

NOTIFICATION OF PROPOSED RESEARCH CRUISE**PART A: GENERAL**

1. NAME OF RESEARCH SHIP CRUISE NO.
RV POLARSTERN **ANT XXVI-1**
2. DATES OF CRUISE From To
16.10.09 **25.11.09**
3. OPERATING AUTHORITY:
Stiftung Alfred-Wegener-Institut für Polar-und Meeresforschung
Postfach 12 01 61
D-27515 Bremerhaven
- TELEPHONE: **0049 471 4831-0**
- TELEFAX: **0049 471 4831 1355**
- TELEX: **238 695 polar d**
4. OWNER (if different from no. 3)
5. PARTICULARS OF SHIP:
- | | |
|---|-------------------|
| Name: | POLARSTERN |
| Nationality: | GERMAN |
| Overall length: (in metres) | 117,91 |
| Maximum draught: (in metres) | 11,21 |
| Net tonnage: | 3.532,30 |
| Propulsion e.g. diesel/steam: | diesel |
| Call sign: | DBLK |
| Registration port and number (if registered fishing vessel) | |
6. CREW
- Name of master: **Uwe Pahl**
- Number of crew: **43**
7. SCIENTIFIC PERSONNEL
- Name and address of scientist in charge: **Prof. Andreas Macke**
Leibniz Institut für Meereswissenschaften IFM-GEOMAR
Düsternbrooker Weg 20
D-24105 Kiel, Germany
- Tel/telex/fax no.: **0049 432 600 - 4057/4052**
- No. of scientists: **20**
8. GEOGRAPHICAL AREA IN WHICH SHIP WILL OPERATE (with reference to latitude and longitude)
Entrance 1: 51°24'52"N / 02°04'50"E, Exit 1: 51°03'42"N / 01°36'37"E
Entrance 2: 50°30'39"N / 00°56'28"E, Exit 2: 50°08'33"N / 01°08'15"W
Entrance 3: 49°59'00"N / 02°01'52"W, Exit 3: 49°31'26"N / 03°40'32"W
see also map attached, attachments I & II
9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE
To perform basic marine research in atmospheric chemical and biological science
10. DATES AND NAMES OF INTENDED PORTS OF CALL
None
11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL
Change of personnel, bunkering, provisions, logistics

NOTIFICATION OF PROPOSED RESEARCH CRUISE**PART B: DETAILS**

1. NAME OF RESEARCH SHIP
RV POLARSTERN
- CRUISE NO.
ANT XXVI-1
2. DATES OF CRUISE From 16.10.2009 To 25.11.2009
3. a) PURPOSE OF RESEARCH
Atmospheric Chemistry: study the distribution of persistent organic pollutants (POPs)
Atmospheric Profiling and Radiation Budget: perform continuous observations of vertical profiles of temperature, humidity, aerosol as well as liquid water path, cloud cover, cloud type and radiation budget, validation of satellite based atmospheric profiling
Air-Sea Interaction: estimate the turbulent fluxes of momentum, sensible heat, latent heat, and CO₂
Marine Chemistry: understand the dynamics of the oxygen and carbon cycle in the surface ocean and to measure CO₂ fluxes between ocean and atmosphere
Physical Oceanography: monitor upper ocean velocity fields, to obtain vertical profiles of ocean parameters
- b) GENERAL OPERATIONAL METHODS (including full description of any fish gear, trawl type, mesh size, etc.)
 Collect air samples, aerosol samples
 Make optical measurements in the atmosphere, deploy balloons with ozone and radiosondes.
 Measurement of spectral solar and UV radiation.
 Profiling of atmosphere with passive microwave radiometer
 Active remote sensing of atmospheric aerosol (Lidar)
 Active remote sensing of cloud bottom height with standard ceilometer
 Whole sky imager for scene identification
 Pyranometer and pyrgeometer for surface radiation budget
 Infrared radiometer for skin sea surface temperature and cloud bottom temperature
 Hand-held sun-photometer for aerosol optical thickness
 Sonic-anemometer and open path gas analyser for turbulent fluxes of latent and sensible heat, and CO₂
 meteorological standard instruments for air pressure, temperature, humidity, and wind
 Data Collecting Platform (DCP) for meteorological standard observations and satellite based telemetry (402,0475MHz)
 MAX-DOAS: Differential Optical Absorption Spectroscopy: trace gases from solar absorption spectrum
 FSSP (Forward Scattering Spectrometer Probe) for particle size distributions
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
 Areas of planned operations see attachment I
5. a) TYPES OF SAMPLES REQUIRED (e.g., geological/water/plankton/fish/radionuclide)
 air, aerosol samples
- 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).
 Air pump
 Balloon soundings
 Radiance measurements with taking online measurements of a radiometer suite mounted on the Ship's deck and also profiles during station time with an extra radiometer
6. DETAILS OF MOORED EQUIPMENT
- | <u>Dates Laying</u> | <u>Recovery</u> | <u>Description</u> | <u>Depth</u> | <u>Latitude</u> | <u>Longitude</u> |
|---------------------|-----------------|--------------------|--------------|-----------------|------------------|
| | | none | | | |

