

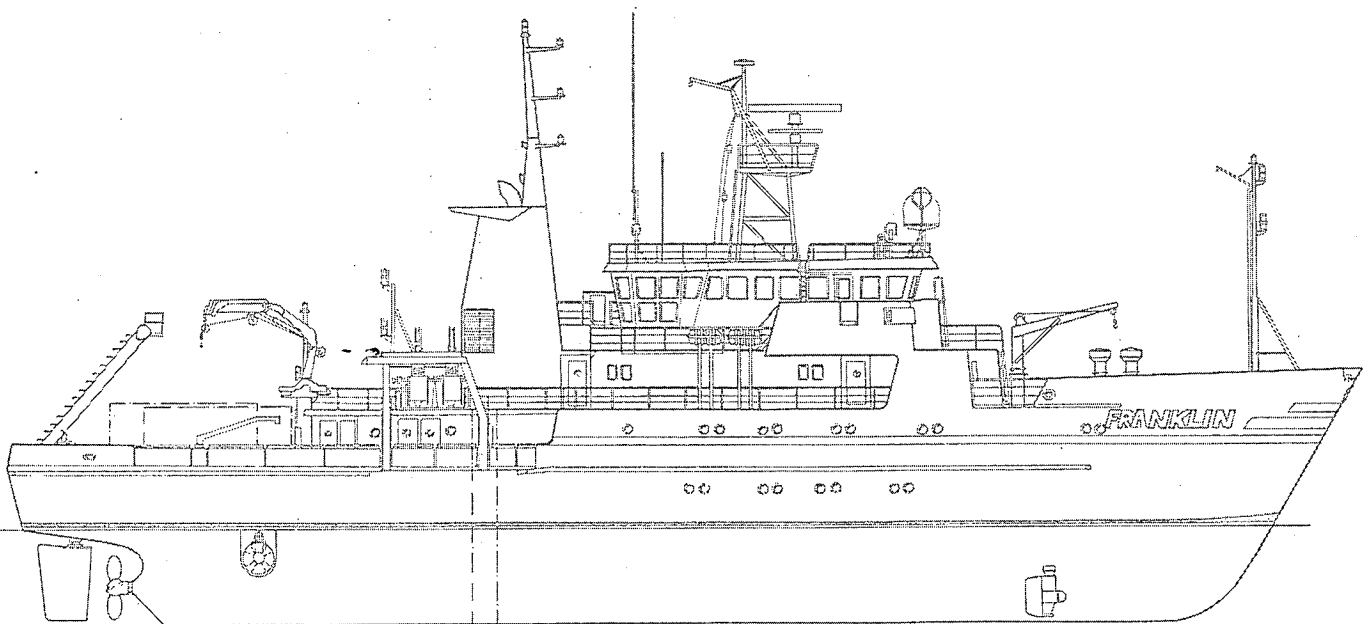
R.V. FRANKLIN

NATIONAL FACILITY OCEANOGRAPHIC RESEARCH VESSEL

CRUISE PLAN

R.V. 'FRANKLIN'

FR 3/86



For further information contact

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R.V. FRANKLIN IS OWNED AND OPERATED BY CSIRO

DJV/BB

4 April 1986

CRUISE PLAN
RV 'FRANKLIN'
FR 3/86

Itinerary

Depart Townsville	0800	Monday	5	May 1986
Arrive Townsville	1200	Sunday	18	May 1986

Scientific Program

The deep bottom fauna of the Barrier Reef Shelf and adjacent Coral Sea.

Principal Investigators

Prof. M. Pichon
Dr P. Arnold
Mr A. Birtles

Dept of Marine Biology
James Cook University
Townsville, Qld 4811

Cruise Objectives

There exists an enormous gap in our basic knowledge of the fauna, communities and potential living resources of the seabed beyond the continental shelf. The present project is aimed at partially filling such a gap, by a qualitative and quantitative study of the deep sea fauna, and of the bathyal benthic assemblages.

The approach is therefore from several standpoints:

- taxonomic; leading to inventory of the deep sea bottom fauna of the bathyal and upper abyssal environment
- ecological; including a study of depth distribution, and depth range of deep sea benthic organisms, of their relationship with the sediment, their feeding ethologies, their interspecific relationship and the definition and mapping of the main communities/assemblages

- zoogeographical; leading to comparison of the Western Coral Sea Bottom Fauna with results obtained in other deep sea regions

Cruise Track

Proposed cruise track is given on the chart attached. Reefs will be cleared through the "Magnetic Passage" (chart BA2349), thence proceeding in an easterly direction to reach station 1 (lat. 18°0.5'S, long. 147°34.5'E), at a depth of 1000 m. "Deep" stations are located along a succession of East-West and North-South lines (except South East of the Flinders Reef Complex (see chart AUS 612) and spaced at intervals of approximately 5 naut. miles (stations 1-41 to be completed in ca. 9 days).

The continental slope will be investigated by sampling conducted along 5 transects, at depths of 900, 800, 700, 600, 500, 400, 300 and 200 m on each slope transect (stations 42-78 to be completed in ca. 5 days).

Sampling stations have been selected taking into account the following elements:

- equal importance given to slope stations (40) and deep sea or trough stations (41)
- within each of these two sectors, regular spread of the stations depth
- opportunity to compare between "continental slope" and the western rise or escarpment of the Queensland Plateau (except differences between predominantly terrigenous and organogenic sedimentary regimes, respectively).

NOTE: "Slope stations" refers to stations between zero and 900 m deep. "Deep" stations refers to stations deeper than 1000 m.

ORV Equipment

Inmarsat
Scientific Sounder
Satellite Navigator
Instrument Towing Block

Equipment Provided by Users

Anchor dredges
Modified Charcot-naturalist dredges
Modified Ockelmann epibenthic sledges
Beam trawls
Box corer
Containers and vessels for specimen sorting and preservation

Time Estimates

Deep stations (average depth 1200 m)		
- Standard sampling (sledge or beam trawl)		
26 stations @ 2 hours per station		52 hours
Intensive sampling (grab Smith McIntyre or Box-Corer, Dredge, Sledge and Beam Trawl)		
15 stations @ 7 hours per station		105 hours
Slope stations (average depth 500 m)		
- All stations (Grab and dredge or sledge)		
36 stations @ 3/2 hours per station		124 hours
Sailing time		42 hours
TOTAL		323 hours
(= 13.45 days)		

Note

On account of the exploratory nature of the work, the number and position of stations and type of sampling gear deployed may have to be modified during the cruise, as a result of the information provided by the first samples. This applies particularly to the slope stations (during the later part of the cruise) in an area where little reliable information exists on the geological and sedimentological nature of the bottom.

Other circumstances such as variation in the effectiveness of the sampling gear and meteorological conditions may require that changes to the sampling programme be made as the cruise progresses.

Personnel

James Cook University, Department of Marine Biology

M. Pichon (Chief Scientist)
P. Arnold
A. Birtles
T. McKenna
L. Morgan

Australian Institute of Marine Science

M. Riddle
D. Alongi

Centre ORSTOM, Noumea

B. Richer

Western Australian Museum

L. Marsh

CSIRO Oceanography

D. Vaudrey (Cruise Manager)

A. Poole

This cruise plan is in accordance with the directions of the National Facility Steering Committee for the oceanographic research vessel RV 'Franklin'.



A.D. McEwan
CSIRO Division of Oceanography



D.H. Green
National Facility Steering Committee

