PACIFIC METEOROLOGICAL COUNCIL

PACIFIC DONOR AND DEVELOPMENT PARTNERS MEETING

Pacific Partnership Coordination Mechanism

Sofitel Resort and Spa, Denarau, Nadi, Fiji Islands • 17 August 2023

SPREP
Secretariat of the Pacific Regional Environment Programme

Kerevaka na Kalou ka doka na Tui

WORLD METEOROLOGICAL ORGANIZATION

Pacific Donor and Development Partners Meeting

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SPREP
Secretariat of the Pacific Regional Environment Programme

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SPREP's vision: *The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*

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- Green Climate Fund
- United Nations Environment Programme
- United Nations Disaster Risk Reduction
- Pacific Community
- Varysian Network
- World Meteorological Organization (WMO)
- Secretariat of the Pacific Regional Environment Programme
- Additionally, our other esteemed partners, whose contributions have been invaluable.

The success of the Pacific Donor and Development Partners Meeting belongs to the more than one hundred participants from throughout the region and beyond. The Meeting ensured the collective sharing of experiences and inputs will continue, to help shape and facilitate the interaction and knowledge on the needs and priorities of its Members in relation to meteorology, hydrology and climatology and related fields for the empowerment of Pacific island people of the Blue Pacific Continent and to understand the priorities for investment in this area.

Introduction

The Pacific Donor and Development Partners Meeting convened on 17 August 2023 at the Sofitel Fiji Resort and Spa in Denarau, Nadi, Fiji as part of the sixth Pacific Meteorological Council Meeting and the third Pacific Ministerial Meeting on Meteorology, hosted by the Fiji Government through the Fiji Meteorological Service. The PMC-6 included representation from American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Kiribati, Marshall Islands, Nauru, Niue, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tokelau, Tuvalu, United Kingdom, United States of America, and Vanuatu from the National Meteorological and Hydrological Services and the National Disaster Management Offices. The PMC convened with the Secretariat support of the Secretariat of the Pacific Regional Environment Programme (SPREP) and the World Meteorological Organization (WMO), with the presence of national, regional and global partners including from the United Nations, Council of Regional Organisations of the Pacific, civil society, non-governmental organisations including the Pacific Disability Forum and the private sector.

The Pacific Donor and Development Partners meeting reflects a Pacific Region that has made significant investments in enhancing weather, climate, hydrological, ocean and related development services resulting in strengthening the capability and capacity of the National Meteorological and Hydrological Services (NMHSs). Additionally, significant investments are needed for the region to achieve full potential in the provision of such services, which has been mobilising several stakeholders including Pacific island countries and territories, donors, development partners on scoping, resources mobilization and implementing programmes and projects in the region. Effective, inclusive and sustainable coordination among such a growing number of donors and partners engaged in climate change, disaster risk reduction and other related disciplines is crucial to ensure accurate, timely, action-oriented and people-centred forecasts and warnings for extreme and high impact hydro-meteorological events.

The Pacific Donor and Development Partners Meeting was requested by the Pacific Meteorological Council in 2019. It is closely aligned with other regional initiatives and the WMO Partner Coordination Mechanisms initiative. The meeting ensured a systematic information exchange, collaboration, and harmonisation of interventions. By optimising and building on existing partnership and engagement platforms, the meeting aimed to strengthen collaboration and coordination among Pacific island countries and territories, development partners, donors, Council of Regional Organisations of the Pacific and United Nations agencies for further investments in weather, climate, hydrology, oceans and related development services – such as the Weather Ready Pacific Programme and Early Warning for All (EW4All) Initiative.

The meeting's objectives aligned to strengthening coordination and synergising of efforts, prioritising the needs of the Pacific region, and supporting sustainable development, resilience development and preparedness in the face of hydro-meteorological disasters. The meeting also aimed to have a common agreement on the setup of the Pacific Partners Coordination Mechanism (PPCM), which will sustain coordination efforts. Discussions also included on ongoing activities, leveraging a coordination dashboard for updates and promoting effective strategies and sharing best practices.

Objectives

1. Ensure donors and partners have access to information on weather, water, climate, and ocean and related initiatives and programs in the Pacific region.
2. Foster effective, sustainable and inclusive actions to support the Weather Ready Pacific Programme: Discuss the governance framework for the Weather Ready Pacific Programme and ensure the sustainability and inclusiveness of partner-related coordination efforts in the Pacific region.
3. Drive collaboration, coordination and networking: Facilitate collaboration, coordination, exchange, and networking among development and donor partners and NMHSs on the PMC priorities.
4. Explore a framework for continuous and sustainable engagement and information sharing: PMC Development Partner Coordination Mechanism.

Outcomes

1. Enhanced engagement of development partners and donors with current PICTs challenges, needs and priorities, in weather, climate, hydrology, oceans and related development services.
2. Improved awareness and alignment among development partners and donors regarding the Weather Ready Pacific Programme and its governance framework as well as existing and future opportunities for support.
3. Defined targeted interventions for efficient resource mobilisation, coordination, and investment for increased resilience to weather, climate, hydrology, and oceans related hazards in the Pacific region.
4. Strengthened collaboration, coordination and networking among development and donor partners, PICTs, PMC and NMHSs for the Weather Ready Pacific Programme and enhanced weather, water, climate, ocean and related development services in the Pacific.
5. Establishment of the PMC Development Partner Coordination Mechanism and its framework of engagement, tailored to address challenges and needs in the Pacific.

