

R.V. FRANKLIN

NATIONAL FACILITY OCEANOGRAPHIC RESEARCH VESSEL

AMENDED

RESEARCH CRUISE PLAN

R.V. FRANKLIN

CRUISE FR4/88

Principal Investigators

Dr Eric Lindstrom

Dr Stuart Godfrey

CSIRO Division of Oceanography

Equatorial mixed layer and undercurrent experiment
Heat and freshwater budget north of Papua New Guinea

Amended itinerary

Sail Cairns	0900	Saturday 23 April 1988
Call Madang	pm	Saturday 30 April 1988
Arrive Rabaul	am	Monday 9 May 1988
Sail Rabaul	am	Tuesday 10 May 1988
Arrive Townsville	1400	Wednesday 25 May 1988

R.J. Edwards
Operations Manager
10 February 1988

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

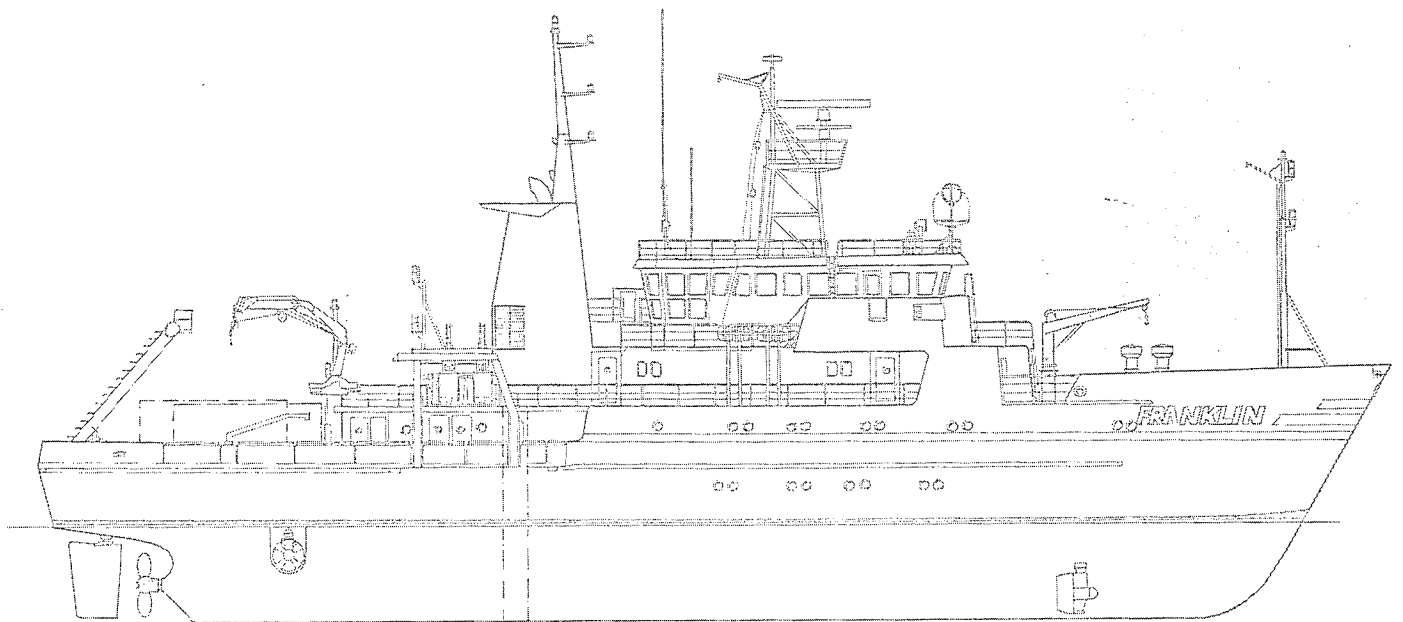
R.V. FRANKLIN

NATIONAL FACILITY OCEANOGRAPHIC RESEARCH VESSEL

RESEARCH PLAN

R.V. 'FRANKLIN'

