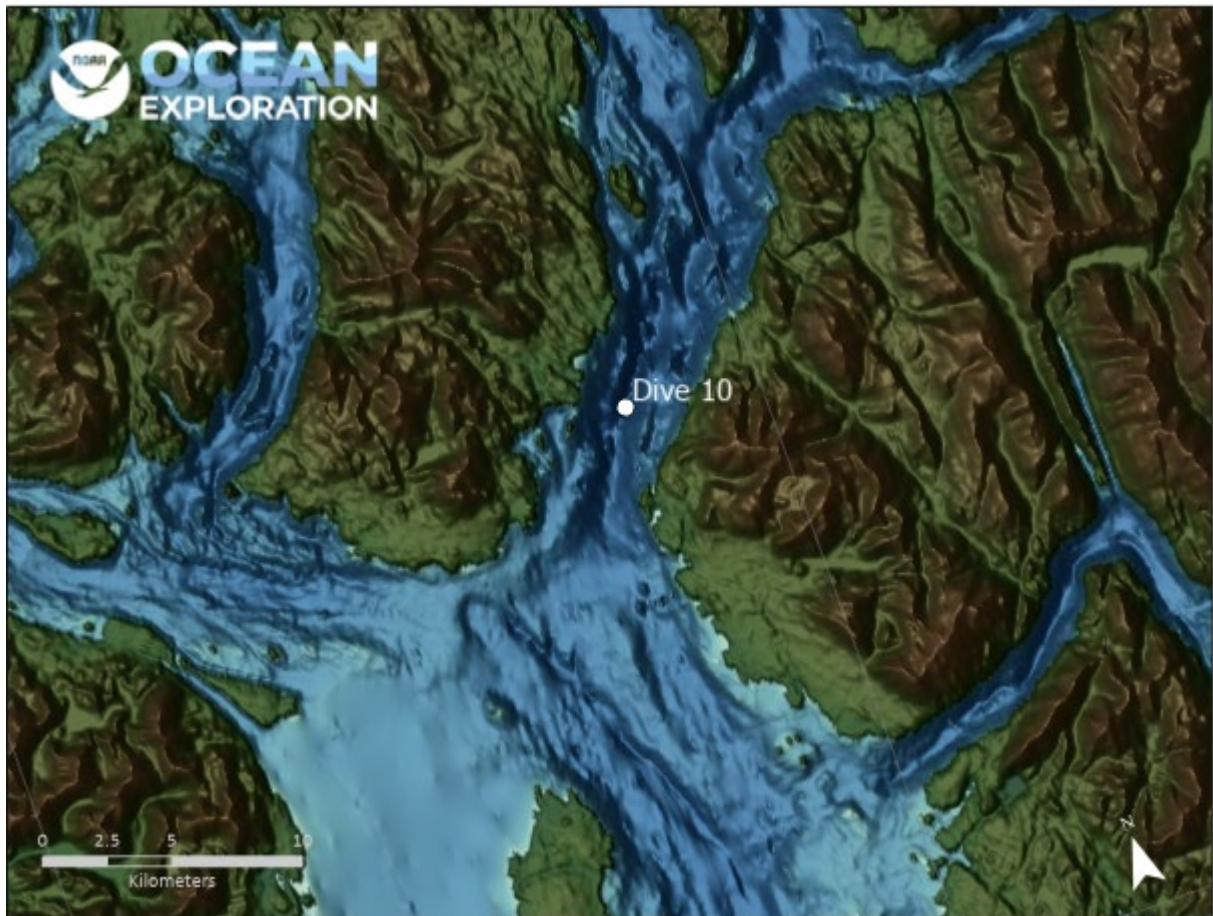


# ROV Dive Summary

## EX2306, Dive 10, September 3, 2023

### General Location Map



# Dive Information

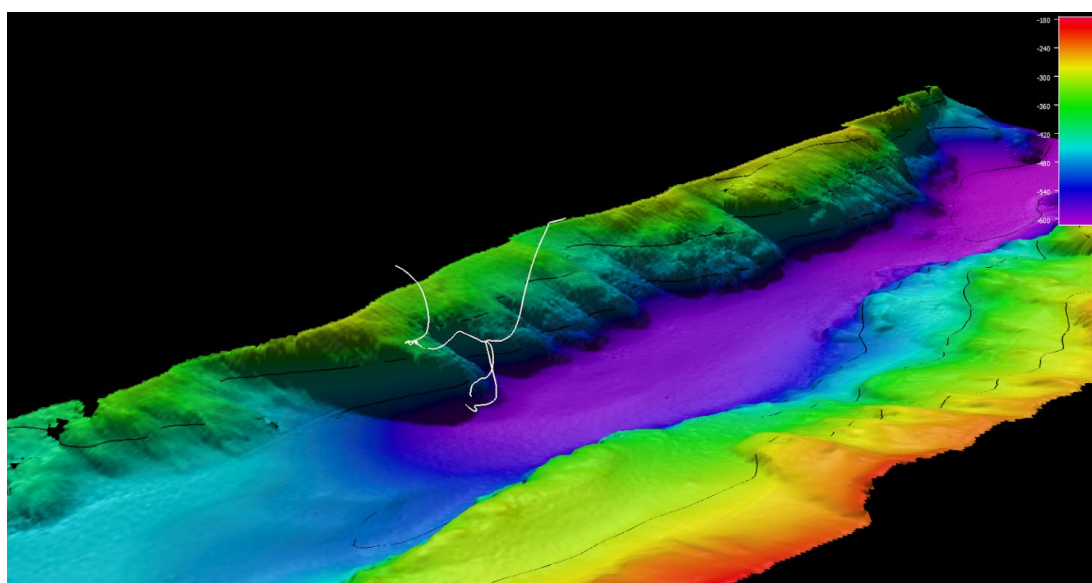
Site Name	Behm Canal
General Area Descriptor	Gulf of Alaska
Science Team Leads	Merlin Best (Bio); Jamie Conrad (Geo)
Expedition Coordinator	Sam Candio
ROV Dive Supervisor	Lars Murphy
Dive Purpose	Areas close to the dive site have been highlighted in a set of species distribution models published by Rooper et al in 2017 as having a high probability of presence and/or abundance of primnoid corals, as well as other coral species captured during trawl surveys. This dive provides an excellent opportunity to document if the coral abundance is high, and inform future coral distribution models using image-based surveying.
Maritime Heritage Restrictions	No
ROV Dive Summary Data	<p>In Water: 2023-09-03T20:39:46.542168 55.22740887366816 ; -131.081906</p> <p>On Bottom: 2023-09-03T21:38:10.962465 55.22515821657234 ; -131.0848392887631</p> <p>Off Bottom: 2023-09-04T00:19:48.244516 55.22609346897892 ; -131.08609148965965</p> <p>Out Water: 2023-09-04T00:38:37.388169 55.224687 ; -131.08706</p> <p>Dive Duration: 3:58:50</p> <p>Bottom Time: 2:41:37</p> <p>Max Vehicle Depth: 577.7 m</p> <p>Min Seafloor Depth: 375.3 m</p> <p>Distance Traveled: 151.0 m</p>

