

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK NR33 OHT, ENGLAND

1993 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 9/93

(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF: J W Read (SIC)
P Blowers
A Young
J Taylor
K Winpenny
R Goddard (PML)

DURATION: Sailed from Lowestoft 1030h 20.8.93.
Docked in Lowestoft 0400h 26.8.93.
(All times are Greenwich Mean Time)

LOCALITY: Wash, Humber, North Sea

AIMS

1. To identify and quantify the fate of river-borne nutrients entering the Wash and Humber estuary, examining nutrient distributions from the river inputs through to the North Sea. (AE00504A).
2. To measure environmental parameters relevant to phytoplankton growth and nutrient depletion. (AE00504A).
3. To take samples over a grid in the southern North Sea to improve knowledge of the seasonal signal in nutrients, particularly phosphate. (AE00503A).

NARRATIVE

RV CORYSTES sailed from Lowestoft on the morning tide on 20 August and proceeded to the start of the Southern North Sea Grid (JONUS site NS24). On arrival at this point at 1700 h the CTD winch could not be made to work, so after a delay of 20 mins it was decided to continue round the grid taking surface samples only. By 2145h, after completing 4 stations, the winch power supply had been fixed and a CTD cast was made at JONUS site NS20. This was the first use of the new FSI "UGOF" module which allows the power to the CTD to be maintained during rosette operation. On recovery it was found that it had not worked correctly, and as the job of re-arranging the wiring of the Rosette and CTD was complicated it was decided that this should wait until daylight and the four other CTD positions that night would be sampled at surface only. These and the 18 non JONUS positions on the surface "Phosphate Grid" were worked until 1224 hrs on 21st when the next CTD position (NS6A) was reached. The rewired rosette was successfully used for 13 stations around the rest of the North Sea JONUS grid, along with 13 surface only, during the rest of the 21st and the 22nd.

After anchoring overnight, the 28 stations of the Wash Grid were sampled between 0830 hrs and 2000 hrs on the 23rd August (19 CTD and 9 surface). The ship then dodged overnight towards the start of the Humber offshore grid (HOS24).

Between 0745 hrs and 2015 hrs on 24th August all 20 planned positions of the Humber Offshore Grid were sampled (13 CTD, 7 surface) the ship then steamed overnight northwards.

Sampling the East Coast Surface Grid was started at 0640 hrs 25th August and by 1350 hrs EC8 to EC2 had been sampled and the ship set course for Lowestoft docking at 0400 hrs 26th August.

