



INTERNATIONAL HYDROGRAPHIC ORGANIZATION



NATIONAL REPORT FROM PACIFIC COMMUNITY TO THE SWPHC17

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.

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The Geoscience, Energy and Maritime (GEM) Division supports Pacific Countries and Territories by developing critical data, applied science and technical solutions to overcome some of the greatest challenges faced by our members. We work in partnership with countries to better understand their challenges whilst supporting and developing innovative solutions. The Pacific is the frontline of climate change and the applied science work and results our Division achieves, improves the lives and livelihoods of Pacific people.

The Division supports Pacific Countries and Territories by developing critical data, applied science and technical solutions to overcome challenges faced by our members. We work in partnership with countries to better understand these challenges whilst supporting and developing innovative solutions to overcome some of the greatest risks faced by this region.

We help create relevant development solutions across areas such as **disaster & climate resilience, water security, ocean science, built environment, energy security, applied geoscience, risk & hazard assessment, geoinformatics and earth observation.**

GEM consists of four key technical programmes generating holistic, integrated and relevant solutions to inform decision making and effective planning.

Balancing the need to harness the ocean for sustainable growth whilst fostering conservation of resources and sustainable use into the future is at the core of our work across our Oceans & Maritime Programme. This programme assists members through integrated programmatic approaches with services that break down the science to inform policy and evidence based decision making.

It also assists in developing technical solutions to lead towards a healthier ocean including maritime governance, management, capacity development and understanding what the science tells us for the future generations of our vast Pacific region.

Our key focus areas include maritime boundaries, rights and responsibilities over sea areas, support for safe maritime practices, reducing of carbon footprints from transport, understanding hazard and risks caused by disasters and the growing impacts of climate change.

2 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 Arendal and the Commonwealth Secretariat.

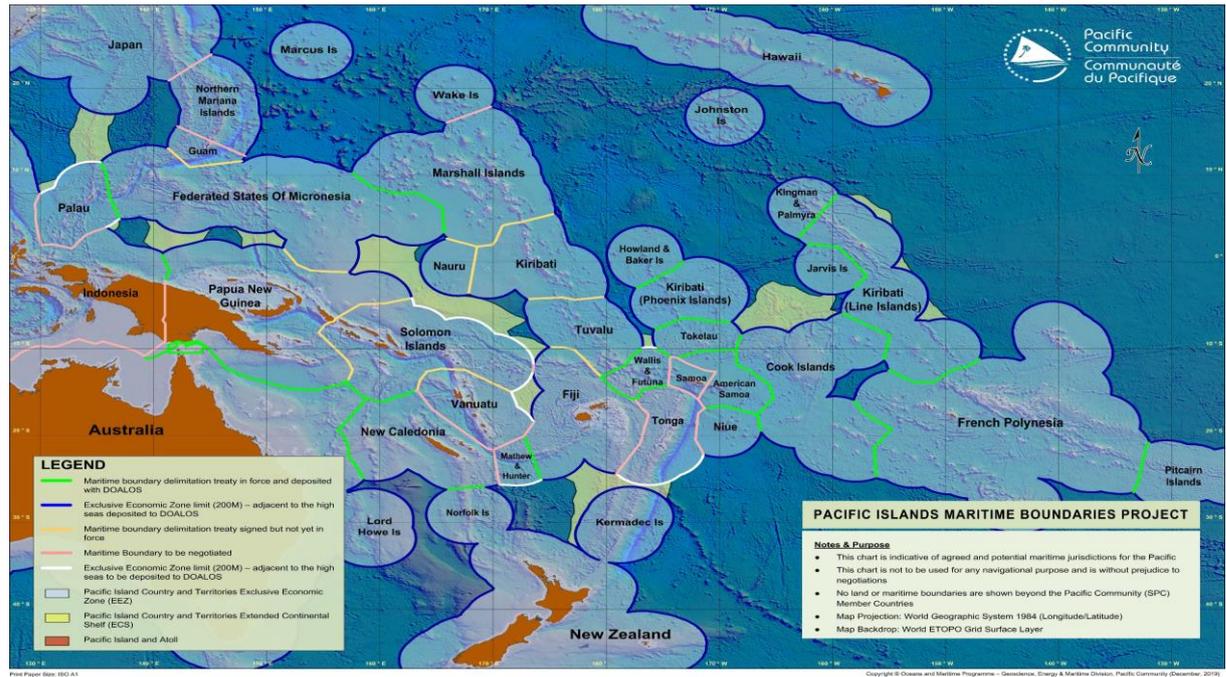
There are 4 important facts about the Regional Maritime Boundaries Project:-

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.

