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R.V. ERNEST HOLT

Report for Cruise 4/67

Staff

A. J. Lee
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G. C. Baxter
J. L. Henry
J. W. Read

Duration:

1733 hrs. 25 April-
0527 hrs. 12 May.
All times are G.M.T.

Aim:

To continue the assessment of the variability of the current, temperature and salinity fields along the 66°00'N parallel between 2°W and 6°E started on Cruise 3 in collaboration with the Geophysical Institute, University of Bergen.

Narrative:

R.V. ERNEST HOLT sailed from Grimsby at 1733 hours, 25 April. During the morning of 27 April radio contact was made with R.V. HELLAND HANSEN bound for Bergen having completed her turn of duty on the 66°N parallel. She reported that she had serviced the four anchored current meter stations and that she had worked the hydrographic section three times, but that the wind had never fallen below Force 6. Winds of up to 40 knots caused R.V. ERNEST HOLT to dodge from 0745/28 until 1908/29. At 2200/29 work on the 66°N hydrographic section was started and this continued uninterrupted until 1205/7 May, apart from a spell of dodging between 1923/30 and 0940/1. The weather was varied, and light airs and bright sunshine alternated with strong winds and violent snowstorms, but it proved possible to work the hydrographic stations in up to wind speeds of about 33 knots. Between 1430/7 and 1500/8 the temperature depth recorder was lowered at hourly intervals close to current meter station A. The ship then set course for Bergen which was reached at 0254/10. En route radio contact was made with R.V. HELLAND HANSEN as she started her second turn of duty on the section. Water was taken at Bergen and scientific apparatus was exchanged with the Geophysical Institute. Mr. Lee left the ship and returned to London by air, after visiting the Geophysical Institute and the Christians Michelsen Institute to discuss the working up of the material collected during the exercise and to study Norwegian progress in anchored oceanographic station technology. R.V. ERNEST HOLT sailed again at 1000/10 and reached Grimsby at 0527/12.

Observations:

1. The 66°N hydrographic section was worked four times between 06°00'E and 01°33'W, giving a total of 77 stations. The stations were 10 miles apart and temperature and salinity were sampled down to 1000 m. The bathythermograph was lowered to 270 m at each station and the sea surface thermograph was run throughout. The large wire angles generally experienced caused a deviation from the agreed sampling programme in that more than one bottle cast had to be used at a number of stations.

The current meter stations were monitored during each crossing of the section.

2. The temperature-depth recorder was lowered to 500-600 m at hourly intervals about 1 cable from the buoy marking current meter station A. 24 print outs and graph plots were obtained showing the temperature distribution from the surface (temperature ca. 7°C) to the sub-zero water below 500 m. The vertical

movement of the thermocline between the Atlantic water and the Norwegian Sea Deep Water was followed in detail.

3. Special meteorological observations for the Geophysical Institute were taken by the Officers of the Watch at hourly intervals throughout the survey. This programme replaced the usual Selected Ship observations.

4. The PDR was coupled to the MS 21 transmitter/receiver and a bathymetric profile was recorded over most of the section. A complete profile could not be obtained as the bottom trace was lost at 1640 fathoms when the ship was under way at 10 knots.

5. The Mufax recorder was used twice daily to receive weather charts from Offenbach, Federal Republic of Germany. Reception of the British charts transmitted from Bracknell was nearly impossible. The charts which were received were of great value in planning the day to day running of the ship's programme.

6. A sample of live Calanus was taken for Mr. R. Lincoln (University of East Anglia) in the northern North Sea during the passage from Bergen to Grimsby.

7. The new underwater TV lights were tested for Electronics Section and found to be satisfactory to 80 fathoms depth approximately.

A. J. Lee
15 May, 1967

Seen in draft: E.A.B. (Master)
G.W.A. (Fishing Skipper)

Distribution:

Dr. Cole
Mr. Lee
Captain Aldiss
Dr. Cushing
Mr. Burd
Mr. Bolster
Mr. Cattley
Mr. Corlett
Mr. Garrod
Dr. Harden Jones
Mr. Iles
Mr. Holden
Dr. Jamieson
Mr. Margetts
Mr. Trout
Dr. Purdon
Mr. Bridger
Mr. Mitson
Mr. Tungate
Mr. Williams
Mr. Wood
Mr. Adams
Mr. Mills
Mr. Kay
Miss Conolly
General Lab.
Lab. Registry
Library (2)
Mr. Whiting
ERNEST HOLT file
(N.I.C. next cruise)
Mr. Simpson
Dr. Reynolds
Chief Inspector

All D.I.s
Fisheries Registry
Captain Binnington
Mr. Sutcliffe
Skipper Argumont
Mr. Burgess
Mr. W. Baird
Prin. Inf. Officer, D.A.F.S.
Mr. Glover
Dr. Grant
Hydrographic Department
Dr. Lovern
Dr. Lucas
Director, N.I.O.
Dr. Peachey
Mr. Shelbourne
Mr. Steele
W.F.A.
Director, Bergen
Mr. Joensen
Director, Reykjavik

Mr. Dickson
Mr. Huggins
Mr. Baxter
Mr. Henry
Mr. Read