

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A: GENERAL

1. NAME OF RESEARCH SHIP
R/V Skagerak CRUISE NO.
2. DATES OF CRUISE From 30/06/2025 To 15/07/2025
3. OPERATING AUTHORITY:
**Northern Offshore Services
Saltholmsgatan 44
SE-426 76 Västra Frölunda
Sweden**

TELEPHONE:
+46 31-3100200

TELEFAX:

TELEX:
4. OWNER (if different from no. 3)
**Department of Marine Sciences
University of Gothenburg (UGOT)
Box 461, SE-405 30 Gothenburg
Sweden**
5. PARTICULARS OF SHIP:

Name:	R/V Skagerak
Nationality:	Swedish
Overall length: (in metres)	49,10 m
Maximum draught: (in metres)	3,9 m
Net tonnage:	274
Propulsion e.g. diesel/steam:	Diesel/Electric
Call sign:	SEYD
Registration port and number (if registered fishing vessel)	
6. CREW

Name of master:
**Joakim Edvardsson /
Richard Olsson**

Number of crew:
7 persons
7. SCIENTIFIC PERSONNEL

Name and address of scientist in charge:
Fabien Roquet
Medicinaregatan 7
41390 Göteborg

Tel/telex/fax no.: +46 760814868
No. of scientists: 9
8. GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE (with reference to latitude and longitude)
Iceland-Faroe Ridge, Faroe Bank, Faroe-Shetland Channel, Norwegian Sea and North Sea
Zone between 59°N-65°N, 14°W-0°W
9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE

During this cruise, we will produce new hydrographic, current meter data and microstructure measurements to compute the transport across the Faroe–Shetland Channel and along the Iceland-Faroe Ridge, analyze hydrographic properties and assess how much water mass transformation through mixing is achieved as waters cross the channel before they reach the overflow region. Two main goals will be sought: 1) to better identify the origin and properties of waters forming the Faroe Bank Channel overflow, and 2) to detect possible overflow regions across the Iceland-Faroe Ridge.

10. DATES AND NAMES OF INTENDED PORTS OF CALL

Embarkation: 30/06/2025 in Göteborg, Sweden

Disembarkation: 14/07/2025 in Reykjavik, Iceland

Stop in Torshaven, Faroe Islands if needed.

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL

None (?)

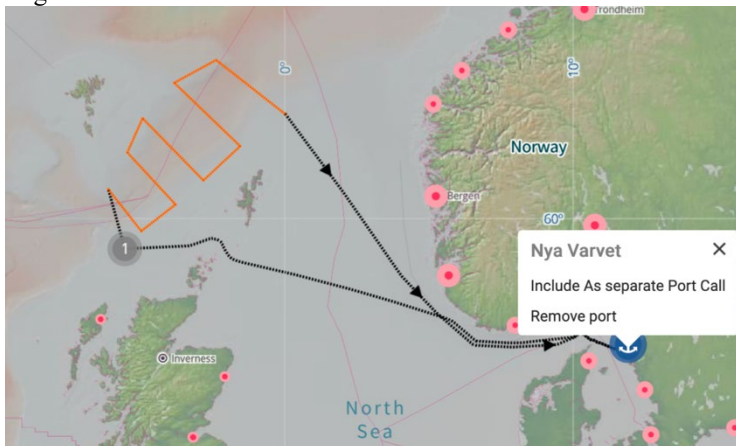
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1. PART B: DETAILS

