

NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL Part A

1. Name of research ship Dana Cruise No: 09D12
2. Dates of sailing From 2012-09-24 To 2012-09-30
3. Operating Authority DTU-Aqua
Charlottenlund Castle
DK-2920 Charlottenlund

Telephone: +45 35 88 33 00 Fax: +45 35 88 33 33 E-mail: aqua@aqua.dtu.dk
4. Owner (if different)
5. Particulars of ship:
- | | | |
|-----------------|---|------------|
| Name | : | Dana |
| Nationality | : | Danish |
| Overall length | : | 78 meters |
| Maximum draught | : | 5.7 meters |
| Bto tonnage | : | 2483 |
| Call sign | : | OXHB |
6. Crew
- | | |
|----------------|------------------------------------|
| Name of Master | Jesper Jørgen Brockstedt Rasmussen |
| No of Crew | 12-18 |
7. Scientific Personnel
- Name and address of Scientist in charge:
Dr. Hans Røy
Center for Geomicrobiology
Aarhus University
DK-8000 Aarhus C
- E-mail and telephone: hans.roy@biology.au.dk
+45 87156549
- No of Scientists: 19-21 (including students)
8. Geographical area in which ship will operate (with reference in latitude and longitude).
North Atlantic and Northern North Sea within 65N:25E to 57N:0E.
Transit from Reykjavík to area of operation and transit to Hirtshals.
9. Brief description of purpose of cruise. Teaching and training of 13-15 students in benthic marine research.
10. Dates and names of intended ports of call.
Sep 24, Reykjavík (mobilization)
Sep 30, Hirtshals (de-mobilization)
11. Any special logistic requirement at ports of call: No

NOTIFICATION OF PROPOSED RESEARCH CRUISEDETAILPart B

1. Name of research ship Dana Cruise No 9D
2. Dates of sailing From 2012-09-24 To 2012-09-30
3. Purpose of research and general methods:
The purpose of the cruise is an on-board Ph.D. course on sedimentary biology, geochemistry and geology. The cruise will be structured like a research expedition with coordinated sediment sampling by gravity-corer, box-corer and multi-corer. We will visit 3 stations with fine grained sediments. The first two stations will be in international waters in the Iceland Basin at about 2000m and 1000m water depth. The last station will be on the outer Scottish shelf 50-200nm off shore at 500 m water depth. Alternatively the last station will be placed on the Faroe Islands shelf in the zone between 50-200nm off shore.
4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of surveys lines, positions of moored/seabed equipment.
See attached cruise track.
5. Types of samples required, e g Geological/Water/Plankton/Fish/Radioactivity/Isotope.
Benthic fauna and geological samples. The samples will be retrieved by gravity-corer, box-corer and multi-corer.
6. Details of moored equipment:
No moored equipment
7. Explosives: N I L
No explosives
8. Detail and reference of
- (a) Any relevant previous/future cruises
None of relevance
- (b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary.)
None of relevance
9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.:
None
10. State:
- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.
Yes
- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Generally yes, however, accommodation is probably not available.

- (c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means.

The cruise report will be available by December 2012

SCIENTIFIC EQUIPMENT

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE (INDICATE 'YES' OR 'NO')

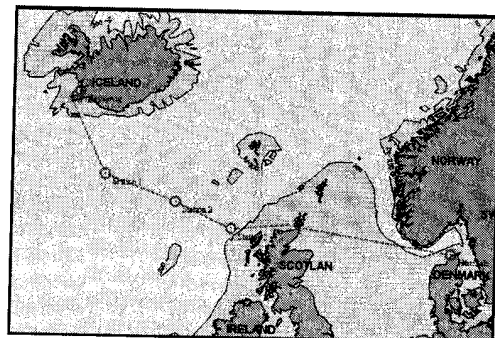
List of all major Marine Scientific equipment it is proposed to use and indicate waters in which it will be deployed Limits	Fisheries Research within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	Distance from coast			
			Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Scientific echo sounder		Great Britain				yes
Sediment sampling equipment		Great Britain				yes
Scientific echo sounder		Faroe Islands				yes
Sediment sampling equipment		Faroe Islands				yes

* The Faroe Islands is for an alternative cruise plan. This will be setted within the month of June.

