

NOTIFICATION OF PROPOSED RESEARCH CRUISE

ICELAND

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GENERAL

Part A

01. Name of research ship: **MARIA S. MERIAN** Cruise No. **MSM 02/1**
02. Dates of cruise from 22 May 2006 to 26 June 2006
03. Operating Authority **Institut für Meereskunde / University of Hamburg**
Bundesstr. 53, D-20146 Hamburg, Germany
Tel.: +49-40-42838-3974 - Fax: +49-40-42838-46 44
Telex: 212586 ifmhh d
04. Owner (if different from para 3) **Federal State Mecklenburg-Vorpommern, Germany**
05. Particulars of ship:
- | | |
|-----------------|------------------------|
| Name | MARIA S. MERIAN |
| Nationality | German |
| Overall length | 94,8 metres |
| Maximum draught | 6,5 metres |
| Nett tonnage | 1750 NRZ |
| Propulsion | Diesel Electric |
| Call sign | D B B T |
06. Crew
- | | |
|----------------|---------------------------|
| Name of master | <u>F. von Staa</u> |
| No. of crew | <u>max. 23</u> |
07. Scientific personnel:
- | | |
|---|---|
| Name and address of scientist in charge | Pascale LHERMINIER
Ifremer / LPO B.P.70
29280 PLOUZANE, FRANCE |
| Tel./Fax/Telex No. | +33 (0)298 22 43 62 |
| No. of scientists | <u>max. 23</u> |
08. Geographical areas in which ship will operate (with reference in lat and long)
- Transit and tests: Iberian shelf, slope and Abyssal Plain:
38.7°N to 42°N, 9°W to 12°W
 - Hydrographic Section through West European Basin, Iceland Basin and Irminger Sea, from
40°20'N, 9°27'W to 60°N, 42°15'W
 - Transit back on East Greenland shelf and slope, through Irminger Sea and to Reykjavik:
60°N, 43°W → 63°N, 40°W → 64°04'N, 21°58'W
09. Brief description of purpose of cruise
- The goal is to monitor the low frequency fluctuations of the oceanic meridional overturning cell, heat and tracer transports, and water mass characteristics in the northern North Atlantic Ocean.
10. Dates and names of intended ports of call
- Reykjavik / Island: 4 days in a period from 23rd June to 02nd July, 2006**
(intended so far: June 26th – 29th, 2006)
11. Any special logistic requirements at ports of call
- Container handling, bunkering, crew change**

DETAIL

Part B

01. Name of research ship: **MARIA S. MERIAN** Cruise No. **MSM 02/1**
02. Dates of cruise from **22 May 2006** to **26 June 2006**
03. Purpose of research and general operational methods

A hydrographic section composed of 95 stations is proposed to be repeated between Portugal and the southern tip of Greenland every other year for 10 years starting in 2002. The goal is to monitor the low frequency fluctuations of the oceanic meridional overturning cell, heat and tracer transports, and water mass characteristics in the northern North Atlantic Ocean. The first two sections were successfully completed in 2002 and 2004. It showed an important variability compared to data from 1997, and the section that was carried out in June 2004 comforted the sampling frequency. In 2006, the CTDO₂ measurements will be complemented by measurements of nutrients, CFCs, CCl₄, δ¹⁸O, I129 and REE contents, pH, and alkalinity from water samples. Acoustic Doppler Current Profiler measurements will be available from the ship (hopefully) and the rosette. The scientific project also relies on ARGO profiling float data, a high resolution numerical model (DRAKKAR) and variational data assimilation in a coarser resolution model (OPA 1/3°). The OVIDE hydrographic line is proposed within the framework of CLIVAR. This project is part of a joint proposal to the PNEDC (a French program which supports climate research) in collaboration with the SURATLANTE (G. Reverdin) and GINS/SIGNATURE (J. C. Gascard and C. Jeandel). Twenty-three (23) ship days are needed to realize the hydrographic section; the requested ship time is based on the experience of the OVIDE 2002 cruise, and will allow the recovery on the Greenland slope of 5 moorings that were deployed in June 2004.

