

# Positioning in the Pacific Islands

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## FIG Working Week 2016

CHRISTCHURCH, NEW ZEALAND 2–6 MAY 2016

Recovery

from disaster

Organised by



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Recovery

from disaster

- **Introduction**
- **History**
- **Positioning in the Pacific Islands**
- **Challenges**
- **Future Directions**



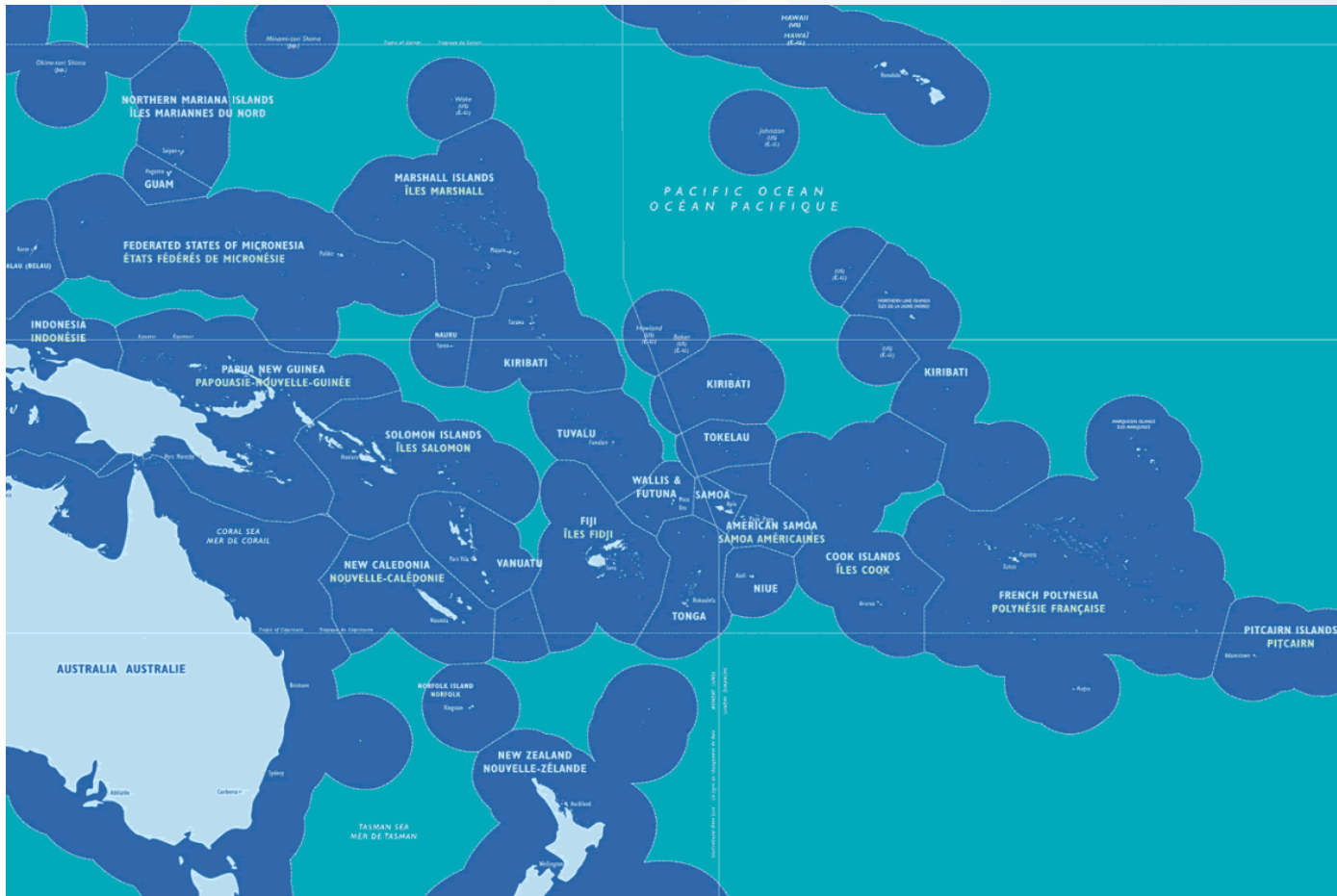
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## Pacific Community (SPC) Member Countries



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## SPC Geoscience Division Goal

“to apply geoscience and technology to realise new opportunities for improving livelihoods of Pacific communities.”



