Library (1)

"Provisional: not to be quoted without reference to the author"

R.V. CLIONE

Report for Cruise 2/67.

Staff

J. W. Ramster
Dr. P. G. W. Jones (part-time)
G. C. Baxter
T. C. Doddington
G. P. Willis
R. Molina
Capt. Ross (B.P.) (part-time)
Dr. V. Caston (N.I.O.) (part-time)
D. Nichol (B.P.) (part-time)

Duration

25 January-19 February.

Aims

1. To record continuously turbidity, salinity and temperature along two lines in the Southern Bight.

2. To moor two Plessey current meters for B.P. near the oil rig SEA-QUEST.

3. To measure currents during a fourteen-day period at three depths at each of five points in the eastern Irish Sea by means of recording current meters.

4. To track a parachute drogue released at one of the current meter stations and moving at mid-depth for at least 36 hours.

5. To measure currents by direct reading current meters during at least one tidal cycle at two or more of the anchored current meter stations.

6. To make a nutrient survey of the eastern Irish Sea and release 25 Woodhead sea-bed drifters and 25 surface drifters at the stations of the 1964 network.

7. To test:-

   (i) the Plessey recording current meter
   (ii) the recording salinometer.

Narrative

R.V. CLIONE left Lowestoft at 0830 hrs Wednesday, 25 January and hove to in Corton Roads in order to demonstrate to Captain Ross and Dr. Caston the mooring and recovery of recording current meters. These two visitors were then put ashore via the Gorleston pilot boat and by 1200 hrs the ship was on passage to the oil-rig SEA QUEST. The rig was reached at 2030 hrs but because of the unlighted buoys lying around it no work was possible until first light on the following day. By 0915 hrs on the Thursday, however, the B.P. current meters had been laid and the continuous recording of turbidity, salinity and temperature, together with the collection of "check" samples every five miles along two lines linking the area of the South West Patch to Gorleston via the Brown Ridges then began. This work was finished at 0335 hrs, 27 January, and Mr. Nicol was landed at Gorleston together with the turbidity samples by the pilot boat.

The ship then set course for the Irish Sea. After an uncomfortable passage R.V. CLIONE dropped anchor in Red Wharf Bay, Anglesey at 1730 hrs Sunday, 29 January. That evening was spent in putting the wires of the anchored current meter stations onto the main winch and the next day in making ready for launching the current meters and buoys. At 2000 hrs three meters were moored 16 miles

north of the Great Orme (Buoy E) and at midnight a further three at a station midway between Anglesey and the Isle of Man (Buoy A). Two hours later two meters were moored 4 miles south-east of Douglas (Buoy B) and the ship then steamed across the eastern Irish Sea to stations lying 10 miles west of Walney Island and 7 miles south-west of St. Bee's Head. At each of these points (Buoys D and C respectively) two meters were moored with the final launching being completed by 1200 hrs 31 January.

The ship then steamed back to the vicinity of Great Orme's Head and at 0935 hrs the following day a parachute drogue, with the parachute moving at a depth of 5 fathoms, was launched one mile south of Buoy E. This drogue was tracked for thirty-six hours as planned but at the end of this period weather conditions were so bad that there was no hope of moving on to the next part of the programme so the tracking continued until 1100 hrs Friday, 3 February. During the morning the wind had begun to moderate and after a promising weather forecast had been received two Direct Reading Current Meters were rigged and the ship anchored within a mile of Buoy E and its three recording current meters. Between 1820 hrs and 0900 hrs the next day hourly readings of current speed and direction at four metre intervals through the water column were made though the anchor dragged a quarter of a mile during this time. The ship weighed anchor at 0915 hrs and steamed for Liverpool, docking at 1415 hrs.

At 2000 hrs Monday, 6 February, the ship sailed from Lowestoft, Dr. Jones having joined her that afternoon, and at 2040 hrs the first samples of the nutrient salt survey of the Eastern Irish Sea were taken. Sampling at 5 mile intervals along lines separated by 5 minutes of latitude continued until 0200 hrs on the following Friday. At 34 of the 164 nutrient stations 25 Woodhead Sea-bed drifters were released and at 12 of these stations sea surface drifters were also released. During the sampling checks were made when possible on the condition of the buoys, and at 2340 hrs 8 February Buoy B was found to have turned over and had to be righted. Reports had been received the previous day that a Dutch ship had "found" one of the buoys and asked Anglesey Radio and Captain Aldiss what should be done with it.

Once the nutrient survey had been completed the ship steamed for the Lune Deep, anchored, and at 1900 hrs Friday, 10 February, sampling at hourly intervals during a 12½ hr tidal cycle began. Since the weather remained favourable the ship steamed for Buoy A once this project had been completed and measurements of current speed and direction at hourly intervals over a tidal cycle were made within a mile of the buoy by Direct Reading Current Meters during the period 0130-1400 hrs 11 February. After weighing anchor the ship was allowed to drift quite close to the moored recording meter array and very strong signals from one of the Plessey meters were picked up via a hydrophone at a range of about 350 yards.

