

Project Instructions: EX2306: Seascape Alaska 5: Gulf of Alaska Remotely Operated Vehicle Exploration and Mapping

Date Submitted: June 27, 2023

Platform: NOAA Ship *Okeanos Explorer*

Project Number: EX2306

Project Title: EX2306: Seascape Alaska 5: Gulf of Alaska Remotely Operated Vehicle Exploration and Mapping

Project Dates: August 23 - September 16

Prepared by: _____ **Dated:** _____
Sam Candio
Expedition Coordinator Team Lead
NOAA Ocean Exploration

Approved by: _____ **Dated:** _____
Kasey Cantwell
Operations Chief, Expeditions and Exploration Division
NOAA Ocean Exploration

Approved by: _____ **Dated:** _____
CDR Sam Greenaway
Chief (acting), Expeditions and Exploration Division
NOAA Ocean Exploration

Approved by: _____ **Dated:** _____
CAPT Amanda Goeller
Commanding Officer
NOAA Marine Operations Center — Atlantic

I. Overview

A. Brief Summary and Project Period

This document contains project instructions specific to EX2306. For the annual cross-expedition details, see the [“NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions.”](#) This expedition will commence on August 23, 2023, in Kodiak, Alaska, and conclude on September 16, 2023, in Seward, Alaska. Operations will be conducted 24 hours a day, and consist of remotely operated vehicle (ROV) dives, mapping operations, and full shore-based participation via telepresence.

Operations will include the use of the ship’s deepwater mapping systems (Kongsberg EM 304 multibeam, EK60/EK80 split-beam sonars, Knudsen 3260 Chirp sub-bottom profiler, and Teledyne acoustic Doppler current profilers), expendable bathythermograph (XBTs) in support of multibeam sonar mapping operations, conductivity, temperature, depth profiler (CTD) casts, NOAA Ocean Exploration’s two-body ROV system (*Deep Discoverer* and *Seirios*), and a high-bandwidth satellite connection for continuous ship-to-shore communications. Operations will focus on exploring deep waters (greater than 200 m for mapping operations and 250 m for ROV operations) in U.S. waters, the high seas, and Canadian waters off of Alaska.

B. Days at Sea

Of the 25 days at sea (DAS) scheduled for this expedition, all are funded by NOAA Office of Oceanic and Atmospheric Research allocation.

This expedition is estimated to exhibit a high operational tempo due to 24-hour operations, which include daily ROV dives, overnight mapping operations, CTD casts, and continuous shoreside participation via telepresence.

C. Operating Area

EX2306 will focus operations on areas within the Gulf of Alaska. Mapping, ROV, and CTD operations will be conducted at depths between 200 and 6000 m. **Figure 1** shows the general operating area for the expedition. The waypoints for the general working area and proposed expedition track are in **Appendix A**.

As this expedition is operating in remote locations and/or far from a suitable port to treat medical emergencies, a medical officer is requested to be aboard for the entirety of the expedition.

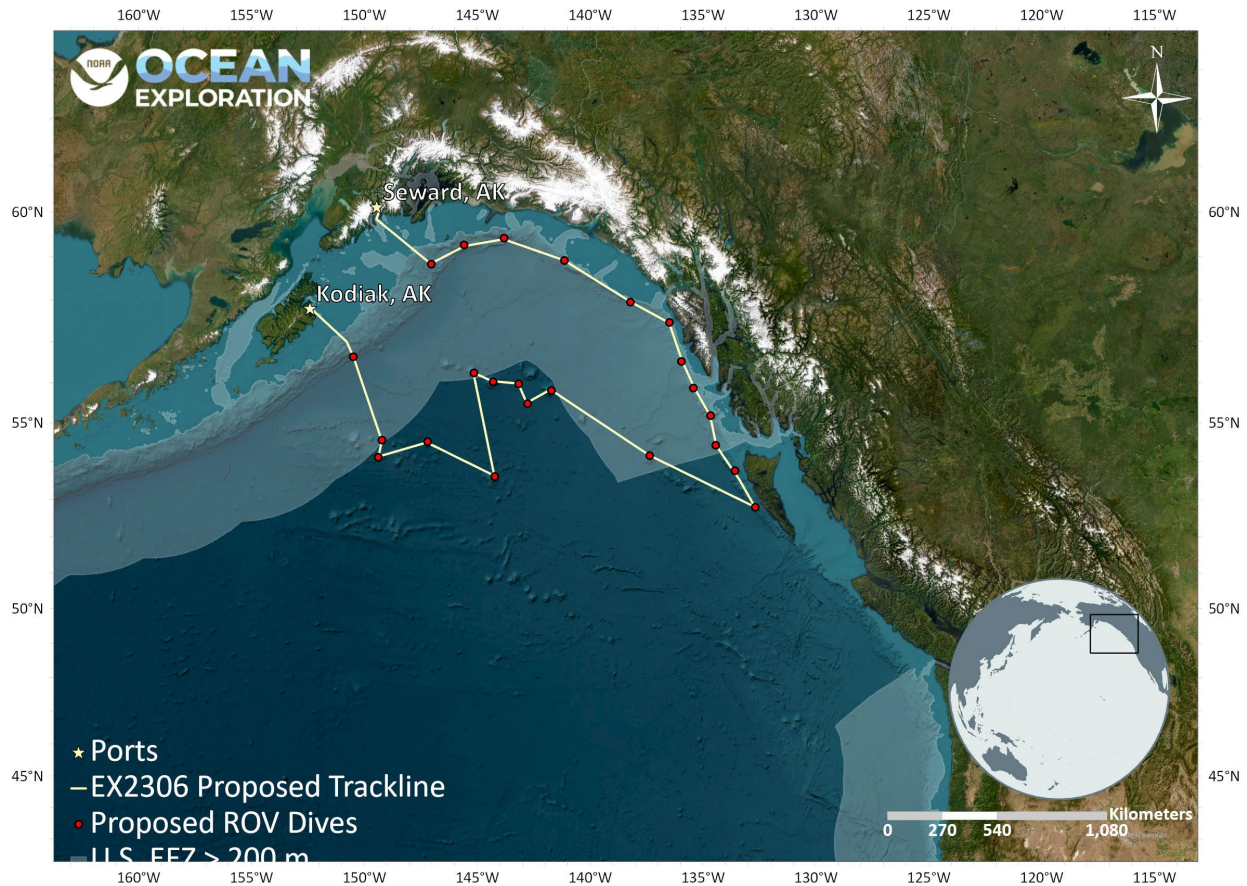


Figure 1. Map showing the general operating area for EX2306. The expedition track is subject to change based on survey results, field conditions, and the discretion of the commanding officer.

D. Summary of Objectives

EX2306 operations will involve a southeast transit towards the trench followed by focused ocean mapping and ROV operations in the Gulf of Alaska, primarily in deep water (>200 m). This expedition will collect critical baseline information to support priority exploration needs as determined from a 2022 [Call for Input](#) and will contribute to [Seascape Alaska](#). Seascape Alaska is a multiyear, multipartner cooperative research campaign with an aim to create accessible, high-quality modern seabed data for Alaskan waters to support U.S. research, resource management, sustainable economic growth, and the health and security of Americans. The goal of Seascape Alaska is working to fully map the U.S. waters off Alaska through collaborative efforts among federal, tribal, state, and nongovernmental partners with a wide range of interests and dependencies on mapping data across coastal and ocean waters throughout the U.S. EEZ.

