



INTERNATIONAL HYDROGRAPHIC ORGANIZATION



NATIONAL REPORT FROM PACIFIC COMMUNITY TO THE SWPHC16

1. General

- a) Name of the institution: Pacific Community
- b) The Pacific Community (SPC) Strategic Plan 2016-2020 set out the strategic direction and priorities of the organisation in response to the Framework for Pacific Regionalism, the SAMOA Pathway and the commitments in the Sustainable Development Goals. This focuses SPC efforts to ensure its thematic work areas of greatest relevance and benefit to our members and where SPC possesses highly valued scientific and technical expertise and capacity. However, SPC is at a critical juncture whereby, to ensure its future viability and relevance, changes are needed to ensure a tighter focus on priorities, organisational efficiency and sustainable financing.

In 2017, the GeoScience, Energy and Maritime (GEM) Division was formed through a merger of the SPC Economic Development Division (EDD) and the Geosciences Division (GSD). The merger was facilitated with the aim of achieving an integrated programmatic approach of SPC services that will provide its members with high quality applied science and knowledge for evidence-based policy-making and technical solutions for improved governance, management and capacity development. The newly formed GEM division has three Key Program Pillars, which includes Oceans and Maritime Programme, GeoResources and Energy Programme and a Disaster and Community Resilience Programme. A Programming, Performance and Systems Unit will support these three technical and scientific programmes. The objectives and results of these programmes will be reflected in a GEM Business Plan (2018-2020) which will aligned to the SPC Strategic Plan.

- c) Submitted by: Satesh Kumar, saleshk@spc.int

2. Surveys

The GEM Division of Pacific Community (SPC) carried out a number of activities in their member countries and territories since the last commission meeting. Below are some of the work in relation to hydrography work carried out by the different programmes of SPC:

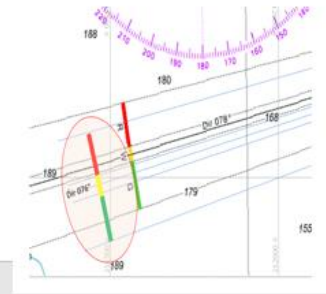
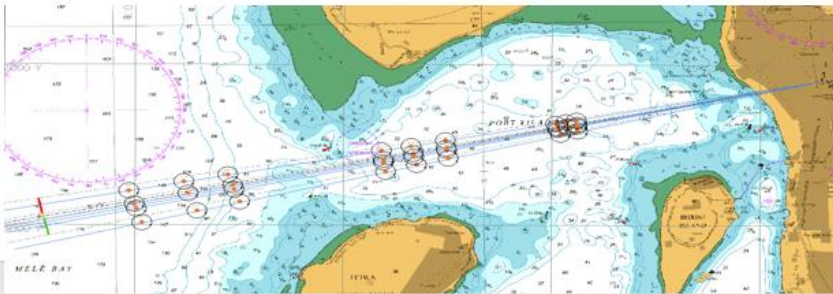
2.1 Hydrography Unit

KfW TC Pam Recovery and Support, Component 8, Maritime and AtoN

1. Reinstatement of Port Entrance light on Efate Island in Port Vila Vanuatu.

This PEL light is a significant aid to safe navigation of vessels accessing the Port in Port Vila, Efate Vanuatu. As part of a 'Recovery and Support Package' commissioned by the Government of the Federal Republic of Germany through Kreditanstalt für Wiederaufbau (KfW), the Hydrographic Unit of the Geoscience Division (GSD) of the Pacific Community (SPC) was tasked with the reinstatement of the Port Vila sector light. Work was completed in June in conjunction with Ports and Harbours Vanuatu. The

PEL light was installed and surveyed and a new H-Note and notice to mariners was sent to UKHO for relevant chart updates.