Dive Description	<p><b>Geology</b></p> <p>This dive took place in southern Behm Canal, one of the fjords of the Alexander Archipelago in southeastern Alaska about 35 km southeast of Ketchikan, AK. The dive began at the base of the fjord wall in shell hash at a depth of about 550 m, and ascended a rocky ridge of thick-bedded to massive Mesozoic metasedimentary rocks to a bench at about 300 m depth. In addition, overnight mapping in the sound revealed a submarine slide complex along the eastern side of the fjord opposite the dive site.</p> <p><b>Biology</b></p> <p>Juvenile <i>Primnoa pacifica</i> were seen scattering areas both near the base and higher up the ridge, indicating some recruitment is present in this high current area. A high abundance of Brachiopoda were observed with a different morphology than the dive at Ernest Sound, and also abundant encrusting sponges and anemones.</p>
Notable Observations	<p>Large coral in the <i>Paragorgia stephencairnsi</i> species-complex, unknown <i>Cheiraster</i> sp., <i>Aphrocallistes vastus</i> (reef-forming sponge)</p>
Community and Habitat Observations	<p>Corals and Sponges — Present  Chemosynthetic Community — Absent  High biodiversity Community — Present  Active Seep or Vent — Absent  Extinct Seep or Vent — Absent  Hydrates — Absent</p>
CMECS Feature Type(s)	<p>Basin  Boulder Field  Ledge  Outcrop/Rock Outcrop  Ridge  Scarp/Wall  Slope  Terrace</p>
SeaTube Link (science annotations)	<p><a href="https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&amp;resourceId=6740">https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&amp;resourceId=6740</a></p>

