SPREP
Secretariat of the Pacific Regional Environment Programme

PO Box 240, Apia, Samoa
E: sprep@sprep.org
T: +685 21929
F: +685 20231
W: www.sprep.org

The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.

Twenty Eighth SPREP Meeting of Officials

Apia, Samoa
19 – 21st September 2017

Agenda Item 12.2.3: Update from the current Pacific Meteorological Council/Pacific Meteorological Desk Partnership projects supporting Pacific National Meteorological and Hydrological Services

Purpose

1. To inform the meeting on the progress made by the Secretariat and its partners in relation to meteorology, hydrology and climatology activities that are contributing to building the capacity of Member's National Meteorological and Hydrological Services (NMHSs).

Background

2. The Pacific Meteorological Council (PMC) is a subsidiary body of the SPREP Meeting and serves as the regional mechanism through which meteorological, hydrological and climatological services' activities in the region are coordinated and these are guided by the Pacific Islands Meteorological Strategy (PIMS). SPREP and the World Meteorological Organisation (WMO) provide the Apia-based secretariat support for the PMC and monitor progress in achieving the goals of the PIMS through the Pacific Meteorological Partnership Desk (PMPD). The PMPD is the regional modality adopted by SPREP and its partners for serving the needs of the NMHSs, PMC and their bi-annual meetings. The 4th meeting the PMC and the 2nd Pacific Ministerial Meeting on Meteorology were held in Honiara, Solomon Islands from 14-18 August 2017. Meeting outcomes are presented in WP 12.2.2.

Finland-Pacific Project on Reduced Vulnerability of Pacific Island Countries' livelihoods to the effects of climate change

3. The Finland-Pacific (FINPAC) project is a partnership between SPREP and the Government of Finland supporting Pacific communities to reduce their vulnerabilities to the effects of climate change through improved National Meteorological Services (NMSs).

4. The project concluded on 30 June 2017.

5. Over its four-year implementation, the project assisted 14 countries based on the growing needs of Pacific communities to prepare and respond to the changing weather patterns and climate trends. The project's focus was on providing NMSs with the capacity and tools to accurately provide weather and climate services in a timely manner to support community adaptation planning and disaster risk reduction.

6. Lessons learnt from the FINPAC project were presented at the 27th SPREP Meeting in 2016 (WP 9.2.1).

7. SPREP is pursuing opportunities to replicate some key successes of the FINPAC project.

Republic of Korea- Pacific Islands Climate Prediction Services Project

8. The Government of Korea through the Pacific Islands Forum has engaged SPREP and the APEC Climate Centre (APCC) to establish a Republic of Korea- Pacific Islands Climate Prediction Services Project (RoK-PI CLIPS) for 3 years (2015-2017). The project continues strengthening the resilience of Pacific communities and national development planning to climate risks at seasonal timescales by building NMSs capacities to provide tailored climate prediction information using a region-specific system known as CLIKP (CLImate ToolKit for the Pacific; http://clikp.sprep.org/). The project scope takes into account the unique geographical features of the Pacific to translate APCC's real-time global climate prediction information into support from the PMDP that enables NMSs to generate their own sector-specific climate information products.

Climate and Ocean Support Services project in the Pacific Project

9. The Climate and Ocean Support Services in the Pacific (COSPPac) project is funded by the Australian Department of Foreign Affairs and Trade (DFAT), and implemented by the Bureau of Meteorology (BoM). The project works with Pacific Island stakeholders to analyse and interpret climate, ocean and tidal data to produce valuable climate information for island communities, helping communities to prepare for, and mitigate the impacts of severe climate, tidal and oceanographic events.

10. COSPPac is partnered with fourteen Pacific Island countries[1] and is carried out with support from SPREP, SPC, USP, Geoscience Australia and Pacific Islands Lands and Surveys Departments. The project includes the fifth phase of the South Pacific Sea Level and Climate Monitoring Project, the third phase of the Pacific Islands Climate Prediction Project, a new capacity development and communications program and is supported by a management unit within BoM. The project builds on the approach taken by BoM and DFAT had taken in earlier COSPPac work to maximise the sustainability of the products and tools produced by transitioning them to regional ownership and management. SPREP is now managing the:

    a. Seasonal Climate Outlook Prediction Software for the Pacific (SCOPIC) tool;
    b. OCOF;
    c. COSPPac Climate Bulletin;
    d. COSPPac Red Cross Alert ;
    e. Traditional Knowledge database; and
    f. COSPPac Capacity Development tools;
    g. COSPPac and SPREP continue to provide support to Seasonal Climate Prediction in the region through the Online Climate Outlook Forum (OCOF).

11. The project will conclude on June 2018.

[1] Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Niue, Nauru, Papua New Guinea, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

Science-Based Climate Information Services in the Pacific: Communicating New Findings, supporting Application and Developing In-Country Capacity.

