeSoto Rim”). See Figure 1.

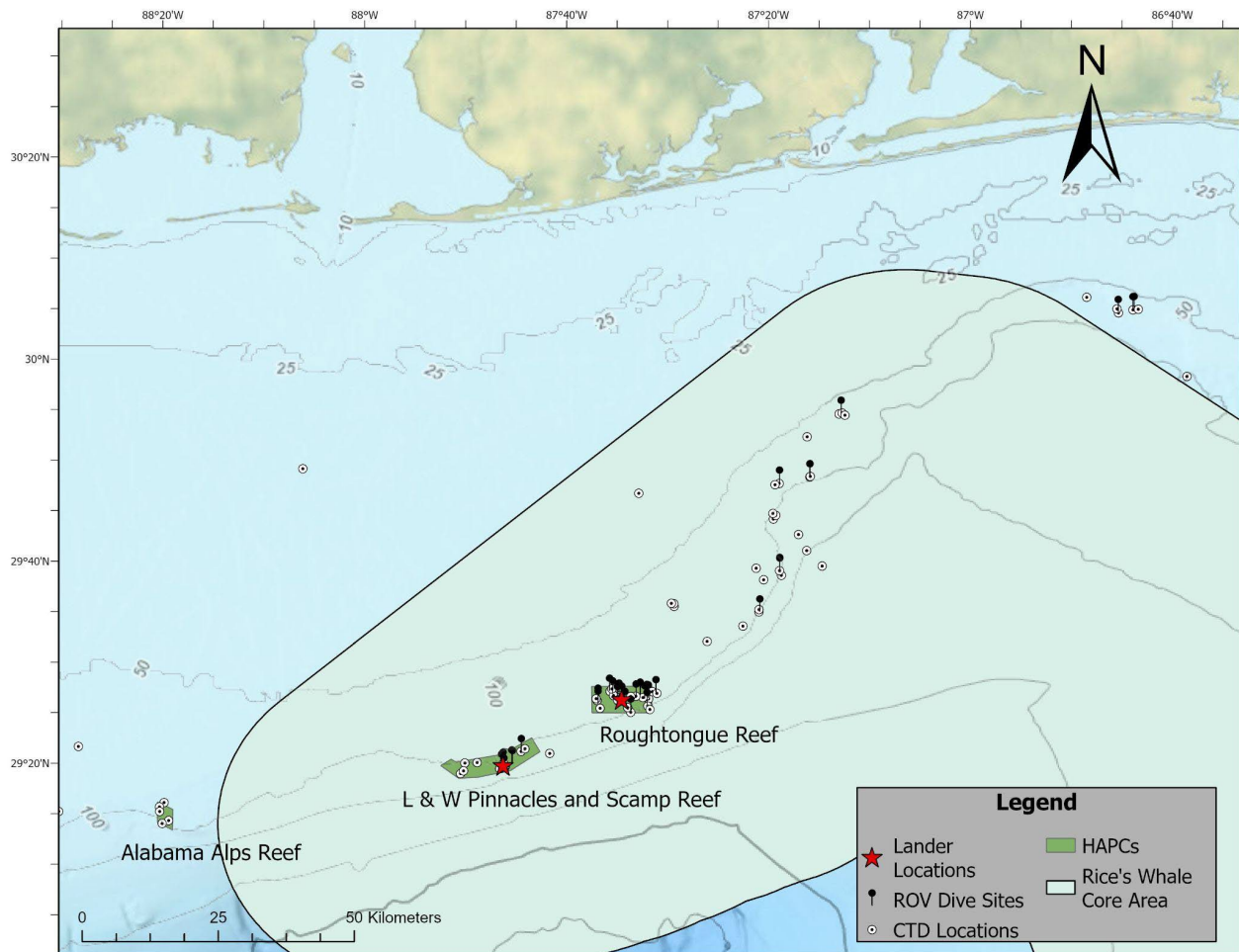


Figure 1. A map of operations conducted on the NOAA Ship *Pisces* in relation to the Habitat Areas of Particular Concern (HAPCs) and Rice's whale core distribution area (CDA; shaded).

Leg 1 departed Pascagoula, Mississippi, on June 29, 2022. Daytime operations for leg 1 included: MBES mapping and CTD casts for sound speed corrections. Nighttime operations consisted of: ROV dives with biological sampling, CTD casts with water samples at ROV dive locations for eDNA collection, nutrient, and particulate organic matter (POM) analysis, and lander deployments. This order of operations was due to restrictions at night as transit speeds necessary to conduct multibeam mapping are prohibited at night inside the Rice's whale core distribution area (CDA). Day operations were carried out from approximately 0700 to 1900, and nighttime operations were carried out from approximately 1900 to 0700. Leg 1 returned to Pascagoula, Mississippi, on July 13,

2022. This was a day earlier than planned due to a lightning strike damaging several critical electronics on the ship.

Leg 2 departed Pascagoula, Mississippi, on July 19, 2022, two days later than planned. Delays were due to repair of the ship's electronics from the lightning strike and delay in delivery of the AUV. Daytime operations for leg 2 included: MBES and water column mapping; sonar calibration; and CTD casts at AUV sites for eDNA, nutrient, and POM analysis. ROV operations were planned during the day on this leg, but the entire ROV crew contracted COVID between legs 1 and 2 and did not sail on leg 2. Nighttime operations consisted of AUV surveys using a SAS and CTD casts at AUV sites for eDNA, nutrient, and POM analysis. Day operations were carried out from approximately 0700 to 1900, and nighttime operations were carried out from approximately 1900 to 0700. Leg 2 was interrupted due to a crew medical emergency, resulting in 3 lost operational days (July 26–28). Leg 2 resumed on July 29 and returned to Pascagoula, Mississippi, on July 30, 2022.

A participant list and the full itinerary are provided in Tables 1 and 2, respectively. Environmental compliance was completed in advance, and [restrictions for operations](#) within the Rice's whale CDA (see Figure 1), were adhered to. Consultations were held with the Office of Protected Resources, and a Scientific Research Permit was obtained from the Southeast Regional Office.

Table 2. Itinerary for PC-22-02. ROV = remotely operated vehicle; CTD = conductivity, temperature, and depth; AUV = autonomous underwater vehicle.

Date	Operations	Comment
06/27/2022–06/28/2022	Mobilized leg 1 ROV & science crew	
06/29/2022	Ship departed Pascagoula	
06/30/2022–07/03/2022	CTD, ROV, Multibeam	Operations at DeSoto Rim.
07/03/2022–07/09/2022	CTD, ROV, Multibeam, and Lander	ROV & CTD operations at Roughtongue Reef HAPC. Lander was deployed on 07/05/2022 near Roughtongue Reef. Multibeam was conducted at DeSoto Rim.
07/09/2022–07/12/2022	CTD, ROV, Multibeam, Lander	ROV & CTD operations at L&W Pinnacles and Scamp HAPC. Lander was deployed on 07/09/2022 near an L&W Reef. Multibeam was conducted at DeSoto Rim.
07/13/2022	Return to Pascagoula	Broke off operations midday on 07/12/2022 and began transit back to the dock due to a lightning strike to the ship.
07/13/2022–07/19/2022	Demobilized leg 1 science crew and ROV team. Mobilized leg 2 science crew and AUV team.	ROV team demobilized because they all tested positive for COVID between legs 1 and 2.
07/19/2022	Ship departed Pascagoula	Leg 2 was planned to depart on 07/17/2022; however, time to get electronics fixed due to the lightning strike, delay in the AUV being delivered, and short staffing of crew members resulted in a late departure from the dock.
07/20/2022–07/23/2022	CTD, AUV, Multibeam	EM2040 backscatter calibration completed on the transit out to Alabama Alps. Operations at Alabama Alps HAPC. EK80 calibration was completed on 07/23/2022.
07/24/2022–07/25/2022	CTD, AUV, Multibeam	Operations at L&W Pinnacles and Scamp HAPC.
07/26/2022	Return to Pascagoula	Broke off operations midday on 07/25/2022 due to a crew member medical emergency.
07/26/2022–07/28/2022	At Pascagoula dock	Remained at port waiting for replacement of essential crew member.
07/28/2022	Ship departed Pascagoula	
07/29/2022	AUV	Operations at Roughtongue Reef HAPC.
07/30/2022	Return to Pascagoula, demobilized AUV and science crew	

Results and Discussion

The FY22 *Pisces* expedition accomplished all the primary mission objectives. The team surveyed benthic habitats using an ROV; collected coral samples with an ROV for taxonomic, genetic and isotopic analysis; conducted high-resolution mapping with both EM2040 multibeam and SAS on AUV; collected total water column oceanographic CTD data as well as water samples for eDNA, nutrient and POM analysis; collected water column data using an EK80; and deployed 2 benthic landers.

The following is a summary of activities and accomplishments:

- a. 33 ROV dives were made on leg 1 (Table 3)
- b. 454 biological samples were collected with the ROV (Table 4)
- c. 79 CTD casts were made (Table 5)
 - i. 23 casts for sound velocity (no water samples)
 - ii. 56 casts for total water column oceanography with water samples
 - iii. 295 water samples for eDNA
 - iv. 275 water samples for nutrients
 - v. 79 water samples for POM
- d. 12 km² were mapped with the EM2040 (Figures 2a and 2b).
- e. 354 linear km were mapped with AUV SAS (Figures 3a and 3b).
- f. 41 linear km were surveyed with the EK80.
- g. 2 short-term landers were deployed and later retrieved on the NOAA Ship *Nancy Foster*

Table 3. ROV dive list for NOAA Ship *Pisces* cruise labeled PC-22-02. Dive numbers are consecutive. The ROV operator dive numbers started at 1032. Coordinates belong to ROV launch locations, and depth values are the on-bottom depth at the time of ROV landing. All timestamps are in Central Daylight Time.

Date	Dive	Dive Site	Time of Launch	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Depth (m)	On Bottom Duration (h:mm)
6/30/2022	1	DeSoto5	2:11:53 AM	29.9084	-87.2159	61.6	2:16
6/30/2022	2	DeSoto2	7:37:38 PM	30.0813	-86.6513	59.7	19:42
7/1/2022	3	DeSoto7	1:01:34 AM	30.0767	-86.7563	66.1	1:07
7/1/2022	4	DeSoto2	4:13:24 AM	30.0813	-86.7295	57.9	4:18
7/1/2022	5	DeSoto6	7:32:48 PM	29.8059	-87.2633	88.6	19:37
7/1/2022	6	DeSoto6	9:02:46 PM	29.8062	-87.2651	88.6	21:09
7/2/2022	7	DeSoto9	2:48:44 AM	29.7945	-87.3153	84.3	2:54
7/2/2022	8	DeSoto4	7:34:12 PM	29.6428	-87.3118	114.5	19:41
7/2/2022	9	DeSoto4	10:23:07 PM	29.6497	-87.3145	96.9	22:29
7/3/2022	10	DeSoto10	1:48:22 AM	29.5822	-87.3477	103.8	1:54
7/3/2022	11	Pinn2	7:41:32 PM	29.4388	-87.5194	72.9	19:48
7/4/2022	12	RTR_PHM_2	1:35:18 AM	29.4273	-87.5330	92.3	1:43
7/4/2022	13	Pinn2	3:57:23 AM	29.4403	-87.5342	68.8	4:02
7/4/2022	14	RTR_PHM_3	7:25:41 PM	29.4172	-87.5608	100.6	19:32
7/4/2022	15	Cork1	10:03:57 PM	29.4242	-87.5655	82.4	22:11
7/5/2022	16	Cork1	2:33:31 AM	29.4442	-87.5447	68.6	2:39
7/5/2022	17	RTR1	7:20:53 PM	29.4438	-87.5793	76.8	19:27
7/5/2022	18	RTR1	10:42:41 PM	29.4383	-87.5747	70.5	22:49
7/6/2022	19	Cat1	12:23:53 AM	29.4380	-87.5770	82.5	0:29
7/6/2022	20	40Fathom1	7:21:59 PM	29.4515	-87.5955	76.0	19:27
7/7/2022	21	YTR1	1:32:52 AM	29.4471	-87.5906	72.4	1:40
7/7/2022	22	RTR_PHM_4	4:16:11 AM	29.4295	-87.5703	85.6	4:21
7/7/2022	23	40Fathom5	7:19:59 PM	29.4420	-87.5513	79.5	19:28
7/8/2022	24	Pinn2	12:58:52 AM	29.4500	-87.5218	70.1	1:10
7/8/2022	25	Porgy1	7:22:13 PM	29.4350	-87.6143	86.7	19:26
7/9/2022	26	Porgy2	12:46:33 AM	29.4297	-87.6145	86.4	0:51
7/9/2022	27	LW7	7:21:12 PM	29.3275	-87.7680	102.2	19:28
7/9/2022	28	LW7	10:56:57 PM	29.3290	-87.7713	111.0	23:04
7/10/2022	29	LWP_PHM_1	3:26:20 AM	29.3183	-87.7708	147.4	3:35
7/11/2022	30	LW3	3:48:42 AM	29.3517	-87.7415	106.1	3:55
7/11/2022	31	LW5	7:39:54 PM	29.3148	-87.7555	111.7	19:47
7/11/2022	32	LW5	10:26:08 PM	29.3328	-87.7570	102.0	22:32
7/12/2022	33	Scamp1	1:09:40 AM	29.3262	-87.7740	111.4	1:16

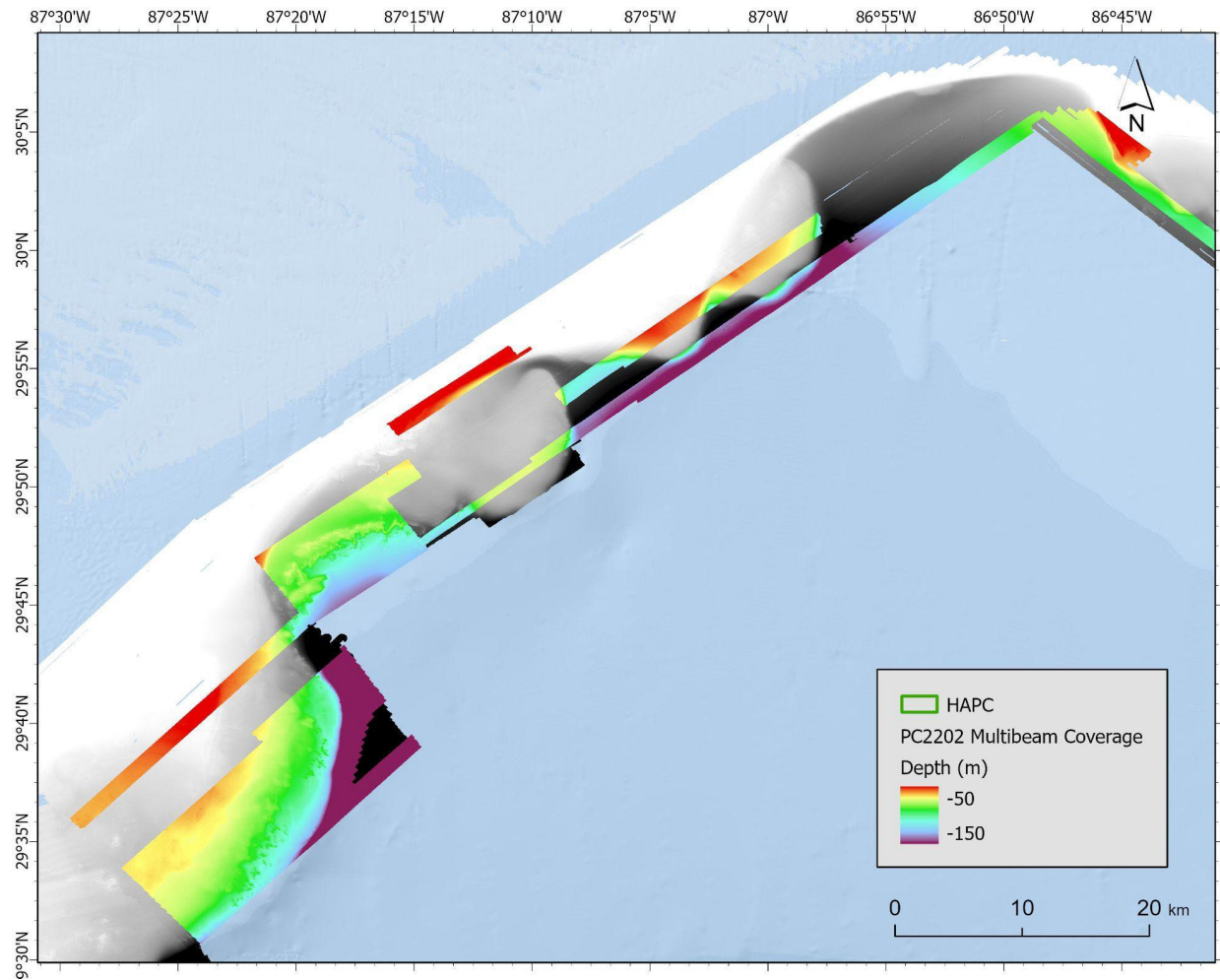


Figure 2a. Preliminary bathymetry data (rainbow color ramp) collected on NOAA Ship *Pisces* PC-22-02 leg 1 using the EM2040 Multibeam Echosounder. Gray-scale image is from USGS 2001 multibeam data on DeSoto Canyon Rim shown for reference. Refer to Figure 1 for locations of coverage referenced here.

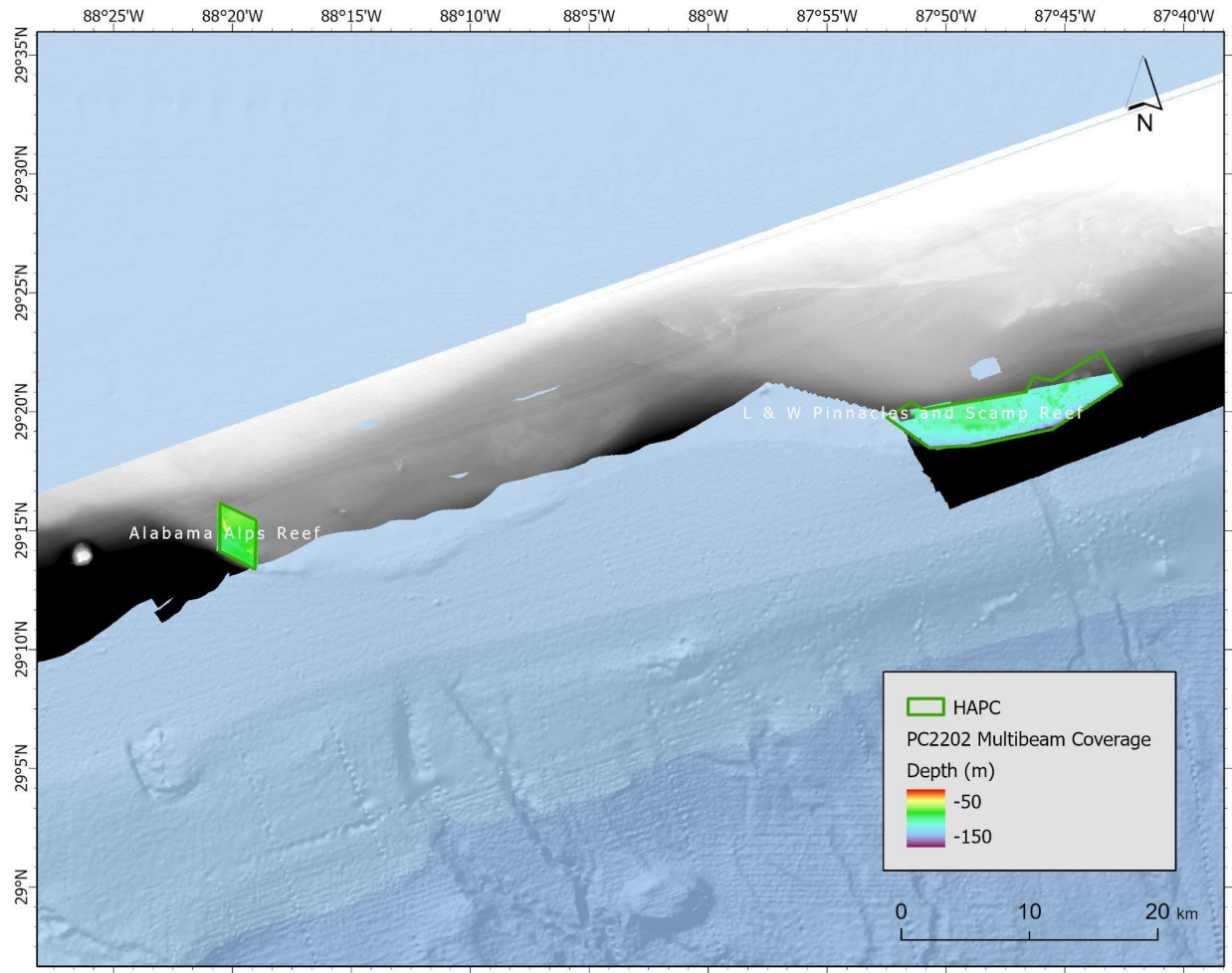


Figure 2b. Preliminary bathymetry data (rainbow color ramp) collected on NOAA Ship *Pisces* PC-22-02 leg 2 using the EM2040 Multibeam Echosounder. Gray-scale image is from USGS 2001 multibeam data on Pinnacles Trend for reference. Data were acquired within the Alabama Alps and L&W Pinnacles/Scamp Reef HAPCs. Refer to Figure 1 for locations of HAPCs referenced here.

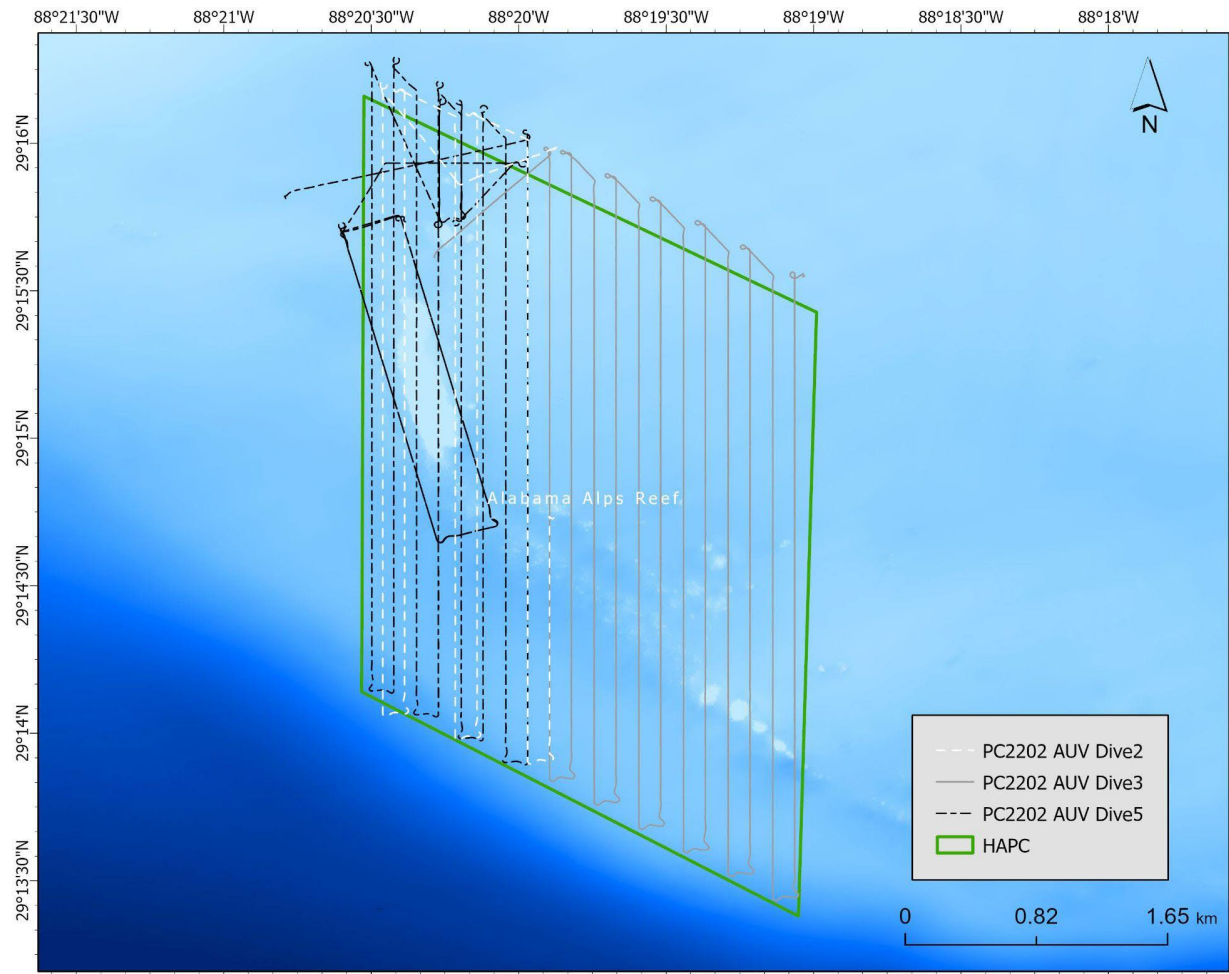


Figure 3a. AUV tracklines from 3 SAS survey dives in Alabama Alps HAPC. Refer to Figure 1 for location of HAPC shown here.

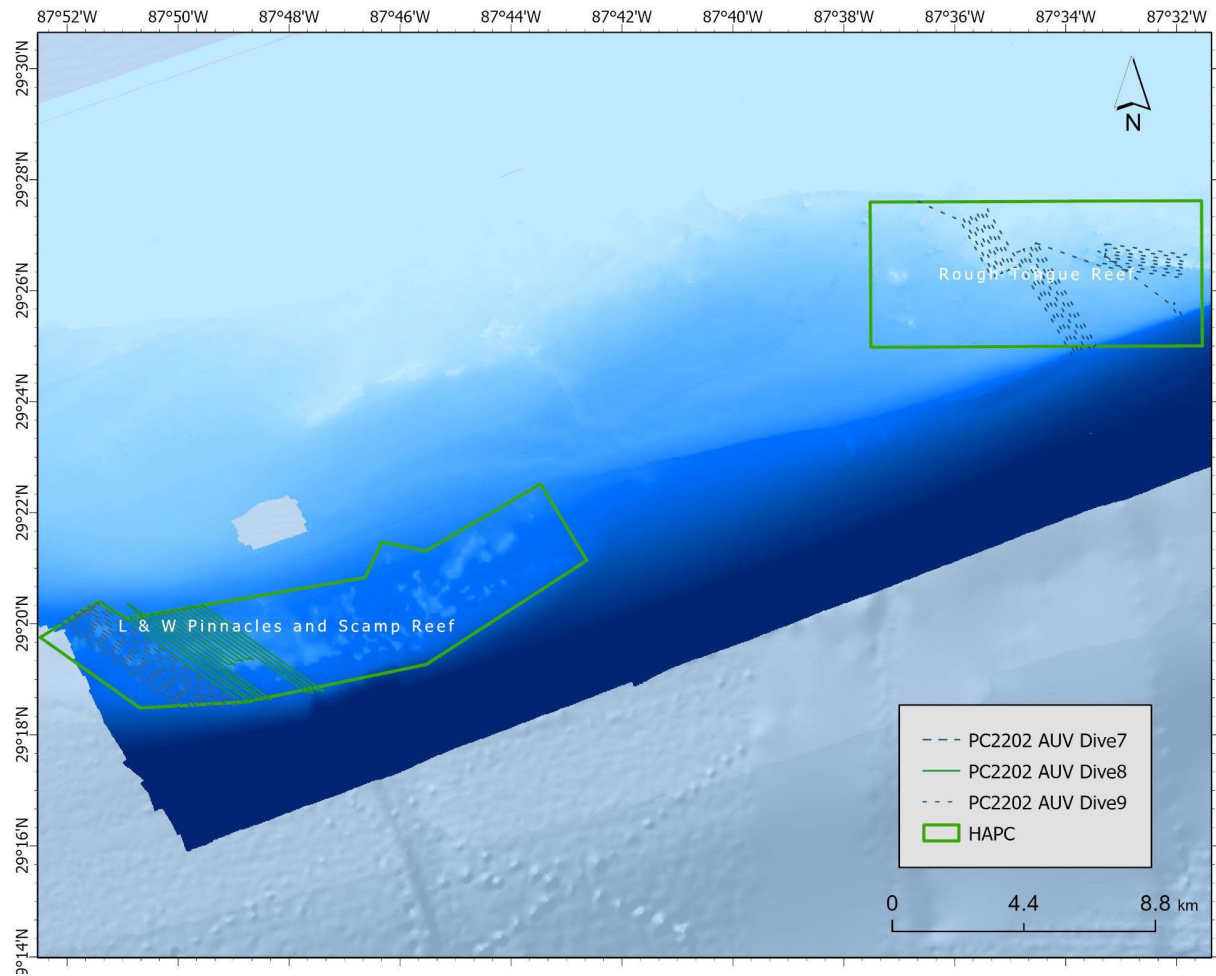


Figure 3b. AUV tracklines from 3 SAS survey dives in L&W Pinnacles and Scamp Reef and Roughtongue Reef HAPCs. Refer to Figure 1 for locations of HAPCs shown here.