SPC Headquarters: Noumea. Regional Offices: Suva, Fiji Islands and Pohnpei, Federated States of Micronesia.

Country Office: Honiara, Solomon Islands.

For contact details – Website: [www.spcint](http://www.spcint) Email: [spc@spc.int](mailto:spc@spc.int)



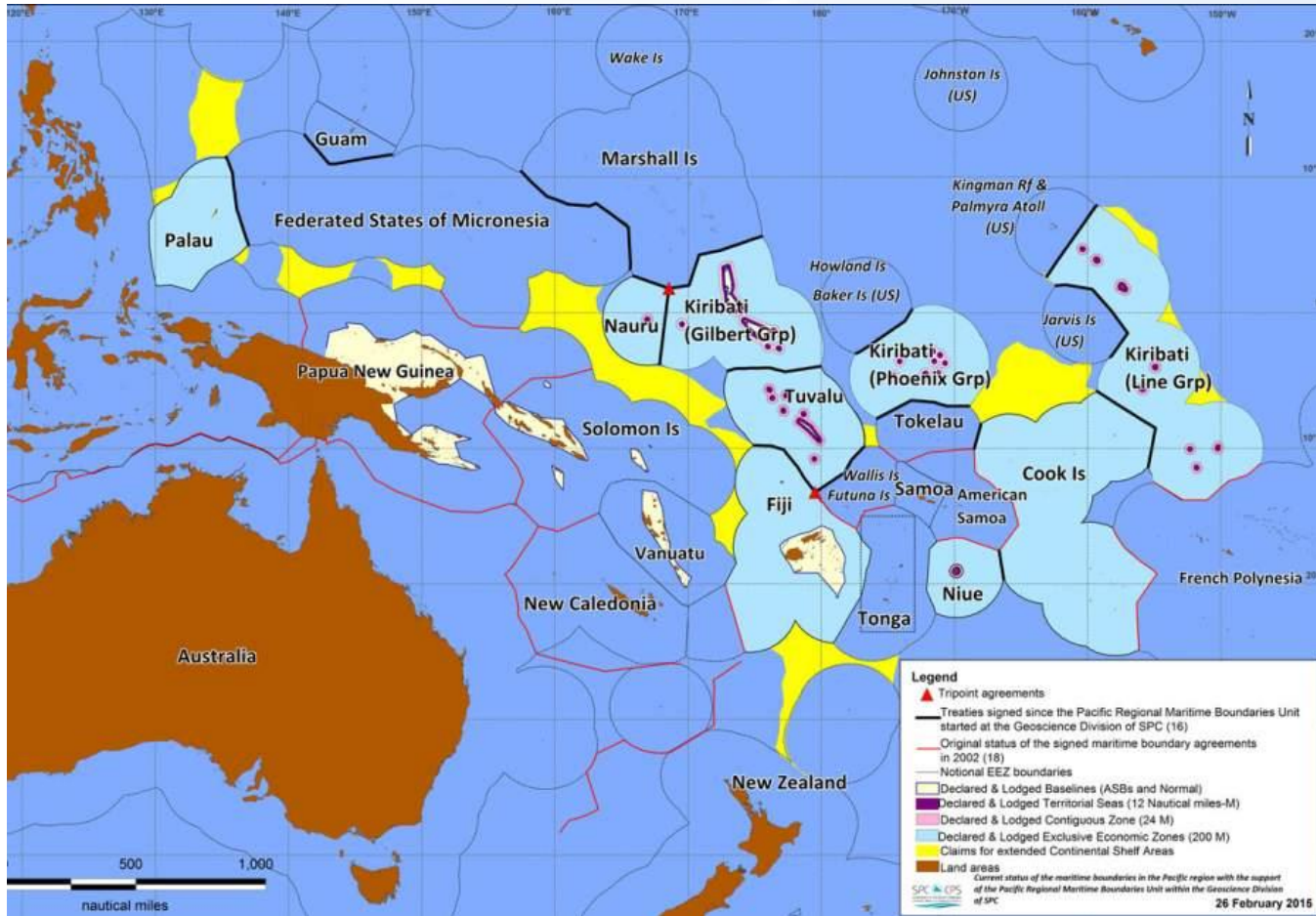
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## Maritime Boundaries of Pacific Island Countries