This report offers a short synopsis of interventions shared during the Meeting. For copies of presentations, please refer to the following link: https://www.pacificmet.net/developments-donors

SESSION 1. Welcoming Formalities

1. The Development Partner and Donor Engagement Meeting convened at the Sofitel Fiji Resort and Spa in Nadi, Fiji on the 17th of August 2023. The Meeting opened with a prayer from Mr. Sefanaia Nawadra, Director General of the Secretariat of the Pacific Regional Environment Programme (SPREP) which noted the key message of how pleasant it is when people live and work together in unity, symbolic of the Members of the Pacific Meteorological Council.

2. Opening remarks were delivered by Professor Petteri Taalas, World Meteorological Organization (WMO) Secretary-General and Director General Nawadra on behalf of their respective agencies as the shared Secretariat of the Pacific Meteorological Council and as key partners serving as the Secretariat of the Pacific Met Desk, located within SPREP.

3. Director General Nawadra highlighted the main threat of the triple planetary crisis which not only focuses on climate change but pollution and biodiversity loss. Director General Nawadra urged donors and partners to remember that there are existing structures that can be built upon and utilised to help Pacific communities. In closing Director General Nawadra thanked those present for their assistance and commitment and expressed appreciation for their attendance and input to this year's Meeting.

4. Secretary-General Taalas expressed his appreciation to the partners and donors present and the Secretariat for their service and commitment to coordinating regional efforts on meteorological and weather services. Secretary-General Taalas noted that while mitigation is critical WMO also recognises the need to support adaptation and others that contribute to mitigating the impacts of severe weather.

5. Ms. Tagaloa Cooper, Director of Climate Change Resilience for SPREP outlined the objectives and most importantly the desired outcomes for the Meeting:

    a. Enhanced engagement of development partners and donors with current PICTs challenges, needs and priorities, in weather, climate, hydrology, oceans and related development services.

    b. Improved awareness and alignment among development partners and donors regarding the Weather Ready Pacific Programme and its governance framework as well as existing and future opportunities for support.

    c. Defined targeted interventions for efficient resource mobilization, coordination, and investment for increased resilience to weather, climate, hydrology, and oceans related hazards in the Pacific region.

    d. Strengthened collaboration, coordination and networking among development and donor partners, PICTs, PMC and NMHSs for the Weather Ready Pacific Programme and enhanced weather, water, climate, ocean and related development services in the Pacific.

    e. Establishment of the PMC Development Partner Coordination Mechanism and its framework of engagement, tailored to address challenges and needs in the Pacific.

6. Ms. Cooper emphasised the Meeting is an opportunity for Members, donors and partners to engage directly with each other to provide open and frank discussions on what type of assistance is needed and how it may be provided to the Pacific.

SESSION 2. Sustainable Regional Coordination

7. Mr. Salesa Nihmei, Meteorology and Climate Adviser, Climate Change Resilience of SPREP provided an overview of the Pacific Islands Meteorology Strategy (PIMS) 2017 – 2026, which is the guiding strategy for NMHSs, development partners and other agencies. The purpose of PIMS underpins many partnerships, which is why this meeting has convened.

8. NMHSs of the Pacific island countries and territories can provide appropriate weather, climate and early warning services to their islands and communities to safeguard life and property and contributing to national development programmes through sustained observing systems, telecommunications, and data processing and management systems serving end users.

9. Background was provided on the collective journey of the Met community which began in 1993, with SPREP convening the First Regional Meteorological Services Directors (RMSD) Meeting. Context was provided on how climate change became a topic of concern, and how it was integrated into meteorology work. Specific mention of the publication titled "*The Changing Climate in Paradise: Feasibility Study on Climate Monitoring and Impacts in the SW Pacific, 1991*" and in particular the following statement:

   "climate monitoring system in the South West Pacific is minimal to meet the challenge faced and is in jeopardy of failing."

10. Mr. Nihmei reflected on the PMC-6 where considerable commendation was extended to Mr. Arona Ngari, Director of the Cook Islands Meteorological Services for his outstanding service of 40 years to the region. The new PMC Chair, Fiji was acknowledged for their excellent hosting of the event.

11. It was noted that in 2011, the RMSD Meeting was renamed the Pacific Meteorological Council, and through a change in the governance structure, approval was sought from SPREP to have the PMC as a subsidiary body of SPREP. Mr. Nihmei noted SPREP's support in helping to improve engagement in the biennial meetings from 54 in 2011 to 230 in 2023.

12. Mr. Nihmei provided an overview of the priorities of the PIMS 2017–2026:

    a. Improved weather services, in particular, aviation, marine and public weather services.

    b. Improved end-to-end Multi-Hazard Early Warning Systems (MHEWS).

    c. Enhanced infrastructure (data and information services) for weather, climate and water.

    d. Enhanced development of climate services.

13. Mr. Nihmei noted with interest that NMHS Directors have made direct requests to include donors and partners in the implementation of the PIMS 2017–2026, which has led to the coordination and governance arrangement of the PMC in relation to the CROP mechanism donors and partners, including the establishment of the 6 expert panels as follows:

    a. Panel Aviation and Met Services (PIAWS)

    b. Panel Marine and Oceans (PIMOS)

    c. Panel Hydrology Services (PHS)

    d. Panel Climate Services (PICS)

e. Panel Infrastructure and Communication (PICI)

f. Panel Education, Training and Research (PIETR)

14. An overview for the framework of engagement for the Pacific Partners Coordination Mechanism (PPCM) for designing and working with new projects, to ensure alignment in delivering the PIMS was also provided. The PPCM aims to enhance much needed collaboration in hydrometeorological projects within the Pacific Islands Region. It addresses coordination and resource allocation challenges while aligning with PMC and Weather Ready Pacific Programme. It involves systematic exchange of program/project information, acting as a platform for donors to align resources and support national and regional initiatives, thereby, harmonising interventions. It is intended to facilitate the alignment of donor objectives with regional priorities for maximal impact. The approach will involve various means such as annual meetings, special program sessions, ad-hoc discussions and a data analysis dashboard.

