

NOTIFICATION OF PROPOSED RESEARCH CRUISE

Part A: GENERAL

1. Name of research ship: **R.V. MARIA S. MERIAN** Cruise No. **MSM 140**

2. Dates of cruise **from 04.09.2025 Reykjavik, Iceland
to 09.10.2025 Trondheim, Norway**

3. Operating Authority **Institute of Oceanography / University of Hamburg
Bundesstr. 53, D-20146 Hamburg, Germany
Tel.: +49-40-42838-3640 - Fax: +49-40- 4273-10063**

4. Owner (if different from para 3) **Federal State Mecklenburg-Vorpommern, Germany**

5. Particulars of ship:

Name	MARIA S. MERIAN
Nationality	German
Overall length	94,8 metres
Maximum draught	6,50 metres
Net tonnage	1.671 NT
Propulsion	Diesel Electric
Call sign	DBBT
IMO No.	9274197

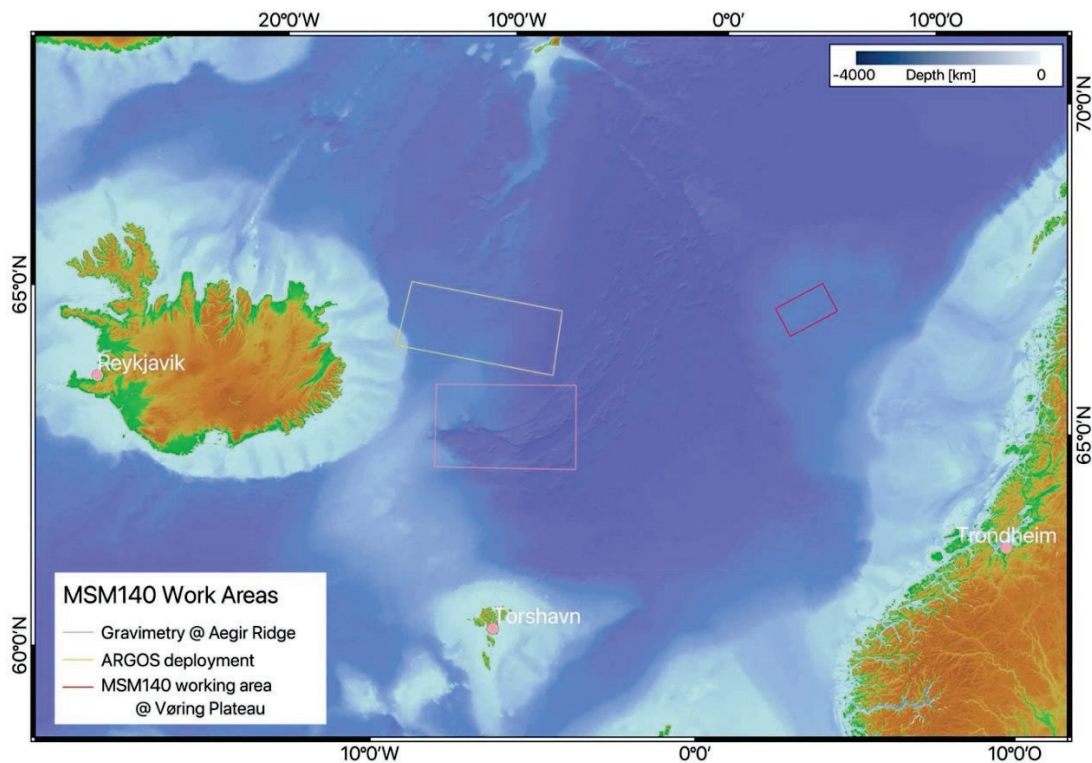
6. Crew

Name of master	Klaus Bergmann
No. of crew	max. 24

7. Scientific personnel:

Name and address of scientist in charge:	Dr. Ingo Klaucke GEOMAR Helmholtz Centre for Ocean Research Kiel Wischhofstr. 1-3 24148 Kiel Germany
Phone:	+49 (0)431 600-2335
Email:	iklaucke@geomar.de
No. of scientists	max. 22

8. Geographical areas in which ship will operate (with reference in latitude and longitude):



Aegir Ridge, **65.553° N / 9.681° W – 65.553° N / 5.083° E**
 64.310° N / 9.681° W – 64.310° N / 5.083° E
ARGOS deployment **66° N / 12° W – 66° N / 6° W**
 67° N / 12° W – 67° N / 6° W

Course from Reykjavik, Iceland to the working area at Aegir Ridge and ARGOS deployment

Course from ARGOS deployment area to Vøring Plateau, Norway

9. Brief description of purpose of cruise:
- 1.) Underway gravity and multibeam acquisition
 - 2.) Adding gravimetric and multibeam data in an uncovered area at south eastern end of Aegir Ridge to the international database
 - 3.) Deployment of two autonomous ARGOS floats
10. Dates and names of intended ports of call:
- Reykjavik: For nine days within the time window of 24.08.2025 and 07.09.2025**
⇒ Planned so far from 27.08.2025 to 04.09.2025.
11. Any special logistic requirements at ports of call:
- Crew change; unloading/ loading of equipment; logistics; bunkering.**
Calibration measurements of gravity at reference station in port of Reykjavik, Iceland at 64.1395° N / 21.9547° W, University of Iceland

