3.1 Out-of-Session Meeting of the Pacific Meteorological Council Working Paper

5 May 2021

Virtual Meeting (Zoom)

Agenda Item 3.1: Weather Ready Pacific - A Decadal Programme of Investment

Purpose:

1. At its fifth biennial meeting in August 2019, the Pacific Meteorological Council (PMC) agreed for SPREP to commission a study to scope the feasibility for a decadal program of investment to enable the Pacific Region Small Island States to anticipate better, prepare for and respond to extreme weather events, water and ocean risks. The abovementioned study has subsequently informed the development of the 'Weather Ready Pacific, A Decadal Program of Investment; and Members are invited to discuss this document.

Background:

1. Pacific island countries are vulnerable to a wide range of weather, climate, hydrological, ocean and other related environmental extreme and high impact events. Further, the risks posed by extreme events are increasing as the Pacific region is particularly vulnerable to climate change and it is likely that extreme events will become more intense and/or frequent in coming decades.

2. The forecasts and warnings of extreme weather, hydrological and ocean events provided by National Meteorological and Hydrological Services (NMHSs) are essential to the safety, security and well-being of Pacific people and communities, protection of property and in contributing to sustainable development. However, critical gaps exist in the ability of NMHSs to deliver on their mandates with key concerns including governance arrangements, inadequate investment in modern observation networks and their maintenance, forecasting systems that are highly variable in approach and quality, and insufficient qualified meteorological, hydrological and technical staff.

3. The third and fourth Pacific Meteorological Council Meeting put in place support mechanisms such as the 6 expert panels on (i) Climate Services, (ii) Hydrology Services, (iii) Education, Training and Research, (iv) Marine and Ocean Services, (v) Aviation Weather Services, and the (vi) Communications and Infrastructure. These expert panels continue to support the implementation of priority areas in the Pacific Island Meteorological Strategy (PIMS) 2017-2026. The Pacific Ministerial Meeting on Meteorology (PMMM) in 2015 and 2017 also emphasized the need for donors and partner to invest in meteorological services so that Pacific

Small Island States can anticipate better, prepare for, and respond to extreme weather events, water and ocean risks.

4. At its fifth biennial meeting in Apia Samoa in August 2019, the Pacific Meteorological Council (PMC)[1] unanimously agreed and commissioned through the Secretariat of the Pacific Regional Environment Programme (SPREP) in cooperation with members, World Meteorological Organization (WMO) and other partners to undertake a feasibility study to scope a decadal Pacific regional extreme weather, water and ocean response program initiative to enable the Pacific Small Island Developing States to better anticipate, prepare for and respond to those risks. In 2020, the PMC during its out of session meeting discussed and endorsed the Weather Ready Pacific Programme – Scoping Exercise.

5. To address these critical gaps, a decadal response is needed urgently that enables Pacific island countries and territories (PICTs) to better anticipate and respond to high impact and extreme events. Enhancing NMHS capability builds a stronger platform for the region to manage the impacts and risks of climate change and inform adaptation and resilience strategies.

Update:

1. The scoping work was undertaken by consultants working closely with SPREP, the Australian Bureau of Meteorology (BOM), the World Meteorological Organization (WMO), Directors of the NMHSs of SPREP members and SPC. On the basis of extensive consultations, and taking into account relevant existing and planned activities, the *Weather Ready Pacific* proposal presents a 10-year programme of investment US $165 million to strengthen the region's ability to anticipate, plan for and respond to high impact and extreme weather, water and ocean events.

2. The proposed Programme comprehensively and cohesively strengthens the entire hydro-meteorological system, through five key areas of investment: strategy and governance; production of forecasts and warnings; communication and delivery of forecasts and warnings to end-users; infrastructure; and capacity building. At the conclusion of the investment every country in the region will benefit from significantly enhanced data, underpinning global-standard modelling, enabling strengthened forecasts and warnings, translated and communicated to clearly convey impacts, reaching target communities in a timely way, managed by technically skilled staff in effective organisations.