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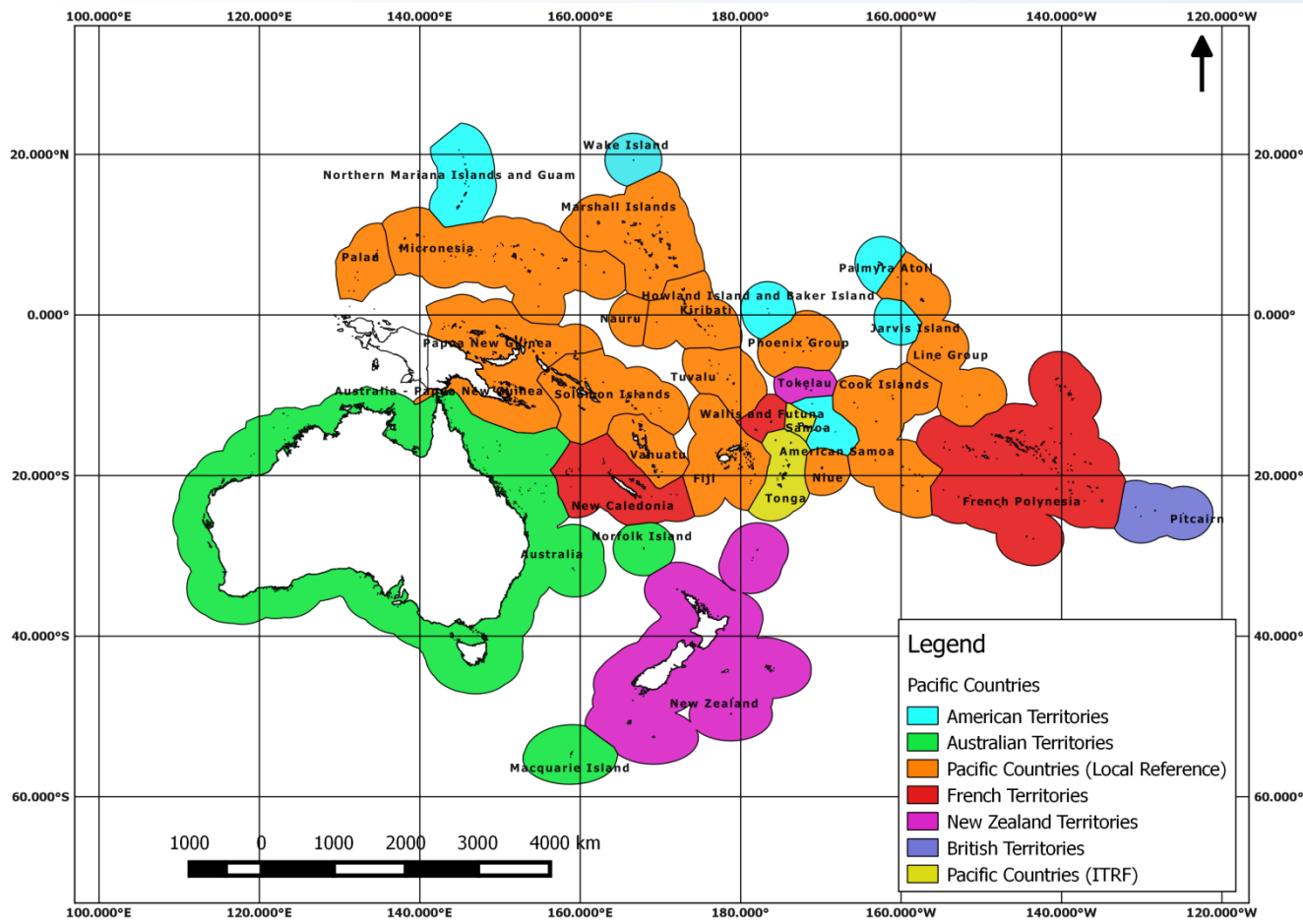
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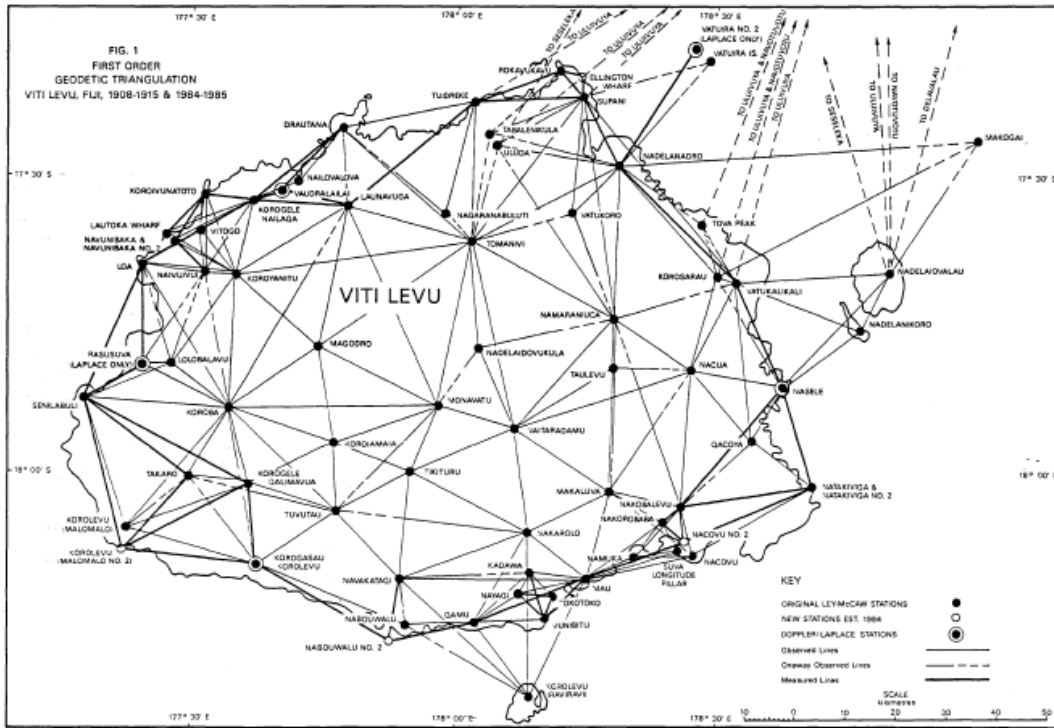
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## Geodetic Reference Frame - Pacific





