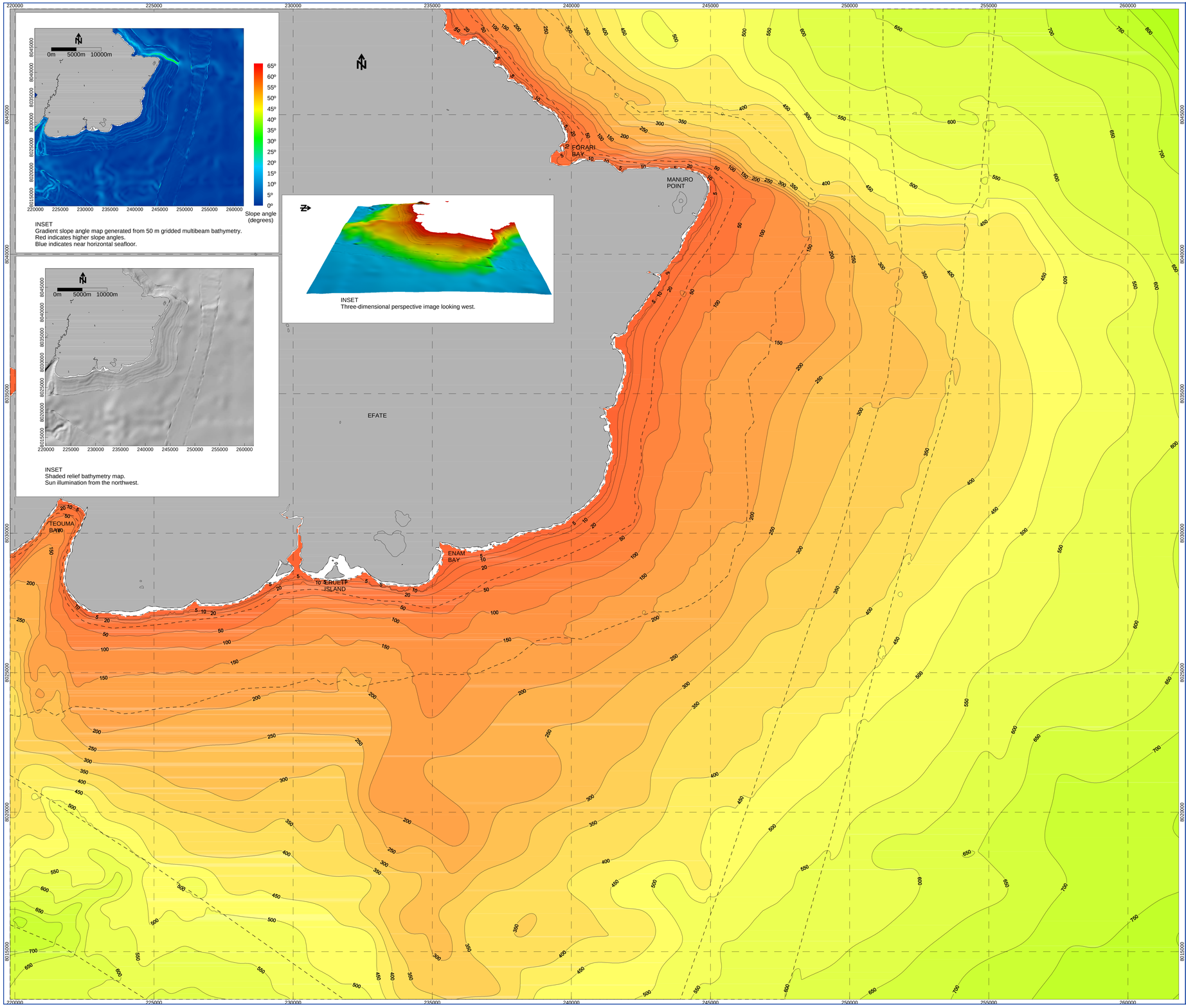


LEGEND

150 — Bathymetric contours shown are 5, 10 and 20 metres, and at 50 metre intervals thereafter

Land area

Approximate boundary delimiting reef areas

Bathymetric data obtained using MBES echosounder system.