12. The Science-Based Climate Information Services in the Pacific: Communicating New Findings, Supporting Application and Developing In-Country Capacity is an eighteen months (July 2016-December 2017) project, funded by the Australian Government through DFAT and is being led by CSIRO (Oceans and Atmosphere) as a joint initiative on behalf of both CSIRO (Oceans and Atmosphere), SPREP (Climate Change Division – CCD and the Pacific Meteorological Desk Partnership - PMDP) and BoM.

13. The project ensures that a regional focus is maintained for outreach of the latest climate science, including support for appropriate development of regional scale capacity and services, to underpin the expected more detailed approach of delivering products and services to national/sub-national sectoral and community-scale end-users through future support from donors such as the Green Climate Fund. The underlying assumption is that the realisation of sustainable and resilient, long-term outcomes for Pacific stakeholders requires a targeted, coordinated and appropriately balanced provision of technical support and investment of resources at both regional and national scales.

Programme for Implementing the Global Framework for Climate Services (GFCS) at Regional and National Scales

14. The Programme for Implementing the GFCS at Regional and National Scales is funded by the WMO and Environment and Climate Change Canada (ECCC) to support activities to enhance resilience in social, economic and environmental systems to climate variability and climate change through the development of effective and sustainable services.

15. The project supported various initiatives in the region including:the establishment of the Pacific Island Climate Outlook Forum (PICOF), two PICOFs organized in 2015 and 2016 and the third PICOF which is planned for October 2017; the establishment of National Climate Outlook Forum (NCOF) in Kiribati, Papua New Guinea and Vanuatu, and NCOFs for Fiji and Tonga are planned for late-2017; the development of drought policies for selected countries including Kiribati, Tuvalu, and the Solomon islands; and the development of the Pacific Roadmap for Strengthened Climate Services (PRSCS) 2017-2026.

16. The project will conclude in March 2018.

Pacific Islands Global Ocean Observing System

17. The Pacific Islands Global Ocean Observing System (PI-GOOS) and the PI-GOOS Officer have been supported as part of SPREPs core work program by USA National Ocean and Atmosphere Administration (NOAA). PI-GOOS is building ocean observing capacity, coordinate regional activities, and develop programs for SPREP members. PI-GOOS supports and works with Members on deployment of Argo profiling floats and access to data they collect, and supports the Scientific Educational Resources and Experience Associated with the Deployment of Argo Floats project (SEREAD). This last year SEREAD has hosted teacher training workshops and assisted with curriculum development in Kiribati, Tonga and Tuvalu.

18. The PI-GOOS Officer has been overseeing the execution of the New Zealand Pacific Partnership on Ocean Acidification project and is actively working with neighbouring GOOS Regional Alliances (US's PacIOOS and Australia's IMOS) to develop regional projects.

Support to Kiribati and Tuvalu Upper Air Observation Network

19. The on-going sustainability of systematic observing systems and collection of reliable meteorological data is crucial to informing our understanding of the weather, climate variability and change.

20. The financial support is provided by the United Kingdom Met Office (UKMO) with technical support from the Meteorological Service of New Zealand (MetService). This programme has consistently supported the upper air programmes of Kiribati and Tuvalu.

21. Cooperation with NMSs plays an important role in ensuring that accurate data from remote locations such as the Pacific is made available to strengthen global model for weather and climate forecasting.

22. This is a 5 year programmes and will conclude in 2019.

Severe Weather Forecast and Disaster Risk Reduction Demonstration Project (SWFDP) in the South Pacific

23. The current state of advanced Numerical Weather Prediction (NWP) systems has led to increasingly skillful weather forecasts over the recent decades, and further advances are likely to continue into the future. NWP systems provide accurate indications of developing extreme weather events, and are a very relevant component of routine and severe weather forecasting and warning programs for many NMHSs. In this context the WMO's SWFDP seeks to enhance the use and application of outputs of existing NWP systems to improve severe weather forecasting through WMO's Global Data-Processing and Forecasting System (GDPFS) program; and the delivery of weather warning services.

24. The SWFDP represents a systematic and practical approach for building capacity, and transferring new knowledge and skills. The SWFDP has been implemented successfully in the Southern Africa, Eastern Africa, Bay of Bengal, Caribbean and Pacific regions, serving more than 50 countries globally.

25. The Pacific SWFDP is supported by the US NOAA and WMO. A pilot phase commenced in late 2009, involving Fiji, Samoa, Solomon Islands and Vanuatu, and transitioned into a demonstration phase in November 2010 with the addition of participating countries: Cook Islands, Kiribati, Niue, Tonga and Tuvalu.

26. Evaluation of the demonstration phase showed that the 9 Pacific Island Countries involved in the SWFDDP have increased their capacities in operational severe weather forecasting, which also strengthened the technical basis for building or enhancing their national weather forecasting and warning services.