Mission objectives for EX2306 include a variety of objectives focused on science, mapping, education, outreach, and data management. Overarching objectives that span the entire Fiscal Year 2023 (FY23) field season are covered in the “[NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions](#).” See **Appendix B** for the expedition data management plan. Additional objectives specific to EX2306 follow:

1. Science Objectives

- a. Identify, map, and explore the diversity and distribution of benthic habitats, including potential deep-sea coral and sponge communities, fish habitats, and chemosynthetic communities.
- b. Map geologic features to better understand the geological context of the region and improve knowledge of past and potential geohazards.
- c. Acquire acoustic and oceanographic data as a foundation to better understand the characteristics of the water column and the pelagic fauna that inhabit it.
- d. Engage a broad spectrum of the scientific and management community, as well as the public, in telepresence-based exploration.
- e. Create and provide input into standard science products to provide a foundation of publicly accessible data and information products to spur further exploration, research, and management activities.
- f. Use the onboard laboratory to preserve and catalog all biological and geological samples and ready them for shipping to their respective public archives.
- g. Collect water samples using the ROV- and CTD-mounted Niskin bottles and filter samples in the onboard laboratory to obtain eDNA samples for shoreside processing.
- h. Collect sun photometer measurements as part of surveys of opportunity in partnership with NASA.

2. Acoustic Mapping Objectives

- a. Collect transit data that addresses bathymetric gaps or prioritizes areas with poor bathymetric or seabed backscatter data quality. Requested transit speeds will be the best possible speed up to 10 kn.
- b. Collect high-resolution bathymetry in areas with no (or low quality) sonar data.
- c. Conduct XBT casts as data quality requires, but not more than six hours apart.

3. ROV Exploration Objectives

- a. Use the dual-body ROV system for seafloor habitat exploration to:
 - i. Conduct close-up imaging operations on potential new, rare, and poorly documented organisms, as well as dominant members of benthic communities.

- ii. Collect samples of potential new species, new records, dominant community members if not easily recognized, and other organisms to aid in site characterization.
- iii. Collect geological samples that can be used to age a feature, provide insight into the geological context of the region, or improve knowledge about marine minerals and potential future or past geohazards.

4. ROV Engineering Objectives

- a. Conduct daytime ROV dives on exploration targets.
- b. Continue training of engineers and pilots.
- c. Continue system maintenance, documentation, and training.

5. Video Engineering Objectives

- a. Provide onboard support for 24-hour exploration operations.
- b. Verify Global Foundation for Ocean Exploration (GFOE) managed telepresence systems perform as expected.

6. Network/Onboard Data Objectives

- a. Ensure integrity of all data processing pipelines and automated transfer to shore for all raw sonar data and daily bathymetry and bottom backscatter mosaic products.
- b. Ensure Global Foundation for Ocean Exploration (GFOE) managed VSAT, network, and computing infrastructure operate as required to meet mission objectives.
- c. Ensure shipboard instruments/teams are producing expected data products at the expected rates according to established conventions.
- d. Ensure data management processes organize, backup, and transmit data to shore as expected.
- e. Support shore-based personnel with remote access to shipboard resources to better meet mission objectives.

7. Outreach and Education Objectives

- a. Host interactions with audiences on shore (exact schedule TBD).
- b. Host limited scheduled ship tours while in port (exact schedule TBD)
- c. Engage the general public in ocean exploration through social media and live video and timely content (dive summaries, web features, highlight videos, video clips, still imagery, and mapping products) on the NOAA Ocean Exploration website.
- d. Participate in Science Symposium with partners in Seward upon arrival.

8. Ship Objectives

- a. Conduct drills.
- b. Conduct stationary CTD operations as requested and able.

9. Ethanol Testing

- a. Test the quality of the ethanol stored in the ethanol barrels before and after each ROV expedition.
- b. Use NOAA Ocean Exploration's Ethanol Test Guide (**Appendix C**), which provides detailed instructions on how to test the ethanol, calculate the measurements, and record the results.

E. Participating Institutions

- Bureau of Ocean Energy Management, 3801 Centerpoint Drive, Suite 500, Anchorage, AK 99503
- Fisheries and Oceans Canada, Institute of Ocean Sciences, 9860 West Saanich Road, Sidney, British Columbia, Canada.
- Fisheries and Oceans Canada, Ocean and Ecosystem Sciences Division, Oceanography and Climate Section. Bedford Institute of Oceanography, P.O. Box 1006, 1 Challenger Dr., Dartmouth, Nova Scotia, Canada
- NOAA Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA 98115
- NOAA Alaska Fisheries Science Center, Kodiak Laboratory, 301 Research Court, Kodiak, AK 99615
- NOAA, Atlantic Oceanographic and Meteorological Laboratory, 4301 Rickenbacker Causeway, Miami, FL, 33149
- NOAA, Deep Sea Coral Research and Technology Program, 1315 East-West Hwy, Silver Spring, MD 20910 USA
- NOAA, National Centers for Environmental Information, 1021 Balch Boulevard, Suite 1003, Stennis Space Center, MS 39529
- NOAA, Office of Coast Survey, Integrated Ocean and Coastal Mapping, 7600 Sand Point Way NE Seattle, WA 98115
- NOAA, Pacific Marine Environmental Research Laboratory, 7600 Sand Point Way NE Seattle, WA 98115
- Senckenberg Research Institute and Natural History Museum, Am Jakobskirchhof 4, 99423 Weimar, Germany
- United States Environmental Protection Agency, Ocean Dumping Program, Oregon Operations Office, 805 SW Broadway, Suite 500, Portland, OR 97205

- United States Geological Survey, Eastern Ecological Science Center at the Leetown Research Laboratory, Species Population Dynamics & Surveillance Capability Team 11649 Leetown Road, Kearneysville, WV 25430
- United States Geological Survey, Hawaiian Volcano Observatory, 1266 Kamehameha Avenue, Suite A-8, Hilo, HI 96720
- United States Geological Survey, Pacific Coastal and Marine Science Center, 2885 Mission Street, Santa Cruz, CA 95060 USA
- United States Naval Research Laboratory, Stennis Space Center, MS 39529
- Woods Hole Oceanographic Institute, 86 Water St, Falmouth, MA 02543
- University of Alaska, Anchorage, 3211 Providence Drive, Anchorage, AK 99508
- University of Alaska, Fairbanks, 505 S Chandalar, Fairbanks, AK 99775
- University of Gothenburg, Tjärnö Marine Laboratory, Laboratorievägen 10, 452 96, Tjärnö, Strömstad, Sweden
- University of Idaho, Department of Geological Sciences, 875 Perimeter Drive, Moscow, Idaho

See “[NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions](#)” for institutions that consistently participate throughout the field season.

F. Personnel (Mission Party)

Mission personnel (see **Table 1**) will arrive in Kodiak, Alaska on June 26, 2023. Mission personnel will then be aboard for the duration of the expedition (June 28 - July 25, 2023). Most personnel will depart on July 27 and 28, and others will stay aboard for the expedition that follows (EX2305). The expedition will also be supported by shoreside personnel (see **Table 2**).

Mission personnel sailing aboard NOAA Ship *Okeanos Explorer* must fill out a [Sailing Contact Form](#) that collects emergency contact information for each person. This information is available to the operations officer to fulfill safety requirements to sail.

Table 1. Seagoing mission personnel: This list is tentative until travel is booked. Any deviations will be communicated to the operations officer.