- Recommendation for the Joint Claim of the Ontong Java Plateau was adopted by the CLCS in July 2019, 10 years after the submission.
- FSM, Papua New Guinea, and the Solomon Islands are expected to deposit with DOALOS the precise coordinates of the outer limits of their continental shelf extensions



2.2 Georesources Unit

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

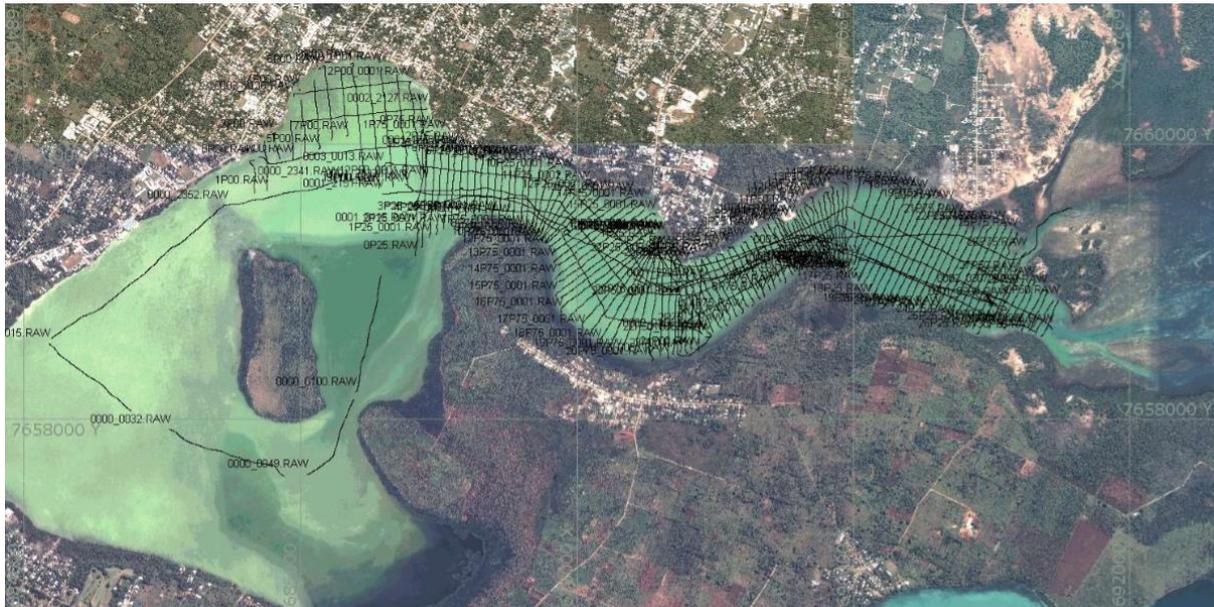
The Geoscience, Energy and Maritime Division of the Pacific Community (SPC) was engaged by the Ministry of Lands and Natural Resources (MLNR) in the Kingdom of Tonga to conduct scientific investigations in the Fanga’uta Lagoon on Tongatapu Island. The primary purpose of the investigations is to inform 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.



Bathymetry survey profiles.

