

Z7/16/5

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Research Vessel *Valdivia* (University of Hamburg)

REPORT

Cruise 1/93 14-25 January 1993

Personnel

D Quadfasel	University of Hamburg - in charge
J Backhause + 7 staff	University of Hamburg
M Heath	PSO
R Mitchell	SSO
J Dunn	HSO

Objective

To survey the vertical and horizontal distribution of *Calanus finmarchicus* in relation to the shelf edge current off the northwest of Scotland.

Narrative

Bad weather delayed the arrival of *Valdivia* in Aberdeen until 15 January. Injury to the Captain during the passage from Hamburg, necessitating his replacement with a relief officer, delayed sailing from Aberdeen until 19 January. The vessel sheltered from severe weather in the Orkney Isles during 20-21 January, during which time flowmeter calibrations and equipment trials were carried out. Finally, on 22 January, the vessel headed for the survey area in the Faroe-Shetland Channel. Sampling operations were carried out over a 36 hour period during 23-24 January, with a six hour interruption due to severe weather. The vessel then made a passage for Stornoway, docking at midday on 25 January. SOAFD equipment was unloaded on the morning of 26 January, and staff returned to Aberdeen by ferry and road.

Results

Even during the period when the wind strength was sufficiently reduced to allow scientific operations, the swell running in the Faroe-Shetland Channel made gear handling operations too dangerous for deployment of the ARIES system. However, four undulating tows of the smaller CTD and optical plankton counter (OPC) frame were carried out. Towed dives to a maximum depth of 980 m were achieved, and some 14 hours of data recorded. The CTD data showed that the upper 500 m in the Faroe-Shetland Channel were relatively homogeneous, with a temperature of approximately 8°C. Below 500 m the temperature decreased to -0.4°C in the southerly outflow from the Norwegian Sea. The OPC data showed that few zooplankton were resident in the upper 500 m. There was a marked increase in concentration below 500 m, and analysis of the size distribution data indicated that particles in the size range of *Calanus finmarchicus* were present at concentrations of 10-100/m³. Samples of zooplankton were collected with an opening and closing net for comparison with the OPC data.

M Heath
5 February 1993

'Valdivia' 1/93 19-25 January 1993

