

ANNEXE 2 À LA LETTRE N°

2022-0190507

REQUEST FOR CONSENT FOR MARINE SCIENTIFIC RESEARCH IN WATERS UNDER THE
JURISDICTION OF THE REPUBLIC OF ICELAND

Date: 20/01/2022

1 GENERALITIES

1.1 CRUISE NAME

The cruise name is Narval2022.

1.2 SPONSORING INSTITUTION

Name: Service Hydrographique et Océanographique de la Marine (Shom)

Address: Service hydrographique et océanographique de la Marine (Shom)

13, rue du Chatellier

CS 92803 – 29228 BREST cedex 2 – France

Director: Ingénieur Général de l'Armement Laurent Kerléguer

1.3 SCIENTIST IN CHARGE OF THE PROJECT

Name: Denis Créach

Address: BCRM de Brest - GHOA – CC61 - 29240 BREST CEDEX 9, France

Director: Ingénieur en chef de l'armement Denis Créach

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1.4 FRENCH SCIENTIST IN CHARGE OF CONDUCTING THE WORK AT SEA

Name: Denis Créach

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1.5 REQUEST AUTHORITY

Name and address: Service hydrographique et océanographique de la Marine (Shom)

13, rue du Chatellier CS 92803 – 29228 BREST cedex 2 – France

Division Plan

Country: France

Phone: (+33) 2 56 31 23 24

Fax: (+33) 2 56 31 25 80

Telex : 940 861 (for Shom)

2 PROJECT DESCRIPTION

2.1 SCIENTIFIC OBJECTIVES

The objective of the campaign is to acquire knowledge of the marine environment in arctic regions. This scientific campaign will be focused on the following themes: bathymetry, geophysics, physical oceanography and underwater acoustic. All these works will also allow the update of international marine charts, to improve safety of navigation.

2.2 PAST OR FUTURE SCIENTIFIC CRUISES IN THE SAME AREA

NARVAL2016, NARVAL2017, NARVAL2018, NARVAL2019, NARVAL2020, NARVAL2021

2.3 BIBLIOGRAPHY

Shom and international nautical publications.

3 DESCRIPTION OF THE SHIP AND THE INSTRUMENTATION

3.1 SHIP INFORMATION

Ship name : BHO *BEAUTEMPS-BEAUPRÉ*

Flag : FRANCE

Owner : FRENCH NAVY **Operator :** Shom (GHOA)

Length : 81 m

Maximum draught : 7 m

DWT : 2025 T

GRT : 3292 T

Propulsion : Diesel Generators connected to electric engine

Speed : 12 knots

Maximum speed : 14 knots

Indication : FABB

Hull number : A 758

Communications : VHF/UHF – HF BLU – INMARSAT B – VSAT

Ship Master : Cdr Clément Hertz / Cdr Vincent Calmette-Vallet

Crew : 29 (5 officers, 24 petty officers, and crew members), all with French nationality.

Scientific team : 21 (hydrographers, scientists and engineers), all with French nationality.

3.2 DESCRIPTION OF THE INSTRUMENTATION

Type of the data collected	Acquisition type	Systems
Bathymetry	Along shiptrack	Multibeam echo sounders EM712, EM122 Singlebeam echo sounders EA400, EA600
Geophysical measurements	Along shiptrack On shore	Towed magnetometer
Sedimentology	Along shiptrack	SBP27 sub-bottom profiler
Current measurements	Along shiptrack	VM-ADCP (Acoustic Doppler Current Profiler) 38kHz and 150kHz.
Hydrology measurements	Along shiptrack Towed	Hull mounted thermosalinometer Expandable bathythermographs probes (XBT, XCTD, XBP) Sound velocity profiler RapidCAST Hull mounted Celerimeter Seasoar (towed CTD)
Weather measurements	Along shiptrack	Onboard weather station
Acoustical oceanography	Drifting buoy Towed	TELEMAQUE Buoy equipped with THEMIS and RTSYS system Towed acoustic source

3.3 DANGEROUS CHEMICAL

None.