Pacific Regional Navigational Initiative (PRNI)

The Pacific Regional Navigation Initiative (PRNI) is a project funded (2015-18) by the New Zealand Ministry of Foreign Affairs and Trade (MFAT) that focuses on navigation related aspects of maritime safety, in particular those necessary to support Pacific Island Countries fulfil their obligations relating to hydrography and nautical charting under UN Safety of Life at Sea (SOLAS). The Pacific Community (SPC) has been engaged by NZ MFAT to work with targeted countries to, amongst other objectives, support hydrographic capability building initiatives in conjunction with work being doing by international bodies and development partners

Output 1 – Data Discovery

- Examination of SPC data holdings and subsequent analysis for suitability for charting
- Provision of means of regular promulgation of updated list and associated access to PCA's
- Obtaining release agreements with PICTs for release of data held by SPC to PCA's

Activities completed include:

- Review of all SPC data holdings
- Secured 8 out of 17 PIC's data release agreement
- PRNI data portal completed

- Data release matrix
- Portal access given to PCA's and PIC's

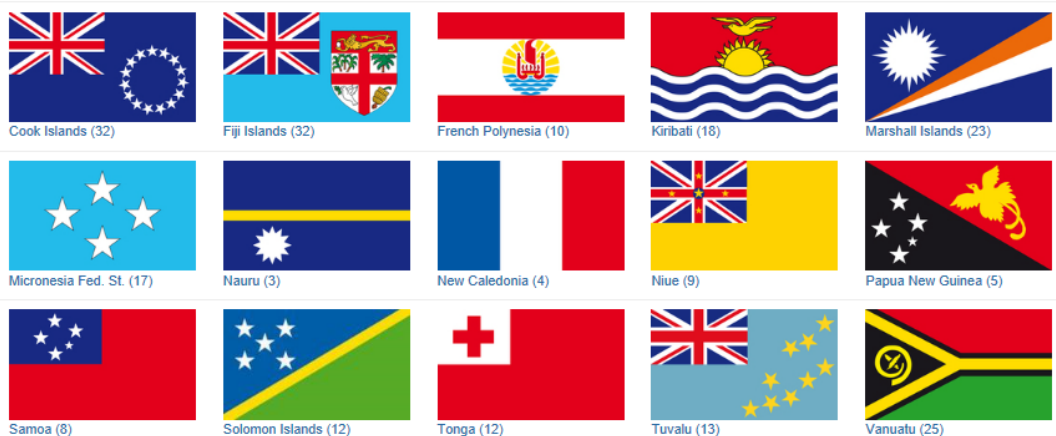
<http://www.pacgeo.org/prni/>



Pacific Regional Navigation Initiative

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Output 2 – Review and Drafting of Hydrographic Legislation, Regional Scoping Study and development of Annual Plans and provision of technical assistance to PICTS to achieve hydrographic improvement. Activities completed under this output comprised mostly technical assistance to:

- Targeted PICT's with formation of National Hydrographic Committee – through support given to legislative initiatives delivered by other projects/donors, such as the NZ MFAT Pacific Maritime Safety Project (eg input to Marine Bill draft for Tuvalu and Vanuatu).
- Improvement of national capacity to collect and circulate Maritime Safety Information (MSI), primarily through delivery of in-country MSI workshops focusing on Hydrographic awareness and instruction/tools for compilation of Hydrographic Notes. Six in-country visits to three PICTS, total of three MSI workshops conducted.
- Production of ongoing work programme for chart improvement through Hydrographic Note action.
- Collaboration with other regional programmes and activities to maximize opportunities to increase hydrographic awareness, such as COSPPac and Pacific Safety of Navigation projects.