15. Mr. Nihmei provided a summary of the outcomes of PMC-6:

a. Progress and updates on the Weather Ready Pacific and the discussion around the governance structure.

b. Establishment of Regional Initiatives:

i. Regional Climate Centre Network

ii. Regional Training Centre

iii. Regional Instrument Centre

c. Regional strategies agreed to be developed:

i. Review and Update of the PIMS, the Roadmap for Climate Services, Climate Change Research Roadmap

ii. Gap Analysis needs to be undertaken in various areas such as ICT.

a. Capacity building and research remains the paramount priority.

b. Priorities for Aviation Meteorology

c. Agreed Regional Guidelines for Infrastructure Standards and Principles

d. Multi-hazard Early Warning Systems (tropical cyclone, extreme weather events, storm surge, floods, droughts, tsunamis, earthquake)

e. Supporting and empowering gender equality, disability social inclusion

16. In closing Mr. Nihmei emphasised the significance of the participation of women and persons with disability, and the outcomes which were endorsed.

17. The moderator Mr. Chaponda Moyenda highlighted the outcomes of the session were met, because the delegates have more insight on the background of PMC and the basis of the coordination mechanism that has been developed.

SESSION 3. Strengthened Collaboration and Coordination

Pacific Region Project and Programme Data Analysis Report and Launch of the Dashboard

18. Ms. Tagaloa Cooper, presented the Framework of Engagement of the PMC Partners Coordination Mechanism and invited partner feedback for improvement (PPCM Concept Note). Countries had expressed fatigue due to frequent visits from various donors and organisations, prompting a collective lesson on the matter. PPCM aims to address support for HydroMet priorities and ensure inclusive involvement, aligning with PMC and Weather Ready Pacific for comprehensive engagement. The presentation aimed to provide an overview of the current status, stemming from the draft engagement strategy from the 2019 Meeting. It was noted that SPREP will reintroduce dedicated climate change discussions to address this gap. PMC's role in the broader conversation will guide interventions. The Pacific Climate Change Roundtable will be re-instigated in 2024, and will feature a working group alongside adaptation, climate finance, and knowledge brokerage, with insights from the Meeting contributing to enhancing the current structure.

19. Mr. Moyenda Chaponda, Project Officer from WMO presented on the Pacific Region Project and Programme Data Analysis Report, which is a consolidated effort to produce an interactive tool to visualise the Hydromet projects and investments in the Pacific. It was noted the challenges on the development of the tool with input required from various stakeholders. A brief background was provided on the methodology required in the development process in defining indicators, identifying focal points and data processing. It was noted that the visualisation data collected gives a breakdown of the projects in the Pacific and the flow of funds within the region including how and where these funds are allocated. The dashboard aims at providing value for different types of users and should be seen as a work in progress, to be improved and further developed with more data and feedback. The tool link is available here.

20. The UKMO representative commented on the linkages of the 2050 Strategy and the dashboard, highlighting alignment with climate action principles post-COP26. The successful presentation of the UK Met Offices role through the WISER Pacific Programme was acknowledged, emphasising strategic harmony with regional priorities and existing plans. The WISER Programme strategically aligns and leverages its efforts with broader investments, reinforcing its support for the Weather Ready Pacific and EW4ALL. This commitment extends to backing the Impact Based Forecasting (IBF) and Early Warning, while also encompassing community-centric focus on gender and social inclusion.

21. Dr. Sezin Tokar, Lead Senior Hydrometeorological Hazards and Disaster Risk Reduction Advisor at USAID/BHA expressed a strong commitment to Weather Ready Pacific and eagerly anticipated the implementation plan. Dr. Tokar highlighted USAID's dedication to reinforcing the end-to-end early warning system from observations in alignment with Pacific standards, collaborating with stakeholders to identify gaps in this process. The intention to collaborate with various entities for partner funding and resource leveraging was emphasised, particularly in initiatives like addressing chatty beetles and bolstering work stations under the IBF. USAID's partnership with WMO on the EW4ALL initiative was underlined, and Dr. Tokar conveyed enthusiasm to work closely with NHMSs. The challenges of donor coordination were acknowledged, with commendation for the proposed dashboard solution, offering a promising avenue for enhanced coordination. Strengthening coordination efforts remains a shared goal.