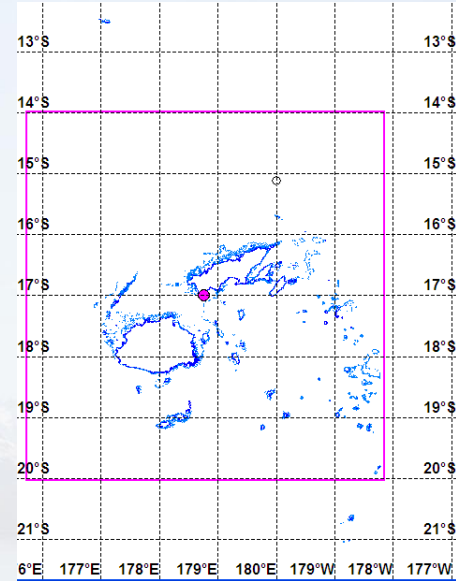
## Fiji Islands Geodetic Reference Frame



THE DEFINITION AND ADJUSTMENT OF THE FIJI  
GEODETIC DATUM -1986

J. Hannah and J. Maseyk

Department of Survey and Land Information, Wellington, New Zealand



Fiji Map Grid (FMG1986 is based on the Gauss-Krüger  
Transverse Mercator projection where:

Latitude of Origin = 17° 00' South

Central Meridian = 178° 45' East

Scale Factor at Origin = 0.999854

False Northing = 4 000 000m

False Easting = 2 000 000m

Ellipsoid of reference = WGS 72

where  $a = 6378135m$

$1/f = 298.26$



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## Tonga Geodetic Reference TGD2005

**Report 6 : GeoSource Tonga  
Survey Transformations**

**Malcolm Archbold**

Cyclone Emergency Recovery and Management Project  
Component B:2: Land Hazards and Information Management

June 2006

Landcare Research New Zealand Ltd  
in association with Beca International Consultants Ltd  
and Geological and Nuclear Sciences NZ Ltd

**Report 7 : GeoSource Tonga  
Survey Legislation**

**Malcolm Archbold, Graham Powell,  
Alan Kinnear**

Cyclone Emergency Recovery and Management Project  
Component B:2: Land Hazards and Information Management

