**APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC RESEARCH IN AREAS UNDER NATIONAL JURISDICTION OF ICELAND**

**Date:** 15.12.2022

## *1. General Information*

**1.1 Ship and cruise number:** Jákup Sverri, Cruise 2328

**1.2 Sponsoring institution:**

| | |
|---|---|
| **Name:** | Havstovan |
| **Address:** | PO Box 3051, Nóatún, FO-110 Tórshavn<br>Faroe Islands |
| **Name of director:** | Marita Rasmussen |

**1.3 Scientist in charge of project:**

| | |
|---|---|
| **Name:** | Karin Margretha H. Larsen |
| **Address:** | Havstovan<br>PO Box 3051, Nóatún<br>FO-110 Tórshavn<br>Faroe Islands |
| **Telephone:** | +298 353900 |
| **Email:** | karinl@hav.fo |

**1.4 Scientist from Iceland with knowledge of the project:**

| | |
|---|---|
| **Name:** | Andreas Macrander |
| **Address:** | Hafrannsóknarstofnun<br>Fornubúðum 5<br>220 Hafnafjørður, Iceland |

**1.5 Submitting officer:**

| | |
|---|---|
| **Name:** | Karin Margretha H. Larsen |
| **Address:** | Havstovan<br>PO Box 3051, Nóatún 1<br>FO-110 Tórshavn<br>Faroe Islands |
| **Telephone:** | +298 353900 |
| **Email:** | karinl@hav.fo |

## *2. Description of Project*

### 2.1 Nature and objectives of the project:

The aim of the project is to:

- Occupy CTD (Conductivity, Temperature, Depth) sections on the Iceland-Faroe Ridge.
- Recover an Acoustic Doppler Current Profiler (ADCP) bottom frame at position 63°41,934N 011°36,987W in Icelandic water. Bottom depth at the location is 391 m. The frame was deployed in June 2022 by R/V Jákup Sverri.

The mooring and CTD observations are part of a study to investigate overflow across the Iceland-Faroe Ridge.

This work will be performed on cruise 2328 in case all or part of cruise 2322 is hindered by unforeseen reasons like inclement weather. See separete application for cruise 2322.

### 2.2 Relevant previous or future research cruises:

Cruise 2122 by R/V Jákup Sverri in May 2021. On this cruise CTD sections were occupied in the Western Valley and two ADCP moorings were recovered.

Cruise 2126 by R/V Jákup Sverri. On this cruise an ADCP frame was deployed in Icelandic waters on the central part of the Ridge (see attached Chart).

Cruise 2218 by R/V Jákup Sverri in May 2022. On this cruise CTD sections were occupied on the Ridge and an ADCP frame was recovered.

Cruise 2222 by R/V Jákup Sverri. On this cruise an ADCP frame was deployed in Icelandic waters on the central part of the Ridge and CTD section were performed.

Cruise 2322 by R/V Jákup Sverri. On this cruise the plan is to recover the above mentioned ADCP frame and perform CTD stations. Cruise 2328 (this application) will serve as a backup for cruise 2322.

### 2.3 Previously published research data relating to the project:

Hansen, B., Larsen, K. M. H., Olsen, S. M., Quadfasel, D., Jochumsen, K., and Østerhus, S., 2018. Overflow of cold water across the Iceland–Faroe Ridge through the Western Valley, Ocean Sci., 14, 871–885, https://doi.org/10.5194/os-14-871-2018

Olsen, S.M., Hansen, B., Østerhus, S., Quadfasel, D., Valdimarsson, H., 2016. Biased thermohaline exchanges with the Arctic across the Iceland-Faroe Ridge in ocean climate models. Ocean Sci. 12, 545–560. doi:10.5194/os-12-545-2016

### *3. Methods and Means to be Used*

**3.1 Particulars of vessel:**

**Name:** Jákup Sverri **Nationality:** Faroese
**Owner:** Føroya Landsstýri (The Local Faroese Government)
**Operator:** Havstovan
**Overall length:** 54.1 m **Maximum draught:** 6.4 m
**Net tonnage:** 600 t **Gross tonnage:** 1900 t
**Propulsion:** Diesel-electric
**Cruising speed:** 11 kn **Maximum speed:** 14 kn
**Call sign:** XPZO
**Registered port and number:** Tórshavn (cargovessel)
**Method and capability of communication:**
(Satellite) Phone no: + 298 66 39 00
Email: jsbridge@hav.fo
MMSI no: 231 854 000
**Name of master:** Martin í Grund
**Number of crew:** 9-13
**Number of scientists on board:** 3-12

**3.2 Aircraft or other craft to be used in the project:** N/A

**3.3 Particulars of methods and scientific instruments:**

| Types of samples and data | Methods to be used | Instruments to be used |
|---|---|---|
| Water | CTD + bottle sample | CTD + Rosette |
| Mooring recovery | Acoustic release | Oceano command unit |
| | | |

**3.4 Indicate whether harmful substances will be used:** NO

**3.5 Indicate whether drilling will be carried out:** NO

**3.6 Indicate whether explosives will be used:** NO

## *4. Installations and Equipment*

**Details of installations and equipment** (dates of laying, servicing, recovery; exact locations and depth):

Recovery of ADCP frame at position 63°41,934N 011°36,987W, depth 391 m.

## *5. Geographical Areas*

**5.1 Indicate geographical areas in which the project is to be conducted** (with reference in latitude and longitude):

CTD sections and moorings are within the area whose corners are located at:

(64°00'N, 013°00'W) and (62°00N, 009°00'W)

**5.2 Attach chart(s) at an appropriate scale showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines, and the locations of installations and equipment.**

Chart is attached. Red diamond indicates the position of the ADCP frame in Icelandic waters, while black circle indicates an ADCP mooring in Faroese waters. CTD stations will be performed within the black square (details to be decided prior to the cruise).

