

Application for Consent to conduct  
Marine Scientific Research

Date:

1. General Information

1.1 Cruise name and/or number:
FS SONNE Cruise No.4

1.2 Sponsoring Institution(s): <i>(The Sponsoring Institution is the name of the Institution(s) which initiates, finances and is responsible for the proposed scientific research)</i>	
Name:	Institut für Meereskunde / University of Hamburg
Address:	Bundesstr. 53, D-20146 Hamburg, Germany
Name of Director:	Prof. Dr. Jan Backhaus

1.3 Scientist in charge of the Project:	
Name:	Prof. Dr. Oliver Zielinski
Country:	Germany
Affiliation:	University of Oldenburg / Institute for Chemistry and Biology of the Marine Environment
Address:	Carl-von-Ossietzky-Str. 9-11, 26129 Oldenburg, Germany
Telephone:	+49 441 798 5342
Fax:	+49 441 798
Email:	oliver.zielinski@uni-oldenburg.de
Website (for CV and photo):	

1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:	
Name:	-
Affiliation:	-
Address:	-
Telephone:	-
Fax:	-
Email:	-
Website (for CV and photo):	-

2. Description of Project

2.1 Nature and objectives of the project:
<p>The main objective is the evaluation of the new research vessel and its scientific equipment under scientific and technical aspects with a focus on the CTD-water sampler and the different integrated underway sensors. The scientific objectives are a) the bio-optical characterisation of water bodies from the North-West European Shelf and the North-East Atlantic and b) the investigation and comparison of water mass composition from two neighbouring deep sea troughs.</p>

2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project:

None

2.3 Relevant previous or future research projects:

None

2.4 Previous publications relating to the project:

None

### 3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in Latitude and longitude in decimal degrees, including coordinates of cruise/track/way points/sampling stations). Please provide coordinates in a separate excel spreadsheet.

The cruise will start in Bremerhaven (Germany) and sail through the Southern North Sea, The English Channel and the West European Basin to Ponta Delgada on the Island of São Miguel (Azores). We intend to conduct oceanographic and bio-optical research along the complete cruise track using underway sensors and during station work (see attached map for station work and possible alternative routes if necessary):

Area A: German Bight: 8.1° E – 6.25° E and 53.8° N – 55° N

Area B: Southern North Sea / The Netherlands, 6.25° E – 3.1° E and 52.4° N – 53.86° N

**Area C: United Kingdom: 3.1° E – 10.2° W and 47.6° N – 52.4° N**

**(2 stations are planned in the British EEZ)**

Alternative: Area C: Belgium: 2.9° E – 2.3° E and 51.3° N – 51.6° N

Alternative: Area C: France: 2.3° E – 9.7° W and 47.2° N – 51.3° N

Area D: Open Ocean Troughs around Palmer Ridge: 10.2°W – 22.1°W and 40.3° N – 47.6° N

Area E: Azores / Portugal: 22.1° W – 25.7° W and 37.7° N – 40.3° N

Station list and Map see attachment

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical Areas of the intended work and, as far as practicable, the location and depth of sampling Stations, the tracks of survey lines, and the locations of installations and equipment.

See attachment

### 4. Methods and means to be used

4.1 Particulars of vessel:

Name:	Sonne
Type/Class:	Research Vessel
Nationality (Flag State):	German
Identification Number (IMO/Lloyds No.):	IMO Nr.: 9633927
Owner:	Meyer Werft GmbH Papenburg / Federal Ministry of Education and Research
Operator:	University of Hamburg, Institute of Oceanography,

	Bundestraße 53, 20146 Hamburg
Overall length (meters):	116,0 m.
Maximum draught:	6,4 m.
Displacement/Gross Tonnage:	8.600 GT
Propulsion:	Diesel Electric
Cruising & maximum speed:	12 kn
Call sign:	DBBE
INMARSAT number and method and capability of communication (including emergency frequencies):	V-Sat: } Iridium: } <b>not known at the moment</b> SAT: }
Name of Master:	Lutz Mallon
Number of Crew:	Max. 35
Number of Scientists on board:	Max. 40