2.2 Georesources Unit

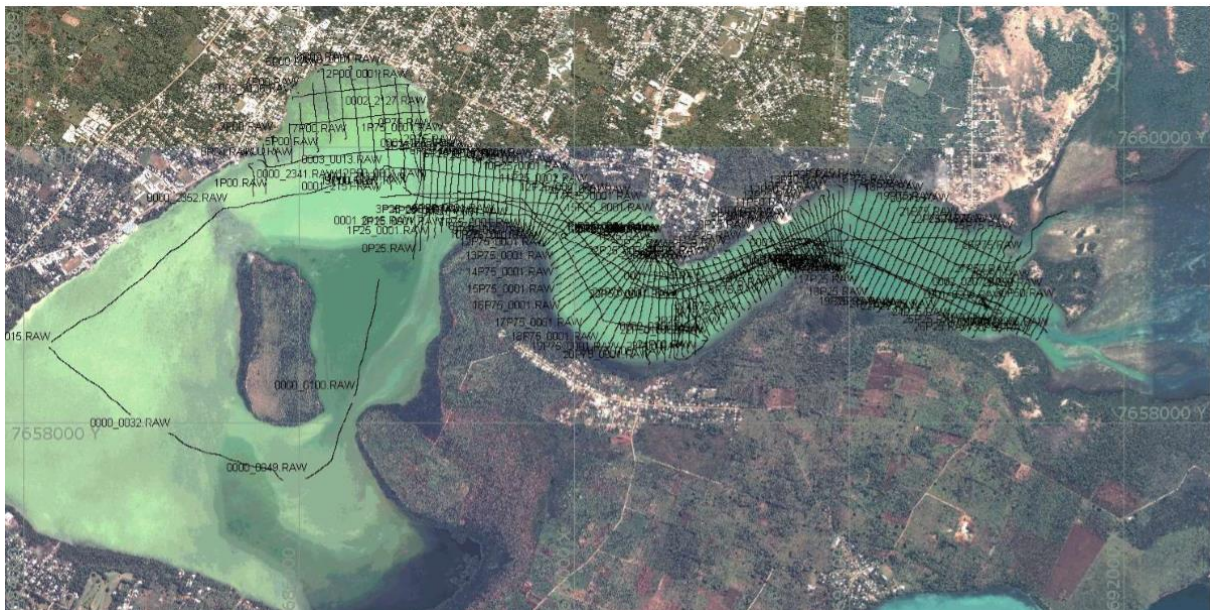
1. Geoscience Investigations for Infrastructure Development: Fanga'uta Lagoon, Tonga

The Geoscience, Energy and Maritime Division of the Pacific Community (SPC) was engaged by the Ministry of Lands and Natural Resources (MLNR) in the Kingdom of Tonga to conduct scientific investigations in the Fanga'uta Lagoon on Tongatapu Island. The primary purpose of the investigations is to inform the proposed development of a cross-lagoon bridge. It is intended that the scientific data collected during the investigations will also support broader evidence-based decision making and planning in Tongatapu, including proposed land reclamation works.

The scope of the investigations was developed by SPC in conjunction with the Geology Department of MLNR and comprised the following essential elements:

- Desktop review of existing information.
- Bathymetric surveys in the lagoon at selected locations.
- Marine seismic reflection data acquisition and interpretation to investigate subsurface geology.
- Terrestrial seismic refraction data acquisition and interpretation to investigate subsurface geology.
- Jet probing of the seafloor to assess sediment thickness and collect sediment samples for composition analysis.
- Seafloor sediment sampling for geochemical laboratory analysis, to assess sediment contamination levels.
- Oceanographic measurements of existing water temperature, depth, current and turbidity conditions of the lagoon.

The investigations are preliminary in nature; it is intended that the findings will inform the site selection process and the concept design of the proposed bridge, to enable optimization of the engineering design and associated costings based on the identified geological and geophysical conditions. Further geotechnical investigations are recommended for detailed design purposes.



million capacity building initiative that aims to build the profile, and improve the management of development minerals. The ACP-EU Development Minerals Programme has six key objectives:

1. Enhance employment and incomes, including employment and incomes of women
2. Improve the policy and regulatory environment
3. Minimize environmental impacts on communities
4. Address individual and community rights and prevent conflict
5. Ensure decent working conditions
6. Facilitate South-South cooperation and cross-country learning

Under the programme; forty countries are participating in regional level training and knowledge exchange, and six focus countries (including Fiji) have been selected for in depth capacity building and country level training. The baseline assessment is a holistic study of the Development Minerals sector in Fiji (mainly construction materials and agricultural lime). The purpose of the study is to highlight the existing dynamics of the industry as a whole, identify the key issues, and outline potential opportunities for improvement. The scope of the study comprises five principal components:

1. Comprehensive profile of the sector.
2. Assessment of the legal and policy framework.
3. Assessment of institutional and technical operating context.
4. Environmental, health and safety (H&S), and socio-economic analysis.
5. Market and value chain analysis.