Nina Holm

Dated: 10.06.2012

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On behalf of the Principal Scientist



Start Date and time	Description	Position	Depth (m)
25/09 09:00	Station 1	60°52.02 N : 019°40.81 W	2000
26/09 13:00	Station 2	59°43.79 N : 013°37.38 W	1000
27/09 13:00	Station 3	58°34.47 N : 008°50.42 W	500

NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL Part A

1. Name of research ship Dana Cruise No: 09C12
2. Dates of sailing From 2012-09-14 To 2012-09-25
3. Operating Authority
DTU-Aqua
Charlottenlund Castle
DK-2920 Charlottenlund
Telephone: +45 35 88 33 00 Fax: +45 35 88 33 33 E-mail: aqua@aqu.dtu.dk
4. Owner (if different)
.....
5. Particulars of ship:
Name : Dana
Nationality : Danish
Overall length : 78 meters
Maximum draught : 5.7 meters
Bto tonnage : 2483
Call sign : OXHB
6. Crew
Name of Master Jesper Jørgen Brockstedt Rasmussen
No of Crew 12-18
7. Scientific Personnel
Name and address of Scientist in charge:
.John Fleng Steffensen
.Marine Biological Section, Biology
.University of Copenhagen
.Strandpromenaden 5, 3000 Helsingør
E-mail and telephone:
.JFSteffensen@bio.ku.dk
.+45 60770490
No of Scientists : 19 (List of participants attached)
8. Geographical area in which ship will operate (with reference in latitude and longitude).
.Either **Scoresby Fjord** (70.27 N 26.20W)
Or if 1) too much drift ice or 2) problems with a permit for the national
Park, alternatively
.Ammangssalik – Kungmit (65.50N 37W)
9. Brief description of purpose of cruise.
. Biology of the Greenland Shark and Fish Biodiversity
10. Dates and names of intended ports of call.
.September 14.th - Depart Reykjavik at 15:00
.September 23.rd - Arrive Reykjavik late afternoon, evening or night
11. Any special logistic requirement at ports of call: (Yes/No) NO

NOTIFICATION OF PROPOSED RESEARCH CRUISE

DETAIL

Part B

1. Name of research ship Dana Cruise No
 2. Dates of sailing From 2012-09-14 To 2012-09-25

3. Purpose of research and general methods:

- Biology of the Greenland shark and fish biodiversity.
 1: Some sharks will be euthanized (minimum of two per day = approximately 15 in total) for physiological and anatomical studies.
 2: Other sharks will be caught and released with either a satellite-pop-up tag (minimum of four tags will be purchased) or traditional Floyd tags (at least 100 tags will be brought. Sharks that will be released will be measured (length and circumference) at the surface from an inflatable, and the mass determined via a sling and a weigh-cell
 3: A few sharks will be released with an accelerometer and submersible camera and followed from an inflatable for 1 – 3 hours.
 4: For fish biodiversity – daily trawls will be analyzed for biodiversity.

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of surveys lines, positions of moored/seabed equipment.

Charts attached. No plans to work offshore

5. Types of samples required, e g Geological/Water/Plankton/Fish/Radioactivity/Isotope.

- 1) Greenland sharks, and
- 2) bottom fish.

and methods by which samples will be obtained (including dredging/coring/drilling).

- 1: Fishing daily with longlines with 10 size 4 or 5 hooks at 200 – 600 meters depth (Greenland sharks).
- 2: Fishing daily with bottomtrawl- Campelen Super 1800/96 NOFI for shrip – or similar (Fish Biodiversity).

6. Details of moored equipment:

<u>Laying</u>	<u>Recovery</u>	<u>Dates</u>	<u>Description</u>	<u>Latitude</u>	<u>Longitude</u>
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While in Greenland waters we wish to set up to 10 long lines (each with up to 10 hooks) at depths between 100 and 600 meters once - twice a day (7 days) and leave the lines for 6 - 12 hours before recovering.

