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MRV *Scotia*

Survey 1313S

PROGRAMME

2-16 October 2013

Loading: Aberdeen, 30 September 2013
Unloading: Aberdeen, 16 October 2013

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 (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

G Slesser	(SIC)	
A Gallego		
M Geldart		
D Lee		
R O'Hara Murray		
J Wright		
G. Damerell	Univeristy East Anglia	Visitor

Out-turn days per project: 15 days: ST03P

Gear

Sea-Bird CTDs, ADCP and current meter instrumentation, water level recorders, temperature mini-loggers, mooring equipment, recovery trawl, drifters, glider.

Objectives

1. Perform hydrographic surveys along the JONSIS long term monitoring section in the northern North Sea.

2. Perform hydrographic surveys along the long term monitoring Faroe-Shetland Channel sections.

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

4. Take water samples at selected stations on the Fair Isle – Munken section for St Andrews University for isotope and trace metal analysis.

5. Recover and download an ADCP mooring outside the eastern edge of the Foinaven development area and redeploy refurbished at a new site in the Faroe-Shetland Channel

for the NACLIM project.

6. Recover, download, refurbish and redeploy one ADCP mooring in the Faroe-Shetland Channel for the NACLIM project.

7. Deploy and recover the UEA glider in the area of Cape Wrath – Faroe section.

8. Recover an ADCP mooring in the Bay of Skaill, Orkney.

9. Deploy 12 drifters on the west side of the Fair Isle Channel for the high frequency radar Brahan project (surface current measurement trials).

10. Recover, download, refurbish and redeploy four moorings in the Fair Isle Channel for the Brahan project.

11. Deploy the UEA glider in the Fair Isle/JONSIS section area.

Procedure

On sailing from Aberdeen (2 October) *Scotia* will make passage to the start of the JONSIS long term monitoring (LTM) section to commence sampling with the CTD and carousel water sampler. On route test deployments of the CTD and carousel will take place. During sampling along the JONSIS section interrogation of the moorings will take place. Following completion of the JONSIS section six drifters, three drifters at each site listed below, will be deployed for the Brahan project prior to *Scotia* proceeding to the Faroe-Shetland Channel. Depending on prevailing weather conditions and timing of arrival the initial work plan will be to recover and redeploy the two ADCP moorings in the Faroe – Shetland Channel and deploy the UEA glider. The glider operations will be led by UEA personnel and control of the glider will be carried out by shore based personnel at UEA. Contact between UEA ship and shore personnel during glider operations will be made by mobile iridium satellite phone. During the mooring and glider operations the opportunity will be taken to check that three other ADCP moorings deployed in the Faroe – Shetland Channel during cruise 0513S are still in place. Following this, CTD and carousel water sampling will commence along the Cape-Wrath, Fair Isle-Munken and Nolso-Flugga LTM sections. When these lines are completed the glider will be recovered prior to making passage to make a second deployment of drifters prior to the recovery of the ADCP mooring deployed in the Bay of Skaill. Following this work, the four moorings deployed during cruise 0513S in the Fair Isle area for the Brahan project will be recovered, data downloaded from instrumentation, moorings refurbished and then redeployed. The AWAC recovered from one of these moorings will be replaced by the ADCP recovered at the Bay of Skaill. At some point prior to or during mooring operations the UEA glider will be deployed in the Fair Isle/JONSIS section area. It is intended to leave the glider deployed which will be picked up later in the year by another vessel. During the survey contact will be maintained with personnel onshore to observe the progress being made by the deployed drifters. It is not planned to pick up any of the drifters prior to returning to Aberdeen unless circumstances dictate.

Mooring Positions

Faroe-Shetland Channel

60° 13.40'N 003° 28.47'W (Brahan)
60° 04.01'N 006° 10.06'W (NWZD)
59° 54.32'N 006° 10.19'W (NWZE)
59° 46.44'N 006° 09.92'W (NWZG)
59° 34.65'N 006° 09.56'W (NWZH)

59° 59.20'N 006° 10.00'W (NWZI)

Fair Isle Channel

59° 55.59'N 003° 02.71'W (FI-1)
59° 45.31'N 002° 49.70'W (FI-2)
59° 15.75'N 001° 31.32'W (FI-3)
59° 16.97'N 000° 42.14'W (FI-4)

Bay of Skaill

59° 03.30'N 003° 21.78'N

Drifter Deployment Positions

59° 50.00'N 004° 05.00'W
59° 40.00'N 003° 40.00'W

The thermosalinograph will be run throughout the survey.