3.4 DRILLING

None.

3.5 EXPLOSIVE

None.

4 EQUIPMENTS AND INSTALLATIONS

4.1 PHYSICAL MEASUREMENTS

Echosounders will be used in order to measure bathymetry in the area with an accuracy compatible with the requirements of the International Hydrographic Organization (IHO).

The subbottom profiler will be used in order to improve bottom knowledge in the area.

Hydrology measurements will be done daily to provide the necessary sound velocity vertical profiles for multibeam echosounder signal processing (inversion of time into vertical distance taking into account the acoustic ray paths).

A sea magnetometer will be used to measure the changes in geophysical signals (anomalies in particular) in the survey area.

The Seasoar is a vehicle towed behind the ship between the surface and up to 400 metres depth. It is equipped with a conductivity-temperature-depth (CTD).

The TELEMAQUE buoy is equipped with 7 hydrophones for measuring ambient noises. It will be positioned with regard to in situ hydrological observations during one to few days. This position could evolve depending on the meteorological or maritime traffic conditions. The buoy will be lift up at the end of the measurement period. This source emits linear modulated frequency signal repeated at predefined intervals of a few seconds.

An acoustic source could be towed at a maximum speed of 5 knots or at fixed points. Acoustic source specifications: 180 dB (at 1 m) from 100 Hz to 2.5 kHz ; cable length: 300 m, maximum depth: 170 m.

4.2 GEOPHYSICAL MEASUREMENTS DURING PORTCALLS

A portable gravimeter SCINTREX may be used ashore to measure gravity on points close to the ship, which are linked to IGSN71 network.

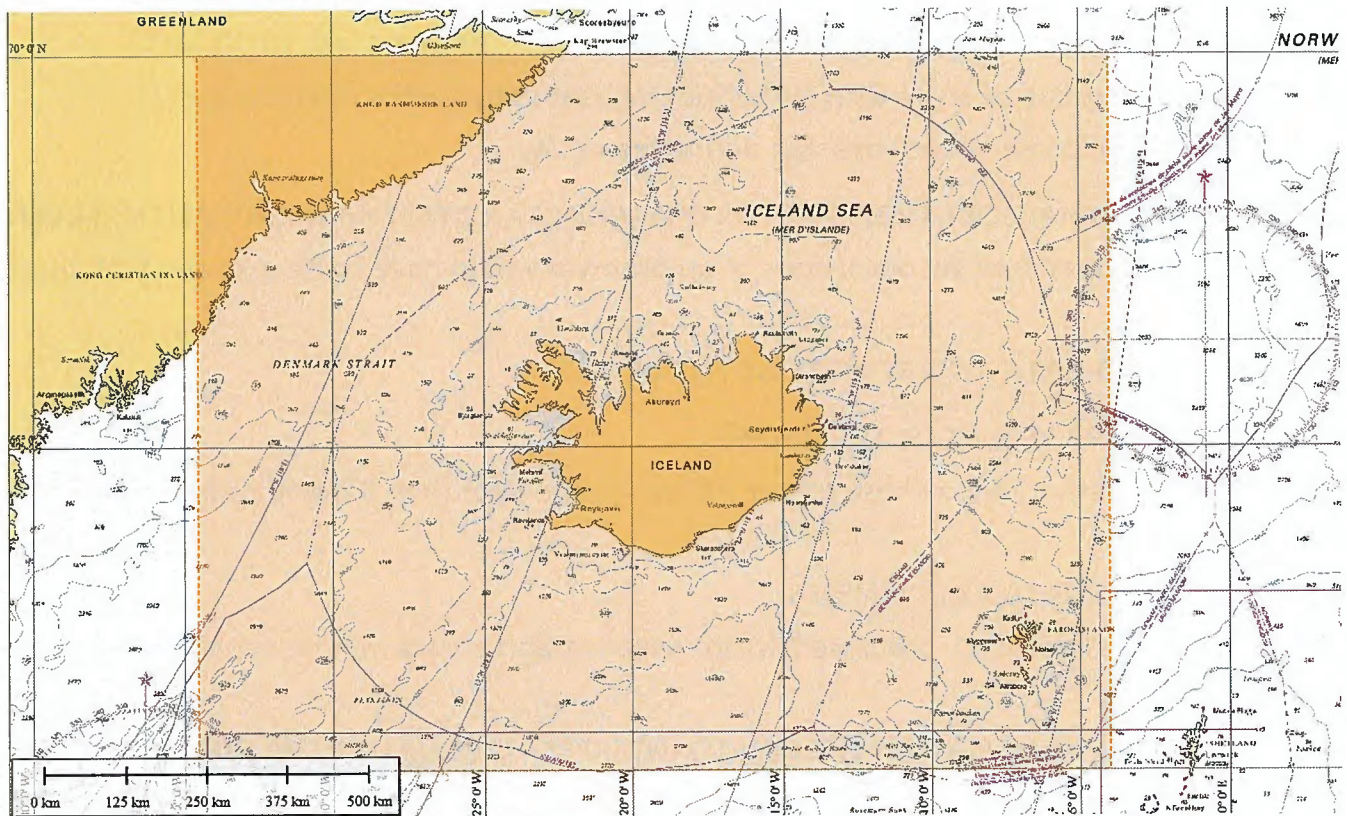
5 GEOGRAPHICAL AREAS.