22. HE. Kay Harrison, Climate Change Ambassador of New Zealand expressed appreciation for the dashboard's development. Ambassador Harrison emphasised New Zealand's extensive historical support for oceans, climate, and weather through institutions like NIWA and NZ Met. Ambassador

Harrison acknowledged the need for a programmatic approach to supporting projects and stressed the importance of the Weather Ready Pacific in facilitating this. They noted that climate and weather events transcend boundaries and emphasised the regional significance of addressing them, commending the platform for enabling dialogue. Looking ahead, they expressed eagerness to collaborate with fellow meteorological members, WMO, and partners, valuing genuine partnerships, active listening, and the continuation of impactful work.Top of Form

23. Ms. Rhonda Robinson, Director of GEM, SPC, emphasised SPC's partnership and role in the region's development. Ms. Robinson welcomed collaborative efforts to enhance the region's progress and recognised the team's dedication. The presentation's coordination mechanism was acknowledged, along with its connections to the Framework for Resilient Development in the Pacific (FRDP) in addressing climate work. SPC highlighted the Pacific Resilience Partnership's (PRP) role in ensuring messages are effectively conveyed. Mr. Nawadra, Director General of SPREP acknowledged alignment work within the 2050 Strategy of the Blue Pacific Continent, recognising the broader sectors involved. The discussions last week among NMHS and NDMO on bridging the gap between them were noted, highlighting the need to consider other sectors. Mention was made of the example of MHEWS. Ms. Robinson acknowledged various efforts, including national ones, and stressed the importance of aligning with and supporting them. SPC also appreciated the dashboard's development and its contribution to information sharing, underscoring the significance of the dashboard's purpose and future pipeline.

24. The UNEP Representative, Ms. Elisapeta Kerslake, extended commendations to the team and secretariat for their invaluable work in developing the mechanism. They highlighted the tool's promising potential as a dynamic instrument for enhancing coordination and fostering impactful partnerships. Emphasising UNEP's strategic presence at SPREP and collaborative efforts with WMO colleagues, they underlined the pivotal role these actions play in fortifying partnerships and aligning with regional priorities. Moreover, Ms. Kerslake stressed that to fully realise the mechanism's effectiveness, there is a critical need to reinforce the secretariat. They underscored the secretariat's central role in coordinating collaborative efforts among partners, thereby ensuring the mechanism's successful implementation.

25. From the JICA perspective, they acknowledged the challenges of coordination and collaboration with donors, noting this as a challenge even for Japan. They emphasised the necessity of strengthening collaboration with organisations and countries. JICA expressed their intention to enhance their presence and visibility, and they proposed collaborating with other donors and partners to achieve this. They highlighted the significance of effective communication with the PMC and Secretariat, underscoring its role in staying informed about ongoing developments. As first-time participants at the PMC, they sought guidance on how to catch up on PMC recommendations for successful implementation.

26. In response, Ms. Cooper from SPREP highlighted the various opportunities available for catching up on PMC recommendations. They expressed gratitude to JICA for their collaboration through the Pacific Climate Change Centre and mentioned the standing committee that provides updates on PMC priorities. SPREP also noted that the Pacific Climate Change Centre's training of Pacific representatives would serve as a hub for transitioning a significant portion of Met Desk training once projects conclude. The approach ensures the sustainability of training initiatives and makes them accessible to all Pacific island Members.

27. Ms. Katherine Berryman of DFAT, Australia recommended endorsing the PPCM and emphasised that Weather Ready Pacific is a Pacific led and Pacific owned initiative, that takes into consideration the collaborative and coordination aspects relevant for the region.

SESSION 4. Inclusive Programmes

Weather Ready Pacific

28. Mr. ‘Ofa Fa’anunu, Director of the Tonga Meteorological Services presented on the progress and update of Weather Ready Pacific, beginning with a short video regarding its conceptual background and rationale. The Prime Minister of Tonga’s message in the Weather Ready Pacific video, highlighted the need for consolidated effort to build capacity on the ground to better inform weather and climate information.

29. An update on the progress of Weather Ready Pacific over the last four years was provided. Mr. Fa’anunu referenced the PMC-5 decision in 2019, where the Meeting agreed that extreme weather events needed special attention, particularly with the impacts of global warming and climate change with respect to the reports of the Intergovernmental Panel on Climate Change and that PMC-5 agreed to commission a study supported by Australia, WMO and the Secretariat. It was reiterated that the PMC-5 agreed to use the outcomes of the scoping study to inform the Weather Ready Pacific.

30. Mr. Fa’anunu presented on the components of Weather Ready Pacific which is valued at USD 167 million and aims to strengthen the region’s resilience to the impacts of severe weather events by protecting communities, strengthening security, supporting economies, and enhancing connectivity. It was emphasised that the total value of the proposed programme would be reviewed. Following the study, a virtual PMC was convened to approve the Weather Ready Pacific ahead of submission to the Forum Leaders.

31. Mr. Fa’anunu presented the Weather Ready Pacific as a vehicle to deliver people-centred end-to-end holistic multi-hazard early warning systems for all Pacific island countries and territories, which was endorsed by Forum Leaders in 2021. To date it has received an initial investment by Australia of AUD 30 million, with support from New Zealand on setting up the governance arrangements for Weather Ready Pacific and how it will operate.

32. Mr. Fa’anunu delivered an in-depth presentation on the PMC-6 outcomes regarding the progress and outcomes of Weather Ready Pacific including the governance structure and way forward.

    a. Agreed to the Variation Option for Governance and requested the Secretariat to engage with donors and development partners to develop the mechanism to operationalise for pre-approval out of session by the PMC by the end of September 2023.

    b. Acknowledged Australia and New Zealand’s offer of support to assist SPREP to enable the way forward.

    c. Agrees to the Hybrid Investment Facility and request the Secretariat to engage with donors and development partners to develop the mechanism to operationalise for PMC approval out of session by end of September 2023.

    d. Requested the Secretariat to engage with donors and development partners to develop the implementation plan that will outline the next steps to bring Weather Ready Pacific to fruition for approval by the PMC out of session by the end of October 2023.

    e. Agreed that implementation to start with the key priority outcomes from the PMC Panels and urgent needs within the PIMS Framework.

