

ROV Dive Summary

EX2306, Dive 09, September 2, 2023

General Location Map



Dive Information

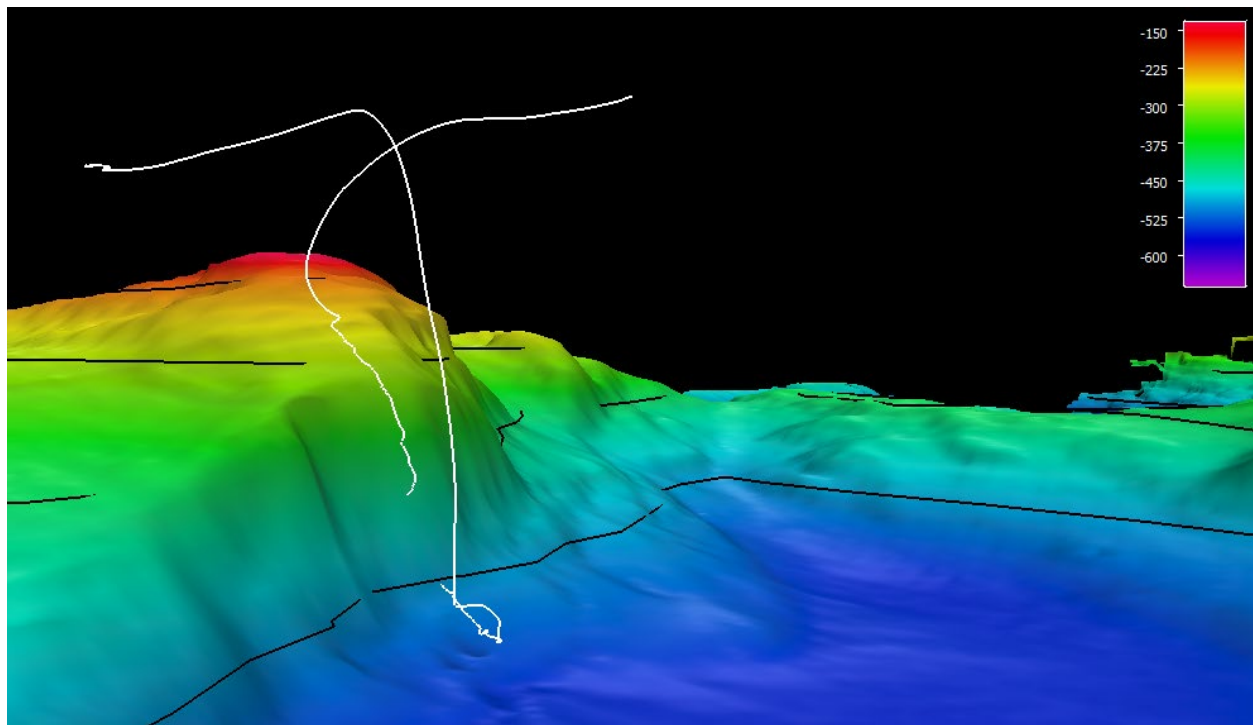
Site Name	Ernest Sound
General Area Descriptor	Gulf of Alaska
Science Team Leads	Merlin Best (Bio); Jamie Conrad (Geo)
Expedition Coordinator	Sam Candio
ROV Dive Supervisor	Lars Murphy
Dive Purpose	To evaluate an area modeled to have a potential high probability of presence and/or abundance of primnoid corals, and evaluate the rocky habitat in this glacially carved canal.
Maritime Heritage Restrictions	No
ROV Dive Summary Data	<p>Dive Type: Normal</p> <p>In Water: 2023-09-02T16:36:17.953182 55.96588469279604 ; -132.07561528960275</p> <p>On Bottom: 2023-09-02T18:18:15.785470 55.96642464639461 ; -132.08217945308374</p> <p>Off Bottom: 2023-09-03T00:22:17.215722 55.96606662672276 ; -132.079667493109</p> <p>Out Water: 2023-09-03T00:39:06.241983 55.963898 ; -132.082782</p> <p>Dive Duration: 8:02:48</p> <p>Bottom Time: 6:04:01</p> <p>Max Vehicle Depth: 546.7 m</p> <p>Min Seafloor Depth: 253.1 m</p> <p>Distance Traveled: 232.3 m</p>

