

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A: GENERAL

1. **NAME OF RESEARCH SHIP** : sailing boat **DAGMAR AAEN**

2. **DATES OF CRUISE**: 5th June – 31st August 2026 (Hamburg, Germany) to Halifax/Bridgewater, Canada), from approx. 22th of June until approx. 4th of July 2026 in Icelandic waters.

3. **OPERATING AUTHORITY**: Arved Fuchs, Reiherstieg 2, 24576 Bad Bramstedt, Germany, +49 4192 2016023, mail@arved-fuchs.de

Submitting Officer: Clemens von Scheffer, Geomar Helmholtz Centre for Ocean Research, Wischhofstraße 1-3, 24148 Kiel, Germany, cvonscheffer@geomar.de, +494316001724

TELEPHONE: +49 4192 2016023

TELEFAX: N/A

TELEX:

4. **OWNER** (if different from no. 3)

5. **PARTICULARS OF SHIP**:

Name: DAGMAR AAEN
Nationality: Germany
Overall length: 23.9 m
Maximum draught: 2.5 m
Net tonnage: 8
Propulsion e.g. diesel/steam: Sailing boat
Call sign: DIXX
MMSI No.: 211249810

6. **CREW**

Name of master: Arved Fuchs

Number of crew: 9

7. **SCIENTIFIC PERSONNEL**

Dr. Clemens von Scheffer

GEOMAR Helmholtz Centre for Ocean Research, Wischhofstraße 1-3, 24148 Kiel

Phone: +49 431 600 1724

Email: cvonscheffer@geomar.de

No. of scientists in total: 2

8. **GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE**

(with reference to latitude and longitude)

The vessel will start in Germany, passing the UK, Faroe Islands, Iceland, Greenland, through the North-West Passage through Canadian waters with final destination Vancouver.

In Icelandic waters, the ship will operate within the following area: 65.981199, -29.245605; 61.276674, -28.278809; 61.2445, -13.535156; 64.913743, -7.415771

9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE

The privately owned and operated traditional sailing ship "Dagmar Aaen" serves as a voluntary ship for ocean observation on the level of citizen sciences within "SOOP - Shaping an Ocean Of Possibilities" (<https://www.soop-platform.earth/>) during her cruise in the Baltic Sea and the North Sea. The SOOP project is led by three German publicly funded research institutes (Geomar Kiel, Hereon Geesthacht, Alfred-Wegener-Institute Bremerhaven). During their sailing cruise, oceanographic and meteorological measurements are performed to raise public awareness of the protection of the oceans and the global climate and, at the same time, to provide scientific institutes with important data from on board the Dagmar Aaen.

10. DATES AND NAMES OF INTENDED PORTS OF CALL

The provisional list of itineraries is as follows:

Hamburg, Germany: 5th of June 2026

Kirkwall, Orkney Islands, UK: 12/13th of June 2026

Torshavn, Faroe Islands: 18/06 - 21/06/2026

Vestmänner Heimaey, Iceland: 24/07-26/07/26

Reykjavík, Iceland: Approx. 27/06 – 29/06/2026

Olafsvik, Iceland: approx. 30/06-01/07/2026

Tasiilaq, Greenland: 05/07-08/07/2026

Nanortalik: 16/07-18/07/26

Qaqartoq: 19/07-21/07/26

Nuuk, Greenland: 25/07-28/07/26

Iqaluit, Canada: TBD

Hebron, Canada: TBD

Nain, Canada: TBD

Halifax, Canada: TBD

Bridgewater, Canada: 31/08/2026, final destination in 2026, overwintering

Unforeseen events and weather conditions can lead to short notice changes of the route, or be responsible for delays or, at times, earlier arrival than initially expected or calculated. Hence, the dates given are subject to a buffer of 2-3 days, or more.

