

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

DRAFT 2004 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV Endeavour: CRUISE 12

STAFF:

|                    |                                 |
|--------------------|---------------------------------|
| Dr Liam Fernand    | Mr Paul Hudson                  |
| Dr Naomi Greenwood | Mr Suihaimi bin Suratnam (UEA)  |
| Mr Paul McCloghrie | Gualtiero Badin (Liverpool Uni) |
| Mr Neil Needham    | Louise Loder (UWB)              |
| Ms Olga Andres     | Mr Marc Childs                  |
|                    |                                 |

DURATION: Thursday 30th September – Saturday 9<sup>th</sup> Oct

Approx Sailing Time 10:00 BST (HW 10:05 GMT)

Approx Docking Time 06:00 BST on 4<sup>th</sup> (HW 0402 GMT)

LOCALITY: Central North Sea, Dogger Bank region and Oyster grounds

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 previous *Corystes* 13/04 and following *Endeavour* 14/04 cruises are targeted to describe the gradual (September – November) 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 phyto plankton structure and nutrient uptake will be investigated. With regular samples taken for Isotope analysis.

Oxygen measurements will also be undertaken in the Oyster grounds region.

The main sampling aims of the cruise are:

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 bouys to quantify the Lagrangian circulation
3. Recover and redeploy Mooring (ADCP and thermistor chain) to study the mixing processes in the transitional region.
4. Conduct experiments for phyto plankton production both by Nitrogen uptake method and by Carbon14 labelling.

5. Take samples for Isotope analysis

PLAN (all times GMT):

RV CORYSTES will sail at approximately 0900 29th August and proceed to work in the Oyster ground region, commencing a scanfish section to the south west of the region from 53° 20.0' N 3° 55.0' W to 54° 14.21' N 3° 22.0' W, thence sampling for Phyto Plankton, and oxygen measurements before further scanfish lines to the North of the Dogger Bank. Retrieval and redeployment of moorings and further sampling in the region will be undertaken as appropriate.

Corystes will return to Lowestoft for the morning tide on the 8<sup>th</sup>.

Liam Fernand  
(Scientist-in-Charge)  
2 August 2004

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