

R1/12

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FRV *Scotia*

Cruise 4/90 Part 1.

4pt1SR90

REPORT

20-30 April 1990.

Personnel

W R Turrell	SSO (in charge)
R Payne	HSO
G Slesser	HSO
C Hall	HSO
R D Adams	SO
F Brown (Mrs)	SO
P Gillibrand	SO

Objectives

1. To deploy five current meter moorings.
2. To repeat the hydrographic survey performed during *Scotia* Cruise 13/89 Part 2.
3. To test the shipborne ADCP as fitted to *Scotia*.
4. To collect caesium samples.

Procedure

On sailing from Greenock at 1700 on Friday 20 April, *Scotia* proceeded to the position of mooring "C" west of Orkney. During the mooring preparation a serious engine fault developed. This required *Scotia* to be towed back to Aberdeen by the FPV *Sulesker* to await an engineer. *Scotia* finally sailed from off Aberdeen during the afternoon of Tuesday 24 April, arriving back at mooring "C" by the morning of the 25th.

After the deployment of this mooring *Scotia* sailed directly to the line running east from Shetland (the ES line). As time was then limited the first priority was to deploy all four remaining moorings. During the deployment of the second mooring, ES1, however, the forward hydraulic windlass failed. This meant that *Scotia* had to return to shelter and transfer all remaining mooring equipment aft, for subsequent deployment down the fishing ramp using the net winch and rear crane.

The two remaining moorings lying along the ES line were successfully deployed by the afternoon of Friday 27th. During this time hydrography was performed between deployments and at night. The failure of the forward windlass put out of operation the forward hydrographic winch, reducing the amount of bottle casts during the trip. The aft hydrographic winch feed-on mechanism also failed, although later repaired, which left only the aft plankton crane able to perform CTD casts.

These breakdowns in combination with the loss of three days reduced considerably the planned hydrographic work. In all three sections were performed, the ES line, the JONSIS line and part of the EC line. All four moorings were deployed.

ADCP

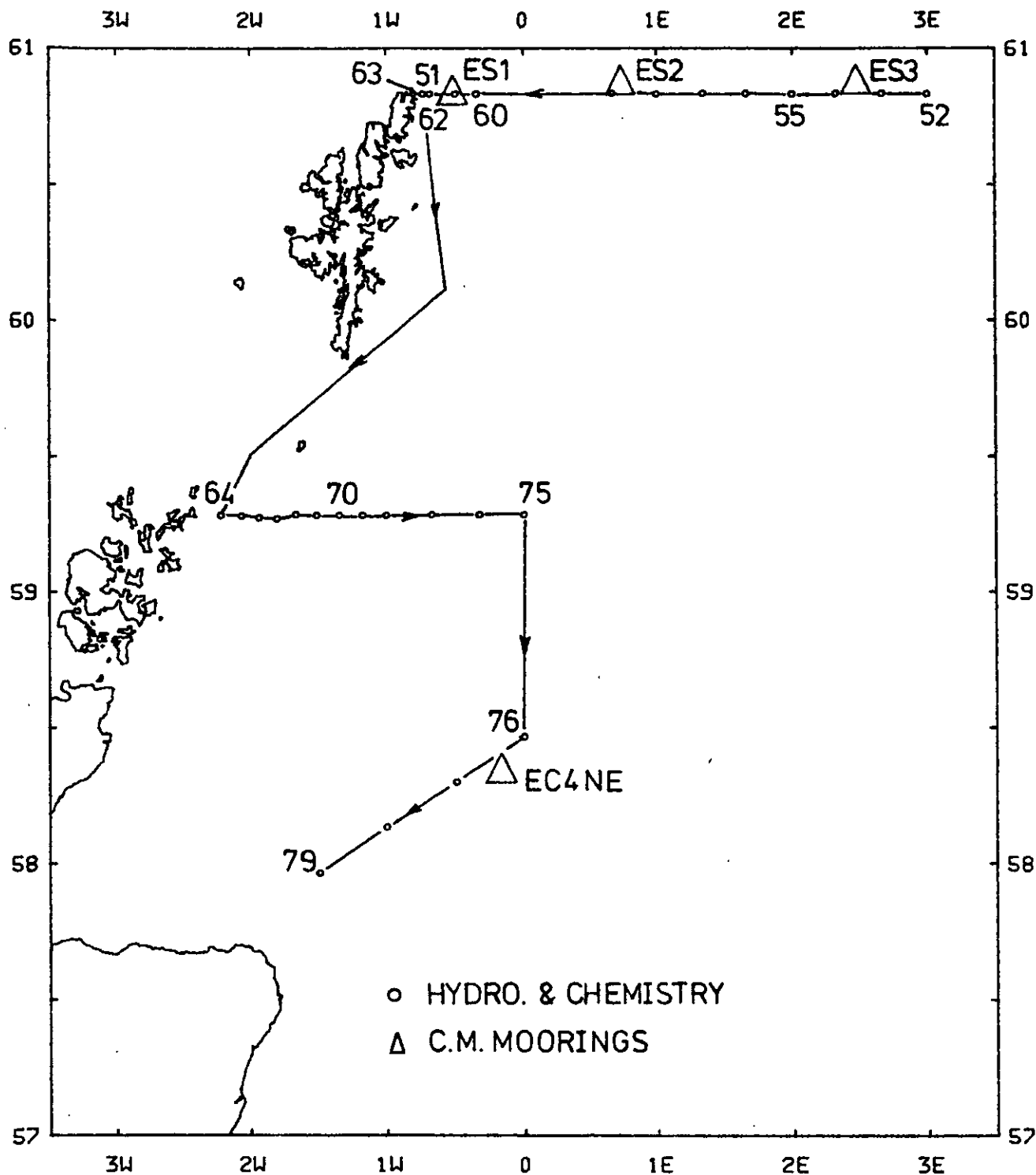
The vessel mounted ADCP worked extremely well considering that it was the first installation on *Scotia*. It is a credit to all concerned that mechanically the sensor head fitted the gate valve mechanism perfectly, and that the whole system was up and running within five hours of joining the ship. Data was collected throughout the cruise and is undergoing analysis; some sample results are attached. In this plot current vectors are drawn as measured in the depth bin 0-10 m. The vectors commence at the ships position and show the direction towards which the current is flowing. The tail of the vectors hence trace out the ship's track.

W R Turrell

24 July 1990

Seen in draft:

F.R.S. SCOTIA CRUISE 4 20-30 APRIL 1990



SC0490 0 - 10 m km/hr

SAMPLE RESULTS FROM VM-ADCP