2.3 Geodetic Unit

1. The geodetic unit at SPC together with the department of Lands and Survey in all the atolls of Tuvalu and in the most parts of the Fiji group of islands completed the geodetic survey work for the redefinition of the Geodetic Reference System to align with the GGRF. The activities included:-

- GNSS surveys (Static and PPK)
- Tide gauge installation and observations
- GNSS Pole to Gauge Calibrations
- Establish local datum – link to nearby survey bench mark on land
- UAV surveys

2. **The Pacific Sea Level & Geodetic monitoring programme (PSLGMP)**, operates under the Climate and Oceans Support Program in the Pacific (COSPPac). 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 & Geodetic Monitoring Project (PSLGMP). 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 precision levelling monitoring surveys 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. The following countries:-

- Fiji

- Vanuatu
- Niue
- Cook Islands
- Tonga
- Samoa
- Solomon Islands
- Nauru
- Kiribati

3. **SPC 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. In addition, the PGSC aims to collaborate with regional and international organisations, associations, educational institutions and technical groups such as UNGGIM AP, FIG, UNOOSA, SSSI, LINZ, USP, FNU to support progress on national, regional and global development objectives.

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

Some of the activities for PGSC:-

- FIG Working Week in Hanoi, Vietnam.
- UNOOSA/USP Applications of Global Navigation Satellite Systems Workshop in Suva, Fiji
- South East Asian Surveying Congress in Darwin (MoU between SSSI and PGSC signed)

4. **Capacity Building**

As part of the SPC Pacific Geospatial and Surveying Partnership Desk initiative; total of 50 survey technicians and surveyors from Lands & Survey Department and Hydrographic Office of Fiji underwent a two day training workshop on Geodetic Operations for the GNSS Survey Campaign in Fiji

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:

- 1. Transforming ocean data into products and applications for Pacific users**
 - Pacific Ocean Portal
 - Annual Tide Prediction calendars
 - Factsheets, videos and information products
- 2. Building regional capacity in ocean science**
 - Sub-regional and in-country trainings
 - Attachments and interships
- 3. 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:

In 2020 we will decommission old tide gauges in Tuvalu and Tonga and move the Nauru tide gauge, as there is wharf development planned. In addition, the communications hut for the Niue tide gauge was recently destroyed by the huge surf generated by TC Tino. Plans to repair this station are underway.

Real time data from these stations is available from this site: <http://www.bom.gov.au/cosppac/rtd/q1c7o0hj48yu/>

We produced tide prediction calendars in 2019 and 2020 for 23 locations in the Pacific, including year for Kiribati, Kanton (KI) and Vaitupu (TV). Print versions were sent to the countries and the predictions are also available here: <http://oceanportal.spc.int/portal/library/>

We are working with BOM, GA and others to link all these tide calendars to local chart datum so that they can be used as references by mariners and to enhance the accuracy of the admiralty tide tables.

Kiribati, Samoa, Tonga, Tuvalu, Fiji, Vanuatu, and Solomon Islands are now all producing monthly ocean outlooks for stakeholder, providing predictions of local ocean conditions.

In May 2019, VMGD hosted an ocean science to service stakeholder consultation which included hydrography and lands. Bathymetry/ LiDAR data came out as a high priority from this workshop. Draft workshop report attached.

In July 2019, Fiji Met hosted an ocean science to service stakeholder consultation which included a number of stakeholders from the maritime sector, Fiji Navy, ports and tourism authorities, to gain a better idea. Report is attached.

In July 2019, SPC hosted the Regional Consultation for the UN Decade for Ocean Science for Sustainable Development in Noumea, attended by regional experts to determine science priorities for 2021-2030. One of the global goals for the Decade is to completely map the ocean.

In Sept 2019, we supported 8 Pacific Met Services to attend the OceanObs'19 conference in Hawaii, where they learned about many new options for mapping the ocean floor and collecting ocean data.

2.6 Oceanography

The Project has contributed to a GCF proposal led by UNEP to further develop ocean science capabilities in Niue, Tuvalu, and Cook Islands. This GCF would include the deployment of additional buoys, as well as a sail drone, which will collect critical data and map the deep ocean floor of Marae Moana in Cook Islands.

Four new wave buoys deployed in 2019- 3 in Fiji, 1 in Noumea. Additional buoys to be deployed in Kiribati and Tuvalu in early 2020 under CIFDP and CREWS.