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL NOTIFICATION OF PROPOSED RESEARCH CRUISE

No

PART B: DETAILS

1. NAME OF RESEARCH SHIP: Dagmar Aaen

2. DATES OF CRUISE : 5th of June – 31st of August 2026 (Hamburg, Germany, to Bridgewater, Canada)

3. a) PURPOSE OF RESEARCH

The privately owned and operated traditional sailing ship "Dagmar Aaen" plans to serve as a voluntary ship for ocean observation on the level of citizen sciences within "SOOP - Shaping

an Ocean Of Possibilities" during her cruise in the Baltic Sea. SOOP is a joint project of three public ocean research institutes, aiming to facilitate ocean observations by involving citizens and encouraging industrial partners to develop innovative solutions for this approach. The ship owner Arved Fuchs (https://de.wikipedia.org/wiki/Arved_Fuchs) has performed qualitative observations on its sailing cruises and made public in numerous talks and books over the years to witness climate change. In this context ocean and weather observations are planned to be performed on a citizen science level as described further below. The cruise is scientifically accompanied by GEOMAR Kiel and the collected data will be made publicly available on the BELUGA web page operated by GEOMAR. The following link shows last year's campaign to the Arctic. A link for this year (Ocean Change 2025) will be set up once the measurements are done:

<https://beluga.geomar.de/ocean-change-2024>

b) GENERAL OPERATIONAL METHODS

(including full description of any fish gear, trawl type, mesh size, etc.)

None of the measurements uses harmful chemicals or substances that are altering the ocean water. In general, none of the methods in use are harmful to the environment, neither physically nor chemically.

Another important point is that no samples are being collected. Instead, the methods are largely underway measurements of surface waters along the route of sailing along coastal waters. Sea water continuously runs through a closed circuit and is analysed by an "Ocean Pack" by SubCTech (<https://subctech.com/de/ocean-monitoring/systeme/oberflaeche/oceanpack-race/>) for temperature, salinity, CO2 partial pressure and oxygen concentration, before it is released back into the sea without alteration.

Occasionally, a CTD will be lowered on a rope from the ship to measure salinity, oxygen and chlorophyll with depth using a Sea & Sun Technology, Multiparameter Probe CTD 48 (<https://www.sea-sun-tech.com/product/multiparameter-probe-ctd-48/>).

Instruments for meteorological measurements (weather station, type EUCAWS) are also on board, but, to our knowledge, do not need a research permission.

The above mentioned data is transmitted via satellite communication to:

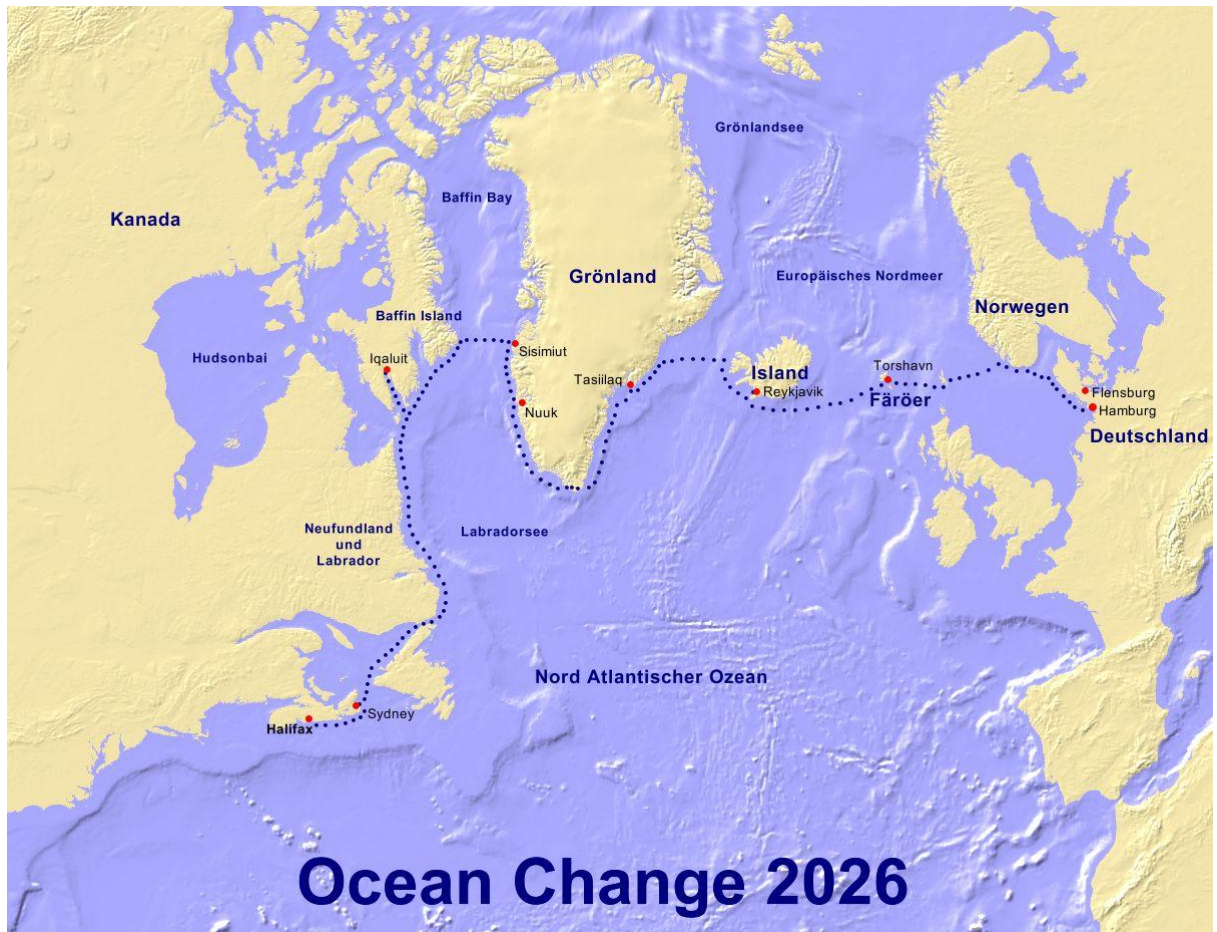
<https://beluga.geomar.de/ocean-change-2024> and is freely available, unless the coastal state does not allow it.