33. Ms. Katherine Berryman of DFAT, Australia shared the commitment of Australia to the Pacific led and Pacific owned initiative of the Weather Ready Pacific, where the Government of Australia has committed through their Foreign Minister the Honourable Penny Wong AUD 30 million. It was noted that Australia remains committed and encourages other donors to invest in Weather Ready Pacific.

34. Ms. Rhonda Robinson, Director of GEM, SPC acknowledged the role that SPREP has played in coordinating Weather Ready Pacific and reaffirms its commitment to engage in the effective implementation of Weather Ready Pacific. Ms. Robinson also acknowledged the efforts in presenting the options for the Weather Ready Pacific governance structure.

35. The representative from the World Bank Ms. Simone Esler, Senior Climate Change Specialist, Suva office commended Mr. Fa'anunu on the presentation and noted the potential interest of the World Bank, which would require further internal consultations before progressing next steps.

36. In closing, Mr. Fa'anunu reminded the Meeting of the UN's agenda to ensure all countries in the world have access to early warning systems highlighting UN's aspirations, Mr. Fa'anunu emphasised that EW4ALL and the Weather Ready Pacific stand as pivotal initiatives driving the Pacific towards its goals. The presence and backing of the WMO Secretary-General underscored the global leadership's commitment and fostered optimism for the transformative role of the Weather Ready Pacific in ensuring Pacific resilience.

37. Secretary-General Taalas supported Mr. Fa'anunu's statement and reaffirmed the commitment and support of WMO and the UN Secretary-General's commitment to supporting the Pacific.

Early Warning for All Initiative

38. Mr. Cyril Honoré of WMO provided a presentation on the Early Warning for All (EW4ALL) Initiative that is a global project with partnerships between agencies of the United Nations Disaster Risk Reduction (UNDRR), International Federation of Red Cross and Red Crescent Societies (IFRC), International Telecommunication Union (ITU) and WMO. It was noted that early warning systems are a proven effective and cost-efficient climate adaptation and disaster risk management measure. It was emphasised that this would add value to the Weather Ready Pacific and not duplicate efforts existing in the Pacific region.

39. The "Early Warnings for All" initiative is a groundbreaking effort to ensure communities are protected from hazardous weather, water, or climate events through life-saving early warning systems by the end of 2027. The Pillars noted as follows:

    a. **Pillar 1**: Disaster risk knowledge and management – UNDRR

    b. **Pillar 2**: Detection, observation, monitoring, analysis, and forecasting – WMO

    c. **Pillar 3**: Warning dissemination and communication – ITU

    d. **Pillar 4**: Preparedness and response capabilities – IFRC

40. With respect to the Pacific the current phase is focused on Fiji, Kiribati, Samoa, Solomon Islands, and Tonga. Key national stakeholders have been engaged by the respective partner agencies in country. Existing mechanisms such as the Climate Risk and Early Warning Systems (CREWS) and the Systematic Observations Financing Facility (SOFF) will assist the rollout of the EW4ALL Intiiative.

SESSION 5. Projects, Programmes and Donor Priorities

Approach

41. The World Café Style facilitation approach for Session 5: Projects, Programmes and Donor Priorities; aimed to foster dynamic discussions by employing interactive breakout groups at different thematic stations. Four stations were established with thematic areas broadly covering the six technical panels of the Pacific Meteorological Council. The café themes centred around – Aviation and Weather Services; Climate and Ocean Services; Hydrology and Water Resources; and Communications and Infrastructure. Cross-cutting themes of Early Warning Systems (EWS), capacity building, and gender and social inclusion considerations were interwoven into the facilitation questions to encourage donors/development partners, private sector, and NMHS directors to collaboratively discuss the following considerations for investment in meteorological and hydrological services in the Pacific:

    a. Perspectives on effective donor/partner coordination

    b. Priorities for investment in each thematic café

    c. Best practices from past/ongoing investment

    d. Considerations for EWS in investment decisions across thematic areas

    e. Gender, and Social Inclusion considerations for investment

    f. Opportunities for private sector engagement

    g. Donor impressions for funding modalities to support their investment decisions.

42. Each café was serviced by an expert facilitator, technical expert, and rapporteurs to capture general insights. The outcome of this session has been a dynamic range of perspectives and actionable ideas to collectively inform investment opportunities across thematic areas, which have been further synthesised below and captured in detail under Annex 3.

Key considerations from discussions in the Aviation and Weather Services Café

43. The Aviation and Weather Services Café recognised the importance of collaboration, consultation, and partnerships across various sectors. Countries like Niue and Tonga shared their efforts in automating weather observation systems and highlighted challenges related to compliance, quality management, and infrastructure.

44. Private sector engagement through public-private partnerships, and clear role definitions were emphasised as an avenue to address infrastructure/equipment gaps and sustainability of operations/maintenance of equipment once installed. Considerations for engagement with private sector must ensure a balance between maintaining public workforce in Pacific Island Countries, and promoting efficiency and new technology. Recommendations for such engagement include building capacity of local technicians in operations and maintenance of equipment.

45. UNEP stressed the need for Met Services to set priorities, while UKMO highlighted the significance of non-duplication and diversification of income streams for sustainable support given the dependence across various sectors on data derived from observations.

46. The complex challenges faced by smaller countries, including data accuracy and local context, were underscored by Fiji, Vanuatu, and Tokelau. Many expressed the necessity of ongoing capacity building, training, and collaboration to ensure adherence to ICAO standards and improve aviation weather services.

47. The importance of quality data, regulatory compliance, and redundancy systems was recognized by various participants, including SPC and PASO. The discussions also delved into initiatives like the Aircraft Meteorological Data Relay (AMDAR) program and the utilization of Artificial intelligence (AI) and emerging technologies in radar sensing for enhanced mapping.

