

Pacific Geospatial and Surveying Council (PGSC) Partnership Desk

Mr Vaipo Mataora, Chair - PGSC

Ms Meizyanne Hicks, Vice Chair - PGSC

Supported by: SPC Partnership Desk

Email: pgsc_desk@spc.int

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



Pacific
Community
Communauté
du Pacifique



PGSC

Pacific Geospatial and Surveying Council



Mission

Pacific Island survey and geospatial services, including hazard mapping, urban planning, cadastre mapping, hydrography, and other geospatial requirements for sustainable development, are sufficiently resourced to respond to member country priorities.



PGSC Partnership Desk – Roles & Responsibilities



- SPC, as the host of the PGSC Partnership Desk, will support each country to assess their existing capacity and identify priorities for ongoing capacity strengthening.
- Provide support to individual PGSC members in promoting their work nationally and internationally.
- Provide support the administrative functioning of the PGSC. They are responsible for mobilising the resources necessary to convene the PGSC on a regular basis and will also provide secretariat services at PGSC meetings and the meetings of PGSC Working Groups.
- Advocate on behalf of the PGSC at the regional level, will organise regional trainings in support of the Strategy.
- Regional hub for coordinating and facilitating regional access to technical services, expertise and advice for PGSC members.
- Achieve and enhance objectives of the working groups through regional project activities.

PGSC Partnership Desk



1. Facilitating Collaboration and Partnerships; Global & Regional Collaboration, Technical Assistance, Capacity Building
2. Supporting Sustainable Development Goals (SDGs); Geospatial Data , Surveying Techniques and Tools
3. Promoting Data Sharing and Standards; Data Management, Standards and Protocols
4. Disaster Risk Management and Climate Change Adaptation
5. Building Geospatial Infrastructure
6. Advocacy and Awareness
7. Providing Technical and Financial Resources
8. Supporting Maritime and Oceanographic Surveys

Communications & Community



Meizyanne Hicks shared a post. November 16 at 9:31 PM · 🌐

Promoting World GIS Day and the Geospatial field on Fiji TV this morning!



Ministry of Lands and Mineral Resources
November 9 at 8:15 AM · 🌐

Leading up to the 2022 GIS Day on 16th November, the Geospatial Information Management team attended the breakfast show that aired live this morning. The theme ... See more

View insights 850 post reach >

👍 Like 🗨 Comment ➦ Share

Write a public comment...

Home > Updates from SPC > Web Stories

Mapping our Pacific Geospatial Future

Suva | 21 June 2022 | 🌐 in f



Pacific Geospatial and Surveying Council

Public group · 1.3K members

<https://www.facebook.com/groups/3998884766792177/>

Feature

modernisation programs in CAPs, there are also other initiatives that will require assistance, such as:

- Revision of legislation of the Native Lands Act, and relevant Survey legislation to align with the Native Lands Act and CAP aspirations; and
- Upgrading of Tavalua's Navigation Charts, to assist commercial shipping and cruise lines to navigate Tavalua's waters safely, thus improve the trade and tourism industry, once the COVID-19 influences have subsided.

Embracing challenges through Partnerships, Pacific Geospatial & Surveying Council (PGSC) and the Pacific Community (SPC) By: Andrew Lal, Senior Geospatial Surveyor

In November 2014, a group of Pacific regional surveying and geospatial experts met in Suva, Fiji. It was at this meeting that the PGSC was first envisaged and a charter governing its mission and objectives was developed. In addition, 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.

Briefly, the PGSC, is an independent regional advisory body that provides a forum for Pacific Island geospatial information and survey authorities to discuss and address regional challenges. 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 for sustainable development in the Pacific enabled by world-class geospatial information and surveying services.

The 14 country members of the PGSC subscribe that geospatial information underpins the majority of economic and sustainable development activities in the world today. The services provided by Pacific Island geospatial scientists and surveyors contribute to the security and well-being of Pacific people, supporting numerous industries and sectors. These include natural resource management, civil engineering, climate change adaptation, disaster risk reduction, transport, land ownership, health, and agriculture to name a few.

The SPC is the principal scientific and technical organisation in the Pacific region, providing supporting development since 1947. From a geospatial perspective, the SPC Geospatial Survey Team delivers professional advice and services to the PGSC. This primarily involves provision of instrumentation, onsite technical guidance and support on numerous field survey operations or techniques, processing and management of geospatial data, geospatial data and positioning matters, GNSS base stations, GNSS measurements for survey control, monitoring, cadastral or geospatial activities, and precision leveling monitoring surveys, including assisting with tide gauge measurements for the Pacific Sea Level & Monitoring Project in the Pacific.

Partnerships are critical to the successful implementation of the Pacific Geospatial and Surveying Council Strategy 2017-2027. The responsibilities of regional surveyors and geospatial managers frequently correspond to broader initiatives, which all contribute towards achievement of United Nations Sustainable Development Goals. The PGSC relies upon collaboration, and is an important contributor towards sustaining a GGRF and global efforts to improve positioning and geospatial information management.