There were several events that occurred on both legs 1 and 2 that resulted in deviations from the original schedule:

- a. A crew member was brought back to shore on July 10 during leg 1 for a medical issue. A replacement crew member was quickly found, and the ship was immediately able to head back out to sea. This resulted in a loss of 12 hours of multibeam mapping and 8 hours of ROV diving.
- b. A lightning strike on July 12 damaged several electronics on the ship, causing the ship to return to port, ending leg 1 a day earlier than planned. This resulted in a loss of approximately 12 hours of multibeam mapping and 12 hours of ROV diving.
- c. All ROV work for leg 2 was lost due to the entire ROV team contracting COVID between legs 1 and 2.
- d. Delays in AUV delivery and positive COVID cases in addition to repairs to the ship's electronics from the lightning strike caused leg 2 to depart two days later than planned.
- e. An essential crew member needing immediate medical care and requiring evacuation from the ship via helicopter on July 26 during leg 2 resulted in the ship returning to port. A replacement crew member was found, but this resulted in a loss of 36 hours of AUV operations.

Data Accessibility

The data, maps, and samples from this field mission will be held by NOAA, USGS, Lehigh University, Smithsonian, and URI participants. Imagery (both digital stills and video) can be accessed through Tator Cloud, an AI software from CVision for video and imagery management and annotation. All other data and corresponding metadata (raw data, navigation files, CTD casts, and bathymetry) will be archived with NCEI within one year of completion of quality assurance procedures and be made publicly available through their data dissemination portal at that time.

Processed, detailed, and quality-controlled information on coral occurrences will be reported to NOAA's National Database of Deep-Sea Corals and Sponges. Information about the biological samples is available upon direct request by email to the Chief Scientist.

Tissue Samples

Table 4 provides a summary list of biological samples collected with the ROV. A more detailed list can be found in Appendix 1.

Table 4. Summary sample list for NOAA Ship *Pisces* cruise labeled as PC-22-02. Samples were summarized by species. The number of subsamples taken from each species for genetics (Gen), vouchers (Vou), and stable isotopes (Iso) are indicated. Video data will be analyzed to identify the sample attributes at a later date. The data provided in the table are preliminary and subject to change upon identification of any discrepancies during the quality assurance procedures.

Scientific Name	Collection Depth Range (m)	Gen	Vou	Iso
<i>Agelas citrina</i>	70.3	1		1
<i>Aiolochoxia crassa</i>	59.9	1	1	1
Alcyonacea	56.4	1	1	1
<i>Anthomastus</i> sp.	101.8	1	1	1
Antipatharia	77.7–106.1	3	3	3
<i>Antipathes atlantica</i>	67.8–71.9	3	3	3
<i>Antipathes furcata</i>	69.6	1		
<i>Aphanipathes</i> sp.	92.5–96.8	2	2	2
<i>Aplysina</i> sp.	56.8–60.2	2	2	2
<i>Aplysina cauliformis</i>	60.0	1	1	1
Asteroidea	101.4	1	1	1
<i>Auletta</i> sp.	69.7	1	1	1
<i>Axinella</i> cf. <i>corrugata</i>	67.7	1	1	1
Axinellida	59.9	1	1	1
<i>Bebryce</i> sp.	56.6–88.6	3	2	3
Calaxonia	72.1	1	1	1
<i>Chrysogorgia</i> sp.	101.4	1	1	1
Cidaroidea	67.8	1	1	1
Cnidaria	56.6–80.4	3	6	5
<i>Comactinia meridionalis</i>	89.3	1	1	1
<i>Coronaster briareus</i>	98.0	1	1	1
Cypraeidae	74.0	1	1	1
Demospongiae	68.1–107.3	4	4	4
Didemnidae	69.9	1	1	1
<i>Elatopathes</i> sp.	94.3	1	1	1
<i>Ellisella</i> sp.	53.6–106.4	2	2	2
Ellisellidae	67.7	1	1	1
Holothuroidea	74.8	1	1	1
Hydrozoa	53.3	1	1	1
<i>Leptogorgia</i> sp.	53.6	1	1	1

Scientific Name	Collection Depth Range (m)	Gen	Vou	Iso
<i>Luidia</i> sp.	116.7	1	1	1
<i>Madracis</i> sp.	98.2–98.8	4	4	4
<i>Madrepora</i> sp.	89.6–101.6	5	4	4
Microcionidae	60.2	1	1	1
<i>Muricea</i> sp.	68.2–106.2	20	3	13
<i>Muricea pendula</i>	53.6–107.3	116	22	73
<i>Narcissia</i> sp.	67.7	1	1	1
<i>Narcissia trigonaria</i>	89.3	1	1	1
Nephtheidae	100.2	1	1	1
<i>Nicella</i> sp.	69.5–106.5	4	4	4
<i>Nidalia</i> sp.	98.5	1	1	1
Octocorallia	67.7–106.5	19	14	14
<i>Ophiothrix</i> sp.	70.9	1	1	1
Pachastrellidae	105.6	1	1	1
Paguroidea	80.7			1
<i>Paracolochirus mysticus</i>	96.2	1	1	1
<i>Placogorgia</i> sp.	89.4–95.4	2	1	2
<i>Placogorgia rudis</i>	69.2–91.6	4	4	4
Plexauridae	72.6–104.5	8	6	7
<i>Scleracis</i> sp.	70.0–77.6	2	2	2
Scleractinia	67.9–106.6	7	6	7
<i>Stephanocoenia intersepta</i>	71.1	1	1	1
<i>Stichopathes</i> sp.	69.6–77.9	3	2	3
Stolonifera	71.0	1	1	1
<i>Swiftia exserta</i>	53.9–81.2	74	18	61
<i>Tanacetipathes</i> sp.	53.5–96.9	8	7	7
<i>Thesea</i> sp.	55.9–80.5	3	2	3
<i>Thesea nivea</i>	53.4–87.2	82	27	60
Verongiida	72.3–105.7	2	2	2
<i>Virgularia</i> sp.	81.0	1		1
Zoanthidae	76.2	1	1	1

Lander Deployments

Two short-term landers were deployed from the NOAA Ship *Pisces* and were later retrieved on the NOAA Ship *Nancy Foster*. One lander was placed at Roughtongue Reef, a site that had documented injury, and the other was placed inside the L&W Pinnacles and Scamp HAPC, a site where injury had not been documented. Locations and timestamps of deployments and recoveries are listed in Table 5. Sensors on each lander included the following: SBE19+ (temperature, salinity, and pressure); turbidity and chlorophyll sensor; and ADCP (current velocity, acoustic backscatter).

Table 5. Lander deployments for NOAA Ship *Pisces* cruise labeled as PC-22-02. Timestamp consists of collection date and time which is in UTC. RTR = Roughtongue Reef; LW = L&W Pinnacles and Scamp HAPC.

Lander	Site Name	Latitude	Longitude	Start Timestamp	End Timestamp
1	RTR	29.438199	-87.576029	7/6/22 3:45	8/9/22 17:00
2	LW	29.32945	-87.771897	7/10/22 3:30	8/9/22 11:30

CTD Casts and Water Samples

CTD casts were conducted to address a number of objectives: 1) to collect sound velocity data for multibeam mapping; 2) to collect total water column oceanographic parameters; and 3) to collect water samples for eDNA, nutrient, and POM analysis. Locations of CTD casts are shown in Table 6, and an example of a water column profile is shown in Figure 4 below.

Table 6. CTD cast list for NOAA Ship *Pisces* cruise labeled as PC-22-02. Timestamp consists of collection date and time, which is local (Central Daylight Time). eDNA = environmental DNA; POM = particulate organic matter; nut = nutrients; sou vel = sound velocity.

Leg	ID	Timestamp	Latitude	Longitude	Target Depth (m)	eDNA	POM	nut	sou vel
1	CTD-01	6/30/2022 1:37	29.909333	-87.217	56	x			
1	CTD-02	6/30/2022 5:39	29.911	-87.212	53		x	x	
1	CTD-03	6/30/2022 19:13	30.081167	-86.7318	56	x			
1	CTD-04	6/30/2022 23:38	30.082167	-86.723	56		x	x	
1	CTD-05	7/1/2022 0:22	30.076167	-86.7557	65	x			
1	CTD-06	7/1/2022 3:19	30.082833	-86.7582	96		x	x	
1	CTD-07	7/1/2022 12:26	29.971333	-86.6427	96				x
1	CTD-08	7/1/2022 14:21	30.101883	-86.8082	78				x

Leg	ID	Timestamp	Latitude	Longitude	Target Depth (m)	eDNA	POM	nut	source
1	CTD-09	7/1/2022 19:10	29.8055	-87.2652	86	x			
1	CTD-10	7/1/2022 20:20	29.806333	-87.2645	86		x	x	
1	CTD-11	7/2/2022 2:15	29.794667	-87.3158	83	x			
1	CTD-12	7/2/2022 5:50	29.792667	-87.3227	83		x	x	
1	CTD-13	7/2/2022 19:02	29.643167	-87.3122	114	x			
1	CTD-14	7/2/2022 23:44	29.650833	-87.3153	94		x	x	
1	CTD-15	7/3/2022 1:26	29.582833	-87.3493	103	x			
1	CTD-16	7/3/2022 5:23	29.586667	-87.3492	100		x	x	
1	CTD-17	7/3/2022 7:40	29.871738	-87.2698	60				x
1	CTD-18	7/3/2022 14:44	29.907333	-87.2073	60				x
1	CTD-19	7/3/2022 19:04	29.4395	-87.5315	84	x			
1	CTD-20	7/4/2022 0:17	29.443	-87.5368	72		x	x	
1	CTD-21	7/4/2022 0:57	29.4275	-87.5328	92	x			
1	CTD-22	7/4/2022 2:59	29.421833	-87.5293	133		x	x	
1	CTD-23	7/4/2022 8:18	29.736	-87.3255	126				x
1	CTD-24	7/4/2022 16:16	29.592	-87.4893	70				x
1	CTD-25	7/4/2022 19:00	29.417167	-87.561	98	x			
1	CTD-26	7/4/2022 20:53	29.425	-87.566	88		x	x	
1	CTD-27	7/4/2022 21:38	29.4415	-87.5408	75	x			
1	CTD-28	7/5/2022 1:37	29.7785	-87.5477	75		x	x	
1	CTD-29	7/5/2022 7:43	29.742167	-87.3215	122				x
1	CTD-30	7/5/2022 16:01	29.596333	-87.4897	70				x
1	CTD-31	7/5/2022 18:59	29.445	-87.5792	75	x			
1	CTD-32	7/5/2022 23:23	29.438167	-87.577	82		x	x	

Leg	ID	Timestamp	Latitude	Longitude	Target Depth (m)	eDNA	POM	nut	source
1	CTD-33	7/5/2022 11:57	29.436167	-87.5817	66	x			
1	CTD-34	7/6/2022 4:58	29.4435	-87.5865	80		x	x	
1	CTD-35	7/6/2022 7:51	29.745333	-87.3262	72				x
1	CTD-36	7/6/2022 17:31	29.597	-87.4938	72				x
1	CTD-37	7/6/2022 18:58	29.451833	-87.595	74		x	x	
1	CTD-38	7/7/2022 0:50	29.444833	-87.5893	75	x			
1	CTD-39	7/7/2022 3:05	29.455833	-87.592	75		x	x	
1	CTD-40	7/7/2022 5:51	29.4375	-87.5827	80		x	x	
1	CTD-41	7/7/2022 13:43	29.6585	-87.245	240				x
1	CTD-42	7/7/2022 17:04	29.5595	-87.3758	92				x
1	CTD-43	7/7/2022 18:57	29.443667	-87.5525	78	x			
1	CTD-44	7/7/2022 23:52	29.443333	-87.5608	80		x	x	
1	CTD-45	7/8/2022 0:44	29.451333	-87.5255	72	x			
1	CTD-46	7/8/2022 5:10	29.4485	-87.5178	70		x	x	
1	CTD-47	7/8/2022 7:40	29.5595	-87.3758	220				x
1	CTD-48	7/8/2022 17:32	29.534167	-87.4348	80				x
1	CTD-49	7/8/2022 18:57	29.436833	-87.6165	70	x			
1	CTD-50	7/8/2022 23:47	29.439667	-87.618	75		x	x	
1	CTD-51	7/9/2022 3:26	29.423833	-87.6115	86		x	x	
1	CTD-52	7/9/2022 8:57	29.684	-87.2705	203				x
1	CTD-53	7/9/2022 15:04	29.635833	-87.3415	90				x
1	CTD-54	7/9/2022 18:59	29.327667	-87.768	102	x			
1	CTD-55	7/10/2022 2:14	29.329	-87.7682	110		x	x	
1	CTD-56	7/10/2022 2:56	29.333167	-87.771	110	x			

Leg	ID	Timestamp	Latitude	Longitude	Target Depth (m)	eDNA	POM	nut	sovel
1	CTD-57	7/10/2022 6:10	29.324833	-87.7737	145		x	x	
1	CTD-58	7/11/2022 3:32	29.352667	-87.742	97	x			
1	CTD-59	7/11/2022 6:18	29.3570	-87.7356	98		x	x	
1	CTD-60	7/11/2022 10:05	29.6981	-87.2803	183				x
1	CTD-61	7/11/2022 16:04	29.6981	-87.2803	183				x
1	CTD-62	7/11/2022 20:09	29.3326	-87.7558	110	x			
1	CTD-63	7/12/2022 00:12	29.3320	-87.7570	106		x	x	
1	CTD-64	7/12/2022 5:37	29.324	-87.7773	110		x	x	
1	CTD-65	7/12/2022 9:47	29.7105	-87.2840	168				x
2	CTD-01	7/20/2022 9:46	29.3609	-88.4728	57	x	x	x	
2	CTD-02	7/21/2022 14:03	29.2683	-88.3313	86	x	x	x	
2	CTD-03	7/21/2022 18:54	29.2612	-88.3389	87	x	x	x	
2	CTD-04	7/22/2022 7:10	29.2536	-88.3386	72	x	x	x	
2	CTD-05	7/22/2022 12:06	29.2536	-88.5053	78				x
2	CTD-06	7/22/2022 19:54	29.2386	-88.3238	92	x	x	x	
2	CTD-07	7/23/2022 7:03	29.2338	-88.3345	92	x	x	x	
2	CTD-08	7/23/2022 16:32	29.8191	-88.1023	38				x
2	CTD-09	7/23/2022 21:57	29.3335	-87.8348	99	x	x	x	
2	CTD-10	7/24/2022 7:26	29.3160	-87.8420	109	x	x	x	
2	CTD-11	7/24/2022 18:15	29.3494	-87.6947	151				x
2	CTD-12	7/24/2022 19:08	29.3206	-87.8370	100	x	x	x	
2	CTD-13	7/25/2022 6:37	29.3343	-87.8145	94	x	x	x	
2	CTD-14	7/25/2022 15:02	29.6549	-87.3539	80				x

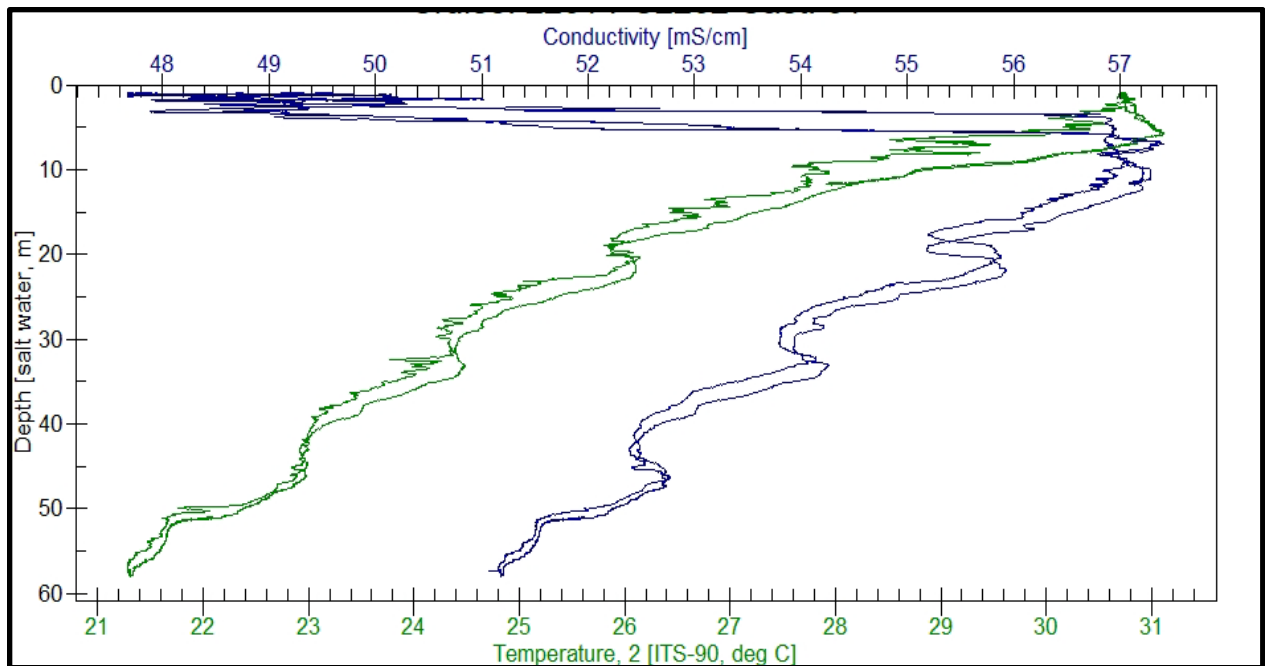


Figure 4. Example of a water column profile. Temperature is green, and conductivity is blue.

ROV Dive Summaries

All times in this section are in Central Daylight Time.

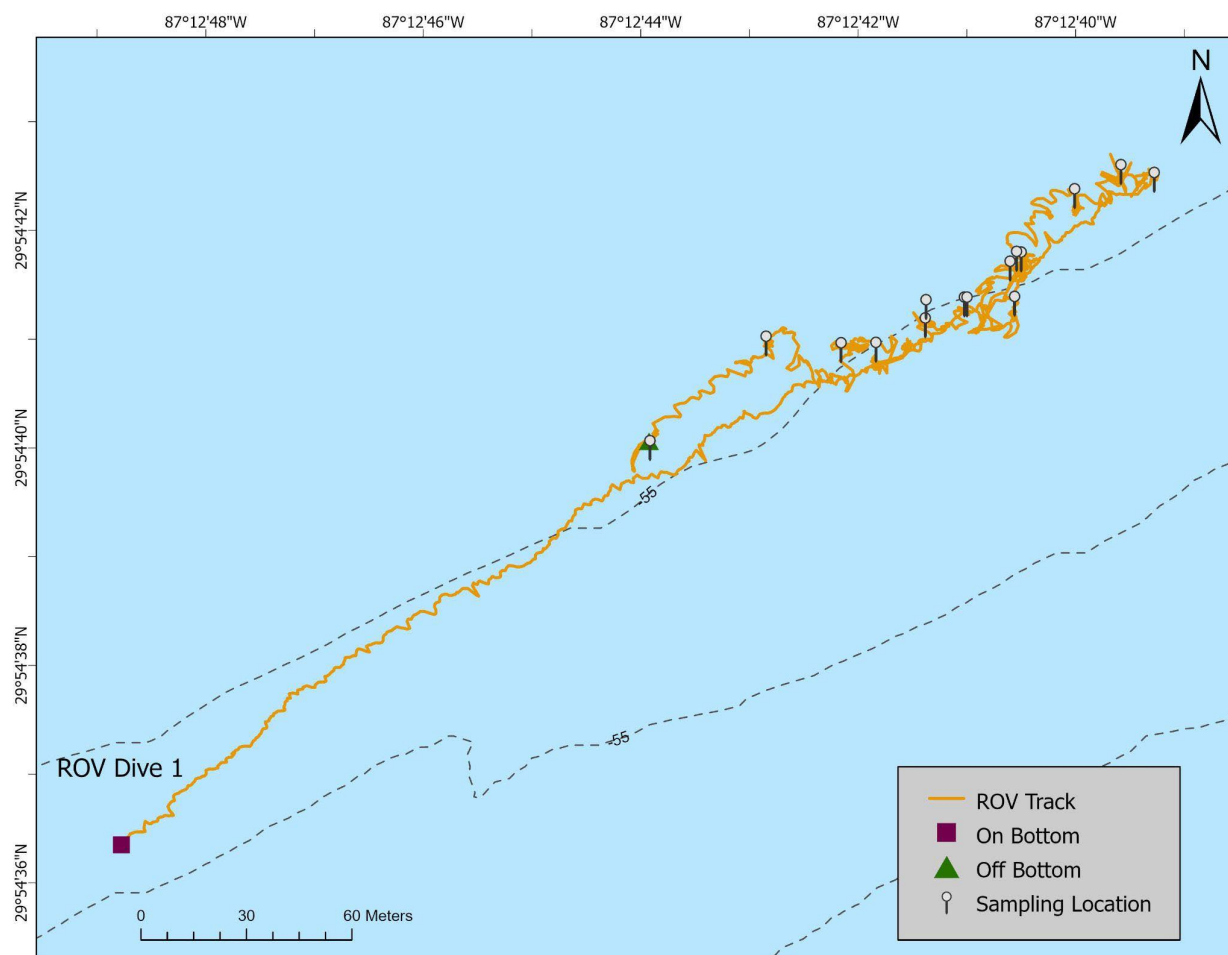


Figure 5. ROV track for dive 1 conducted on 06/30/2022 at DeSoto Rim.

Dive 1 – DeSoto5 site, 06/30/2022

At 0130 hours on 06/30/22, a CTD cast was made to 55 m at DeSoto5 site with water sampling for eDNA. Six Niskin bottles were fired. Nine bottles were on the rosette, but three did not fire. It was discovered that there was a setting that needed to be changed, and this was corrected for the next cast.

At 0211 hours, the ROV was launched to a depth of 62 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Tracking was not working when the ROV first landed on bottom; but it was fixed, and we began transecting at 0249 hours. Two 300-m transects were completed. The ROV was kept at 1.2 m off the bottom. Downward-looking photos were taken every 30 seconds, and forward-looking photos were randomly taken throughout the dive. The habitat consisted of rock/ledges with attached fauna, and multibeam shows overall relief of the feature was

3–5 m. Abundant species included *Swiftia exserta*, *Muricea pendula*, *Thesea nivea*, *Antipathes*, *Bebryce*, vermilion snapper, short bigeye, and lionfish. At 0345 hours, we transitioned into sampling, and 19 samples were collected. The ROV was recovered at 0525 hours. A CTD cast was made at 0539 hours to 53 m with water samples for nutrient and POM analysis. Nine Niskin bottles were fired.

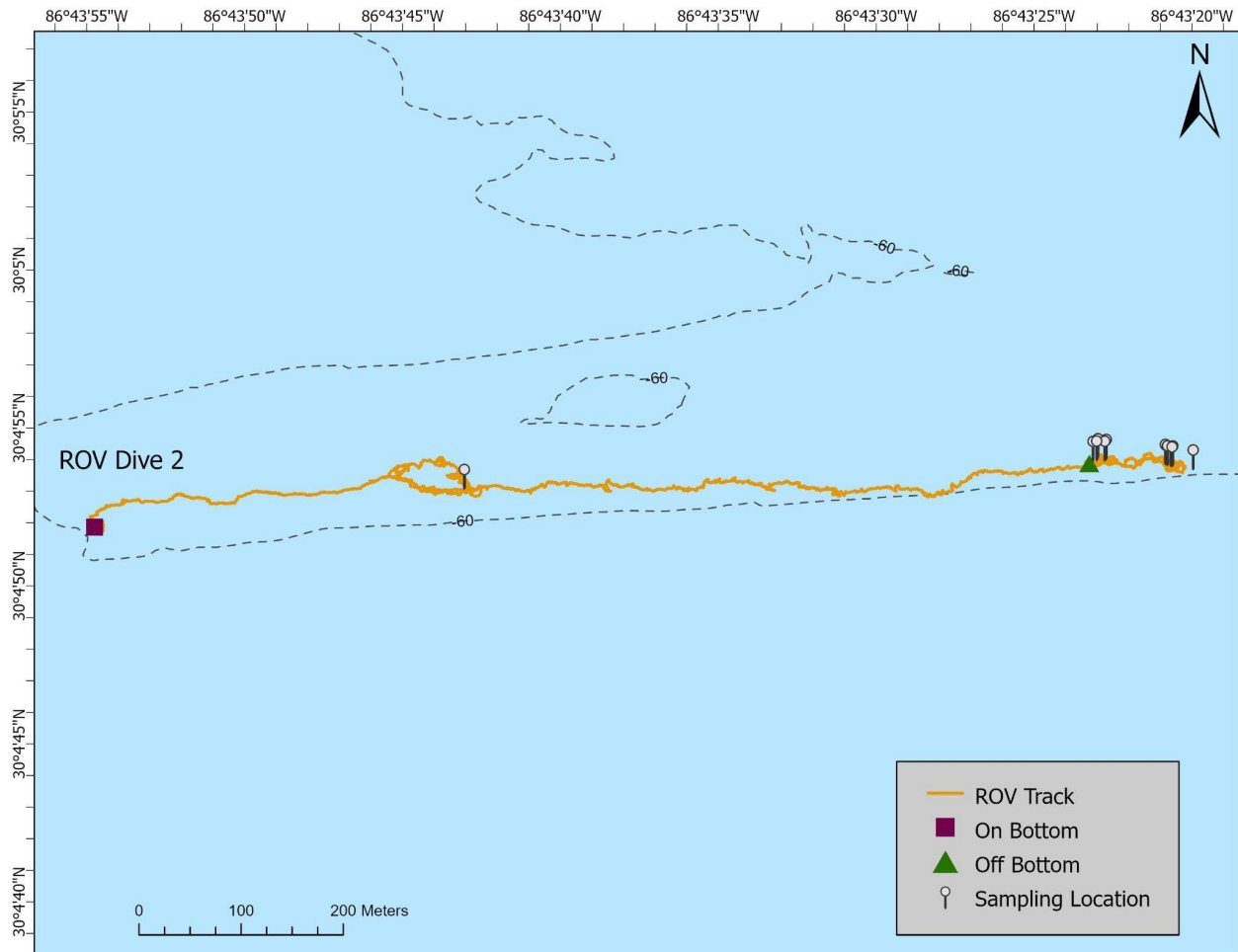


Figure 6. ROV track for dive 2 conducted on 06/30/2022 at DeSoto Rim.

Dive 2 – DeSoto2 site, 06/30/2022

At 1910 hours on 06/30/22, a CTD cast was made to 56 m at DeSoto2 site with water sampling for eDNA. Nine Niskin bottles were fired.

At 1938 hours, the ROV was launched to a depth of 56 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Three 300-m transects were completed. The ROV was kept just off the bottom (we realized that keeping the ROV at 1.2 m above bottom wasn't ideal for identifying all of the inverts). Downward-looking photos were taken every 60 seconds where the

ROV would come off the bottom to a height of 1.2 m and then go back down to continue transecting. Forward-looking photos were randomly taken throughout the dive. The habitat consisted of rock/ledges with attached fauna for transects 1 and 3, and a sediment veneer pavement with attached fauna for transect 2. Multibeam shows the feature has 3-m relief, and we dove along the top of it for the entire dive. Abundant species included: *Bebryce*, *Antipathes*, *Muricea pendula*, Ellisellidae, butterflyfish, sharpnose puffer, rough tongue bass, striped grunt, tattler, scad, and red snapper. At 2156 hours, we transitioned into sampling where 15 samples were collected. The ROV was recovered at 2320 hours.

At 2344 hours, a CTD cast was made to 56 m with water samples for nutrients and POM. Nine bottles were fired, 2 of which failed.

