

Application for Consent to conduct  
Marine Scientific Research

Date: 25.01.2018

1. General Information

1.1 Cruise name and/or number: <b>HE 516</b>
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1.2 Sponsoring Institution(s):	
Name:	<b>Alfred-Wegener-Institute for Polar- and Marine Research</b>
Address:	<b>Am Handelshafen 12 27570 Bremerhaven Germany</b>
Name of Director:	<b>Prof. Dr. Antje Boetius</b>

1.3 Scientist in charge of the Project:	
Name:	<b>Dr. Bernd Krock</b>
Country:	<b>Germany</b>
Affiliation:	<b>Alfred-Wegener-Institute</b>
Address:	<b>Am Handelshafen 12, 27570 Bremerhaven</b>
Telephone:	<b>+49 471 4831 2055</b>
Fax:	<b>+49 471 4831 1149</b>
Email:	<b>bernd.krock@awi.de</b>
Website (for CV and photo):	<b><a href="https://www.awi.de/nc/ueber-uns/organisation/mitarbeiter/bernd-krock.html">https://www.awi.de/nc/ueber-uns/organisation/mitarbeiter/bernd-krock.html</a></b>

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:
<b>Research of harmful algal blooms (HAB) with emphasis on azaspiracid shellfish poisoning (AZP).</b>
<b>Biological, chemical and physical oceanography.</b>
<b>Collection of water samples and measurements in the water column.</b>
<b>Continuous measurements with Ferry-Box and , systems.</b>
<b>Research is related to optical remote sensing validation in coastal waters.</b>

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:
<b>Not applicable</b>

2.3 Relevant previous or future research projects:

**Not applicable**

2.4 Previous publications relating to the project:

McMahon, T.; Silke, J., (1996) West coast of Ireland; winter toxicity of unknown aetiology in mussels. *Harmful Algae News* 14 (1), 2

Krock, B.; Tillmann, U.; John, U.; Cembella, A. D., (2008) LC-MS-MS aboard ship: tandem mass spectrometry in the search for phycotoxins and novel toxigenic plankton from the North Sea. *Anal. Bioanal. Chem.* 392 (5), 797-803

Krock, B.; Tillmann, U.; John, U.; Cembella, A. D., (2009) Characterization of azaspiracids in plankton size-fractions and isolation of an azaspiracid-producing dinoflagellate from the North Sea. *Harmful Algae* 8 (2), 254-263

Krock, B.; Tillmann, U.; Voß, D.; Koch, B. P.; Salas, R.; Witt, M.; Potvin, É.; Jeong, H. J., (2012) New azaspiracids in Amphidomataceae (Dinophyceae). *Toxicon* 60 (5), 830-839

Krock, B.; Tillmann, U.; Alpermann, T. J.; Voß, D.; Zielinski, O.; Cembella, A. D., (2013) Phycotoxin composition and distribution in plankton fractions from the German Bight and western Danish coast. *J. Plankton Res.* 35 (5), 1093-1108

### 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.

North Sea / Orkneys  
Scottish West Coast incl. Hebridean Shelf  
Irish Westcoast  
Celtic Sea  
English Channel

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 1**

### 4. Methods and means to be used

4.1 Particulars of vessel:

Name:	<b>HEINCKE</b>
Type/Class:	<b>RV</b>
Nationality (Flag State):	<b>GERMAN</b>
Identification Number (IMO/Lloyds No.):	<b>8806113</b>
Owner:	<b>Federal Ministry of Education and Research, German Government</b>
Operator:	<b>Alfred-Wegener-Institute for Polar- and Marine Research</b>
Overall length (meters):	<b>55,20</b>
Maximum draught:	<b>3,95</b>
Displacement/Gross Tonnage:	<b>1000</b>
Propulsion:	<b>Diesel Electric</b>

Cruising & maximum speed:	
Call sign:	<b>DBCK</b>
INMARSAT number and method and capability of communication (including emergency frequencies):	<b>INMARSAT +870-764-140-491</b> <b>IRIDIUM +881-631-815-155</b>
Name of Master:	<b>Haye Diecks</b>
Number of Crew:	<b>11</b>
Number of Scientists on board:	<b>12</b>