SPC prepared an 'Inception Report'³ in September 2017, which presented a detailed methodology for each of the five key components outlined above. This was followed by a 'Field Report'⁴ which analysed the actual fieldwork achievement against the proposed methodology in the 'Inception Report', identified limits, and proposed corrective measures to remedy identified issues. The 'Baseline Assessment of Development Minerals in Fiji Report' presents the results of the assessment and was the final deliverable for the study.

2.3 Geodetic Unit

1. The geodetic unit at SPC together with Bathymetry and Geodesy unit of UKHO and the department of Lands and Survey in Tuvalu completed the geodetic survey work for the redefinition of Tuvalu's Geodetic Reference System. The phase 1 to 4 of the project focussed on: the 9 atolls of Tuvalu. The activities carried out were;
 - GNSS surveys (RTK, Static and PPK)
 - Tide gauge installation and observations
 - Cadastral survey
 - Establish local datum – link to nearby survey bench mark on land
 - UAV surveys
 - Photo control GNSS survey
2. The Pacific Sea Level monitoring (PSLMP), operates under the Climate and Oceans Support Program in the Pacific (COSAP). It is a continuation of the 20-year South Pacific Sea Level and Climate Monitoring Project (SPSCLMP).

Under agreement with the Australian Bureau of Meteorology (BoM), Geoscience Australia (GA) maintains the operation of the Global Navigation Satellite Systems (GNSS) Continuous Operating Reference Stations (CORS) for the Australian AID funded Pacific Sea Level Monitoring Project (PSLMP).

Australian Bureau of Meteorology manages permanent and temporary tide gauges in each location, and GA's responsibility together with SPC to the PSLMP is to undertake regular levelling surveys between the tide gauge and GNSS CORS. The purpose of the levelling survey is to identify any relative vertical movement between the GNSS and the tide gauge equipment thus providing a mechanism to validate the tide gauge measurements against any land movement detected by the GNSS CORS over a long time series.

The long-term goal of the project is to provide an accurate long-term record of sea levels in the South Pacific for partner countries and the international scientific community that enables them to respond to and manage related impacts.

3. Pacific Geospatial and Surveying Partnership Desk

The Pacific Community (SPC) established the Pacific Geospatial and Surveying Partnership Desk to provide secretariat services and support the PGSC in achieving its goals and objectives. SPC is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947.

In addition, the PGSC aims to collaborate with regional and international organisations, associations,

educational institutions and technical groups to support progress on national, regional and global development objectives.

The PGSC acknowledges the particular importance of aligning activities with the Framework for Resilient Development in the Pacific (FRDP), the Framework for Pacific Regionalism, and other key Pacific regional and global initiatives.

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

2.4 Regional Maritime Boundaries Sector

The Regional Maritime Boundaries Sector (RMB) has been implemented by SPC since 2001 and is currently fully funded by Australian Aid. This sector undertakes all work in accordance with the provisions of the UN Convention on the Law of Sea (UNCLOS) and aims to assist Pacific Island countries to develop, promulgate and declare their respective maritime boundaries and likewise develop technical solutions towards ratified treaties between neighbours with overlapping marine zones.

The Pacific Islands Regional Maritime Boundaries Project defines the sovereignty for the fourteen (14) Pacific island countries and its territories.