5.1 DESCRIPTION OF THE AREAS OF THE SURVEY (WGS84).

The project will be carried out within the following area:

70°00'N	034°30'W
70°00'N	004°00'W
60°00'N	004°00'W
60°00'N	034°30'W

5.2 CHART OF THE AREA WHERE THE SURVEY WILL BE CARRIED OUT.



Extract from FR 6727 chart.

6 CHRONOLOGY

6.1 ACTUAL STARTING AND FINISHING DATES OF THE PROJECT

At the earliest the work will begin on July, 1st 2022 and at the latest the work will finish on October, 31st 2022.

A more detailed schedule of operations can be communicated to local authorities if requested.

6.2 MULTIPLE ENTRIES

Multiple entries are likely.

7 PORT OF CALL

7.1 DATES AND PLACES OF PORT OF CALL

Still to be defined, ports of call will be provided later. Reykjavik may be a port of call.

7.2 LOGISTICS NEEDS DURING THE CALL

A dedicated letter will be addressed for logistics needs during the potential calls.

7.3 NAME, ADDRESS AND PHONE OF THE AGENT

Not applicable.

8 PARTICIPATION

8.1 POSSIBILITY FOR AN ICELANDER OBSERVER TO TAKE PART IN THE PROGRAM

A VTC could be set up to share with authorities interested by such scientific surveys.

An observer is welcome aboard the ship during the survey.

8.2 DATES AND HARBOURS POSSIBLE FOR EMBARKING AND DISEMBARKING AN OBSERVER

Embarking and disembarking operations of an observer would have to be assessed with local authorities.

9 ACCESS TO DATA AND RESULTS OF THE CRUISE

9.1 PRELIMINARY REPORT OF THE CRUISE

On demand of authorities, a cruise report will be sent no later than 6 months after the end of the cruise.

9.2 ACCESS TO DATA AND SAMPLES

On demand of authorities, processed hydro-oceanographic data will be sent on numerical storage devices.

9.3 ACCESS TO INFORMATION NEEDED TO INTERPRET OR QUALIFY THE QUALITY OF THE DATA

The cruise report describes the methods applied to collect data and gives information to evaluate the quality of numerical data.

9.4 INTERNATIONAL DIFFUSION OF INFORMATION

The data will be used by Shom in order to update nautical publications (including charts) according to International Hydrographic Organization: see resolution 1/2006 from M-3 publication and rules A-402.1 and B-635.4 from S-4 publication available on IHO web site.