4.2 Particulars of Aircraft:	
Name:	-
Make/Model:	-
Nationality (flag State):	-
Website for diagram & Specifications:	-
Owner:	-
Operator:	-
Overall Length (meters):	-
Propulsion:	-
Cruising & Maximum speed:	-
Registration No.:	-
Call Sign:	-
Method and capability of communication (including emergency frequencies):	-
Name of Pilot:	-
Number of crew:	-
Number of scientists on board:	-
Details of sensor packages:	-
Other relevant information:	-

4.3 Particulars of Autonomous Underwater Vehicle (AUV):	
Name:	-
Manufacturer and make/model:	-
Nationality (Flag State):	-
Website for diagram & Specifications:	-
Owner:	-
Operator:	-
Overall length (meters):	-
Displacement/Gross tonnage:	-
Cruising & Maximum speed:	-
Range/Endurance:	-
Method and capability of communication (including emergency frequencies):	-
Details of sensor packages:	-
Other relevant information:	-

4.4 other craft in the project, including its use:
-

4.5 Particulars of methods, full description of scientific instruments to be used(for fishing gear specify type and dimension) and location			
Types of samples and Measurements:	Methods to be used:	Instruments to be used:	To be carried out within 12nm (yes or no):
Testing and calibrating of nautical and scientific equipment		ADCP, Echo-Sounder, DSHIP	YES
Permanent surface water sampling / pumping		Pump, Thermosalinograph	YES
Permanent surface water ocean colour sensing (from reflectance)		Hyperspectral Radiometers	YES
Hydrographic Parameters, Seawater samples (Nutrients, SPM, CDOM)		CTD-water sampler with fluorometers and PAR	YES
Underwater light field		Submersible Hyperspectral Radiometers and Bio-optical sensor assembly	YES
Plankton Samples		Plankton-net	YES
Water Transparency		Secchi disk	YES

4.6 Indicate nature and quantity of substances to be released into the marine environment:
None

4.7 Indicate whether drilling will be carried out. If yes, please specify:
None

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude:
None

## 5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements):
None

## 6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:
Entry: 03.08.2014 / 12:00
Departure: 05.08.2014 / 20:00
6.2 Indicate if multiple entries are expected:
None

## 7. Port Calls

7.1 Dates and Names of intended ports of call:	
02.08.2014	Bremerhaven, Germany
10.08. – 12.08.2014	Ponta Delgada, São Miguel, Azores, Portugal (Change of crew and equipment, bunkering)
7.2 Any special logistical requirements at ports of call:	
None. Only small package freight.	
7.3 Name/Address/Telephone of shipping agent (if available):	
not known at the moment	

## 8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:
None
8.2 Proposed dates and ports for embarkation/disembarkation:
None

## 9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include The expected dates of submission of the data and research results:
Cruise report will be published approx. one year after validation transects.
9.2 Anticipated dates of submission to the coastal State of the final report:
9.3 Proposed means for access by coastal State to data (including format) and samples:
All data will be published through the German research portal <a href="http://www.pangaea.de">www.pangaea.de</a> three year after the cruise latest.
9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:
9.5 Proposed means to provide assistance in assessment or interpretation of data, samples And research results:
9.6 Proposed means of making results internationally available:

## 10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or Pending):
The Netherlands, Belgium, France, Portugal

## 11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:
Station list, station map with area declaration



Signature:

