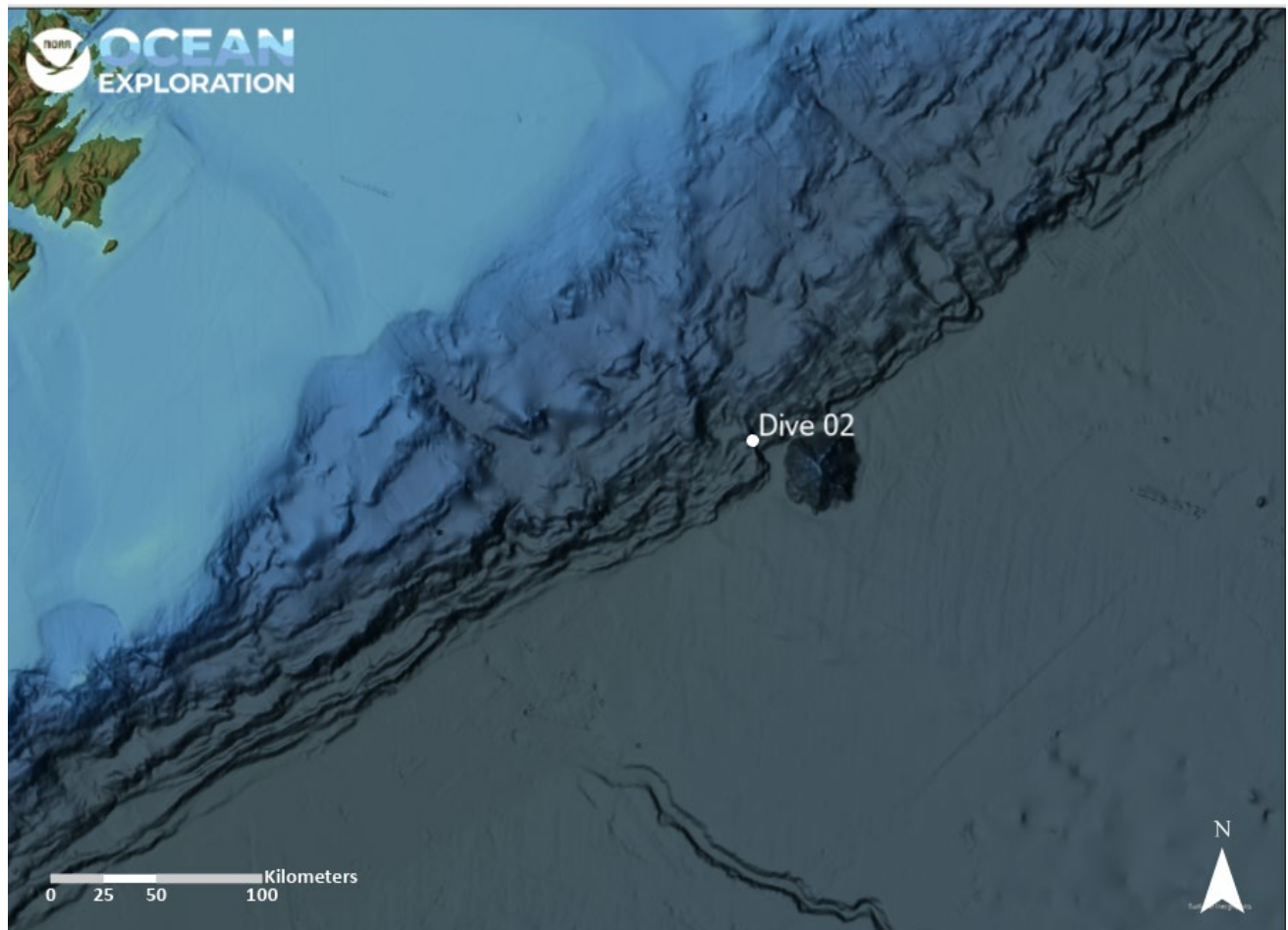


# ROV Dive Summary

## EX2306, Dive 02, August 25, 2023

### General Location Map



# Dive Information

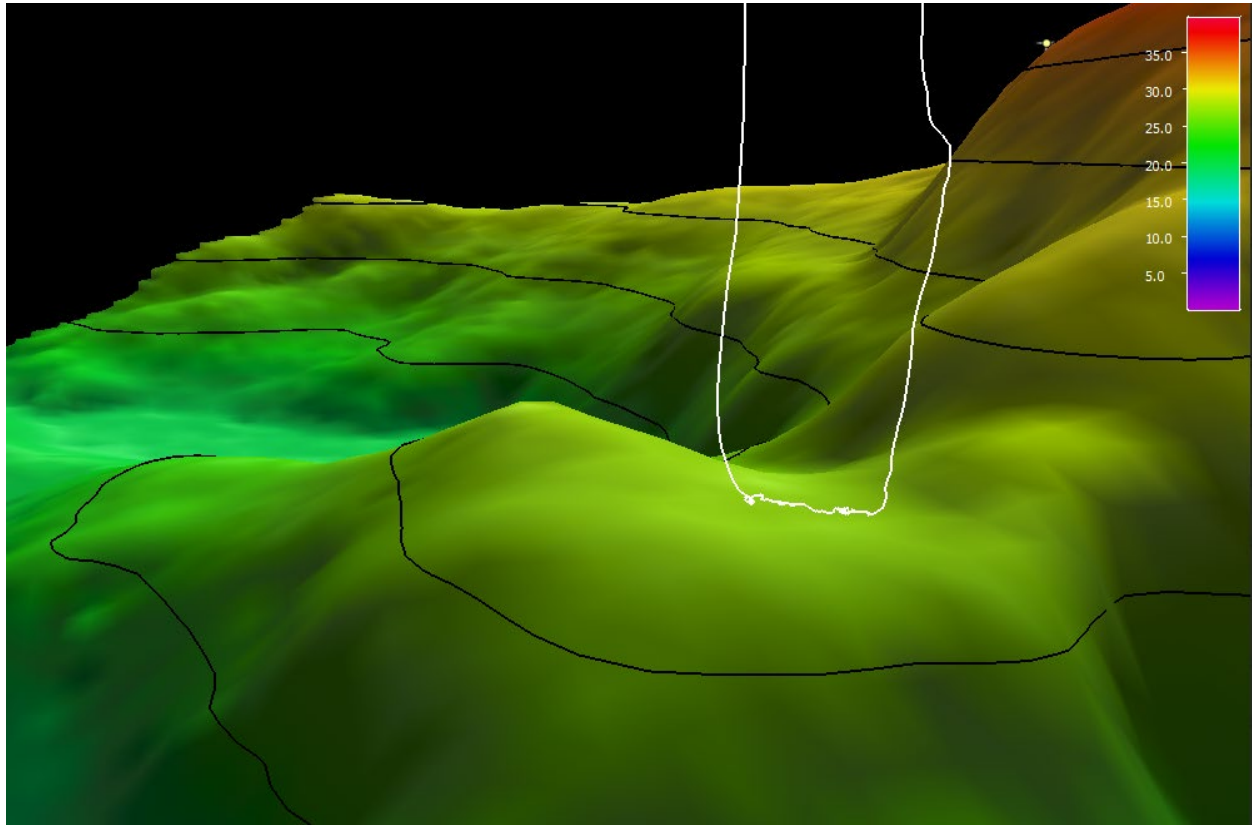
Site Name	Kodiak Seep
General Area Descriptor	Gulf of Alaska
Science Team Leads	Merlin Best (Bio); Jamie Conrad (Geo)
Expedition Coordinator	Sam Candio
ROV Dive Supervisor	Lars Murphy
Dive Purpose	To dive on a previously observed seep in a water depth of approximately 4400 m.
Maritime Heritage Restrictions	No
ROV Dive Summary Data	<p>Dive Type: Normal</p> <p>In Water: 2023-08-25T17:23:46.703781 56.9228626437583 ; -149.556301441591</p> <p>On Bottom: 2023-08-25T19:54:24.068833 56.922611077562095 ; -149.55646291579208</p> <p>Off Bottom: 2023-08-25T22:09:01.140590 56.92420382683567 ; -149.55507978999424</p> <p>Out Water: 2023-08-26T00:39:45.267354 56.921858 ; -149.565894</p> <p>Dive Duration: 7:15:58</p> <p>Bottom Time: 2:14:37</p> <p>Max Vehicle Depth: 4261.5 m</p> <p>Min Seafloor Depth: 4252.5 m</p> <p>Distance Traveled: 215.5 m</p>