48. The importance of gender mainstreaming, representation, and better engagement within ICAO was raised by New Zealand. Suggestion was made to ensure training programmes promoted greater gender representation. Tonga shared its unique experience that was driven by the cultural context of women's representation in shift-work/overnight observations work, as a deterrent in improving representation of women in Aviation Weather Services.

49. Throughout the conversation, participants acknowledged the shared challenges faced by Pacific nations and identified opportunities for south-south knowledge sharing, funding that is driven by country needs, and improvement of aviation weather services through investment in infrastructure (particularly operations and maintenance, and capacity building/training) as well as private sector engagement.

50. Embedding weather services in general, into national priorities and elevating the profile of aviation weather services nationally (including improved coordination between Met services and aviation regulatory bodies) is pivotal for ensuring safe and effective aviation operations across the region.

Key considerations from discussions in the Climate and Ocean Services Café

51. The Climate and Oceans Services Café brought together diverse views from the regional and national levels, as well as from donors/development partners operating both regionally and internationally. The Café discussions, while addressing broader issues relating to coordination, investment needs and best practices; also highlighted the importance of ICT/digitization and engagement of the private sector. There was a recognised priority for investment in both infrastructure and capacity building.

52. Fiji's focus on Pacific forecasting as a RSMC and WeatherZone's software solutions for weather and risk underscored practical needs. JICA's emphasis on Meteorology and Hydrology project implementation in the Pacific further enriched the conversation. Kiribati's interest in capacity building and South Korea Institution's call for increased awareness of NHMS needs highlighted important challenges and the need to ensure clear country needs identification, to align with investment opportunities.

53. The imperative of NHMS involvement in procurement processes resonated strongly, with Niue advocating for their active inclusion particularly in procurement of equipment/infrastructure.

54. Varysian underscored the need to bolster private sector investment, while UK Met proposed innovative funding mechanisms. JICA contributed insights into climate and ocean services, underscoring the need to address sea level rise and the relationship between climate and oceans. They also emphasised capacity building projects to address coastal risks related to storm surges and sea level rise. JICA made a notable point regarding all countries under the International Maritime Organization (IMO) regulation, stressing that they are responsible for the safety of the shipping industry. Therefore, JICA highlighted the importance of recognising the responsibility of individuals or staff involved in providing information to ensure maritime safety.

55. USAID brought a comprehensive perspective to the discussions. They introduced their investment flagship, the "flash flood guiding system" (FFGS), designed in collaboration with the World Meteorological Organization (WMO) on a global scale. USAID's commitment extended to collaborating with Fiji in the implementation of the FFGS through a phased approach program. Additionally, they highlighted their ongoing support for communication tools such as "Chatty Beetle", and the development of a 3-D observation tool for surface water monitoring and season-to-sub-seasonal forecasting products. USAID also disclosed their involvement with the International Tsunami Information Center (ITIC) and the exploration of potential expansions of their support to include the Pacific region, particularly in the planning phase.

56. Throughout the discussion, collaboration between public and private sectors, capacity strengthening, AI application, and effective data management were recurring themes. The group recognized the importance of aligning efforts with the Pacific's distinct needs and context. Additionally, the call to promote the Private-Public Engagement (PPE) in the Pacific, in line with the WMO PPE Declaration, was highlighted as a crucial strategy for advancing meteorological and oceanographic services.

57. There was consensus for GCF investment to focus on strengthening private sector engagement particularly in rolling out new equipment/technology and infrastructure; and for consideration of risk products such as weather index insurance.

58. In summary, the Climate and Ocean Services group emphasised the urgency of collaborative strategies, inventive funding models, technological progress, tailored approaches, and the promotion of PPE to address the unique challenges facing the Pacific region.

Key considerations from discussions in the Hydrology and Water Resources Café

59. The Hydrology and Water Resources Café discussions, emphasised the need for improved data and harmonized monitoring and evaluation systems for investment in this thematic area.

60. The Solomon Islands Hydro section shared best practices in the expansion of their hydrology efforts, emphasizing the implementation of the Hydrology SOS initiative to ensure effective activities. The science community underscored the increasing importance of hydrology, highlighting capacity needs, water quality concerns, and investment in modelling. There was consensus on the importance of private-public partnerships and the development of standard processes to manage equipment and systems efficiently.

61. USAID emphasised the significance of a solid implementation plan to coordinate hydrology efforts, suggesting the establishment of a digital platform as a community of practice. Capacity building was identified as a key priority, with the need for technical and scientific training to provide accurate and timely hydrological information. Fiji Met Services acknowledged capacity building as a persistent challenge and questioned how to standardise equipment acquired from different partners.

62. NIWA reaffirmed their commitment to the Weather Ready Pacific initiative and called for a change in the perception of donors and partners toward hydrology. Discussions revolved around enhancing data management, establishing national strategic plans, and the holistic consideration of infrastructure. Vanuatu Met highlighted the necessity of a strategic plan guiding the extent of system setup and support for communities. SPC stressed the importance of incorporating hydrology into the Weather Ready Pacific framework, including robust technical components and gender-focused strategies. Tokelau highlighted challenges in rainwater infrastructure sustainability and capacity building after COVID-19.

63. GCF addressed capacity enhancement in hydrogeology and advocated for a programmatic approach, collaborating with accredited entities to design tailored training programmes.