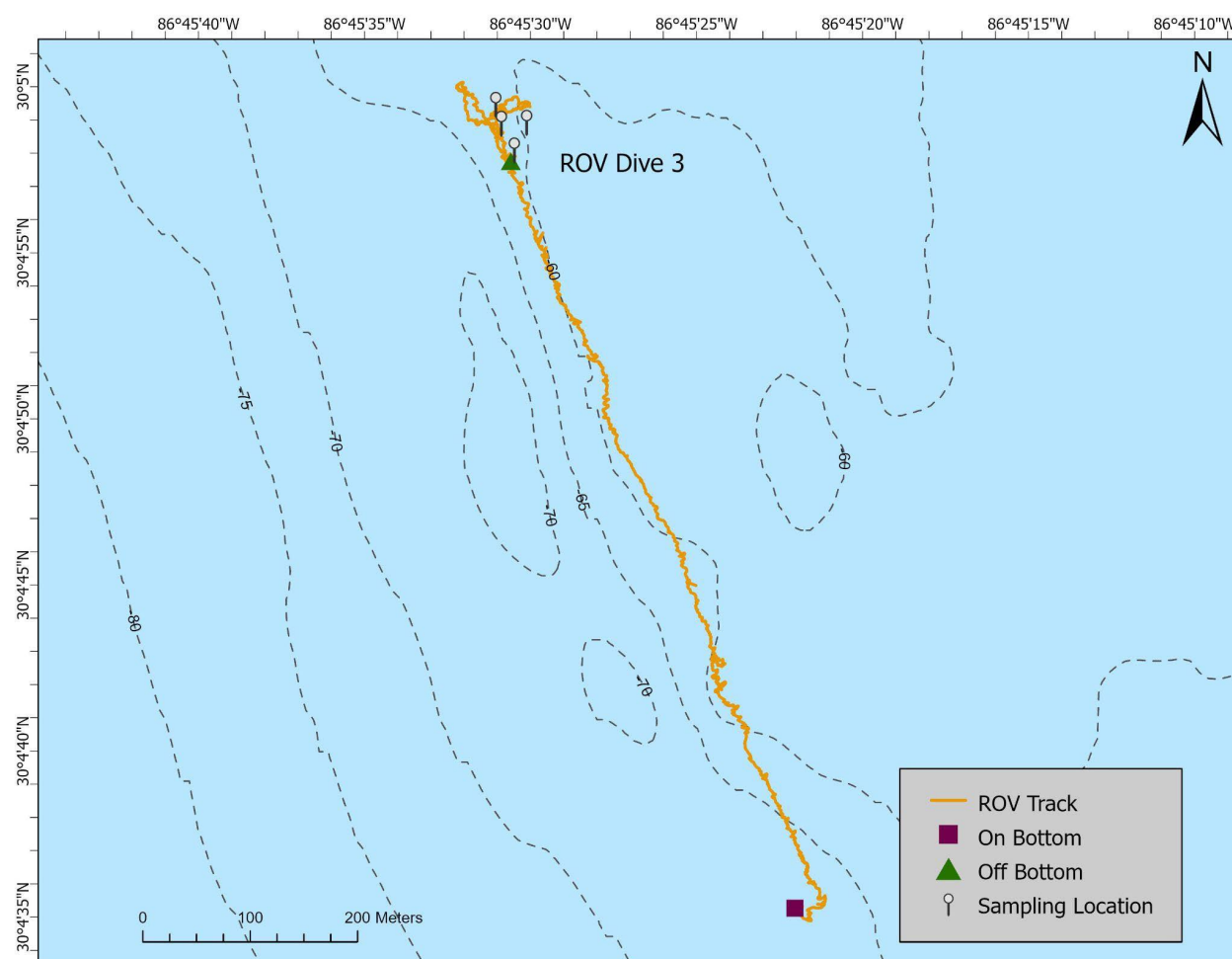


Figure 7. ROV track for dive 3 conducted on 06/30/2022 at DeSoto Rim.

Dive 3 - DeSoto7 site, 07/01/2022

At 0022 hours on 07/01/22, a CTD cast was made to 65 m at DeSoto7 site with water sampling for eDNA. Nine Niskin bottles were fired.

At 0102 hours, the ROV was launched. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Four transects were made. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were randomly taken throughout the dive. Transect 1 was 80 m long on soft sandy substrate. Transects 2–4 were a sand veneer pavement with attached fauna. Transect 2 was approximately 130 m long and ended early because the ship was pulling the ROV backward. Transects 3 and 4 were 300 m long. Multibeam shows the feature has 6- to 8-m relief, and we dove along the top of it for the entire dive. We then transitioned to sampling, and 5 sponge samples were collected for biodiversity. The dive was dominated by sponges, and very few octocorals were observed. Abundant species included sponges, schools of amberjack throughout the entire dive, lionfish, scad, short bigeye, and vermilion snapper. The ROV was recovered at 0305 hours.

At 0320 hours, a CTD cast to 60 m was made with water samples for nutrients and POM. Nine bottles were fired.

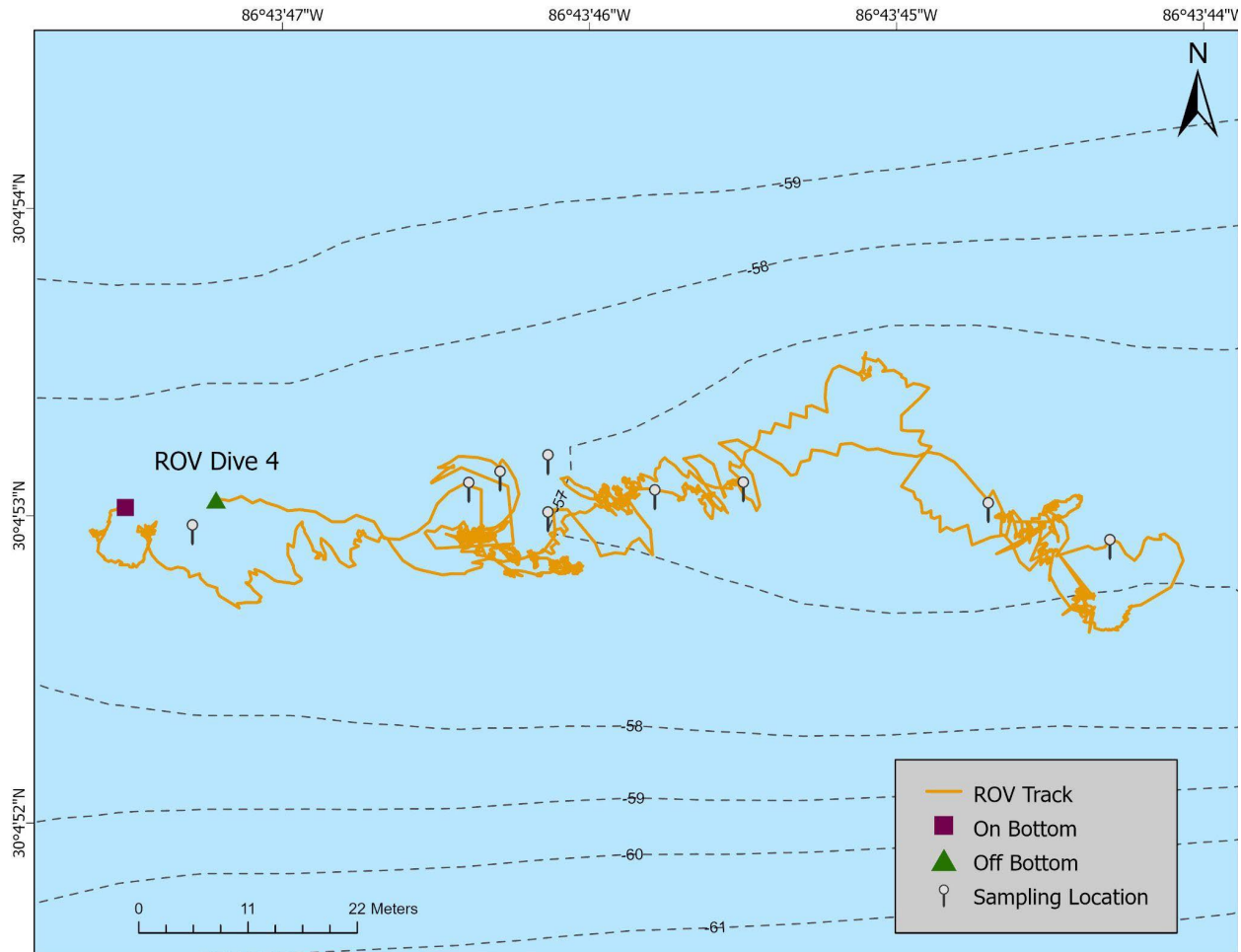


Figure 8. ROV track for dive 4 conducted on 07/01/2022 at DeSoto Rim.

Dive 4 – DeSoto2 site, 07/01/2022

Since there weren't many octocorals to sample at DeSoto7, we returned to DeSoto2 site for more sampling. Objectives of this dive were strictly sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was launched at 0415 hours, and 13 samples were collected before recovering the ROV at 0540 hours.

Dive 5 – DeSoto6 site, 07/01/2022

At 1914 hours on 07/1/22, a CTD cast was made to 85 m at DeSoto6 site with water sampling for eDNA. Nine Niskin bottles were fired.

At 1931 hours, the ROV was launched to a depth of 87 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Communication with the ROV was lost as soon as we hit bottom, resulting in bad navigation data; therefore, no map is provided for this dive. The ROV team was not able to immediately fix the problem, so we recovered a dead vehicle at 1955 hours.

Once at the surface, the ROV team changed out a couple of electrical boards, which appeared to have fixed the problem.

At 2019 hours, a CTD cast to 86 m was made with water samples for nutrients and POM. Nine bottles were fired.

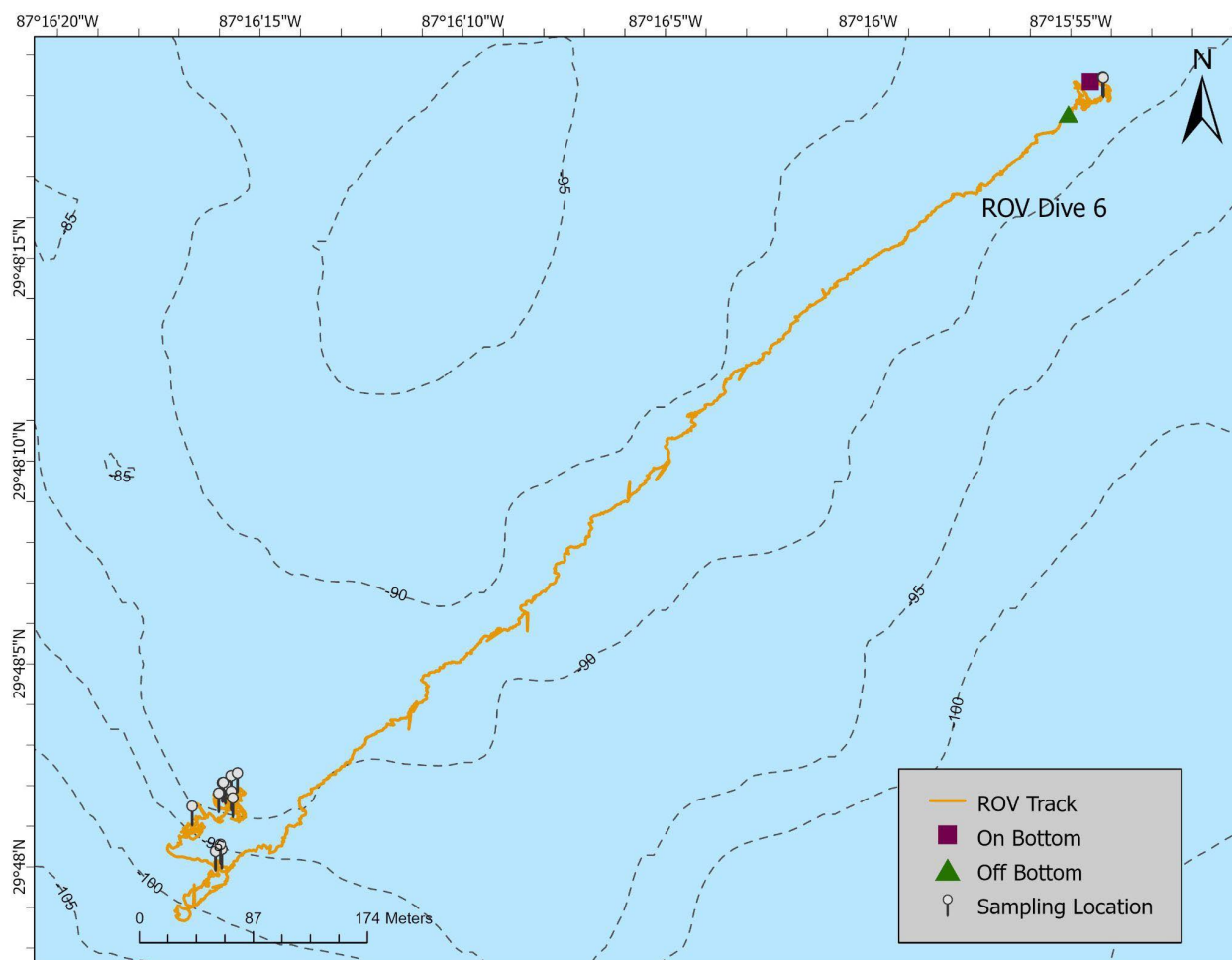


Figure 9. ROV track for dive 6 conducted on 07/01/2022.

Dive 6 – DeSoto6 site, 07/01/22

Redo of Dive 5. At 2102 hours, the ROV was launched to a depth of 87 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Four transects were conducted. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were randomly taken throughout the dive. The habitat consisted of sand veneer pavement with attached fauna and scattered low-relief outcrops. Transects 2 and 3 were 300 m long, while transects 1 and 4 were ended early because the ship was having issues (transect 1) and

the habitat changed (transect 4). Multibeam shows 6- to 7-m relief for these features, and we ran the entire dive on top of the feature. Abundant species included crinoids, *Madrepora*, *Placagorgia*, *Muricea pendula*, black cup corals, rough tongue bass, scad, small schooling fish, short bigeye, and vermilion snapper. At 2047 hours, we transitioned into sampling and collected 18 samples before recovering the ROV at 0011 hours on 07/02/22.

At approximately 0030 hours, the lander team tested the acoustic releases that will be used to deploy the landers. One worked; the other did not release, but the team is confident this will suffice for operations.

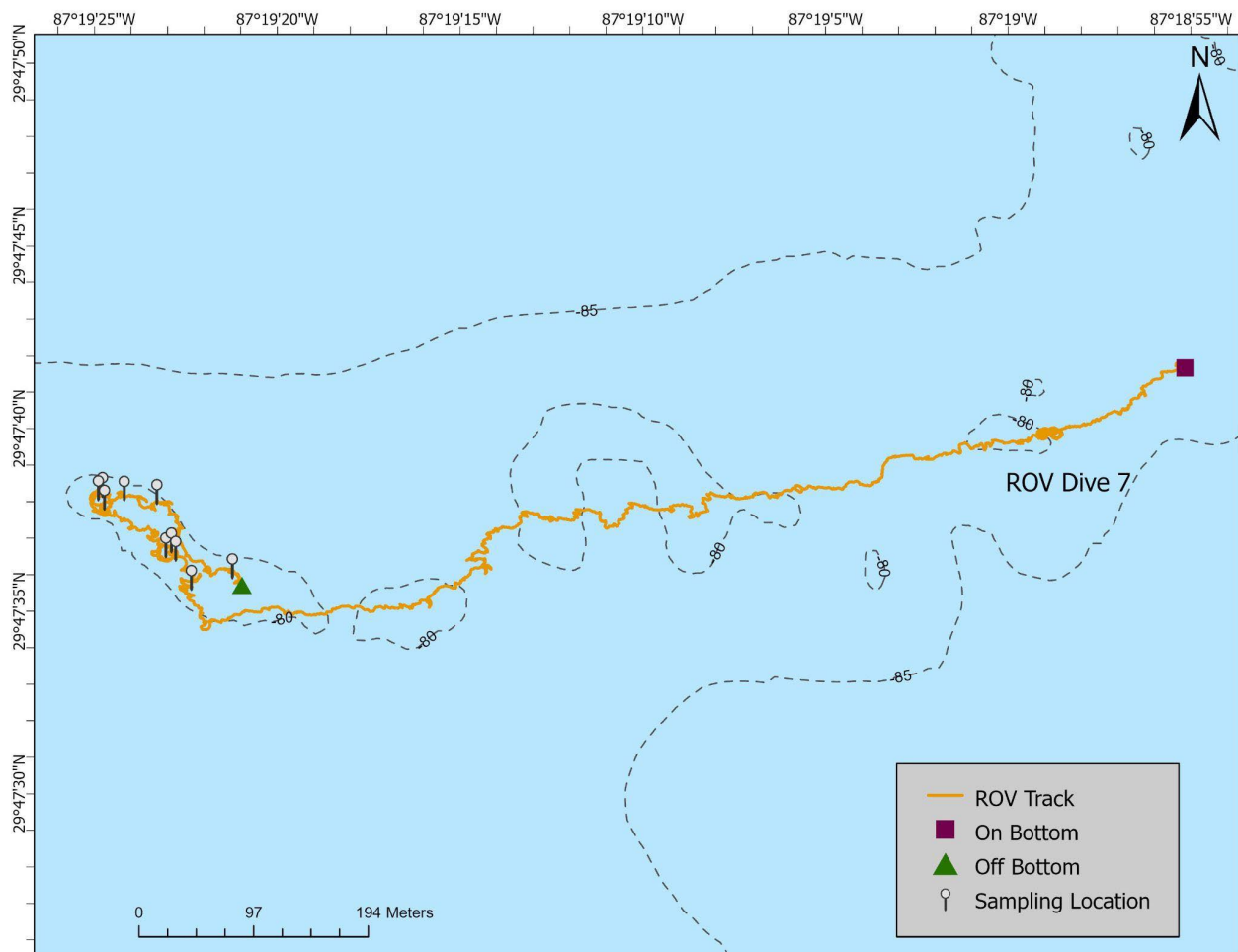


Figure 10. ROV track for dive7 conducted on 07/02/2022.

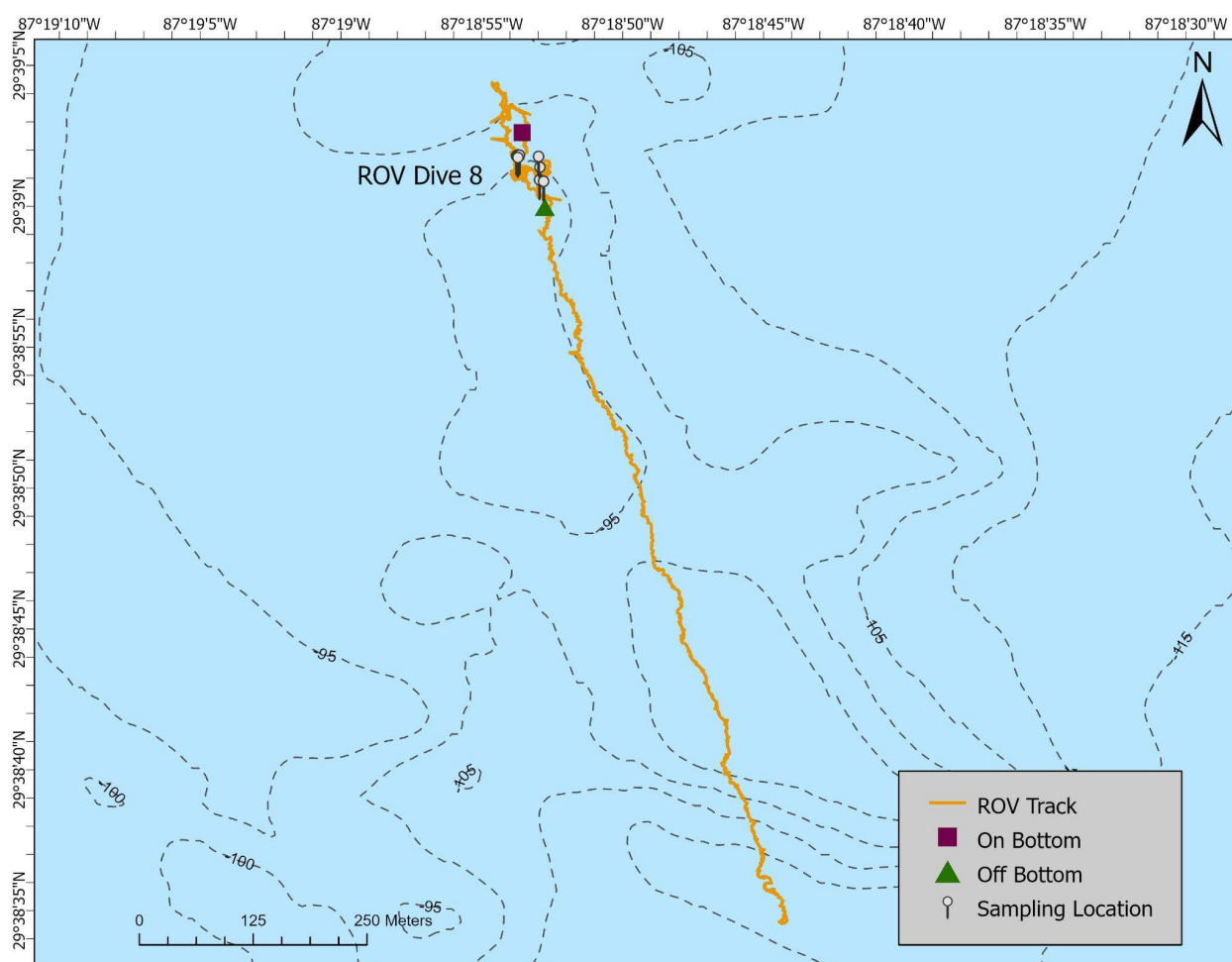
Dive 7 – DeSoto9 site, 7/2/2022

At 0215 hours, a CTD cast was made to 83 m at DeSoto9 site with water sampling for eDNA. Nine Niskin bottles were fired.

At 0254 hours, the ROV was on bottom at a depth of 80 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics,

systematics/taxonomy, and stable isotopes. We conducted 6 transects because the habitat kept changing between sediment veneer pavement with attached fauna and high-relief rock ledges with attached fauna (relief 3–6 m). The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were randomly taken throughout the dive. Transect 1 was cut short due to the ROV umbilical getting wrapped around one of the high-relief rocks. Abundant species included: black cup coral, *Madracis*, *Nicella*, *Scleracis*, amberjack, vermilion snapper, lionfish, and roughtongue bass. At 0401 hours, we transitioned into sampling and collected 10 samples before recovering the ROV at 0533 hours.

At approximately 0600 hours, a CTD cast was made to 87 m at DeSoto9 with water sampling for nutrient and POM analyses. Nine Niskin bottles were fired.



At 1933 hours, the ROV was launched to a depth of 113 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Three transects were completed. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were randomly taken throughout the dive. Transect 1 was 300 m long and along a gradual slope going from a depth of 114 m to about 93 m with small- to medium-sized rock cobbles on the slope. Transect 2 was 300 m long on sediment veneer pavement with attached fauna on top of a gradually sloping high-relief mound, the depth was 93 m, and the relief of the mound was 6–8 m. Transect 3 was about 260 m (ended just shy of the 300 m target because the habitat type changed to sandy soft substrate) on a mix of sediment veneer pavement with attached fauna and low-relief rock on top of a gradually sloping high-relief mound, the depth was 96 m, and the relief of the mound was 6–8 m. Abundant species included: *Madrepora*, crinoids, *Muricea pendula*, *Placagorgia rutis*, *Antipathes furcata*, bank butterflyfish, roughtongue bass, scorpionfish, and short bigeye. At 2051 hours, we transitioned into sampling and collected eight samples before recovering the ROV at 2204 hours because the suction sampler hose came off its magnet. We recovered to fix the suction hose and sent the ROV right back down to continue collecting.

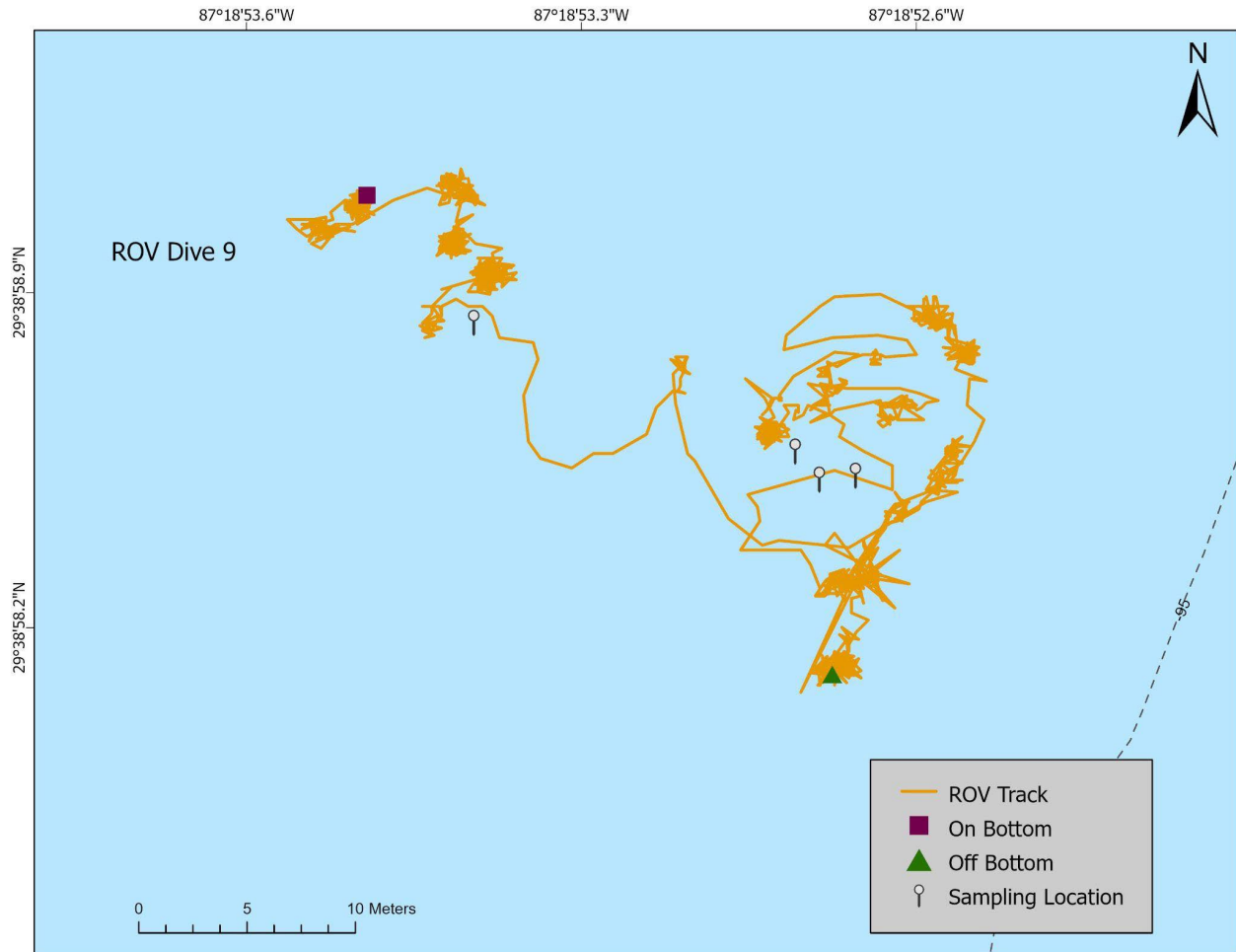


Figure 12. ROV track for dive 9 conducted on 07/03/2022 at DeSoto Rim.

Dive 9 - DeSoto4 site, 07/02/2022

At 2223 hours, the ROV was launched to a depth of 93 m. Objectives of this dive were to sample for population genetics, systematics/taxonomy, and stable isotopes. We collected 11 *Muricea pendula* samples before recovering the ROV at 2325 hours.

At 2345 hours, a CTD cast to 93 m was made with water samples for nutrients and POM. Nine Niskin bottles were fired.