Dive Description	<p><b>Geology</b> This dive explored a deep ocean environment about 5 km landward of the Aleutian trench. The dive encountered a soft hemipelagic mud seafloor. Two sediment samples of silty clay were recovered as associates (by-samples) with biological samples.</p> <p><b>Biology</b> While we did not find any chemosynthetic communities, this dive did provide a number of interesting biological observations of fauna associated with the abyssal soft sediment at a rarely-imaged depth. Several different species of Pennatulacea, Echinoidea, and also Albatrossia pectoralis were documented. A variety of biological samples were collected for further study.</p>
Notable Observations	Echinocrepis sp. (a rare pyramid-shaped urchin)
Community and Habitat Observations	<p>Corals and Sponges — Present</p> <p>Chemosynthetic Community — Absent</p> <p>High biodiversity Community — Absent</p> <p>Active Seep or Vent — Absent</p> <p>Extinct Seep or Vent — Absent</p> <p>Hydrates — Absent</p>
CMECS Feature Type(s)	Ridge Terrace
SeaTube Link (science annotations)	<a href="https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&amp;resourceId=6630">https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&amp;resourceId=6630</a>

## Equipment Deployed

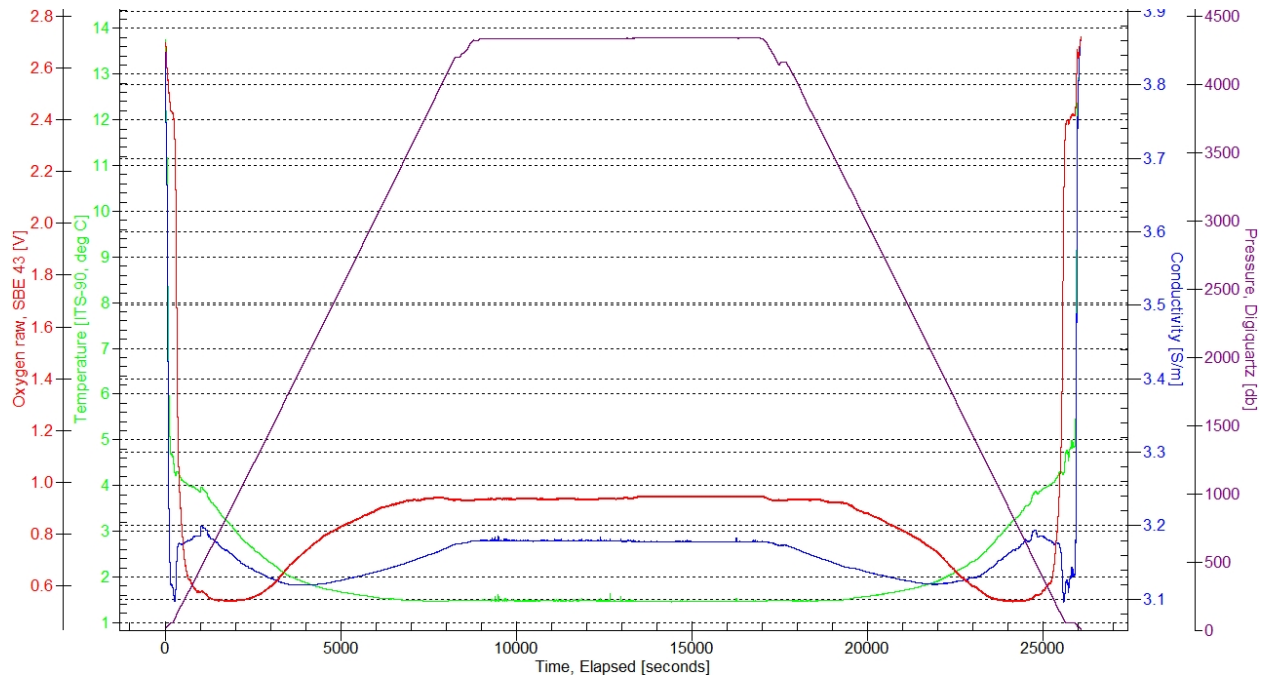
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The following row notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	Experienced erratic behavior on the <i>Seirios</i> altimeter during descent. It settled at 40 m altitude and remained steady for the remainder of the dive. Erratic behavior of the DVL persisted throughout the dive.

## Close-Up Map of Main Dive Site



Smoothed ROV dive track in white on 30x30 m cell size bathymetry, 3x vertical exaggeration, depth in meters, 10 meter contours.

## ROV CTD Profile



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

## Representative Photos of the Dive



Dark purple holothurian and *Albatrossia pectoralis* (the Giant Grenadier).