Dive Description	<p>Geology</p> <p>The ninth dive of EX2306 was in Ernest Sound, one of the fjords of the Alexander Archipelago in southeastern Alaska. The dive began at a depth of about 535 m in pebbly to cobbly sandy sediment at the bottom of the fjord. The ROV ascended a near-vertical rocky face of thick bedded to massive Cretaceous and Jurassic metasedimentary rock to a bench at about 300 m depth.</p> <p>Biology</p> <p>The dive revealed an unusually high abundance of <i>Bathypathes alaskensis</i> along the entire traverse up the vertical wall - an antipatharian that has only recently been described (2021). There was a notably high abundance of brachiopods throughout the majority of the dive, and <i>Caryophyllia</i> sp. and ophiuroids (largely <i>Ophiopholis aculeata</i>) were also seen in relative abundance.</p>
Notable Observations	<p><i>Primnoa pacifica</i> was seen in patches, as well as several observations of <i>Enteractopus dofleini</i> and <i>Aphrocallistes vastus</i> (a 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 Flat Ledge Outcrop/Rock Outcrop Scarp/Wall Slope Terrace</p>
SeaTube Link (science annotations)	<p>https://data.oceannetworks.ca/SeaTubeV3?resourceTypeid=600&resourceid=6730</p>

Equipment Deployed

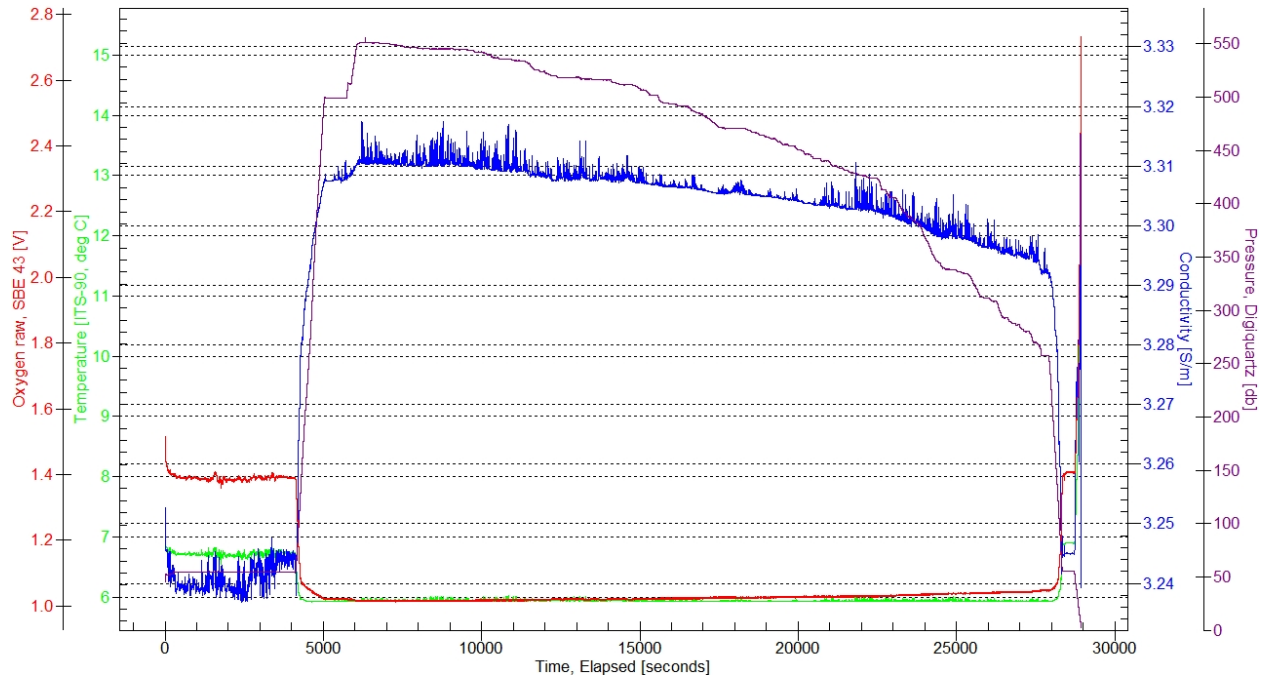
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The following row notes if any of these sensors were malfunctioning or not operational.
Equipment Malfunctions	Tasman DVL was unreliable.

