

CEFAS FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

2000 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES CRUISE 7

STAFF

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DURATION

Left Lowestoft 0830h 18th May
Arrived Lowestoft 1230 h 25th May
All times Greenwich Mean Time

LOCALITY

North Sea

AIMS

This was the fourth 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 service the Smart Buoy and mini-pod moorings deployed during March in the Sean Gas Field and at the Outer Gabbard;
2. To deploy ADCP and current meter moorings in the vicinity of the Sean Gas Field Smart Buoy;
3. To collect water samples and CTD profiles;
4. To complete Scanfish surveys;
5. To deploy satellite-tracked drifting buoys.

NARRATIVE

Corystes sailed at 0830h and after completing engine trials headed for the Outer Gabbard Smart Buoy mooring. Tidal currents were too strong to attempt recovery of the mooring at first arrival and water samples and CTD profiles were collected until tidal conditions eased. The Smart Buoy was recovered, serviced and re-deployed by 1903h. After collecting further calibration samples Corystes made for the position of the first UEA productivity station, UEA1, deploying two Argos satellite-drifting buoys, A5 and A6, en-route. Water samples were collected near 0430h 19th May for productivity, nutrient and particulate analyses. The three drifting buoys A1, A2 and A4 were deployed later that day as passage was made to the position of the Smart

Buoy and mini-pod site, C, in the Sean Gas Field. Following the collection of water samples for sensor calibration both were successfully recovered by 1537h. A problem with the deck crane prevented re-deployment but the opportunity was taken to collect further water samples at the mooring site, C, and to obtain calibration data for sensors fitted to current meters scheduled for deployment later during the cruise.

A second UEA productivity site, UEA2, was worked at 0334h the following morning. Having worked into the night the ship's engineers had repaired the damaged crane and both Smart Buoy and mini-pod were re-deployed by 0559h.

During the remaining daylight hours of 20th May, the current meter moorings A, G, E and F were deployed. Later that evening the two ADCP'S moorings were constructed, the instruments prepared and further calibration samples collected at the Smart Buoy location.

ADCP moorings B and D were deployed by 0821h 21st May, when Corystes made for the start of the planned Scanfish section along the line of moorings. This was completed at 2142h 21st May when course was set for the UEA productivity site, UEA3, completed at 0343h 22nd May. A second Scanfish section, off Texel, was completed at 1603h and a third, off Terschelling, completed at 0115h 23rd May. After collecting water samples shortly after dawn at site UEA4 Corystes steamed to the position of the fourth Scanfish line. This section began at 1139h and was completed at 2155h in near-gale force conditions. In heavy seas Corystes sailed overnight for the position of the final Argos drifter, A3, and this was deployed at 0634h 24th May.

Weather conditions had much improved and a fifth Scanfish section was made along latitude 52° 18' N. Water samples and CTD profiles were collected along the line of the section during the return passage. Work ceased shortly after 0400h 25th May and Corystes headed for Lowestoft, docking at 1230h.

RESULTS

1. Two Smart buoys and a mini-pod were successfully recovered. An initial assessment suggests good mini-pod data for the entire deployment duration. Damage to the mini-pod frame observed when the mooring was recovered may have been sustained during recovery. Both Smart buoy data loggers functioned throughout their deployments and both water samplers collected 50 samples as programmed. The NAS nitrate analysers were still functioning at both sites, yielding a data return of about 50% at the Outer Gabbard mooring (H) and about 90% at mooring C. A time series from the nitrate analyser (NAS) at mooring C is attached - provisional results before calibrations applied.
2. Two Smart buoys, a mini-pod, two ADCP and four current meter moorings were successfully deployed.
3. Six ARGOS satellite-tracked free-drifting buoys were deployed.

4. Water samples were collected near dawn at four sites for productivity analysis by UEA. Poor weather conditions prevented samples being collected at a fifth site.

5. Five Scanfish sections totalling 640km were completed. Near surface water samples for salinity, nutrient and chlorophyll analyses were collected every 30 minutes during the sections.
A provisional analysis of the section through the mooring line is attached.

