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FRV *Scotia*

Cruise 1309S

PROGRAMME

1-19 October 2009

Loading: Aberdeen
Unloading: Aberdeen
Port Call: Ullapool (9 October)

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 D Lichtman, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

G Slesser	In charge	
B Berx		
N Collie		
J Dunn		(1 - 9 October)
M Geldart		
M Rose		
D Watson		
B Wouters	KNMI	(1 -19 October)
J Beaton	SAMS	(9 - 19 October)

Out-turn days per project: 19 AE11R0

Gear

Sea-Bird CTDs and Carousel Water Sampler, ADCP and Current Meter instrumentation, Mooring Equipment, Recovery Trawl, Ocean Sampler

Objectives

1. Perform hydrographic surveys along the JONSIS standard section in the northern North Sea.

2. Perform biological sampling along the JONSIS standard section using the Ocean Sampler with additional positions to be sampled in the immediate area.

3. Recover and redeploy two current meter moorings East of Shetland.

4. Perform a CTD survey East of Shetland.

5. Perform hydrographic surveys along the standard Faroe - Shetland Channel sections.

6. Take samples for long term storage at Fair Isle – Munken stations FIM-01 and FIM-06.

7. Service two ADCP moorings in the Faroe Shetland Channel.

8. Recover an ADCP mooring on the Wyville-Thomson Ridge for redeployment for the THOR project (see objective 9).

9. Deploy two additional ADCP moorings for the THOR project in the Faroe Shetland Channel.

10. Perform CTD surveys along the Shelf Edge / Fair Isle Channel as time allows.

Procedure

On sailing from Aberdeen *Scotia* will sail to a suitable position to carry out trial CTD deployments before proceeding to the western end of the JONSIS section to commence sampling using the CTD/carousel water sampler and Ocean Sampler. On completion, passage will be made to East of Shetland where current meter moorings (60° 18.67'N 000° 41.75'W, 60° 09.99'N 000° 10.00'W) will be recovered, data downloaded from the moored instruments, moorings refurbished and the moorings redeployed. CTD surveys will also be performed along three sections.

If time is available prior to the mid cruise break a section of CTD stations will be sampled across the Fair Isle Channel and passage made to the Faroe-Shetland Channel to carry out ADCP mooring operations.

The *Scotia* will then make passage to Ullapool and a change of personnel will take place at the mid cruise break. Compass calibration verification of the Sentinel ADCP will take place at Ullapool.

Following the mid cruise break the *Scotia* will proceed to the Wyville-Thomson Ridge where a SAMS ADCP (60° 15.47'N 08° 58.29'W) mooring will be recovered, data downloaded and made ready for deployment for the THOR project mooring NWSD* (60° 30.50' 004° 34.00'W). The opportunity will also be taken to try and locate another SAMS ADCP mooring (60° 14.78'N 09° 00.36'W) that failed to respond on an earlier SAMS cruise.

Passage will then be made to the Faroe-Shetland Channel mooring positions where the following ADCP mooring work will take place: the trawl proof ADCP mooring NWSF (60° 12.00'N 004° 00.00'W) for the THOR project will be deployed; NWOCE ADCP mooring NWSE (60° 16.49'N 004° 19.97'W) will be recovered, data downloaded and redeployed; NWOCE ADCP mooring NWSD (60° 27.00'N 004° 22.50'W) will be redeployed; and mooring NWSD* for the THOR project deployed.

This will be followed by sampling the Fair Isle - Munken and Nolso – Flugga standard sections using the CTD and Carousel Water Sampler package. During this period long term storage samples will be taken at stations FIM-01 and FIM-06.

On completion of this work additional CTD stations will be undertaken along the shelf edge and the Fair Isle Channel and additional Ocean Sampler stations before departing for Aberdeen.

The thermosalinograph will be run throughout the cruise.

(NOTE: The survey will take *Scotia* into the Foinaven Development Area. This is now standard practice, and normal on-site communications will be established with the Foinaven co-ordinating officer).

Normal contacts will be maintained with the laboratory.

Submitted:
G Slesser
3 September 2009.

Approved:
I.Gibb
3 September 2009.