64. Kiribati emphasised the critical role of water, especially groundwater, and the need for qualified hydrologists. JICA announced their ongoing collaboration with Fiji National University to train hydrologists in the Pacific. The World Bank acknowledged the need to strengthen the regional voice in hydrology-related challenges through the Weather Ready Pacific initiative.

65. WMO highlighted their support for the long-term monitoring of flooding, hydro power, soil, and the opportunity for case studies in the Pacific. They emphasised the importance of clear communication with donors and partners regarding needs and priorities. The EU, JICA, and SPREP offered insights into technical checks, priority identification, and gender integration in hydrology and water resource projects. The synthesis of these discussions underscored the significance of collaborative efforts, capacity development, and robust planning to address the hydrological challenges of the Pacific region.

Key considerations from discussions in the Communications and Infrastructure Café

66. Top of Form

67. In the Communications and Infrastructure Café, participants engaged in a wide-ranging conversation about the challenges and opportunities related to communication systems and infrastructure in the context of weather and climate services in the Pacific region.

68. Fiji Met Services emphasised the importance of leveraging the best technology effectively across Pacific countries, such as satellite GPS. The representative from Tomorrow.io raised concerns about the sustainability of projects implemented through funding and suggested using existing technology and infrastructure from previous projects to reduce costs. SPC highlighted the success of coordinated efforts in the Solomon Islands' EbA project, underscoring the importance of political leadership and collaboration among partners. Discussions also highlighted the need to address communication challenges, including the lack of internet access in some communities and the high cost of communications.

69. Marshall Islands stressed the need for clear communication channels to ensure that the official source of information is well-defined, particularly for remote islands that rely heavily on radio and satellite-based communication. New Zealand's private sector offered database storage services and emphasised the importance of matching donor capabilities with recipient needs. UK Met Office highlighted the coordination of donor efforts centred around the needs of recipients and noted the significance of considering various communication styles for effective early warning communication. Additionally, discussions addressed challenges related to costs, traditional communication methods, and the need for infrastructure improvement.

70. UNESCO highlighted the need for effective communication between technology providers and users, especially those with disabilities. The World Bank highlighted the need for continued strengthening of infrastructure projects with ongoing maintenance, suggesting possible coordination in this area. New Zealand Met Services called for a programmatic approach and a stock take of available infrastructure to match the region's needs. NIWA recommended a learning exchange forum for sharing technical solutions.

71. Overall, the discussions highlighted the importance of coordinating efforts, incorporating gender and disability considerations into communication systems, addressing infrastructure challenges, and leveraging existing technology to ensure the effectiveness and sustainability of weather and climate services in the Pacific region.

SESSION 6. Key Outcomes of the Meeting

OUTCOME 1. *Enhanced engagement of development partners and donors with current PICTs challenges, needs and priorities, in weather, climate, hydrology, oceans and related development services.*

OUTCOME 3. *Defined targeted interventions for efficient resource mobilisation, coordination, and investment for increased resilience to weather, climate, hydrology, and oceans related hazards in the Pacific region.*

Synthesising outcomes across all thematic Cafés – Key considerations for Investment in Meteorological and Hydrological Services in the Pacific

72. Considerations for effective donor/partner engagement – there was a unanimous call across all thematic areas, to ensure clear identification of country needs for investment; to avoid duplication and to scale up existing/prior investment such as investment in equipment/infrastructure to ensure sustainability. Considerations of communities of practices to strengthen information for coordination, and the potential for online platforms such as the recently launched dashboard to enhance donor/partner engagement were also discussed. There was also a call to further embed Meteorological and Hydrological services in national systems/priorities; and to improve coordination between national agencies (such as Met Services with aviation regulatory bodies).

73. Prominent priorities, and opportunities for investment – There is an overwhelming need for investment in infrastructure/equipment and capacity building or training programmes that promote gender and social inclusion. Opportunities for pooled funding to provide more efficient access to technical assistance for training, and also a focus on training for operations and maintenance of equipment to accompany investment in infrastructure.

74. Other priorities for investment include investment in communications services and training programmes, while also addressing the communications ecosystem (the enabling environment, capacity of media to support communications, level of connectivity and considerations for rural/remote island communities, and accessibility of information to be translated into the vernacular or to take into consideration vulnerable groups' information needs). There is a strong need for strengthened data management (capture, storage and management of data), and to ensure quality data is available for decision making across all sectors. The annexed summaries of discussions, highlight other investment needs across each thematic space.

75. Early Warning Systems were cross-cutting across all investment considerations, with a call to explore ICT enabled EWS, and best practices from previous projects; as well as to ensure transmission of information and communication to the last mile.

76. Opportunities for Private Sector Engagement were emphasised as a critical means of addressing challenges such as maintenance of infrastructure, and investment in new technology including digital tools and platforms such as web/mobile applications, dashboards and artificial intelligence. Investment considerations in emerging technologies must also address data governance and the enabling environment including the cost of connectivity and status of ICT infrastructure.

OUTCOME 2. ***Improved awareness and alignment among development partners and donors regarding the Weather Ready Pacific Programme and its governance framework as well as existing and future opportunities for support.***

77. Weather Ready Pacific governance structure was discussed, with a variation option accepted. An implementation plan will be developed, starting with key priorities and urgent needs within the Pacific Meteorological Council Panels and PIMS Framework.The Early Warning for All (EW4ALL) Initiative is a global endeavour with the overarching goal of establishing improved early warning systems worldwide by 2027. This initiative is underpinned by four fundamental pillars, addressing disaster risk management, detection, warning dissemination, and preparedness. Presently, in the Pacific region, the focus is on Fiji, Kiribati, Samoa, Solomon Islands, and Tonga.

