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

1987 RESEARCH VESSEL PROGRAMME

PROGRAMME: RV ~~CIROLANA~~: CRUISE 6a

REPORT **CIROLANA.**

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

STAFF:

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DURATION:

Sailed from Lowestoft 0330h 19 June 1987

Docked at Falmouth 0830h 7 July 1987

All times are Greenwich Mean Time

LOCATION:

North Atlantic

AIMS:

1. To recover four moorings from the lower continental slope west of Porcupine Bank
2. To recover NEADS 6 and undertake a CTD station and PDR survey of the area.
3. To recover two trial current meter moorings from the East Greenland slope.
4. To lay eight current meter moorings along a line from 62°53.7'N 35°51.5'W to 63°25.8'N 36°34.2'W.
5. To work a CTD/hydrochemistry section along the line of eight moorings and to collect water for Caesium and Plutonium determination.
6. To deploy XBTs on steaming legs west of 20°W.
7. To recover three ALSs from the Iberian Abyssal plain region.

NARRATIVE:

After sailing, the new EM log probe was calibrated over the measured mile off Lowestoft before RV Cirolana proceeded down the Channel to recover the southern most of the four slope moorings off Porcupine Bank. The new CTD cable was streamed on passage to the northern group of three slope moorings which were then recovered. A trial CTD dip was undertaken to ensure all systems were functioning correctly. The final deployment of NEADS 6 was recovered and a full depth CTD station worked at the location in addition to the bathymetric survey through some of the positions of the array of moorings deployed in 1985.

At two hourly intervals XBTs were launched on passage to recover the two MAFF trial moorings deployed by the German research vessel 'Walter Herwig' in September 1986. A line of eight current meter moorings was then laid and CTD stations worked mid-way between the mooring positions. Water samples were collected for nutrient determinations at all stations. At two stations, water for depth profiles of Caesium was collected as well as surface water samples for plutonium determinations. Two of the seven planned CTD stations furthest off shore from Greenland were abandoned because of the deteriorating weather conditions.

XBTs were fired on passage to the first of the three ALS positions around the Iberian Abyssal Plain. On arrival, the acoustic release did not respond so a box search of the area was undertaken but without success. An attempt was made to locate the glass buoyancy spheres using the ship's sonar but also without success. A CTD station was also worked and a large volume surface water sample taken. The two remaining ALSs were successfully recovered, and the rise to the surface of one of these was tracked using the ship's sonar. It was noticed on the previous CTD station that the temperature and salinity showed larger than normal variations so a further CTD station was worked to provide diagnostic information.

RV Cirolana then steamed to Falmouth and docked on 7 July.

RESULTS:

1. All the 1986 current meter deployments were successfully recovered with full data tapes and initial translations show a greater than 95% good data return.
2. A bathymetric survey and CTD station were worked in the NEADS 6 area to provide supporting information for the rise dynamics study.
3. Eight moorings were laid down the continental slope east of Greenland along the line 62°53.7'N 35°51.5'W to 63°25.8'N 36°34.2'W.
4. Five CTD stations, a bathymetric survey, surface water samples for plutonium and deep samples for caesium were worked along the line of the East Greenland moorings. Nutrient and oxygen determinations were completed after extensive investigations had been made into the method for phosphate determination following a recent paper which cast doubt on the method. The paper's findings could not be reproduced.
5. XBTs were deployed at two hourly intervals on the long steaming legs.
6. Two of the three ALSs, deployed by the Deacon Laboratory, Wormley, were recovered.
7. Most of the CTD backup tapes from Cirolana 6/86 were retranslated to make the data computer accessible.

P A Gurbutt
(Scientist-inCharge)
7 July 1987

SEEN IN DRAFT: M Willcock (Master)
W May (Fishing Skipper)

INITIALLED: H W H

DISTRIBUTION:

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