Indexed file. PD

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1988 RESEARCH VESSEL PROGRAMME

REPORT RV CORYSTES 6

STAFF
S M Rowlatt (SIC)
N D Pearson
J W Read
J M Rees
A Young
C Vincent (UEA)
J Atherton (U. Cambridge)

DURATION Left Lowestoft 1000 h 31 August
Arrived Lowestoft 0830 h 13 September
All times are Greenwich Mean Time

LOCALITY N E Coast

AIMS

1. To collect water and sediment samples for a study of scavenging using U/Th disequilibrium data.

2. To work a series of 25 h anchor stations (CTD and DRCM) at four locations along the coast, with the NBVR deployed. Suspended load and particle size measurements will be made over the tidal cycle at 10m intervals above the bed.

3. To investigate settling velocity near the seabed using QUISSET (U. Cambridge).

4. To use the diving team at one anchor station to measure bed roughness using an acoustic backscatter probe.

5. To work a grid of CTD stations around the moorings E-M launched by RV Cirolana as part of the Flamborough Front Experiment.

6. Service the current meter moorings E-M.

7. To recover moorings N-S, including a Wavec buoy.

8. To lay and recover a short-term test rig incorporating an RCM7/RCM4S intercomparison and a thermistor chain at maximum data rate to provide information on internal wave activity.

9. To collect a bulk fine-sediment sample for Mr Lloyd.

NARRATIVE

Corystes sailed at 1000 h on 31 August and proceeded to the Whitby area to service and recover various current meters. Rigs N, P, Q and R were recovered (aim 7) on 1 September before bad weather prevented further work that day. The moorings were visited overnight and all, apart from K were located. L was 1¼ miles off position and found to be damaged when recovered. Attempts were made to find rig K but dragging was unsuccessful.

A new rig was laid at K and those at E, F, G, H and J were serviced (aim 6).

On 3 September rig M was serviced and a short term test rig laid at L (aim 8). The Wavec buoy at position S was also recovered. Corystes docked in North Shields on the evening of 3 September and the following morning off-loaded the bulk of the recovered moorings (N-S) for return to Lowestoft.

During the period 4-8 September three 25 h anchor stations (aim 2) with U/Th measurements (aim 1) and QUISSET measurements (aim 3) were carried out in Marsden Bay, off Seaham and in Druridge Bay. These measurements revealed no evidence of resuspension in water depths of 25 m. It was therefore decided to abort the fourth anchor station in 40 m water.

On 9 September CTD and QUISSET stations were worked inside and nearby the Tyne plume. These were designed to examine the nature of the Tyne particulates and to assess the performance of QUISSET in relatively turbid waters. A transect of 5 U/Th geochemistry stations was then worked off Sunderland. This was followed by a return to the area of the Tyne plume where a CTD, Tetrapod and QUISSET station was worked during the period when the Tyne plume was evident to the north of the river (approx 8 hr). This experiment will provide useful information about one of the major sources of contaminants to the NE coastal area.

In the evening of 9 September, 1 tonne of mud was collected for Mr Lloyd, Burnham (aim 9).

On 11 September Corystes returned to the current meters off Whitby. Test Rig L was recovered and redeployed in a different configuration. During the period 11-12 September, 77 CTD stations were worked (aim 5).

Corystes docked in Lowestoft at 0830 h on 13 September.

RESULTS

1. Three anchor stations and one transect of five stations were sampled for water, suspended sediment and where possible bed sediment. These form part of a study of U/Th scavenging.

2. Three 25 h and one 8 h CTD Anchor stations were worked with the NBVR deployed on muddy sand.

3. Five QUISSETs were used to study particle settling behaviour. These devices incorporated design modifications based on experience gained on Corystes 4/88. Four sampling regimes were used: 1. sampling at slack water and peak tidal flow at anchor stations; 2. sampling at hourly intervals over a half tidal cycle; 3. sampling at different depths; and, 4. sampling the Tyne plume.

4. Aim 4 was discarded before the cruise as it would only be useful had a long-term tetrapod station been laid on Corystes 4/88.

5. 77 CTD stations were worked.