Furthermore, a Secchi Disk is used to determine the water clarity and colour, according to the Forel-Ule scale (https://en.wikipedia.org/wiki/Forel-Ule_scale) using a smart phone app "EyeOnWater".

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.

No moored equipment is used and no physical samples are being collected. All measurements are going to be performed underway. All measurements will be performed along sailing route between entering and leaving territorial waters, (see attached map and positions of entering and exiting).

Icelandic waters (EEZ) will be entered between approx. the 22nd and 24th of June 2026.



Unforeseen events and weather conditions can lead to short notice changes of the route, or be responsible for delays, at times, earlier arrival than initially expected or calculated or even unforeseen port calls. Hence, the dates and route given are subject to change and a buffer of 2-3 days, or more.

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

No sample collection will be performed, only underway measurements of seawater and the atmosphere.

- 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).

See above.

6. DETAILS OF MOORED EQUIPMENT

N/A

7. ANY HAZARDOUS MATERIALS
(chemicals/explosives/gasses/radioactives, etc., (Use separate sheet if necessary))

No use of chemicals or other hazardous materials.

e) If explosives give dates of detonation: N/A

- 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

Previous cruises of the vessel "Dagmar Aaen" under Arved Fuchs were undertaken in previous years, for example along the Norwegian coast in 2024, or through the Baltic Sea and North Sea in 2025. Further information, some results and the track of these cruises can be accessed on the following website: <https://beluga.geomar.de/>

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

P. Leibold, N. Diller, S. Reißmann and C. Faber, "BELUGA: An Integrated Marine Multi-Platform Infrastructure and Near Real-Time Ocean Data Visualization Tool," OCEANS 2023 - MTS/IEEE U.S. Gulf Coast, Biloxi, MS, USA, 2023, pp. 1-10, doi: 10.23919/OCEANS52994.2023.10337372.

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

NA

10. STATE

a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable

Visits of scientists or other officials of the coastal state are very welcome.

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

Since the vessel continues sailing to Greenland and Canada and the fact that it is a relatively small sailing boat, capacities are limited.

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

If relevant, data and findings of the cruise will be published in international, scientific, peer-reviewed journals and at international conferences. After quality control, all cruise data will be made available through the research data portal www.pangaea.de or similar repositories. Most of the data will be made available immediately/live on: <https://beluga.geomar.de/>

PART C. SCIENTIFIC EQUIPMENT

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

Coastal state: Iceland Port of call: Reykjavík Dates: 26th of June 2026. Other ports may be called weather depending.

Indicate "YES" or "NO"

				distance	from the	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
pCO ₂ , T, Salinity, Oxygen with "Ocean Pack"	Yes	No	No	Yes	Yes	Yes
CTD (T, Salinity, Oxygen)	Yes	No	No	Yes	Yes	Yes
Secchi Disk	Yes	No	No	Yes	Yes	Yes
Weather data	No	No	No	Yes	Yes	Yes

Dated 09.03.2026
(on behalf of the Principal Scientist)

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