NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A: GENERAL

1. NAME OF RESEARCH SHIP: "G.O.Sars" CRUISE NO. 2015107

2. DATES OF CRUISE From: April 10, 2015 To: April 27, 2015

3. OPERATING AUTHORITY: Institute of Marine Research
P.O.Box 1870 Nordnes
N-5817 BERGEN NORWAY

TELEPHONE: 47-55238500
TELEFAX : 47-55238531
TELEX: 42297 OCEAN N

4. OWNER (if different from no. 3)

5. PARTICULARS OF SHIP: Name: "G.O.Sars"

Nationality: Norwegian

Overall length: 77,5 metres

Maximum draught: 7,30 metres

Net tonnage: 4067 tonnes

Propulsion: DC - Electric

Call sign: LMEL

Registration port and number
(if registered fishing vessel)
Bergen
Telephone: +47 55906440
Telefax:: +47 55906441
E-mail: GOSars@IMR.no

6. CREW Name of master: Preben Vindenes/ John Hugo Johnsen

Number of crew: 16

7. SCIENTIFIC PERSONNEL

Name and address of scientist in charge: Are Olsen
Gephysical Institute, University of Bergen
P.O. Box 7803
N-5020 BERGEN
NORWAY

Tel/telex/fax no.: +47 55584781/+47 55589883

No. of scientists: 16

8. GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE (with reference to latitude and longitude)

Area of operation is the North Atlantic Sea, including work inside the Iceland EEZ.

50°N-65°N
45°W-6°E

9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE

1) Observations of hydrography and inorganic carbon in the water column.
2) Sampling of geological sediment cores for analysis of indicators of climate of past times.

10. DATES AND NAMES OF INTENDED PORTS OF CALL

10. April 2015, Torshavn, Faroes, start of cruise.
27. April, Bergen, Norway, end of cruise.

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL

No

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART B: DETAIL

1. NAME OF RESEARCH SHIP: "G O Sars" CRUISE NO. 2015107
2. DATES OF CRUISE From 10 April 2015 To 27 April 2015

3. a) PURPOSE OF RESEARCH

The cruise is carried out at part of the Norwegian Research Council funded project Subpolar North Atlantic Climate States (SNACS), aiming to determine the impacts of climate on the hydrographical state, biogeochemistry and carbon cycle in the Subpolar North Atlantic. The project covers multiple time scales since the last glacial until the present, and will also use the insight that is obtained for the evaluation of global earth system models and their uncertainties. At the cruise we will obtain seawater T/S and chemistry data, as well as geological sediment records allowing us to tackle these issues. More details on the project are available on the home page, www.snacs.no

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

CTD sonde and hydrocasts with 24 bottle rosette. The water that is sampled will be analysed for its concentrations of dissolved oxygen, macro nutrients, dissolved inorganic carbon, total alkalinity and distribution of stable carbon isotopes, $\delta^{13}C$. Geological sediment cores will be obtained at selected locations using a gravity corer and multi corer, allowing us to obtain cores of up to a few meters in lenght. These will be analysed for stable oxygen and carbon isotopes ($\delta^{18}O$ and $\delta^{13}C$), and other paleo proxies. Locations for sediment sampling will be identified using echosounding.

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 ATTACHED

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

Water and geological sediment cores

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

CTD sonde and hydrocasts with 24 bottle rosette.
Sediment cores will be obtained using gravity and multi corers.
Locations for sediment sampling will be identified using echosounding.

6. DETAILS OF MOORED EQUIPMENT

Dates Laying	Recovery	Description	Depth	Latitude	Longitude

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

None

a) Type and trade name NIL

b) Chemical content (and formula) NIL

c) IMO IMDG code (reference and UN no.) NIL

d) Quantity and method of storage on board NIL

e) If explosives give date(s) of detonation NIL

- Method 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

The cruise will largely follow the WOCE line AR07E, http://cchdo.ucsd.edu/search/results.html?query=ar07

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

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

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

Acceptable. Dates and ports to be closer settled if wanted by the coastal states.

c) When research data from the intended cruise is likely to be made available to the coastal state and by what means
End of 2017. When the SNACS project ends all data will be transferred and made accessible at national and international data centres (i.e. Norwegian Marine Data Centre, PANGEA data publisher for Earth and Environmental Science and Bjerknes Climate Data Centre.

PART C. SCIENTIFIC EQUIPMENT

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

Coastal state: Iceland

Port call: Torshavn (cruise departs from) to Bergen, Norway.