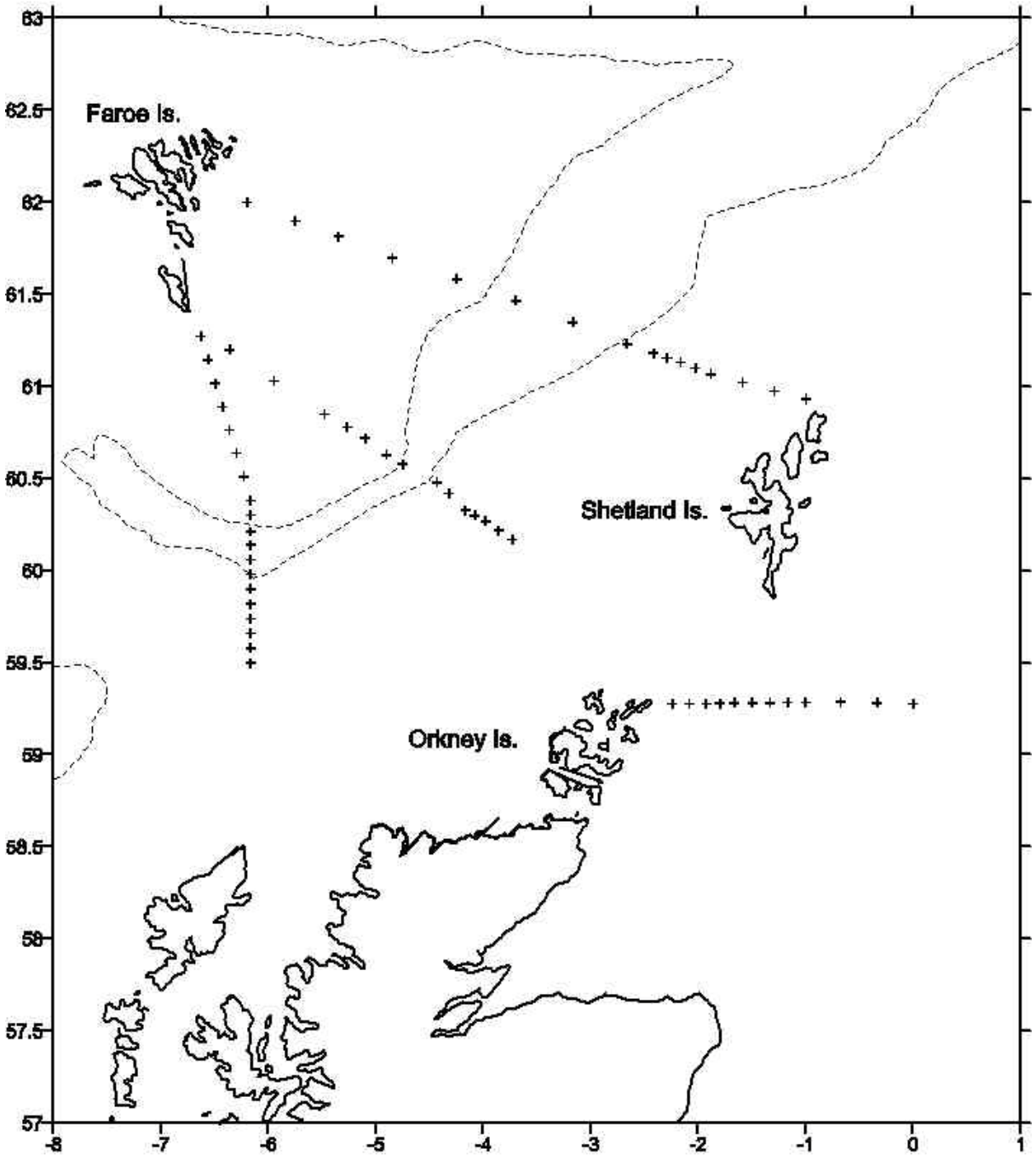
(NOTE: The survey will take *Scotia* into the Foinaven Development Area. This is now standard practice, and normal on-site communications will be established with the Foinaven co-ordinating officer).

Normal contacts will be maintained with the laboratory.