The goals of the PGSC, the Partnership Desk and SPC are focused on:

- Positioning
- Geospatial Policy & Data Management
- Capacity Building

Since 2014 the PGSC, Partnership Desk, SPC and development partners such as:

Modern Geodetic Infrastructure – Key to Consistency and Efficiency
By: Sanjesh Kumar, Senior Surveyor, Asakia Tabua, Surveyor-General Fiji

Fiji is highly vulnerable to natural disasters such as cyclones, coastal inundation and flooding due to climate change and subsequent sea level rise. These natural events affect the food security, livelihoods, infrastructure, health, housing and livelihoods of more than 800,000 Fijians. It is therefore critical for Fiji to mitigate the influence of natural disasters and climate change. Surveyors can alleviate this impact by applying their skills to disaster preparedness, building resilience, quantifying the environmental and social changes, and providing qualitative analysis. The keys to monitoring and measuring such changes include the use of reliable satellite positioning technology, high resolution and accurate geospatial data and information. Underpinning these activities, Fiji recognised the need and importance of a consistent, comprehensive and modernised geodetic reference frame, and positioning network.

To achieve a modernised datum, Fiji has embraced the challenges and identified the actions required to migrate from a local datum to a GGRF, such as the International Terrestrial Reference Frame (ITRF). Presently, the ITRF, and/or its subset Asia Pacific Reference Frame (APRF), is the frame adopted by many PCTS to realise their nation's geodetic datum, primarily because of its reliability, accuracy and accessibility. As such, Fiji's Cabinet Memorandum – Modernising Fiji's Geodetic Datum was strategically aligned to the 2015 UN General Assembly Resolution on the GGRF, in August 2015. This mandate to modernise their geodetic datum, also set the roadmap for the integration, interoperability and management of geospatial information and systems at the local, national, regional and global level.

Prior to modernisation, Fiji's geodetic datum was based on the World Geodetic System 1972 (WGS72) and comprised of a network of triangulation and trilateration observations, which interconnected the main and outermost islands. The adjustment and propagation of co-ordinates for the datum were significantly biased by survey inaccessibility and produced survey uncertainties in the order of several decimetres. Despite this, WGS72 met Fiji's needs for a period of time, however today this reference frame and the accuracy of the co-ordinates can no longer satisfy the requirements of modern-day geospatial demands such as applications, such as autonomous vehicles, and the advent of accurate geospatial data being readily available, rapid technological changes, geospatial trends and digital disruption, geospatial management of the day is more complex and challenging. With this in mind, the Fiji government saw the establishment of a modern geodetic infrastructure and datum as a pathway to bridging the gap. The government also acknowledged the necessity to build the capacity and capabilities of its people to ensure a sustainable geodetic reference frame for the future.

Briefly, datum modernisation started with the construction of eight (8) GNSS CORS across Fiji. These stations complemented two (2) GNSS CORS managed by Geoscience Australia and the SPC. Soon after the construction of the GNSS CORS, survey teams were deployed to carry out reconnaissance and identification of existing 'passive' geodetic control stations (GCSs), that would be connected to the GNSS CORS, and form the fiducial observations for the geodetic network adjustment.

In order for this geodetic field campaign to be successful, collaboration and assistance with the Fiji Hydrographic Office, Fiji Navy, SPC, PGSC and Partnership Desk was necessary. The campaign involved more than 500 survey personnel and included a three-day workshop in the operation of GNSS survey equipment. This training and capacity building for the survey personnel was facilitated by the SPC and Partnership Desk in October 2019.

The field campaign involved the occupation of 164 GCSs with GNSS receivers, and fixed order trigonometric stations, which were originally observed in the early 1980s. Observations on first order trigonometric geodetic stations were primarily on the islands of Viti Levu and Vanua Levu, as well as the Maritime Islands. Other observations were taken to selected parcels, and standard survey marks to major towns and cities.

A substantial amount of the GNSS survey data acquired during the field survey campaign will be used to validate the position of Fiji's existing geodetic system and the determination of a new geodetic datum aligned to the ITRF / GGRF. The GNSS data will subsequently be integrated with the Pacific GNSS CORS Network for the computation of the new transformation parameters, and be the primary network adjustment of Fiji.

Briefly, datum modernisation started with the construction of eight (8) GNSS CORS across Fiji. These stations complemented two (2) GNSS CORS managed by Geoscience Australia and the SPC. Soon after the construction of the GNSS CORS, survey teams were



Imagine a world without maps. It's hard to do. Humans are born map-makers, instinctively looking for landmarks, making sense of patterns, and forming connections when we venture beyond our known environment.

For this reason, geospatial science may be one of the most important fields of study you have ever heard of. Geospatial information is location information. At its simplest, this can be topographical information found on a map. But you can also add in layers of location-tagged data, to show changes or trends, for example, in land use, population density, vaccine distribution, or coral reef health over time.

"If you look at Fiji's national development plan, there are so many areas where geospatial information comes in. There are calls for..."



PGSC Partnership - Activities



- UN GGIM Integrated Geospatial Information Framework **IGIF Deep Dive Session**; November 2024
- UN-GGCE International Workshop on the Integration of Terrestrial, Maritime, Built, and Cadastral Domains: **“Joining Land and Sea”**; December 2024
- FIG Working Week (Brisbane) – **SIDS Session**; April 2025
- **GNSS Applications and Capacity** Workshop (COSPPac); May 2025
- IAG/GGOS Geohazards Focus Area, IUGG GeoRisk Commission, IUGG Joint Tsunami Commission, **GeTEWS Oceania Workshop**; November 2025

PGSC Partnership Desk - Capacity



- PGSC Coordinator – SPC Partnership Desk
- PGSC Communications – SPC Partnership Desk
- Regional Positioning – GNSS & Tide Gauge (equipment pool) for PICs



Pacific
Community
Communauté
du Pacifique



Thank you