6. The current meter morrings E-M were serviced.

7. Moorings N-S were recovered.

7

8. The test at rig L was completed.

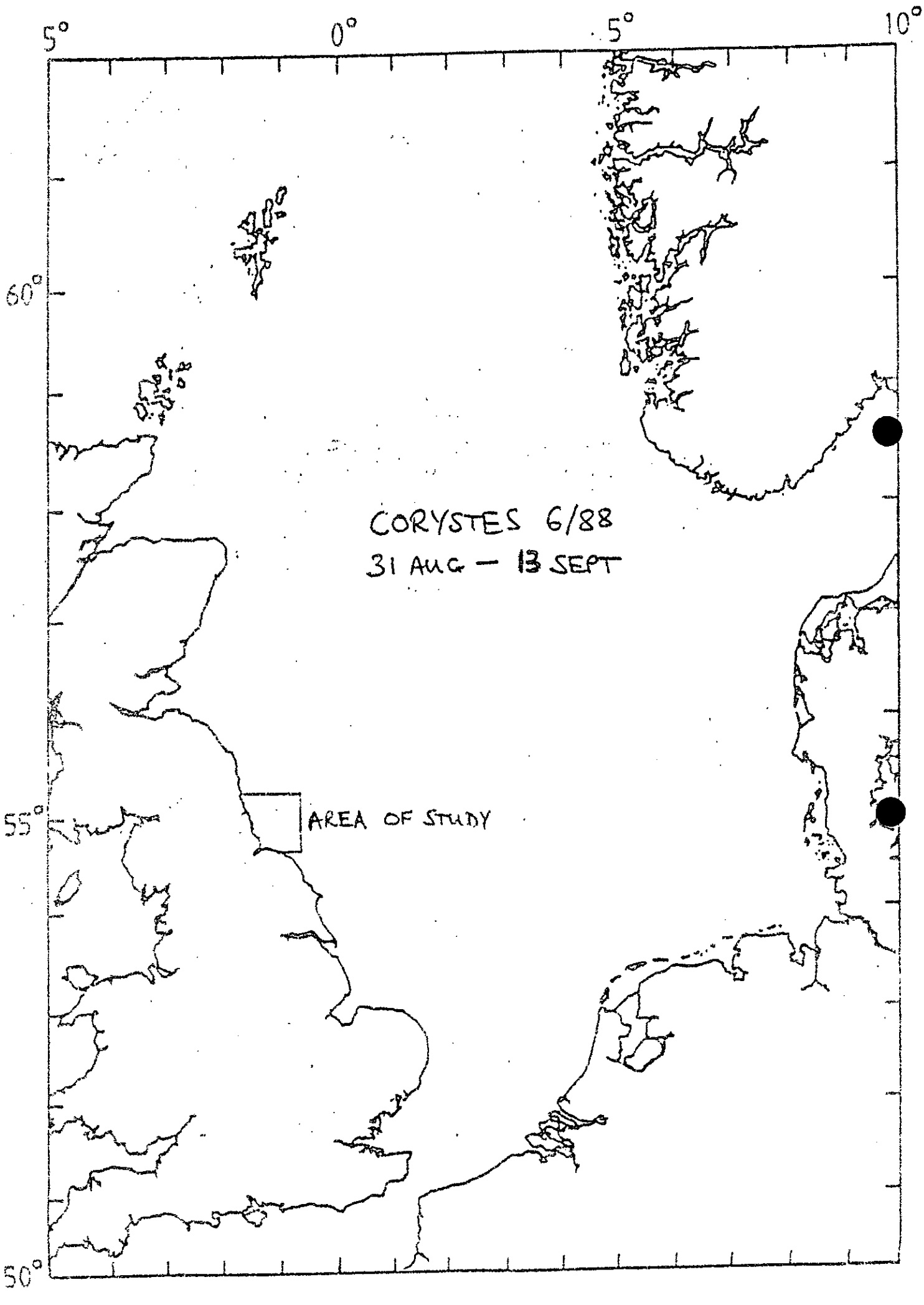
9. One tonne of mud was collected for Mr Lloyd (Burnham).

S M ROWLATT
21 September 1988

SEEN IN DRAFT J.R.F.
P.M.

INITIALLED

DISTRIBUTION
Basic List+
N D Pearson
J W Read
J M Rees
A Young
C Vincent
J Atherton


5°
0°
5°
10°
60°
55°
50°
CORYSTES 6/88
31 AUG – 13 SEPT
AREA OF STUDY