## *6. Dates*

**6.1 Expected dates of first entry into and final departure from the research area of the research vessel:**

Depending on the weather conditions, the ship will enter Icelandic waters, occupy CTD sections, recover the frame, and depart sometime in the period:

Entry: 07.06.2023
Exit: 14.06.2023

**6.2 Indicate if multiple entry is expected:**

No

## *7. Port Calls*

**7.1 Dates and names of intended ports of call in Iceland:**

No intended port call

**7.2 Any special logistical requirements at ports of call:**

N/A

**7.3 Name/address/telephone of shipping agent (if available):**

N/A

## *8. Participation*

**8.1 Extent to which Iceland will be enabled to participate or to be represented in the research project:**

Observers are welcome aboard.

Havstovan collaborates with Andreas Macrander and Solveig Rósa Ólafsdóttir (oceanographers at Hafrannsóknarstofnun) on Greenland-Scotland Ridge exchanges.

**8.2 Proposed dates and ports for embarkation/disembarkation:**

Tórshavn, Faroe Islands at beginning and end of cruise.

## *9. Access to Data, Samples and Research Results*

**9.1 Expected dates of submission to Iceland of preliminary reports which should include the expected dates of submission of the final results:**

Six months from conclusion of cruise.

**9.2 Proposed means for access by Iceland to data and samples:**

By cruise report

**9.3 Proposed means to provide Iceland with assessment of data, samples and research results or provide assistance in their assessment or interpretation:**

By individual communication. Data will also be accessible on www.envofar.fo

**9.4 Proposed means of making research results internationally available:**

In scientific journals. Technical reports will be published on www.hav.fo.

## *10. Scientific Equipment*

**Coastal State** Iceland

**Port Call** No *Indicate "Yes" or "No"*

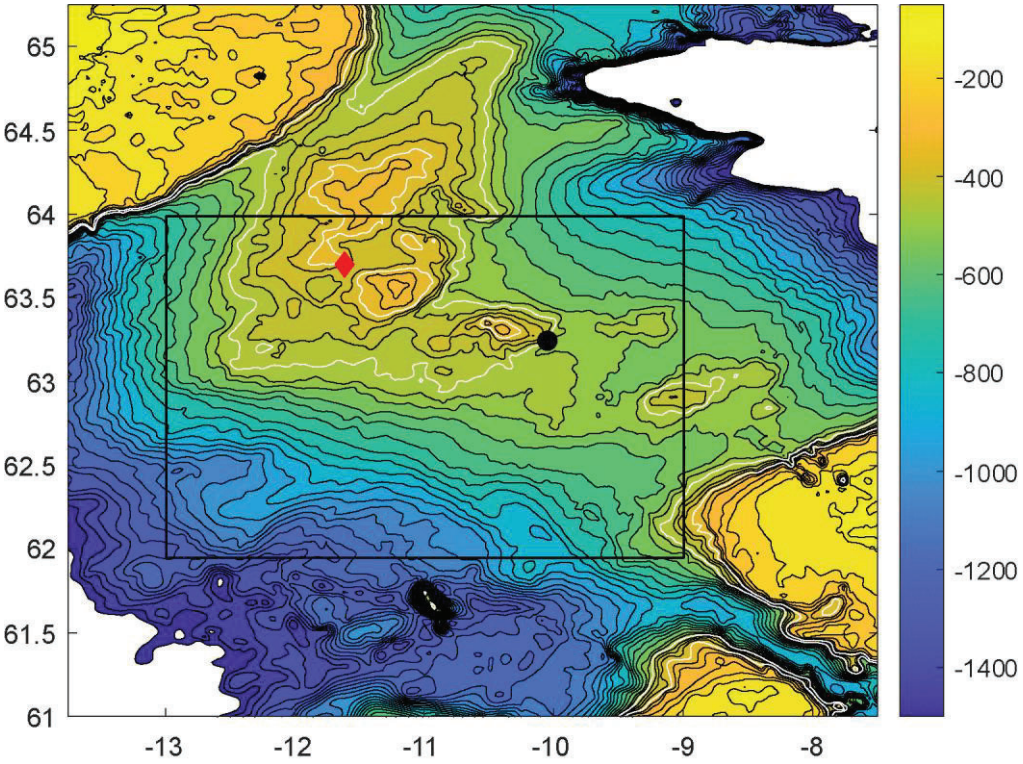
**Dates** N/A

| LIST SCIENTIFIC WORK BY FUNCTION<br>eg: magnetometry, gravity, diving, seismics, bathymetry, sea bed sampling, trawling, echo sounding, water sampling, u/w TV, moored instruments, towed instruments | Water column inclu-ding sediment sampling of the sea bed | Fisheries research within fishing limits | Research concerning the natural resources of the Continental Shelf or its physical characteristics | Distance from coast within 12 nms | Distance from coast between 12-200 nm | (Continental Shelf work only)<br><br>Beyond 200 nm but within the Continental margin |
|---|---|---|---|---|---|---|
| Mooring recovery | Yes | No | No | No | Yes | No |
| Water sampling | Yes | No | No | No | Yes | No |

*Karin Margretha H. Larsen*

Dated 15. December 2022

**NB: IF ANY DETAILS ARE MATERIALLY CHANGED REGARDING DATES/AREA OF OPERATION AFTER THIS FORM HAS BEEN SUBMITTED THE COASTAL STATE AUTHORITIES MUST BE NOTIFIED IMMEDIATELY**




Chart, showing the location of the ADCP frame in Icelandic water (red diamond) and an ADCP mooring in Faroese water (black circle). CTD stations are planned in Icelandic and Faroese waters within the black square (approx location).