

Sixth Meeting of the Pacific Meteorological Council (PMC-6)

Sustaining Weather, Climate, Water and Ocean Services for a Resilient Blue Pacific

14-16 August 2023, Sofitel Fiji Resort and Spa, Denarau, Nadi, Fiji

Agenda item 16.2: Coordination of Climate Change Science in the Pacific

Purpose of the paper:

1. Provide an overview of developments and progress since PMC-5 in relation to donor-funded Pacific climate change science and services with relevance to key strategic drivers, including implementation of the Pacific Climate Change Science and Services Research Roadmap, and
2. Provide an update on current climate science activities, proposed next steps and associated strategic opportunities for partner PICs, regional organisations and associated development and delivery partners.

Background:

1. Progress in relation to development and delivery of Pacific climate change science and services at regional scale, covering the period from completion of PCCSP/PACCSAP (circa 2014) to completion of the post-PASCCSAP outreach (circa 2018), was reported at PMC-5 in Apia, Samoa in Aug 2019.
2. This included specific reference to development of the new *Pacific Climate Change Science and Services Research Roadmap* (2018). This Roadmap was designed to provide strategic guidance to key regional stakeholders, including the PMC and partner PIC NMSs, regional organisations, donors/development and technical expert delivery partners, for prioritisation and enhanced coordination of project development, implementation and service delivery.
3. The Roadmap was contextualised by the previous IPCC AR5 reporting process and designed to provide complementary strategic guidance for and/or otherwise aligned with:
 - the development and implementation of relevant climate change research (science and services) functions of the Pacific Climate Change Centre (PCCC), and
 - functionality and future development of the Projections Node of the WMO RA-V Pacific Islands Regional Climate Centre (PI-RCC) Network.
4. More recently, relevant Pacific projects/activities aligned with the stated scope and key priorities of the Roadmap include:
 - Regional: DFAT-funded *Next Generation Climate Projections for the Western Tropical Pacific* (2019-2022)

- Regional: Delivery of the Pacific Climate Change Monitor, effectively a ‘state-of-the-climate’ report for the Pacific relevant across multiple (historical, current and future) climate timescales, and
 - National: GCF-funded (Van KIRAP) *Vanuatu Climate Information Services for Resilient Development* (2019-2023)
 - Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean (UNEP CIS-Pac5)
 - Intra-ACP Climate Services and Related Application (ClimSA) in the Pacific
 - Capacity building of the National Meteorological and Hydrological Services in the southwest Pacific region
 - Strengthening Key services of the Pacific Climate Change Centre, DFAT
 - ROK-PI CLIPS, PPOA, CREWS1.0, COSSPAC 2, COSSPac-3, UKMO fund
5. These projects/activities have demonstrated tangible progress in the Pacific towards practical implementation of the roadmap. This has taken the form of best-practice projections science, case studies and guidance materials for partner countries, underpinning a clear, outcome-focussed impact pathway at regional, national and sub-national/sectoral level in the region. More specifically this capability has included a suite of new science-based climate change data, digital information services and knowledge products demonstrating practical applications of science-based services (*.... science informing services*).
6. These new products and services have been specifically tailored to meet needs of target users as science-based evidence informing climate policy development, adaptation planning, disaster risk management and associated decision-making (*.... services informing decision-making*).
7. With these learnings from the last 5 yrs, and also in recognition of:
- the need for alignment of the underpinning Pacific climate change science capability with more recent IPCC AR6 as well as the new AR7 assessment and reporting cycle, and
 - new and emerging ‘climate intelligence’ gaps and needs (data, information, products and services) of key stakeholders, particularly as relates to:
 - i. informing sectoral climate change impacts, vulnerabilities and risks and associated decision-making,
 - ii. delivery of regular, national level ‘state-of-the-climate’ reporting, and
 - iii. providing a robust science rationale including standardised scenario analysis for informing new climate finance mobilisation in the region

there is now a pressing requirement for the Roadmap to be reviewed and updated to ensure it remains strategically contextualised, focussed on key priorities for the Pacific, and otherwise fit-for-purpose for facilitating related program/project-based service delivery.