Colour Banding
Bathymetry
Metres

20, 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000

NOTES

This bathymetric map is a blend of multibeam (MBES), and singlebeam (SBES) echosounder data (see below for description and coverage). The datasets were merged using Golden Software Surfer 8.06 by the following method.

(1) Created separate MBES and SBES grids, aggregating or resampling to 50 m.
(2) Calculated residual surface between SBES and MBES grids.
(3) Applied low-pass filter to grid (2) in areas with no MBES coverage.
(4) Added residual grid from step (3) to SBES grid from step (1).
(5) Replaced land area with SRTM data in final grid.

MBES coverage by IRD Nouméa on RV Jean Charcot and RV L'Atalante (compiled by B. Pelletier, IRD). SEAPSO 1 and 2 cruises (Nov. 1985), Seabeam MBES; SOPACMAPS1 transit, 19/07/1993; CALVA cruise, 12/07 to 17/07/1996; PORMEA transit, 20/07/1996; ALAUFI transit, 01/03/2000; all with Kongsberg Simrad EM12 Dual MBES, Caraibes software, 100 m grid spacing.

MBES coverage by IRD Nouméa on RV Alis (Chief Scientist B. Pelletier, IRD). TERRALIS cruise, 10/12/2003 to 20/12/2003, Kongsberg Simrad EM1002 Dual MBES, Caraibes software, 50 m grid spacing.

MBES coverage by SOPAC (compiled by J. Krüger, SOPAC).
SOPAC cruise by R. Smith on DGWR boat, 29/5 to 8/6/1999, Reson SeaBat 8101 MBES, Reson Sofware. SOPAC/EDF8 cruise on MV Turagalevu, 02/08 to 27/08/ 2003, Reson Seabat 8160 MBES, Navisoft software, 50 m grid spacing.

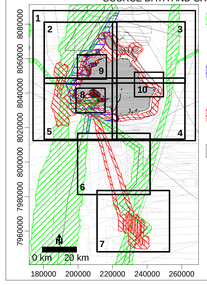
SBES soundings (compiled by B. Pelletier, IRD, and J. Krüger, SOPAC)
This dataset is mainly a compilation from IRD Nouméa (B. Pelletier) of ship soundings for the area 17-19°S, 167-169°E, includin g data from various cruises by the French, USA, Japanese, and Australian governments. Particularly cruises by the Royal Australian Navy (RAN) on MV Cape Pillar from 1984-89. It also includes nearshore data acquired by IRD RV Alis in 1999 during the NEOTECT cruise.
The RAN survey data were digitised at IRD Nouméa, from paper charts provided by SOPAC. SOPAC SBES data was acquired by R. Smith, during nearshore surveys in 1990, 1992, and 1997.

SRTM land elevation.
Global land elevation data from the Space Shuttle Topography Mission, 2000, 90 m grid spacing.

Coastline and reef areas were digitised at SOPAC from scanned topographic paper maps of the 1:50 000 Vanuatu Map Series 71, Edition 1, 1994.

NOT TO BE USED FOR NAVIGATION

SOURCE DATA AND CHART INDEX



Multibeam echosounder surveys by IRD Nouméa on RV Jean Charcot and L' Atalante.

Multibeam echosounder survey by IRD Nouméa on RV Alis.

Multibeam echosounder surveys by SOPAC.

Singlebeam echosounder data, compiled by B. Pelletier, IRD Nouméa.

GEODETIC INFORMATION

Geodetic datum	WGS84
Ellipsoid	WGS84
Projection	UTM Zone 59 South
Horizontal positioning	Stand alone GPS

SCALE

Scale 1 : 50 000

0 2000 4000 6000
Metres

A0 Original

PROJECT TITLE

PACIFIC ISLANDS APPLIED GEOSCIENCE COMMISSION
Private Mail Bag, GPO, Suva, Fiji Islands
www.sopac.org

SOPAC/EU Project:
Reducing Vulnerability of Pacific ACP States

DRAWING TITLE

VANUATU
Efate - Chart Area 4

COMPOSITE BATHYMETRY

REPRINT COPY FOR PEER REVIEW
comments to Jens Kruger, SOPAC, jkruger@sopac.org

SOPAC Bathymetric Series, Map XX
Bibliographic Reference: XX
XX
Compiled by J. Krüger and B. Pelletier.
Drawn by J. Krüger and A. Sharma, March 2007.