#	Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
1	Candio, Sam	Expedition Coordinator	08/20	09/19	M	NOAA Ocean Exploration	USA
2	Conrad, Jamie	Science Lead	08/20	09/18	M	USGS	USA

#	Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
3	Best, Merlin	Science Lead	08/20	09/18	F	DFO	CANADA
4	Bittinger, Amanda	Mapping Watch Lead	08/21	09/18	F	UCAR	USA
5	Gillespie, Treyson	Mapping Watch Lead	08/21	09/18	M	UCAR	USA
6	Shantharam, Arvind	Sample Data Manager	08/20	09/18	M	NCEI	USA
7	Murphy, Lars	GFOE Team Lead	08/20	09/18	M	GFOE	USA
8	Wright, Chris	Engineer	08/20	Staying aboard	M	GFOE	USA
9	Unema, Levi	Engineer	08/20	09/18	M	GFOE	USA
10	Kennison, Sean	Engineer	08/20	09/18	M	GFOE	USA
11	O'Brien, Andy	Engineer	08/20	09/18	M	GFOE	USA
12	Howard, Art	Engineer	08/20	09/18	M	GFOE	USA
13	Bailey, Caitlin	Engineer	08/20	09/18	F	GFOE	USA
14	Mefford, Jon	Engineer	08/20	09/18	M	GFOE	USA
15	Mohr, Bobby	Engineer	08/20	09/18	M	GFOE	USA
16	Gregory, Todd	Engineer	08/20	09/18	M	GFOE	USA
17	Brian, Roland	Engineer	08/20	09/18	M	GFOE	USA
18	Aragon, Fernando	Engineer	08/20	09/18	M	GFOE	USA
19	Kenney, Nate	Engineer	08/20	09/18	M	GFOE	USA
20	Maxon, Amanda	Environmental Compliance Officer	08/20	09/18	F	NOAA Ocean Exploration	USA
21	Ashe, Emily	Communications Specialist	08/20	09/18	F	NOAA OAR	USA
22	Hebner, Mitch	Knauss Fellow	08/20	09/18	M	NOAA Ocean Exploration	USA

Table 2. Shoreside support personnel and key contacts.

#	Name (Last, First)	Title	Affiliation	Nationality
1	Gulbraa, Rachel	Comms Coordinator	NOAA Ocean Exploration	USA
2	Johnson-Rodney, Shellby	Outreach Coordinator	NOAA Ocean Exploration	USA

1. Foreign National Guests (FNGs) Access to OMAO Facilities and Platforms

Foreign national access to *Okeanos Explorer* or other federal facilities will be required for this expedition.

G. Administrative

1. Points of Contact

Table 3. Points of contact.

Operations	Name, Title	Office	Address	Phone	Email
Marine Operations Center, Atlantic	CAPT Amanda Goeller, Commanding Officer	Marine Operations Center, Atlantic	439 West York Street Norfolk, VA 23510-1145	(757) 441-6778	co.moc.atlantic@noaa.gov
Marine Operations Center, Atlantic	CDR Steven Barry, Chief of Operations	Marine Operations Center, Atlantic	439 West York Street Norfolk, VA 23510-1145	(757) 441-6842	Chiefops.MOA@noaa.gov
NOAA Ship Okeanos Explorer (primary)	CAPT Colin Little, Commanding Officer	NOAA Ship Okeanos Explorer	NOAA Ship Okeanos Explorer 47 Chandler Street Newport, RI 02841	(401) 439-7848	CO.Explorer@noaa.gov
NOAA Ship Okeanos Explorer (primary)	LT Hunter Brendel, NOAA Operations Officer	NOAA Ship Okeanos Explorer	NOAA Ship Okeanos Explorer 47 Chandler Street Newport, RI 02841	(808) 659-9179 x221	ops.explorer@noaa.gov
Mission (primary)	Sam Candio, Expedition Coordinator	NOAA Ocean Exploration	CCOM/JHC 24 Colovos Rd Durham, NH 03824	(732) 546-2232	samuel.candio@noaa.gov
Mission (other)	Kasey Cantwell, Operations Chief	NOAA Ocean Exploration	1315 East-West Highway, Silver Spring, MD 20910	(301) 717-7776	kasey.cantwell@noaa.gov

Operations	Name, Title	Office	Address	Phone	Email
Mission (other)	CDR Sam Greenaway, Chief (acting), Expeditions and Exploration Division	NOAA Ocean Exploration	1315 East-West Highway, Silver Spring, MD 20910	(240) 621-2112	samuel.greenaway@noaa.gov
Mission (other)	Jeremy Weirich, Director	NOAA Ocean Exploration	1315 East-West Highway, Silver Spring, MD 20910	(301) 452-7366	jeremy.weirich@noaa.gov

2. Diplomatic Clearances

While the planned operating area resides within the U.S. Exclusive Economic Zone, clearance was requested and provided for operations within Canadian waters as a contingency for poor weather conditions in the primary operating area. The letter of acknowledgment is provided in **Appendix D**.

3. Licenses and Permits

Pursuant to the National Environmental Policy Act (NEPA), NOAA Ocean Exploration is required to include in its planning and decision-making processes appropriate and careful consideration of the potential environmental consequences of actions it proposes to fund, authorize, and/or conduct. The companion manual for NOAA Administrative Order 216-6A describes the agency’s specific procedures for NEPA compliance.

An environmental review memorandum was completed for NOAA Ocean Exploration expeditions on NOAA Ship *Okeanos Explorer* in 2022 in accordance with Section 4 of the companion manual in the form of a categorical exclusion worksheet. Based on this review, a categorical exclusion was determined to be the appropriate level of NEPA analysis necessary, as no extraordinary circumstances exist that require the preparation of an environmental assessment or environmental impact statement. The NEPA categorical exclusion for this expedition is included in **Appendix D**.

An Introduction from the sea certification for CITES-listed marine specimens collected from the open ocean by NOAA Ship *Okeanos Explorer* as it returns directly to the United States has been requested by the U.S. Fish and Wildlife Service. Certifications and additional CITES permissions under USFWS are currently being processed but will be included in the final expedition report.

The expedition coordinator is responsible for obtaining and listing all permits as well as any identification numbers they contain. See **Appendix D** for the applicable documents. Final documents will be archived with the associated expedition report.

A State of Alaska Aquatic Resource permit has been submitted to collect specimens within Alaska state waters (3 nm from shore) for expeditions EX2306 for contingency purposes, and if approved, a copy will be included in the expedition report.

See the “[NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions](#)” for additional information regarding environmental compliance that applies to the entire field season (such as the Endangered Species Act Section 7 consultation and potential impacts to essential fish habitat).

4. Shipments

The *Okeanos Explorer* operations officer should be notified of any shipments to the ship. Send an email describing the shipment (including size and number of items) to OPS.Explorer@noaa.gov.

For shipments to arrive while in port in Kodiak, Alaska, at the start of the expedition, **shipments should arrive no later than August 23, 2023**, and be shipped to the following address:

NOAA Ship *Okeanos Explorer*
Attn: Name/Dept
47 Chandler Street
Newport, RI 02841

For shipments to arrive while in port in Unalaska, Alaska, after the expedition from July 25th, **shipments should arrive no later than September 21, 2023**, and should be shipped to the following address:

NOAA Ship *Okeanos Explorer*
Attn: Name/Dept
47 Chandler Street
Newport, RI 02841

5. COVID-19 Contingency Plan for Scientific Party

In accordance with the “OMAO Marine Operations COVID-19 Protocols” effective May 3, 2023, shelter-in-place is not required for sailing, the COVID 19 booster is not required for sailing, and pre-sail testing requirements have an on/off toggle. All mission personnel shall follow the guidelines written within the documentation, subject to change, pending the release of the new guidance. All sailing personnel are required to have completed the initial vaccination series.

If any mission personnel develop COVID-19-like symptoms while underway, OMAO protocols will be strictly followed. The expedition coordinator (or designee if they are unable to fulfill this

role) will remain the primary point of contact for all mission personnel. Additional support with onshore logistics for impacted mission personnel will be provided by:

Abby Letts
 Technical Operations Team Lead, Expeditions and Exploration Division
 NOAA Ocean Exploration
 Joint Hydrographic Center
 24 Colovos Road
 Durham, NH 03824

II. Operations

The expedition coordinator is responsible for ensuring mission personnel are trained in planned operations and are knowledgeable about expedition objectives and priorities. The commanding officer is responsible for ensuring all operations conform to the ship’s accepted practices and procedures.