7. Explosives: N I L

- (a) Type and Trade Name
- (b) Chemical content
- (c) Depth of Trade class and stowage
- (d) Size
- (e) Depth of detonation

- (f) Frequency of detonation
- (g) Position in latitude and longitude
- (h) Dates of detonation

8. Detail and reference of

- (a) Any relevant previous/future cruises
Previously some of us have been on several cruises with R/V Jan Mayen to the areas between Scoresby Sund Fjord and Danmarkshavn. During those cruises we have been fishing with similar trawling equipment and similar long lines.
- (b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary.)
Reports from previous cruises with R/V Jan Mayen to the areas between Scoresby Sund Fjord and Danmarkshavn. can be forwarded if requested.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.:

None

10. State:

- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

Yes

- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Generally yes, however, accommodation is probably not available.

- (c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means.

Yes, catch records (size, length, and mass) for all euthanized and releases sharks (with sat-pop-up-tags and Floyd tags). In addition data concerning the biodiversity of fish collected.

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 Limits	Fisheries Research within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	Distance from coast			
			Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Scientific echo sounder	YES	No	Yes	Yes	No	No
Trawl	YES	No	YES	Yes	No	No

Island

Water sampling equipment	NO	No	No	No	No	No
CTD-sond	YES	No	Yes	Yes	No	No
MIK (fish larvae trawl)	NO	No	No	No	No	No
Bongo (egg larvae net)	NO	No	No	No	No	No

Nina Holm

Dated: 15.06.2012

.....
 On behalf of the Principal Scientist

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John Fleng Steffensen

John Fleng Steffensen

Cruise leader

NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL Part A

1. Name of research ship Dana Cruise No: 09B12
2. Dates of sailing From 2012-09-02 To 2012-09-14
3. Operating Authority DTU-Aqua
Charlottenlund Castle
DK-2920 Charlottenlund

Telephone: +45 35 88 33 00 Fax: +45 35 88 33 33 E-mail: aqua@aqu.dtu.dk
4. Owner (if different)
5. Particulars of ship:
- | | |
|-----------------|--------------|
| Name | : Dana |
| Nationality | : Danish |
| Overall length | : 78 meters |
| Maximum draught | : 5.7 meters |
| Bto tonnage | : 2483 |
| Call sign | : OXHB |
6. Crew
- | | |
|----------------|------------------------------------|
| Name of Master | Jesper Jørgen Brockstedt Rasmussen |
| No of Crew | 12-18 |
7. Scientific Personnel
- Name and address of Scientist in charge:
- Dr. Colin A. Stedmon
National Institute for Aquatic Resources,
Section for Ocean Ecology and Climate
Technical University of Denmark
Kavalergården 6
DK-2920 Charlottenlund
Denmark
- E-mail and telephone:
Tel: +45 35883410
email: cost@aqu.dtu.dk
- No of Scientists :
20 scientists
8. Geographical area in which ship will operate (with reference in latitude and longitude).
- The cruise carry out three transects across off the East of Greenland one of which is in the Denmark Strait between Iceland and Greenland.*
- Transect 1: 25° 2' 36"W, 65°40' 3" N to 30° 54' 2" W, 67°21'34 "N*
- Transect 2: 21° 33' 39" W, 69° 52' 38" N to 17° 43' 41" W, 68° 55' 6" N*
- Transect 3: 13° 3' 12" W, 72° 58' 23 " N to 18° 42' 20" W, 74° 0' 23" N*
9. Brief description of purpose of cruise.
This cruise is funded by the Danish Centre for Marine Research and is part of a Danish research project titled "North Atlantic-Arctic Ocean coupling in a changing climate (NAACOS)". The cruise is focused on studying the waters of the East Greenland Current that flow south along the East Greenland shelf and shelf break.
10. Dates and names of intended ports of call.
Cruise will start in Reykjavik (Iceland) on the 2nd September and end in Reykjavik (Iceland) on the 14th September.
11. Any special logistic requirement at ports of call: (Yes/No)
No

**NOTIFICATION OF PROPOSED RESEARCH CRUISE
DETAIL**

Part B

1. Name of research ship Dana Cruise No 09B12

2. Dates of sailing From 2012-09-02 To 2012-09-14

3. Purpose of research and general methods:

This cruise is planned as an essential part of the Danish contribution to oceanographic fieldwork as part of the NAACOS project (2011-2014), funded by the Danish Strategic Research Council. The main objectives of the cruise are to obtain a comprehensive suite of physical, chemical and biological oceanographic measurements across the East Greenland shelf, extending into the Greenland Sea, and to study the deepwater overflow in the Denmark Strait. The data collected on this cruise will form the basis of validating and improving ocean circulation and ecological models in the region. Sampling will be based on i) vertical profiling with a CTD and rosette water sampler, ii) vertical profiling with a light meter and iii) vertical plankton net hauls.