Close-Up Map of Main Dive Site



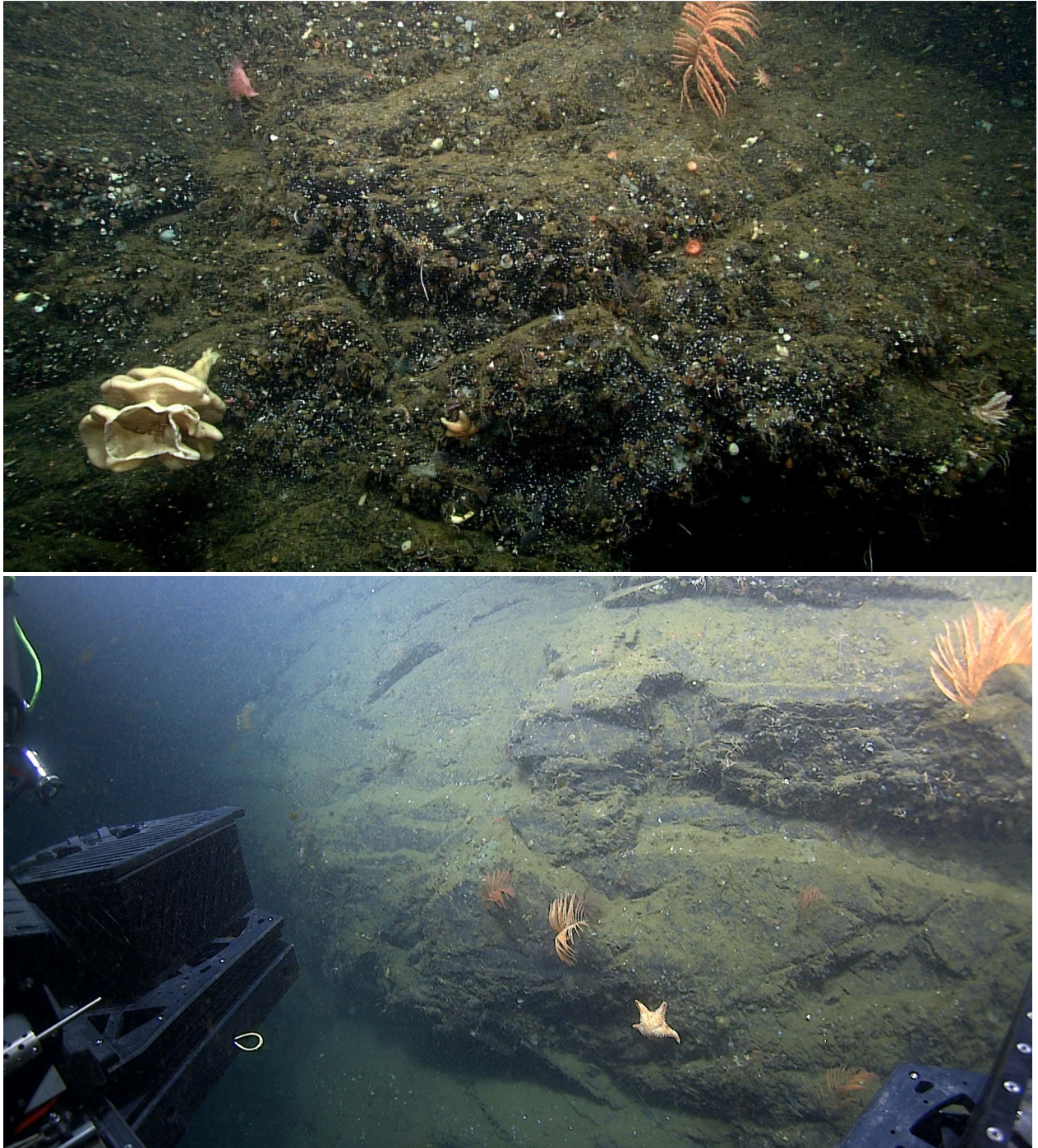
Smoothed ROV dive track in white on 30x30 m cell size bathymetry, 1x vertical exaggeration, depth in meters, 100 meter contours.