# Samples Collected



Sample ID	EX2306_D02_01B
Date (UTC)	20230825
Time (UTC)	210114
Depth (m)	4255.1
Latitude (decimal degrees)	56.92315
Longitude (decimal degrees)	-149.55630
Temp. (°C)	1.491
Field ID(s)	Pennatulacea

Associates Sample ID	Field Identification	Count
EX2306_D02_01B_A01G	seafloor sediment	n/a

Associates Sample ID	Field Identification	Count
EX2306_D02_01B_A02B	Ophiuroidea	1





Sample ID	EX2306_D02_02B
Date (UTC)	20230825
Time (UTC)	213355
Depth (m)	4258.7
Latitude (decimal degrees)	56.92399
Longitude (decimal degrees)	-149.55610
Temp. (°C)	1.467
Field ID(s)	Cystechinus
Comments	resembles kiwi or large olive





Sample ID	EX2306_D02_03B
Date (UTC)	20230825
Time (UTC)	214548
Depth (m)	4260.3
Latitude (decimal degrees)	56.92387
Longitude (decimal degrees)	-149.55630
Temp. (°C)	1.456
Field ID(s)	Pennatula

Associates Sample ID	Field Identification	Count
EX2306_D02_03B_A01G	Seafloor sediment	n/a



Sample ID	EX2306_D02_04B
Date (UTC)	20230825
Time (UTC)	215509
Depth (m)	4260.2
Latitude (decimal degrees)	56.92424
Longitude (decimal degrees)	-149.55550
Temp. (°C)	1.456
Field ID(s)	Actinaria

## Niskin Sampling Summary

Sample ID	EX2306_D02_05W
Date (UTC)	20230825
Time (UTC)	221003
Depth (m)	4231.1
Latitude (decimal degrees)	56.92445
Longitude (decimal degrees)	-149.55410
Bottle Number	NISKIN 1
Temperature (°C)	1.473
Dissolved Oxygen (ml/L)	4.479
Treatment	DNA/RNA Shield

Sample ID	EX2306_D02_06W
Date (UTC)	20230825
Time (UTC)	221032
Depth (m)	4217.7
Latitude (decimal degrees)	56.92445
Longitude (decimal degrees)	-149.55560
Bottle Number	NISKIN 2
Temperature (°C)	1.476
Dissolved Oxygen (ml/L)	4.444
Treatment	DNA/RNA Shield

Sample ID	EX2306_D02_07W
Date (UTC)	20230825
Time (UTC)	230405
Depth (m)	2754.0
Latitude (decimal degrees)	56.92500
Longitude (decimal degrees)	-149.55740
Bottle Number	NISKIN 3
Temperature (°C)	1.612
Dissolved Oxygen (ml/L)	3.031
Treatment	DNA/RNA Shield

Sample ID	EX2306_D02_08W
Date (UTC)	20230825
Time (UTC)	234840
Depth (m)	1398.1
Latitude (decimal degrees)	56.92448
Longitude (decimal degrees)	-149.55780
Bottle Number	NISKIN 4
Temperature (°C)	2.340
Dissolved Oxygen (ml/L)	0.862
Treatment	DNA/RNA Shield

Sample ID	EX2306_D02_09W
Date (UTC)	20230826
Time (UTC)	002611
Depth (m)	234.8
Latitude (decimal degrees)	56.92228
Longitude (decimal degrees)	-149.56240
Bottle Number	NISKIN 5
Temperature (°C)	4.062
Dissolved Oxygen (ml/L)	0.984
Treatment	DNA/RNA Shield

## Scientists Involved

Name	Affiliation
Robert Carney	Louisiana State University
Gabriel Castro-Falcón	Scripps Institution of Oceanography
Christina Conrath	NOAA
Meredith Everett	NOAA
Sarah Friedman	NOAA
Phil Hartmeyer	NOAA
Heather Judkins	University of South Florida St. Petersburg
Susan Loricchio	AFA
Hugh MacIntosh	Royal BC Museum
Stephen Maconi	GFOE
Christopher Mah	NAtional Museum of Natural History, Smithsonian Institution
George Matsumoto	MBARI
Cheryl Morrison	USGS Eastern Ecological Science Center
Sean Rooney	NOAA
Jane Rudebusch	USGS
Carolyn Ruppel	USGS
Rhian Waller	Gothenburg University
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