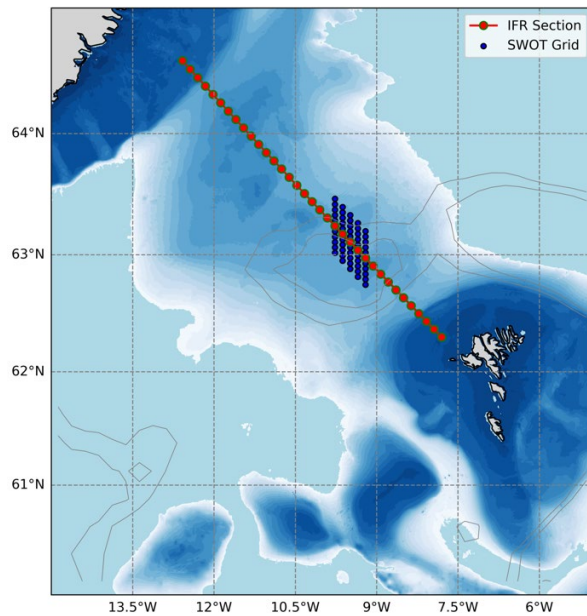
1. NAME OF RESEARCH SHIP CRUISE NO.
R/V Skagerak
2. DATES OF CRUISE 30/06/2025 To 15/07/2025
3. a) PURPOSE OF RESEARCH
During this cruise, we will produce new hydrographic, current meter data and microstructure measurements to compute the transport across the Faroe–Shetland Channel and along the Iceland–Faroe Ridge, analyze hydrographic properties and assess how much water mass transformation through mixing is achieved as waters cross the channel before they reach the overflow region. Two main goals will be sought: 1) to better identify the origin and properties of waters forming the Faroe Bank Channel overflow, and 2) to detect possible overflow regions across the Iceland–Faroe Ridge.

b) GENERAL OPERATIONAL METHODS (including full description of any fish gear, trawl type, mesh size, etc.)
CTD/ADCP survey using rosette. Microstructure profiler. Deployment and recovery of a seaglider. Deployment and recovery of an air-sea interaction profiler.
4. ATTACH CHART showing (on an appropriate scale) the geographical area of intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment, areas to be fished

Leg 1:



Leg 2:



Leg 1 (Faroe-Shetland channel):

Longitude	Latitude
-6.12037	60.50383
-4.97733	59.78167
-3.79050	60.24300
-5.46100	61.12533
-4.93350	61.69333
-2.82350	60.65483
-1.54867	61.23133
-3.83450	62.27150
-2.38383	62.63733
0.03383	61.75583

Leg 2 (Iceland-Faroe Ridge):

Longitude	Latitude
-12.581199999999999	64.5844
-12.440576470588235	64.51721176470589
-12.29995294117647	64.45002352941177
-12.159329411764705	64.38283529411765
-12.01870588235294	64.31564705882353
-11.878082352941176	64.24845882352942
-11.737458823529412	64.1812705882353
-11.596835294117646	64.11408235294118
-11.456211764705882	64.04689411764706
-11.315588235294117	63.979705882352945
-11.174964705882353	63.91251764705883
-11.034341176470587	63.84532941176471
-10.893717647058823	63.77814117647059
-10.75309411764706	63.71095294117647

-10.612470588235293	63.643764705882354
-10.47184705882353	63.576576470588236
-10.331223529411764	63.50938823529412
-10.1906	63.4422
-10.049976470588234	63.37501176470588
-9.90935294117647	63.30782352941176
-9.768729411764706	63.240635294117645
-9.62810588235294	63.17344705882353
-9.487482352941177	63.10625882352941
-9.346858823529411	63.03907058823529
-9.206235294117647	62.97188235294117
-9.065611764705881	62.904694117647054
-8.924988235294117	62.83750588235294
-8.784364705882354	62.770317647058825
-8.643741176470588	62.703129411764706
-8.503117647058824	62.63594117647059
-8.36249411764706	62.56875294117647
-8.221870588235294	62.50156470588235
-8.081247058823529	62.434376470588234
-7.940623529411765	62.367188235294115
-7.8	62.3

5. a) TYPES OF SAMPLES REQUIRED (e.g., geological/water/plankton/fish/radionuclide) water samples.

b) METHODS OF OBTAINING SAMPLES (e.g., dredging/coring/drilling/fishing, etc. When using fishing gear, indicate fish stocks being worked, quantity of each species required, and quantity of fish to be retained on board).
Sampling on the rosette.

6. DETAILS OF MOORED EQUIPMENT

<u>Dates</u> <u>Laying</u>	<u>Recovery</u>	<u>Description</u>	<u>Depth</u>	<u>Latitude</u>	<u>Longitude</u>
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7. ANY HAZARDOUS MATERIALS (chemicals/explosives/gases/radioactives, etc.)
(Use separate sheet if necessary)

None

- a) Type and trade name
- b) Chemical content (and formula)
- c) IMO IMDG code (reference and UN no.)
- d) Quantity and method of storage on board
- e) If explosives give dates of detonation
- Method of detonation
 - Position of detonation

- Position of detonation
- Frequency of detonation
- Depth of detonation
- Size of explosive charge in kg.