27. The fourth meeting of the Regional Subproject Management Team for the SWFDDP for the Pacific Island Countries (Honiara, Solomon Islands, 23-27 August 2016:

    a. Agreed that the SWFDDP is very valuable to the South Pacific Islands' region in the production of severe weather forecasts and warnings;
    b. Recommended that SREP take on the role as the regional entity that would manage and coordinate activities of the SWFDDP and that WMO, USA NOAA, NWS and SPREP to consider funding a position within SPREP to assist with this role and other related responsibilities; and
    c. Decided to continue the demonstration phase of the SWFDDP pending commitment of SPREP to take on the role and responsibility of overall management and coordination of the project and completion of a full and independent evaluation of the SWFDDP.

28. Coastal disasters are a major concern for the life and livelihoods of people and socio-economic development, in low-lying and highly populated coastal areas. The management of risks for coastal disasters represent a great challenge to scientific and policy makers in meteorology, hydrology, oceanography, emergency management and coastal planning. With a view to improving safety related services for communities, a fundamental priority for WMO, the Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) and the WMO Commission for Hydrology (CHy) initiated the Coastal Inundation Forecast Demonstration Project (CIFDP). The CIFDP aims to provide an example of cooperative work as a strategy for building improved operational forecasts and warning capability for coastal inundation, combining extreme waves, surges and river flooding events. Its main focus is to facilitate the development of efficient forecasting and warning system for coastal inundation based on robust science and observations.

29. The CIFDP for Fiji (CIFDP-Fiji) is a 4-year (2016-2019) initiative supported by WMO and the Korean Meteorological Agency (KMA). The expected outcomes of the project include reliable open source coastal inundation end to end operational forecasting and warning system, specialized training for operators/forecasters and disaster managers, and cross-cutting cooperation among different scientific disciplines and user communities.

Installation of Himawari-8/9 Cast Receiving Equipment for Pacific Islands

30. The Japan Meteorological Agency (JMA) launched meteorology satellite Himawari-8 in 2014 and began its operation in 2015, followed by the launch of Himawari-9 for in-orbit standby in 2016. Himawari-8/9 will be in operation around 140 degrees East covering the East Asia and Western Pacific regions for 15 years. The distribution and dissemination of meteorological information from Himawari-8/9 to the NMHSs is via internet services. For NMHSs with limited internet services, information will be disseminated by communication satellite.

31. JMA and WMO initiated a project to install Himawari Cast receiving and processing systems in NMHSs with limited internet services for Pacific Islands Countries (Federated States of Micronesia, Kiribati, Palau, Papua New Guinea, Samoa, Tonga and Tuvalu) and 7 countries from Asia (Bangladesh, Cambodia, Mongolia, Myanmar, Nepal, Thailand and Viet Nam).

Pipeline Projects

The Vanuatu Climate Information Services for Resilient Development Project

32. The Vanuatu Climate Information Services for Resilient Development Project (Van-CIS-RDP) was approved at the Green Climate Fund (GCF) Fifteenth Meeting of the Board in Apia, Samoa from 13-15 December, 2016. The Van-CIS-RDP will support the strengthening and application of Climate Information Services in five targeted development sectors: tourism; agriculture; infrastructure; water and fisheries. The project will build the technical capacity in Vanuatu to harness and manage climate data; develop and deliver practical CIS tools and resources; support enhanced coordination and dissemination of tailored information; enhance CIS information and technology infrastructure; and support the application of relevant CIS through real-time development processes, for more resilient outcomes.

33. The Van-CIS-RDP will begin with a 3 month inception and planning phase in the latter half of 2017 and is implemented by SPREP as a GCF Accredited Entity and jointly executed by SPREP and the Vanuatu Meteorology and Geo-Hazard Department (VMGD) in partnership with CSIRO, BOM, and APCC.

Climate Risk Early Warnings Services-Canada Pacific Small Island Developing States and Canada Small Island Developing States/South-East Asia (SEA) projects

34. The Climate Risk Early Warning Services (CREWS)-Canada Pacific Small Island Developing States (SIDS) project will focus on strengthening hydro-meteorology early warning services in 11 Pacific SIDS (Cook islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Tokelau, Tonga and Tuvalu.

35. The Small island Developing States (SIDS)/South-East Asia (SEA) project aims to strengthen weather, climate and water impact-based decision support services to the Multi-Hazard Early Warnings System (MHEWS) stakeholders, socio-economic sectors, and communities. The project implementation will be focused on the South-East Asia region and SIDS.

Recommendations

36. The Meeting is invited to:

- **acknowledge** the generous support and commitment of regional and international partners for the past, ongoing and upcoming work to support NMHS's in the region, including the Government of Finland, Government of the Republic of Korea, Korea Meteorological Agency, Government of Australia, Government of Canada, Environment and Climate Change Canada, Government of Japan, Japan Meteorological Agency, US NOAA. WMO, and Green Climate Fund; and
- **encourage** Members to **support** the on-going development of the National Meteorological and Hydrological Services and SPREP's efforts to support them.

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15 August, 2017