

CEFAS FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

2000 RESEARCH VESSEL PROGRAMME

REPORT

PROGRAMME: RV CORYSTES: CRUISE 1

STAFF

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DURATION

Left Lowestoft 0745h 19th January
Arrived Lowestoft 0000h 26th January
All times Greenwich Mean Time

LOCALITY

North Sea

AIMS

This was the first of a series of cruises planned to investigate the processes that influence productivity and the distribution and behaviour of suspended particulate matter and nutrients in the southern North Sea. The transport of nutrients and particulate matter from UK waters to the southern North Sea and European coastal zone is of especial interest

1. To deploy Smart buoy, mini-pod, ADCP and current meter moorings;
2. To collect water samples and CTD profiles;
3. To complete Scansfish surveys;
4. To deploy satellite tracked drifting buoys.

NARRATIVE

Corystes sailed at 0745h and headed for the central position of the planned array of moorings. Two free-drifting buoys, A3 and A4, were released en-route. The mini-pod, guard buoy and Smart buoy were successfully deployed by 1830h after first obtaining a CTD profile at the mooring position.

Further CTD profiles were collected overnight from a grid of ten positions, which included the sites to be occupied by the moored instruments. Deployment of the current meter moorings at sites F, E and G followed and was completed by 1554h 20th January. Whilst steaming towards site A it became apparent that a water-tight cap had not been fitted to the meter about to be deployed and the mooring was not laid.

A second CTD profile was obtained at a position close to the minipod and Smart buoy at 1800h. This profile was timed to coincide with the NAS sampling and data logging regimes of the Smart buoy and mini-pod instruments. The ADCP rigs were prepared and a section comprising six CTD and water sampling stations to the east of the moorings was worked overnight.

Heavy swell from the northwest prevented the planned deployment of the two ADCP moorings at B and D on the morning of 21st January, but a vessel-mounted ADCP transect of the mooring line to collect back-scatter data was completed by 1621h. Conditions moderated sufficiently for a further eight CTD/water sample stations to be worked overnight. With the forecast of further freshening winds suggesting that it was unlikely that conditions would be suitable for deploying the ADCP moorings a decision was made to steam for an area off Orfordness.

Five CTD/water sample stations were worked along a 30nm section by 1330h 22nd January, but the planned Scansfish survey along the same section was cancelled when a fault was found with the instrument's power supply. With a solution unlikely to be found in the short-term the two free-drifting buoys A5 and A6 were deployed and in very heavy swell *Corystes* left the area at 2101h for a planned Scansfish line off Texel. By 0400h 23rd January conditions had moderated sufficiently for CTD stations to be worked and near surface water samples collected on passage. With the Scansfish still not functioning correctly the 65nm Texel section was worked by nine CTD/water sampling stations, completed near midnight, and was immediately followed by a 135nm section running along 54° N to the NMMP station 345 (54° N, 2° E) and then to the Norfolk coast. After releasing the two drifting buoys A1 and A2 a CTD/water sample section crossing the Norfolk Banks and running from Winterton to the Smart Buoy position was completed soon after 0600h 25th January.

Corystes then sailed for the position of mooring D and both guard buoy and ADCP deployed by 0904h. After two further CTD/water sample stations along the line of moorings the second ADCP and guard buoy were deployed at mooring D. Upon completion of a final CTD station north of mooring D a second vessel-mounted ADCP section along the line of moorings was completed by 1539h.

Corystes subsequently headed for Lowestoft, taking further near-surface samples en-route, and docked at midnight.

RESULTS

1. The Smart buoy, mini-pod, two ADCP and three current meter moorings were successfully deployed. A missing LED cap on one of the meters prevented the deployment of mooring A.
2. Seventy CTD stations, with samples from near-surface, mid depth and near-bottom were worked. Thirty-five near-surface samples were also collected. Nutrient and chlorophyll analyses were completed during the cruise. Suspended load analysis will be completed later. Preliminary results suggest maximum values of nitrates at the Orfordness, Texel and the Norfolk coast sampling positions.

Three CTD/water sample stations at the central mooring offer calibration data for the sensors on the Smart buoy and mini-pod.

3. No Scanfish surveys were completed because of problems with the GMI sonde.
4. Six ARGOS satellite-tracked free-drifting buoys were deployed.
5. Two ADCP sections along the line of the moorings indicated a maximum in suspended particulate matter in the vicinity of mooring B.