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of surveys lines, positions of moored/seabed equipment.

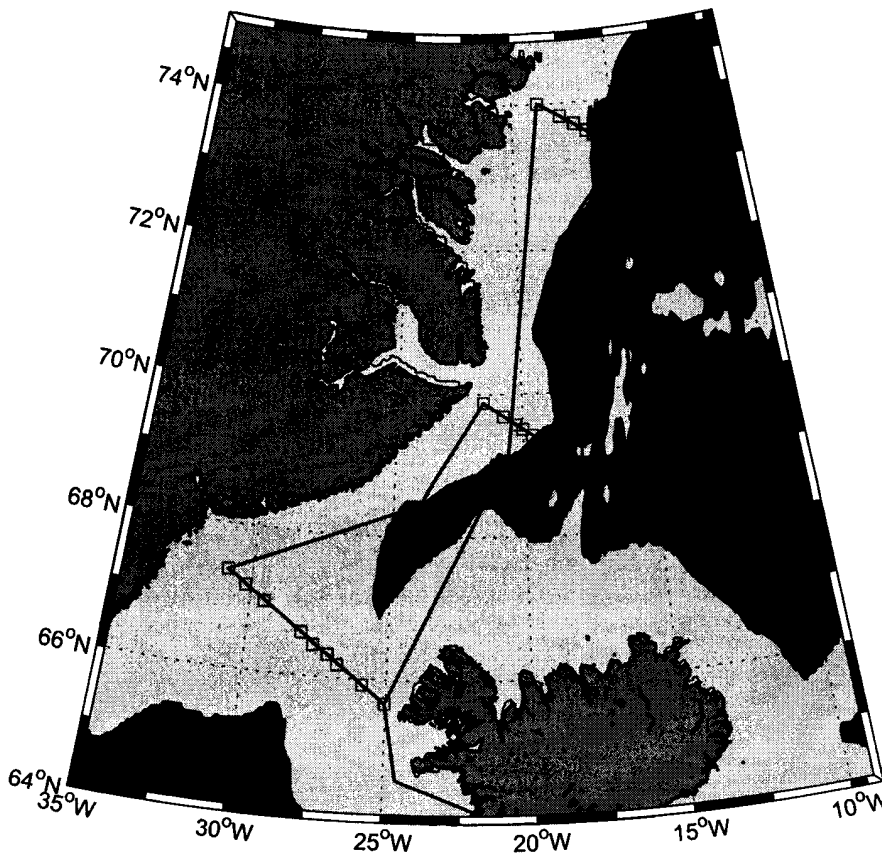


Table of planned station locations

	Lat.	Long.	Station
Transect 1			
East to West	65°40'3"N	25° 2'36"W	1.1
	65°55'14"N	25°50'3"W	1.2

ISLAND

	66°10'47"N	26°44'17"W	1.3
	66°19'2"N	27° 5'30 "W	1.4
	66°26'15"N	27°36'37"W	1.5
	66°35'24"N	28° 4'8"W	1.6
	66°58'30"N	29°29'0"W	1.7
	67°10'4"N	30°12'34"W	1.8
	67°21'35"N	30°54'2"W	1.9
Transect 2			
West to East	69°52'38"N	21°33'39"W	2.1
	69°41'9"N	20°46'20"W	2.2
	69°33'59"N	20°16'7"W	2.3
	69°30'6"N	20° 0'10"W	2.4
	69°24'52"N	19°38'8"W	2.5
	69°19'52"N	19°18'12"W	2.6
	69° 7'28"N	18°30'18"W	2.7
	68°55'6"N	17°43'42"W	2.8
Transect 3			
East to West	72°58'23"N	13° 3'12"W	3.1
	73°12'28"N	14°10'28"W	3.2
	73°22'8"N	15° 0'19"W	3.3
	73°28'55"N	15°39'11"W	3.4
	73°32'44"N	15°58'55"W	3.5
	73°36'51"N	16°21'15"W	3.6
	73°43'5"N	16°56'16"W	3.7
	73°49'48"N	17°35'43"W	3.8
	74° 0'23"N	18°42'20"W	3.9