Part B: DETAIL

1. Name of research ship: **R.V. MARIA S. MERIAN** Cruise No. **MSM 140**

2. Dates of cruise **from 04.09.2025 Reykjavik, Iceland**
To 09.10.2025 Trondheim, Norway

3. Purpose of research and general operational methods:

1.) Underway gravity and multibeam acquisition

2.) Adding uncovered area at south eastern end of Aegir Ridge to the international database of gravimetric and multibeam data

3.) Deployment of two autonomous ARGOS floats

Modeling the crustal structure of the North Atlantic with emphasis on the breakup history depends on knowledge of tectonic elements. Gravity anomalies are a suitable method of remote sensing to map such structures and their penetration at depth. Ship borne gravity measurements improve resolution of such features compared to satellite imaging. For a 3D picture of crustal segments a full areal coverage of dense measurements is needed. To the south east termination of the Aegir Ridge the current coverage of gravity measurements has white spot. Therefore, the transit of R/V Maria S Merian towards the working area at the Vøring Plateau, Norway, should be used to fill the gap with new data. At the same time bathymetric mapping is required to apply correction values for the water body.

The current ARGOS density map shows a significant low coverage in the area northeast of Iceland. Therefore the permanent network of ARGOS floating platforms shall be supported by deployment of two floats.

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored / seabed equipment:

Estimated first entry into EEZ of coastal state: **Expedition starts in Iceland**

Estimated last exit from EEZ of coastal state: **05.09.2025**

Multiple EEZ entries/exits during the cruise? **NO**

5. Types of samples required (e.g., Geological / Water / Plankton / Fish / Radioactivity / Isotope) and (b) methods by which samples will be obtained (including dredging / coring / drilling/ fishing etc.).

(a) Type of samples	(b) Method
Gravimetric data	On board gravimeter
Bathymetric data	Multibeam echsounder

6. Details of moored equipment: **No moored equipment**

Laying	Recovery	Description	Latitude	Longitude

7. Explosives: **None**

8. Detail and reference of

(a) Any relevant previous / future cruises: **None**

(b) Any previous published research data relating to the proposed cruise. (Attach separate sheet if necessary.):

Pálmason, G., Nilsen, T.H., and Thorbergsson (1973) Gravity Base Station Network in Iceland 1968-1970, Jökull, 23, p70-125

Hopper, J.R.; Funck, T.; Stoker, M.S.; Árting, U.; Peron-Pinvidic, G.; Doornenbal, H.; Gaina, C.; NAG-TEC Contributors, 2014, "Tectonostratigraphic Atlas of the North-East Atlantic Region", <https://doi.org/10.22008/FK2/ZZQRQ1>, GEUS Dataverse, V1

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made:

Anett Blische, ISOR Iceland Geosurvey - Anett.Blischke@isor.is

Magnus Tumi Gudmundsson, University of Iceland - mtg@hi.is

10. State:

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

Yes, after discussion.

(b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation:

Yes, after discussion

Embarkation: Reykjavik, Iceland 03.09.2025

Disembarkation: Trondheim, Norway, 09.10.2025

(c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means:

- **Cruise Report three months after finishing the research cruise.**
- **Scientific publication within the following three years.**

Part C: SCIENTIFIC EQUIPMENT

COASTAL STATE: Iceland

11. Complete the following table - (indicate 'YES' or 'NO'):

Please add in "b" the equipment you will bring to the vessel and complete the table with yes or no. Note that forgotten equipment can led to restrictions in research.

List of all major marine scientific equipment it is proposed to use.	Fisheries research within fishing limits	Research concerning continental shelf out to State's margin	Waters in which equipment will be deployed			
			within 3 NM	between 3-12 NM	between 12-50 NM	between 50-200 NM
a. vessel mounted systems						
ADCP current profiler	No	YES	YES	YES	YES	YES
Multibeam echosounder	No	YES	YES	YES	YES	YES
Sub-bottom profiler Parasound P70	No	No	No	No	No	No
Permanent surface water sampling / analysis (incl. Thermosalinograph)	No	YES	YES	YES	YES	YES
b. mobile equipment						
Sound velocity probe AML SV PlusX	No	YES	YES	YES	YES	YES
Drone	No	No	No	No	No	No
Meteorological Sensors	No	YES	YES	YES	YES	YES
Gravimeter	No	YES	YES	YES	YES	YES
CTD for multibeam calibration	No	YES	YES	YES	YES	YES
ARGOS floats	No	No	YES	YES	YES	YES

Hamburg, 03.02.2025

Date

Universität Hamburg
 CEN Centrum für Erdsystemforschung und Nachhaltigkeit
 Leitstelle Deutsche Forschungsschiffe
 Bundesstr. 55
 D-20146 Hamburg
 - Germany -

(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