CRUISE FR4/88



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

EJL/NP

13 November 1987

**RESEARCH PLAN
R.V. 'FRANKLIN'
CRUISE FR4/88**

ITINERARY

Depart Cairns:	0900 hrs	Tuesday 19 April 1988
Arrive Rabaul:	0900 hrs	Friday 6 May 1988
Depart Rabaul:	1200 hrs	Saturday 7 May 1988
Arrive Townsville:	1400 hrs	Saturday 21 May 1988

SCIENTIFIC PROGRAM

1. EQUATORIAL MIXED LAYER AND UNDERCURRENT TURBULENCE EXPERIMENT
2. HEAT AND FRESHWATER BUDGET NORTH OF PAPUA NEW GUINEA

PRINCIPAL INVESTIGATORS

Dr Eric Lindstrom, Dr Trevor McDougall and Dr Stuart Godfrey
CSIRO Division of Oceanography
GPO Box 1538
HOBART TAS 7001
Tel: (002) 206 222
Telex: AA57182

CRUISE OBJECTIVES

1. To measure temperature, salinity and velocity finestructure and microstructure at the bottom of the tropical upper ocean mixed layer and in the Equatorial Undercurrent for determination of turbulent heat diffusion and dissipation of turbulent kinetic energy.
2. To examine the structure of water properties and currents adjacent to the north-east coasts of New Ireland and Papua New Guinea and the southern approaches to New Britain.

3. To measure overall mean values of ocean heat storage rate and radiation balance over a 2-4 day period in low wind conditions.

CRUISE TRACK - (see also Fig. 1)

Sailing from Cairns, 'Franklin' will transit to the Solomon Sea via Jomard Entrance. Operations using 'Bunyip', and the associated towed microstructure profiler, will begin on a northbound section from the northern end of Kiriwina Island to Cape Dampier, New Britain. 'Franklin' will transit from Cape Dampier to the vicinity of Nambutu Bay, New Ireland. A CTD section will be undertaken offshore from Nambutu Bay. 'Bunyip' will be operated along a track northward along 153°E and southward along 149°E. A site in the central Bismarck Sea (4°S, 149°E) may be occupied for several days while detailed atmospheric and oceanic measurements are obtained. 'Franklin' will proceed to call at Rabaul, New Britain for fuel and provisions.

Upon departure from Rabaul, 'Franklin' will proceed towing 'Bunyip' to the vicinity of 2°N 142°E. A section will be carried out southward to the PNG coast and a section also between the PNG coast and the western approaches of Manus Island. 'Franklin' will return to Townsville via Vitiaz Strait and Jomard Entrance. If time allows, velocity profiling sections will be conducted in Vitiaz Strait enroute.

O.R.V. EQUIPMENT REQUIRED

- Transit and GPS SATNAV systems
- Inmarsat
- CTD with 12 and 24 bottle Rosette samplers
- XBT
- ADCP
- Scientific sounder
- Meteorological station
- Thermosalinograph
- Milli-Q and Milli-R04 water purification systems
- Closed-circuit TV system
- Reference Irradiance system
- Video and still cameras
- Autoanalyser
- Salinometers
- Winkler oxygen station
- Bunyip profiling system

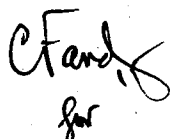
EQUIPMENT PROVIDED BY USERS

- Towed microstructure profiler ('Bunyip' attachment)
- Satellite-tracked buoy with vertical profiler
- Drifting meteorological buoy
- Pyrometer
- Barnes radiometer
- Rain gauges
- Instrumented boom

PERSONNEL

		Affiliation (CSIRO Division)
1.	Dr Eric Lindstrom (Chief Scientist)	Oceanography
2.	Dr Trevor McDougall (Cruise Manager)	Oceanography
3.	Dr Stuart Godfrey	Oceanography
4.	Dr Frank Bradley	Environmental Mechanics
5.	Dr Peter Coppin	Environmental Mechanics
6.	Dr Lindsay Pender	Oceanography
7.	Mr Ian Helmond	Oceanography
8.	Mr Alex Papij	Oceanography
9.	Mr Jeff Butt	Oceanography
10.	Mr Stuart Swan	Oceanography
11.	Mr Alan Poole	ORV Oceanography
12.	ORV Chemistry Support	ORV Oceanography

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

