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FRV *Scotia*

Survey 1611S

PROGRAMME

11-23 December 2011

Loading: Aberdeen, 8/9 December 2011

Unloading: Aberdeen, 23 December 2011

In setting the Survey 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 survey with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Survey Report, to I Gibb and the Survey Summary Report (old ROSCOP form) to M Geldart, within four weeks of a survey ending. In the case of the survey Summary Report a nil return is required, if appropriate.

Personnel

J Dunn (SIC)
G Slesser
N Collie
K Cook
J Hunter
S Robinson
D Lee
M Geldart
J Rasmussen
Visitor Strathclyde University

Project: ST03P – 13 days

Sampling gear: Mooring recovery and servicing equipment, Hydrographic CTD/Carousel; Plankton nets (ARIES).

Fishing gear: Recovery trawl.

Area: Northwestern North Sea - Faroe Shetland Channel.

Objectives

1. To recover and service and redeploy three Faroe-Shetland Channel ADCP moorings.
2. To conduct routine hydrographic sampling at stations along the standard JONSIS, Fair Isle-Munken line and possibly two stations on the old Nolso-Flugga survey line. A new survey line called the Cape Wrath-Munken line will be sampled.

3. To conduct plankton and hydrographic sampling with ARIES in the Faroe Shetland Channel.

General Procedure

On sailing from Aberdeen 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, Figure 1).

The vessel will then proceed to the Faroe-Shetland Channel to recover the ADCP moorings (NWSD - 60° 26.99'N 004° 22.49'W, NWSE - 60° 16.50'N 004° 19.97'W, NWSG - 60° 30.50'N 004° 33.99'W), data will be downloaded and the instrumentation and mooring equipment serviced. While this is done, towed deployments of the ARIES sampler will be carried out at up to three of the deepest stations along the Fair Isle- Munken line (Table 2, Figure 1). Scotia will then, weather permitting re-deploy the ADCP moorings (NWSD - 60° 27.00'N 004° 22.50'W, NWSE - 60° 16.50'N 004° 20.00'W, NWZE - 59° 54.30'N 006° 10.00'W), this being done during daylight hours, and may require more than one day to complete. CTD sampling and plankton sampling will continue while the vessel is not engaged in mooring work.

On completion of the Fair Isle-Munken line the vessel will proceed to conduct hydrographic sampling at selected stations on the Cape Wrath-Munken survey line. Towed deployments of the ARIES sampler will be carried out at up to two of the deepest stations along the line. If time permits two stations will be sampled along the Nolso-Flugga line.

Scientific Procedures

The ADCP moorings will be recovered using the plankton crane into the hanger deck to allow servicing to be carried out. Assuming recovery of all three, the vessel will not be able to carry out CTD work from the hanger, so plankton deployments from the trawl deck will be carried out during this period.

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 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 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/K Cook
16 November 2011

Approved:
I Gibb
3 December 2011

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° 05.00'W	90 m	8.5 km
JO 2	59° 17.00'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° 00.00'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° 00.00'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
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 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
FIM-11	61° 12.00' N	06° 22.00' W	240 m	29.1 km	CTD

Table 3

Faroe – Cape Wrath line stations

	Name	Latitude	Longitude	Depth	Spacing	
01	FWZ-19	59° 30.00' N	06° 10.00' W	152 m		CTD
02	FWZ-18	59° 34.82' N	06° 10.00' W	196 m	4.81 nm	CTD
03	FWZ-17	59° 39.64' N	06° 10.00' W	220 m	4.81 nm	CTD
04	FWZ-16	59° 44.45' N	06° 10.00' W	277 m	4.80 nm	CTD
05	FWZ-15	59° 49.27' N	06° 10.00' W	457 m	4.81nm	CTD
06	FWZ-14	59° 54.09' N	06° 10.00' W	600 m	4.81 nm	CTD
07	FWZ-13	59° 58.91' N	06° 10.00' W	970 m	4.81 nm	CTD
08	FWZ-12	60° 03.73' N	06° 10.00' W	1082 m	4.81 nm	CTD, ARIES
09	FWZ-11	60° 08.54' N	06° 10.00' W	1195 m	4.80 nm	CTD
10	FWZ-10	60° 12.76' N	06° 10.00' W	1212 m	4.21 nm	CTD, ARIES
11	FWZ-09	60° 18.18' N	06° 10.00' W	616 m	5.41 nm	CTD
12	FWZ-08	60° 23.00' N	06° 10.00' W	423 m	4.81 nm	CTD
13	FWZ-07	60° 30.63'N	06° 13.88'W	302 m	7.86 nm	CTD
14	FWZ-06	60° 38.26'N	06° 17.77'W	275 m	7.86 nm	CTD
15	FWZ-05	60° 45.89'N	06° 21.69'W	184 m	7.86 nm	CTD
16	FWZ-04	60° 53.52'N	06° 25.65'W	138 m	7.86 nm	CTD
17	FWZ-03	61° 01.14'N	06° 29.63'W	142 m	7.85 nm	CTD
18	FWZ-02	61° 08.76'N	06° 33.65'W	125 m	7.85 nm	CTD
19	FWZ-01	61° 16.38' N	06° 37.70' W	100 m	7.86 nm	CTD

Table 4

Nolso - Flugga line stations

Name	Latitude	Longitude	Depth	Spacing	
NOL-06	61° 28.00' N	03° 42.00' W	1235 m	31.9 km	CTD, 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

CTD/Water Sampler Station Positions