<b>4.2 Particulars of Aircraft:</b>	
Name:	<b>Not applicable</b>
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:	

<b>4.3 Particulars of Autonomous Underwater Vehicle (AUV):</b>	
Name:	<b>Not applicable</b>
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:	

<b>4.4 other craft in the project, including its use:</b>
<b>Not applicable</b>

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 3 nm (yes or no):
<b>Meteorological measurements</b>		<b>Miscl.</b>	<b>yes</b>
<b>Air sampling</b>			<b>no</b>
<b>Water sampling</b>	<b>CTD, temperature, salinity, Niskin Bottles, plankton nets, inherent optical properties, optically active water constituents, nutrients</b>	<b>Ferrybox, Temp. / salinity sensors, Thermosalinograph, SVP/T sensor Spectrometers, Fluorometers</b>	<b>yes</b>
<b>Sea bottom topography</b>			<b>no</b>
<b>Sea currents</b>	<b>ADCP</b>	<b>ADCP</b>	<b>yes</b>
<b>Sediment measurements</b>	<b>Surface sediments</b>	<b>Van Veen sampler</b>	<b>yes</b>
<b>Water measurements</b>	<b>Underwater light field, inherent optical properties, nutrients</b>	<b>Bio-optical profiler, Bio-optical in situ sensors</b>	<b>yes</b>
<b>Remote sensing</b>	<b>Radiometry</b>	<b>Radiometers</b>	<b>yes</b>

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):  
**Not applicable**

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:

**17.07.2018**  
**15.08.2018**

6.2 Indicate if multiple entries are expected:

**Not applicable**

7. Port Calls

7.1 Dates and Names of intended ports of call:

**Not applicable**

7.2 Any special logistical requirements at ports of call:

**Not applicable**

7.3 Name/Address/Telephone of shipping agent (if available):

**Not applicable**

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:

**Possible**

8.2 Proposed dates and ports for embarkation/disembarkation:

**Not applicable**

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:

**6 months after the end of the cruise**

9.2 Anticipated dates of submission to the coastal State of the final report:

**12 months after the end of the cruise**

9.3 Proposed means for access by coastal State to data (including format) and samples:

**Via Internet, through the PANGAEA database accessible at <http://www.awi.de/>**

9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:

**Results are published in papers and in international scientific journals.**

9.5 Proposed means to provide assistance in assessment or interpretation of data, samples And research results:

**Data including documentation and contact details of the responsible scientists are available through the PANGAEA database accessible at [http://www.awi.de](http://www.awi.de/)**

9.6 Proposed means of making results internationally available:

**Results are published in papers and in international scientific journals.**

10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or Pending):
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Similar notification to all coastal states en route
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11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:
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- Attachment I: Map
- Attachment II: List of estimated Waypoints

Signature:

25.01.2018,



(On behalf of the chief scientist)

Alfred-Wegener-Institut  
Helmholtz-Zentrum für  
Polar- und Meeresforschung  
Logistik und Forschungsplattformen  
Am Alten Hafen 26  
27568 Bremerhaven

Contact information of the focal point:

