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RRS "FREDERICK RUSSELL" - CRUISE 12/84 - 10-19 JULY 1984

Cruise Report

1. Participants

A.G. Davies	MBA, Plymouth (Principal Scientist)
P.M. Holligan	" " (until 15.7.84)
R. Longmore	" " (from 15.7.84)
Linda Mavin	" "
Jill Sleep	" "
R. Powell	RVS, Barry
G. Dixon	University College of Swansea
Alenka Malej	Marine Research and Training Centre, Piran, Yugoslavia
Christiane Videau	University of Western Brittany, Brest, France

2. Itinerary

The attached chart shows the ship's track and principal stations occupied. These stations were:

	N	W
M	49°23'	3°20'
F84a	49°20'	4°40'
F84b	49°36'	4°55'
E5	49°06'	6°30'

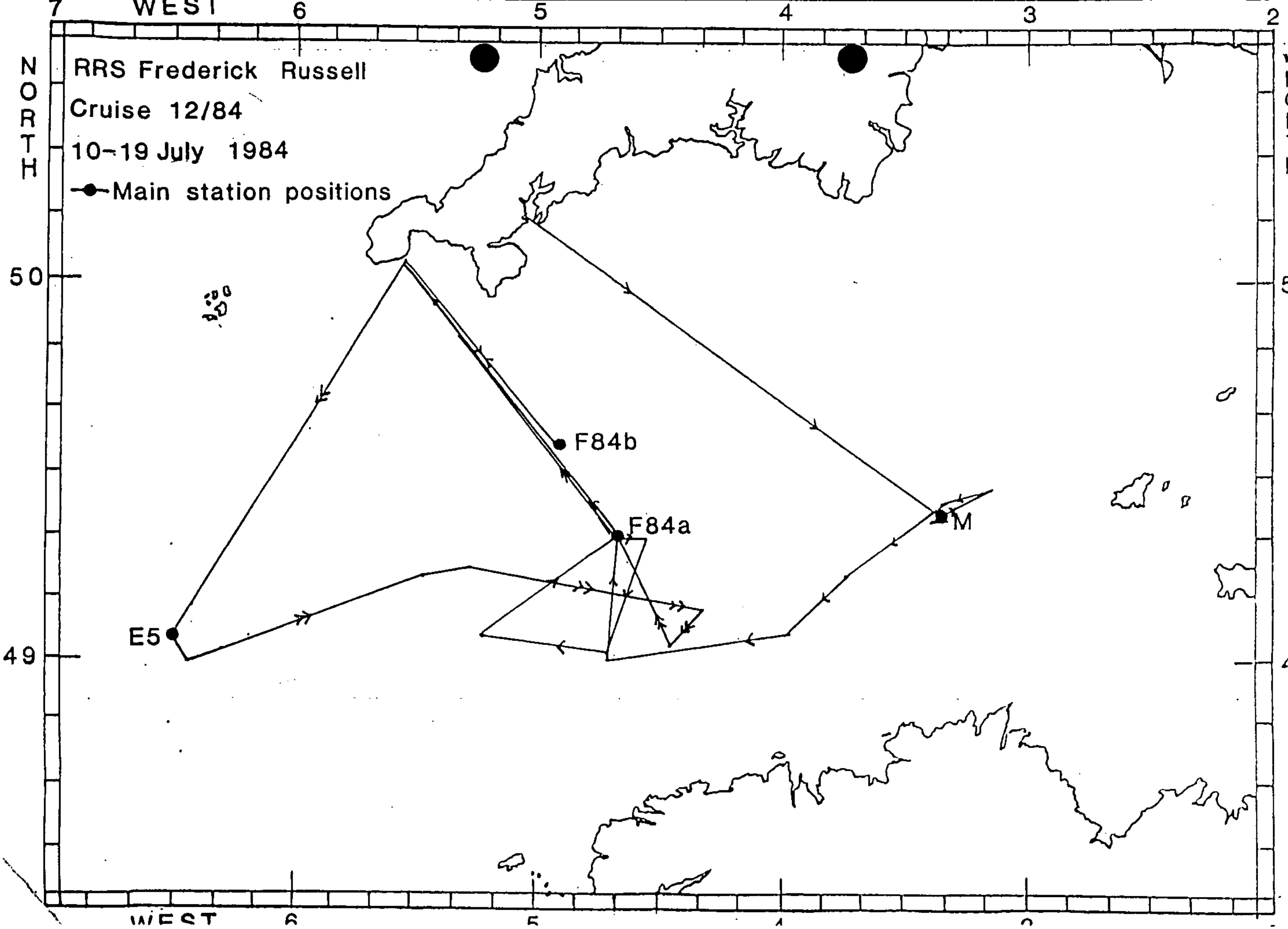
The ship left Falmouth at 1800 on 10 July. It was necessary to return to Mounts Bay on 13 July to shelter from a storm, and a transfer of personnel took place at 0600 on 15 July off Newlyn. Because the ship was unable to dock at Falmouth on its return, most of the participants were taken ashore at Newlyn at 0800 on 19 July. R. Longmore and R. Powell accompanied by R. Head (MBA), however, travelled with the ship to Dunstaffnage where the scientific gear was off-loaded.

