FRANKLIN

National Facility
Oceanographic Research Vessel

TROPICS97

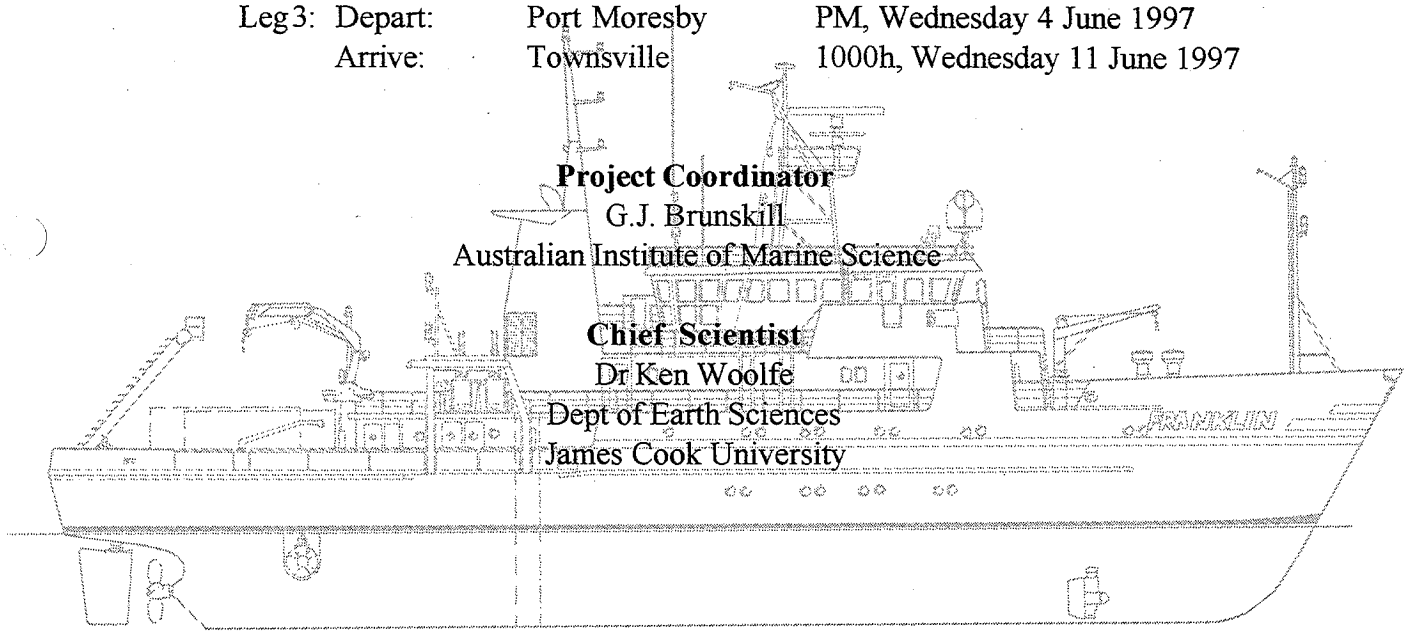
CRUISE PLAN
RV FRANKLIN

Fr5/97

Leg 1	Depart:	Madang	1000h, Saturday 24 May 1997
	Arrive:	Madang	AM, Wednesday 28 May 1997
Leg 2:	Depart:	Madang	PM, Wednesday 28 May 1997
	Arrive:	Port Moresby	AM, Wednesday 4 June 1997
Leg 3:	Depart:	Port Moresby	PM, Wednesday 4 June 1997
	Arrive:	Townsville	1000h, Wednesday 11 June 1997

Project Coordinator
G.J. Brunskill
Australian Institute of Marine Science

Chief Scientist
Dr Ken Woolfe
Dept of Earth Sciences
James Cook University



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AUSTRALIA

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TROPICS MARINE GEOLOGY GROUP CRUISE PLAN Fr5/97
Tropics Leg 2

Itinerary:

Leg 1	Depart:	Madang	1000h, Saturday 24 May 1997
	Arrive:	Madang	AM, Wednesday 28 May 1997
Leg 2:	Depart:	Madang	PM, Wednesday 28 May 1997
	Arrive:	Port Moresby	AM, Wednesday 4 June 1997
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1-7 May	Load gear on Franklin at Townsville		
24-28 May. Madang-Madang ** Depart Madang at earliest opportunity **	Sepik - Seismic survey and ground-truthing grab/core work. Shore normal and shore parallel survey grid.	Woolfe, Purdon, Revill, Smith, Hooper US 4: Nittrouer student, Kuehl student, 2 Milliman tech. * 1 BUNK	Mapping nature of shelf and upper slope sedimentation. Collect foram samples First line, E/W shore parallel at c. 100 m. 2nd line W/E shore parallel at c. 500 m. shore-normal grab transects for Revill DS - c. 64 samples Option for Piston Cores
28 May - Madang scientist swap ** Milliman +1 will be waiting in Madang. ** Smith flies out on the 29th. This should be a fast transfer with only personal baggage. Option to use ships boat may be worth considering.		Milliman + 1 ON Kuehl student OFF Smith OFF	
28-31 May. Madang - GOP	Transit	Woolfe, Purdon, Revill, Hooper US 6: Milliman +4, Nittrouer student	
31 May - 4 June GOP	Seismic profiling,	Woolfe, Purdon,	Mapping nature of

	swath-mapping. Survey tracks dependent on available equipment.	Revill, Hooper US 6: Milliman +4, Nittrouer student	shelf, slope and rise/northern Coral Sea sedimentation. Search for depo centre and max accumulation sites. Line 1 shore parallel c. 100 m, second line shore parallel at c.400 m. Clear Customs in Moresby Foram samples
4 June - Port Moresby scientists swap ** Millimans party on 1130 flight from POM. so may need to put into port late on the 3rd. ** Brunskill et al. will be waiting in POM. Suggest that they make ready coring equipment on aft deck at earliest opportunity, and aim to leave port c. 1200 on the 4th.		Brunskill + 2 ON Mooring ON Nittrouer+1 ON Milliman + 4 OFF	
4 - 9 June GOP	Coring/grabbing to ground-truth seismic and provide samples for geochemical analysis etc	Woolfe, Purdon, Revill, Nittrouer + 2, Hooper Brunskill + 2	Geochemical/biochem definition of sedimentary sequence. Ground truthing of survey as required. Foram samples ? recover sed traps
9-11 June - GOP - Townsville	Transit	Woolfe, Purdon, Revill, Nittrouer + 1 Brunskill + 2 * mooring person	Completing cruise report.

PROJECT TITLE: TROPICS97 (Tropical River-Ocean Processes in Coastal Settings, 1997)

Scientific Objectives (From original proposal):

To understand mechanisms & establish models of coastal ocean trapping, bypassing, and cycling of solutes and sediments from wet tropical rivers draining the high relief areas of PNG into very different coastal shelves. We hope to determine the processes that control the dispersal of wet tropical riverine dissolved and particulate material into the coastal ocean, and how these processes affect estuarine, deltaic, coastal, shelf, & slope productivity, marine resources, & sustainable development options.

CRUISE OBJECTIVES

The objectives of the TROPICS97 Geology cruise are:

- To map the distribution of riverine sediment on the continental shelf, slope and rise between Manam Island and Wewak on the north coast of PNG.
- To obtain samples of sea floor sediment from the shelf, slope and rise along the north coast of PNG to a) ground truth interpretations based on geophysical records, b) characterise the sediment chemically and c) to determine the textural characteristics of sediment in this region. The ultimate object being to identify sites of sediment trapping, storage and accumulation.
- To map the distribution of riverine sediment on the continental shelf, slope and rise in the Gulf of Papua area, with special reference to identifying sites of sediment accumulation.
- To extend the existing Gulf of Papua sample array seaward in the Gateway Fan and Moresby Trough areas.
- To conduct a coring and sampling program to support the geochemical and biogeochemical programs which are attempting to determine sediment and chemical budgets for the Gulf of Papua region.

CRUISE TRACK

Note: The Cruise track we propose here is provisional due to our limited knowledge of the marine geology of this area and continuing uncertainties as to exactly what user supplied equipment will be available. We would like to be able to amend the track in response to data acquired during the cruise. However, while track details will almost certainly change, the areas of operation will remain generally as out lined below.