RESULTS

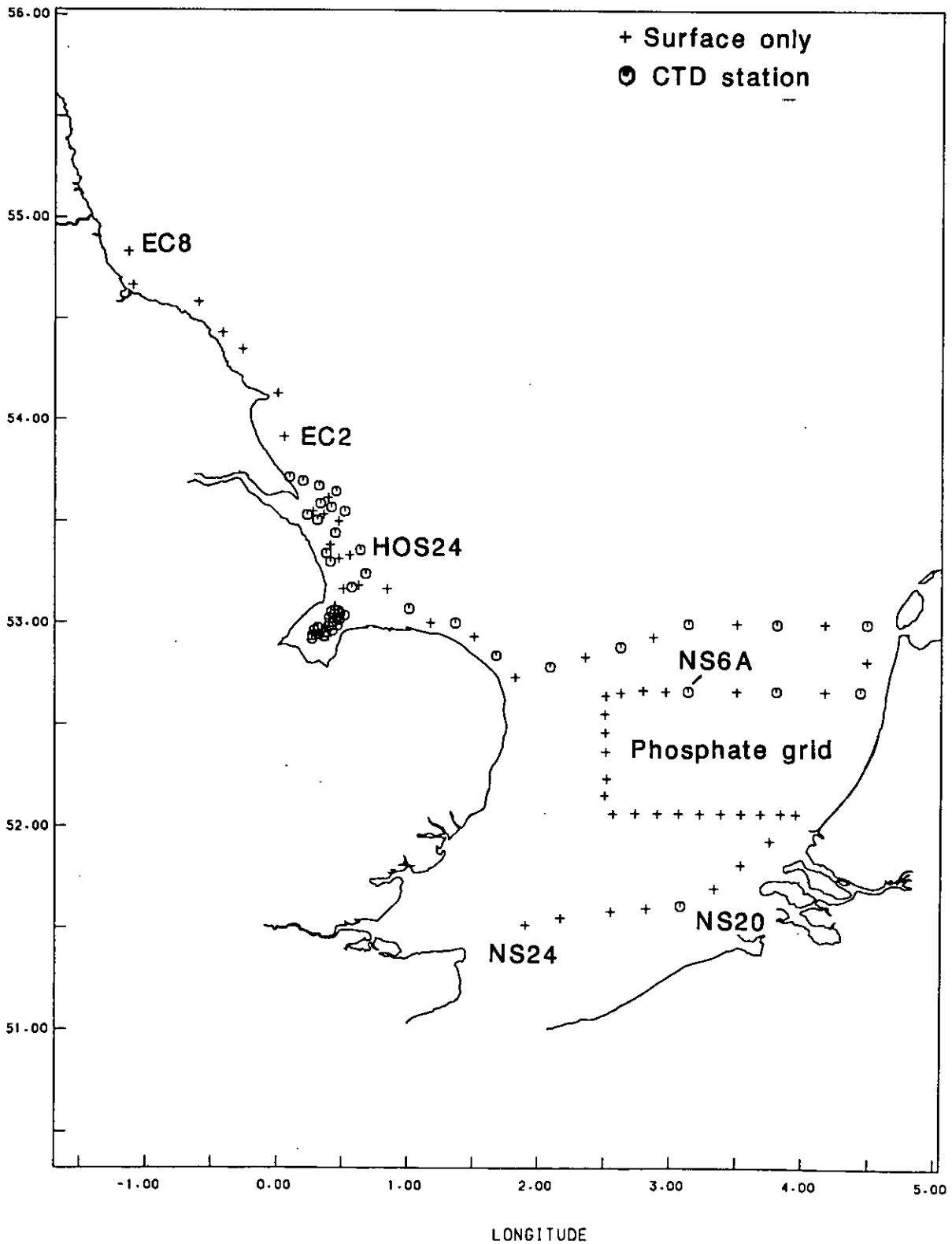
- Aims 1 and 2. The intensive Wash Grid and Humber Offshore Grid were successfully sampled. The more southern positions of the Southern North Sea Grid were sampled as "surface" only because of the problems with the CTD winch and "UGOF" module.
- Aim 3. Forty stations were completed (33 surface, 7 CTD) within the area of the "Phosphate Grid".

Notes

1. At the CTD stations, sampling was at 3-6m above the sea bed and 2-3m below the surface. At the "surface" stations, samples were deemed to be taken at 4m depth.
2. At 40 of the 46 CTD stations, top and bottom samples were taken for Methane (CH₄) determination. The planned Nitrous Oxide measurements were not done because of PML equipment failure.
3. All water samples were filtered for later determination of suspended load, chlorophyll and particulate carbon, nitrogen and phosphorus.
4. Total oxidised nitrogen, nitrite, phosphate and ammonia analyses were completed on all water samples. The silicate analyses were completed on return to Lowestoft.
5. All station data were input into the VAX LSDM system as the cruise proceeded, all functions appeared to work well, despite there being no experienced LSDM users on board.
6. A failure of the ADCP shortly before sailing prevented any current profiles being recorded.
7. Data files from the CTD computer were transferred to the VAX and also stored in compressed form on floppy discs.

J W Read
(Scientist in Charge)
20 October 1993

CORYSTES 9/93



SEEN IN DRAFT:

Master
Fishing Skipper

INITIALLED:

PGS

DISTRIBUTION:

Basic List +
J W Read (SIC)
P Blowers
A Young
J Taylor
K Winpenny
R Goddard (PML)