

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

Date: 27.04.2021

1. General Information

- 1.1 Ship and cruise number:** Jákup Sverri, Cruise 2126
- 1.2 Sponsoring institution:**
- Name:** Havstovan
Address: PO Box 3051, Nóatún, FO-110 Tórshavn
Faroe Islands
Name of director: Eilif Gaard
- 1.3 Scientist in charge of project:**
- Name:** Karin Margretha H. Larsen
Address: Havstovan
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- 1.4 Scientist from Iceland with knowledge of the project:**
- Name:** Andreas Macrander
Address: Hafrannsóknarstofnun
Fornubúðum 5
220 Hafnafjørður, Iceland
- 1.5 Submitting officer:**
- Name:** Karin Margretha H. Larsen
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2. Description of Project

2.1 Nature and objectives of the project:

The aim of the project is to:

- Deploy an Acoustic Doppler Current Profiler (ADCP) trawl-protected frame on the centre of the Iceland-Faroe Ridge – see chart for location. The plan is to recover the frame in May 2022.

If plan for Jákup Sverri Cruise 2122 in May 2021 fails, a new attempt will be done on this cruise. On Cruise 2122, the plan in Icelandic waters is to:

- Occupy CTD (Conductivity, Temperature, Depth) sections on the Iceland-Faroe Ridge. See chart in Cruise 2122 application.
- Recover two Acoustic Doppler Current Profiler (ADCP) moorings in the Western Valley at positions 64°26,671' N 012°03,793' W and 64°32.839' N 011°50.080' W. Bottom depth at both locations is 406 m.
- Upload data from two bottom mounted temperature recorders. These are also located in the Western Valley

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

2.2 Relevant previous or future research cruises:

Cruise 1720 by R/V Magnus Heinason in May 2017. On this cruise CTD sections were occupied in the Western Valley and an ADCP frame was recovered.

Cruise 2122 by R/V Jákup Sverri. On this cruise the plan is to occupy CTD sections in Icelandic waters, to recover two ADCP moorings in the Western Valley and to upload data from two bottom temperature loggers. Further details can be found in the application for Cruise 2122.

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: jakupsverri@hav.fo
MMSI no: 231 854 000
Name of master: Birgir Lützen
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 deployment	Lowered towards the bottom.	Oceano command unit
Data upload	Acoustic communication	Linkquest surface modem

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):

Deployment of ADCP frame approximately at position 63°20'N, 11°15'W.
Exact position will be based on hydrographic results from Cruise 2122.
The frame is planned to be recovered in May 2022.

5. Geographical Areas

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

ADCP frame is planned to be deployed along the southern flank of the bank located approx between 63°20' – 63°40'N and 11°00' – 11°30'W. Exact position will be based on hydrographic results from Cruise 2122.

If the plans for Cruise 2122 fail (e.g. due to inclement weather), the work will be done on this cruise instead. That will be within the area whose corners are located at:

(64°34'N, 13°00'W) and (63°00'N, 10°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.

Attached

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, deploy ADCP frame, and possibly also occupy CTD sections, upload temperature data, recover the moorings, and depart some time in the period:

Entry: 09.06.2021

Exit: 16.06.2021

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 (oceanographer 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

<u>LIST SCIENTIFIC WORK BY FUNCTION</u> eg: magnetometry, gravity, diving, seismics, bathymetry, sea bed sampling, trawling, echo sounding, water sampling, u/w TV, moored instruments, towed instruments	Water column including 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) Beyond 200 nm but within the Continental margin
Mooring deployment	Yes	No	No	No	Yes	No
Water sampling	Yes	No	No	No	Yes	No

Karin Margretha H. Larsen

Dated 27. April 2021

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

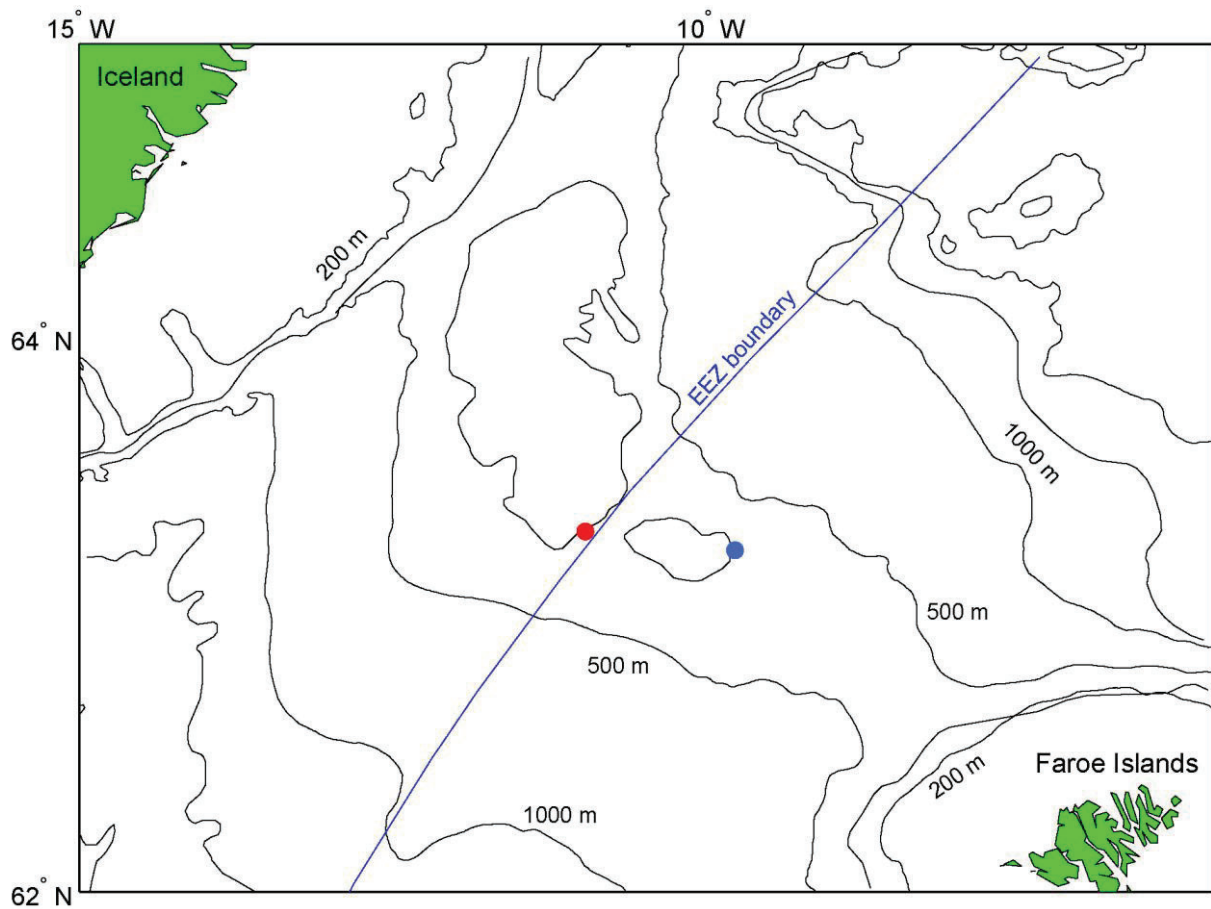


Chart of the Iceland-Faroe Ridge. Red dot shows the approximate location of planned deployment of ADCP frame in Icelandic waters. Blue dot indicates location of planned ADCP mooring in Faroese waters. The boundary between the Icelandic and the Faroese Exclusive Economical Zones (EEZ) is marked by the blue line.