2.7 PIDSS project

In 2010 the Pacific Community or SPC designed and advocated the Pacific Islands Domestic Ship Safety or PIDSS Programme.

The main goal of PIDSS is to STRENGTHEN MARITIME SAFETY ON DOMESTIC VESSELS through adoption and implementation of a Safety Management System by the domestic shipping companies and their fleet:

The components of this safety programme include;

Review the status of domestic ships in the region,

Provide safety trainings and templates for Safe Operational Plans (SOPs) to support a Safety Management System

Conduct maritime safety audits to test the effectiveness of implementation of SOPs

Tonga and Kiribati were selected for the pilot since its inception in 2010. In total, there are 10 countries now participating, to date, and it is likely to get 3 more countries on board in the next 3 years (to 2021).

SPC's Ship Safety Audit Adviser, Oceans & Maritime Program Omirete Tabureka is leading his team to conduct training for shop owners and operators on improving safety measures and put in place guidelines to follow.

“Through the PIDSS program, we are trying to improve the safety of domestic vessels through implementation of a safety management system so we came up with safe operation plans. These are more or less like safety manuals for the ships and how to implement the safety procedures. It's all about safe operations of the ships and pollution prevention.”

SPC, in partnership with KfW Development Bank has been working closely with the Office of the Maritime Regulator (OMR) and the Department of Ports and Harbor in Vanuatu to implement the requirements under the PIDSS. SPC has conducted a number of training workshops for vessel operators and owners and the initiative is being well received.

Ocean Logistics Limited based in Port Vila provides barge services for transporting construction equipment and materials to the outer islands, contributing significantly towards development in Vanuatu.

Director of Oceans Logistics Andrew Bohn believes all operators and owners will eventually recognize the need for the PIDSS.

“We are absolutely supportive of the initiative that the OMR is bringing in through SPC to improve maritime safety and governance. We have heard calls from clients, the passengers, people travelling to the islands, people shipping cargo to the islands and then from the crew members themselves, and everyone wants a safer travel and work environment. For the ship owners having their vessels not sink or get damaged helps shipping become more profitable as well and make shipping in Vanuatu safer.”

Planned audits are conducted by the SPC team on selected vessels which have implemented their SOPs as part of the process to ensure compliance to the safety operating procedures. The vessels are provided with check list Worek say don't templates and during the audit, the teams board the vessels and conduct physical checks to ensure compliance.

Henry want any more lives to be lost to the seas due to vessel inefficiencies.

“Safer seas, cleaner oceans. These two words mean a lot. That is what the industry is aspiring to and improvement in everything across the maritime sector to ensure that our domestic ships are safer, there is no loss of lives and safe shipping improves economic impact to the islands.”

SPC continues to work with stakeholders in 12 Pacific island countries to implement the requirements under PIDSS. There is growing confidence that the culture of safety will bring about safer domestic shipping services.

2.8 MTCC-Pacific Project

In 2016, the International Maritime Organization (IMO) with four-year funding support from the IMO-European Union Project, Capacity Building for Climate Mitigation in the Maritime Shipping Industry, began an initiative to create a Global Maritime Technology Cooperation Centre (MTCC) Network and establish an MTCC in the following regions: Africa, Asia, the Caribbean, Latin America and the Pacific.

The overall objective of the Global Maritime Technology Cooperation Centre (MTCC) Network is to support participating developing countries in these regions, particularly the Least Developed Countries (LDCs) and Small Island Developing States (SIDSs), in limiting and reducing greenhouse gas emissions from their shipping sector through technical assistance and capacity building to promote energy efficiency in maritime transport. The Global MTCC Network project is funded by the European Union and implemented by IMO.

The vision of the MTCC-Pacific is to promote a Pacific low-carbon maritime transport that supports the sustainable development goals of Pacific Islands countries and territories (PICTs) and the transition towards greener economies in the Pacific.