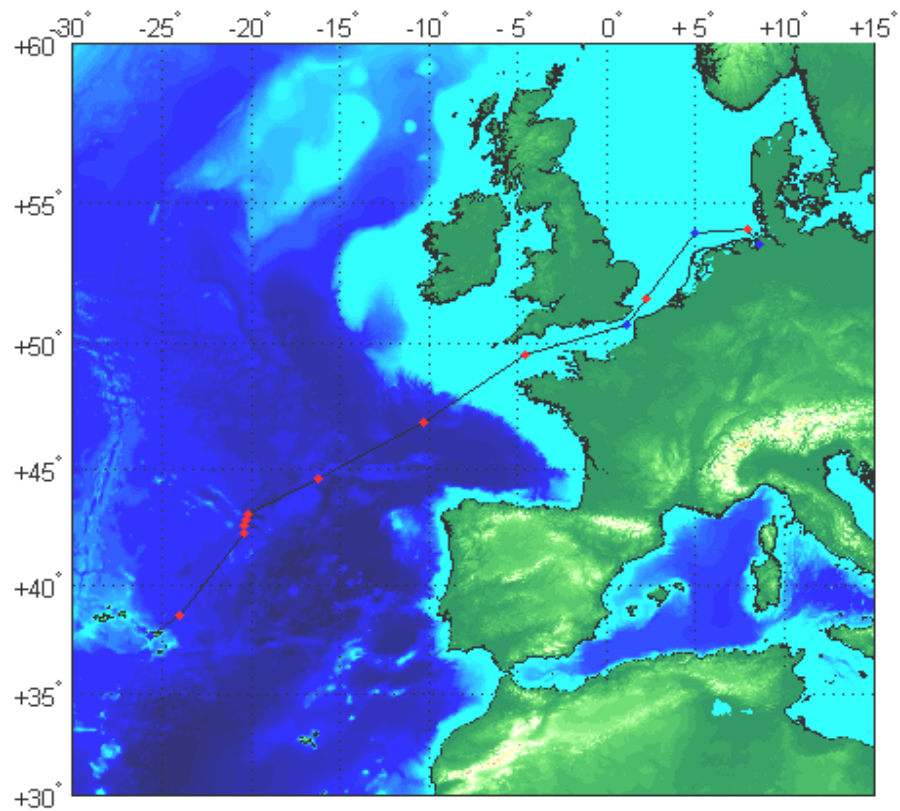
Contact information of the focal point:	Niels Jakobi
Name:	Leitstelle Deutsche Forschungsschiffe
Country:	Germany
Affiliation:	University of Hamburg Institute for Oceanography
Address:	Bundesstr. 53 20146 Hamburg
Telephone:	+49 (40) 42838-3640
Fax:	+49 (40) 42838-4644
Email:	leitstelle@ifm.uni-hamburg.de

## Attachment

### (A) Station List

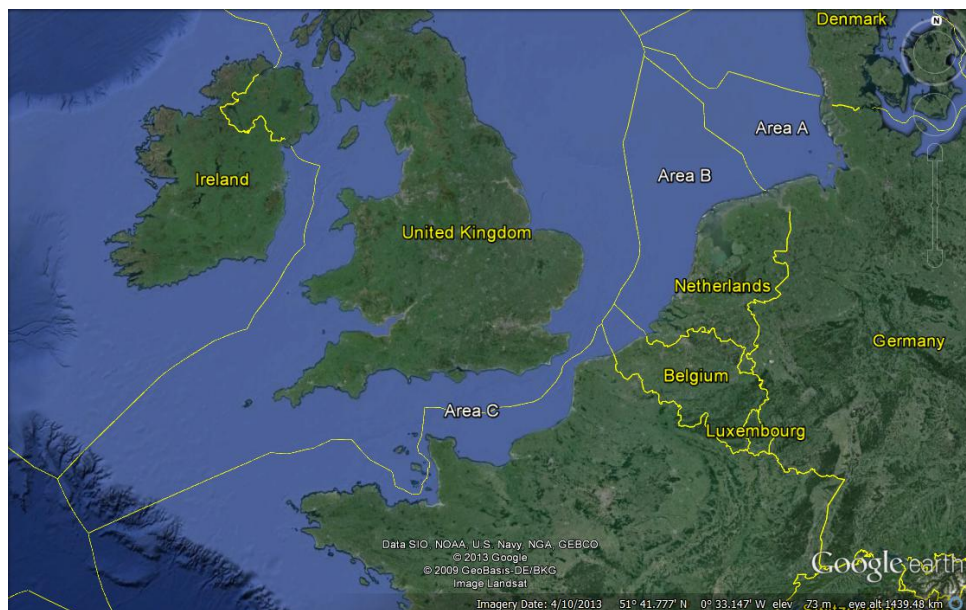
Station	Cast	DateTime	Latitude	Longitude	WaterDepth(m)	Speed(kn)	ProfilDepth(m)
WP	none	02.08.2014 10:00	53° 33' N	8° 35' E	NaN	12	none
1	1	02.08.2014 13:32	54° 7.79' N	7° 53.94' E	31	12	31
WP	none	03.08.2014 01:04	54° 0' N	5° 0' E	39	12	none
2	1	03.08.2014 18:21	51° 39.9' N	2° 12.86' E	31	12	31
WP	none	04.08.2014 02:11	50° 42.44' N	1° 9.16' E	34	12	none
3	1	04.08.2014 21:36	49° 33.09' N	4° 37.8' W	87	12	87
4	1	05.08.2014 22:32	46° 56.16' N	10° 16.75' W	4604	12	4604
5	1	07.08.2014 00:21	44° 36.59' N	16° 14.07' W	3573	12	3573
6	1	07.08.2014 18:23	43° 8.52' N	20° 11.4' W	4362	12	4362
7	1	08.08.2014 01:41	42° 52.98' N	20° 13.92' W	3502	12	3502
8	1	08.08.2014 09:07	42° 37.2' N	20° 22.5' W	4080	12	4080
9	1	08.08.2014 16:22	42° 22.02' N	20° 22.14' W	4025	12	4025
10	1	09.08.2014 21:41	38° 37.92' N	24° 1.87' W	3550	12	3550
WP	none	10.08.2014 07:32	37° 44' N	25° 40' W	NaN	12	none