A. Expedition Itinerary

Table 4 summarizes the expedition itinerary. All times and dates are subject to conditions and the discretion of the commanding officer. Locations are approximate. Final ROV dive sites will be delivered to the bridge at night for the next day’s ROV dive.

Additional items may be added to the itinerary as expedition plans are further developed.

Table 4. Expedition itinerary: This is an approximate itinerary and is subject to change based on objective completion, weather, and logistical needs. See **Table 5** for ROV dive details.

Date	Activities
8/20	Mission personnel begin to arrive.
8/21	Final mission personnel arrive. Mobilization begins. Mission personnel will need laptop computers added to the wireless network. High voltage and hydraulics needed by ROV team for full power-on, high voltage pre-expedition checklist. ROV team may also need an operator for crane and A-frame operations to dunk <i>Deep Discoverer</i> and <i>Seirios</i> overboard. A dunk test is needed prior to departing. GFOE personnel may also need to place a transponder overboard and ping the USBL. Stores may be loaded.
8/22	Vessel familiarization meeting (~45 min) with mission personnel that have not sailed on <i>Okeanos Explorer</i> within the last year. Stores may be loaded. Mobilization continues.
8/23	Depart Kodiak, Alaska, in the morning. Pre-project meeting to be held with ship at 14:30 in combination with daily operations meeting. Welcome aboard briefings, drills, and underway mapping. Transit to Dive 01.

Date	Activities
8/24	Dive 01 and overnight mapping
8/25	Dive 02 and overnight mapping
8/26	Dive 03 and overnight mapping
8/27	Dive 04 and overnight mapping
8/28	Dive 05 and overnight mapping
8/29	Dive 06 and overnight mapping
8/30	Dive 07 and overnight mapping
8/31	Dive 08 and overnight mapping.
9/1	Dive 09 and overnight mapping.
9/2	Dive 10 and overnight mapping.
9/3	Dive 11 and overnight mapping.
9/4	Dive 12 and overnight mapping.
9/5	Dive 13 and overnight mapping.
9/6	Dive 14 and overnight mapping.
9/7	Dive 15 and overnight mapping.
9/8	Dive 16 and overnight mapping.
9/9	Dive 17 and overnight mapping.
9/10	Dive 18 and overnight mapping.
9/11	Dive 19 and overnight mapping.
9/12	Dive 20 and overnight mapping.
9/13	Dive 21 and overnight mapping.
9/14	Dive 22 and overnight mapping.
9/15	Dive 23 and overnight mapping.
9/16	Arrive in Seward, AK

Date	Activities
9/17-9/18	Seward Science Symposium. Mission Demobilization.
9/19	Mission personnel depart.

B. Staging and Destaging

Minimal staging is expected as all mission equipment will already be aboard. Standard preparation for ROV expeditions is anticipated, which includes hydraulic use, the ability to place a transponder overboard and ping the USBL, high voltage operations, and crane and A-frame operations to potentially dunk *Deep Discoverer* and *Seirios* overboard. **A dunk test is requested prior to departing.**

A ping test will be requested for the acoustic sonars.

Minimal demobilization is expected. Standard demobilization for ROV expeditions is anticipated, which may include hydraulic crane use and high-voltage operations.

C. Operations to Be Conducted

1. ROV Dives

Table 5. List of planned ROV dive sites for EX2306: Note, this is an approximate itinerary and is subject to change based on community input, survey results, field conditions, and discretion of the commanding officer. The position information for each dive is tentative until the dive planning call, which is held one day before each scheduled ROV dive.

Dive #	Date	Latitude (DD)	Longitude (DD)	Dive Focus
01	8/24	56.671	-150.384	Seep
02	8/25	54.573	-149.181	Water Column
03	8/26	54.126	-149.345	Benthic
04	8/27	54.509	-147.240	Benthic
05	8/28	53.594	-144.260	Benthic
06	8/29	56.218	-145.162	Benthic

Dive #	Date	Latitude (DD)	Longitude (DD)	Dive Focus
07	8/30	55.928	-143.139	Benthic
08	8/31	55.943	-143.167	Benthic
09	9/1	55.450	-142.784	Benthic
10	9/2	55.805	-141.745	Benthic
11	9/3	54.174	-137.398	Benthic
12	9/4	52.808	-132.642	Benthic
13	9/5	53.724	-133.544	Benthic
14	9/6	54.382	-134.446	Benthic
15	9/7	55.139	-134.665	Benthic
16	9/8	55.867	-135.457	Benthic
17	9/9	56.520	-135.895	Benthic
18	9/10	57.444	-136.524	Benthic
19	9/11	57.912	-138.218	Benthic
20	9/12	58.899	-141.193	Benthic
21	9/13	59.419	-143.817	Benthic
22	9/14	59.259	-145.602	Benthic
23	9/15	58.827	-147.002	Benthic

2. CTD Casts

No CTD casts are planned for this expedition.

3. Extended Operations

There are no planned extended operations for this expedition at this time. Ad hoc extended dive or CTD operations may be requested by the mission team in the case of unexpected late ROV deployments and/or exceptional discoveries (e.g., a new hydrothermal vent system, coral garden, shipwreck) or other unforeseen circumstances.

Approval of extended dive and over the side operations is at the commanding officer's discretion, and every effort shall be taken to minimize undue hardship on the crew and disruptions to work schedules.

4. Telepresence/Outreach Events

- a. Three live video feeds will be used throughout the expedition to provide situational awareness for onshore personnel.
- b. Live interactions are planned for this expedition and will be provided in an expedition calendar shared with the Operations Officer and mission leads.

5. In-Port Events

- a. Small tours may be hosted by NOAA Ocean Exploration personnel from 1000 - 1600 local time on August 21. Details are being finalized.
- b. A science symposium is being planned in Seward for September 17 and 18, which will feature the Seascope Alaska Expedition Series.

6. Special/Unusual Operations or Requests

There are no special or unusual operations or requests for this expedition.

D. SCUBA Dive Plan

All SCUBA dives are to be conducted in accordance with the requirements and regulations of the [NOAA Diving Program](#) and require the approval of the ship's commanding officer. No SCUBA science dives are planned during EX2306, but the ship may plan training, safety drills, or maintenance dives.

E. Applicable Restrictions

Not applicable.

III. Equipment

A detailed list of equipment provided by the ship and NOAA Ocean Exploration can be found in the [“NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions.”](#) There are no specific changes relative to this expedition.

IV. Hazardous Materials

A. Policy and Compliance

See the [“NOAA Ship *Okeanos Explorer* FY23 Field Season Instructions.”](#)

B. Inventory

Table #. Inventory of hazardous materials that will be aboard for EX2306.