7. ANY HAZARDOUS MATERIALS (chemicals/explosives/gases/radioactives, etc.)
(Use separate sheet if necessary)
no hazardous material (except liquid nitrogen and balloon gas (helium))
- see attachment III -
- a) Type and trade name
- b) Chemical content (and formula) **liquid nitrogen N₂ (200 l)**
- c) IMO IMDG code (reference and UN no.)
- d) Quantity and method of storage on board
- e) If explosives give dates of detonation **no explosives**
- 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:
- | | |
|--------------------------------|----------------------------|
| POLARSTERN ANT XXIII/10 | 12.04. - 04.05.2007 |
| POLARSTERN ANT XXIV/1 | 26.10. - 26.11.2007 |
| POLARSTERN ANT XXIV/4 | 19.04. - 18.05.2008 |
| POLARSTERN ANT XXV/1 | 31.10. - 03.12.2008 |
| POLARSTERN ANT XXV/5 | 11.04. - 25.05.2009 |
- Future cruises are planned:
- | | |
|-------------------------------|----------------------------|
| POLARSTERN ANT XXVI/4 | 14.04. - 17.05.2010 |
| POLARSTERN ANT XXVII/1 | 25.10. - 25.11.2010 |
- b) Any previously published research data relating to the proposed cruise
- All cruise reports with detailed station lists are published in the series "Reports on Polar Research" by Alfred-Wegener-Institute for Polar-und Marine Research, Bremerhaven.
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
- Prof. Hcin de Baar, Royal NIOZ, Texel, the Netherlands**
Dr. Gideon Henderson, Department of Earth Sciences, Parks Road, Oxford, UK
Dr. Catherine Jeandel, LEGOS/Obs Midi-Pyrénées, Toulouse, France
Dr. Jeronimo Lopez-Martinez, Faculty of Sciences Universidad Autónoma de Madrid, Spain
Dr. Oscar Melicio, Instituto Nacional de Desenvolvimento das Pescas
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
Yes, dates see above.
- c) When research data from the intended cruise are likely to be made available to the coastal state and by what means
Data are available digitally within one year after the cruise. In addition, the data are published in the Reports of Polar Research by AWI and in other reports, papers and in international scientific journals.