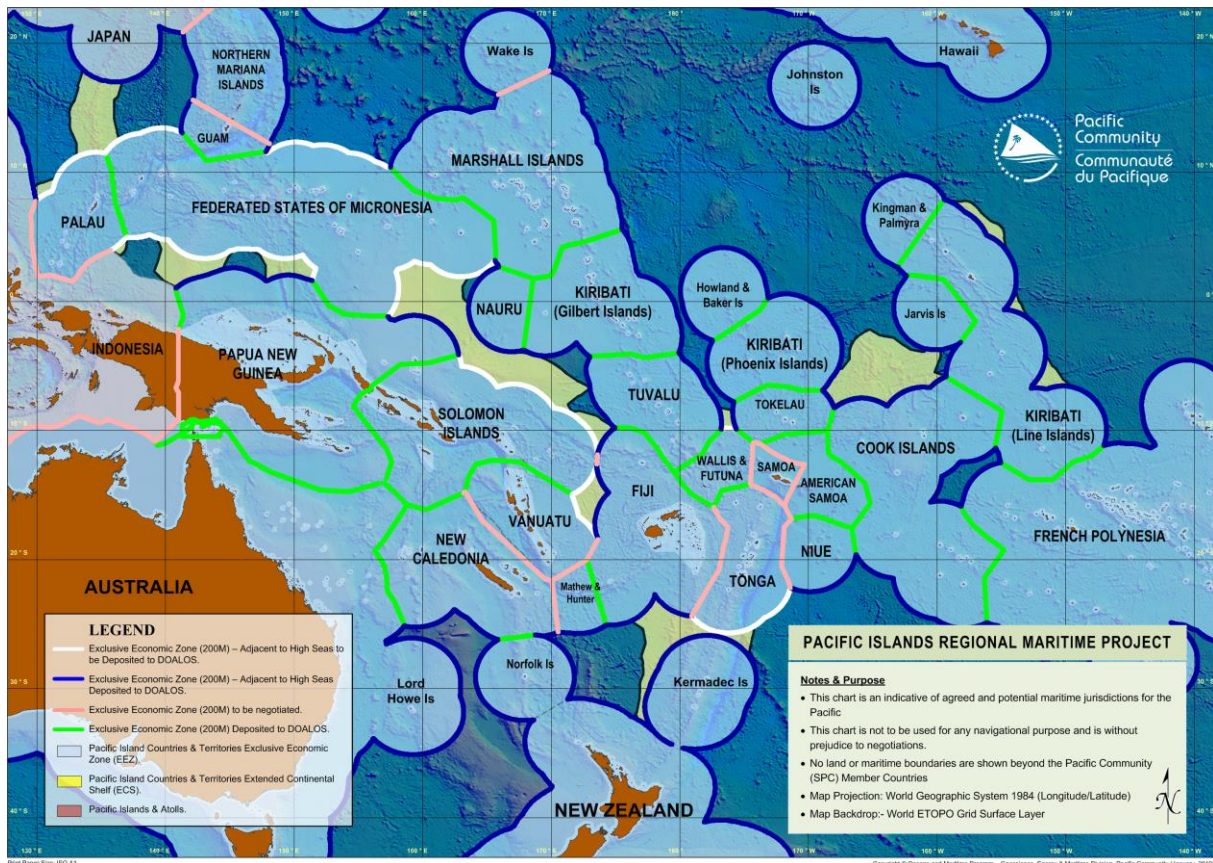
It is a successful collaboration between the consortium partners such as Pacific Islands Forum Secretariat, Forum Fisheries Agency, Geoscience Australia, Attorney General's Office Australia, University of Sydney, Grid Arenal and the Commonwealth Secretariat.

There are 4 important facts about the Regional Maritime Boundaries Project:-

1. The 22 Pacific Island Countries and Territories manage 20% of the world's ocean in their Exclusive Economic Zones
2. 476 participants have attended 17 regional technical and legal training sessions in 2005. The most recent meeting in 2017 had 33% women participants.
3. There are 47 shared boundaries in the Pacific. 33 treaties have been signed between countries since 1974
4. Pacific islands may disappear due to rising seas and erosion. The settlement of maritime boundaries provides 'certainty' to the ownership of ocean space and is an urgent action in the face of climate change and Food Security

The Regional Map coverage of the resolved maritime boundaries deposited to UNDOALOS are in green and the pending maritime boundaries are in red, this is the status to date.

During the decade of 2010, the number of treaties signed has increased in response to strengthened regional cooperation and these are some of the examples.



2.5 COSPPac Project

The Australian Government is supporting Pacific Island countries to adapt to mitigate the impacts of climate variability. A major part of Australia's assistance is the Climate and Oceans Support Program in the Pacific (COSPPac). COSPPac collaborates with many other agencies to deliver the program; the Australian Government Department of Foreign Affairs and Trade, Geoscience Australia; the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environmental Programme (SPREP). COSPPac is funded by the Australian Government and implemented by the Bureau of Meteorology.