JONSIS Line

	Name	Latitude	Longitude	Depth	Spacing
01	JO 1	59° 17.00' N	02° 14.00' W	75 m	
02	JO 1A	59° 17.00' N	02° 5.00' W	90 m	8.5 km
03	JO 2	59° 17.00' N	01° 56.00' W	100 m	8.5 km
04	JO 3	59° 17.00' N	01° 48.00' W	80 m	7.6 km
05	JO 4	59° 17.00' N	01° 40.00' W	90 m	7.6 km
06	JO 5	59° 17.00' N	01° 30.00' W	95 m	9.5 km
07	JO 6	59° 17.00' N	01° 20.00' W	110 m	9.5 km
08	JO 6A	59° 17.00' N	01° 10.00' W	120 m	9.5 km
09	JO 7	59° 17.00' N	01° 0.00' W	125 m	9.5 km
10	JO 8	59° 17.00' N	00° 40.00' W	120 m	18.9 km
11	JO 9	59° 17.00' N	00° 20.00' W	140 m	18.9 km
12	JO10	59° 17.00' N	00° 0.00' W	135 m	18.9 km
			Totals	1180 m	126.9 km

Fair Isle - Munken (Ammended for presence of Foinaven oil platform)

	Name	Latitude	Longitude	Depth	Spacing
01	FIM-01	60° 10.00' N	03° 44.00' W	150 m	
02	SEFOS	60° 13.00' N	03° 51.50' W	170 m	8.9 km
03	FIM-02	60° 16.00' N	03° 59.00' W	200 m	8.9 km
04	SEFOS	60° 18.00' N	04° 04.50' W	330 m	6.3 km
05	*FIM-03*	*60° 20.25' N*	*04° 09.00' W*	*390 m*	*6.3 km*
06	FIM-04	60° 25.00' N	04° 19.00' W	655 m	12.4 km
07	FIM-05	60° 29.00' N	04° 26.00' W	995 m	9.8 km
08	FIM-06	60° 35.00' N	04° 45.00' W	1090 m	20.6 km
09	FIM-6a	60° 38.00' N	04° 54.00' W	1030 m	9.9 km
10	FIM-07	60° 43.00' N	05° 06.00' W	915 m	14.3 km
11	FIM-08	60° 47.00' N	05° 16.00' W	830 m	11.7 km
12	FIM-09	60° 51.00' N	05° 29.00' W	600 m	13.9 km
13	FIM-10	61° 02.00' N	05° 57.00' W	280 m	32.4 km
14	FIM-11	61° 12.00' N	06° 22.00' W	240 m	
			Totals	7,585.00	155.40

Nolso-Flugga

	Name	Latitude	Longitude	Depth	Spacing
01	NOL-01	60° 56.00' N	01° 00.00' W	110 m	
02	SEFOS	60° 58.70' N	01° 17.70' W	125 m	16.7 km
03	SEFOS	61° 01.40' N	01° 35.40' W	155 m	16.7 km
04	NOL-02	61° 04.00' N	01° 53.00' W	270 m	16.7 km
05	SEFOS	61° 06.00' N	02° 01.50' W	440 m	8.5 km
06	NOL-03	61° 08.00' N	02° 10.00' W	550 m	8.5 km
07	SEFOS	61° 09.30' N	02° 17.50' W	630 m	7.1 km
08	NOL-3a	61° 11.00' N	02° 25.00' W	730 m	7.4 km
09	NOL-04	61° 14.00' N	02° 40.00' W	1080 m	14.5 km
10	NOL-05	61° 21.00' N	03° 10.00' W	1370 m	29.6 km
11	NOL-06	61° 28.00' N	03° 42.00' W	1235 m	31.2 km
12	NOL-07	61° 35.00' N	04° 15.00' W	990 m	31.9 km
13	NOL-08	61° 42.00' N	04° 51.00' W	235 m	34.2 km
14	NOL-09	61° 49.00' N	05° 21.00' W	180 m	29.3 km
15	NOL-10	61° 54.00' N	05° 45.00' W	290 m	22.9 km
16	NOL-11	62° 00.00' N	06° 12.00' W	125 m	26.0 km
			Totals	8250 m	301.20 km