The ship then steamed to Buoy E making six more drops of Woodhead sea-bed drifters en route. At Buoy E a second set of current measurements by means of Direct Reading Current Meters were made during the tidal cycle 2345 hrs 11 February-1215 hrs 12 February, and this was followed by nutrient sampling over a tidal cycle beginning at 1510 hrs at a station close to the Liverpool Bar lightship.

At 0700 hrs Monday, 6 February, the recovery of moored current meters began. Buoy E was hauled on board and the leader wire from the main winch shackled to the buoy mooring wire beneath the buoy by a snap shackle. As the weight was being taken on the winch this snap shackle came through the hanging-block at an awkward angle, was held momentarily against the block and then flew open. The wire leading to the meters was lost overboard. A marker-buff was thrown overboard immediately and a dahn-buoy moored to mark the other end of the ground line. Grappling for the ground line began at 0830 and on two occasions an unmarked cable was brought up in the Daneforth anchor being used as a grapnel. After ten tows between the two marks the marker-buff itself was grappled up and the last yard of the buoy mooring wire came up in the anchor flukes. By 1300 hrs some of the wire had been brought onto the winch and the recovery operation itself began again. Almost immediately, however, it became apparant that the wires of the mooring had become tangled and not until 1530 hrs were the three current meters safely on board. The ship's officers felt that this buoy and its weight must have been pulled towards the current meter part of the mooring-system by a ship to such an extent that the two vertical wires wrapped round each other at each turn of the tide.

By first light on the following day the ship was at Buoy A, but during the night a south-easterly gale had developed and there was no chance of working either at Buoy A or Buoy B. The ship therefore moved to Buoy C and the meters there were recovered without difficulty, between 1330 and 1345 hrs. By the next slack water the ship reached the area of Buoy D and via the Decca Navigator and the searchlight found that it had turned over. Nevertheless, the buoy and the meters linked to it were recovered in less than an hour without any real difficulty.

During the early morning of Wednesday, 15 February, the south-east winds strengthened and reached 40 knots at times so that the ship was forced to move into the lee provided by the west coast of the Isle of Man. Extra stores were bought in Peel that afternoon and with gusts of 50-57 knots being recorded there seemed little prospect of work in the immediate future. However, by dawn the next day the wind and sea had moderated to such an extent that the ship sailed back to the east side of the island and recovered Buoy B at 1230 hrs and Buoy A at 1450 hrs. Course was then set for Lowestoft and after a good passage home the ship docked, two days late, at 1530 hrs Sunday, 19 February.

Results

1. Two Plessey recording current meters were moored for B.P. near the oil rig SEA QUEST.

2. The echo-sounder was run on passage to and from the rig and the records passed on to Mr. Stride at N.I.O.

3. Continuous records of the surface turbidity, salinity and temperature along two lines in the Southern Bight were obtained.

4. Five recording current meter stations were established in the eastern Irish Sea for fourteen days and during this period complementary current measurements near some of these points were obtained via Direct Reading Current Meters, the movement of a parachute drogue and the short period returns from the release of 1000 sea-bed and 250 sea-surface drifters.

All the recording current meters seem to have worked throughout the period. A detailed description of the moored stations after fourteen days at sea has been prepared and will be circulated among the Hydrographic Section as Current Meter Progress Report Number 6.

5. A nutrient survey of the eastern Irish Sea was completed in four days and the samples analysed during the cruise. Two 12½ hour anchored nutrient stations were also completed.

6. Prototypes of a recording salinometer, an automatic sampler and a sub-surface buoy were tested at sea.

J. W. Ramster
22/2/67

Distribution

Dr. Cole	Mr. Adams	Director, Dublin
Mr. Lee	Mr. Mills	Mr. Glover
Captain Aldiss	Mr. Kay	Hydrographic Department
Dr. Cushing	Miss Conolly	Dr. Lucas
Mr. Bolster	General Lab.	Director, N.I.O.
Mr. Burd	Lab. Registry	Dr. Peachey
Mr. Cattley	Library (2)	Mr. Shelbourne
Mr. Corlett	Mr. Whiting	White Fish Authority
Mr. Garrod	N.I.C. Next Cruise	Director, Charlottenlund
Dr. Harden Jones	Mr. Simpson	Director, IJmuiden
Mr. Iles	Dr. Reynolds	
Dr. Jamieson	Chief Inspector	Mr. Ramster
Mr. Margetts	All District Inspectors	Dr. P. G. W. Jones
Mr. Trout	Fisheries Registry	Mr. Baxter
Dr. Purdom	Captain Sutton	Mr. Doddington
Mr. Bridger	CLIONE File (Captain Sutton)	Mr. Willis
Mr. Mitson	Mr. Postill	Mr. Molina
Mr. Tungate	Skipper Larner	Captain Ross (B.P.)
Mr. Williams	Mr. Buchanan Wollaston	Dr. V. Caston (N.I.O.)
Mr. Wood	Mr. Baird, D.A.F.S.	Mr. Nichol (B.P.)