8. DETAIL AND REFERENCE OF

a) Any relevant previous/future cruises

b) Any previously published research data relating to the proposed cruise

1. Chafik, L. & Rossby, T. Volume, Heat, and Freshwater Divergences in the Subpolar North Atlantic Suggest the Nordic Seas as Key to the State of the Meridional Overturning Circulation. *Geophys. Res. Lett.* 46, 4799–4808 (2019).
2. Chafik, L. et al. Discovery of an unrecognized pathway carrying overflow waters toward the Faroe Bank Channel. *Nat. Commun.* 11, 3721 (2020).
3. Chafik, L., Nilsson, J., Rossby, T. & Kondetharayil Soman, A. The Faroe-Shetland Channel Jet: Structure, Variability, and Driving Mechanisms. *J. Geophys. Res. Oceans* 128, e2022JC019083 (2023).
4. Hansen, B. & Østerhus, S. North Atlantic–Nordic Seas exchanges. *Prog. Oceanogr.* 45, 109–208 (2000).
5. Hansen, B. et al. Overflow of cold water across the Iceland–Faroe Ridge through the Western Valley. *Ocean Sci.* 14, 871–885 (2018).
6. Hansen, B., Húsgarð Larsen, K.M., Hátún, H., Østerhus, S., 2016. A stable Faroe Bank Channel overflow 1995–2015. *Ocean Science* 12, 1205–1220.
7. Rossby, T., Flagg, C., Chafik, L., Harden, B. & Søiland, H. A Direct Estimate of Volume, Heat, and Freshwater Exchange Across the Greenland-Iceland-Faroe-Scotland Ridge. *J. Geophys. Res. Oceans* 123, 7139–7153 (2018).
8. Semper, S., Pickart, R.S., Våge, K., Larsen, K.M.H., Hátún, H., Hansen, B., 2020. The Iceland-Faroe Slope Jet: a conduit for dense water toward the Faroe Bank Channel overflow. *Nat Commun* 11, 5390

9. NAMES AND ADDRESSES OF SCIENTISTS OF THE COASTAL STATE(S) IN WHOSE WATERS THE PROPOSED CRUISE TAKES PLACE WITH WHOM PREVIOUS CONTACT HAS BEEN MADE

Hjalmar Hatun, Faroe Marine Research Institute, Tórshavn, Faroe Islands, Hjalmarh@hav.fo

10. STATE

a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable (Yes/No)
Yes

b) Participation of an observer from the coastal state for any part of the cruise together with the dates and the ports for embarkation and disembarkation

Embarkation: 30/06/2025 in Göteborg, Sweden

Disembarkation: 14/07/2025 in Reykjavik, Iceland

Stop in Torshaven, Faroe Islands if needed.

c) When research data from the intended cruise are likely to be made available to the coastal state and by what means

Cruise data will be shared immediately as part of an active scientific collaboration.

Cruise data will become public once correctly validated using Pangae data portal or similar, within a maximum of 2 years following the cruise.

PART C. SCIENTIFIC EQUIPMENT

Complete the following table
using a separate page for
each coastal state

Coastal state Iceland

Port of call: N/A

Date 30/06/2025 – 15/07/2024

Indicate "YES" or "NO"

				DISTANCE FROM COAST		
<u>List scientific work by function</u> e.g.	Water column including sediment sampling of the seabed	Fisheries research within fishing limits	Research concerning the natural resources of the continental shelf or its physical characteristics	Within 3 nm	Between 3-12 nm	Between 12-200 nm
Magnetometry	NO	NO	NO	NO	NO	NO
Gravity	NO	NO	NO	NO	NO	NO
Diving	NO	NO	NO	NO	NO	NO
Seismics	NO	NO	NO	NO	NO	NO
Seabed sampling	NO	NO	NO	NO	NO	NO
Bathymetry	NO	NO	NO	NO	NO	NO
Trawling	NO	NO	NO	NO	NO	NO
Echo sounding	NO	NO	NO	NO	NO	NO
Water sampling	YES	NO	NO	NO	NO	YES
U/W TV	NO	NO	NO	NO	NO	NO
Moored instr.	NO	NO	NO	NO	NO	NO
Towed instr.	NO	NO	NO	NO	NO	NO



(On behalf of the Principal Scientist)

Dated 30/12/2024

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