Name: Marius Hirsekorn

Country: Germany

Affiliation: Alfred Wegener Institute

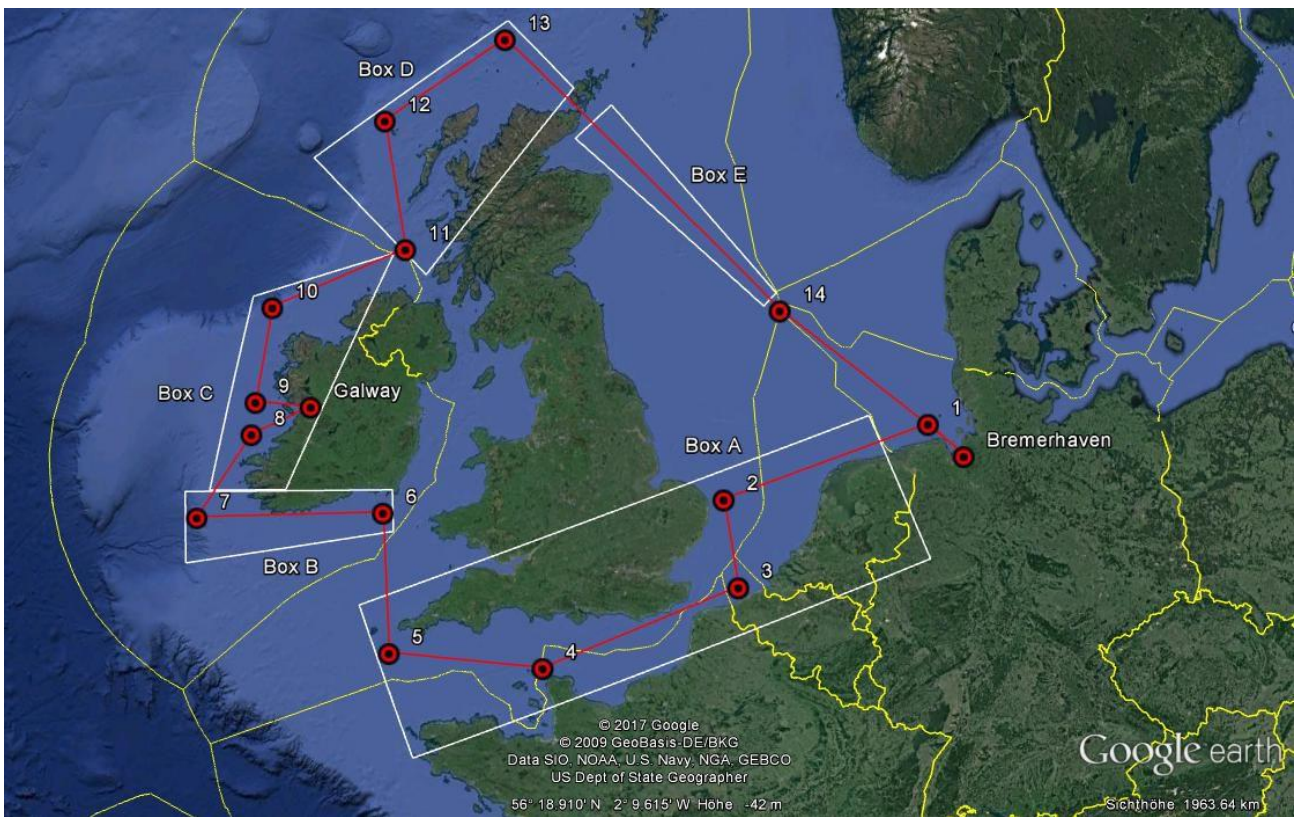
Operations Research Vessels

Telephone: +49-(0)471-4831-2241

Email: schiffskoord@awi.de

Address: Am Alten Hafen 26

**Attachment I. (map of total cruise)**



**Attachment II. (List of estimated waypoints)**

Waypoint No.:	Latitude:	Longitude:
Bremerhaven	53° 32.136'N	8° 34.509'E
1	54° 3.456'N	7° 35.698'E
2	52° 46.901'N	2° 13.725'E
3	51° 26.771'N	2° 49.477'E
4	49° 48.124'N	1° 59.399'W
5	49° 37.979'N	5° 49.785'W
6	51° 50.328'N	6° 35.594'W
7	51° 2.325'N	11° 25.445'W
8	52° 34.929'N	10° 29.459'W
Galway	53° 14.588'N	9° 3.918'W
9	53° 6.065'N	10° 35.437'W
10	54° 38.592'N	10° 46.872'W
11	56° 1.283'N	7° 24.480'W
12	57° 59.300'N	8° 53.926'W
13	59° 40.134'N	5° 45.730'W
14	55° 48.079'N	3° 23.147'E
Bremerhaven	53° 32.136'N	8° 34.509'E