

# NATURAL ENVIRONMENT RESEARCH COUNCIL

APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC  
RESEARCH IN AREAS UNDER NATIONAL JURISDICTION OF **Iceland**

Date: September 6<sup>th</sup> 2006

## **1. General information**

**1.1 Cruise name and/or number:** RRS DISCOVERY D317

**1.2 Sponsoring institution:**

Name: Natural Environment Research Council  
Address: Polaris House, North Star Avenue, Swindon SN2 1EU,  
UK.  
Name of director: Professor Alan Thorpe

**1.3 Scientists in charge of the project:**

Name: Dr Ian M. Brooks  
Address: School of Earth and Environment, University of Leeds  
Leeds, LS2 9JT  
Telephone: 0113-343-6743  
Telefax: 0113-343-6716  
Email: i.brooks@see.leeds.ac.uk

**1.4 Scientist(s) from Iceland informed of project planning**

Name(s): None  
Address:

**1.5 Submitting officer:**

Name: AR Louch, NERC Research Ship Unit, National  
Oceanography Centre, European Way, Empress Dock,  
Southampton, SO14 3ZH  
Telephone: 02380 596472  
Telex: 47121                      Telefax: 02380 635130

**2. Description of project**

**2.1 Nature of objectives of the project:**

**Field Observations of Sea Spray, Gas Fluxes, and Whitecaps (SEASAW)**

The cruise objectives aim to reduce uncertainties in air-sea exchanges of gases and the production of sea-salt aerosol particiles by identifying and evaluating some of the major factors (i.e. wind speed, sea state, white-capping, bubbles, near-surface turbulence-related phenomena) controlling sea-air gas transfer and related processes.

**2.2 Relevant previous or future research cruises:**

A first cruise is scheduled for November-December 2006 in the same general oceanic area. (D313)

**2.3 Previously published research data relating to the project:**

NONE

**3. Methods and means to be used**

**3.1 Particulars of vessel**

Name:	RRS Discovery		
Nationality:	British		
Owner:	NERC		
Operator:	RSU		
Overall Length:	90.25 metres		
Maximum draught:	5.3 metres		
Net tonnage:	902	Gross tonnage:	3008
Propulsion:	Diesel Electric		
Cruising Speed:	11 knots	Maximum speed:	N/A
Call sign:	GLNE		
Method of capability of communication (including telex, frequencies):			
Inmarsat Voice:	323388210	Fax:	23388212 Telex: 323388314
Name of Master:	TBA		
Number of Crew:	22		
Number of Scientists on board:	28		

**3.2 Aircraft or other craft to be used in the project:**

None

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### 3.3 Particulars of methods and scientific instruments

Types of samples and data	Methods to be used	Instruments to be used
Underway water samples	Pumped hull-mounted inlet	Dissolved CO2 analyzer
3D turbulent airflow	Foremast mounted instrumentation	Sonic anemometers
CO2 gas concentration	"	LiCOR-7500 gas analyzer
Aerosol	"	Optical particle counters, condensation particle counters
ozone	"	Chemifluorescence sensor, UV absorption
Aerosol composition	Lab based instrument	ATOFMS aerosol mass spectrometer
Aerosol composition	"	Optical particle counter and volatility instrument
Wave spectra	Hull mounted sensors, tethered buoy	Wave wires
Whitecapping	photographic	Digital cameras

3.4 Indicate whether harmful substances will be used: No

3.5 Indicate whether drilling will be carried out: No

3.6 Indicate whether explosives will be used: No

### 4. Installations and equipment

Details of installations and equipment (dates of laying, servicing, recovery; exact locations and depth):