3. Work carried out

a. Hydrography Measurements of temperature, salinity, nitrate, nitrite, chlorophyll fluorescence and surface irradiance were made continuously while the ship was steaming, and on station, water column profiles were determined using both a pumping system and the Neil Brown CTD/fluorometer system. Vertical light profiles were also measured in conjunction with productivity studies. Water samples for experimental purposes were collected using water bottles on the hydrographic wire and on the rosette system attached to the CTD probe. Levels of ammonium and phosphate were usually measured in these water samples.

b. Phytoplankton Studies of phytoplankton productivity were made using a simulated in situ deck incubation technique and the effects of nutrient enrichments upon the population present at each station were examined. Phytoplankton samples were fixed with Lugol's iodine for later identification and enumeration and other samples were filtered for CHN and chlorophyll determinations.

c. Zooplankton Samples of zooplankton collected at various times at each station using a Bongo-net were used to determine ammonium excretion rates.


RRS Frederick Russell
Cruise 12/84
10-19 July 1984
Main station positions
F84b
F84a
M
E5
WEST
NORTH
7
6
5
4
3
2
50
49

Cruise Report of Proceedings

Ship RRS Frederick Russell Cruise No 12/84

Cruise Dates (Inclusive, port to port) 10-19 July 1984

It is requested that the following aspects of the cruise may be covered in this report of proceedings for dispatch or delivery to the Director, Research Vessel Base, immediately on return to port.

a) Main objectives of the cruise.
b) Geographical area. Reference stations or points in latitude and longitude.
c) Sea and weather conditions encountered.
d) Conduct of cruise, main problems encountered and success or otherwise of the program
e) Equipment performance.
f) Ship performance.
g) Any recommendations.
h) Signature and date.

Brief comments are preferred but if necessary please continue on another sheet.

a) To study primary production, the nutrient status of the phytoplankton and zooplankton excretion in the waters of the English Channel and Western Approaches.

b) 47°-51°N, 2°-12°W.

Stations occupied

	N	W
M	49°23'	3°20'
F84a	49°05'	5°05'
F84b	49°36'	4°55'
E5	49°06'	6°30'

c) 10-13 July Sea: Moderate Weather: Moderate
13-14 July 22 h lost sheltering from storm in Mounts Bay
14-19 July Sea: Slight Weather: Good

d) Few problems encountered except for non-function of Clean lab. fume cupboard and interruption of the non-toxic sea water supply. Most of the planned research programme was carried out.

e) There were no major problems with equipment except for a lack of certain items in the kit of water bottle spares. We were particularly impressed by the performance of the Neil Brown CTD system and its associated water bottles.

f) The ship proved again to be a very satisfactory working platform though the clean laboratory was showing signs of misuse and neglect.

g) (i) The opening and closing of the Constant Temperature Laboratory door remains difficult especially if, as is usually the case, one is carrying something. A new method is required.

(ii) The fan-belt drive to the extractor for the fume cupboard should be checked regularly for wear and spare fan-belts kept on board.

(iii) The water bottle spares kit should be checked regularly.

(iv) The grill covering the non-toxic sea water intake is very prone to blockage. Its design should be improved.

A.J. Davies
10 October 1984
(with apologies for late delivery)