

R.V. FRANKLIN

NATIONAL FACILITY OCEANOGRAPHIC RESEARCH VESSEL

RESEARCH PLAN

CRUISE FR 4/90

Nb. change to 10
Sail Sydney ~~0900~~ Thursday 10 May 1990
Arrive Townsville 1700 Thursday 24 May 1990

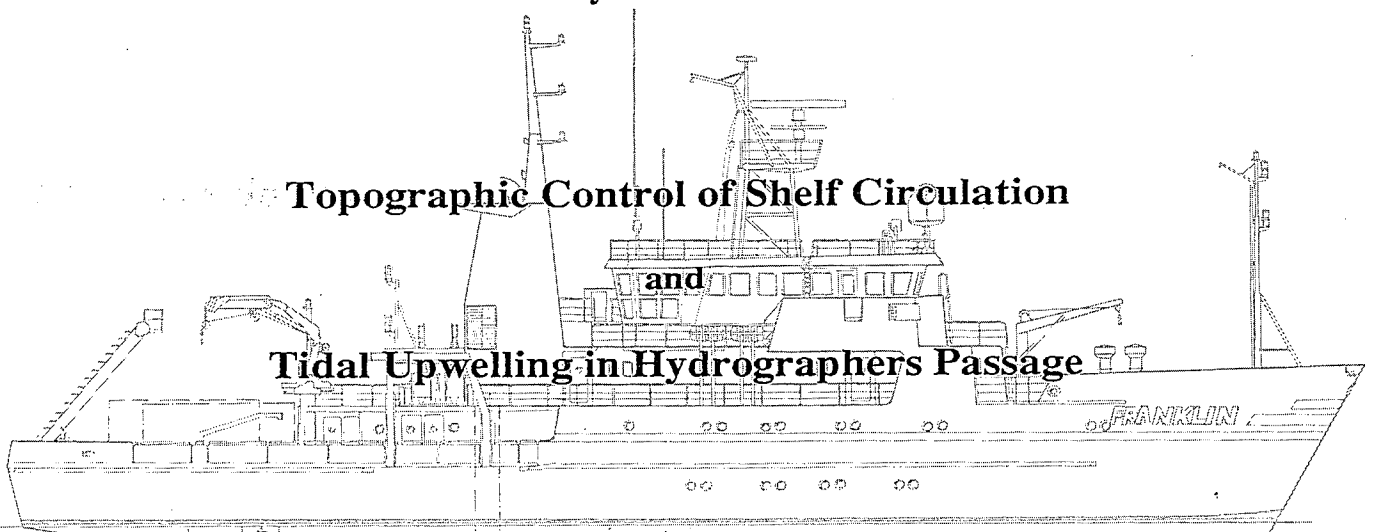
Principal Investigator

Associate Professor Jason Middleton
School of Mathematics
University of New South Wales

Topographic Control of Shelf Circulation

and

Tidal Upwelling in Hydrographers Passage



17 January 1990

Bernadette Baker

CSIRO Division of Oceanography

HOBART

For further information contact

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D AND OPERATED BY CSIRO

**Cruise Plan
R.V. Franklin
FR 4/90**

Itinerary

Depart Sydney: 0900 Hrs 10 May 1990
Arrive Townsville: 1700 Hrs 24 May 1990

Scientific Program

The overall aims of this scientific program, which will also utilise R.V. Franklin in November, 1990, are to understand the role played by Fraser Island in the modification of continental shelf circulation, and the role of the sudden jump in width of the continental shelf at 22 S. The scientific program is also concerned with understanding the way in which the flood and ebb tides mix on the shelf and slope of Hydrographers Passage in the Great Barrier Reef offshore from Mackay.

Principal Investigator

Associate Professor Jason H. Middleton
School of Mathematics
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Cruise Objectives

1. To deploy current meter moorings on transects in the vicinity of Fraser Island, and in the vicinity of Capricorn channel (see Figure 1).
2. To undertake CTD work on the same transects as those in 1.
3. To undertake Acoustic Doppler Current Profiler work on selected transects near Fraser Island.
4. To undertake a series of transects using the ADCP on the shelf and slope of Hydrographers Passage along the recommended transit route through the passage.

Cruise Track

A cruise track is shown in Figure 1.

ORV Equipment Required

All standard systems, but especially the CTD system with altimeter and 12 bottle rosette, the

ADCP system with operational bottom tracking, scientific sounder, Inmarsat, thermosalinograph, GPS, VAX computers.

