

R.V. FRANKLIN

NATIONAL FACILITY
OCEANOGRAPHIC RESEARCH VESSEL

CRUISE SUMMARY

R.V. 'FRANKLIN'

FR 5/86

For further information contact

ORV Operations Manager
c/- CSIRO Division of Oceanography
GPO Box 1538, Hobart, Tas. 7001
Telephone (002) 20 6222
Telex AA 57182



R.V. FRANKLIN IS OWNED AND OPERATED BY CSIRO

Cruise Summary

RV Franklin

Cruise FR5/86

Scientific Program

1. Benthic, demersal and mesopelagic communities of south-eastern Australian continental slopes.
2. Pilot study of circulation in the Tasman Sea.
3. Geomagnetic deep sounding of the ocean-continent transition zone.

Principal Investigators

G. Poore (Chief Scientist), Museum of Victoria
L. Hammond, Victorian Institute of Marine Sciences
W. Muntz, Monash University
G. Meyers, CSIRO Division of Oceanography
A. White, Flinders University

Itinerary

Departed Sydney	1000	14.7.86
Arrived Hobart	1000	28.7.86

Cruise Objectives Achieved

1. Collected benthic, demersal and mesopelagic invertebrates from three transects across the continental slope off southern New South Wales and Tasmania.
2. Deployed current meter moorings at two sites 400km apart in the Tasman Sea.
3. Deployed recording magnetometer packages at four sites across the continental slope off New South Wales.

Cruise Track

See Figure 1.

Chief Scientist's Report

The continental slope of south-eastern Australia is an unknown environment and attempts to sample it are bound to turn up problems not previously anticipated. In spite of this the Museum of Victoria cruise was by and large successful. Samples were taken from all three of the transects planned and from an additional area as well.

Of the 49 samples taken between 200 and 2000m, 24 were taken with an epibenthic sled, 6 with a try-net and 19 with a mid-water RMT net.

The RMT net is well-trying equipment and was operated successfully from the vessel. Being a mid-water sampler, some problem was experienced in not being able to fish at known depths. There is a clear need for the ship to carry some form of net sounder, to give distance of the gear from the bottom or top of the water. The pinger which we attempted to use did not give meaningful results on the sounder and is unlikely to meet the requirements of any towed gear.

The small try-net which had been used successfully from trawlers in Bass Strait was not as useful at greater depths. Two nets were lost when they hooked up on the rough bottom. On another occasion the net wrapped around the cable and ruined about 1300m of wire. There is a real need for trawl sampling for small fishes at these depths and the Franklin could meet this need. A more substantial net operating from paired warps would be ideal. The need would be for a double winch.

The epibenthic sled worked well at depths down to 800m but was disappointing at greater depths. An attached sounder to aid in calculating cable length would be helpful. There was always the problem of hooking up, realised on several occasions, which cannot be predicted.

Facilities on deck for processing samples were excellent if a little crowded in the early stages of the cruise. Some thought might be given to providing some shelter for those working for long periods outside; we were lucky with weather and there was really no need during this cruise.

Overall the vessel was ideal for the work attempted and the crew most helpful. Our work did not put heavy reliance on the ship's electronics but the failure of the sat-nav relay to the operations room was mildly frustrating. In as far as this was an exploratory cruise it can be counted a success. Considerable new and interesting material from environments not previously studied was obtained. I take this opportunity to thank the Steering Committee and CSIRO for making the vessel available to us and to thank the master and crew for their co-operation.

Cruise Manager's Report

This cruise was predominantly a benthic biology sampling program confined to three major cross-shelf transects, one off Jervis Bay, one off Cape Howe, and one off Maria Island. Most of the equipment which was required for this work functioned satisfactorily, but the instrumented block on the A-frame did not register wire tension. The try-net sampling resulted in the loss of 1200m of towing wire due probably to the net fouling the trawl swivel, causing the wire to wind up and kink severely. Despite these problems we had a reasonably successful cruise.

We left Sydney low on fuel due to an industrial dispute which interrupted supply, so on 21.9.86 we called into Eden for 5 hours where we took on additional fuel. This did not significantly affect our program.

The second program, deep sea magnetic recorder deployment, was carried out without any problems in ideal weather conditions.

The third program, deployment of two deep sea current meter moorings was also quite straight forward, although there is still no safety-release hook for handling the anchor weights (railway wheels).

The main area where problems occurred was in the computer management of routine logging of navigational, meteorological and thermo-salinograph data. The software to do these tasks proved unreliable.


The thermo-salinograph display functioned error free for most of the cruise, but a separate problem of air bubbles in the intake line rendered much of this data useless. The major difficulty with handling the T-S, nav and met data was that the tape archiving program, MTSPOL, was not connected to a terminal which could ask for a new tape. After suspecting that the disk might be full, we attempted to offer MTSPOL a new tape, which was never accepted by the program, and this error put a stop to all data logging for the last few days of the cruise.

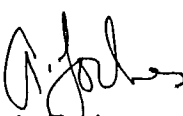
For a couple of days there was no meteorological display. We spent many hours examining the hardware from the sensors to the data lines, but it eventually transpired that the line from the Rimco deck unit was plugged into the wrong port of the micro-11.

Near the end of the cruise, we had the opportunity to do two CTD casts. The first cast went routinely, but when the underwater unit was changed for the second cast, this caused a hang-up in the processing for real time display and printed listings. At the time, we did not appreciate that changing underwater units requires some set-up parameters to be altered in the master file. Details of this procedure are in the CTD computing manual.

Personnel

G. Poore (Chief Scientist)	Museum of Victoria
C. Lu	Museum of Victoria
M. Gomon	Museum of Victoria
L. Hammond	VIMS
W. Muntz	Monash University
G. Meyers	CSIRO Div. Oceanography
F. Boland	CSIRO Div. Oceanography
A. White	Flinders University
B. Perkins	Flinders University
R. Kellet	Australian National University
A. Forbes (Cruise Manager)	CSIRO Div. Oceanography
D. Edwards	CSIRO Div. Oceanography


for G. Poore
(Chief Scientist)


A. Forbes 8.10.86
(Cruise Manager)

DEPTH IN METRES