ROV CTD Profile



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

Representative Photos of the Dive



Top: steep rock wall with *Aphrocallistes vastus*, *Sebastolobus* sp., and *Bathypathes alaskensis*; Bottom: steep rock wall with *Bathypathes alaskensis* and *Hippasteria* sp.

Samples Collected



Sample ID	EX2306_D09_02B
Date (UTC)	20230902
Time (UTC)	214030
Depth (m)	465.885986328125
Latitude (decimal degrees)	55.9660720825195
Longitude (decimal degrees)	-132.081069946289
Temp. (°C)	5.94600009918213
Field ID(s)	brachiopoda
Comments	This taxa was very abundant in the area and requested in the science chat

Associates Sample ID:	EX2306_D09_02B_A01B
Field Identification:	Polynoidae
Count:	1

Associates Sample ID:	EX2306_D09_02B_A02B
Field Identification:	Serpulidae
Count:	1

Associates Sample ID:	EX2306_D09_02B_A04B
Field Identification:	Amphipoda
Count:	1

Associates Sample ID:	EX2306_D09_02B_A05B
Field Identification:	Bryozoa
Count:	1

Associates Sample ID:	EX2306_D09_02B_A06B
Field Identification:	Porifera
Count:	1

Niskin Sampling Summary

Sample ID	EX2306_D09_01W
Date (UTC)	20230902
Time (UTC)	182201
Depth (m)	545.518981933594
Latitude (decimal degrees)	55.9664077758789
Longitude (decimal degrees)	-132.082183837891
Bottle Number	Niskin Bottle 1
Temperature	5.94199991226196
Dissolved Oxygen (mg/L)	2.83200001716614
Treatment	DNA/RNA Shield

Sample ID	EX2306_D09_03W
Date (UTC)	20230902
Time (UTC)	225130
Depth (m)	419.31298828125
Latitude (decimal degrees)	55.9660873413086
Longitude (decimal degrees)	-132.081069946289
Bottle Number	Niskin Bottle 2
Temperature	5.93800020217896
Dissolved Oxygen (mg/L)	2.85199999809265
Treatment	DNA/RNA Shield

Sample ID	EX2306_D09_04W
Date (UTC)	20230903
Time (UTC)	001558
Depth (m)	266.902008056641
Latitude (decimal degrees)	55.965690612793
Longitude (decimal degrees)	-132.07975769043
Bottle Number	Niskin Bottle 3
Temperature	5.92899990081787
Dissolved Oxygen (mg/L)	2.87100005149841
Treatment	DNA/RNA Shield

Sample ID	EX2306_D09_05W
Date (UTC)	20230903
Time (UTC)	002642
Depth (m)	126.311996459961
Latitude (decimal degrees)	55.9658164978027
Longitude (decimal degrees)	-132.079879760742
Bottle Number	Niskin Bottle 4
Temperature	5.98699998855591
Dissolved Oxygen (mg/L)	2.98000001907349
Treatment	DNA/RNA Shield

Scientists Involved

Name	Affiliation
Amanda Maxon	NOAA
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Christopher Kelley	University of Hawaii
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