June 2006

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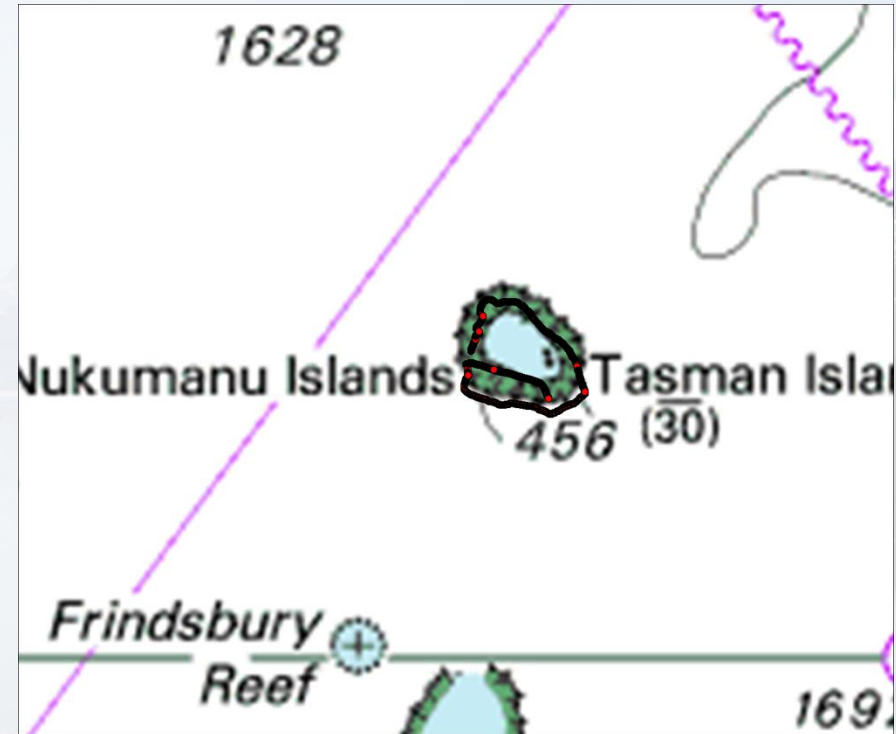
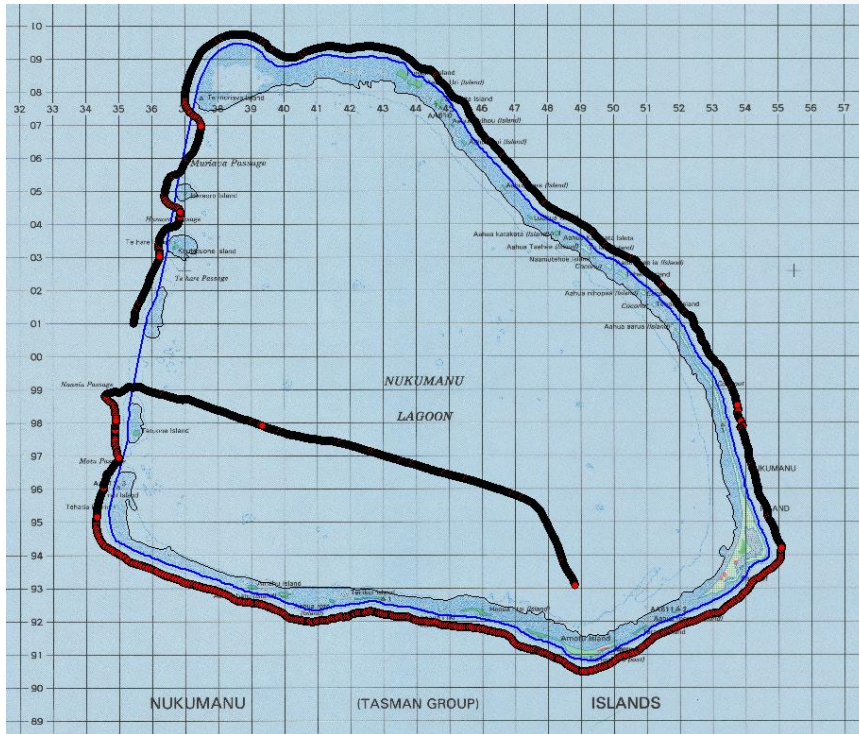
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## Topographical Maps and Hydrographic Charts