None

### 5. Geographical areas

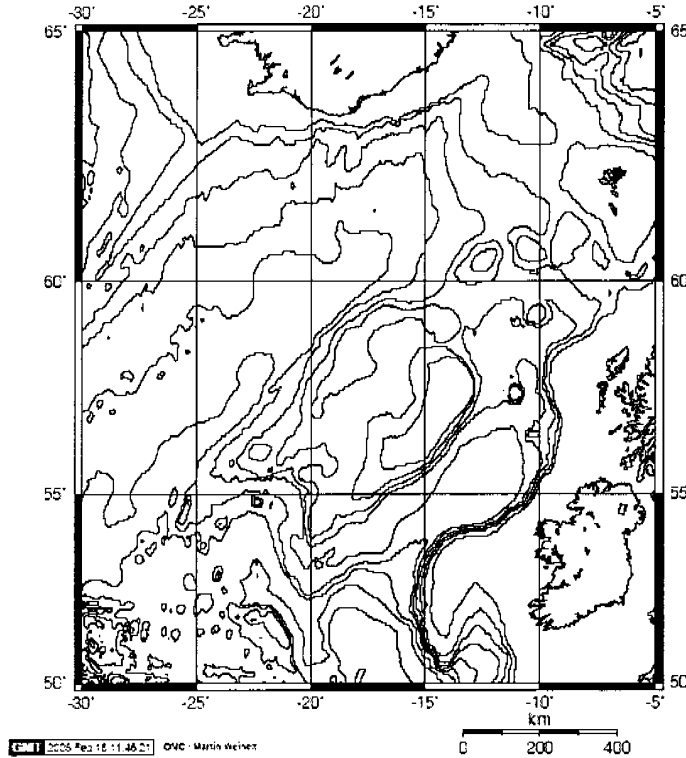
5.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):

Latitude 50 °N to 65 °N

Longitude 5 °W to 30 °W

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5.2 Attach chart (s) at an appropriate scale showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines, and the locations of installations and equipment



**6. Dates**

6.1 Expected dates of first entry into and final departure from research area of the research vessel:

Expected first entry: 23 March 2007  
Expected final departure: 13 April 2007

6.2 Indicate if multiple entry is expected:

Yes

**7. Port calls**

7.1 Dates and names of intended ports of call in Iceland

None

7.2 Any special logistical requirements at ports of call: Iceland

N/A

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**7.2 Name/Address/Telephone of shipping agent (if available)**

N/A

**8. Participation**

**8.1 Extent to which Iceland will be enabled to participate or to be represented in the research project:**

One berth for an observer from each coastal state is offered in accordance with UNCLOS Art 249 (1a).

**8.2 Proposed dates and ports for embarkation/disembarkation:**

Clyde: 23 March 2007

Clyde: 13 April 2007

**9. Access to data, samples and research results**

**9.1 Expected dates of submission to Iceland of preliminary reports which should include the expected dates of submission of the final results:**

Raw data available at the completion of the cruise

Cruise report completed six months after the completion of the cruise – available from website.

**9.2 Proposed means for access by Iceland to data and samples:**

By request to Dr Ian Brooks, School of Earth and Environment, University of Leeds, Leeds, LS2 9JT, UK. +44 (0) 113 343 6743, i.brooks@see.leeds.ac.uk

**9.3 Proposed means to provide Iceland with assessment of data, samples and research results or provide assistance in their assessment or interpretation:**

Cruise reports within 6 months of the completion of the voyage.

For additional information on oceanographic results, contact the Principal Investigator (Dr Ian Brooks).

**9.4 Proposed means of making research results internationally available:**

Cruise Report

Results will be published in refereed scientific journals

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10. COMPLETE THE FOLLOWING TABLE - SEPARATE PAGE FOR EACH COASTAL STATE:

COASTAL STATE: Iceland

PORT CALL: None planned

DATES: 23 March 2007 – 13 April 2007

SCIENTIFIC EQUIPMENT

INDICATE "YES" OR "NO"

List Scientific Work by Function e.g.: Magnetometry Gravity, Diving, Seismic, Bathymetry, Seabed Sampling, Trawling, Echo Sounding, Water Sampling U/W T.V.: Moored and Towed instrument	Water Column Incl. Sediment Sampling on the Seabed	Fisheries Research within Fishing Limits	Research Concerning the Natural Resources of the Continental Shelf or its Physical Characteristics	Distance from Coast	
				Between Within 12 NM	12 - 200 NM
Water Sampling	Yes (water column only)	No	No	No	Yes
Atmospheric Sampling	N/A	No	No	No	Yes
Optical Measurements	Yes (water column only)	No	No	No	Yes
Physical sea-state measurements	Yes (water column only)	No	No	No	Yes

.....(On behalf of the Principal Scientist)