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)

25/05/2000

SEEN IN DRAFT A Reading(Master)
B Salter (Fishing Skipper)

INITIALLED

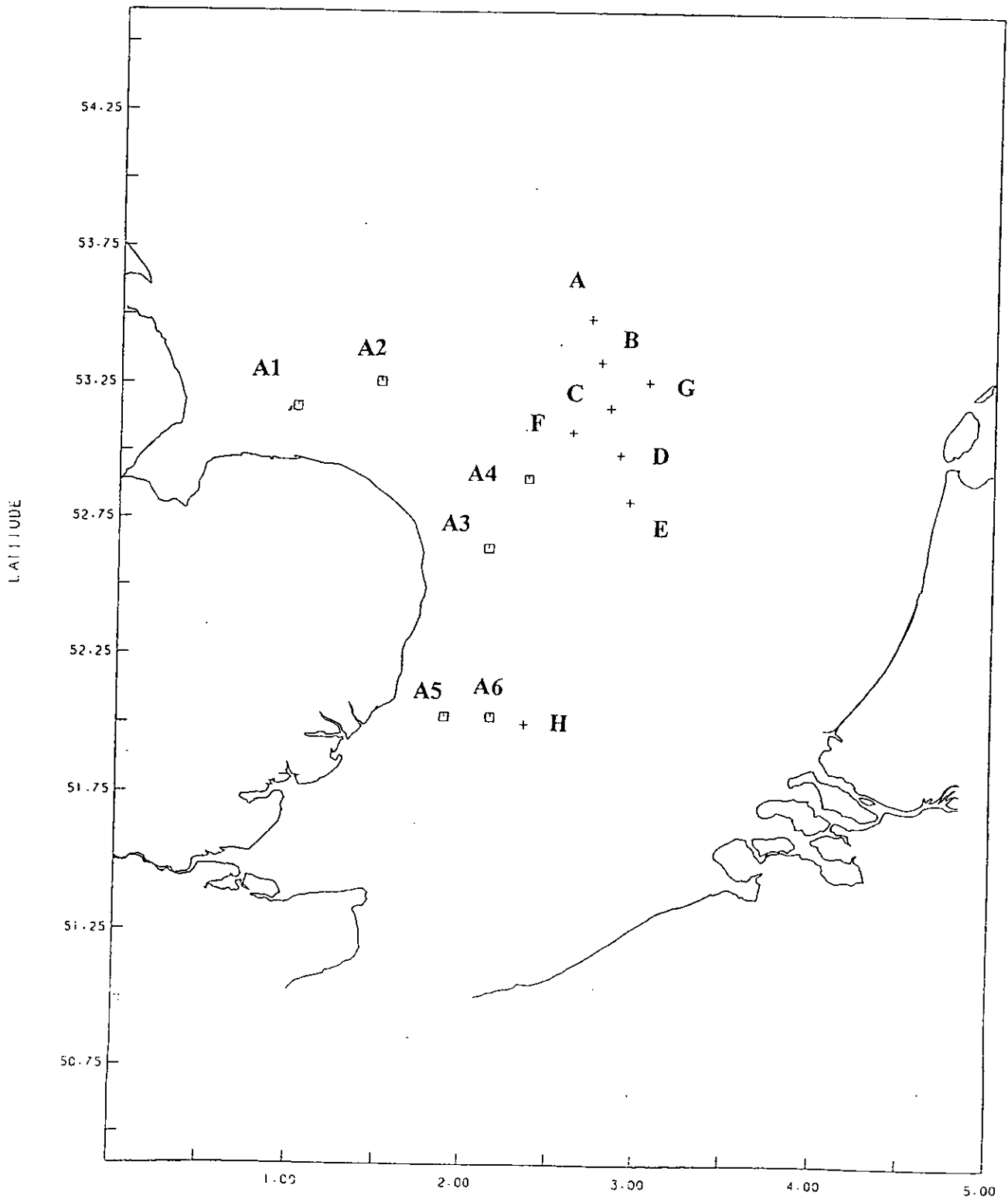
DISTRIBUTION

Basic List +
K Medler
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MOORING POSITIONS: A-current meter
B-ADCP
C-Smart Buoy and mini-pod
D-ADCP
E-current meter
F-current meter
G-current meter
H-Smart Buoy