8. A process for review and update of the roadmap will need to incorporate (but not otherwise be limited to) the following considerations¹:
- A multi-disciplinary, multi-sectoral, 'end-to-end' outcome-focussed approach to development and delivery of climate change science and services
 - Principles of co-design and co-production to apply, ensuring end-user needs drive the process.
 - Alignment and enhanced engagement and integration of the science and services with IPCC AR6/7 assessment and reporting cycles at global and regional scale
 - Ongoing emphasis on traditional knowledge as a key evidence base for decision-making by local communities, including where appropriate in harmony with related domain sciences.
 - Democratisation and innovation of the science and services to enhance access, utility and applications at national, sub-national, sectoral and local community level, including via multiple digital and domain formats tailored to target user needs.
 - Enhanced development and delivery partner coordination and collaboration to facilitate continuous improvement in regional and national level governance including agreed (scientific and administrative) standards of program/project-based service delivery, harmonised outreach (communications, knowledge brokering and capacity development) and reduced transactional costs for key stakeholders.
9. The Pacific Climate Change Centre (PCCC) hosted at SPREP is a globally respected Centre of Excellence providing practical information, support, and training to address the adaptation and mitigation priorities of Pacific communities. It is underpinned by strong partnerships with Pacific Governments, applied research institutions, donors, civil society, and the private sector. The PCCC in partnership with the Institute for Climate, Energy & Disaster Solutions of the Australian National University hosted a series of Pacific Webinars on IPCC Assessment Report 6 (AR6) Working Group 1: The Physical Science, Working Group 2: , Working Group 3 Climate Change and Mitigation & the Synthesis Report (SYR) by. In partnership with Climate Analytics the PCCC hosted the "Intergovernmental Panel on Climate Change sixth assessment report Synthesis Report (SYR) Final Government Distribution (FGD). The main objective 1) To close the knowledge gap in the Pacific region around the work of the IPCC 2) To provide the most up-to-date synthesis of relevant climate change information to diverse Pacific Island audiences 15 factsheets designed to convey and communicate the key findings of the latest Intergovernmental Panel on Climate Change (IPCC). Applied Research is the second core pillar/function of the Pacific Climate Change Centre (PCCC). The PCCC business plan and MERL has defined applied research as "original research undertaken to acquire new knowledge which is directed primarily towards a specific practical aim or objective. Applied research conducted in partnership with PCCC will need to be aligned to the key four themes of the PCCC which are Climate Change Science and Services, Climate Change Adaptation, Mitigation and low carbon futures and Climate Finance. The PCCC in its efforts to fully realise the research function has developed a strategic Partnership Framework for Climate Change Research in the Pacific. The PCCC will play a key role in identifying practical aims with research partners and countries such that they meet the medium- and long-term needs of Pacific communities. It is expected that

¹ See also draft concept paper entitled '*Next Generation (2.0) Climate Change Science and Services for the Western Tropical Pacific*' as a specified deliverable for the DFAT-funded *Next Generation Projections for the Western Tropical Pacific* project (2019-2022) delivered by CSIRO and SPREP.

research will be designed and delivered by PCCC research partners who will be based within the PCCC. The implementation of the framework will provide the mechanism for PCCC to revise the Pacific Climate Change Science and Services Research Roadmap

The objectives of the agenda:

1. Facilitate enhanced coordination of development/delivery of climate change science and services in the Pacific across multiple (historical, current and future) timescales, aligned with strategic priorities of the Pacific Climate Change Science and Services Research Roadmap, and by association the PIMS, the PI-RCC-N and the Pacific Roadmap for Strengthened Climate Services.

Recommendations

The Meeting is invited to:

- **Note** the developments referred in this paper which are focused on Pacific climate change 'science to services' and 'services informing decision-making' i.e., relevant across historical/current to future (multi-decadal) climate change timescales.
- **Note** the Pacific Strategic Partnership framework for Climate Change Research which will play a key role in identifying practical aims with research partners and countries such to meet medium- and long-term needs of Pacific communities. The implementation of the framework will be aligned to the Pacific Climate Change Science and Services Research Roadmap
- **Endorse** the priority need for ongoing technical support and development of best-practice IPCC aligned scientific knowledge, products, services, capacity and practical applications in partner PICs in this (climate change) research domain.
- Recommend:
 - that the existing Pacific Climate Change Science and Services Research Roadmap be reviewed and updated, including detailed implementation plan, as a regional priority to provide key strategic guidance to development and delivery partners.
 - The Roadmap and Implementation Plan to be used as an adjunct to, aligned with and in support of, the ongoing implementation of the Pacific Islands Meteorological Strategy, the Pacific Roadmap for Strengthening Climate Services, the Pacific Climate Change Centre Strategic Business Plan and future development of the Projections Node of the PI-RCC Network.
 - Support from the PMC, NMSs, regional organisations, sectors and development and delivery partners in development and implementation of the updated Roadmap.
 - Request for ready weather for a forecasting projects and donors/training