

NATURAL ENVIRONMENT RESEARCH COUNCIL

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

Date: 9th February 2007

1. General information

- 1.1 **Cruise name and/or number:** RRS DISCOVERY D321
- 1.2 **Sponsoring institution:**
Name: National Oceanography Centre
Address: Empress Dock, Southampton. Hampshire. SO14 3ZH.
Name of director: Professor Ed Hill
- 1.3 **Scientist in charge of the project:**
Name: Dr. John Allen, NOCS
- 1.4 **Scientist(s) from ICELAND informed of the planning of the project**
Name(s):
Address:
- 1.5 **Submitting officer:**
Name and address: AR Louch, NERC NMF Sea Systems, National Oceanography Centre, European Way, Empress Dock, Southampton, S14 3ZH
Telephone: +44 2380 596800
Telex: 47121 Telefax: +44 2380 635130

2. Description of project (Attach additional pages as necessary)

Information is available on both the NOCS & SAMS websites.

- 2.1 **Nature of objectives of the project:**
To conduct repeated upper ocean hydrographic (Physical, Biological & chemical) surveys around 59 N, 19 W (old OWS 'India') site, and to conduct a hydrographic survey along the Extended Ellett Line between Scotland and Iceland.
- 2.2 **Relevant previous or future research cruises:**
RRS Discovery D253 and RRS Discovery D312.
Cruise reports available on request.
- 2.3 **Previously published research data relating to the project:**
Previous cruise data has been banked with The British Oceanographic Data Centre (www.bodc.ac.uk)

NATURAL ENVIRONMENT RESEARCH COUNCIL

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 and capability of communication (including telex, frequencies):
 Inmarsat Voice: 323388210 Fax: 23388212 Telex: 323388314
 Name of master: To be advised
 Number of crew: 22
 Number of scientists on board: 28

3.2 Aircraft or other craft to be used in the project: None

3.3 Particulars of methods and scientific instruments

Types of samples and data	Methods to be used	Instruments to be used
Water Column Measurements	lowered profiling CTD package. Neutrally buoyant sediment traps Small 200 micron plankton net deployed to a depth of 100 m at a small number of CTD stations	SBE CTD, fluorometer, transmissometer & water bottle rosette SBE CTD Plankton net
Underway Sampling	Meteorology, sea surface temperature, salinity, fluorescence and turbidity Towed SeaSoar upper ocean profiling vehicle Water currents Water depth	Wind speed, pressure, air temperature etc. Thermosalinograph, Fluorometer, transmissometer CTD CTDF, Fast Repetition Rate Fluorometer, Optical plankton Counter Vessel mounted ADCP Echo-sounder
Mooring deployments at 59 degrees N, 19 degrees W	Four moorings in an ~ 100 km square, one sediment trap and one current meter on each at ~ 750 m above the sea-bed	Sediment traps, current meters

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3.4 Indicate whether harmful substances will be used:

Small quantities of acids, caustic and toxic chemicals for the routine determination of nutrient concentrations. Moderate quantities of acetone, formalin, lugols solution, gluteraldehyde, trichloroacetic acid and liquid nitrogen for zoo- and phyto- plankton sampling. Small quantities of citrate, phenol and hypochlorite for NH₄ and urea concentration determination. Approximately 50 mCi of C¹⁴ and 11μCi of Si³² for primary productivity measurement. Approximately 1 mCi of S³⁵, 1 mCi of tritium and 2 mCi of P³³. Small quantities of cleaning solvents and dessicant. Moderate quantities of carrier gases, helium and 1% isobutane in argon. All used within the working areas aboard the ship. All waste products will be disposed of on return to the UK.