Leg 1 : Madang Area

Transit Madang to Cooper Point (11hrs)

Seismic Box 1:
Cooper Point to Cape Terebu c. 100 m isobath, step seawards and return c. 400 isobath. (24 hrs)

Seismic Box 2:
Cooper Point NE 22 nmiles. NW to Blup Blup Island, SW 14 nmiles to pick up box 1 (10 hrs)

Close Support: Survey and sampling Sepik Mouth and adjacent Waters (40 hrs)

Transit to Madang (11 hrs)

Leg 2: Madang - Gulf of Papua

Seismic Box 3 (c. 48 hrs @ 8kts)

Redscar Bay, coast parallel at c. 70 m isobath to long. 146E then due west for 40 nmiles, thence to Portlock Reefs. Return to Redscar bay following c. 300 m isobath.

Then Either:

Concentrate our efforts in the deep water area bounded by 8 30S146 E, Redscar Bay and Portlock Reefs (assuming that instruments are performing well in deep water).

OR

Focus efforts on the shelf and upper slope between Hall Sound and the Fly River mouth.

Leg 3: Gulf of Papua

Kasten Coring and Grab sampling in Gulf of Papua. Core and grab sites to be determined based of seismic survey results (Part B). Estimate 6-8 core sites and 40-60 grab sites. Any remaining ship time will be used to collected additional seismic data on an opportunity basis.

Personnel Positioning:

May 22:	Woolfe, Purdon, Hooper, Revill, Smith. US 4: Nittrouer student, Kuehl student, 2 Milliman tech. to Madang.
May 26:	Milliman + 1 to Madang
May 29:	Kuehl student and Smith from Madang.
Jun 3:	Brunskill +2, Nittrouer+1, to Moresby.
Jun 5:	Milliman + 3 from Moresby

FRANKLIN EQUIPMENT

No Containers, No CTDs
Computer sys, Electronics, (2 CSIRO)
12.5 kHz

USER SUPPLIED EQUIPMENT:

Smith Mac Grab (AIMS)
Frame supported grab (JCU)
Piston Corer (JCU)
Kasten Corer and Core Table (AIMS)
Van Veen Grabs (AIMS/JCU)
JCU Uniboom
JCU 3.5 kHz
JCU Sidescan
US Seismics

PERSONNEL SUMMARY

Madang-Madang:

1) Ken Woolfe	JCU	Chief Scientist
2) Richard Purdon	JCU	
3)Andy Revill	CSIRO	
4) Kevin Hooper	JCU	
5) David Smith	Melb	
6) J.P. Walsh	SUNY	
7) Tim Dellapenna	W & M	
8) John Milliman	W & M	
9) Dave Mucciarone	Rice	
10) ** Earl Young	WHOI ** doubtful	
11) Bob Beattie	CSIRO - ORV	Cruise Manager
12) Erik Madsen	CSIRO - ORV	

Madang-POM

1) Ken Woolfe	JCU	Chief Scientist
2) Richard Purdon	JCU	
3)Andy Revill	CSIRO	
4) Kevin Hooper	JCU	
5) John Milliman	VIMS	
6) J. P. Walsh	SUNY	
7) Katie Farnsworth	VIMS	
8) Dave Mucciarone	Rice	
9) Megan Bolin	VIMS	
10) ** Earl Young	WHOI ** doubtful	
11) Bob Beattie	CSIRO - ORV	Cruise Manager

12) Erik Madsen	CSIRO - ORV	

Madang-POM

1) Ken Woolfe	JCU	Chief Scientist
2) Richard Purdon	JCU	
3)Andy Revill	CSIRO	
4) Kevin Hooper	JCU	
5) Gregg Brunskill	AIMS	
6) Irena Zagorskis	AIMS	
7) John Soles	AIMS	
8) Chuck Nittrouer	SUNY	
9) Brent McKee	LUMCON	
10) J.P. Walsh	SUNY	
11) Bob Beattie	CSIRO - ORV	Cruise Manager
12) Erik Madsen	CSIRO - ORV	

This cruise plan is in accordance with the directions of the National Facility Steering committee for the oceanographic research vessel *Franklin*.

C B Fandry
CSIRO Division of Marine Research

for Prof. G W Paltridge
National Facility Steering
Committee