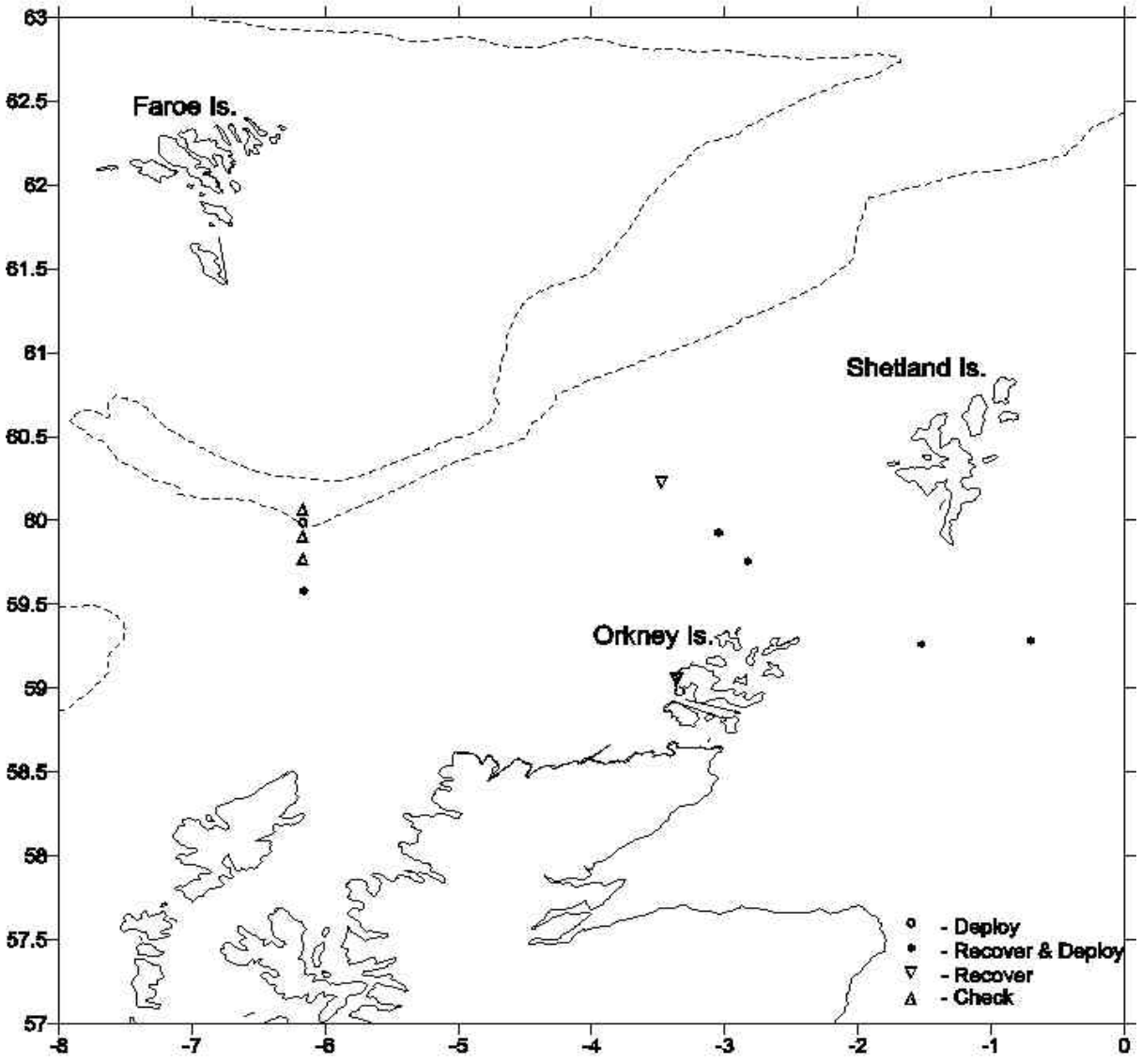
Submitted:
G Slesser
16 September 2013

Approved:
I Gibb
19 September 2013

CTD Station Positions



Mooring Deployment and Recovery Positions



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 (Amended 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

Faroe – Cape Wrath

	Name	Latitude	Longitude	Depth	Spacing
01	FWZ-19	59° 30.00' N	06° 10.00' W	152 m	
02	FWZ-18	59° 34.82' N	06° 10.00' W	196 m	4.81 nm
03	FWZ-17	59° 39.64' N	06° 10.00' W	220 m	4.81 nm
04	FWZ-16	59° 44.45' N	06° 10.00' W	277 m	4.80 nm
05	FWZ-15	59° 49.27' N	06° 10.00' W	457 m	4.81nm
06	FWZ-14	59° 54.09' N	06° 10.00' W	600 m	4.81 nm
07	FWZ-13	59° 58.91' N	06° 10.00' W	970 m	4.81 nm
08	FWZ-12	60° 03.73' N	06° 10.00' W	1082 m	4.81 nm
09	FWZ-11	60° 08.54' N	06° 10.00' W	1195 m	4.80 nm
10	FWZ-10	60° 12.76' N	06° 10.00' W	1212 m	4.21 nm
11	FWZ-09	60° 18.18' N	06° 10.00' W	616 m	5.41 nm
12	FWZ-08	60° 23.00' N	06° 10.00' W	423 m	4.81 nm
13	FWZ-07	60° 30.63'N	06° 13.88'W	302 m	7.86 nm
14	FWZ-06	60° 38.26'N	06° 17.77'W	275 m	7.86 nm
15	FWZ-05	60° 45.89'N	06° 21.69'W	184 m	7.86 nm
16	FWZ-04	60° 53.52'N	06° 25.65'W	138 m	7.86 nm
17	FWZ-03	61° 01.14'N	06° 29.63'W	142 m	7.85 nm
18	FWZ-02	61° 08.76'N	06° 33.65'W	125 m	7.85 nm
19	FWZ-01	61° 16.38' N	06° 37.70' W	100 m	7.86 nm
			Totals	m	107.12 nm