Time plan for the cruise. (Triaxus is explained in section below)

Date	Description
02/09/2012	Reykjavik to start of Transect 1
03/09/2012	Denmark Strait Transect (T1)
05/09/2012	Transit from T1 to T2
06/09/2012	Scoresbysund Transect (T2)
07/09/2012	Transit from T2 to Triaxus
08/09/2012	Triaxus tow
09/09/2012	Transit from Triaxus to T3
09/09/2012	Zackenbug Transect (T3)
11/09/2012	Transit from T3 to Reykjavik
14/09/2012	Reykjavik

5. Types of samples required, e g Geological/Water/Plankton/Fish/Radioactivity/Isotope, and methods by which samples will be obtained (including dredging/coring/drilling).

The measurements to be made include: physical properties of water (temperature, salinity, light penetration), chemical properties (inorganic nutrients, organic carbon content and characteristics, alkalinity) and biological measurements (on diversity, abundance and productivity of marine virus, bacteria, phytoplankton and zooplankton). In addition to this, water samples will be collected for quantification of radionuclides in the surface waters by Dr. Svend Nielsen (Technical University of Denmark, Center for Nuclear Technologies). These samples will be collected at each of the ends of the three transects. High-resolution measurements of water temperature and salinity are also planned with a Triaxus which is a "sledge" package which is towed undulating. This will be done for approximately 6 hours whilst sailing 6 kt along the shelf break between 72° 33' N and 72° 49' N.

6. Details of moored equipment:

No moorings will be deployed.

ISLAND

7. Explosives:

None will be used.

8. Detail and reference of

- (a) Any relevant previous/future cruises

No.

- (b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary.)

No.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made:

Dr. Thomas Juul Pedersen from the Greenland Climate Research Center is participating in the cruise.

10. State:

- (a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

Yes

- (b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Generally yes, however, accommodation is probably not available.

- (c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means.

Standard oceanographic data can be made available one year after the cruise by contacting the cruise leader.

SCIENTIFIC EQUIPMENT

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE (INDICATE 'YES' OR 'NO')

Iceland

List of all major Marine Scientific equipment it is proposed to use and indicate waters in which it will be deployed Limits	Fisheries Research within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	Distance from coast			
			Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Water sampling equipment					Yes	Yes
Vertical plankton net					Yes	Yes
CTD-sond and light meter					Yes	Yes

Greenland

List of all major	Fisheries	Research	Distance from coast
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ISLAND

Marine Scientific equipment it is proposed to use and indicate waters in which it will be deployed Limits	Research within Fishing Limits	concerning Continental Shelf out to coastal state's margin	Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Water sampling equipment			No	No	Yes	Yes
Vertical plankton net			No	No	Yes	Yes
Triaxus undulating CTD tow			No	No	No	Yes
CTD-sond and light meter			No	No	Yes	Yes

Nina Holm

Dated: 15.06.2012

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On behalf of the Principal Scientist

**Educational cruise run by the Technical University of Denmark (DTU) National Institute of Aquatic Resources (August 27th to September 2nd, 2012).
Hirtshals (Denmark) to Reykjavik (Iceland)**

The activities during the cruise will be centred on a university course in oceanographic research techniques on board the Danish research vessel DANA.

The course is designed in part to give students some sea-going experience and a practical introduction to ocean sampling. Key elements will include the use of a CTD (conductivity, temperature, depth probe) and rosette water sampler for collecting water samples from different depths (between surface and 1000m). In addition vertical profiling instruments will be deployed for measurements of underwater light levels and nets for vertical phytoplankton sampling.