Item	Use	Approximate Locations
95% UPS denatured ethanol (120 gal)	Sample preservation	02 Deck, port side ethanol storage container
Formaldehyde (2 gal) to be buffered into 10% buffered formalin	Sample preservation	Wet lab, under the chemical hood
Bleach (1 qt)	Sterilization and sample preservation	Wet lab cabinet under sink
Magnesium chloride (500 g)	Sample preservation	Wet lab under hood
Sodium phosphate (1 kg)	Sample preservation	Wet lab under hood
AquaShield	Underwater lubricant	ROV workshop fire cabinet, pit
Dow Corning 4	Electrical insulating compound	ROV workshop fire cabinet, pit
Fluid film spray	Silicone lubricant	ROV workshop fire cabinet
Isopropanol alcohol (2 gal)	Solvent	ROV workshop fire cabinet
Scotchkote	Electrical insulating compound	ROV workshop fire cabinet
3M silicone spray	Silicone lubricant	ROV workshop fire cabinet
Synthetic AW hydraulic oil, ISO-22	Amsoil (AWG-05)	Hanger, pit, vehicles
Tap Magic cutting fluid	Cutting/machining lubricant	ROV workshop fire cabinet
Tap Magic heavyweight cutting fluid	Cutting/machining lubricant	ROV workshop fire cabinet

Item	Use	Approximate Locations
Tuff Coat M	Marine lubricant	Winch room
Dow Corning Molykote 111	Valve lubricant and sealant	ROV workshop Fire cabinet, pit
WD40	Lubricant	ROV workshop fire cabinet
Loktite	Bolt adhesive	ROV workshop fire cabinet
Shell Diala S2	Vitrea	Hanger, vehicles
Por-15	Paint kit	ROV workshop fire cabinet
Aeroshell 41	Hydraulic fluid	Hanger, ROV Deep Discoverer
Ultratane	Butane fuel	ROV workshop fire cabinet
Rust-oleum	Protective enamel	ROV workshop fire cabinet
Flux-Off	Soldering flux remover	ROV workshop fire cabinet
Propane	Torch fuel	ROV workshop fire cabinet
Adhesive Pliobond 25	General adhesive	Tool room
AP 120 Metal Prep	Degreaser/cleaner for metal surfaces	Pit
Butane fuel	Torch refill	Tool room
PVC cement	Adhesive for PFV plastic piping	Tool room
Phosphoric acid	Ferrous metal rust removal	Tool room
Pipetite paste	Plumbing sealant	Tool room/pit
Spindle oil 10, ROS PT	Lubricant/compensation oil	Tool room
DC557	Silicon grease	Tool room/pit
Tether potting catalyst	Two part epoxy catalyst	Pit
Tether potting compound	Two part epoxy ingredient	Pit
ThermaPlex bearing grease	Lubricant	Pit
Tritech Seaking	Compensator oil for sonar head	Pit

Appendix A. Waypoints

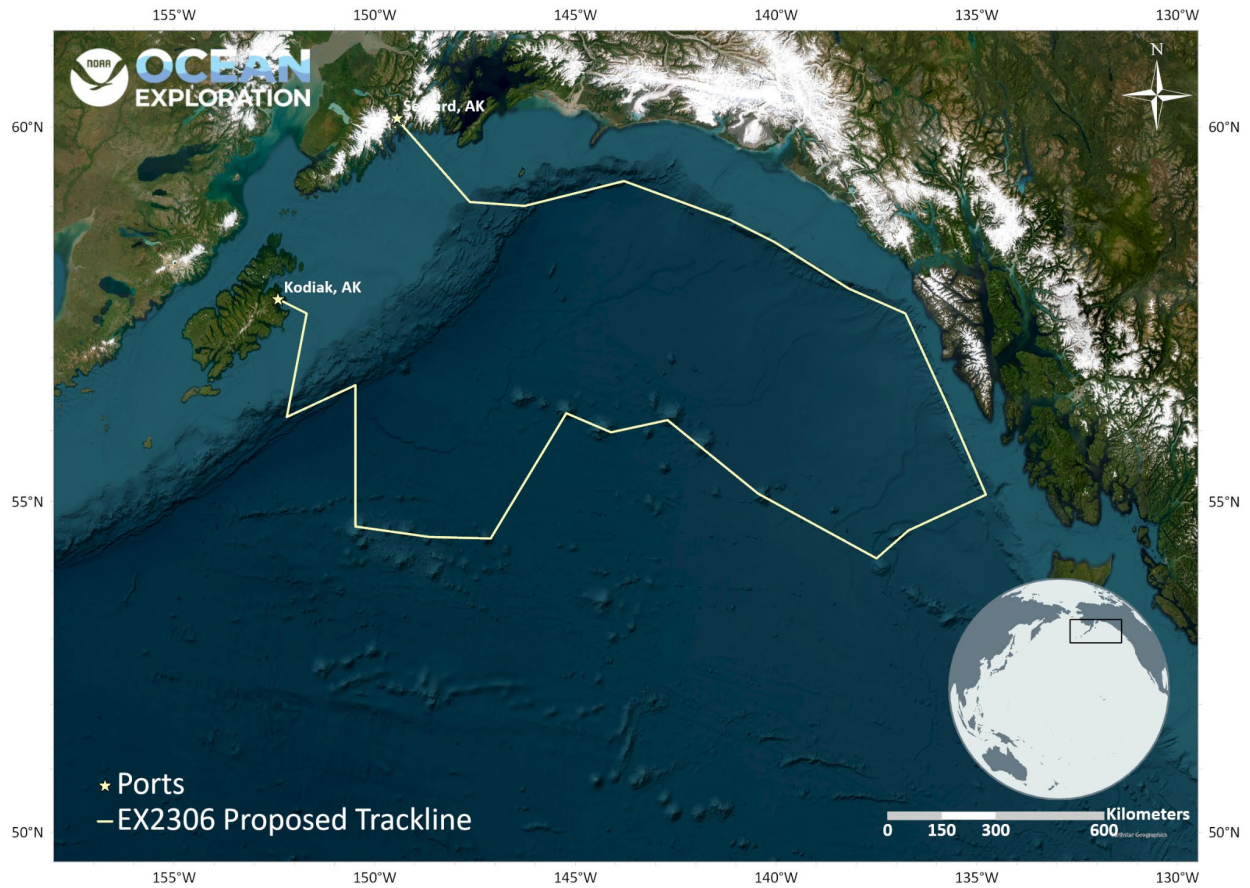


Figure A1. Map showing the general operating area for EX2306 (for reference).

Table A1. Proposed trackline (subject to change).

Latitude (D DM)	Longitude (D DM)
56.671	-150.384
54.573	-149.181
54.126	-149.345
54.509	-147.240
53.594	-144.260
56.218	-145.162

Latitude (D DM)	Longitude (D DM)
55.928	-143.139
55.943	-143.167
55.450	-142.784
55.805	-141.745
54.174	-137.398
52.808	-132.642
53.724	-133.544
54.382	-134.446
55.139	-134.665
55.867	-135.457
56.520	-135.895
57.444	-136.524
57.912	-138.218
58.899	-141.193
59.419	-143.817
59.259	-145.602
58.827	-147.002

Appendix B. Data Management Plan

Okeanos Explorer Mission EX2306 Data Management Plan

Report Date: 2023-06-16

1. General Description of Data to be Managed

1.1 Name and Purpose of the Data Collection Project:

EX-23-06, Seascape Alaska 5: Gulf of Alaska Remotely Operated Vehicle Exploration and Mapping

This expedition will commence on August 23, 2023, in Kodiak, Alaska, and conclude on September 16, 2023 in Kodiak, Alaska. Operations will be conducted 24 hours a day, and consist of remotely operated vehicle (ROV) dives, mapping operations, and full shore-based participation via telepresence.

1.2 Summary Description of the data to be collected:

Operations will include the use of the ship's deepwater mapping systems (Kongsberg EM 304 multibeam, EK60/EK80 split-beam sonars, Knudsen 3260 Chirp sub-bottom profiler, and Teledyne acoustic Doppler current profilers), expendable bathythermograph (XBTs) in support of multibeam sonar mapping operations, conductivity, temperature, depth profiler (CTD) casts, NOAA Ocean Exploration's two-body ROV system (*Deep Discoverer* and *Seirios*), and a high-bandwidth satellite connection for continuous ship-to-shore communications. Operations will focus on exploring deep waters (greater than 200 m for mapping operations and 250 m for ROV operations) in U.S. waters, the high seas, and Canadian waters off of Alaska.