## Equipment Deployed

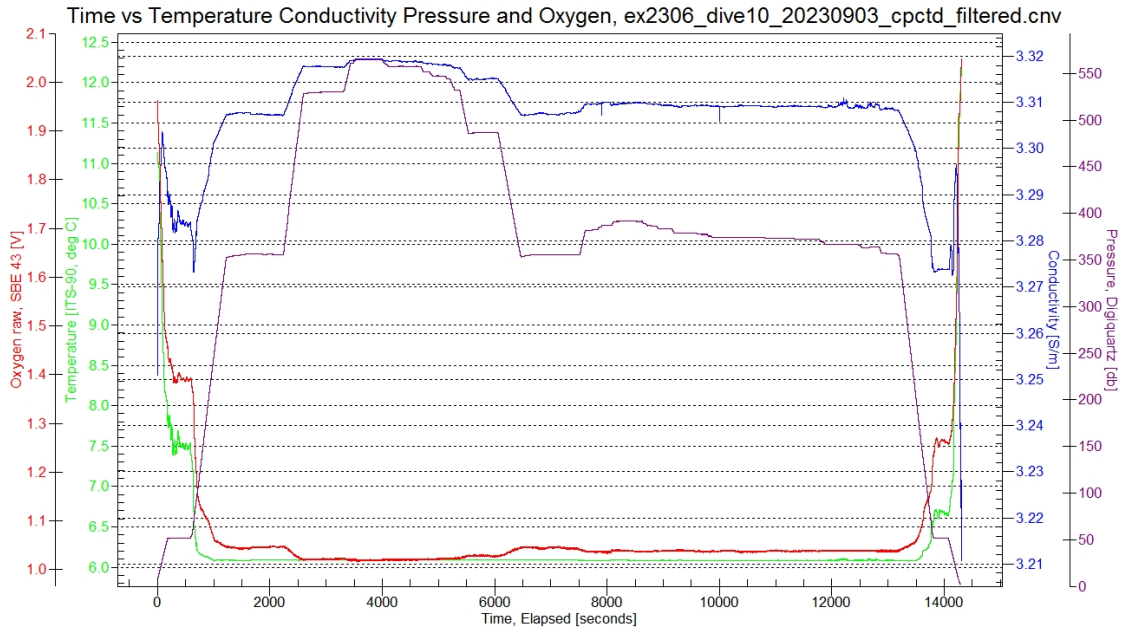
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The following row notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	Tasman DVL unreliable. "Fixed" temperature probe was secured after experiencing issues. LED bottle was reaching high temperatures due to shallow, warmer waters.

## Close-Up Map of Main Dive Site



Smoothed ROV dive track in white on 30x30 m cell size bathymetry, 1x vertical exaggeration, depth in meters, 100 meter contours.

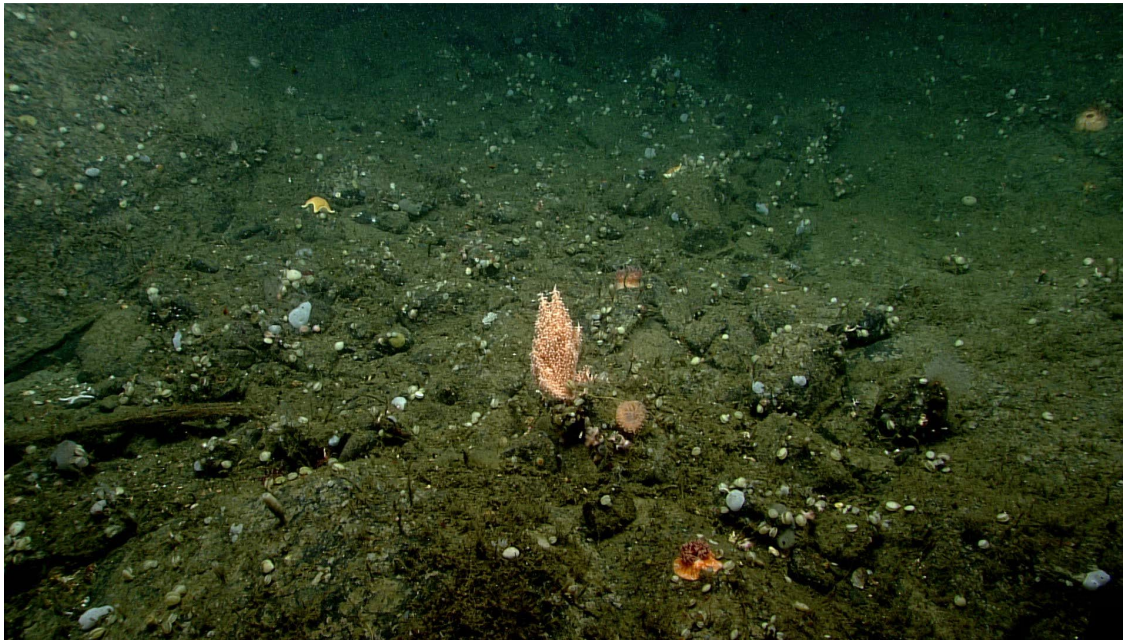
# Sound Speed Manager Image of ROV CTD Profile