Cruise participants (excluding ship crew)

1. Colin Stedmon (cruise leader)*
2. Andre Visser*
3. Katherine Richardson*
4. Stiig Markager*
5. Tommy Nielsen**
6. Karl-Søren Geertsen (student)
7. Thomas Bech-Thomassen (student)
8. Murray, Ciarán (student)
9. Christina Søegren (student)
10. Stavroula Tsoukali (student)
11. Anette Maria Christensen (student)
12. Søren Enghoff-Poulsen (student)
13. Arief Rullyanto (student)
14. Sanne B.B. Andrén (student)
15. Jakob Thyrring (student)
16. Mette Vodder Carstensen (student)
17. Haidi Cecilie Petersen (student)
18. Ida Ringgaard (student)
19. Susan Guldberg Graungård Petersen (student)
20. Nikolaj Sørensen (student)
21. Nanna Finne Jensen (student)
22. Lilli Gruwier (student)
23. Nikolaj Thyssen Dam (student)
24. Line Reeh (DTU AQUA employee)

*Indicates person involved in teaching

**Technician

All students are enrolled in degree programs at Danish universities.

All participants will embark in Hirtshals (Denmark) on the 27th August and disembark in Reykjavik (Iceland) on the 2nd September with the exception of Colin Stedmon, Stiig Markager, Katherine Richardson, Nikolaj Sørensen and Tommy Nielsen who will continue on a research cruise from Iceland to the East Greenland shelf.

The cruise will involve stopping for water sampling and vertical water profile measurements at four locations:

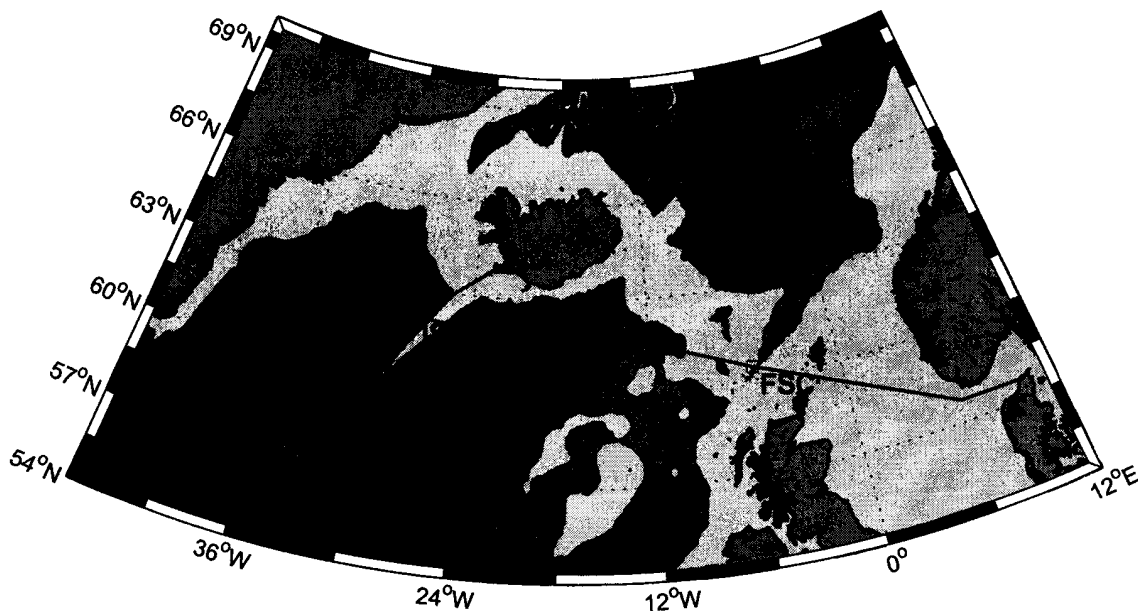
- i) Faroe Shetland Channel (approx. 60°23N 5° 31'E)*
- ii) Iceland Basin (approx. 61°48N 14° 3'E)*
- ii) Iceland Basin (approx. 61°50N 21° 10'E)*
- iv) Irminger Sea (approx. 62°4N 27° 56'E)*

At these locations, a CTD cast will be made down to 1000 m. Water samples will be collected for calibration, water chemistry measurements (inorganic nutrients) and phytoplankton samples. Shallow profiles of light penetration in the surface 50 m will be made and shallow plankton net samples collected. Note: a CTD cast to 1000 m will take about 3 hours and we expect to spend approximately five hours at each station.