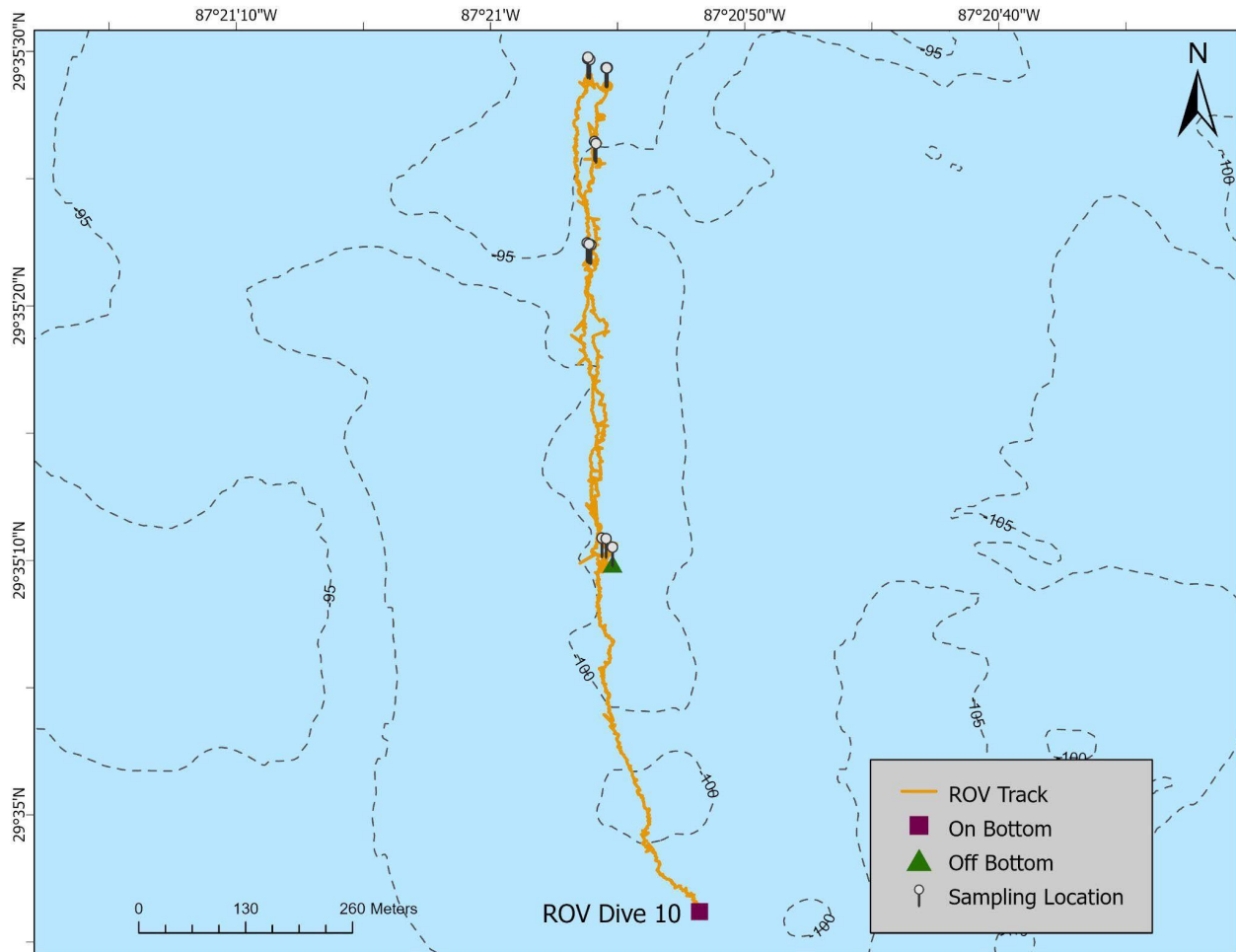


Figure 13. ROV track for dive 10 conducted on 07/3/2022 at DeSoto Rim.

Dive 10 – DeSoto10 site, 07/03/2022

Around 0130 hours, a CTD cast was made to 100 m at DeSoto 10 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0148 hours, the ROV was launched to a depth of 102 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Three 300-m transects were completed. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were randomly taken throughout the dive. The habitat on this dive consisted of small areas of rock/ledges with attached fauna interspersed on a soft substrate of sand/shell hash. Multibeam shows relief of 3–4 m. We went over five rock ledges and ended on a plateau area. At 0305 hours, we transitioned into sampling and collected 16 samples before recovering the ROV at 0501 hours.

At 0530 hours, a CTD cast to 102 m was made with water samples for nutrients and POM. Nine Niskin bottles were fired.

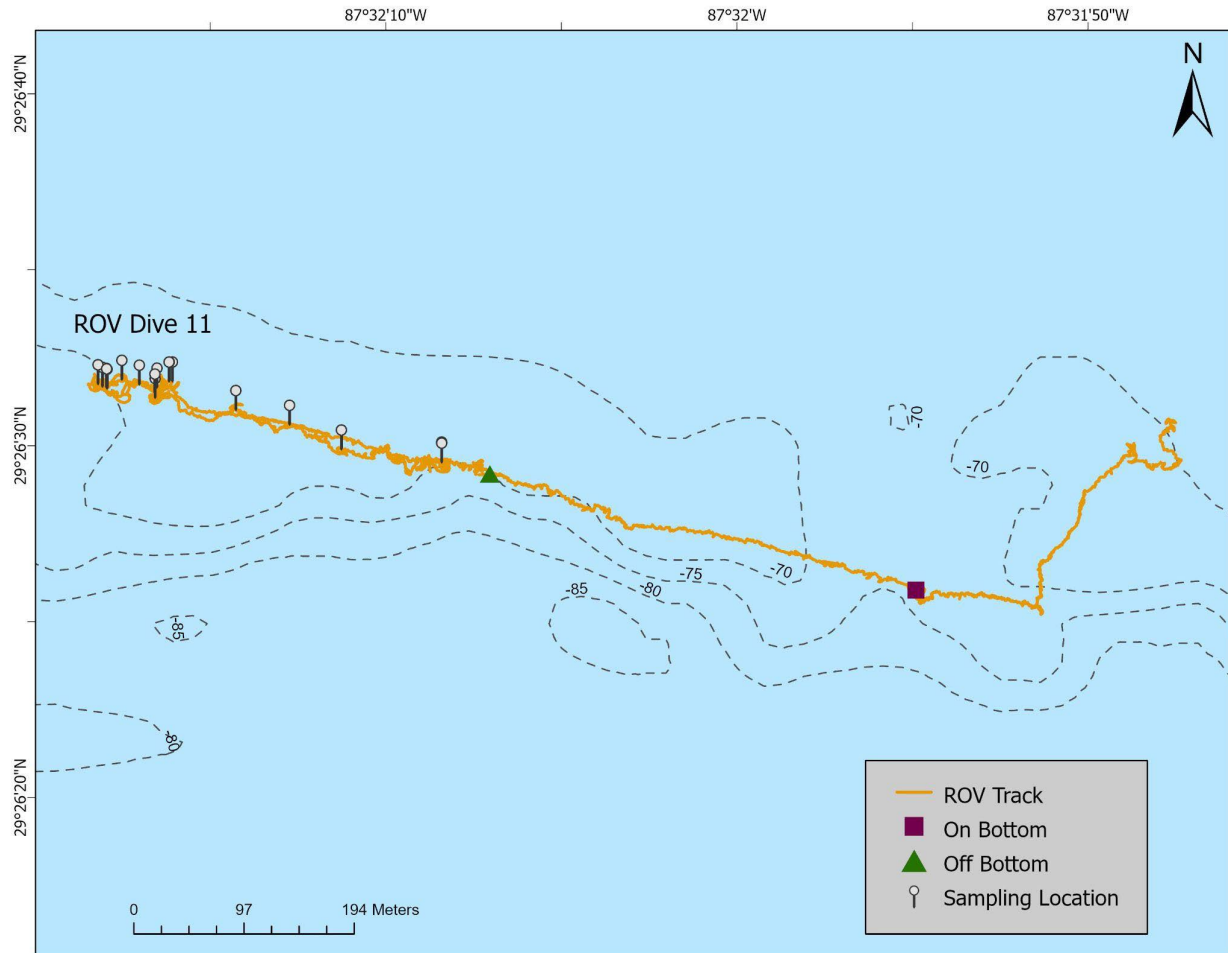


Figure 14. ROV track for dive 11 conducted on 07/03/2022 inside Rough Tongue Reef HAPC.

Dive 11 – Pinn2 site, 07/03/2022

At 1903 hours, a CTD cast was made to 84 m at Pinn2 with water samples for eDNA. Nine Niskin bottles were fired.

At 1940 hours, the ROV was launched to a depth of 75 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. Four transects were completed, all on high-relief rock/ledges with attached fauna (5-m relief) with some soft substrate consisting of sand shell hash interspersed. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Transect 1 was approximately 150 m; transect 2 was approximately 100 m; and transects 3 and 4 were both 300 m long. Abundant species included: *Bebryce*, *Swiftia exserta*, *Antipathes furcata*, *Geodia*, *Tenacetapathes*, *Aplysina*, *Antipathes atlantica*, Ellisellidae, *Stichopathes*, *Irsinia*, rough tongue bass, short bigeye, bank butterflyfish, and lionfish. At 2148 hours, we transitioned into sampling and collected 20 samples before recovering the ROV at 2358 hours.

At approximately 0020 hours, a CTD cast was made to 70 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

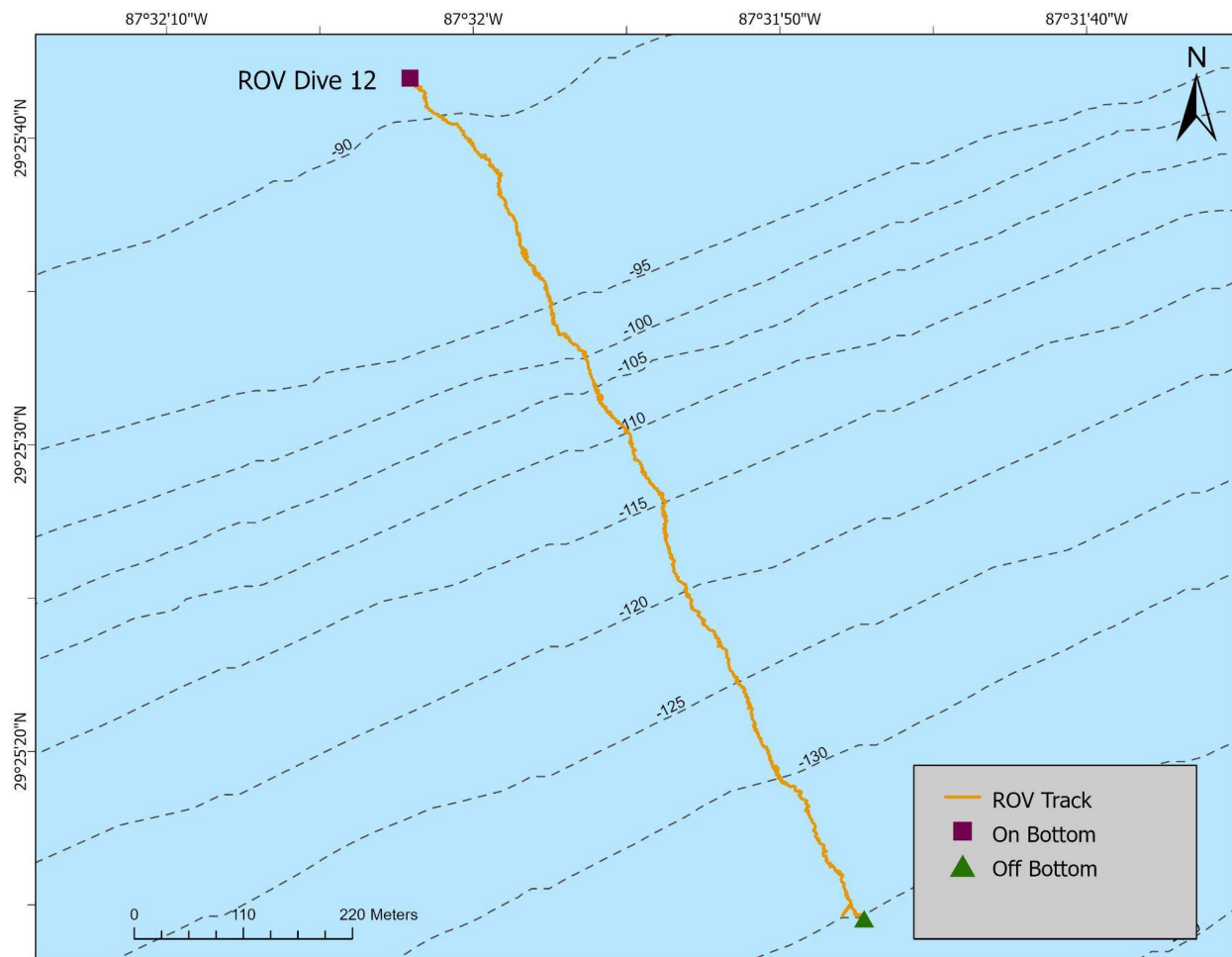


Figure 15. ROV track for dive 12 conducted on 07/04/2022 inside Rough Tongue Reef HAPC.

Dive 12 – RTR_PHM_2 site, 07/04/2022

At approximately 0102 hours, a CTD cast was made to 92 m at RTR_PHM_2 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0135 hours, the ROV was launched to a depth of 92 m. Objectives for this dive were to conduct transects for habitat characterization. This site was selected by the MGM Predictive Habitat Modeling (PHM) team. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were made. All transects were soft substrate consisting of sand/shell hash habitat with a few sparse low-relief small outcrops observed on transect 1. No abundant species were observed. The ROV was recovered at 0243 hours.

At 0259 hours, a CTD cast was made to 133 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

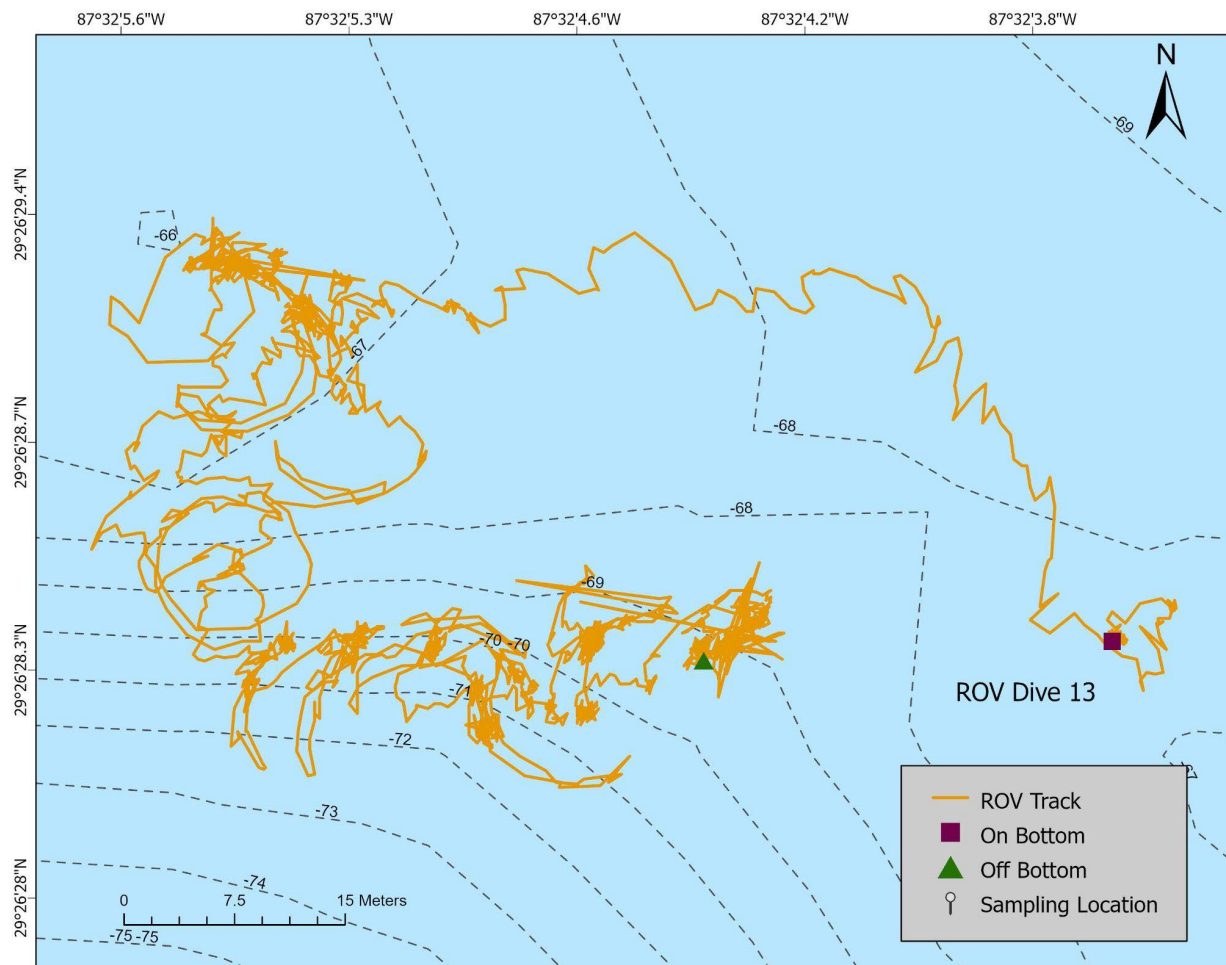


Figure 16. ROV track for dive 13 conducted on 07/04/2022 inside Roughtongue Reef HAPC.

Dive 13 – Pinn2 Site, 07/04/2022

We headed back to Pinn2 dive site (same as dive 11) for more sampling. At 0357 hours, the ROV was launched to a depth of 79 m. Objectives of this dive were to sample for population genetics, systematics/taxonomy, and stable isotopes. We collected 13 samples before recovering the ROV at 0535 hours. Sampling locations for this dive are incorrect in the At-Sea Database and will need to be verified in Tator Cloud; therefore, they are not shown in the map.

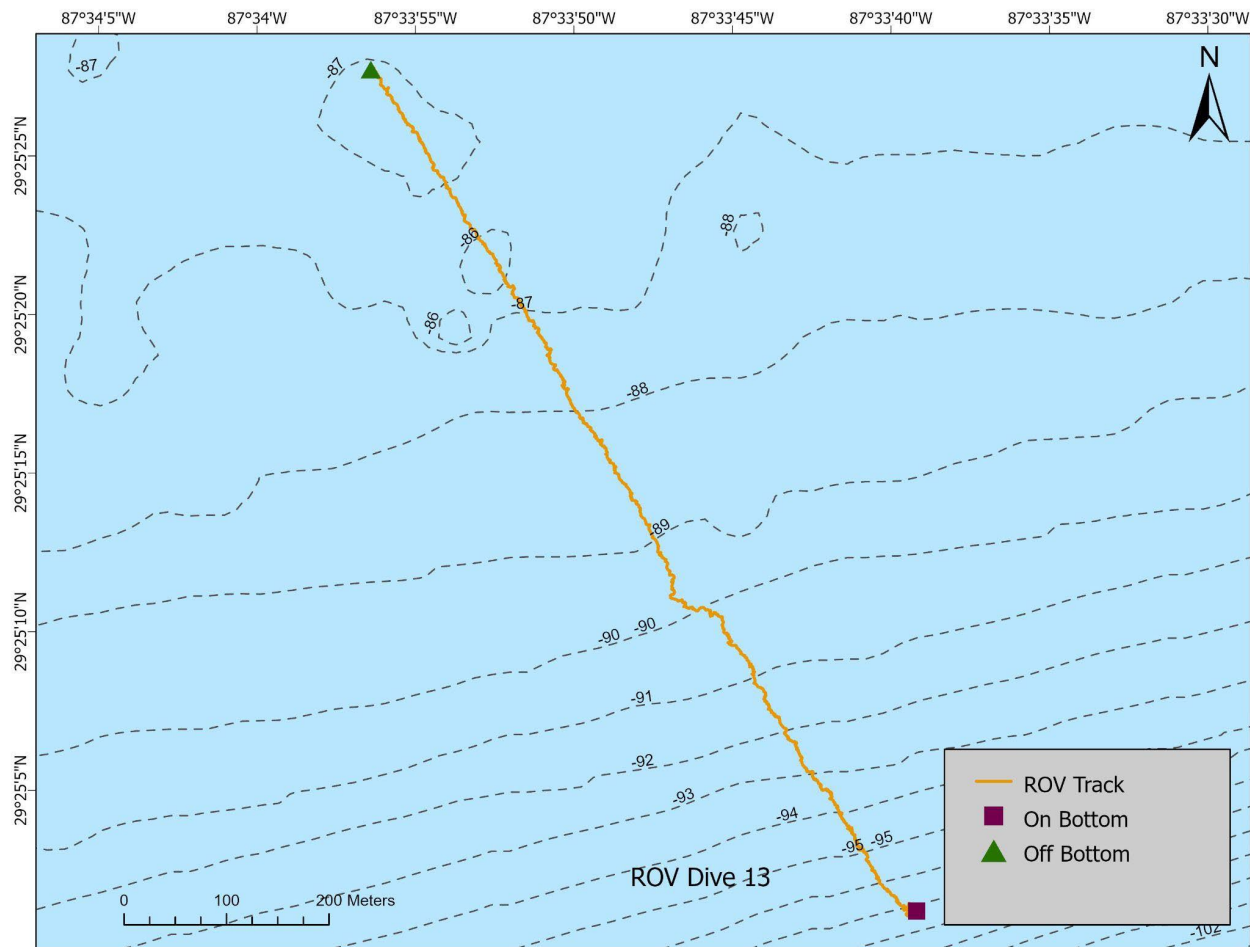


Figure 17. ROV track for dive 14 conducted on 07/04/2022 inside Roughtongue Reef HAPC.

Dive 14 – RTR_PHM_3 site, 07/04/2022

At 1859 hours, a CTD cast was made to 98 m at RTR_PHM_3 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1926 hours, the ROV was launched to a depth of 98 m. Objectives for this dive were to conduct transects for habitat characterization. This is an MGM PHM-selected site. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were completed. The habitat type was a thin veneer of sand/shell hash over pavement. There was a random small rock outcrop on transect 3 that had a few red snappers on it. Fauna was sparse but included *Stichopathes*, sea pens, red snapper, tilefish, and goatfish. The ROV was recovered at 2034 hours.

At 2055 hours, a CTD cast was made to 87 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

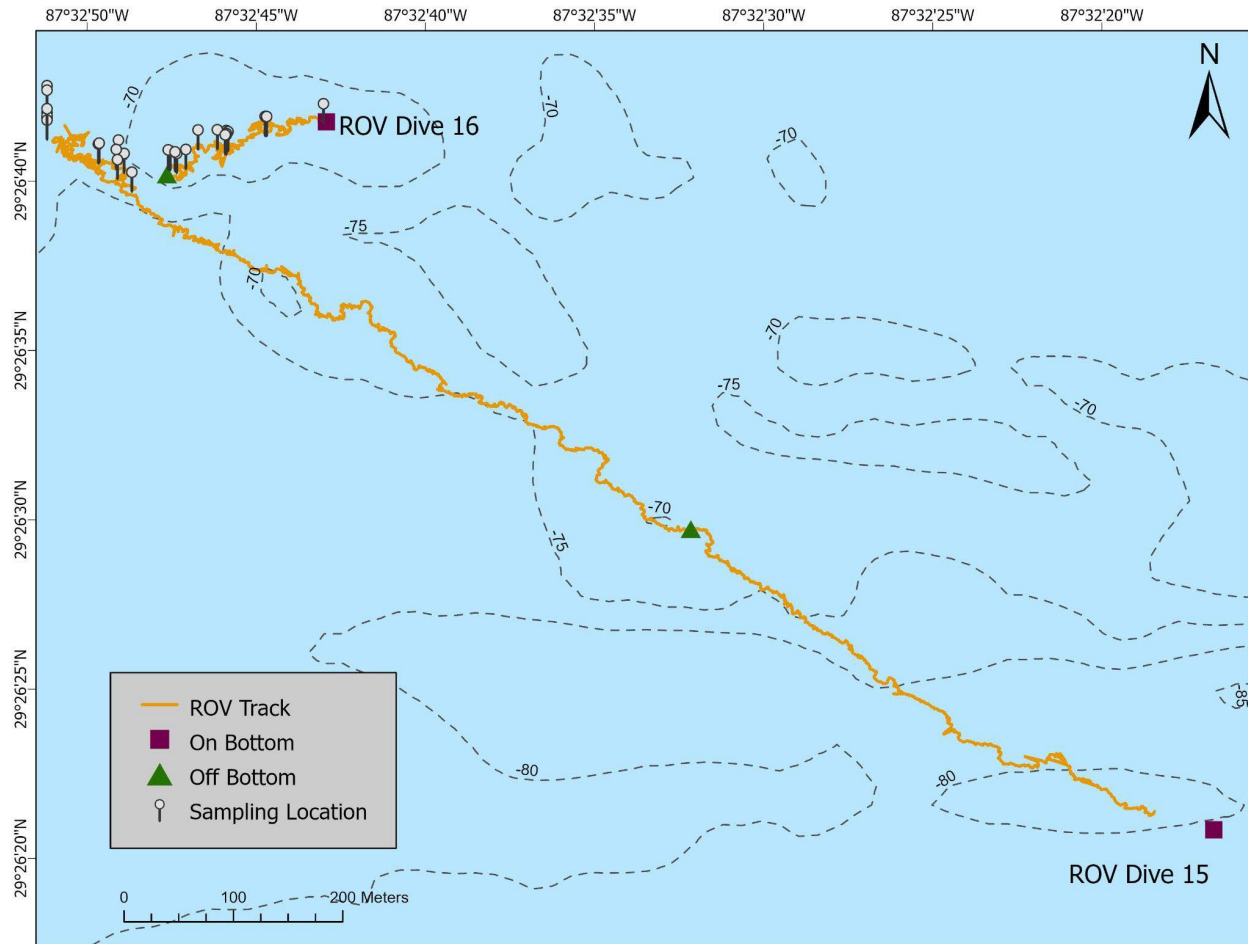


Figure 18. ROV tracks for dives 15 and 16 conducted on 07/04/2022 and 07/05/2022, respectively, inside Roughtongue Reef HAPC.

Dive 15 – Cork1 site, 07/04/2022

At 2140 hours, a CTD cast was made to 73 m at Cork1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 2204 hours, the ROV was launched to a depth of 81 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Four transects were completed. Transect 1 was 240 m on high-relief ledge (5- to 10-m relief) with attached fauna interspersed with soft substrate consisting of sand/shell. Transect 2 was 100 m long on soft substrate (sand/shell hash). Transect 3 was 300 m on high-relief ledge (5- to 10-m relief) with attached fauna interspersed with sand/shell. Transect 4 was 135 m long on high-relief ledge (5- to 10-m relief) with attached fauna interspersed with sand/shell hash. Many target coral species were damaged along this dive. Abundant species included *Swiftia exserta*, *Tenacetipathes*, *Geodia*, *Antipathes furcata*, *Antipathes atlantica*, *Thesea*

nivea, short bigeye, rough tongue bass, lionfish, bank butterflyfish, *Sclerasis*, and *Nicella*. At 2340 hours, we transitioned to sampling. We collected 21 samples before recovering the ROV at 0121 hours.

At 0140 hours, a CTD cast was made to 74 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

Dive 16 – Cork1 site, 07/05/2022

Dive 16 was at Cork1 (same as dive 15) again to continue sampling. At 0233 hours, the ROV was launched to a depth of 65 m. Objectives of this dive were to sample for population genetics, systematics/taxonomy, and stable isotopes. We collected 28 samples before recovering the ROV at 0458 hours at a depth of 69 m.