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):

Four moorings at the corners and centre of an ~ 120 km side triangle centered on 59 degrees N, 19 degrees W (water depth ~2750 m). One sediment trap at ~ 2000 m depth and one current meter at ~ 2025 m depth, on each mooring. Moorings first deployed in October 2006 on RRS Discovery 312, to be recovered and redeployed in July/August 2007

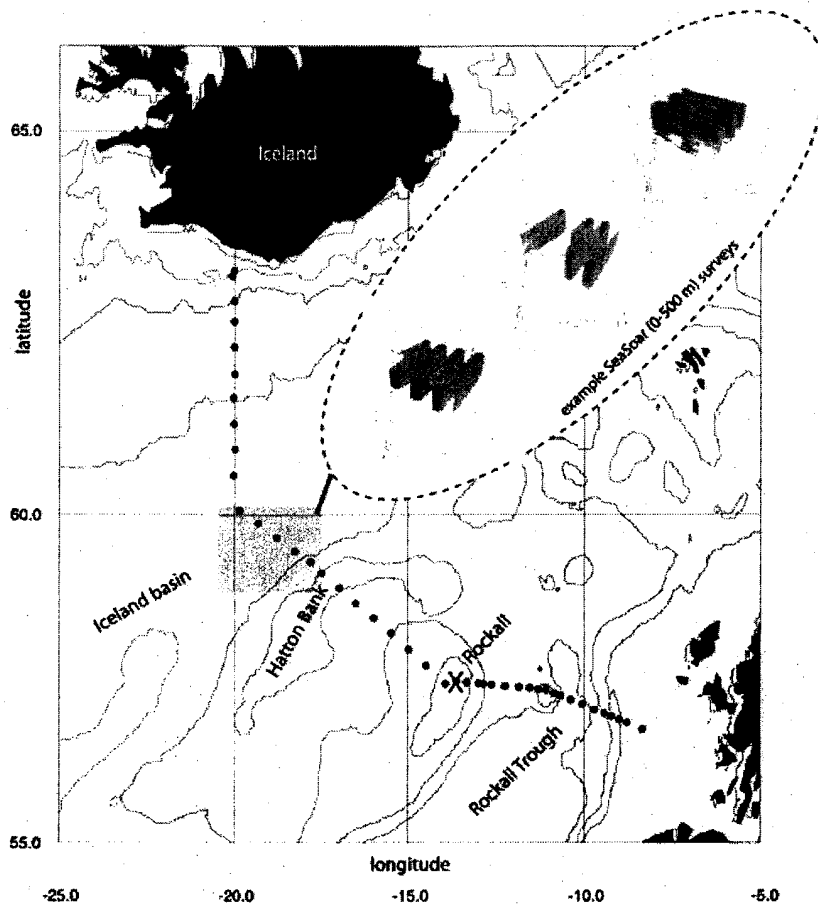
5. Geographical areas

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

52°N > 66°N & 25°W > 5°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 24th July 2007
Expected final departure 9th September 2007

6.2 Indicate if multiple entry is expected: Yes

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7. Port calls

7.1 Dates and names of intended ports of call in ICELAND

Reykjavik 22 – 23 August 2007

7.2 Any special logistical requirements at ports of call: None

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

Nesskip H.F
Nesskip's House
Austurstrond 1
172 Seltjarnarnes
REYKJAVIK PC101
Iceland

Tel: (00 354) 5639900
Fax: (00 354) 5639919

Email: operations@nesskip.is

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:

Embark: Glasgow 23 July 2007

Disembark: Reykjavik 22 August 2007

Embark: Reykjavik 23 August 2007

Disembark: Glasgow 9 September 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:

Six months after completion of Cruise.

9.2 Proposed means for access by ICELAND to data and samples:

Online Database c/o BODC & CD.

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

Reports/CD/meetings

9.4 Proposed means of making research results internationally available:

International Peer reviewed journals

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10.

COASTAL STATE: ICELAND

PORT CALL: Reykjavik

CRUISE DATES: 24th July – 9th September 2007

PORT CALL DATES: 22nd – 23rd August 2007

List Scientific Work by Function eg: Magnetometry Gravity, Diving, Seismic, Bathymetry, Seabed Sampling, Trawling, Echo Sounding, Water Sampling U/W T.V.: Moored and Towed instrument	SCIENTIFIC EQUIPMENT					INDICATE "YES" OR "NO"	
	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		
Echo sounding, CTD & water sampling, underway water sampling & profiling, water current profiling using vessel mounted ADCP	Yes, only water column	No	No	Yes		Yes	
Moored sediment traps and current meters Towed upper ocean SeaSoar hydrographic surveys	Yes	No	No	No		Yes	

Principal Scientists

John Allen (leg 1)
Toby Sherwin (leg 2)