Indicate "YES or "NO"

Dates: 28 April-3 June 2015

				Distance from coast		
List scientific work by function e.g. Magnetometry Gravity Diving Seismics Seabed sampling Bathymetry Trawling Echo sounding Water sampling U/W TV Moored instr. Towed instr.	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 characteris-tics	Within 4 nm	Between 4-12nm	Between 12 and 200 nm
CTD sonde	0-3500 m	No	No	Yes	Yes	Yes
Water sampling	0-3500 m	No	No	Yes	Yes	Yes
Echo sounding (hull mounted)	n.a.	No	Yes	Yes	Yes	Yes
Sediment sampling	0-3500 m	No	Yes	Yes	Yes	Yes

Dated 2.2.15

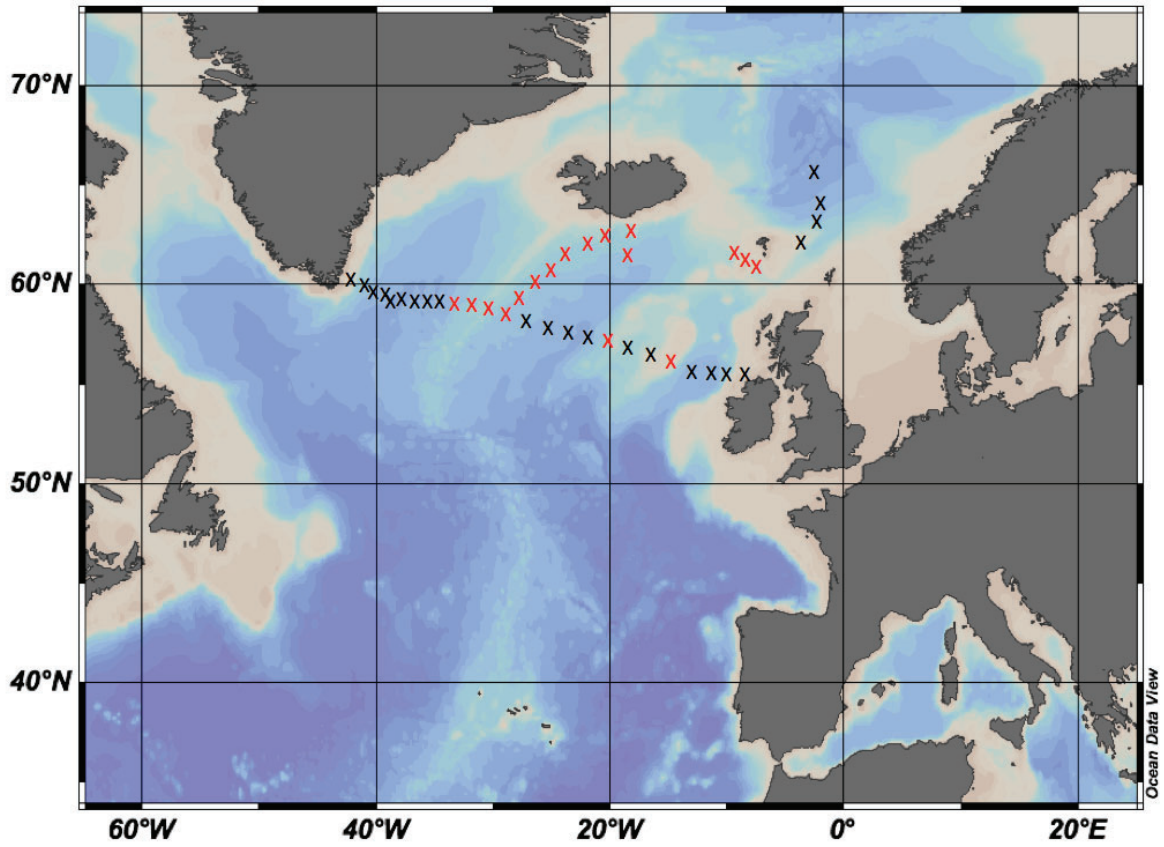
NB. IF ANY DETAILS ARE MATERIALLY CHANGED REGARDING DATES/AREA OF OPERATION AFTER THIS FORM HAS BEEN SUBMITTED, THE COASTAL STATE AUTHORITIES MUST BE NOTIFIED IMMEDIATELY.

Additional information for *Part B: Detail*

3.b) GENERAL OPERATIONAL METHODS

Hydrocasts with 24 bottle rosette with CTD sonde
Echosounding to identify suitable coring locations
Sediment sampling using gravity and multi corers

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



Preliminary water and sediment sampling locations at the 2015 SNACS cruise. Black Xs; water, red: water and sediments.