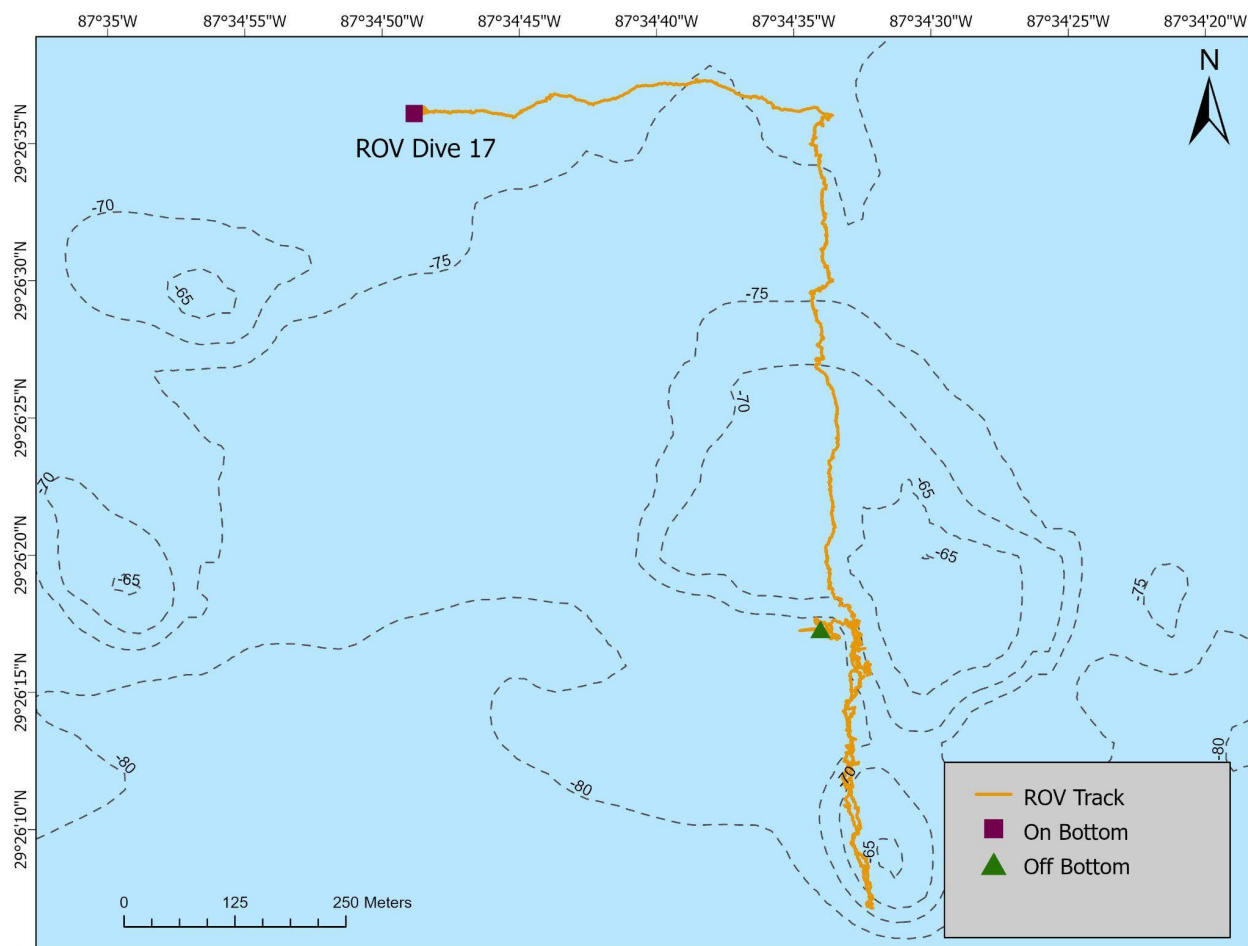


Figure 19. ROV track for dive 17 conducted on 07/05/2022 inside Rough Tongue Reef HAPC.

Dive 17 – RTR1 site, 07/05/2022

At 1859 hours, a CTD cast was made to a depth of 74 m at RTR1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1920 hours, the ROV was launched to a depth of 76 m. Objectives of this dive were to conduct transects for habitat characterization, followed by scoping for lander deployment. This is a known injured site, so no samples were taken. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. The ROV landed on the bottom at an incorrect location, so we transited 240 m to the east to get to the correct start location. Transect 1 was just north of the Roughtongue Reeftop on high-relief (5-m relief) rock/ledge covered with attached fauna interspersed with sand/shell hash and pavement. Transect 2 was conducted mostly on top along the plateau of the reeftop feature (relief 14 m). Just the last part of transect 2 was run along the slope of the feature. Transect 3 was coming off the main feature and running along a second plateau named 40-Fathom Reeftop, just south of Roughtongue Reeftop. All three transects were 300 m. There was a paucity of larger corals at this site. At 2101 hours, we started scoping for a lander deployment location, and the ROV was recovered at 2134 hours.

At 2210 hours, lander deployment commenced, and it was released at 2230 hours. The lander was equipped with a CTD, optical turbidity sensor, ADCP, and settlement plates.

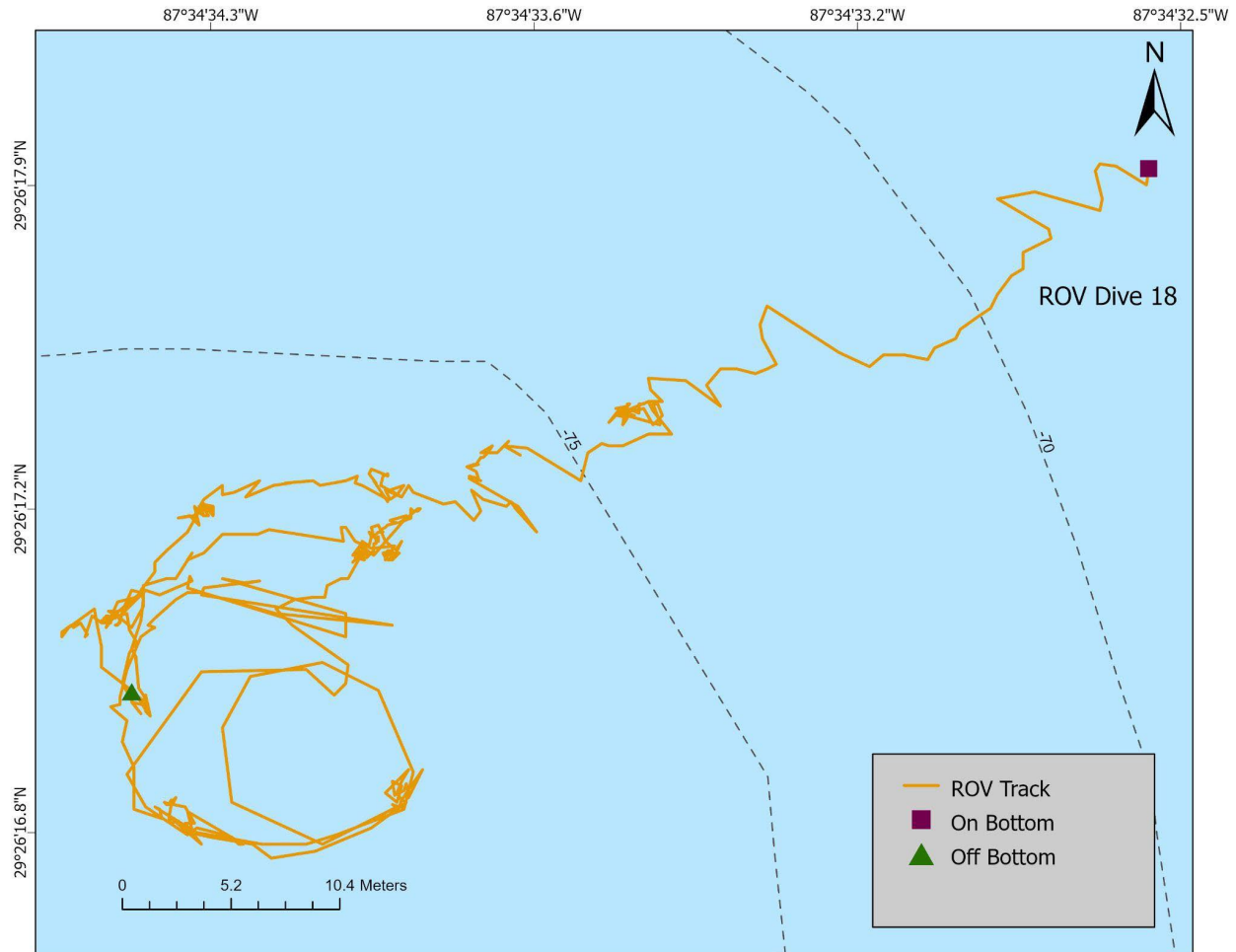


Figure 20. ROV track for dive 18 conducted on 07/05/2022 inside Roughtongue Reef HAPC.

Dive 18 – RTR1 site, 07/05/2022

At 2240 hours, the ROV was launched to a depth of 65 m. Objectives of this dive were to survey lander placement. The location of lander 2 is $29^{\circ} 26' 17.516''$, $87^{\circ} 34' 33.706''$. The lander looked good on the bottom but is slightly tilted, most likely due to the ADCP weighing more than the sensors on the other side. Thoroughly documented the lander position with video and still images. The ROV was recovered at 2305 hours.

At 2323 hours, a CTD cast was made to a depth of 81 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

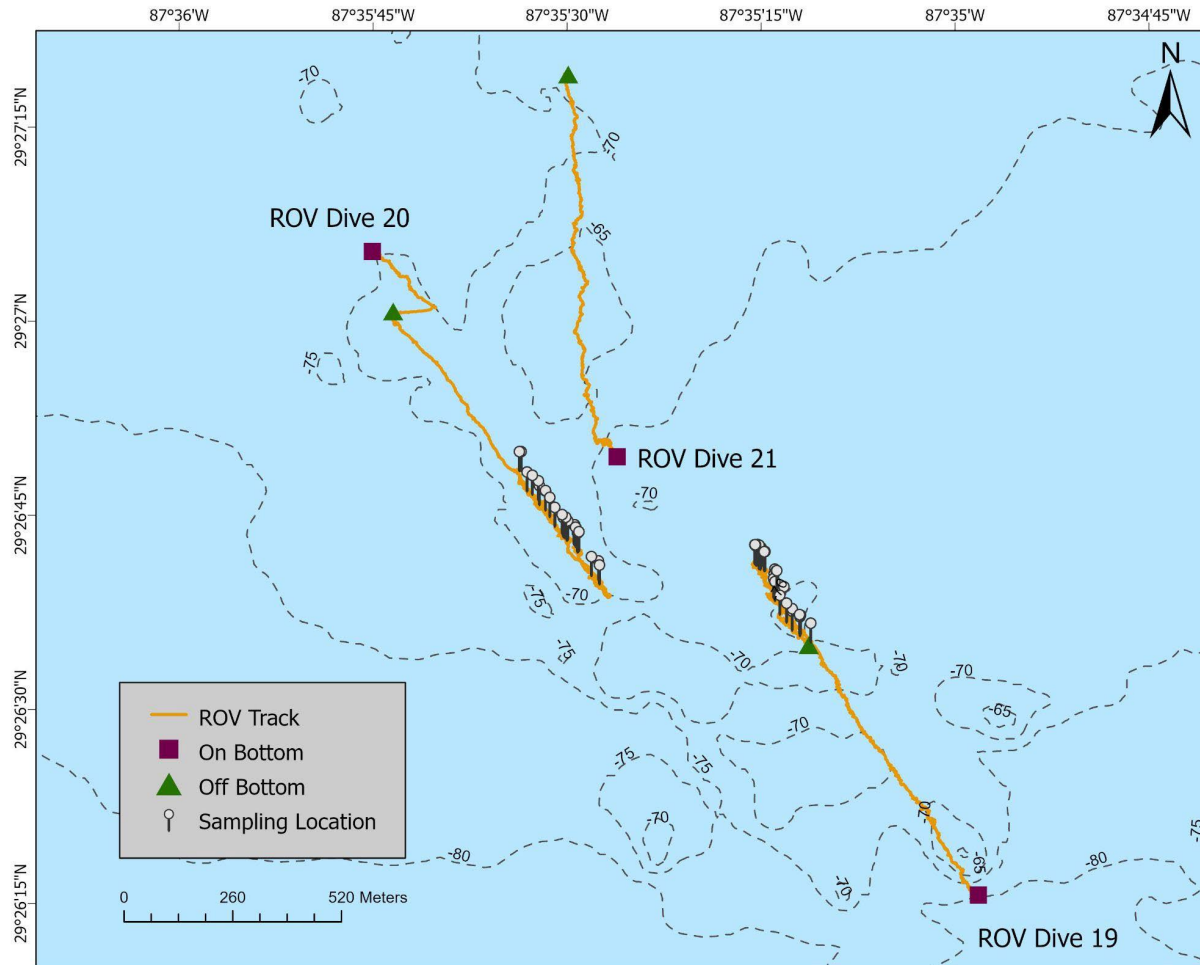


Figure 21. ROV tracks for dives 19–21 conducted between 07/06/2022 and 07/07/2022 inside Roughtongue Reef HAPC.

Dive 19 – Cat1 site, 07/06/2022

At 2357, a CTD cast was made to 82 m at Cat1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0023 hours, the ROV was launched to a depth of 82 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were conducted. Transect 1 started off over sediment veneer pavement with small rock cobbles and then transitioned into high-relief ledge (15-m relief). Transects 2 and 3 were high-relief outcrops (5-m relief) interspersed with soft substrate of sand/shell hash. Abundant species included: roughtongue bass, short bigeye, bank butterflyfish, yellowtail reeffish, yellow *Scleraxis*, *Thesea nivea*, *Swiftia exserta*, *Muricea pendula*, *Bebryce*, *Antipathes atlantica*, and *Antipathes furcata*. At 0136 hours, we transitioned to sampling. We collected 35 samples before recovering the ROV at 0446 hours.

At 0501 hours, a CTD cast was made to 72 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

Dive 20 – 40Fathom1 site, 07/06/2022

At 1900 hours, a CTD cast was made to 72 m at 40Fathom1 site with water samples for nutrients and POM. Nine Niskin bottles were fired.

At 1921 hours, the ROV was launched to a depth of 70 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Conducted 4 transects. The first transect started off as low-relief rock/ledges covered in fauna (some areas of multibeam show 2- to 3-m relief) and then changed to soft substrate consisting of sand/shell hash. During this short transect, we realized we were in the wrong location, so this transect does not need to be annotated. We made a short transit to the west to get on the proposed dive track. Transects 2 and 3 were low-relief rock/ledges covered in fauna (some areas of multibeam show 2- to 3-m relief), and then the habitat changed to soft substrate consisting of sand/shell hash (both 300 m long). Transect 4 was 200 m long and was low-relief rock/ledges covered with fauna. At 2108 hours, we transitioned into sampling and collected 30 samples before recovering the ROV at 0021 hours.

Dive 21 – YTR1 site, 07/07/2022

At 0050 hours, a CTD cast was made to 72 m at YTR1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0130 hours, the ROV was launched to a depth of 72 m. Objectives of this dive were to conduct transects for habitat characterization. This is a known injured site, so no samples were taken. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three transects were conducted. Transect 1 was 300 m long on the mounds south of Yellowtail Reeftop. It was low-relief rock/ledges with attached fauna. Transect 2 was 300 m long on top of the Yellowtail Reeftop which was pavement covered with fauna on top of a 5-m relief feature. Transect 3 was 200 m long. The habitat at the beginning of transect 3 was scattered low-relief rock/ledges covered with fauna while the last part of the transect was over soft substrate composed of sand/shell hash. The three target-population genetic taxa (*Swiftia exserta*, *Thesea nivea*, and *Muricea pendula*) were all seen here, with *Swiftia* being the most common. Only one coral was observed to be damaged. All others looked healthy. The ROV was recovered at 0251 hours.

At 0305 hours, a CTD cast was made to 71 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

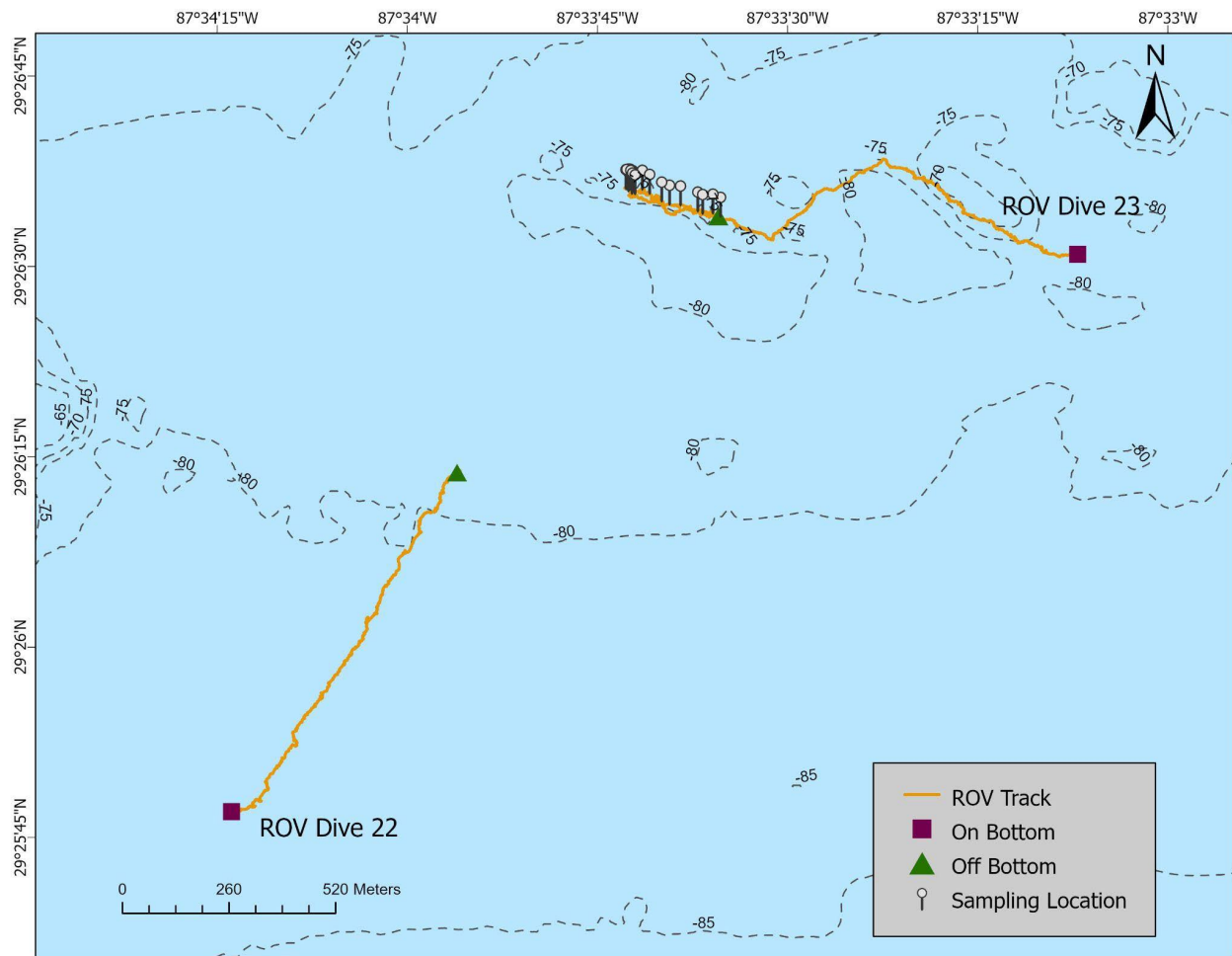


Figure 22. ROV tracks for dives 22 and 23 conducted on 07/07/2022 inside Rough Tongue Reef HAPC.

Dive 22 – RTR_PHM_4, 07/07/2022

At 0415 hours, the ROV was launched to a depth of 85 m at RTR_PHM_4 site. Objectives of this dive were to conduct transects for habitat characterization. This is an MGM PHM-selected dive. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were completed. The habitat was soft substrate composed of sand/shell hash with occasional low-relief rock/ledge with attached fauna. Abundant species on the outcrops included: red snapper, short bigeye, *Muricea pendula*, *Madracis*, and *Bebryce*. The ROV was recovered at 0529 hours.

At 0550 hours, a CTD cast was made to 80 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

Dive 23, 40Fathom5, 07/07/2022

At 1856 hours, a CTD cast was made to 78 m at 40Fathom5 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1919 hours, the ROV was launched to a depth of 80 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were completed on high-relief rock ledge with attached fauna interspersed among areas of soft substrate composed of sand/shell hash. Abundant species included: *Swiftia exserta*, *Muricea pendula*, *Thesea nivea*, *Bebryce*, *Antipathes atlantica*, *Nicella*, bank butterflyfish, roughtongue bass, red barbier, short bigeye, and tattler. Sampling commenced at 2125 hours, and 34 samples were collected before the ROV was recovered at 2338 hours.

At 2355 hours, a CTD cast was made to 78 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

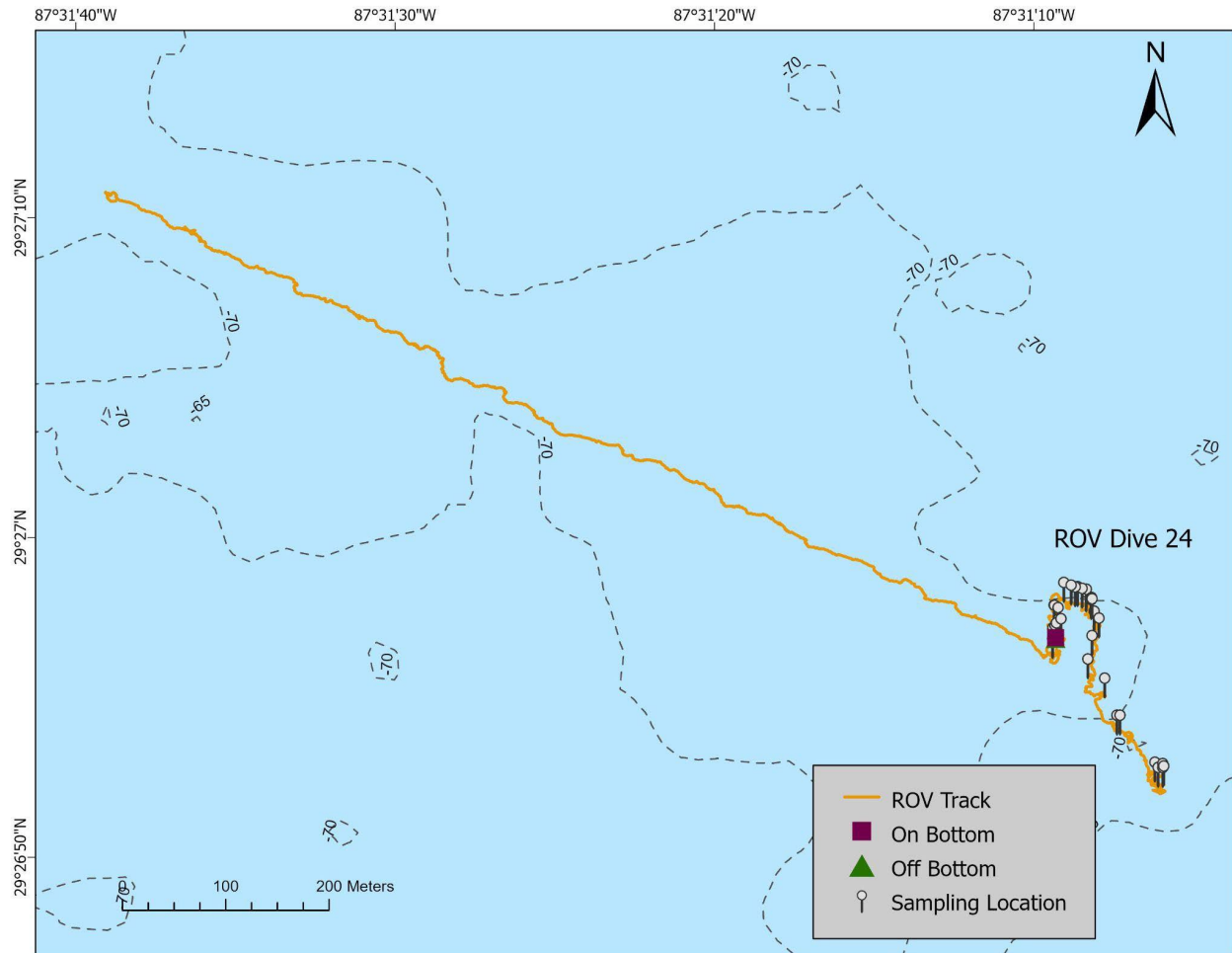


Figure 23. ROV track for dive 24 conducted on 07/08/2022 at the eastern border of the Rough Tongue Reef HAPC.

Dive 24 – Pinn2 site, 07/08/2022

At 0045 hours, a CTD cast was made to 70 m at Pinn2 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0058 hours, the ROV was launched to a depth of 67 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were conducted. Transect 1 was high-relief (5 m) ledge covered with fauna interspersed with soft substrate composed of sand/shell hash. Transect 2 was high-relief (5 m) ledge covered in fauna interspersed with soft substrate (sand/shell hash) at the beginning of transect and more pavement/low-relief outcrops interspersed with sand/shell hash toward the end. Transect 3 was mostly pavement/low-relief rock/ledges covered in fauna interspersed with soft substrate (sand/shell hash). A few larger rock/ledges were covered in fauna (3-m relief) right at the end of the transect. Abundant species included: *Swiftia exserta*, *Muricea pendula*, *Thesea nivea*, *Stichopathes*, *Antipathes atlantica*, *Bebryce*, *Nicella*, *Ellisellidae*, short

bigeye, vermilion snapper, bank butterflyfish, roughthead bass, and scad. At 0222 hours, we transitioned to sampling and collected 34 samples before recovering at 0452 hours.

At 0510 hours, a CTD cast was made to 76 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

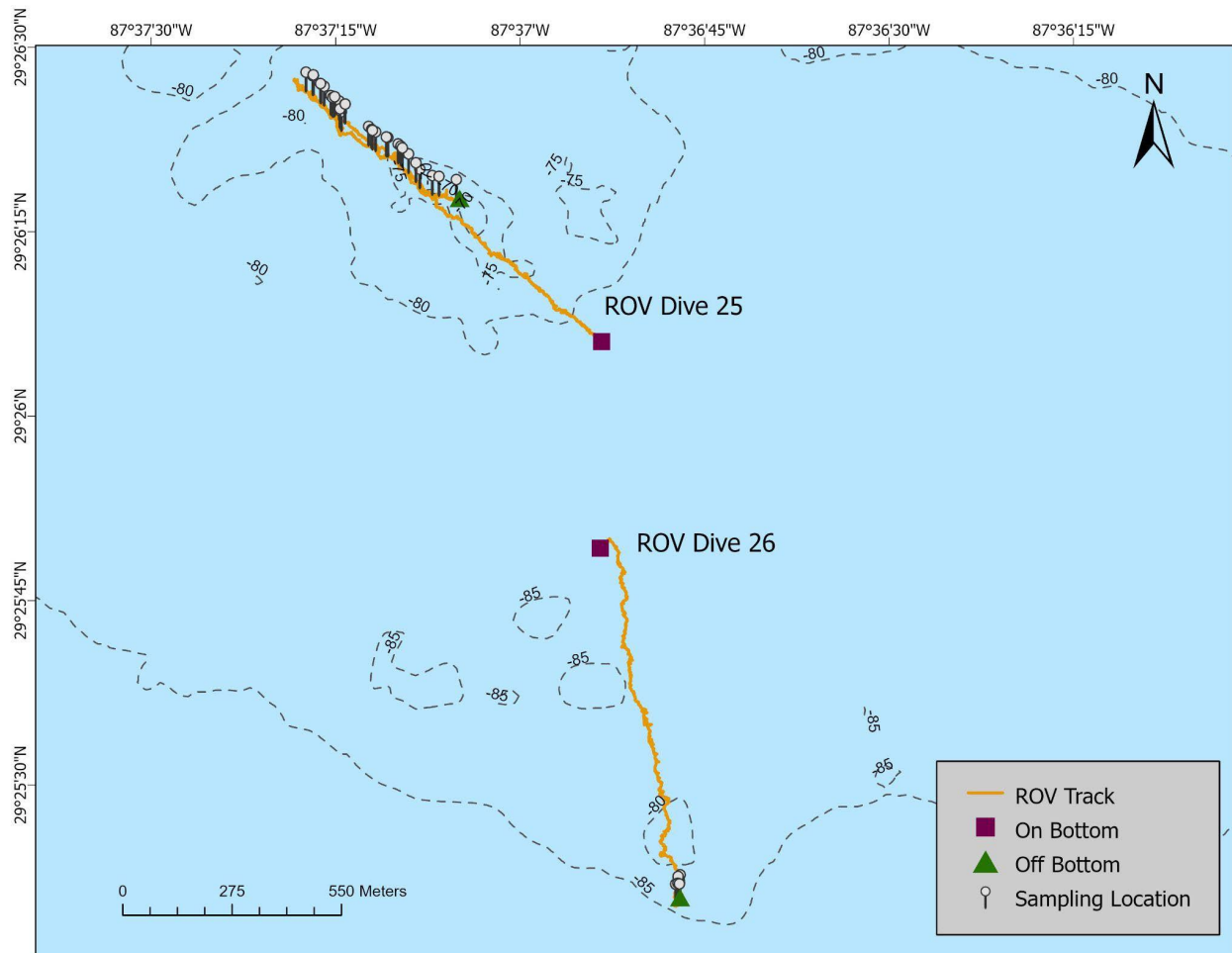


Figure 24. ROV tracks for dives 25 and 26 conducted on 07/08/2022 and 07/09/2022, respectively, inside Roughthead Reef HAPC.