04. 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.
see attachment
05. Types of samples required, e.g. Geological / Water / Plankton / Fish / Radio-activity / Isotope
water (for salinity, dissolved oxygen, alkalinity, pH, nitrite, nitrate, phosphate, silicate, CFC-11, CFC-12, CFC-113, CCl₄), **hydroacoustic data**, **isotopes** (Oxygen, Iodin, Carbon) and methods by which samples will be obtained (including dredging / coring / drilling).
pumping, hydroacoustic measuring

06. Details of moored equipment:
D a t e s

Name	Laying	Recovery	Description	Latitude	Longitude
A	06/13/2004	06/22/2006	5 RMC8+1 SeaCat	N59°39.223'	W41°47.596'
B	06/13/2004	06/22/2006	5 RMC8+1 SeaCat	N59°45.215'	W42°07.454'
C	09/18/2004	06/22/2006	1 WH75+3 RMC8+1 SCat	N59°47.620'	W42°15.922'
D	06/11/2004	06/22/2006	2 RCM8+1 SeaCat	N59°48.949'	W42°19.122'
E	09/19/2005	06/22/2006	1 WH300 + 1SeaCat	N59°55.872'	W42°58.162'
CIS	09/20/2005	06/23/2006	see below	N59°40.000'	W39°42.000'

CIS mooring carries a surface data telemetry buoy, 15 MicroCats, 2 ADCPs, 2 RCM8, 1 particle trap, 1 CO₂ sensor, 1 nutrient sensor, 1 fluorometer. **CIS will be moored again after maintenance.** The other moorings are not deployed again, apart from E if the ADCP is still in good shape and if the ice and meteorological conditions are correct.

See attachment for a more detailed description and map of mooring A, B, C, D and E.

07. Explosives: **no explosives**

08. Detail and reference of

(a) Any relevant previous / future cruises

The same hydrographic line was carried out in June-July 2002 and 2004. We plan another one in 2008.

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

see attachment

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

In Iceland: none. Any collaboration is welcome.

10. State:

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

(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 on principle, but needs to check for available berths.

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

- **Real time data of T and S available via internet at the Coriolis data center [<http://www.coriolis.eu.org>], and final data at the SISMER data center [<http://www.ifremer.fr/sismer>].**

- **Cruise Report three months after finishing the research cruise**

- **Scientific publication within the following three years**

COASTAL STATE: ICELAND

SCIENTIFIC EQUIPMENT

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE
(indicate 'YES' or 'NO')

List of all major Marine Scientific Equipment it is proposed to use and indicate waters in which it will be deployed	Fisheries Research within Fishing Limits	Research concerning Continental Shelf out to Coastal State's Margin	Within	Between	Between	Between
			3 NM	3 - 12 NM	12 - 50 NM	50 - 200 NM

a)						
vessel mounted systems: hydroacoustic mapping / measuring (incl. ADCP, Parasound and multibeam)	No	Yes	No	Yes	Yes	Yes
permanent surface water sampling / pumping (incl. Thermosalinograph)	No	No	No	Yes	Yes	Yes
b)						
mobile equipment :						
CTDO ₂ + 32 bottles	No	No	No	No	No	Yes
Lowered ADCP	No	No	No	No	No	Yes
Salinometer	No	No	No	No	No	Yes
Metrohm (for Oxygen)	No	No	No	No	No	Yes
Metrohm (for alkalinity)	No	No	No	No	No	Yes
Spectrophotometer (for pH)	No	No	No	No	No	Yes
Technicon nutrient analyser	No	No	No	No	No	Yes
Chromatographer (CFCs)	No	No	No	No	No	Yes
Microstructure Profiler	No	No	No	No	No	Yes