(B) Map 1: Intended cruise track with station work (red dots), way points (blue dots)



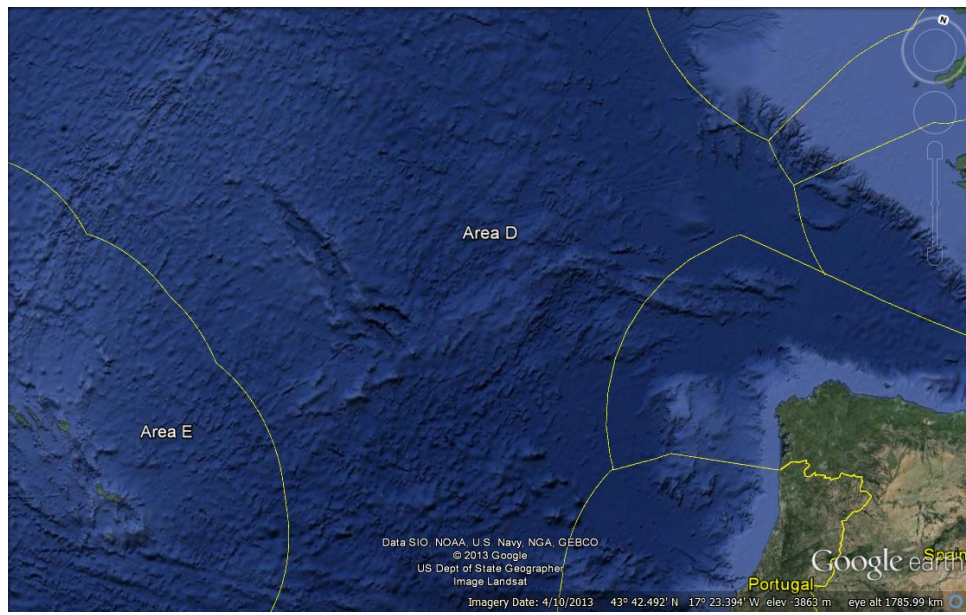
(C) EEZs and Area declaration: A – C (a) and D and E (b)

(a)





(b)



COASTAL STATE: **UNITED KINGDOM**

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 3 NM	Between 3 - 12 NM	Between 12 - 50 NM	Between 50 - 200 NM
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<b>a)</b> <b>Vessel mounted systems:</b> <b>Testing and calibrating of nautical and scientific equipment</b> <b>(incl. ADCP, Echo-sounder, DSHIP)</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Permanent surface water sampling / pumping (incl. thermosalinograph)</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Permanent surface water ocean colour sensing (from reflectance)</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>b) Mobile equipment:</b>						
<b>CTD-water sampler with fluorometers and PAR</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Bio-optical sensor assembly</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Underwater light field / profiler</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Plankton-net</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Secchi disk</b>	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>