The co-operation and assistance of the officers and crew of Corystes in ensuring that the aims of this cruise were achieved is gratefully acknowledged

K Medler
(S.I.C)

26/01/2000

SEEN IN DRAFT R Williams(Master)
R Graham (Fishing Skipper)

INITIALLED

DISTRIBUTION

Basic List +
K Medler
L Fernand
J Read
J Rees
D Denoon
A Reeve
D Sivyer
E Tinton
J Brown
S Malcolm
D Mills

CORYSTES 1/2000:

MOORING POSITIONS: A (not deployed);

E-current meter

F-current meter

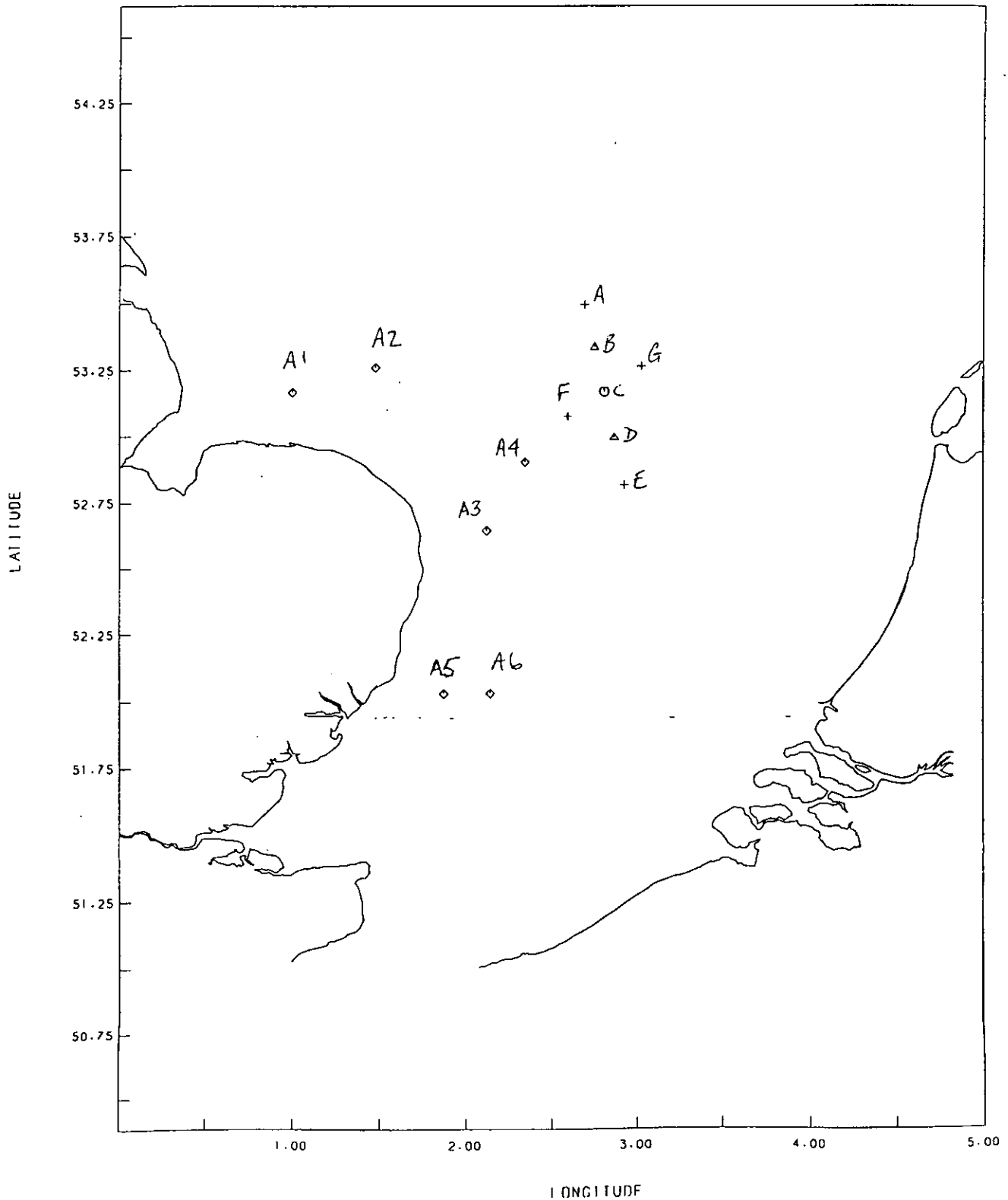
G-current meter

B-ADCP

D-ADCP

C-Smart buoy and mini-pod

DRIFTING BUOYS: A1, A2, A3, A4, A5, A6



CORYSTES 1/2000 WATER SAMPLE STATIONS

SHOWING :
STATION POSITION
COASTLINE