Plot of ROV CTD profile, showing temperature, conductivity, pressure, and dissolved oxygen over time.

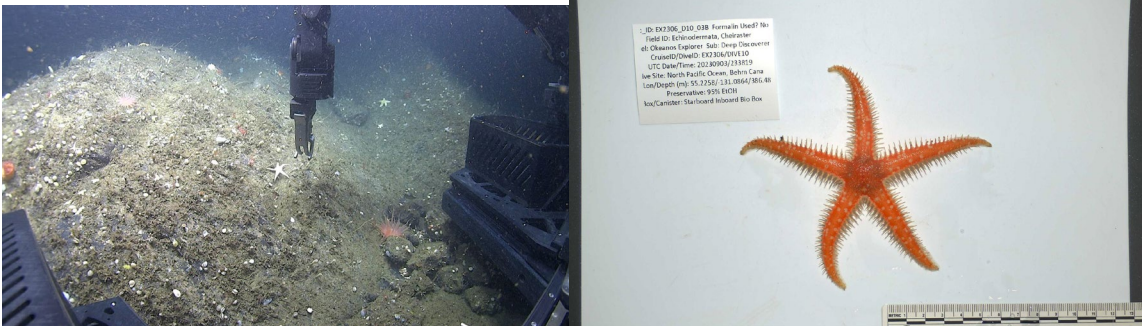


## Representative Photos of the Dive

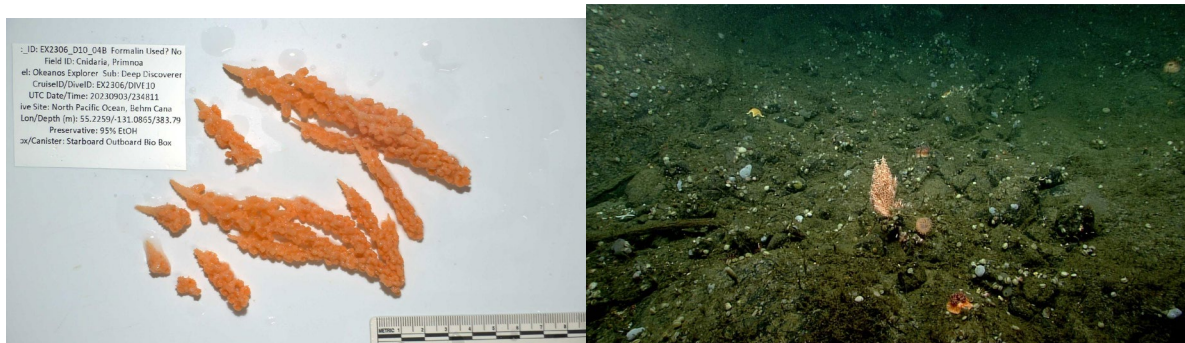


Ridge feature with encrusting brachiopods, anemones, and sponges; *Tritonia* sp. (top) and small *Primnoa pacifica* (bottom)