1.3 Keywords or phrases that could be used to discover the data:

Theme Keywords:

bathymetric gaps, benthic habitats, chemosynthetic communities, CTD, deep-sea coral and sponge communities, EM304, fish habitats, geohazards, habitat areas of particular concern, HAPC, mapping survey, marine education, multibeam, multibeam backscatter, multibeam sonar, multi-beam sonar, sun photometer, Seabed 2030, Seascape Alaska, single beam sonar, singlebeam sonar, single-beam sonar, site characterization, sonar anomalies, split beam sonar, sub-bottom profile, systematic exploration, water column backscatter, EXPRESS, EXpanding Pacific Research and Exploration of Submerged Systems

Place Keywords:

Alaska, Aleutian Islands, Bowers Ridge, Kodiak, Dutch Harbor, Gulf of Alaska

1.4 If this mission is part of a series of missions, what is the series name?

Okeanos ROV Cruises

1.5 Planned or Actual Temporal Coverage of the data:

Start Date: 2023-08-23 and End Date: 2023-09-16

1.6 Actual or Planned Geographic Coverage of the data:

Northernmost Boundary: 60 and Southernmost Boundary: 54
Westernmost Boundary: -155 and Easternmost Boundary: -134

1.7 What data types will be created or captured and submitted for archive?

Bottom Backscatter, Cruise Plan, Cruise Summary, CTD (processed), CTD (product), CTD (raw), Digital Video, Digital Images, EK60 Split Beam Data, EK80 Split Beam Data, Multibeam (image), Multibeam (processed), Multibeam (product), Multibeam (raw), Navigational Data, SCS Output (compressed), SCS Output (native), Seafloor Imagery, Sound Velocity Profile, Sub-Bottom Profile data, Temperature data, Water Column Backscatter, XBT (raw), SCS Output (compressed), SCS Output (native)

1.8 What platforms will be employed?

NOAA Ship Okeanos Explorer, Deep Discoverer ROV, Seirios Camera Sled

2 Points of Contact for this Data Producing Project

Overall POC: Sam Candio, Samuel.Candio@noaa.gov
Title: Expedition Coordinator
Affiliation: NOAA Office of Ocean Exploration and Research
Phone: (732) 546-2232 (Sam Candio)

3 Points of Contact for Managing the Data

Data POC: Caitlin Ruby
Data POC Title: Stewardship Data Management
Data POC Email: caitlin,ruby@noaa.gov

4 Resources

4.1 Have resources for management of these data been identified?

Yes

4.2 Approximate percentage of the budget devoted to data management. (specify % or unknown)

Unknown

5 Data Lineage and Quality

5.1 What is the processing workflow from collection to public release?

SCS data shall be delivered in its native format to NCEI-MD (oceanographic archive); the data are then converted to an archive-ready, documented, and compressed NetCDF3 format which is made available for download through the Ocean Exploration Digital Atlas; water column profile data and navigation data will be delivered in ASCII format to NCEI-MD; EM304 and EK60/80 output data and metadata along with water column profiles used for calibration will be delivered to NCEI-CO (geophysical archive). AUV seafloor imagery,

water column profile data and navigation data will be delivered in ASCII format to NCEI-MD on a separate drive.

5.2 What quality control procedures will be employed?

Quality control procedures for the data from the Kongsberg EM304 is handled at UNH CCOM/JHC. Raw (level-0) bathymetry files are cleaned/edited into new data files (level-1) and converted to a variety of products (level-2). Data from sensors monitored through the SCS are archived in their native format and are not quality controlled. Data from CTD casts and XBT firings are archived in their native format.

6 Data Documentation

6.1 Does the metadata comply with the Data Documentation Directive?

Yes

6.1.1 If metadata are non-existent or non-compliant, please explain:

Not Applicable

6.2 Where will the metadata be hosted?

Organization: An ISO format collection-level metadata record will be generated during pre-cruise planning and published in the NOAA OneStop catalog and an OER Web Accessible Folder (WAF) hosted for public discovery and access at:

URL: <https://data.noaa.gov/waf/NOAA/NESDIS/ncei/oer/iso/>

Metadata Standard: ISO 19115-2 Geographic Information with Extensions for Imagery and Gridded Data will be the metadata standard employed.

6.3 Process for producing and maintaining metadata:

Metadata will be generated via xml editors or metadata generation tools.

7 Data Access

7.1 Do the data comply with the Data Access Directive?

Yes

7.1.1 If the data will not be available to the public, or with limitations, provide a valid reason.

Not Applicable

7.1.2 If there are limitations, describe how data are protected from unauthorized access.

Account access to mission systems are maintained and controlled by the Program. Data access prior to public accessibility is documented through the use of Data Request forms and standard operating procedures.

7.2 Name and URL of organization or facility providing data access.

Organization: NOAA National Centers for Environmental Information (NCEI)

URL: <https://www.ncei.noaa.gov>

7.3 Approximate delay between data collection and dissemination. By what authority?

Hold time: Data are considered immediately publicly accessible as soon as possible after the mission, unless there are documented restrictions.

Hold authority: not applicable

7.4 Prepare a Data Access Statement

No data access constraints, unless data are protected under Section 304 of the National Historic Preservation Act of 1966. Data collected and derivative data products produced by the *Okeanos Explorer* will be archived in a location where it can be withheld from public disclosure.

8 Data Preservation and Protection

8.1 Actual or planned long-term data archive location:

Data from this mission will be preserved and stewarded through the NOAA National Centers for Environmental Information. Refer to the *Okeanos Explorer* Data Management Plan at NOAA Central Library Institutional Repository for detailed descriptions of the processes, procedures, and partners involved in this collaborative effort.

8.2 If no archive planned, why?

Not Applicable

8.3 If any delay between data collection and submission to an archive facility, please explain.

The EM304 output data is a new format not currently read by NCEI archive systems. The new file format is being added to the system capability. There will be an unknown delay for the archive of these .kml files. All other data will be archived within 60-90 days of receipt.

8.4 How will data be protected from accidental or malicious modification or deletion?

Data management standard operating procedures minimizing accidental or malicious modification or deletion are in place aboard the *Okeanos Explorer* and will be enforced.

8.5 Prepare a Data Use Statement

Data use shall be credited to NOAA Office of Ocean Exploration and Research.

Appendix C. NOAA Ocean Exploration Ethanol Testing

To ensure the quality of the ethanol stored aboard NOAA Ship *Okeanos Explorer*, NOAA Ocean Exploration has developed an [Ethanol Test Guide](#). This guide provides step-by-step instructions on how to test the ethanol stored in the ethanol barrels in the hazmat shed on the O2 weather deck near the Damage Control locker. This guide also provides a built-in calculator to plug in the measurements and get a definitive result. Finally, this guide is a log of the current and previous results of the ethanol testing.

Appendix D. Licenses, Permits, and Environmental Compliance

Final licenses, permits, or compliance documents will be appended to the associated expedition report.

NEPA Categorical Exclusion Evaluation

This template is for use by OAR staff to prepare a draft CE determination for internal review, including review by an OAR NEPA Coordinator. Refer to OAR's [CE document procedures](#) for additional information and instructions. [These tips](#) for verifying information from grant applicants may also be helpful. To use this template, replace the instructional text in gray with the information specific to the action under review. Follow the [Federal Plain Language guidelines](#). For review by the OAR National NEPA Coordinator, send the draft via email attachment to OAR.NEPA.Coordinator@noaa.gov and allow 3 business days for comments.

Section 1. Document Information

Short Project Identifier: EX2306

Date Review Completed:

Completed by (name and title): Amanda Maxon, Environmental Compliance Specialist, Contractor, NOAA Office of Ocean Exploration and Research

OAR Decision Maker (name and title): Jennifer Lukens, Deputy Director, NOAA Office of Ocean Exploration and Research (OER)

OAR Functional Area: OER

Worksheet File Name: 2023-06-OER-E3-EX2306

Section 2. Sea Grant

When applicable, refer to Sea Grant Program Office instructions.