Dive 25 – Porgy1 site, 07/08/2022

At 1859 hours, a CTD cast was made to 76 m at Porgy1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1920 hours, the ROV was launched to a depth of 85 m. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were completed. Transect 1 was sediment

veneer pavement interspersed with a couple of high-relief (5- to 8-m relief) ledges with covered fauna. Transect 2 was high-relief ledges (12-m relief) with covered fauna interspersed with sediment veneer pavement. Transect 3 was mostly sediment veneer pavement and soft substrate of sand/shell hash, but there were a couple of high-relief (6-m relief) ledges with covered fauna. Abundant species included: *Muricea pendula*, *Swiftia exserta*, *Thesea nivea*, *Stichopathes*, *Madrepora*, *Madracis*, *Bebryce*, *Placagorgia*, *Antipathes furcata*, *Antipathes atlantica*, bank butterflyfish, rough-tongue bass, short bigeye, sharpnose puffer, and tattler. At 2035 hours, we transitioned to sampling. We collected 36 samples before recovering the ROV at 2333 hours.

At 2348 hours, a CTD cast was made to 79 m with water samples for nutrients. Nine Niskin bottles were fired.

Dive 26 – Porgy2 site, 07/09/2022

At 0046 hours, the ROV was launched to a depth of 81 m at Porgy 2 site. Objectives of this dive were to conduct transects for habitat characterization, followed by sampling for population genetics, systematics/taxonomy, and stable isotopes. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were conducted. Transect 1 was a couple of high-relief ledges (5-m relief) covered with fauna with soft substrate (sand/shell hash) in between. The first part of transect 2 had a few low-relief rock/ledges (1-m relief) with attached fauna, but most of the transect was soft substrate (sand/shell hash). Transect 3 was high-relief ledge (6-m relief) with attached fauna. At 0206 hours, we transitioned to sampling. Fourteen samples were collected before recovering the ROV at 0312 hours. The ROV was recovered earlier than planned because the ship lost its bow thruster.

At approximately 0330 hours, a CTD cast was made to a depth of 87 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

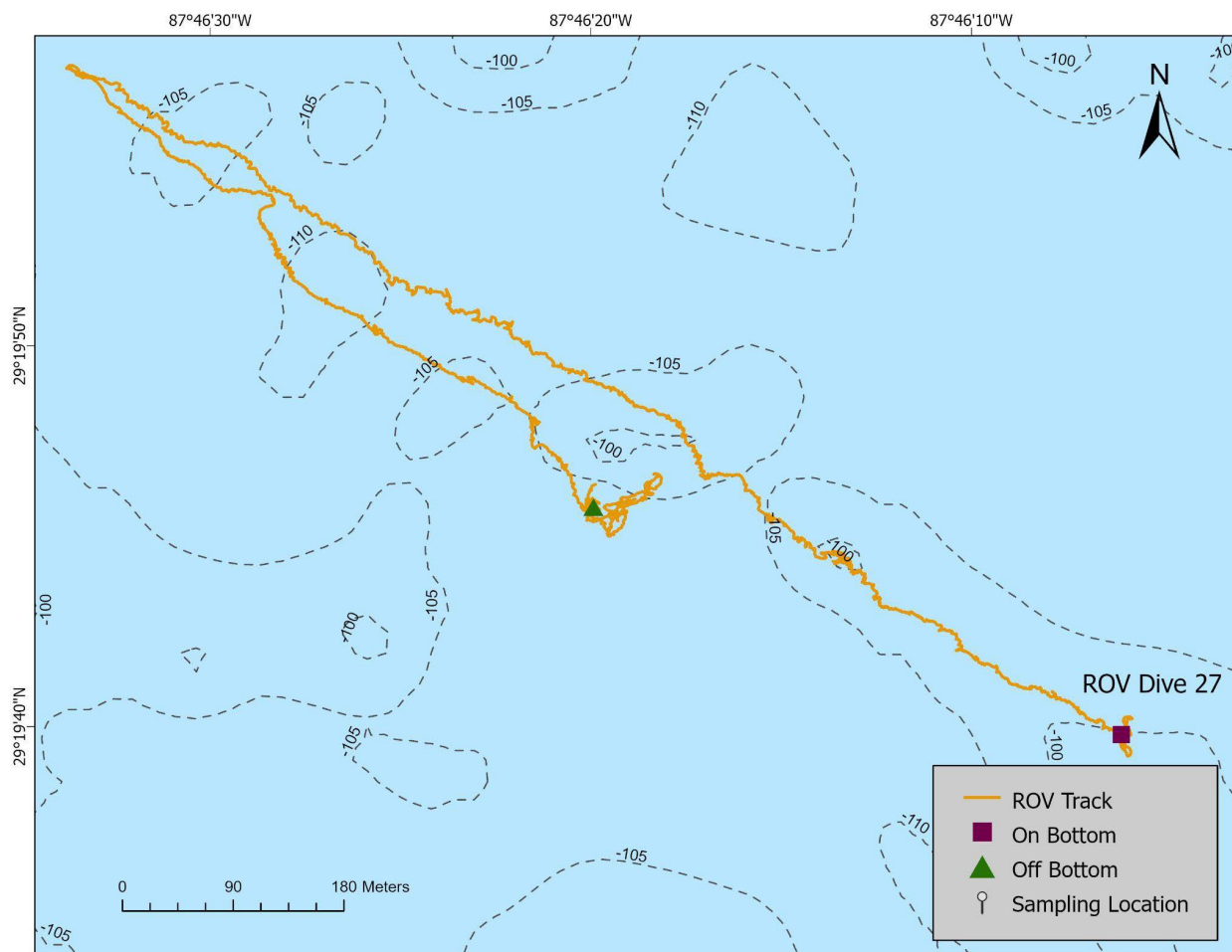


Figure 25. ROV track for dive 27 conducted on 07/09/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 27 – LW7 site, 07/09/2022

At 1900 hours, a CTD cast was made to 101 m at LW7 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1923 hours, the ROV was launched to a depth of 102 m. Objectives of the dive were to conduct transects for habitat characterization and scoping for lander deployment. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were conducted. Transect 1 was a series of high-relief rock ledges (5-m relief) covered with fauna interspersed with soft substrate (sand/shell hash). Transect 2 was high-relief rock ledges (8-m relief) covered with fauna interspersed with thin veneer of sediment over pavement. Transect 3 was mostly soft substrate consisting of sand/shell hash with a few high-relief rock ledges (4-m relief) covered with fauna at the end of the transect. Abundant species included: black cup corals, *Muricea pendula*, *Aphanipathes*, *Madrepora*, *Nicella*, bank butterflyfish, roughtongue bass, wrasse bass, and short bigeye. At 2054 hours, we transitioned to scoping for lander placement. The ROV was recovered at 2144 hours.

Map showing the ROV Dive 28 track and sampling locations. The track is marked by an orange line, and sampling locations are indicated by black circles with vertical lines. A purple square indicates the location 'On Bottom'. A green triangle indicates the location 'Off Bottom'. The map includes a scale bar (0 to 115 Meters) and a north arrow. Bathymetric contours are shown as dashed lines with labels -100, -105, and -110. The map is bounded by coordinates: 87°46'20"W, 87°46'15"W, 87°46'10"W, 87°46'5"W, 29°19'50"N, 29°19'45"N, and 29°19'40"N.

At 2256 hours, the ROV was launched to a depth 110 m at LW7 site. Objectives of the dive were to survey the lander placement and sample for population genetics, stable isotopes, and systematics/taxonomy. Location of lander 1 was 29° 19' 46.019", 87° 46' 18.831". Adding the extra weight did not help. This time, the lander was lopsided in the opposite direction. We added a 3- to 4-lb weight with the ROV to try to level it out, but it did not work. The lander was thoroughly documented with video and still images. At 2319 hours, we transitioned to sampling and collected 21 samples before recovering at 0200 hours.

At 0218 hours, a CTD cast was made to 110 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

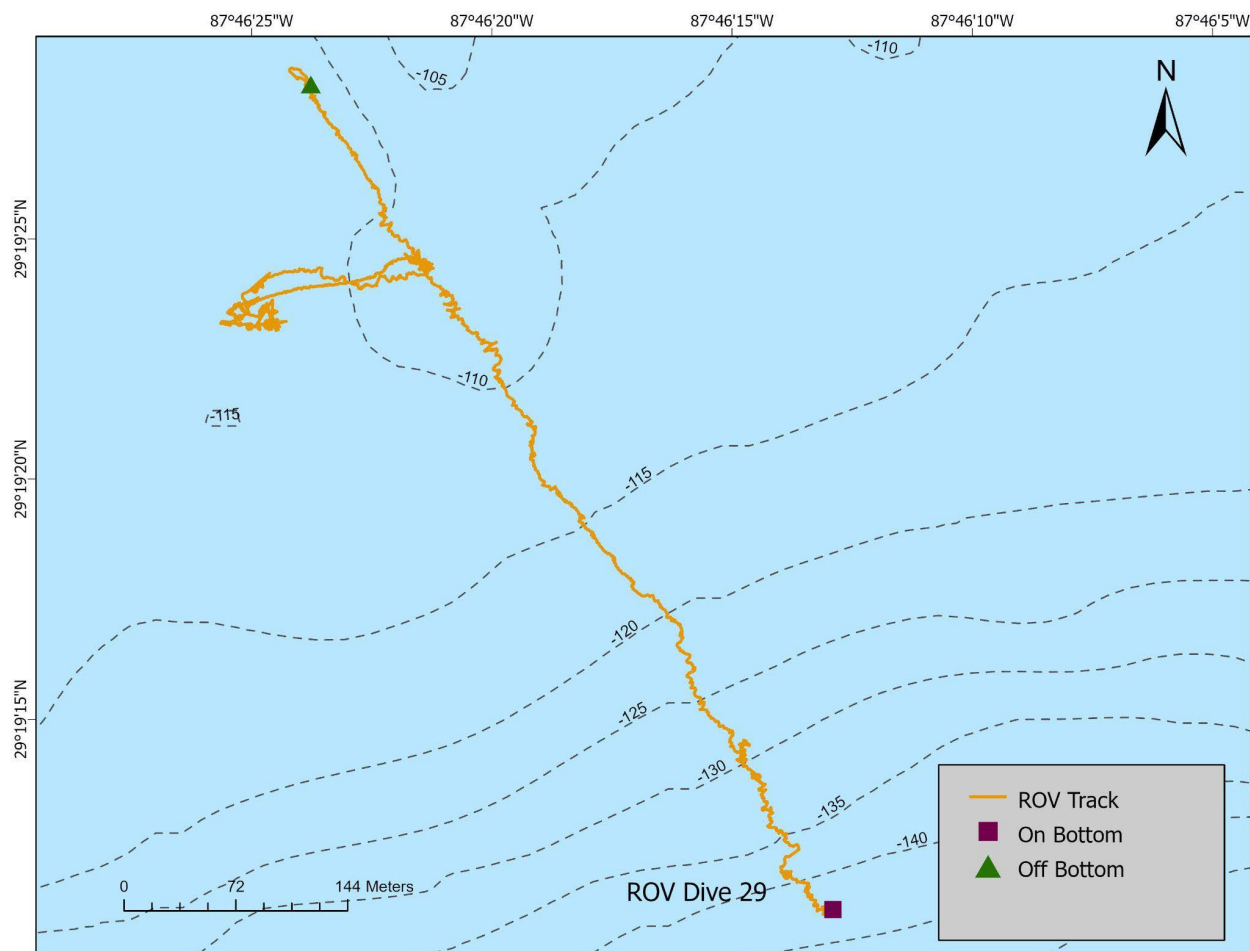


Figure 27. ROV track for dive 29 conducted on 07/10/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 29 – LWP_PHM_1 site, 7/10/2022

At 0255 hours, a CTD cast was made to 172 m at LWP_PHM_1 site with water samples for eDNA. Nine Niskin bottles were fired.

At 0326 hours, the ROV was launched to a depth of 159 m. Objectives of this dive were to conduct transects for habitat characterization. This was an MGM PHM-selected dive. The dive was only long enough for two 300-m transects. Transect 1 was all soft substrate consisting of sand/shell hash. Transect 2 was mostly areas of soft substrate (sand/shell hash) and pavement, with some areas of high-relief ledge covered with fauna. We had to pause transect 2 for quite a while (45 minutes or so) due to a bad squall that came through the area. Abundant species included: crinoids, *Aphanipathes*, *Madrepora*, short bigeye, and cardinal soldierfish. The ROV was recovered at 0550 hours.

At 0607 hours, a CTD cast was made to 108 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

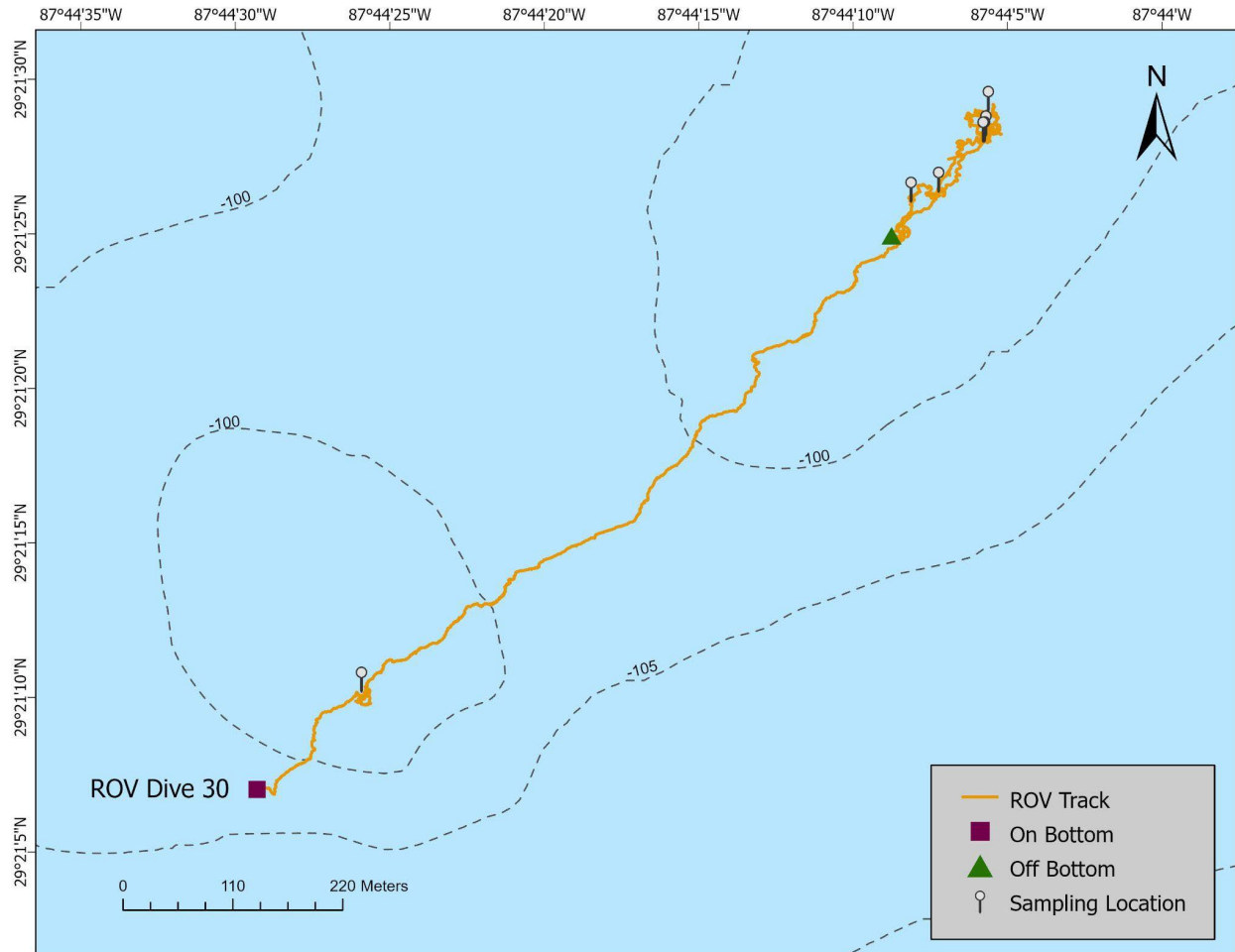


Figure 28. ROV track for dive 30 conducted on 07/11/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 30 – LW3 site, 07/11/2022

At 0321 hours, a CTD cast was made to 105 m at LW3 with water samples for eDNA. Nine Niskin bottles were fired.

At 0348 hours, the ROV was launched to a depth of 106 m. Objectives of the dive were to conduct transects for habitat characterization, followed by sampling for population genetics, stable isotopes, and systematics/taxonomy. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were completed. Transect 1 was sediment veneer pavement with occasional low-relief rock/ledges covered in fauna. We had to pause transect 1 for about nine minutes due to the ship having dynamic positioning issues. Transect 2 was soft substrate

(sand/shell hash) mixed with areas of pavement and small rock/ledges covered in fauna. Transect 3 was low-relief rock/ledges with covered fauna mixed with sediment veneer pavement. Abundant species included: crinoids, *Stichopathes*, *Madrepora*, *Antipathes furcata*, black cup corals, short bigeye, bank butterflyfish, cardinal soldierfish, and vermilion snapper. At 0511 hours, we transitioned to sampling. Seven samples were collected before recovering the ROV at 0601 hours. At 0620 hours, a CTD cast was made to 99 m with water samples for nutrients. Nine Niskin bottles were fired.

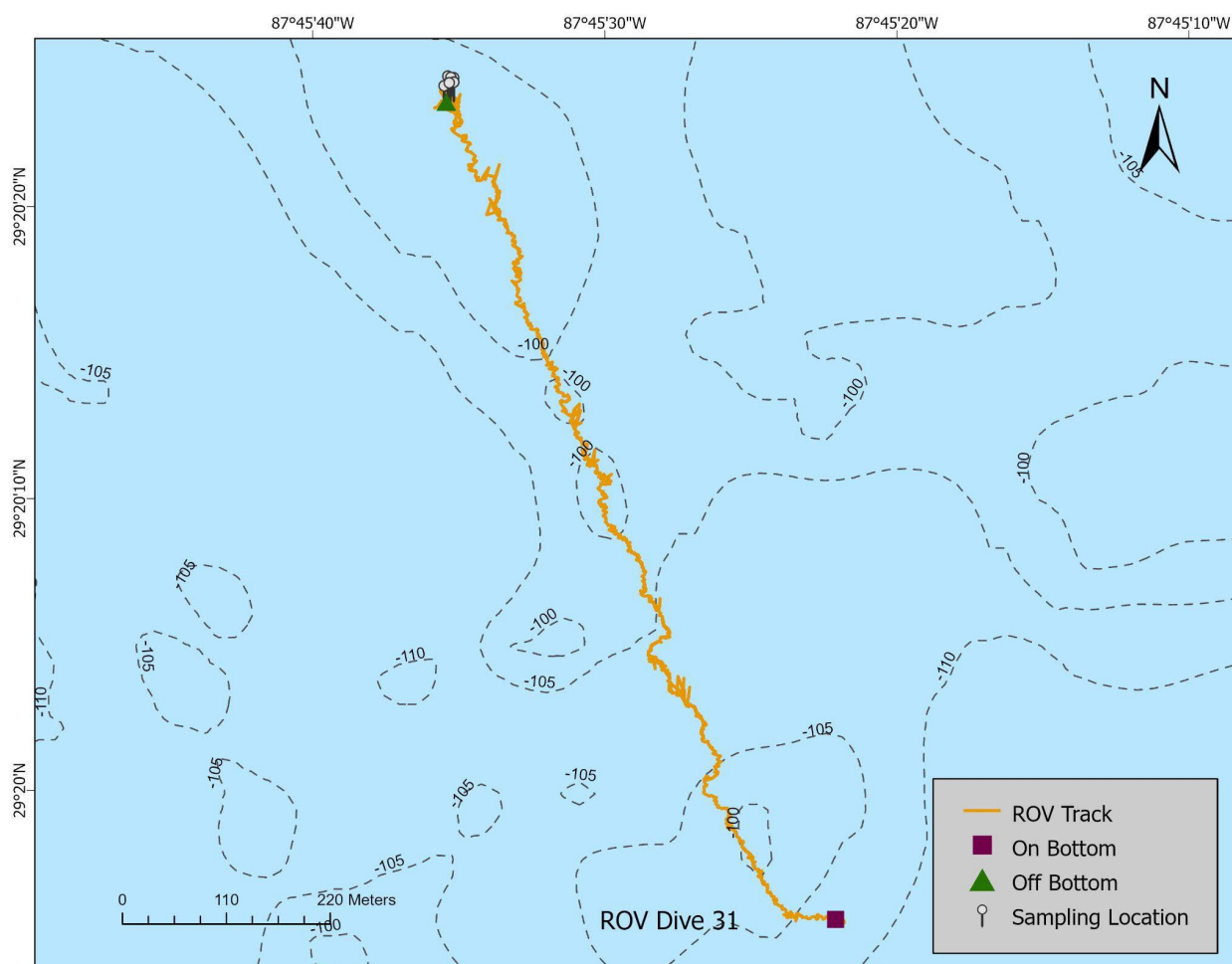


Figure 29. ROV track for dive 31 conducted on 07/11/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 31 – LW5 site, 07/11/2022

At 1910 hours, a CTD cast was made to 110 m at LW5 site with water samples for eDNA. Nine Niskin bottles were fired.

At 1939 hours, the ROV was launched to a depth of 113 m. Objectives of the dive were to conduct transects for habitat characterization, followed by sampling for population genetics, stable isotopes, and systematics/taxonomy. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the

dive. Three 300-m transects were completed. Transect 1 started out as high-relief rock ledges (7- to 8-m relief) with covered fauna and then transitioned to soft substrate (sand/shell hash). Transects 2 and 3 were high-relief rock ledges (3- to 5-m relief) with attached fauna. Abundant species included: crinoids, *Muricea pendula*, *Madrepora*, black cup corals, *Nicella*, amberjack, rough-tongue bass, scorpionfish, and short bigeye. At 2116 hours, we transitioned to sampling. Ten samples were collected before recovering the ROV at 2203 hours.

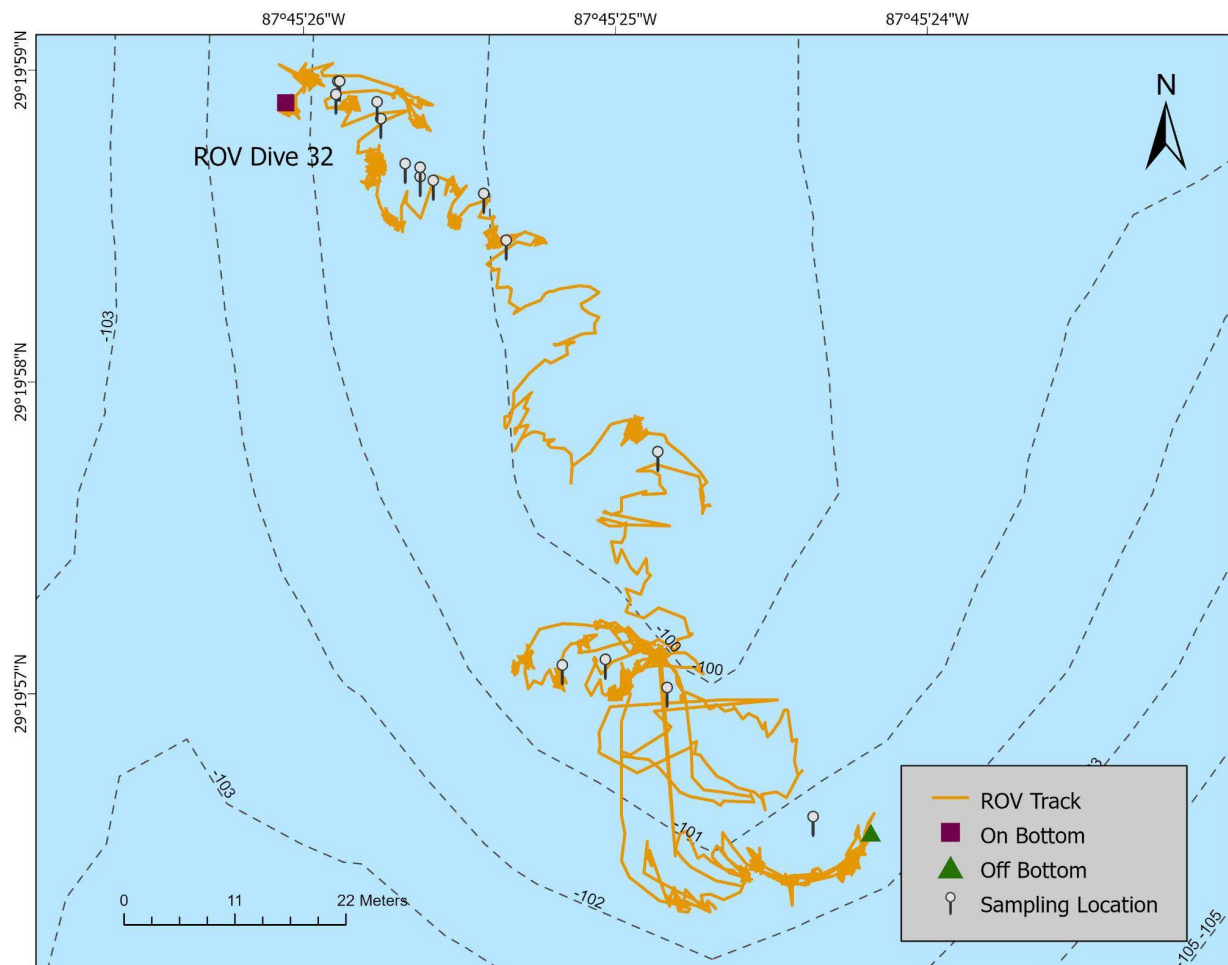


Figure 30. ROV track for dive 32 conducted on 07/11/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 32 – LW5 site, 07/11/2022

At 2225 hours, the ROV was launched to a depth of 101 m. Objective of the dive was to sample for population genetics, stable isotopes, and systematics/taxonomy. This is the same site as Dive 31, but we wanted to go back down to collect more target species samples (*Muricea pendula*). We collected 23 samples before recovering at 2356 hours.

At 0013 hours, a CTD cast was made to 107 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

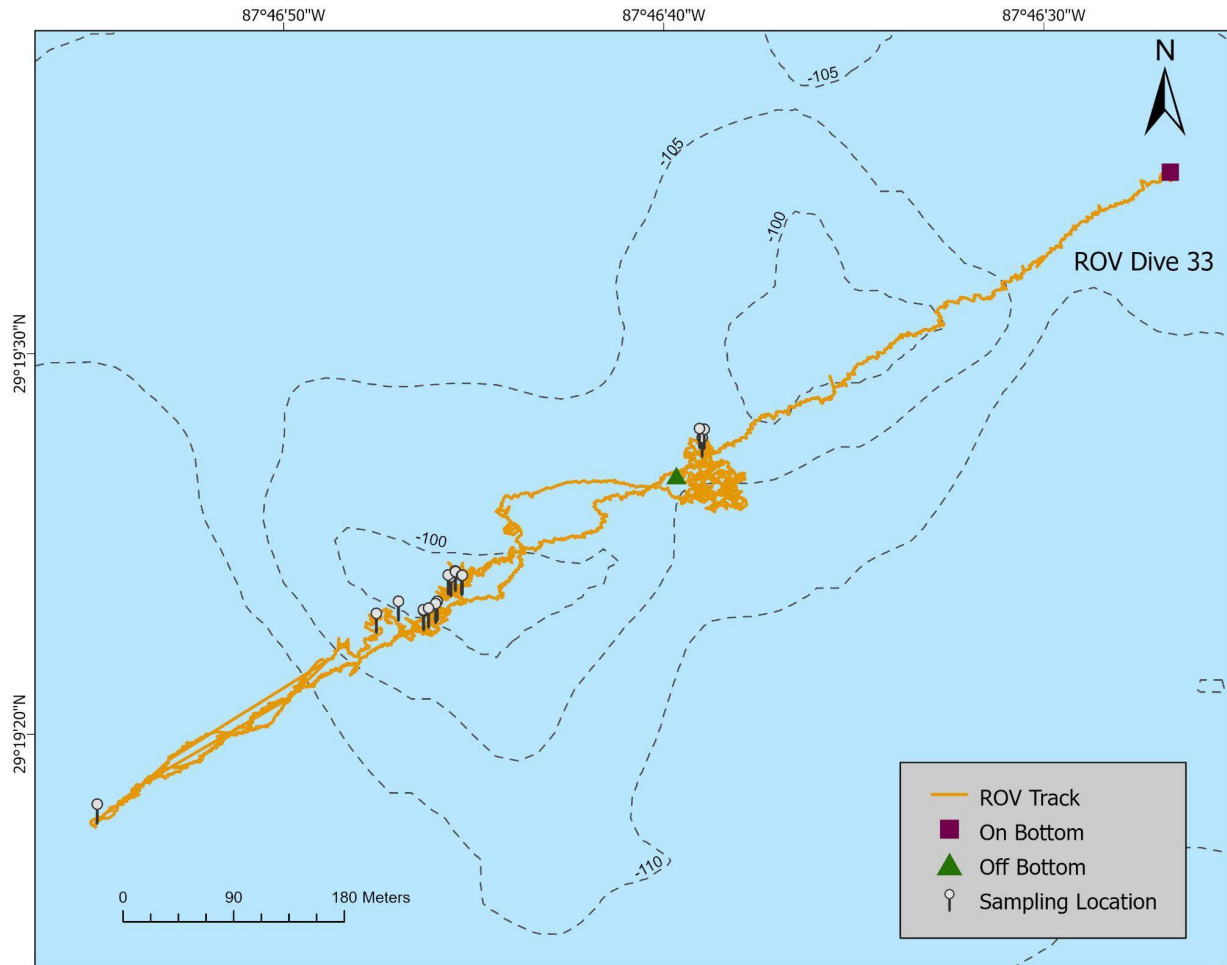


Figure 31. ROV track for dive 33 conducted on 07/12/2022 inside L&W Pinnacles and Scamp Reef HAPC.

