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FRV *Scotia*

Cruise 1807S

PROGRAMME

7-20 December 2007

Loading: Aberdeen, 4/5 December 2007

Unloading: Aberdeen, 20 December 2007

Personnel

J Dunn (In charge)
J Hunter
N Collie
K Cook
J Rasmussen
D Lichtman
B Berx
M Rose
S Robinson
M Pan
D Mayor (Aberdeen University)
E Gontikakai (Aberdeen University)

Project: AE11r - 14 days

Sampling gear: Hydrographic CTD; Plankton nets (ARIES) Mega corer

Fishing gear: None

Area: Northwestern North Sea-Faroe Shetland Channel.

Objectives

1. To conduct routine hydrographic sampling at stations along the standard JONSIS, Fair Isle-Munken and Nolso-Flugga survey lines.
2. To conduct plankton and hydrographic sampling with ARIES in the Faroe Shetland Channel.
3. To take core samples for benthic primary productivity in the Faroe Shetland channel.

General Procedure

On sailing from Aberdeen the vessel should proceed to the eastern end of the JONSIS line and complete the hydrographic stations in a westerly direction (Table 1, Fig. 1). Hydrographic sampling with the CTD/carousel will then commence on the Fair Isle-Munken line. Towed

deployments of the ARIES sampler will be carried out at up to three of the deepest stations along the line (Table 2, Fig. 1).

On completion of the Fair Isle-Munken line the vessel will proceed to conduct hydrographic sampling along the Nolso-Flugga survey line. Towed deployments of the ARIES sampler will be carried out at up to four of the deepest stations along the line (Table 3, Fig. 1).

As time and weather conditions permit a corer will be deployed at selected stations to obtain benthic samples for primary productivity.

Normal contacts will be maintained with the Laboratory.

Scientific Procedures

It is expected that deployments of hydrographic equipment will be carried out with the CTD crane whilst the vessel is on station. Shallow (<1,700 m) deployments of ARIES can be carried out with the Plankton crane.

Three container Laboratories will be required (one wet chemical analysis laboratory, two dry containers for electronics work and communications with sampling equipment). Plankton sample sorting and processing will be carried out in part of the fish laboratory. Core handling will be conducted in an area of the fish house.

Hydrophones for receiving data from the plankton samplers will be installed on the drop keel before the start of the cruise.

All plankton samples will be preserved in formaldehyde solution. It is expected that a proportion of the samples will be sorted fresh, with specimens of *Calanus finmarchicus* being preserved in liquid nitrogen and ethanol. All water samples will be analysed for nutrients aboard the vessel, and all CTD, Optical Plankton Counter and ARIES data will be worked up at sea.

Hydroacoustic data will be recorded from later analysis, though some preliminary analysis will be undertaken at sea.

J A Morrison
16 November 2007

Table 1

JONSIS line stations

Name	Latitude	Longitude	Depth	Spacing
JO 1	59°17.00'N	02°14.00'W	75 m	
JO 1A	59°17.00'N	02°5.00'W	90 m	8.5 km
JO 2	59°7.00'N	01°56.00'W	100 m	8.5 km
JO 3	59°17.00'N	01°48.00'W	80 m	7.6 km
JO 4	59°17.00'N	01°40.00'W	90 m	7.6 km
JO 5	59°17.00'N	01°30.00'W	95 m	9.5 km
JO 6	59°17.00'N	01°20.00'W	110 m	9.5 km
JO 6A	59°17.00'N	01°10.00'W	120 m	9.5 km
JO 7	59°17.00'N	01°0.00'W	125 m	9.5 km
JO 8	59°17.00'N	00°40.00'W	120 m	18.9 km
JO 9	59°17.00'N	00°20.00'W	140 m	18.9 km
JO10	59°17.00'N	00°0.00'W	135 m	18.9 km

Table 2

Fair Isle - Munken line stations

Name	Latitude	Longitude	Depth	Spacing	
FIM-01	60° 10.00' N	03° 44.00' W	150 m		CTD
SEFOS-1	60° 13.00' N	03° 51.50' W	170 m	8.9 km	CTD
FIM-02	60° 16.00' N	03° 59.00' W	200 m	8.9 km	CTD
SEFOS-2	60° 18.00' N	04° 04.50' W	330 m	6.3 km	CTD, ARIES
FIM-03	60° 20.25' N	04° 09.00' W	390 m	6.3 km	CTD
FIM-04	60° 25.00' N	04° 19.00' W	655 m	12.4 km	CTD
FIM-05	60° 29.00' N	04° 26.00' W	995 m	9.8 km	CTD, ARIES
FIM-06	60° 35.00' N	04° 45.00' W	1090 m	20.6 km	CTD, ARIES, MIKT Priority station for ARIES
FIM-6a	60° 38.00' N	04° 54.00' W	1030 m	9.9 km	CTD
FIM-07	60° 43.00' N	05° 06.00' W	915 m	14.3 km	CTD, ARIES
FIM-08	60° 47.00' N	05° 16.00' W	830 m	11.7 km	CTD
FIM-09	60° 51.00' N	05° 29.00' W	600 m	13.9 km	CTD
FIM-10	61° 02.00' N	05° 57.00' W	280 m	32.4 km	CTD, ARIES
FIM-11	61° 12.00' N	06° 22.00' W	240 m	29.1 km	CTD

Table 3

Nolso - Flugga line stations

Name	Latitude	Longitude	Depth	Spacing	
NOL-11	62° 00.00' N	06° 12.00' W	125 m		CTD
NOL-10	61° 54.00' N	05° 45.00' W	290 m	26.0 km	CTD
NOL-09	61° 49.00' N	05° 21.00' W	180 m	22.9 km	CTD
NOL-08	61° 42.00' N	04° 51.00' W	235 m	29.3 km	CTD, ARIES
NOL-07	61° 35.00' N	04° 15.00' W	990 m	34.2 km	CTD, ARIES
NOL-06	61° 28.00' N	03° 42.00' W	1235 m	31.9 km	CTD, MIKT, ARIES Priority station for ARIES
NOL-05	61° 21.00' N	03° 10.00' W	1370 m	31.2 km	CTD, ARIES Priority station for ARIES
NOL-04	61° 14.00' N	02° 40.00' W	1080 m	29.6 km	CTD, ARIES
NOL-3a	61° 11.00' N	02° 25.00' W	730 m	14.5 km	CTD
SEFOS-6	61° 09.30' N	02° 17.50' W	630 m	7.4 km	CTD
NOL-03	61° 08.00' N	02° 10.00' W	550 m	7.1 km	CTD
SEFOS-5	61° 06.00' N	02° 01.50' W	440 m	8.5 km	CTD, ARIES
NOL-02	61° 04.00' N	01° 53.00' W	270 m	8.5 km	CTD
SEFOS-4	61° 01.40' N	01° 35.40' W	155 m	16.7 km	CTD
SEFOS-3	60° 58.70' N	01° 17.70' W	125 m	16.7 km	CTD, ARIES
NOL-01	60° 56.00' N	01° 00.00' W	110 m	16.7 km	CTD

Figure 1

North Sea and Faroe-Shetland Channel stations,
Scotia 1707S (7/12/07 - 20/12/07)