Section 3. CE applicability

- 1. Is OAR providing federal financial assistance, including via grants, cooperative agreements, loans, loan guarantees, interest subsidies, insurance, food commodities, direct appropriations, and transfers of property in place of money?**

No

- 2. Describe the proposed federal action.**

The proposed action is the NOAA's Office of Exploration and Research (OER) to complete a ROV and mapping expedition using the NOAA Ship Okeanos Explorer focused on exploring deep waters (greater than 250 m for ROV operations and greater than 200 m for mapping operations) in U.S. waters off Alaska and High Seas. Operations will be conducted 24 hours per day and consist of remotely operated vehicle (ROV) dives, mapping operations (primarily overnight), and full shore-based participation via telepresence. Expedition operations will include using NOAA Ship Okeanos Explorer's

deepwater mapping systems (Kongsberg EM 304 multibeam, EK60/EK80 split-beam sonars, Knudsen 3260 Chirp sub-bottom profiler, and Teledyne acoustic Doppler current profiler), expendable bathythermograph (XBTs) in support of multibeam sonar mapping operations, conductivity, temperature, depth profiler (CTD) casts, OER's two-body ROV system (Deep Discoverer and Seirios), and high-bandwidth satellite connection for continuous ship-to-shore communications. Mapping objectives include but are not limited to: confirm the functionality and integration of all acoustic equipment and ancillary systems, conduct reference surveys, conduct EK split-beam sonar calibrations, execute mapping line plans as defined onboard personnel, verify Global Foundation for Ocean Exploration (GFOE) managed telepresence systems, and testing the CTD in multiple water depths.

The EX2306 Seascape Alaska: Gulf of AK Exploration (ROV + Mapping) will commence on August 23, 2023 from Kodiak, Alaska and will conclude in Seward, Alaska on September 16, 2023. The exact start and end dates may vary by a few days or weeks depending on weather and other logistical considerations. EX2306 will focus operations in U.S. waters off Alaska with the focus on ROV and mapping properties within the U.S. EEZ in deep waters greater than 200 m. Mapping and ROV operations will be conducted at depths between 250 and 6,000 m. The actions during this expedition demonstrate independent utility and they are not connected to any other federal actions.

3. a. Provide the Number and Definition of the CE in [Appendix E](#) of the NAO 216-6A Companion Manual that is applicable to this action.

E3: Activities to collect aquatic, terrestrial, and atmospheric data in a non-destructive manner.

b. Explain why/how your action fits this CE class.

The topical scope for this action is consistent with the CE number E3 in Appendix E of the Companion Manual to NOAA Administrative Order (NAO) 216-6A: to collect aquatic, terrestrial, and atmospheric data in a non-destructive manner. The expedition will use remote sensing, video, images, and a limited number of physical samples to collect baseline information on unexplored deep-water (>250m) areas off the U.S. waters off Alaska. The use of conductivity, temperature, and depth instruments or a moving vessel profiler from a platform, including the use of drop cameras during this expedition will occur. During EX2306, operations deployment, operation, and retrieval of a limited number of ROVs, ASVs, AUVs, buoys, moorings, or similar instrumentation to conduct non-destructive sampling and collection of data from those instruments once installed, including physical, chemical, and biological measurements, and visual data will take place during the expedition. The limited number of biological and geological samples collected will follow OER's Best Management Practices and procedures to ensure the wellbeing and protection of organisms in and near the areas of operations.

Additionally, EX2306 will conduct calibrations of sonars which will involve no permanent physical, chemical, or biological changes to the environment in areas deeper than 200 meters in depth. This expedition will perform mapping survey operations to collect critical baseline information to support priority NOAA science and management needs in Alaska and in the nearby waters.

Section 4. Extraordinary Circumstances Consideration

4. Explain whether the action would result in adverse effects on human health or safety that are not negligible.

The actions of the NOAA Ship Okeanos Explorer will take place in remote deep-sea (>200m) areas located offshore of Alaska with a focus on U.S. waters, Aleutian Islands, and in the high seas. All operations are underwater and will have no human presence in the area besides those on onboard the EX2306. The vessel will transit through different depths as it moves from the ports of call to the areas of operations in deeper waters. These actions do not involve any procedures or outcomes known to result in impacts on human health and safety.

5. Explain whether the action result in adverse effects on an area with unique environmental characteristics that are not negligible.

While the Okeanos Explorer is operating within the U.S. EEZ where majority of operations would take place, the effects will be negligible as acoustic mapping and ROV operations are considered transient and would not cause any permanent impact on the seabed or within the water column. The procedures that are employed when operating acoustic systems impacts are well-documented and would follow the accepted best management practices for all operations onboard the vessel to ensure that the level of impact is below minor to the point of being barely detectable. Expedition operations are planned and reviewed before any actions are taken in order to determine whether there would be the potential for adverse effects on the area.

6. Explain whether the action would result in adverse effects on species or habitats protected by the ESA, MMPA, MSA, NMSA, or MBTA that are not negligible.

The activities are not likely to have a negative effect on species or habitats protected by the ESA, MMPA, MSA, NMSA, or MBTA. According to NOAA Fisheries, there are 7 ESA endangered and threatened species found along Alaska. The Okeanos Explorer operations will abide by the Best Management Practices and Mitigation Measures developed in collaboration with the various regulatory and federal agencies to ensure that operations in the these sectors would not result in any activities having adverse effects on the species or habitats protected under ESA, MMPA, MSA, NMSA, or MBTA. Mitigation measures and Best Management Practices are provided to the expedition coordinators and the ship before operations are taken to ensure that they are following the

actions developed to minimize or limit adverse effects on species or habitats in the proposed action area.

- 7. Explain whether the action would result in the potential to generate, use, store, transport, or dispose of hazardous or toxic substances, in a manner that may have a significant effect on the environment.**

The expedition operations will be in the compliance with FEC 07 Hazardous Materials and Hazardous Waste Management Requirements for Visiting Scientific Parties (or the OMAO procedure that supersedes it) to ensure generation, use, storage, transport, and disposal of such substances will not result in significant impacts.

- 8. Explain whether the action would result in adverse effects on properties listed or eligible for listing on the National Register of Historic Places authorized by the National Historic Preservation Act of 1966, National Historic Landmarks designated by the Secretary of the Interior, or National Monuments designated through the Antiquities Act of 1906; Federally recognized Tribal and Native Alaskan lands, cultural or natural resources, or religious or cultural sites that cannot be resolved through applicable regulatory processes.**

The proposed action will not result in adverse or indirect effects that cannot be resolved through applicable regulatory processes since we will not be operating within listed or eligible properties, lands, resources or sites coming under the umbrella of protection referenced above.

- 9. Explain whether the action would result in a disproportionately high and adverse effect on the health or the environment of minority or low-income communities, compared to the impacts on other communities (EO 12898).**

The NOAA Ship Okeanos Explorer will be operating in the remote and offshore areas along Alaska as the EX transits between Kodiak, Alaska and Seward, Alaska during EX2306. There are no communities within or near the geographic scope of the expedition due to activities operating in areas greater than 200 meters in depth. The expedition does not involve actions known or likely to result in adverse impacts on health or the environment of minority or low income communities.

- 10. Explain whether the action would contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of the species.**

During EX2306, NOAA Ship Okeanos Explorer will not make landfall in areas other than commercial ports in Kodiak, Alaska and Seward, Alaska. The ship and OER mission team will comply with all applicable local and federal regulations regarding the prevention or spread of invasive species. At the completion of every CTD cast, the

equipment will be thoroughly rinsed with fresh water and completely dried to prevent spreading organisms from one site to another. Also the Engineering Department aboard the NOAA Ship Okeanos Explorer attends yearly Ballast Management Training in accordance with NOAA Form 57-07-13 NPDES VGP Annual Inspection and Report to prevent the introduction of invasive species.

11. Explain whether the action would result in a potential violation of Federal, State, or local law or requirements imposed for protection of the environment.