Dive 33 – Scamp1 site, 07/12/2022

At 0109 hours, the ROV was launched to a depth of 110 m at Scamp1 site. Objectives of the dive were to conduct transects for habitat characterization, followed by sampling for population genetics, stable isotopes, and systematics/taxonomy. The ROV was kept just off the bottom. Downward-looking photos were taken every 60 seconds, and forward-looking photos were taken every 30 seconds throughout the dive. Three 300-m transects were conducted. Transect 1 started over soft substrate (sand/shell hash) and transitioned to the plateau of high-relief rock/ledges (8-m relief). Transect 2 was on the plateau of high-relief rock ledges (8-m relief), and in between plateaus was sediment veneer pavement. Transect 3 started out on the plateau of high-relief rock ledges (9-m relief) and then transitioned into sediment veneer pavement. Abundant species included: *Stichopathes*, *Nicella*, *Madrepora*, *Madracis*, black cup corals, *Aphanipathes*, amberjack, rough-tongue bass, and short bigeye. At 0230 hours, we transitioned to sampling and collected 17 samples before recovering the ROV at 0521 hours.

Around 0545 hours, a CTD cast was made to 100 m with water samples for nutrients and POM. Nine Niskin bottles were fired.

Appendix 1. Detailed Tissue Sample List

Table A1. A detailed sample list for NOAA Ship Pisces cruise labeled as PC-22-02. Sample IDs are truncated; the full ID appends cruise and dive number. The Collection Timestamp consists of the collection date and local time (Central Daylight Time). Gen = genetics; Vou = voucher; Iso = stable isotopes. Sample 146B (listed at the end of the table) was extracted from the ROV manipulator after its recovery, and the location and time of collection are not available. Video data will be analyzed to identify the sample attributes at a later date. The data provided in the table are preliminary and subject to change upon identification of any discrepancies during the quality assurance procedures.

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
001B	<i>Swiftia exserta</i>	2022-06-30 03:40:48	29.9118	-87.2109	56.10	x	x	x
002B	<i>Swiftia exserta</i>	2022-06-30 03:49:26	29.9118	-87.2110	55.90	x	x	x
003B	<i>Swiftia exserta</i>	2022-06-30 03:55:01	29.9117	-87.2111	56.00	x	x	x
004B	<i>Thesea nivea</i>	2022-06-30 04:03:08	29.9116	-87.2113	54.00	x	x	x
005B	<i>Swiftia exserta</i>	2022-06-30 04:10:14	29.9116	-87.2113	53.90	x	x	x
006B	<i>Muricea pendula</i>	2022-06-30 04:14:23	29.9115	-87.2113	53.60	x	x	x
007B	<i>Ellisella</i> sp.	2022-06-30 04:19:19	29.9115	-87.2113	53.60	x	x	x
008B	<i>Thesea nivea</i>	2022-06-30 04:25:25	29.9115	-87.2113	53.60	x		
009B	<i>Leptogorgia</i> sp.	2022-06-30 04:28:14	29.9115	-87.2113	53.60	x	x	x
010B	<i>Muricea pendula</i>	2022-06-30 04:31:12	29.9115	-87.2113	53.80	x	x	x
011B	<i>Thesea nivea</i>	2022-06-30 04:36:45	29.9115	-87.2113	53.80	x		x
012B	<i>Thesea nivea</i>	2022-06-30 04:41:45	29.9115	-87.2114	53.40	x	x	x
013B	Hydrozoa	2022-06-30 04:45:10	29.9115	-87.2114	53.30	x	x	x
014B	<i>Muricea pendula</i>	2022-06-30 04:51:15	29.9114	-87.2115	53.70	x	x	x
015B	<i>Thesea nivea</i>	2022-06-30 04:55:29	29.9114	-87.2002	54.00	x	x	x
016B	<i>Swiftia exserta</i>	2022-06-30 04:58:52	29.9114	-87.2002	54.00	x	x	x
017B	<i>Tanacetipathes</i> sp.	2022-06-30 05:02:44	29.9113	-87.2117	53.50	x	x	x
018B	<i>Swiftia exserta</i>	2022-06-30 05:10:34	29.9114	-87.2119	57.10	x		
019B	<i>Muricea pendula</i>	2022-06-30 05:14:25	29.9111	-87.2122	54.50	x	x	x
021B	<i>Muricea pendula</i>	2022-06-30 20:21:02	30.0814	-86.7286	56.00	x		
022B	<i>Thesea</i> sp.	2022-06-30 20:27:07	30.0814	-86.7286	55.90	x	x	x
023B	<i>Tanacetipathes</i> sp.	2022-06-30 20:28:45	30.0815	-86.5787	55.80	x		
024B	<i>Muricea pendula</i>	2022-06-30 22:03:21	30.0816	-86.7224	56.80	x		

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
025B	<i>Thesea nivea</i>	2022-06-30 22:08:17	30.0816	-86.7224	56.80	x	x	x
026B	<i>Muricea pendula</i>	2022-06-30 22:11:29	30.0816	-86.7224	56.70	x		
027B	<i>Tanacetipathes</i> sp.	2022-06-30 22:18:25	30.0816	-86.7225	56.70	x	x	x
028B	<i>Thesea nivea</i>	2022-06-30 22:24:49	30.0816	-86.7224	56.70	x	x	x
029B	<i>Bebryce</i> sp.	2022-06-30 22:29:57	30.0816	-86.7225	56.70	x	x	x
030B	<i>Aplysina</i> sp.	2022-06-30 22:34:29	30.0816	-86.7222	56.80	x	x	x
031B	<i>Thesea nivea</i>	2022-06-30 22:42:15	30.0817	-86.7230	56.40	x		
032B	Alcyonacea	2022-06-30 22:49:03	30.0817	-86.7230	56.40	x	x	x
033B	<i>Thesea nivea</i>	2022-06-30 22:53:29	30.0817	-86.7230	56.30	x	x	x
034B	<i>Muricea pendula</i>	2022-06-30 22:57:06	30.0817	-86.7231	56.30	x		
035B	<i>Muricea pendula</i>	2022-06-30 23:01:27	30.0817	-86.7231	56.30	x		
036B	<i>Thesea nivea</i>	2022-06-30 23:12:29	30.0817	-86.7231	56.30	x		
038B	<i>Aplysina</i> sp.	2022-07-01 02:26:24	30.0831	-86.7586	60.20	x	x	x
039B	Microcionidae	2022-07-01 02:42:24	30.0829	-86.7586	60.20	x	x	x
040B	Axinellida	2022-07-01 02:47:42	30.0829	-86.7584	59.90	x	x	x
041B	<i>Aplysina cauliformis</i>	2022-07-01 02:51:29	30.0752	-86.7661	60.00	x	x	x
042B	<i>Aiolochroia crassa</i>	2022-07-01 02:55:47	30.0827	-86.7585	59.90	x	x	x
044B	<i>Thesea nivea</i>	2022-07-01 04:20:20	30.0814	-86.7298	57.90	x		x
045B	<i>Thesea nivea</i>	2022-07-01 04:28:52	30.0814	-86.7296	56.70	x	x	x
046B	<i>Muricea pendula</i>	2022-07-01 04:38:18	30.0814	-86.7295	56.30	x	x	x
047B	<i>Muricea pendula</i>	2022-07-01 04:55:19	30.0814	-86.7295	56.90	x		x
048B	<i>Muricea pendula</i>	2022-07-01 05:01:06	30.0814	-86.7295	56.90	x		
049B	<i>Thesea nivea</i>	2022-07-01 05:06:47	30.0814	-86.7295	56.90	x	x	x
050B	<i>Bebryce</i> sp.	2022-07-01 05:09:01	30.0814	-86.7293	56.60	x	x	x
051B	<i>Muricea pendula</i>	2022-07-01 05:17:34	30.0814	-86.7290	57.20	x		x
052B	<i>Thesea</i> sp.	2022-07-01 05:20:49	30.0814	-86.7290	57.20	x	x	x
053B	Cnidaria	2022-07-01 05:23:59	30.0814	-86.7290	57.20	x	x	x
054B	Cnidaria	2022-07-01 05:26:10	30.0814	-86.7291	56.60	x	x	x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
055B	Cnidaria	2022-07-01 05:29:42	30.0814	-86.7291	56.60	x	x	x
056B	Cnidaria	2022-07-01 05:32:09	30.0814	-86.7291	56.60	x	x	x
057B	<i>Muricea pendula</i>	2022-07-01 05:34:32	30.0814	-86.7294	56.60	x	x	x
059B	<i>Madrepora</i> sp.	2022-07-01 21:12:39	29.8053	-87.2651	89.60	x		
060B	<i>Narcissia trigonaria</i>	2022-07-01 21:20:11	29.8053	-87.2651	89.30	x	x	x
061B	<i>Comactinia meridionalis</i>	2022-07-01 21:23:35	29.8053	-87.2651	89.30	x	x	x
062B	<i>Madracis</i> sp.	2022-07-01 22:52:08	29.8000	-87.2711	98.80	x	x	x
063B	Octocorallia	2022-07-01 22:58:57	29.8000	-87.2711	98.80	x	x	x
064B	<i>Madracis</i> sp.	2022-07-01 23:01:44	29.8000	-87.2711	98.20	x	x	x
065B	<i>Coronaster briareus</i>	2022-07-01 23:06:55	29.8000	-87.2711	98.00	x	x	x
066B	<i>Madrepora</i> sp.	2022-07-01 23:16:49	29.8003	-87.2713	92.70	x	x	x
067B	Scleractinia	2022-07-01 23:20:17	29.8003	-87.2713	92.80	x	x	x
068B	<i>Muricea pendula</i>	2022-07-01 23:27:29	29.8004	-87.2711	89.30	x	x	x
069B	Octocorallia	2022-07-01 23:36:27	29.8004	-87.2711	89.30	x	x	x
070B	<i>Placogorgia</i> sp.	2022-07-01 23:39:29	29.8004	-87.2711	89.40	x	x	x
071B	Octocorallia	2022-07-01 23:41:46	29.8004	-87.2711	89.40	x	x	x
072B	<i>Muricea pendula</i>	2022-07-01 23:44:56	29.8004	-87.2711	89.50	x		
073B	<i>Bebryce</i> sp.	2022-07-01 23:51:01	29.8004	-87.2710	88.60	x		x
074B	<i>Bebryce</i> sp.	2022-07-01 23:54:33	29.8005	-87.2710	88.60	x		
075B	Octocorallia	2022-07-02 00:02:15	29.8005	-87.2710	88.10	x	x	x
076B	<i>Placogorgia rudis</i>	2022-07-02 00:09:23	29.8003	-87.2710	91.60	x	x	x
078B	Scleractinia	2022-07-02 04:06:53	29.7932	-87.3229	80.00	x	x	x
079B	Antipatharia	2022-07-02 04:16:19	29.7934	-87.3230	77.70	x	x	x
080B	Zoanthidae	2022-07-02 04:24:37	29.7935	-87.3231	76.20	x	x	x
081B	<i>Muricea pendula</i>	2022-07-02 04:29:25	29.7935	-87.3230	76.40	x	x	x
082B	Octocorallia	2022-07-02 04:43:31	29.7938	-87.3235	77.40	x	x	x
083B	Holothuroidea	2022-07-02 04:48:06	29.7939	-87.3236	74.80	x		x
084B	Octocorallia	2022-07-02 04:53:15	29.7939	-87.3236	76.60	x	x	x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
085B	<i>Nicella</i> sp.	2022-07-02 05:01:29	29.7939	-87.3234	76.10	x	x	x
086B	<i>Scleracis</i> sp.	2022-07-02 05:09:16	29.7939	-87.3231	77.60	x	x	x
087B	<i>Stichopathes</i> sp.	2022-07-02 05:26:20	29.7933	-87.3226	77.90	x	x	x
089B	<i>Muricea pendula</i>	2022-07-02 21:03:45	29.6503	-87.3149	94.30	x		x
090B	<i>Elatopathes</i> sp.	2022-07-02 21:08:31	29.6503	-87.3149	94.30	x	x	x
091B	Octocorallia	2022-07-02 21:12:18	29.6503	-87.3149	94.20	x	x	x
092B	<i>Muricea pendula</i>	2022-07-02 21:15:28	29.6503	-87.3149	94.20	x	x	x
093B	Octocorallia	2022-07-02 21:28:36	29.6503	-87.3147	94.00	x	x	x
094B	<i>Muricea pendula</i>	2022-07-02 21:44:11	29.6502	-87.3147	93.90	x		x
095B	<i>Muricea pendula</i>	2022-07-02 21:48:36	29.6501	-87.3147	93.10	x		x
096B	<i>Muricea pendula</i>	2022-07-02 21:53:31	29.6501	-87.3147	93.10	x	x	x
098B	<i>Muricea pendula</i>	2022-07-02 22:29:43	29.6497	-87.6482	93.80	x		x
099B	<i>Muricea pendula</i>	2022-07-02 22:35:09	29.6498	-87.3148	93.50	x		
100B	<i>Muricea pendula</i>	2022-07-02 22:37:53	29.6497	-87.3148	93.50	x	x	x
101B	<i>Muricea pendula</i>	2022-07-02 22:46:10	29.6497	-87.3148	93.40	x		x
102B	<i>Muricea pendula</i>	2022-07-02 22:53:26	29.6497	-87.3146	93.90	x		x
103B	<i>Muricea pendula</i>	2022-07-02 23:01:31	29.6498	-87.3146	94.00	x		
104B	<i>Muricea pendula</i>	2022-07-02 23:06:30	29.6496	-87.3146	93.80	x	x	x
105B	<i>Muricea pendula</i>	2022-07-02 23:10:19	29.6496	-87.3146	93.80	x		
106B	<i>Muricea pendula</i>	2022-07-02 23:15:00	29.6495	-87.3146	94.60	x		
107B	<i>Muricea pendula</i>	2022-07-02 23:20:24	29.6495	-87.3146	94.60	x		
108B	<i>Muricea pendula</i>	2022-07-02 23:21:33	29.6495	-87.3146	94.60	x		
110B	<i>Muricea pendula</i>	2022-07-03 03:03:13	29.5914	-87.3489	93.10	x		
111B	<i>Muricea pendula</i>	2022-07-03 03:06:43	29.5914	-87.3489	93.00	x		x
112B	<i>Muricea pendula</i>	2022-07-03 03:09:35	29.5914	-87.3489	92.80	x		x
113B	<i>Muricea pendula</i>	2022-07-03 03:14:04	29.5913	-87.3487	93.60	x	x	x
114B	<i>Muricea pendula</i>	2022-07-03 03:18:40	29.5913	-87.3487	93.40	x		
115B	<i>Muricea pendula</i>	2022-07-03 03:22:48	29.5913	-87.3487	93.30	x		

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
116B	<i>Madrepora</i> sp.	2022-07-03 03:35:19	29.5905	-87.3489	96.40	x	x	x
117B	<i>Madrepora</i> sp.	2022-07-03 03:49:12	29.5905	-87.3489	96.10	x	x	x
118B	<i>Placogorgia</i> sp.	2022-07-03 04:09:07	29.5894	-87.3489	95.40	x		x
119B	<i>Madracis</i> sp.	2022-07-03 04:12:46	29.5893	-87.3489	96.60	x	x	x
120B	<i>Muricea pendula</i>	2022-07-03 04:18:19	29.5894	-87.3489	96.50	x		x
121B	<i>Tanacetipathes</i> sp.	2022-07-03 04:39:44	29.5861	-87.3487	96.80	x	x	x
122B	<i>Aphanipathes</i> sp.	2022-07-03 04:43:11	29.5861	-87.3487	96.80	x	x	x
123B	<i>Tanacetipathes</i> sp.	2022-07-03 04:46:37	29.5861	-87.3487	96.80	x	x	x
124B	<i>Tanacetipathes</i> sp.	2022-07-03 04:49:57	29.5861	-87.3488	96.70	x	x	x
125B	<i>Tanacetipathes</i> sp.	2022-07-03 04:55:26	29.5860	-87.3487	96.90	x	x	x
127B	<i>Swiftia exserta</i>	2022-07-03 21:48:55	29.4422	-87.5384	69.90	x		x
128B	<i>Thesea nivea</i>	2022-07-03 21:52:30	29.4421	-87.5384	69.90	x		x
129B	<i>Swiftia exserta</i>	2022-07-03 21:58:31	29.4421	-87.5383	69.60	x		
130B	Octocorallia	2022-07-03 22:01:14	29.4421	-87.5383	69.60	x	x	x
131B	Octocorallia	2022-07-03 22:05:20	29.4421	-87.5383	69.60	x	x	x
132B	<i>Swiftia exserta</i>	2022-07-03 22:09:57	29.4422	-87.5382	70.20	x	x	x
133B	<i>Swiftia exserta</i>	2022-07-03 22:19:38	29.4422	-87.5381	70.80	x		x
134B	<i>Swiftia exserta</i>	2022-07-03 22:24:01	29.4421	-87.5379	69.50	x		x
135B	<i>Thesea nivea</i>	2022-07-03 22:28:49	29.4420	-87.5379	70.10	x		
136B	<i>Swiftia exserta</i>	2022-07-03 22:32:09	29.4421	-87.5379	70.40	x		x
137B	<i>Thesea nivea</i>	2022-07-03 22:35:28	29.4422	-87.5378	69.60	x		
138B	<i>Swiftia exserta</i>	2022-07-03 22:41:11	29.4422	-87.5378	69.50	x		
139B	<i>Nicella</i> sp.	2022-07-03 22:44:41	29.4422	-87.5378	69.50	x	x	x
140B	<i>Thesea nivea</i>	2022-07-03 22:45:46	29.4422	-87.5378	68.90	x	x	
141B	<i>Swiftia exserta</i>	2022-07-03 22:55:24	29.4420	-87.5373	68.20	x		x
142B	<i>Swiftia exserta</i>	2022-07-03 23:09:17	29.4418	-87.5369	67.80	x		
143B	<i>Swiftia exserta</i>	2022-07-03 23:19:01	29.4416	-87.5365	69.30	x		
144B	<i>Thesea nivea</i>	2022-07-03 23:40:43	29.4415	-87.5357	71.90	x		

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
145B	<i>Thesea nivea</i>	2022-07-03 23:52:29	29.4415	-87.5357	71.20	x		x
148B	<i>Swiftia exserta</i>	2022-07-04 04:19:28	29.4411	-87.5345	69.40	x	x	x
149B	<i>Thesea nivea</i>	2022-07-04 04:24:28	29.4412	-87.5348	68.80	x	x	x
150B	<i>Swiftia exserta</i>	2022-07-04 04:40:04	29.4412	-87.5348	76.80	x		x
151B	<i>Muricea pendula</i>	2022-07-04 04:43:05	29.4412	-87.5348	76.00	x	x	x
152B	<i>Muricea pendula</i>	2022-07-04 04:52:18	29.4412	-87.5348	76.20	x		x
153B	<i>Muricea pendula</i>	2022-07-04 04:57:28	29.4411	-87.5345	75.60	x		x
154B	Cnidaria	2022-07-04 05:04:57	29.4411	-87.5345	73.40	x	x	
155B	<i>Thesea</i> sp.	2022-07-04 05:14:01	29.4411	-87.5345	73.40	x		
156B	<i>Swiftia exserta</i>	2022-07-04 05:17:18	29.4411	-87.5346	73.10	x	x	x
157B	<i>Thesea nivea</i>	2022-07-04 05:20:38	29.4411	-87.5345	74.10	x	x	x
158B	<i>Swiftia exserta</i>	2022-07-04 05:25:33	29.4411	-87.5345	73.80	x	x	x
159B	<i>Thesea nivea</i>	2022-07-04 05:28:16	29.4411	-87.5345	73.70	x	x	x
160B	Cnidaria	2022-07-04 05:32:05	29.4411	-87.5345	73.70	x	x	
162B	<i>Swiftia exserta</i>	2022-07-04 23:41:20	29.4448	-87.5655	76.20	x		x
163B	<i>Thesea nivea</i>	2022-07-04 23:45:17	29.4449	-87.5655	72.70	x	x	x
164B	<i>Swiftia exserta</i>	2022-07-04 23:51:06	29.4449	-87.5655	71.20	x		x
165B	Octocorallia	2022-07-04 23:54:41	29.4448	-87.5655	71.50	x	x	x
166B	<i>Stephanocoenia intersepta</i>	2022-07-05 00:01:00	29.4449	-87.5655	71.10	x	x	x
167B	<i>Thesea nivea</i>	2022-07-05 00:15:34	29.4448	-87.5655	70.00	x		x
168B	<i>Scleraxis</i> sp.	2022-07-05 00:22:19	29.4446	-87.5655	70.00	x	x	x
169B	<i>Swiftia exserta</i>	2022-07-05 00:23:29	29.4446	-87.5655	70.00	x		x
170B	<i>Thesea nivea</i>	2022-07-05 00:26:00	29.4446	-87.5655	70.00	x		x
171B	<i>Thesea nivea</i>	2022-07-05 00:29:12	29.4446	-87.5655	69.90	x		x
172B	<i>Thesea nivea</i>	2022-07-05 00:32:28	29.4446	-87.5655	70.10	x		
173B	<i>Muricea pendula</i>	2022-07-05 00:35:09	29.4446	-87.5655	69.50	x		x
174B	<i>Thesea nivea</i>	2022-07-05 00:39:26	29.4446	-87.5471	69.50	x		
175B	<i>Thesea nivea</i>	2022-07-05 00:46:23	29.4446	-87.5471	69.60	x		

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
176B	<i>Stichopathes</i> sp.	2022-07-05 00:51:21	29.4446	-87.5471	69.60	x	x	x
177B	<i>Swiftia exserta</i>	2022-07-05 00:55:53	29.4446	-87.5470	69.30	x		x
178B	<i>Thesea nivea</i>	2022-07-05 00:59:44	29.4445	-87.5470	69.70	x		
179B	<i>Thesea nivea</i>	2022-07-05 01:06:02	29.4445	-87.5469	69.00	x	x	x
180B	<i>Swiftia exserta</i>	2022-07-05 01:11:39	29.4445	-87.5470	70.10	x		x
181B	<i>Swiftia exserta</i>	2022-07-05 01:16:08	29.4444	-87.5469	69.30	x		
183B	<i>Swiftia exserta</i>	2022-07-05 02:41:30	29.4449	-87.5453	68.70	x	x	x
184B	<i>Thesea nivea</i>	2022-07-05 02:47:56	29.4450	-87.5476	68.80	x	x	x
185B	<i>Swiftia exserta</i>	2022-07-05 02:51:22	29.4450	-87.5476	68.60	x		x
186B	<i>Thesea nivea</i>	2022-07-05 02:56:06	29.4451	-87.5476	68.50	x	x	x
187B	<i>Thesea nivea</i>	2022-07-05 03:00:17	29.4449	-87.5476	68.50	x	x	x
188B	<i>Swiftia exserta</i>	2022-07-05 03:03:13	29.4448	-87.5476	68.60	x		
189B	<i>Thesea nivea</i>	2022-07-05 03:06:29	29.4449	-87.5476	70.00	x	x	x
190B	<i>Thesea nivea</i>	2022-07-05 03:19:43	29.4448	-87.5476	69.30	x		x
191B	<i>Thesea nivea</i>	2022-07-05 03:23:14	29.4448	-87.5476	69.40	x	x	x
192B	<i>Placogorgia rudis</i>	2022-07-05 03:26:00	29.4448	-87.5476	69.20	x	x	x
193B	<i>Thesea nivea</i>	2022-07-05 03:29:36	29.4448	-87.5476	69.10	x		x
194B	<i>Swiftia exserta</i>	2022-07-05 03:33:25	29.4448	-87.5476	69.00	x		x
195B	<i>Thesea nivea</i>	2022-07-05 03:36:18	29.4448	-87.5476	68.90	x		x
196B	<i>Scleractinia</i>	2022-07-05 03:41:53	29.4448	-87.5458	67.90	x	x	x
197B	<i>Muricea pendula</i>	2022-07-05 03:46:48	29.4448	-87.5458	68.30	x		x
198B	<i>Swiftia exserta</i>	2022-07-05 03:50:00	29.4447	-87.5461	67.70	x		
199B	<i>Muricea pendula</i>	2022-07-05 03:54:32	29.4447	-87.5461	67.60	x		
200B	<i>Axinella</i> cf. <i>corrugata</i>	2022-07-05 03:57:07	29.4447	-87.5461	67.70	x	x	x
201B	<i>Muricea pendula</i>	2022-07-05 04:03:11	29.4447	-87.5461	67.60	x		x
202B	<i>Octocorallia</i>	2022-07-05 04:09:42	29.4447	-87.5461	67.70	x	x	x
203B	<i>Muricea pendula</i>	2022-07-05 04:13:39	29.4447	-87.5462	67.50	x	x	x
204B	<i>Swiftia exserta</i>	2022-07-05 04:21:45	29.4447	-87.5463	68.10	x		