# Samples Collected



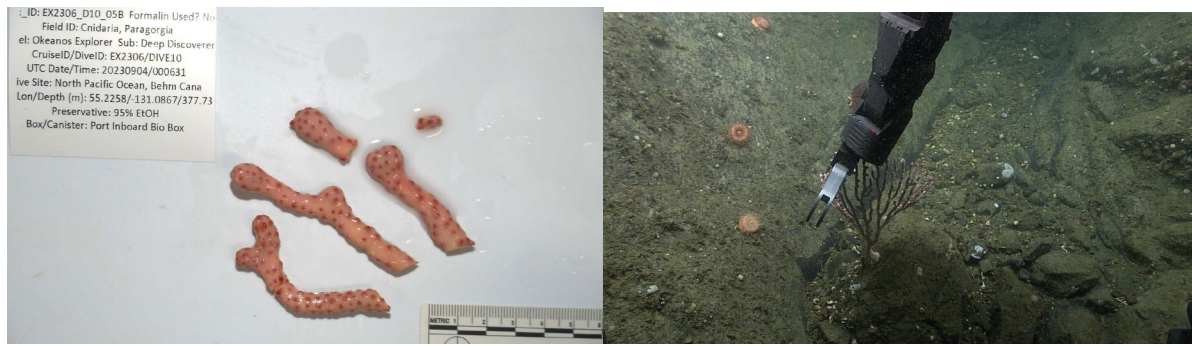
Sample ID	EX2306_D10_03B
Date (UTC)	20230903
Time (UTC)	233819
Depth (m)	386.480987548828
Latitude (decimal degrees)	55.2258377075195
Longitude (decimal degrees)	-131.086410522461
Temp. (°C)	6.08599996566772
Field ID(s)	Cheiraster
Comments	Unidentified Cheiraster species featured in NOAA identification guides



Sample ID	EX2306_D10_04B
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Date (UTC)	20230903
Time (UTC)	234811
Depth (m)	383.787994384766
Latitude (decimal degrees)	55.2258758544922
Longitude (decimal degrees)	-131.086471557617
Temp. (°C)	6.125
Field ID(s)	Primnoa
Comments	Subsampled for R. Waller (histology/reproduction); samples from this area are also needed for population genetics (M. Everett)



Sample ID	EX2306_D10_05B
Date (UTC)	20230904
Time (UTC)	000631
Depth (m)	377.733001708984
Latitude (decimal degrees)	55.2258224487305
Longitude (decimal degrees)	-131.086654663086
Temp. (°C)	6.08699989318848



Field ID(s)	Paragorgia
Comments	Likely Paragorgia stephencairnsi species-complex, fairly large individual of this species-complex

## Niskin Sampling Summary

Sample ID	EX2306_D10_01W
Date (UTC)	20230903
Time (UTC)	214433
Depth (m)	576.276977539063
Latitude (decimal degrees)	55.2251281738281
Longitude (decimal degrees)	-131.084945678711
Bottle Number	Niskin Bottle 1
Temperature	6.10200023651123
Dissolved Oxygen (mg/L)	3.19000005722046
Treatment	DNA/RNA Shield

Sample ID	EX2306_D10_02W
Date (UTC)	20230903
Time (UTC)	225834
Depth (m)	401.489990234375
Latitude (decimal degrees)	55.2257423400879
Longitude (decimal degrees)	-131.086181640625
Bottle Number	Niskin Bottle 2

Temperature	6.09200000762939
Dissolved Oxygen (mg/L)	3.24200010299683
Treatment	DNA/RNA Shield

Sample ID	EX2306_D10_06W
Date (UTC)	20230904
Time (UTC)	001542
Depth (m)	373.858001708984
Latitude (decimal degrees)	55.2257080078125
Longitude (decimal degrees)	-131.086669921875
Bottle Number	Niskin Bottle 3
Temperature	6.08599996566772
Dissolved Oxygen (mg/L)	3.22399997711182
Treatment	DNA/RNA Shield

## Scientists Involved

Name	Affiliation
Amanda Maxon	NOAA
Arvind Shantharam	NCEI
Asako Matsumoto	Chiba Institute of Technology
Christopher Mah	NMNH, Smithsonian Institute
Cindy Van Dover	Duke University
George Matsumoto	JAMSTEC
Jamie Conrad	USGS
Kelly Markello	California Academy of Sciences
Lara Beckmann	University of Gothenburg
Merlin Best	Fisheries and Oceans Canada
Michael Vecchione	NOAA
Rhian Waller	University of Gothenburg
Robert Carney	Louisiana State University
Sean Rooney	NOAA

**Direct inquiries to:**

NOAA Ocean Exploration  
1315 East-West Highway (SSMC3 2nd Floor)  
Silver Spring, MD 20910  
[ex.expeditioncoordinator@noaa.gov](mailto:ex.expeditioncoordinator@noaa.gov)