OER has taken measures to ensure that any effects on species or habitats protected by the ESA, MMPA, MSA or NMSA meet the definition of negligible. The proposed actions will not result in any Federal, State, or local law violations or requirements imposed for protection of the environment. OER received a ESA Programmatic Letter of Concurrence and Project Design Criteria letter dated March 14, 2022 from the NMFS ESA Interagency Cooperation Division for ESA Section 7 that concurs with OER's determination that the proposed action may affect, but is not likely to adversely affect ESA-listed species and their designated or proposed critical habitat in the action areas. The ESA Programmatic Letter of Concurrence and its Project Design Criteria will be provided in the EX2306 expedition report.

Given the offshore focus of most of our proposed work, it was determined that it is not likely that we will encounter marine mammals protected under the MMPA, or sea birds protected under the MBTA as they are often found in territorial and state waters. If we did encounter any such protected animals, our impacts would be negligible because of the best management practices that were developed with relevant agencies that we adhere to avoid or minimize environmental impacts. These best management practices and project designed criteria are outlined in the FY23 Field Season Instructions.

OER requested a Essential Fish Habitat (EFH) consultation under section 304 of the Magnuson-Stevens Fishery Conservation and Management Act for expeditions conducted by the NOAA Ship Okeanos Explorer during its 2023 field season in the North Pacific Ocean, Eastern Pacific Ocean, Central Pacific Ocean, and Alaska. The EFH Letter of Acknowledgement was received on August 3, 2022 from the Assistant Regional Administrator for the NOAA Office of Habitat Conservation stating that the FY23 expeditions will not adversely impact EFH. This letter will additionally be included in the EX2306 expedition report.

12. Explain whether the action would result in highly controversial environmental effects.

No, the exploration activities are considered small and minimal following the best available information about effects of the equipment to support determination that activities would be localized and be short in duration in any particular area at any given time with no notable or lasting changes to the environment. Given the project's scope and breath, no notable or lasting changes or highly controversial effects to the environment by mapping operations conducted onboard the Okeanos Explorer. Any effects would be

small and considered minimal as the vessel transits through the area of interest continuously using acoustic sound sources which have been analyzed to determine the effects that may occur during operations.

13. Explain whether the action would have the potential to establish a precedent for future action or an action that represents a decision in principle about future actions with potentially significant environmental effects.

The decision to take this action will not result in growth-inducing changes, compel future actions with potential impacts, or foreclose options for future actions. Each expedition is independently useful and is not connected to subsequent federal actions.

14. Explain whether the action would result in environmental effects that are uncertain, unique, or unknown.

The techniques and equipment used are standard for this type of field study, and the effects are well known and assessed to determine whether the actions may result in environmental effects that are uncertain, unique, or unknown.

15. Explain whether the action would have the potential for significant cumulative impacts when the proposed action is combined with other past, present and reasonably foreseeable future actions, even though the impacts of the proposed action may not be significant by themselves.

By definition, actions that a federal agency classifies as a categorical exclusion have no potential, individually or cumulatively, to significantly affect the environment. This expedition is consistent with a class of CE established by NOAA and there are no extraordinary circumstances for this action that may otherwise result in potentially significant impacts.

Section 5. CE Determination

When you submit the final information via [this Google form](#), the pdf of the CE Worksheet you receive will include this Section with a determination statement for signature by the OAR decision maker. Signature by an OAR decision maker concludes the NEPA process.

Canadian Letter of Acknowledgement



UNCLASSIFIED
IGR-1340/42

May 1, 2023

Mr. John Griffith
Deputy Director
Ocean Science Policy and Authorizations
Office of Ocean and Polar Affairs
United States Department of State
2201 C Street NW
Washington, D.C. 20520

Dear Mr. Griffith,

Authorization for the Research Ship OKEANOS EXPLORER (May 1 - Oct 31 2023).

I am pleased to advise that the Government of Canada grants its consent to the early portions (only) of the proposed cruise for the research ship **OKEANOS EXPLORER** to undertake marine scientific research in areas under Canadian jurisdiction or sovereignty during first segment of the above mentioned dates. Please be aware, the Marine Protected Area (MPA) Activity Plan Application, for the second segment of the mission (EX2307 ‘Sea-Scape Alaska: Transit Mapping’) dated Sept 23 through Oct 14, 2023 is still under review and **has not been approved**. The Department of Fisheries and Oceans Canada (DFO) will follow-up with the proponent directly (copying the Department of State on all communications) regarding further clarifications and distribute final approvals pertaining to the second segment of the marine scientific research mission accordingly.

Enclosed is the Canadian Hydrographic Service (CHS) request for the submission of bathymetric data for this mission. Additionally, The proponent is asked to ensure their Best Management Practices reflect that any injured or dead marine mammals must be reported to DFO when in Canadian Pacific waters ([Report a marine mammal or sea turtle incident or sighting \(dfo-mpo.gc.ca\)](#))

Please inform the applicant, the portion of the cruise within the southern area of EX2303 (circled in red on Figure 1), contains active Pacific Hake fishing grounds, outside of Juan de Fuca Strait. If this research mission requires specific clearances from

Canada

other vessels to conduct their mapping activities, please advise DFO immediately at DFO.NCRForeignVesselClearance-DegagementnavireetrangerRCN.MPO@dfo-mpo.gc.ca.

The portion of this cruise pertaining to the contingency plan for ROV mapping (circled in blue on Figure 2) overlaps active ground-fish fishing areas. As a courtesy, the applicant is asked to notify the following key fishing representatives should their plans shift to Canadian waters.

- Bruce Turris, Canadian Groundfish Research and Conservation Society
bruceturris@shaw.ca
- Brian Mose Deepsea Trawlers Association bmose@uniserve.com
- Rob Kronlund Canadian Sablefish Association
arkronlund@canadiansablefish.com
- Chris Atcheson Canadian Sablefish Association
cacheson@canadiansablefish.com
- Chris Sporer Pacific Halibut Management Association phma@citytel.net
- Jordan Belveal Outside ZN rep jordan@jordanbelveal.com
- Please also copy the DFO on any communications at DFO.NCRForeignVesselClearance-DegagementnavireetrangerRCN.MPO@dfo-mpo.gc.ca

Should the vessel's research activity take place inside Canadian waters (territorial sea or internal waters), please be aware of the Canada Border Services Agency (CBSA) marine reporting requirements:

Canada Border Services Agency (CBSA) - marine reporting requirements:

Foreign expeditions arriving in Canada by research vessel and entering Canadian waters (territorial sea or internal waters) are required to report to the nearest Canada Border Services Agency (CBSA) Marine Reporting office.

CBSA Marine Reporting Offices:

(Pacific) Phone: (604)-713-9840 and email: NP12REXC01G@cbsa-asfc.gc.ca

Vessels are required to transmit the following completed forms: **Form A6** General Declaration and **Form A6A** Freight/Cargo Manifest. The forms can be obtained electronically via the links below:

Form A6: <http://www.cbsa-asfc.gc.ca/publications/forms-formulaires/a6.pdf>

Form A6A: <http://www.cbsa-asfc.gc.ca/publications/forms-formulaires/a6a.pdf>

There are no reporting requirements to the CBSA if no research activity takes place inside Canadian waters (territorial sea or internal waters).

We are pleased that Canadian participants would be welcome to join the project, and that the scientific results and all the data from this cruise will be freely and generously shared. Additionally, Canada requires copies of all bathymetric data derived from these marine scientific research projects. This includes single and multi-beam data collected in passage to and from the research site as well as the bathymetric data collected at or in the investigation area". The attached document provides the information required and directions. We request copies of the preliminary and final cruise reports

Yours sincerely,



Kevin Tunney,
Deputy Director
Security and Defence Relations Division

Encl.