Time Plan

Location	Estimated Arrival (UTC)	Estimated departure (UTC)
Hirtshals (Denmark)		27/08/2012 13:00
FSC	29/08/2012 08:20	29/08/2012 13:20
IB1	30/08/2012 11:50	30/08/2012 16:50
IB2	31/08/2012 09:30	31/08/2012 14:30
IS	01/09/2012 07:10	01/09/2012 12:10
Reykjavik (Iceland)	02/09/2012 05:40	

Map of route and stations



NOTIFICATION OF PROPOSED RESEARCH CRUISEGENERAL Part A

1. Name of research ship Dana Cruise No: 09A12
2. Dates of sailing From 2012-08-27 To 2012-09-02
3. Operating Authority DTU-Aqua
Charlottenlund Castle
DK-2920 Charlottenlund

Telephone: +45 35 88 33 00 Fax: +45 35 88 33 33 E-mail: aqua@aqua.dtu.dk
4. Owner (if different)
5. Particulars of ship:
- | | |
|-----------------|--------------|
| Name | : Dana |
| Nationality | : Danish |
| Overall length | : 78 meters |
| Maximum draught | : 5.7 meters |
| Gross tonnage | : 2483 |
| Call sign | : OXHB |
6. Crew
- | | |
|----------------|------------------------------------|
| Name of Master | Jesper Jørgen Brockstedt Rasmussen |
| No of Crew | 12-18 |
7. Scientific Personnel
- Name and address of Scientist in charge:
- Dr. Colin A. Stedmon
National Institute for Aquatic Resources,
Section for Ocean Ecology and Climate
Technical University of Denmark
Kavalergården 6
DK-2920 Charlottenlund
Denmark
- E-mail and telephone:
Tel: +45 35883410
email: cost@aqua.dtu.dk
- No of Scientists :
6 scientists & 18 students
8. Geographical area in which ship will operate (with reference in latitude and longitude).
- The cruise will involve stopping for water sampling and vertical water profile measurements at four locations:*
- i) Faroe Shetland Channel (approx. 60°23N 5° 31'W)*
 - ii) Iceland Basin (approx. 61°48N 14° 3' W)*
 - iii) Iceland Basin (approx. 61°50N 21° 10' W)*
 - iv) Irminger Sea (approx. 62°4N 27° 56' W)*
9. Brief description of purpose of cruise.
The activities during the cruise will be centred on a university course in oceanographic research techniques on board the Danish research vessel DANA.
10. Dates and names of intended ports of call.
Cruise will start in Hirtshals (Denmark) on the 27th August and end in Reykjavik (Iceland) on the 2nd September.
11. Any special logistic requirement at ports of call: (Yes/No)
No