PART C. SCIENTIFIC EQUIPMENT

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

Coastal state: **United Kingdom**

Port of call: **None**

Dates: **-**

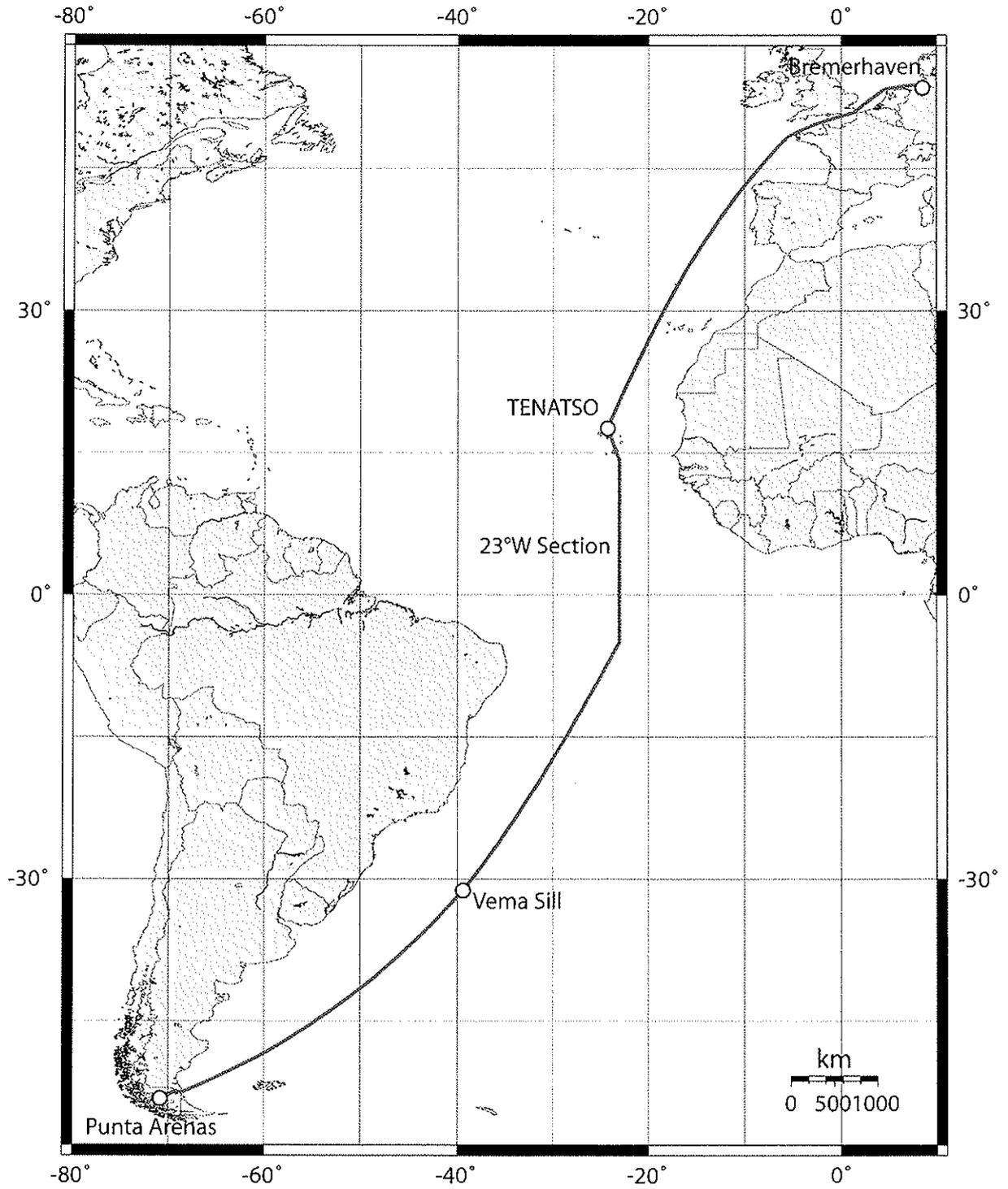
Indicate "YES" or "NO"

List scientific work by function 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	DISTANCE FROM COAST		
				Within 3 nm	Between 3-12 nm	Between 12-200 nm
Magnetometry	no	no	no	no	no	no
Gravity	no	no	no	no	no	no
Diving	no	no	no	no	no	no
Seismics	no	no	no	no	no	no
Seabed sampling	no	no	no	no	no	no
Bathymetry	no	no	no	no	no	no
Trawling	no	no	no	no	no	no
Echo sounding	no	no	no	no	no	no
Water sampling	no	no	no	no	no	no
U/W TV	no	no	no	no	no	no
Moored instr.	no	no	no	no	no	no
Towed instr.	no	no	no	no	no	no
beach sampling	no	no	no	no	no	no
Sampling of air	no	no	no	no	no	yes
Balloon sampling (ozone and radiosonde)	no	no	no	no	no	yes
meteorological measurements	no	no	no	yes	yes	yes
Lidar	no	no	no	yes	yes	yes