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
205B	<i>Swiftia exserta</i>	2022-07-05 04:25:23	29.4445	-87.5464	67.70	x		x
206B	<i>Muricea pendula</i>	2022-07-05 04:37:08	29.4445	-87.5465	67.70	x		
207B	Ellisellidae	2022-07-05 04:39:52	29.4445	-87.5465	67.70	x	x	x
208B	<i>Thesea nivea</i>	2022-07-05 04:44:07	29.4445	-87.5465	67.70	x		x
209B	<i>Muricea pendula</i>	2022-07-05 04:50:04	29.4445	-87.5465	67.70	x		x
210B	<i>Swiftia exserta</i>	2022-07-05 04:55:27	29.4445	-87.5466	67.70	x		x
212B	<i>Thesea nivea</i>	2022-07-06 01:36:03	29.4448	-87.5876	72.30	x		x
213B	<i>Thesea nivea</i>	2022-07-06 01:41:01	29.4447	-87.5876	72.30	x		x
214B	Verongiida	2022-07-06 01:45:50	29.4447	-87.5876	72.30	x	x	x
215B	<i>Swiftia exserta</i>	2022-07-06 01:49:29	29.4448	-87.5876	72.30	x	x	x
216B	<i>Thesea nivea</i>	2022-07-06 01:53:46	29.4448	-87.5876	72.60	x	x	x
217B	<i>Thesea nivea</i>	2022-07-06 01:56:48	29.4448	-87.5876	72.20	x		
218B	<i>Swiftia exserta</i>	2022-07-06 02:00:38	29.4448	-87.5876	72.30	x	x	x
219B	<i>Thesea nivea</i>	2022-07-06 02:03:42	29.4448	-87.5876	72.20	x		x
220B	<i>Thesea nivea</i>	2022-07-06 02:06:42	29.4448	-87.5876	72.50	x		x
221B	<i>Muricea pendula</i>	2022-07-06 02:09:42	29.4448	-87.5876	72.50	x		
222B	<i>Thesea nivea</i>	2022-07-06 02:12:26	29.4448	-87.5875	72.40	x		x
223B	<i>Thesea nivea</i>	2022-07-06 02:16:52	29.4447	-87.5875	72.40	x		x
224B	<i>Thesea nivea</i>	2022-07-06 02:20:59	29.4447	-87.5875	72.20	x		x
225B	Calaxonia	2022-07-06 02:24:56	29.4447	-87.5876	72.10	x	x	x
226B	<i>Antipathes atlantica</i>	2022-07-06 02:42:39	29.4447	-87.5875	71.90	x	x	x
227B	<i>Swiftia exserta</i>	2022-07-06 02:47:27	29.4446	-87.5874	67.90	x	x	x
228B	Cidaroidea	2022-07-06 02:52:00	29.4446	-87.5874	67.80	x	x	x
229B	<i>Antipathes atlantica</i>	2022-07-06 02:57:10	29.4446	-87.5874	67.80	x	x	x
230B	Scleractinia	2022-07-06 03:12:48	29.4443	-87.5872	71.30	x	x	x
231B	<i>Muricea</i> sp.	2022-07-06 03:16:41	29.4442	-87.5872	69.80	x	x	x
232B	<i>Antipathes atlantica</i>	2022-07-06 03:20:06	29.4442	-87.5872	69.80	x	x	x
233B	<i>Swiftia exserta</i>	2022-07-06 03:29:15	29.4442	-87.5872	72.50	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
234B	<i>Muricea</i> sp.	2022-07-06 03:32:53	29.4441	-87.5872	72.70	x		
235B	Plexauridae	2022-07-06 03:42:52	29.4440	-87.5872	72.60	x	x	x
236B	<i>Swiftia exserta</i>	2022-07-06 03:48:39	29.4439	-87.5870	70.90	x		x
237B	<i>Swiftia exserta</i>	2022-07-06 03:52:12	29.4437	-87.5871	71.30	x		
238B	<i>Swiftia exserta</i>	2022-07-06 04:01:52	29.4435	-87.5870	69.40	x		x
239B	<i>Muricea pendula</i>	2022-07-06 04:08:02	29.4434	-87.5868	71.40	x		
240B	<i>Muricea pendula</i>	2022-07-06 04:12:48	29.4434	-87.5868	71.10	x		
241B	<i>Swiftia exserta</i>	2022-07-06 04:19:24	29.4433	-87.5867	71.70	x		x
242B	<i>Muricea pendula</i>	2022-07-06 04:23:48	29.4433	-87.5867	71.70	x		x
243B	<i>Muricea pendula</i>	2022-07-06 04:27:46	29.4433	-87.5867	71.30	x		
244B	<i>Muricea pendula</i>	2022-07-06 04:32:04	29.4432	-87.5867	70.60	x		x
245B	<i>Muricea pendula</i>	2022-07-06 04:37:17	29.4432	-87.5867	70.60	x		
246B	<i>Swiftia exserta</i>	2022-07-06 04:41:18	29.4431	-87.5864	71.70	x		
248B	<i>Swiftia exserta</i>	2022-07-06 21:09:47	29.4443	-87.5910	71.60	x		x
249B	<i>Thesea nivea</i>	2022-07-06 21:16:01	29.4443	-87.5910	71.60	x		x
250B	<i>Thesea nivea</i>	2022-07-06 21:32:25	29.4444	-87.5910	69.10	x		
251B	<i>Thesea nivea</i>	2022-07-06 21:47:12	29.4445	-87.5911	69.50	x	x	x
252B	<i>Thesea nivea</i>	2022-07-06 21:50:55	29.4450	-87.5914	68.80	x		x
253B	<i>Swiftia exserta</i>	2022-07-06 21:53:58	29.4450	-87.5914	68.90	x		x
254B	<i>Thesea nivea</i>	2022-07-06 21:56:31	29.4451	-87.5914	69.00	x		
255B	<i>Thesea nivea</i>	2022-07-06 21:58:38	29.4451	-87.5914	68.70	x	x	x
256B	<i>Thesea nivea</i>	2022-07-06 22:09:14	29.4452	-87.5915	68.70	x	x	x
257B	<i>Thesea nivea</i>	2022-07-06 22:14:11	29.4451	-87.5915	67.90	x		
258B	<i>Thesea nivea</i>	2022-07-06 22:17:11	29.4452	-87.5915	68.80	x	x	x
259B	<i>Thesea nivea</i>	2022-07-06 22:22:17	29.4452	-87.5915	68.70	x		
260B	<i>Swiftia exserta</i>	2022-07-06 22:26:24	29.4452	-87.5915	68.40	x		x
261B	Demospongiae	2022-07-06 22:32:01	29.4453	-87.5917	68.10	x	x	x
262B	<i>Swiftia exserta</i>	2022-07-06 22:48:44	29.4453	-87.5917	67.90	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
263B	<i>Muricea pendula</i>	2022-07-06 22:55:29	29.4453	-87.5917	67.90	x		x
264B	<i>Muricea pendula</i>	2022-07-06 23:00:44	29.4454	-87.5917	67.70	x		x
265B	<i>Narcissia</i> sp.	2022-07-06 23:05:01	29.4454	-87.5918	67.70	x	x	x
266B	<i>Muricea pendula</i>	2022-07-06 23:09:37	29.4454	-87.5918	67.90	x		x
267B	<i>Swiftia exserta</i>	2022-07-06 23:21:22	29.4456	-87.5919	68.40	x		x
268B	<i>Swiftia exserta</i>	2022-07-06 23:28:20	29.4458	-87.5920	68.20	x		x
269B	<i>Muricea</i> sp.	2022-07-06 23:32:05	29.4458	-87.5920	68.20	x	x	x
270B	<i>Swiftia exserta</i>	2022-07-06 23:35:58	29.4459	-87.5921	68.20	x		x
271B	<i>Muricea</i> sp.	2022-07-06 23:39:32	29.4459	-87.5921	68.60	x		
272B	<i>Swiftia exserta</i>	2022-07-06 23:46:37	29.4460	-87.5923	67.50	x		
273B	<i>Swiftia exserta</i>	2022-07-06 23:53:22	29.4462	-87.5923	68.70	x		
274B	<i>Swiftia exserta</i>	2022-07-06 23:58:00	29.4463	-87.5924	68.20	x		x
275B	<i>Muricea</i> sp.	2022-07-07 00:03:47	29.4463	-87.5925	68.40	x		
276B	<i>Muricea</i> sp.	2022-07-07 00:15:45	29.4468	-87.5927	68.90	x		
277B	<i>Muricea</i> sp.	2022-07-07 00:18:27	29.4468	-87.5927	68.80	x		x
279B	<i>Placogorgia rudis</i>	2022-07-07 21:23:09	29.4432	-87.5617	74.90	x	x	x
280B	<i>Muricea pendula</i>	2022-07-07 21:25:17	29.4432	-87.5617	74.90	x		x
281B	<i>Swiftia exserta</i>	2022-07-07 21:28:03	29.4432	-87.5617	74.80	x		
282B	<i>Thesea nivea</i>	2022-07-07 21:30:19	29.4432	-87.5618	74.10	x		
283B	Plexauridae	2022-07-07 21:36:45	29.4433	-87.5617	74.30	x	x	x
284B	<i>Thesea nivea</i>	2022-07-07 21:41:04	29.4433	-87.5618	74.30	x		x
285B	<i>Tanacetipathes</i> sp.	2022-07-07 21:44:02	29.4433	-87.5617	74.30	x	x	x
286B	<i>Thesea nivea</i>	2022-07-07 21:47:25	29.4433	-87.5617	73.90	x		x
287B	<i>Muricea pendula</i>	2022-07-07 21:48:18	29.4433	-87.5618	74.00	x		x
288B	<i>Muricea pendula</i>	2022-07-07 21:52:25	29.4433	-87.5617	73.70	x		x
289B	<i>Muricea pendula</i>	2022-07-07 21:54:39	29.4433	-87.5617	73.60	x		x
290B	<i>Thesea nivea</i>	2022-07-07 21:57:00	29.4433	-87.5617	73.50	x		x
291B	<i>Muricea pendula</i>	2022-07-07 22:02:29	29.4433	-87.5617	73.30	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
292B	<i>Muricea pendula</i>	2022-07-07 22:05:01	29.4433	-87.5618	73.20	x		
293B	Octocorallia	2022-07-07 22:08:21	29.4433	-87.5618	73.20	x		
294B	<i>Thesea nivea</i>	2022-07-07 22:09:59	29.4433	-87.5618	73.30	x	x	
295B	<i>Muricea pendula</i>	2022-07-07 22:13:33	29.4433	-87.5618	73.40	x		x
296B	<i>Muricea pendula</i>	2022-07-07 22:16:37	29.4434	-87.5618	74.20	x		x
297B	Cypraeidae	2022-07-07 22:19:43	29.4434	-87.5618	74.00	x	x	x
298B	<i>Thesea nivea</i>	2022-07-07 22:22:16	29.4434	-87.5618	74.10	x		
299B	<i>Thesea nivea</i>	2022-07-07 22:25:46	29.4434	-87.5619	74.70	x		x
300B	<i>Thesea nivea</i>	2022-07-07 22:27:40	29.4434	-87.5619	74.90	x		x
301B	<i>Thesea nivea</i>	2022-07-07 22:30:50	29.4434	-87.5618	74.70	x		x
302B	<i>Muricea pendula</i>	2022-07-07 22:35:36	29.4434	-87.5619	74.70	x		x
303B	<i>Thesea nivea</i>	2022-07-07 22:37:48	29.4434	-87.5619	74.70	x		
304B	<i>Muricea pendula</i>	2022-07-07 22:40:07	29.4434	-87.5619	74.70	x		x
305B	<i>Swiftia exserta</i>	2022-07-07 22:45:40	29.4433	-87.5615	71.40	x		
306B	<i>Swiftia exserta</i>	2022-07-07 22:47:37	29.4433	-87.5614	76.10	x		x
307B	<i>Swiftia exserta</i>	2022-07-07 23:03:52	29.4431	-87.5611	81.20	x		x
308B	<i>Swiftia exserta</i>	2022-07-07 23:07:12	29.4430	-87.5609	81.20	x		x
309B	<i>Swiftia exserta</i>	2022-07-07 23:13:38	29.4430	-87.5607	76.90	x		
310B	<i>Swiftia exserta</i>	2022-07-07 23:21:00	29.4429	-87.5603	70.40	x		x
311B	<i>Swiftia exserta</i>	2022-07-07 23:24:01	29.4428	-87.5602	70.10	x	x	x
312B	<i>Swiftia exserta</i>	2022-07-07 23:29:21	29.4428	-87.5600	78.80	x		x
313B	<i>Swiftia exserta</i>	2022-07-07 23:34:00	29.4428	-87.5598	78.60	x	x	x
315B	<i>Swiftia exserta</i>	2022-07-08 02:21:05	29.4490	-87.5193	69.90	x		x
316B	<i>Thesea nivea</i>	2022-07-08 02:24:48	29.4491	-87.5193	70.50	x		
317B	<i>Thesea nivea</i>	2022-07-08 02:31:41	29.4491	-87.5193	70.00	x	x	x
318B	<i>Muricea pendula</i>	2022-07-08 02:35:56	29.4491	-87.5193	70.80	x		x
319B	<i>Swiftia exserta</i>	2022-07-08 02:38:31	29.4491	-87.5192	70.60	x		
320B	<i>Thesea nivea</i>	2022-07-08 02:44:00	29.4491	-87.5192	70.90	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
321B	<i>Ophiothrix</i> sp.	2022-07-08 02:47:19	29.4491	-87.5192	70.90	x	x	x
322B	<i>Swiftia exserta</i>	2022-07-08 02:49:14	29.4491	-87.5192	70.90	x	x	x
323B	<i>Muricea pendula</i>	2022-07-08 02:53:46	29.4492	-87.5192	69.30	x		
324B	<i>Swiftia exserta</i>	2022-07-08 02:58:52	29.4492	-87.5193	70.80	x		x
325B	Demospongiae	2022-07-08 03:06:01	29.4492	-87.5193	70.90	x	x	x
326B	<i>Swiftia exserta</i>	2022-07-08 03:11:20	29.4494	-87.5192	71.50	x	x	x
327B	Demospongiae	2022-07-08 03:13:39	29.4494	-87.5192	71.50	x	x	x
328B	<i>Thesea nivea</i>	2022-07-08 03:16:02	29.4494	-87.5191	70.90	x		
329B	<i>Thesea nivea</i>	2022-07-08 03:21:05	29.4494	-87.5191	70.70	x		x
330B	<i>Thesea nivea</i>	2022-07-08 03:23:24	29.4494	-87.5191	70.80	x		
331B	<i>Swiftia exserta</i>	2022-07-08 03:28:26	29.4494	-87.5190	70.70	x		
332B	<i>Thesea nivea</i>	2022-07-08 03:30:16	29.4494	-87.5190	70.30	x		x
333B	<i>Thesea nivea</i>	2022-07-08 03:32:18	29.4494	-87.5190	70.30	x		x
334B	<i>Thesea nivea</i>	2022-07-08 03:35:08	29.4493	-87.5190	69.60	x		
335B	<i>Auletta</i> sp.	2022-07-08 03:38:20	29.4493	-87.5189	69.70	x	x	x
336B	Didemnidae	2022-07-08 03:41:16	29.4493	-87.5189	69.90	x	x	x
337B	<i>Thesea nivea</i>	2022-07-08 03:46:19	29.4492	-87.5189	70.20	x		
338B	<i>Swiftia exserta</i>	2022-07-08 03:50:26	29.4491	-87.5189	70.40	x		x
339B	<i>Swiftia exserta</i>	2022-07-08 03:54:36	29.4490	-87.5189	70.70	x	x	x
340B	<i>Swiftia exserta</i>	2022-07-08 04:00:17	29.4488	-87.5190	69.40	x		
341B	<i>Swiftia exserta</i>	2022-07-08 04:03:56	29.4486	-87.5188	70.70	x		
342B	<i>Muricea pendula</i>	2022-07-08 04:15:28	29.4483	-87.5187	71.10	x		
343B	Stolonifera	2022-07-08 04:20:00	29.4483	-87.5187	71.00	x	x	x
344B	<i>Muricea pendula</i>	2022-07-08 04:30:00	29.4479	-87.5184	69.70	x		x
345B	<i>Muricea pendula</i>	2022-07-08 04:31:30	29.4478	-87.5183	69.60	x	x	x
346B	<i>Antipathes furcata</i>	2022-07-08 04:31:30	29.4478	-87.5183	69.60	x		
347B	<i>Muricea pendula</i>	2022-07-08 04:36:48	29.4478	-87.5184	68.90	x		
348B	<i>Muricea pendula</i>	2022-07-08 04:41:00	29.4478	-87.5183	69.00	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
349B	<i>Muricea pendula</i>	2022-07-08 04:50:04	29.4479	-87.5183	69.60	x		x
351B	<i>Virgularia</i> sp.	2022-07-08 20:38:04	29.4407	-87.6215	81.00	x		x
352B	<i>Thesea nivea</i>	2022-07-08 20:45:44	29.4406	-87.6214	80.00	x		x
353B	<i>Thesea nivea</i>	2022-07-08 20:50:30	29.4406	-87.6213	79.80	x		x
354B	<i>Thesea nivea</i>	2022-07-08 20:53:36	29.4406	-87.6214	80.00	x		
355B	<i>Thesea nivea</i>	2022-07-08 20:55:22	29.4406	-87.6213	79.30	x		x
356B	<i>Thesea nivea</i>	2022-07-08 20:59:44	29.4404	-87.6212	80.70	x		
357B	Paguroidea	2022-07-08 21:02:47	29.4404	-87.6212	80.70	x		x
358B	<i>Muricea pendula</i>	2022-07-08 21:06:28	29.4403	-87.6211	80.80	x		x
359B	<i>Muricea pendula</i>	2022-07-08 21:09:44	29.4401	-87.6209	80.60	x		
360B	<i>Thesea nivea</i>	2022-07-08 21:13:14	29.4401	-87.6209	80.70	x		
361B	<i>Muricea pendula</i>	2022-07-08 21:17:29	29.4401	-87.6209	80.70	x		x
362B	<i>Thesea nivea</i>	2022-07-08 21:20:23	29.4401	-87.6209	80.80	x		x
363B	<i>Muricea pendula</i>	2022-07-08 21:25:59	29.4400	-87.6208	80.30	x		
364B	<i>Muricea pendula</i>	2022-07-08 21:30:55	29.4398	-87.6207	80.70	x		x
365B	<i>Muricea pendula</i>	2022-07-08 21:31:01	29.4398	-87.6167	80.70	x		
366B	<i>Thesea</i> sp.	2022-07-08 21:39:32	29.4398	-87.6207	80.50	x		x
367B	Cnidaria	2022-07-08 21:42:26	29.4398	-87.6207	80.40	x		x
368B	<i>Muricea pendula</i>	2022-07-08 21:51:52	29.4399	-87.6206	80.40	x		
369B	<i>Muricea pendula</i>	2022-07-08 21:55:45	29.4399	-87.6206	80.30	x		
370B	<i>Muricea pendula</i>	2022-07-08 21:58:47	29.4399	-87.6206	80.30	x		
371B	<i>Thesea nivea</i>	2022-07-08 22:02:05	29.4399	-87.6206	80.80	x		
372B	<i>Thesea nivea</i>	2022-07-08 22:11:01	29.4394	-87.6201	80.20	x		
373B	<i>Swiftia exserta</i>	2022-07-08 22:11:39	29.4394	-87.6200	80.20	x		x
374B	<i>Muricea pendula</i>	2022-07-08 22:21:31	29.4393	-87.6200	80.10	x		
375B	<i>Swiftia exserta</i>	2022-07-08 22:28:01	29.4393	-87.6199	80.10	x		x
376B	<i>Swiftia exserta</i>	2022-07-08 22:31:01	29.4392	-87.6197	72.20	x		x
377B	Scleractinia	2022-07-08 22:38:07	29.4392	-87.6197	72.20	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
378B	<i>Swiftia exserta</i>	2022-07-08 22:45:33	29.4390	-87.6194	77.20	x		
379B	<i>Swiftia exserta</i>	2022-07-08 22:51:16	29.4390	-87.6194	70.30	x		x
380B	<i>Agelas citrina</i>	2022-07-08 22:55:09	29.4390	-87.6193	70.30	x		x
381B	<i>Swiftia exserta</i>	2022-07-08 23:04:25	29.4388	-87.6192	69.10	x		x
382B	<i>Swiftia exserta</i>	2022-07-08 23:09:10	29.4386	-87.6190	69.80	x		x
383B	<i>Swiftia exserta</i>	2022-07-08 23:13:03	29.4385	-87.6189	76.60	x		x
384B	<i>Swiftia exserta</i>	2022-07-08 23:18:34	29.4383	-87.6187	70.00	x		
385B	<i>Swiftia exserta</i>	2022-07-08 23:23:43	29.4383	-87.6185	69.60	x		x
386B	<i>Swiftia exserta</i>	2022-07-08 23:29:20	29.4382	-87.6181	71.70	x		
388B	<i>Muricea pendula</i>	2022-07-09 02:07:44	29.4223	-87.6131	87.10	x	x	x
389B	<i>Placogorgia rudis</i>	2022-07-09 02:11:02	29.4223	-87.6131	87.10	x	x	x
390B	<i>Muricea pendula</i>	2022-07-09 02:14:30	29.4223	-87.6131	87.10	x		x
391B	<i>Muricea pendula</i>	2022-07-09 02:17:13	29.4223	-87.6131	87.10	x		
392B	<i>Muricea pendula</i>	2022-07-09 02:20:07	29.4223	-87.6131	87.10	x		x
393B	<i>Muricea pendula</i>	2022-07-09 02:25:19	29.4223	-87.6131	87.10	x		
394B	<i>Thesea nivea</i>	2022-07-09 02:28:25	29.4223	-87.6132	87.20	x	x	x
395B	Plexauridae	2022-07-09 02:31:40	29.4223	-87.6131	87.20	x	x	x
396B	<i>Muricea pendula</i>	2022-07-09 02:40:04	29.4224	-87.6131	87.10	x		
397B	Plexauridae	2022-07-09 02:44:01	29.4224	-87.6131	87.00	x	x	x
398B	<i>Muricea pendula</i>	2022-07-09 02:51:55	29.4225	-87.6131	87.00	x		
399B	<i>Muricea pendula</i>	2022-07-09 02:55:13	29.4225	-87.6131	87.00	x		
400B	<i>Thesea nivea</i>	2022-07-09 03:00:51	29.4225	-87.6131	86.90	x		
401B	<i>Thesea nivea</i>	2022-07-09 03:06:58	29.4225	-87.6131	87.00	x		x
403B	Antipatharia	2022-07-09 23:34:38	29.3298	-87.7716	100.90	x	x	x
404B	<i>Muricea pendula</i>	2022-07-09 23:49:20	29.3297	-87.7714	107.30	x		x
405B	<i>Aphanipathes</i> sp.	2022-07-10 00:09:49	29.3290	-87.7705	92.50	x	x	x
406B	Scleractinia	2022-07-10 00:25:18	29.3289	-87.7703	106.60	x	x	x
407B	Octocorallia	2022-07-10 00:32:00	29.3289	-87.7703	106.50	x	x	x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
408B	<i>Nicella</i> sp.	2022-07-10 00:35:08	29.3289	-87.7703	106.50	x	x	x
409B	<i>Ellisella</i> sp.	2022-07-10 00:38:20	29.3289	-87.7703	106.40	x	x	x
410B	<i>Muricea</i> sp.	2022-07-10 00:49:49	29.3287	-87.7700	105.20	x	x	x
411B	<i>Muricea</i> sp.	2022-07-10 00:54:01	29.3287	-87.7700	106.20	x		x
412B	Octocorallia	2022-07-10 00:57:01	29.3287	-87.7700	106.20	x	x	x
413B	Antipatharia	2022-07-10 01:00:01	29.3286	-87.7700	106.10	x	x	x
414B	Plexauridae	2022-07-10 01:11:50	29.3283	-87.7693	104.50	x	x	x
415B	<i>Muricea</i> sp.	2022-07-10 01:16:36	29.3283	-87.7693	104.50	x		x
416B	<i>Muricea</i> sp.	2022-07-10 01:18:55	29.3282	-87.7692	92.10	x		x
417B	<i>Muricea</i> sp.	2022-07-10 01:21:44	29.3282	-87.7692	103.90	x		
418B	<i>Muricea pendula</i>	2022-07-10 01:25:43	29.3282	-87.7692	104.10	x		
419B	<i>Muricea pendula</i>	2022-07-10 01:28:22	29.3282	-87.7692	103.70	x		
420B	<i>Muricea pendula</i>	2022-07-10 01:33:07	29.3282	-87.7692	104.10	x		
421B	<i>Muricea pendula</i>	2022-07-10 01:37:30	29.3282	-87.7692	104.10	x	x	x
422B	Plexauridae	2022-07-10 01:47:45	29.3278	-87.7688	100.80	x		
423B	Nephtheidae	2022-07-10 01:54:49	29.3278	-87.7688	100.20	x	x	x
425B	Scleractinia	2022-07-11 04:08:11	29.3528	-87.7405	100.20	x		x
426B	<i>Madracis</i> sp.	2022-07-11 05:21:58	29.3581	-87.7349	98.40	x	x	x
427B	<i>Muricea pendula</i>	2022-07-11 05:32:19	29.3578	-87.7349	98.70	x		x
428B	<i>Muricea pendula</i>	2022-07-11 05:35:43	29.3578	-87.7349	98.10	x		x
429B	<i>Muricea</i> sp.	2022-07-11 05:39:24	29.3578	-87.7349	98.50	x		
430B	<i>Muricea</i> sp.	2022-07-11 05:47:01	29.3573	-87.7353	98.60	x		x
431B	<i>Nidalia</i> sp.	2022-07-11 05:55:39	29.3572	-87.7356	98.50	x	x	x
433B	<i>Muricea pendula</i>	2022-07-11 21:19:03	29.3399	-87.7598	97.80	x		
434B	<i>Muricea pendula</i>	2022-07-11 21:23:34	29.3399	-87.7598	98.10	x		
435B	<i>Muricea pendula</i>	2022-07-11 21:29:03	29.3399	-87.7599	98.70	x	x	x
436B	<i>Muricea pendula</i>	2022-07-11 21:31:32	29.3398	-87.7598	98.30	x		
437B	<i>Muricea pendula</i>	2022-07-11 21:33:49	29.3399	-87.7598	98.30	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
438B	<i>Muricea pendula</i>	2022-07-11 21:36:42	29.3399	-87.7598	97.60	x		
439B	<i>Muricea pendula</i>	2022-07-11 21:43:32	29.3399	-87.7598	98.30	x		x
440B	<i>Muricea</i> sp.	2022-07-11 21:48:55	29.3399	-87.7598	98.40	x		
441B	<i>Muricea pendula</i>	2022-07-11 21:54:05	29.3399	-87.7598	98.50	x		x
442B	<i>Muricea pendula</i>	2022-07-11 21:58:33	29.3399	-87.7598	98.10	x		x
444B	<i>Muricea pendula</i>	2022-07-11 22:35:26	29.3330	-87.7572	101.90	x		x
445B	<i>Muricea pendula</i>	2022-07-11 22:39:50	29.3330	-87.7572	100.70	x	x	x
446B	<i>Muricea pendula</i>	2022-07-11 22:39:58	29.3330	-87.7572	89.10	x		
447B	<i>Muricea pendula</i>	2022-07-11 22:45:02	29.3330	-87.7572	100.70	x		x
448B	<i>Muricea pendula</i>	2022-07-11 22:47:49	29.3330	-87.7572	100.80	x		
449B	<i>Muricea pendula</i>	2022-07-11 22:49:38	29.3330	-87.7571	100.50	x		
450B	<i>Muricea pendula</i>	2022-07-11 22:49:38	29.3330	-87.7571	100.40	x		
451B	Scleractinia	2022-07-11 22:52:15	29.3329	-87.7571	88.90	x	x	
452B	<i>Muricea pendula</i>	2022-07-11 22:52:13	29.3329	-87.7571	101.10	x		
453B	<i>Muricea pendula</i>	2022-07-11 22:58:04	29.3329	-87.7571	100.90	x		
454B	<i>Muricea pendula</i>	2022-07-11 23:01:08	29.3329	-87.7570	100.50	x		x
455B	Plexauridae	2022-07-11 23:08:15	29.3327	-87.7569	100.60	x	x	x
456B	<i>Nicella</i> sp.	2022-07-11 23:18:52	29.3325	-87.7570	100.00	x	x	x
457B	Plexauridae	2022-07-11 23:23:40	29.3325	-87.7570	101.40	x		x
458B	<i>Anthomastus</i> sp.	2022-07-11 23:28:55	29.3325	-87.7569	101.80	x	x	x
459B	Pachastrellidae	2022-07-11 23:51:39	29.3324	-87.7568	105.60	x	x	x
461B	<i>Luidia</i> sp.	2022-07-12 02:32:26	29.3216	-87.7819	116.70	x	x	x
462B	<i>Muricea pendula</i>	2022-07-12 02:58:00	29.3230	-87.7799	103.10	x	x	x
463B	<i>Muricea pendula</i>	2022-07-12 03:03:31	29.3231	-87.7797	102.40	x	x	x
464B	<i>Muricea pendula</i>	2022-07-12 03:10:22	29.3230	-87.7795	102.30	x		
465B	<i>Muricea pendula</i>	2022-07-12 03:10:17	29.3230	-87.7795	102.10	x		
466B	<i>Muricea pendula</i>	2022-07-12 03:16:44	29.3230	-87.7795	102.20	x		x
467B	<i>Muricea</i> sp.	2022-07-12 03:21:10	29.3230	-87.7795	101.70	x		x

ID	Scientific Name	Collection Timestamp	Latitude (DD.DDDD)	Longitude (DD.DDDD)	Collection Depth (m)	Gen	Vou	Iso
468B	<i>Muricea</i> sp.	2022-07-12 03:28:39	29.3231	-87.7794	102.10	x		x
469B	<i>Muricea</i> sp.	2022-07-12 03:33:17	29.3232	-87.7793	101.10	x		x
470B	<i>Muricea</i> sp.	2022-07-12 03:36:01	29.3232	-87.7794	101.60	x		x
471B	<i>Chrysogorgia</i> sp.	2022-07-12 03:42:02	29.3233	-87.7793	101.40	x	x	x
472B	Asteroidea	2022-07-12 03:44:59	29.3233	-87.7793	101.40	x	x	x
473B	<i>Muricea</i> sp.	2022-07-12 03:49:25	29.3232	-87.7793	101.60	x		x
474B	<i>Madrepora</i> sp.	2022-07-12 03:54:29	29.3232	-87.7793	101.60	x	x	x
475B	<i>Paracolochirus mysticus</i>	2022-07-12 04:59:36	29.3242	-87.7775	96.20	x	x	x
476B	Demospongiae	2022-07-12 05:05:30	29.3243	-87.7775	107.30	x	x	x
477B	Verongiida	2022-07-12 05:12:47	29.3243	-87.7775	105.70	x	x	x
146B	<i>Stichopathes</i> sp.	NA	NA	NA	NA			x