NOTIFICATION OF PROPOSED RESEARCH CRUISEDETAILPart B

1. Name of research ship Dana Cruise No 09A12
2. Dates of sailing From 2012-08-27 To 2012-09-02

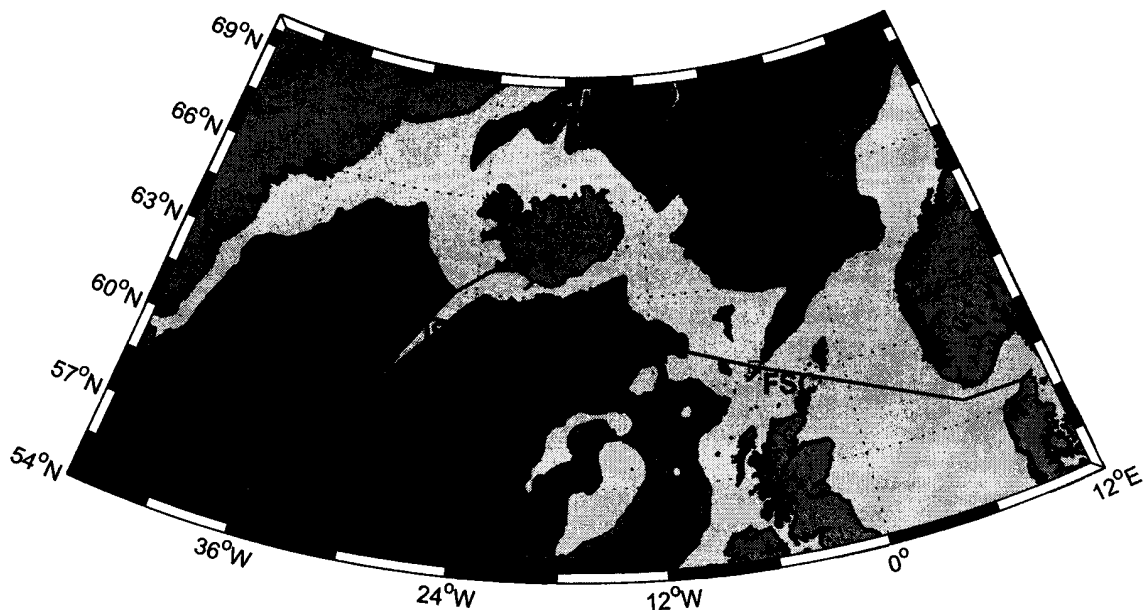
3. Purpose of research and general methods:

The course is designed in part to give students some sea-going experience and a practical introduction to ocean sampling. Key elements will include the use of a CTD (conductivity, temperature, depth probe) and rosette water sampler for collecting water samples from different depths (between surface and 1000m). In addition vertical profiling instruments will be deployed for measurements of underwater light levels and nets for vertical phytoplankton sampling.

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of the intended stations, tracks of surveys lines, positions of moored/seabed equipment.

The cruise will involve stopping for water sampling and vertical water profile measurements at four locations:

- i) Faroe Shetland Channel (approx. 60°23N 5° 31'W)
- ii) Iceland Basin (approx. 61°48N 14° 3'W)
- iii) Iceland Basin (approx. 61°50N 21° 10'W)
- iv) Irminger Sea (approx. 62°4N 27° 56'W)



5. Types of samples required, e.g. Geological/Water/Plankton/Fish/Radioactivity/Isotope, and methods by which samples will be obtained (including dredging/coring/drilling).

At these locations, a CTD cast will be made down to 1000 m. Water samples will be collected for calibration, water chemistry measurements (inorganic nutrients) and phytoplankton samples. Shallow profiles of light penetration in the surface 50 m will be made and shallow plankton net samples collected. Note: a CTD cast to 1000 m will take about 3 hours. We expect to spend five hours sampling at each station.

6. Details of moored equipment:

No moorings will be deployed.

7. Explosives:

None will be used.

ISLAND

8. Detail and reference of

(a) Any relevant previous/future cruises
No.

(b) Any previously published research data relating to the proposed cruise. (Attach separate sheet if necessary.)
No.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made:

None has been established for this teaching cruise.

10. State:

(a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

Yes

(b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation.

Generally yes, however, accommodation is probably not available.

(c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means.

Standard oceanographic data can be made available one year after the cruise by contacting the cruise leader.

SCIENTIFIC EQUIPMENT

11. Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE (INDICATE 'YES' OR 'NO')

Iceland

List of all major Marine Scientific equipment it is proposed to use and indicate waters in which it will be deployed Limits	Fisheries Research within Fishing Limits	Research concerning Continental Shelf out to coastal state's margin	Distance from coast			
			Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Water sampling equipment						Yes (Stations IS, IB1 & 2)
Vertical plankton net						Yes (Stations IS, IB1 & 2)
CTD-sond and light meter						Yes (Stations IS, IB1 & 2)

Faroe Islands

List of all major	Fisheries	Research	Distance from coast

ISLAND

Marine Scientific equipment it is proposed to use and indicate waters in which it will be deployed Limits	Research within Fishing Limits	concerning Continental Shelf out to coastal state's margin	Within 3 NM	Between 3-12 NM	Between 12-50 NM	Between 50-200 NM
Water sampling equipment						Yes (Station FSC)
Vertical plankton net						Yes (Station FSC)
CTD-sond and light meter						Yes (Station FSC)

Nina Holm

Dated: 15.06.2012

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On behalf of the Principal Scientist

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