3. These improved forecasts and warnings will have far-reaching benefits and impacts, including to:

    - **Protect communities:** Forecasts and warnings will be more specific about local conditions; will be clearer about potential impacts of the weather, enabling communities to make informed decisions. **Communities will know more, earlier and be safer.**
    - **Support economies:** Improved forecasts and warnings will support timely and targeted preparedness measures, limiting the economic impact of severe weather events (securing infrastructure, relocating stock and supplies etc); for some countries, strengthened ability to provide industry-specific forecasting, leveraging enhanced productivity and investment.
    - **Strengthen security:** Better access to reliable weather information supports the

[1] PMC membership – Directors or their equivalent from American Samoa, Australia, CNMI, Cook Islands, Federated States of Samoa, Fiji, France, French Polynesia, Guam, Kiribati, Marshal Islands, Nauru, New Caledonia/Wallis and Futuna), New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Island, Tokelau, Tonga, Tuvalu, United Kingdom, United States of America, Vanuatu

region's maritime surveillance and fisheries management initiatives and enables better preparedness for events that could lead to political and/or social de-stabilisation – energy management, food and water availability.

- **Enhance connectivity:** By strengthening the Pacific's integration into the global meteorological system, the region is less vulnerable to peaks and troughs in resourcing and support and is a stronger stakeholder in the multilateral system.

4. The proposed investment of approximately US$165 million, while significant, is over 10 years and costed for each component to enable potential partners and investors to identify specific areas for investment. Recent estimates of average annual losses in GDP in Pacific island countries due to natural disasters are in the order of US$ 500 million or US$ 5 billion over a decade. If the proposed changes save only 3% or more of these losses, the human and financial cost of not acting is higher than the cost of acting through the proposed Decadal Programme of Investment. This superficial assessment of benefit is likely very conservative as other economic analyses of NMHS improvements to reduce disaster losses in developing countries show a Benefit-Cost Ratio of 4:1 to 36:12. It should be noted the US$138 million cost includes programme implementation but does not include a follow-up detailed costing plan for work packages, reviews, donor management costs or development of a Monitoring and Evaluation (M & E) framework.

Recommendations:

The Meeting is invited to:

i. **Note** the progress made by SPREP in cooperation with the Australian Bureau of Meteorology, WMO, PMC members and other partners on the request of the PMC-5 to scope a Decadal Pacific regional extreme weather, water, and ocean response program initiative;

ii. **Note** that the inclusive process and methodology used by the experts to collect information to develop Weather Ready Pacific – A Decadal Program of Investment and that it reflects the priorities of the region;

iii. **Acknowledge** the funding support from the Government of Ireland through the Irish fund and the Australian Bureau of Meteorology;

iv. **Endorse** the Weather Ready Pacific- A Decadal Programme of Investment;

v. **Request** for SPREP to seek endorsement of the Weather Ready Pacific – A Decadal Program of Investment from the SPREP Council meeting;

vi. **Recommend** that the Pacific Meteorological Desk Partnership (PMDP) through SPREP promote and seek endorsement of the Weather Ready Pacific – A Decadal Program of Investment in key regional high-level meetings and foras including the Pacific Island Forum Leaders Meeting;

[2] Hallegatte, S., 2012. A Cost Effective Solution to Reduce Disaster Losses in Developing Countries: Hydro-Meteorological Services, Early Warning, and Evacuation. Policy research working paper 6058. Washington, D.C., World Bank.

vii. **Encourage** WMO and other regional and international organizations to promote the Weather Ready Pacific – A Decadal Program of Investment in regional and international foras; and

viii. **Encourage** Donors and Partners to work with SPREP to secure funding for the implementation of the Weather Ready Pacific – A Decadal Program of Investment Plan.

LINKS: https://www.pacificmet.net/pmc-52-2021

a) **Final Draft** of the Weather Ready Pacific – A Decadal Program of Investment
b) **Executive Summary** of the Weather Ready Pacific – A Decadal Program of Investment
c) **Programme Overview** of the Weather Ready Pacific – A Decadal Program of Investment
d) **Key Messages Infographics** of the Weather Ready Pacific – A Decadal Program of Investment