

R1/12

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FRV *Scotia*

10SR89

Cruise 10/89

Report

19 September - 6 October 1989

Personnel

E W Henderson	PSO
W R Turrell	HSO
R Payne	HSO
G Slessor	HSO
J C McKie	HSO
R D Adams	SO
Miss K Bedford	SO (23 September - 6 October)

Objectives

1. To recover 7 current meter moorings which were deployed west of the Hebrides and west of Orkney in June 1989.
2. To work hydrographic stations along the Fair Isle - Munken, Faroe and the Nolso, Faroe - Flugga, Shetland sections.
3. To carry out hydrographic surveys in the areas west of the Hebrides, west of Orkney and Shetland and in the northern North Sea.
4. To collect water samples for radio caesium analysis.
5. If equipment resources permit, to deploy the self-contained ADCP on a temporary current meter mooring close to one of the existing moorings as an intercomparison exercise. If deployed, this mooring will be recovered before the end of the cruise.

Procedure

After a 3 hour delay due to recurrent engine problems, *Scotia* sailed at 1430. Since the mooring alongside which the ADCP was to be deployed had been removed by a French trawler, objective 5 was cancelled. *Scotia* proceeded to the west of Orkney mooring collecting the Pentland Firth caesium sample on route. Mooring "C" was recovered on the morning of the 20th. A hydrographic survey of the area was started but continuing engine problems forced the abandonment of work so that *Scotia* could return to Aberdeen where she docked at 0945 on the 21st.

After a 48 hour delay while the engine fault was diagnosed and repaired, *Scotia* sailed at 1100 on the 23rd. Because of the delays to the programme, the half-landing was cancelled. *Scotia* proceeded to the area west of the Hebrides to commence the recovery of the moorings. The Cape Wrath caesium sample was collected on passage. However, bad weather

delayed the start of operations until 1330 on the 25th when passage had to be made to Ullapool to land an engineer on compassionate grounds and to embark a replacement on the 26th.

*Scotia* then proceeded to the North Minch where the current meter mooring number 3 was recovered that day. Hydrographic stations were worked overnight towards mooring 4, north of the Hebrides. This mooring could not be located even after a creeping operation lasting 2 hours. Passage was made to mooring 5, west of the Hebrides. This mooring was successfully recovered on the 27th. Further hydrographic stations were worked until the shelf break mooring number 7 was recovered at 1330 on the 28th. An extensive visual search was carried out for mooring 6, the current meters from which had been recovered by a French trawler and landed in Lorient. The remainder of the mooring could not be found. Further creeping at the position of mooring 4 was carried out over a period of 4 hours but no trace of the mooring could be found.

Further hydrographic sampling in the area west of the Hebrides was carried out until mooring number 2, east of Rona, was recovered at 1630 on the 29th. The hydrographic work west and north-west of the Hebrides was completed before *Scotia* proceeded to the start of the Faroe-Shetland Channel sections. The stations were started at 1900 on the 30th and completed at 1300 on 3 October with a delay due to bad weather from 0400 to 2000 on the 1st.

Hydrographic stations were then worked along 59°30' N from west of Orkney into the North Sea. The Fair Isle caesium sample was collected on passage. The JONSSIS line and further hydrographic stations off the east coast of Scotland were worked before *Scotia* docked in Aberdeen at 0930 on the 6th.

### Results

All the current meters and the pressure recorder appear to have functioned satisfactorily. Data from these instruments await further analysis. The "Smart" CTD system and the new processing computer also performed well. Data from this instrument are currently being evaluated.

All nutrient samples collected in the Faroe-Shetland Channel and the JONSSIS line were analysed on board. Once the salinity samples have been analysed and processed, these data will be studied in comparison with data from previous years.

The thermosalinograph was operated throughout the cruise and the data were logged on computer.

E W Henderson  
17 November 1989

Seen in draft: N E McInnes

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