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MRV *Scotia*

Survey 1713S

PROGRAMME

9 - 23 December 2013

Loading: Aberdeen, 6 December 2013 (including container change)
Unloading: Aberdeen, 23 December 2013

In setting the cruise programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotland's Working Time Policy (Lab Notice 34/03). In addition, the Scientist-in-Charge must formally review the risk assessments for the cruise with staff on-board before work is commenced.
In the interest of efficient data management it is now mandatory to return the Cruise Report, to I Gibb and the Cruise Summary Report (old ROSCOP form) to M Geldart, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

J. Dunn (SIC)
N. Collie
M. Geldart
J. Hunter
B. Rabe
J. Rasmussen
A. Taylor
J. Wright
A. Lechtenboerger (Visitor, Aberdeen University)

Project: ST03P - 15days

Sampling gear: Hydrographic CTD/Carousel; Plankton nets (ARIES)

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 recover four sea guard moorings around Shetland.

4 To deploy drifters.

General Procedure

After departing Aberdeen and completing appropriate drills, the vessel will proceed to the eastern end of the JONSIS line and complete both hydrographic stations and ARIES deployments in a westerly direction (Table 1, Fig. 1).
Depending on weather conditions Scotia will attempt to recover four sets of sea guard moorings in the Fair Isle area, and also lay drifters along the shelf edge.
The vessel will then proceed to the Faroe-Shetland Channel and commence hydrographic and plankton sampling at selected stations along the Fair Isle-Munken survey line (Table 2, Fig 1)
On completion of the Fair Isle-Munken line the vessel will proceed to conduct hydrographic sampling at selected stations on the Nolso Flugga survey line (Table 3, Fig 1). Towed deployments of the ARIES sampler will be carried out at selected stations along the line.

Scientific Procedures

It is expected that deployments of hydrographic equipment will be carried out with the CTD crane whilst the vessel is on station.

ARIES deployments from the trawl deck will use 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.

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

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 CTD, Optical Plankton Counter and ARIES data will be worked up at sea.

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

Normal contacts will be maintained with the Laboratory.

Submitted:
J. Dunn
12 November 2013

Approved:
I. Gibb
21 November 2013

Table 1

JONSIS line stations

Name	Latitude	Longitude	Depth	Spacing
JO 1	59 □17.	02 □14.	75 m	
JO 1A	59 □17.	02 □5.00	90 m	8.5 km
JO 2	59 □7.00	01 □56.	100 m	8.5 km
JO 3	59 □17.	01 □48.	80 m	7.6 km
JO 4	59 □17.	01 □40.	90 m	7.6 km
JO 5	59 □17.	01 □30.	95 m	9.5 km
JO 6	59 □17.	01 □20.	110 m	9.5 km
JO 6A	59 □17.	01 □10.	120 m	9.5 km
JO 7	59 □17.	01 □0.00	125 m	9.5 km
JO 8	59 □17.	00 □40.	120 m	18.9 km
JO 9	59 □17.	00 □20.	140 m	18.9 km
JO10	59 □17.	00 □0.00	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

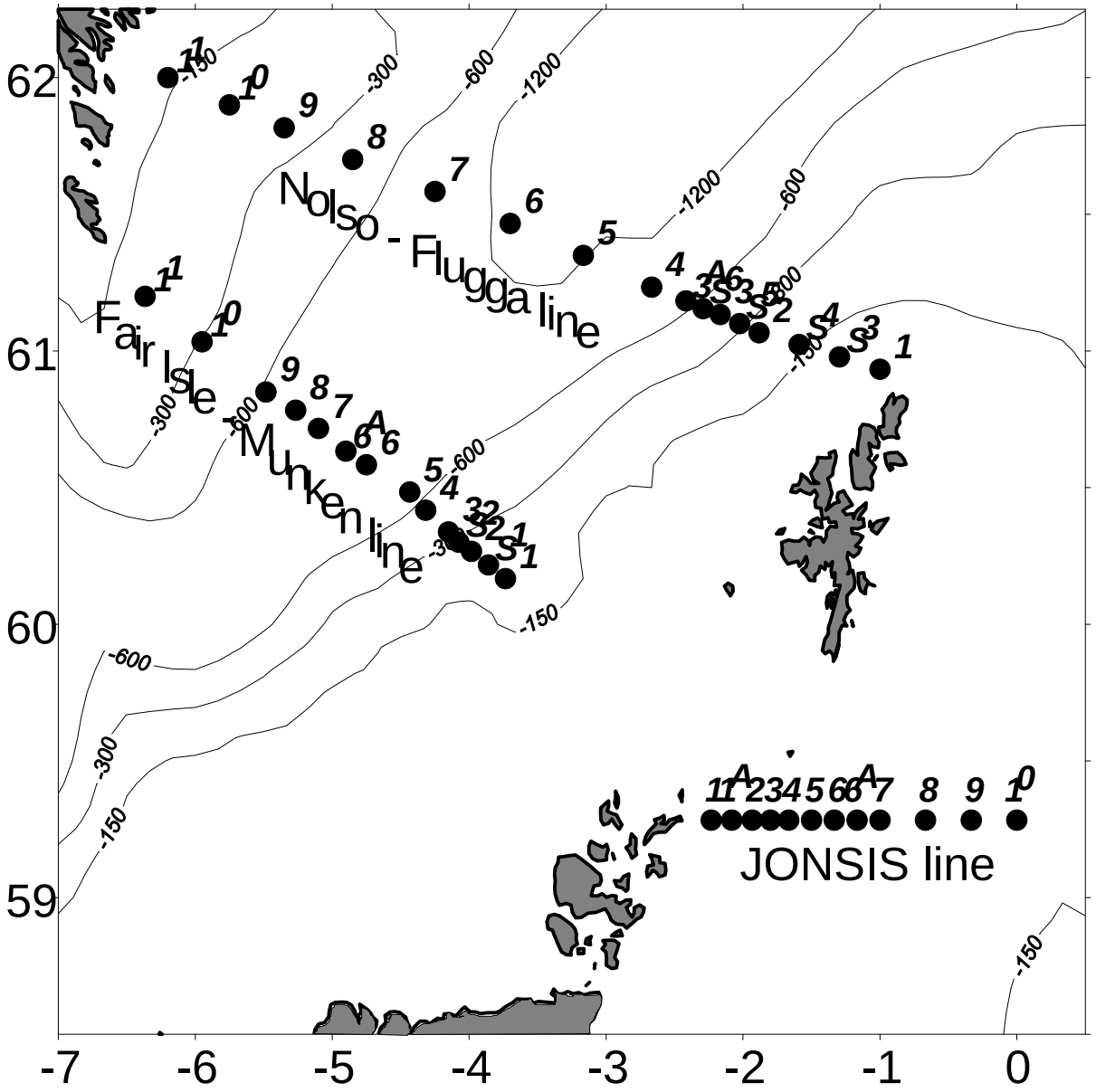
Table 3

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



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MRV Scotia

Survey 1713S

9 – 23 December 2013

PROGRAMME AMENDMENT

D. Lee will now participate on this survey.

I Gibb
22/11/2013

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MRV Scotia

Survey 1713S

PROGRAMME AMENDMENT II

This survey will now run from 8 – 22 December 2013

I Gibb
05/12/2013