

CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE,
LOWESTOFT, SUFFOLK, ENGLAND

DRAFT 2004 RESEARCH VESSEL PROGRAMME

Cruise Report : RV CORYSTES: CRUISE 13/04

STAFF:

| | |
|--------------------|--------------------------------|
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UEA (University of East Anglia)

DURATION: Tuesday 31st August – Saturday 4th Sep

Sailed 10:00 BST (HW 09:49 GMT)

Docked Time 12:00 BST on 4th (HW 1232 GMT)

LOCALITY: Central North Sea, Dogger Bank region

AIMS:

The project is generally aimed at achieving a better understanding of the dynamics of the circulation processes of the seas around the UK. In order to characterise the extent and nature of density driven and seasonal jet-like circulation which acts as a direct and rapid pathway for transport of material.

This cruise and the Endeavour 12/04 and 14/04 cruises are targeted to describe the gradual (September – December) alteration of pathways as frontal regions move and revert to the fully mixed and largely wind driven winter regime. The chosen area of interest is the Northern flank of the Dogger Bank along a line that was previously visited in June and August 1999,2000 and in 2001.

The structure of the mixing in the bottom region, and for comparisons with models a thermistor chain and ADCPS will be deployed for the period between the cruises, this will enable the exact timing and nature of breakdown to be identified. As well as the thermohaline structure the phytoplankton structure and nutrient uptake will be investigated. With regular samples taken for Isotope analysis.

Main Sampling aims :

1. To characterise the hydrographic structure associated with the frontal regions and investigate the transport pathways. By use of towed undulating CTDs
2. Deploy ARGOS drifting buoys to quantify the Lagrangian circulation
3. Deploy Mooring (ADCP and thermistor chain) to study the mixing processes in the transitional region.
4. Conduct experiments for phytoplankton production both by Nitrogen uptake method and by Carbon14 labelling. *(This was not conducted as permission was not obtained for licence despite many months notice).*

5. Take samples for Isotope analysis

Cruise Narrative;

RV CORYSTES sail at 1000 31st August and proceeded through unpleasant Seas to the Dogger Bank commencing a CTD cast for productivity measurements and subsequent scanfish section from 54° 58.0' N 2° 46.0 W to 56° 01.0' N 2° 4.0 W. Further high resolution CTD stations for nutrients were undertaken overnight with a near Dawn CTD on the Thursday. Two moorings of ADCP landaus and thermistor chains were deployed. An argos buoy was deployed near the start of a subsequent scanfish line and four more buoys deployed subsequently with more CTDs being undertaken, with a further CTD for productivity being undertaken at Dawn. AT 0600 Corystes departed to recover the lost Smart buoy in the area of the deep water anchorage off Rotterdam. Stopping in the Silver Pit to conduct some trial dips of the FSI CTDS. On recovery of the smart buoy, Corystes departed to dock at 1200 on the 4th in Lowestoft. All primary aims of the cruise were completed, however the working time in the area was reduced by 12 hours to recover the smart buoy.

Liam Fernand
(Scientist-in-Charge)
4 September 2004

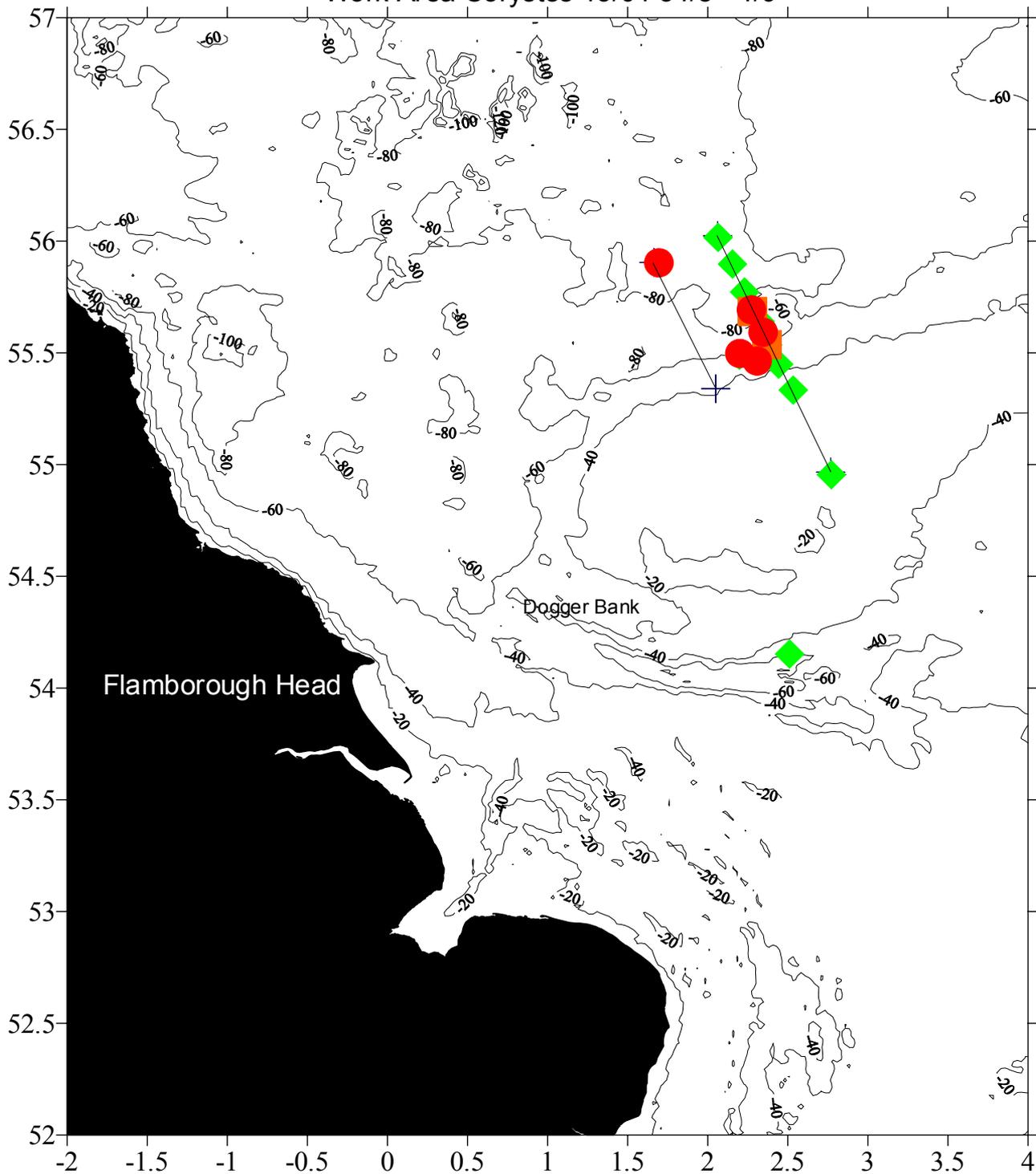
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Dr Keith Weston UEA

DRP Leonard (DEFRA, London)

Work Area Corystes 13/04 31/8 - 4/9



Detail of work area