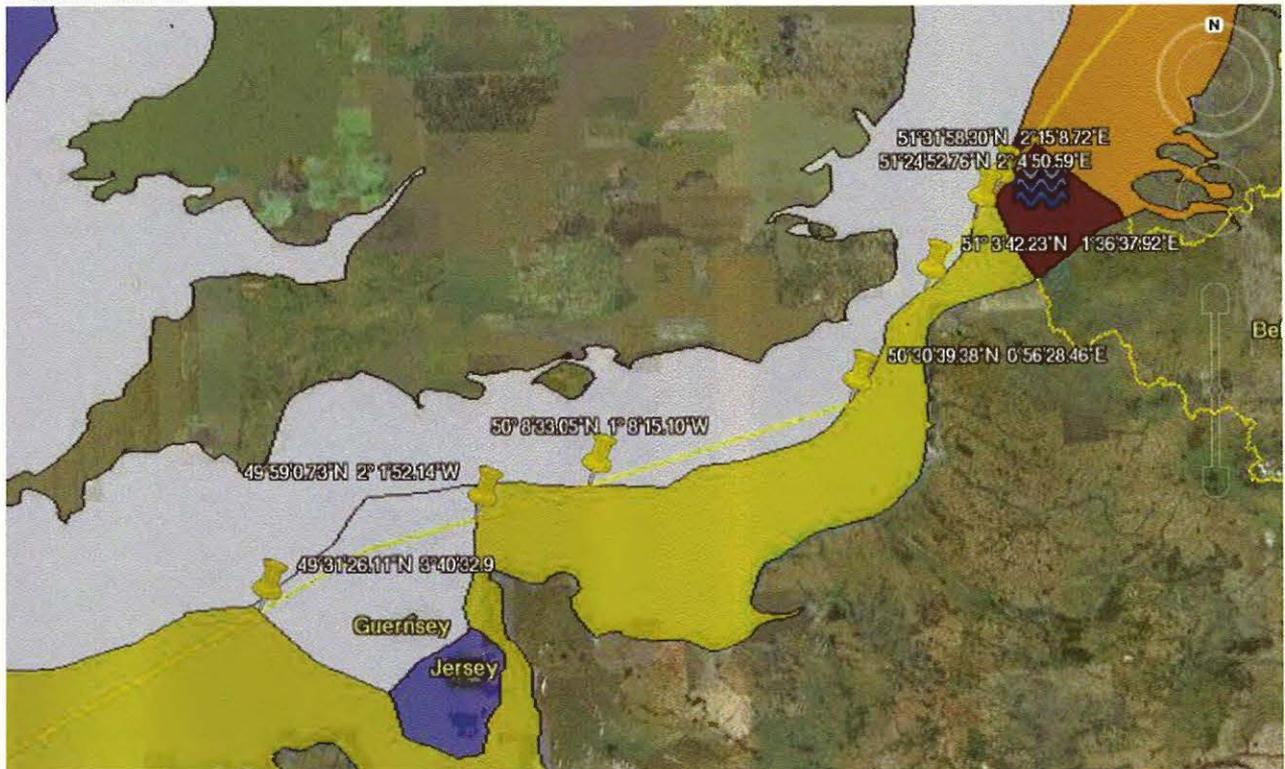
i.v. für Alfred-Wegener-Institut für Polar- und Meeresforschung
Postfach 120161
D-27515 Bremerhaven
(On behalf of the Principal Scientist) Dated 23.06.09

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

Attachment I



Attachment II



Attachment III

DG's

<i>No.</i>	<i>Name</i>	<i>IMO Class</i>	<i>UN Code</i>	<i>Amount</i>
1	Liquid nitrogen 2,2	1977	200	L

Attachment IV

Station List:

Station no	time	lat/lon	measurements	comments
	daily, noon	tbd	daily subsurface light obs	only during clear skies