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## Hydrographic Surveys







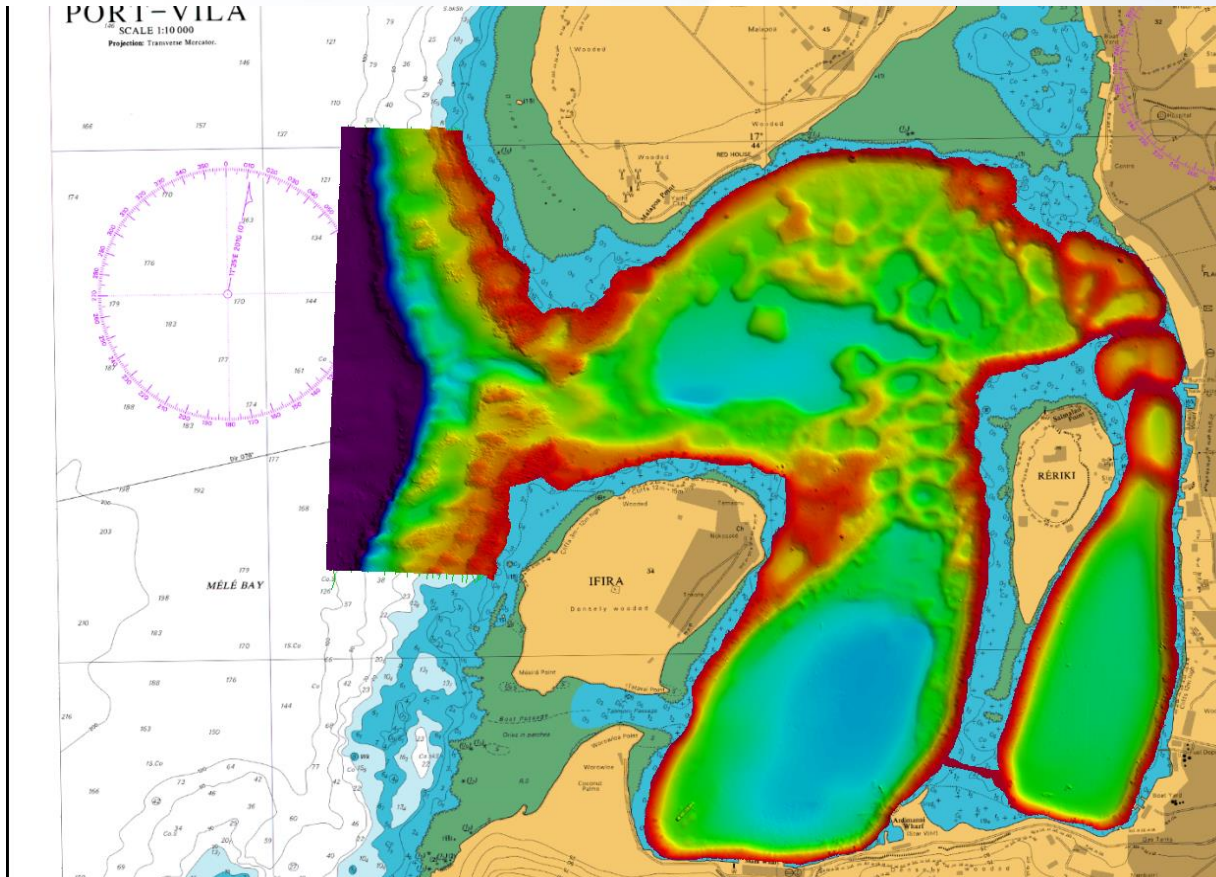
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## Vanuatu Hydrographic Surveys







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## Pacific Sea Level Monitoring Project



**GNSS Station**



**Tide Gauge Station**



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## Challenges

- **Natural Disasters**
- **Climate Change**
- **Sea Level Changes**
- **Urban Development**





## Future Directions

- **Geodetic Infrastructure**
- **Global Geodetic Reference Frame (UN Resolution A 69/266)**
- **Geodetic Registry**
- **Capacity Development**





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## Geodetic Infrastructure underpins Infrastructure





## Pacific Geospatial & Surveying Council

Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

### Vision

Sustainable development in the Pacific enabled by world class geospatial information and surveying services

### Mission

- Building the capacity of regional surveyors
- Improving and standardising geospatial information gathering and dissemination
- Maximising economic growth and alleviating poverty
- Informing natural resource management, disaster risk management and climate change adaptation

<http://gsd.spc.int/pgsc/>



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Vinaka.....



**Pacific Geospatial and Surveying Council Nov 2015**



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