We will also require a large storage space and clear deck area for mooring work (ie, no container labs).

Time Estimates

Steaming time 1300 nm @ 11 kn = 5.0 days

CTD stations 3.0 days

ADCP surveys 3.0 days

Moorings 3.0 days

Total 14 days

Time Available 14 days

Personnel

Jason Middleton (Chief Scientist)

Gregory Nippard

David Griffin

Mark Merrifield

Tom Dennis

Tony Webb

Anthony Macks

Peter Coutis

Bob Beattie (Cruise Manager)

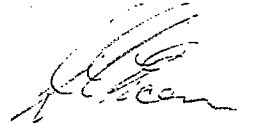
Phil Adams

Mark Rayner

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

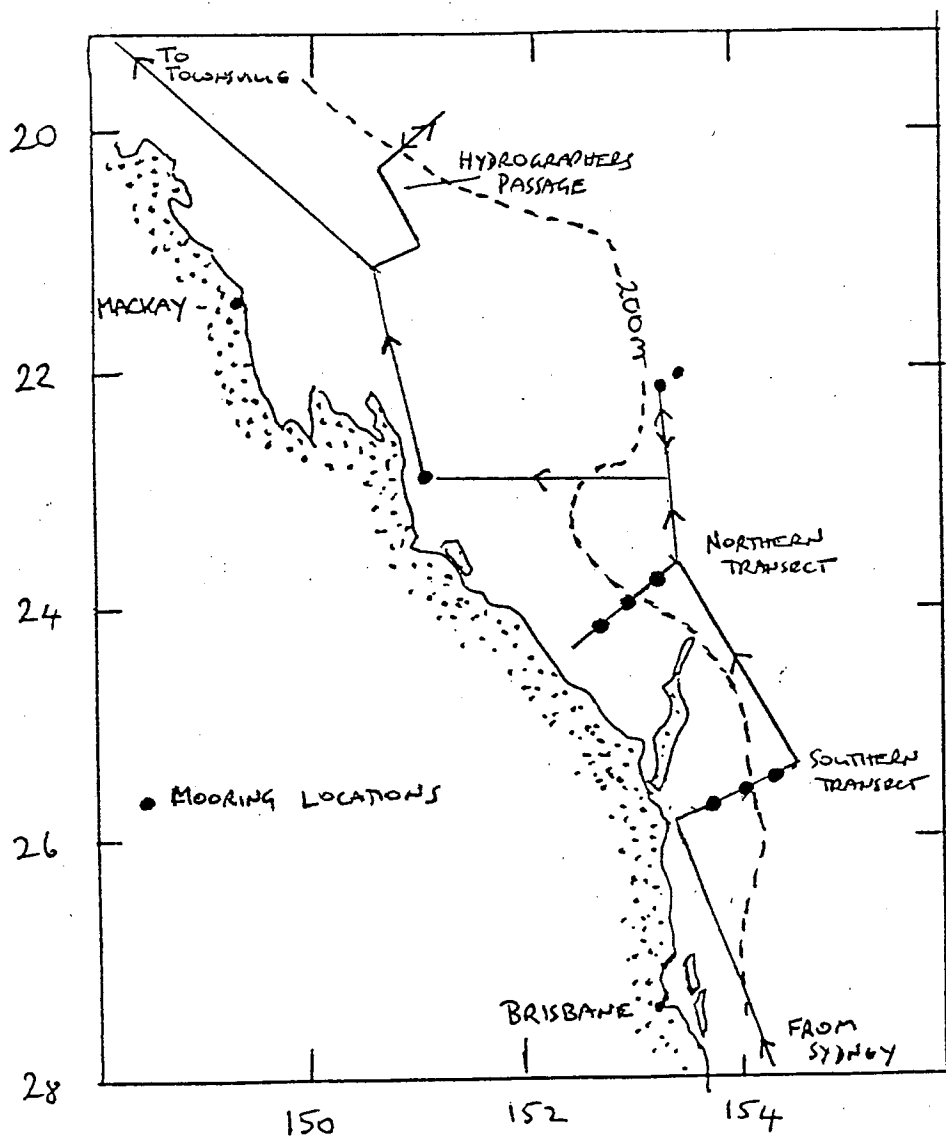


Figure 1. The proposed cruise track.