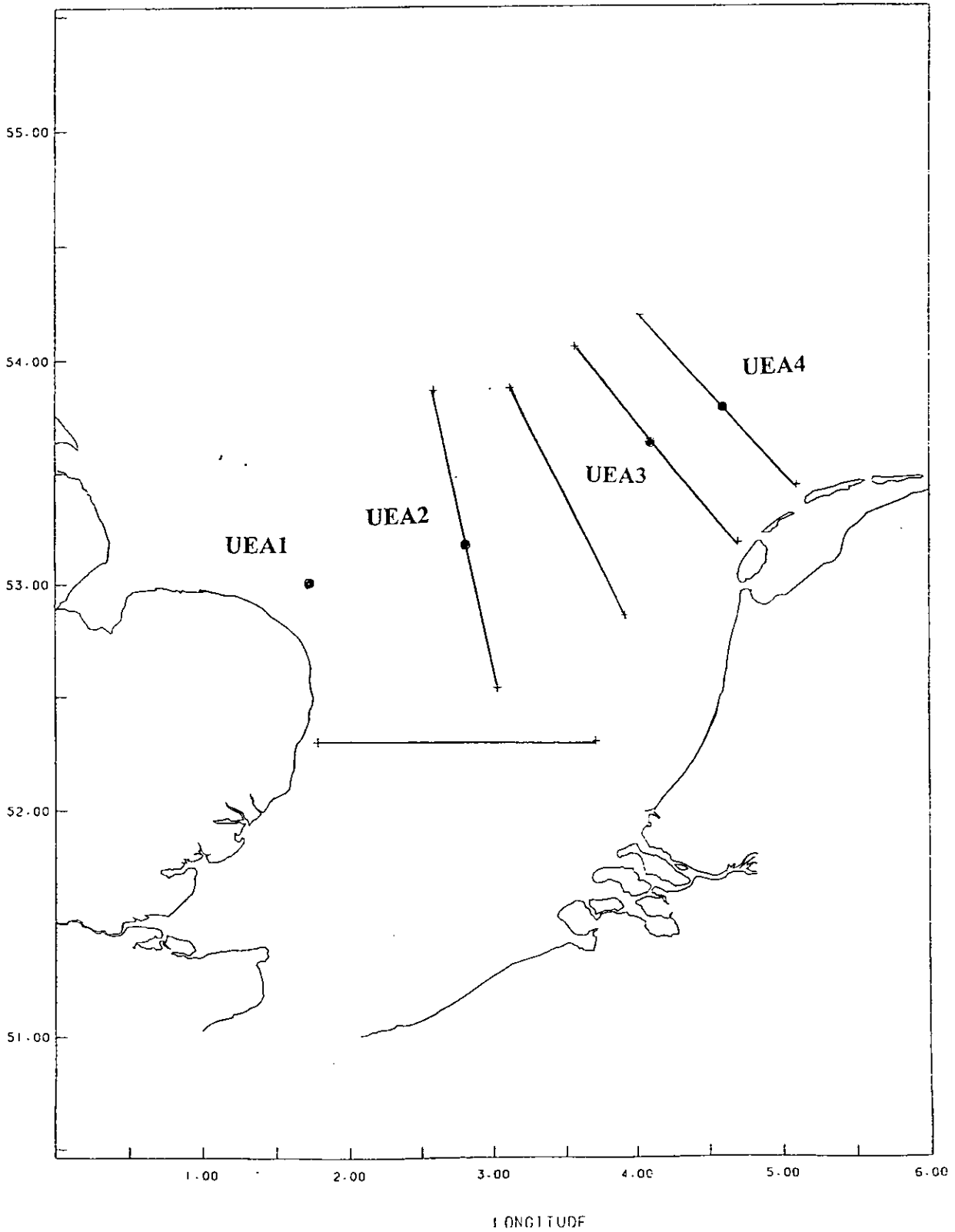
DRIFTING BUOYS: A1, A2, A3, A4, A5, A6



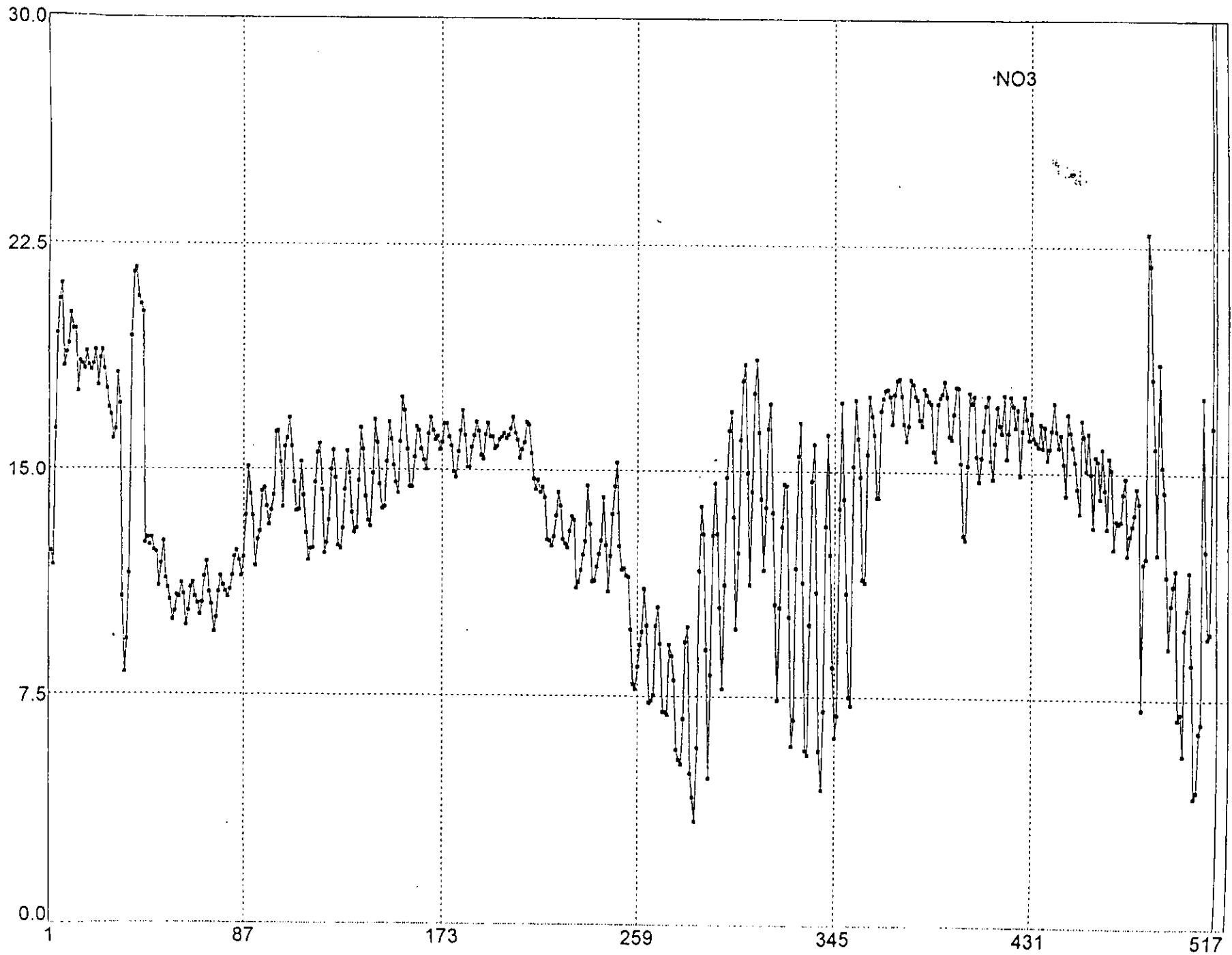
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Scanfish sections: _____

UEA Productivity sites: UEA1, UEA2, UEA3, UEA4



A1221 NAS data 27/3/00 - 19/5/00



Density Sigma-t Leg 67 along line of moorings