The overall objective of the MTCC-Pacific is to support targeted PICTs in their efforts to reduce their GHG emissions and reliance on fossil fuel by the implementation of standards, best practices and innovative solutions by maritime transport operators. The following results are expected in 2017–2019:

MTCC-Pacific formed and established;

capacity-building activities at the national and regional levels delivered;

a pilot project on “uptake of ship energy-efficient technologies and operations” implemented;

a pilot project on “fuel consumption data collection and reporting” implemented; and communication and visibility actions delivered.

The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), in joint consultation with their member countries, prepared a proposal to act as the host institutions of MTCC in the Pacific (MTCC-Pacific).

2.9 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:

	Country	Port	Recommendations
1	Solomon Islands	<ul style="list-style-type: none"> • Honiara 	<ul style="list-style-type: none"> • 6 recommendations
2	Kiribati	<ul style="list-style-type: none"> • Betio • Port of London on Kiritimati island 	<ul style="list-style-type: none"> • 6 recommendations • 5 recommendations
3	Vanuatu	<ul style="list-style-type: none"> • Port Vila Harbour • Santo Port in Luganville 	<ul style="list-style-type: none"> • 10 recommendations • 8 recommendations
4	Cook Islands	<ul style="list-style-type: none"> • Aitutaki 	<ul style="list-style-type: none"> • 4 recommendations
5	Federated States of Micronesia	<ul style="list-style-type: none"> • Pohnpei Port • Chuuk 	<ul style="list-style-type: none"> • 6 recommendations • 3 recommendations
6	Niue	<ul style="list-style-type: none"> • Namakulu • Avatele 	<ul style="list-style-type: none"> • 3 recommendations • 6 recommendations
7	Marshall Islands	<ul style="list-style-type: none"> • Majuro 	<ul style="list-style-type: none"> • 8 recommendations
8	Palau	<ul style="list-style-type: none"> • Malakal harbour 	<ul style="list-style-type: none"> • 6 recommendations
9	Samoa	<ul style="list-style-type: none"> • Apia harbour • Salelologa and Mulifanua 	<ul style="list-style-type: none"> • 4 recommendations • 1 recommendation
		TOTAL	76 recommendations

As part of this project SPC organised the first IALA level 1 AtoN Managers course in the Pacific. Representatives from 9 Pacific Island countries attended and all successfully completed the training.



Safety of Navigation 2020 Activities

1. 3 countries targeted for the SIRA assessments this year:
 - Tonga
 - Nauru
 - Tuvalu
2. Follow up on recommendations from the reports
3. SPC to hold in country AtoN maintenance familiarisation workshops in Kiribati, Vanuatu and Solomon Islands
4. SPC to promote more capacity building for the recently qualified IALA level 1 managers by inviting them to join SPC in the region to for SIRA workshops.
5. SPC to hold a regional conference on Safety of Navigation.

3.0 Latest developments and perspectives.

Transport Ministers meetings outcome:

2014 : acknowledged importance of hydrographic services and agreed to the formation of an Hydrographic Unit at SPC

2017: endorsed a Regional Strategy on Safety of Navigation in the Pacific to ensure a consistent approach and progress in hydrography, AtoN, Met, SAR

2019: agreed to set up or strengthen national mechanisms for improved consultation and coordination in safety of navigation and to commit sufficient resources for installing or maintaining safety of navigation services

A consistent approach to safety of navigation in the Pacific:

- Ensure Safety of Navigation is integrated to the 2050 Strategy for the Blue Pacific Continent
- Approach IMO with a consistent Pacific initiative related to Safety of Navigation under SOLAS Chapter V – submission to TCC (SPC, IALA, IHO? Countries?)
- Establish a consortium of partners to support Safety of Navigation initiatives in the Pacific (similar to the consortium of partner on maritime boundaries)

3.1 Recommendations to the 17 SWPC.

Note SPC activities under the Oceans and Maritime Programme and its role and continued involvement in Safety of Navigation

- Acknowledge the importance of safety of navigation under the 2050 Strategy for the Blue Pacific Continent
- Agree for a consistent and coordinated approach of safety of navigation in the Pacific between countries and interested partners and to engage with IMO through Pacific position papers and formal requests for support