OVIDE 2006

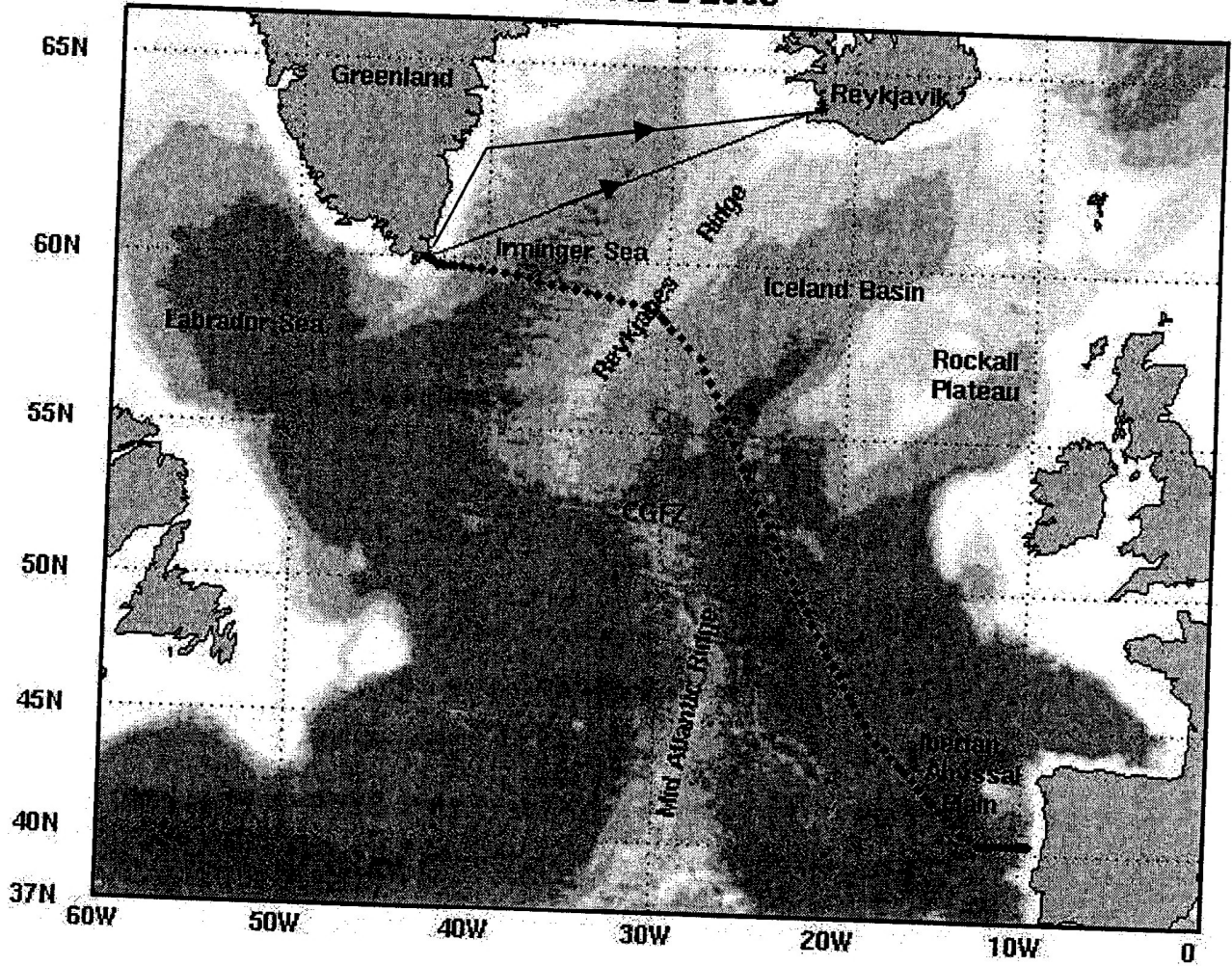


Figure 1: planned hydrological stations in red. Transit back to Iceland will be chosen between the 2 black lines depending on time available.

Previous published research data relating to the proposed cruise:

Laboratoire de Physique des Océans

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