COSPPac works with the Pacific Island Stakeholders to analyse and interpret climate, oceans and tidal data to produce valuable services for island communities. This information helps island communities to prepare for, and mitigate the impacts of severe climate, tidal and oceanographic events.

COSPPac activities at SPC include:

- Transforming ocean data into products and applications for Pacific users**
 - Pacific Ocean Portal
 - Annual Tide Prediction calendars
 - Factsheets, videos and information products
- Building regional capacity in ocean science**
 - Sub-regional and in-country trainings
 - Attachments and interships
- Advocating for improved ocean data, services and cross-sectoral collaboration**
 - Ocean capacity mapping and stakeholder engagement
 - Pacific Islands Marine and Ocean Services (PIMOS) Panel support.

Some of the recent activities carried out by the project include:

- New pacific sea level monitoring tide gauge installed in Tonga on Vuna wharf in June 2018, to replace the damaged one in the port. This one is state of the art and has an inbuilt GNSS station. Real time data is available from this station on the Pacific Ocean Portal <http://oceanportal.spc.int>. It is running alongside the old one now for continuity—the old one will be decommissioned this year.
- Production of 3 new tide prediction calendars last year for Kiritimati, Kanton (KI) and Vaitupu (TV). Print versions were sent to the countries and the predictions are also available online on the ocean portal and BOM website.
- Samoa, Tonga, and Tuvalu are now all producing monthly ocean outlooks for stakeholder, providing predictions of local ocean conditions.

2.6 Safety of Navigation (SoN) Project

SPC provides a regional resource of specialist technical expertise that strengthens, or supplements regional and national capacity. It is designed with the support of International Foundation for Aids to Navigation (IFAN), and has started implementing the SoN project. Ultimately, the project aims to support the economic development of shipping and trade of Pacific Island countries and Territories (PICTs). The goal is to create safer maritime routes, managed in accordance with international instruments and best practice. Below is a list of activities carried out by the project since the last SWPHC meeting:

1) 2018 (Phase 1 activities)

- **Tonga** – legal and economic assessment (review of IALA progress mission)
- **Tuvalu** – legal and economic assessment (IALA technical assessment, 24 recommendations)
- **Samoa** – Technical, legal and economic assessment (22 recommendations)
- **Tokelau** – Technical assessment (9 recommendations)
- **Nauru** – Technical legal and economic assessment (19 recommendations)

2018 (Phase 2 activities)

- **Solomon Islands (Sept. 1st Visit)** AtoN (SIRA) Risk Assessment, Honiara
- **Kiribati (Sept. 1st Visit)** AtoN (SIRA) Risk Assessment, Betio
- **Vanuatu(Oct. 1st Visit)** AtoN (SIRA) Risk Assessment, Port Vila.
- **Cook Islands (Oct.)** AtoN (SIRA) Risk Assessment, Aitutaki.

2019 (Phase 2 activities)

- **Solomon islands** 2nd visit follow up on AtoN risk assessment report and AtoN 5 year budget plan-completed
- **FSM -1st visit (2nd quarter)** AtoN (SIRA) Risk Assessment, Pohnpei and Kosrae
- **Kiribati – 2nd visit**, follow up on AtoN risk assessment report and AtoN 5 year budget plan
- **Vanuatu - 2nd Visit**, follow up on AtoN risk assessment report and AtoN 5 year budget plan
- **Niue - 1st visit**, Aton (SIRA) Risk Assessment (Avatele and Namukulu)
- **Marshall Islands – 1st visit**, AtoN (SIRA) Risk Assessment
- **Palau - 1st visit**, AtoN (SIRA) Risk Assessment
- **Samoa – 1st Visit**, AtoN (SIRA) Risk Assessment
- **Kiribati – 3rd visit**, follow up on AtoN risk assessment and AtoN budgeting
- **Vanuatu – 3rd visit**, follow up on AtoN risk assessment and AtoN budgeting
- **Tokelau - 1st Visit**, AtoN (SIRA) Risk Assessment.

1. Summary

[Please provide a short summary of this paper which will be included in the final report of the meeting.]