OUTCOME 4. ***Strengthened collaboration, coordination and networking among development and donor partners, PICTs, PMC and NMHSs for the Weather Ready Pacific Programme and enhanced weather, water, climate, ocean and related development services in the Pacific.***

78. The Pacific Region Project and Programme Data Analysis Report and dashboard introduced as a pivotal tool for enhancing collaboration among partners. This interactive dashboard not only facilitates data sharing but also underscores the importance of ongoing efforts to keep it up to date and fully functional. The Meeting recognised that maintaining accurate and current data on the dashboard is essential for informed decision-making and effective project coordination. Partners were encouraged to actively engage with the dashboard by providing valuable suggestions and inputs that can further enhance the representation of data and information. This collaborative approach ensures that the dashboard remains a dynamic and valuable resource, reflecting the diverse needs and priorities of the Pacific region while fostering effective partnerships for resilience-building initiatives.

OUTCOME 5. ***Establishment of the PMC Development Partner Coordination Mechanism and its framework of engagement, tailored to address challenges and needs in the Pacific.***

79. The Pacific Partner Coordination Mechanism (PPCM) received strong endorsement and support from donor and partner representatives. The Secretariat encouraged partners and donors to actively engage by reviewing and offering feedback to refine the mechanism further. This outcome underscored the collaborative commitment to enhancing coordination, harmonizing interventions, and optimising resources for the advancement of weather, climate, and hydrological services in the Pacific region.

ANNEX 1. Agenda

SESSION 1: WELCOMING FORMALITIES		
9:00–9:30	Prayer and Welcome Remarks: Mr. Sefanaia Nawadra, SPREP Director General Opening Remarks: Professor Petteri Taalas, WMO Sec. Gen. Meeting Objectives – Ms. Tagaloa Cooper	Moderator: Ms. Tagaloa Cooper
SESSION 2: SUSTAINABLE REGIONAL COORDINATION		
9:30–10:00	Overview of the Pacific Island Meteorological Strategy (PIMS) and other regional strategies and frameworks PMC governance Links to COP28 Outcomes/Support from related initiatives	Moderator: Ben Churchill Presenter: Tagaloa Cooper Salesa Nihmei
10:00–10:30	Photo and Morning Tea	
SESSION 3: STRENGTHENED COLLABORATION AND COORDINATION		
10:30–11:00	**Presentation of the PPCM** Framework of engagement of the PMC Partners Coordination Mechanism Open dialogue and feedback from donors/partners	Moderator: Chaponda Moyenda Presenter: Salesa Nihmei
11:00–11:30	Pacific Region Project and Programme Data Analysis Report Launch of the Dashboard – President RA-V and PMC Chair	Presenter: Chaponda Moyenda
SESSION 4: INCLUSIVE PROGRAMMES		
11:30–12:30	Weather Ready Pacific Programme Overview, Progress and Governance Structure Dialogue Session with Development Partners	Presenters: Tagaloa Cooper-Halo Ofa Faanunu Patricia Sachs-Cornish (Consultant)
12:30–1:30	Lunch Break	
1:30–2:00	Early Warning for All Initiative Overview and rollout Process Questions and Answer session	Moderator: Ms. Tagaloa Cooper Presenter: Cyrille Honoré
SESSION 5: PROJECTS/PROGRAMMES AND DONOR PRIORITIES		
2:00–4:00	Breakout Session – Café Style in Thematic Areas *'Statements on current and future opportunities for projects and programmes by donors to support the Weather Ready Pacific Programme and PMC priorities'.* Group Reporting session	Moderator: Salome Tukuafu
Grab a Coffee		
4:00–4:30	Feedback session Key Outcomes of the Meeting Official Closing	Moderator: Salesa Nihmei

ANNEX 2. List of Participants

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Abdul	Sattar	Fiji	Fiji Meteorological Service
Adarsh	Kumar	Fiji	Fiji Meteorological Service
Adil	Ali	Fiji	Fiji Meteorological Service
Alan	Porteous	New Zealand	Climate Scientist – NIWA
Alipate	Wadakelua	Fiji	-
Alisia	Evans	Fiji	Regional Representative – Shifting the Power Coalition
Aminisitai	Loco	Fiji	SPC
Amit	Singh	Fiji	Fiji Meteorological Service
Amy	McGowan	Fiji	Fiji Meteorological Services
Ana	Macanawai	Fiji	UNDRR
Ana	Sovaraki	Fiji	Fiji Meteorological Service
Andre	Siohane	Niue	Government of Niue
Andre Maurice	Siohane	Niue	Government of Niue
Andrew	Johnson	Australia	Director – Australian Bureau of Meteorology
Andrew	Jones	Australia	General Manager – International Development – Australian Bureau of Meteorology
Andrew	Horan		NOAA
Antwone	Farrell		
Arona	Ngari	Cook Islands	Director
Ashnil Ashish	Kumar	Fiji	Fiji Meteorological Service
Atesh	Gosai	Fiji	European Union
Awnesh	Singh	Fiji	USP
Bapon	Fakhruddin		GCF
Ben	Churchill		WMO
Bill (William)	Leathes	UK	International Development Manager, Met Office
Bipen	Prakash	Fiji	Fiji Meteorological Service
Bose	Varetaga	Fiji	FBC News
Branden	Spooner	Barbados	CIMH
Caleb	Aw	Singapore	OTT Hydromet
Charlie	Reed	Samoa	SPREP
Chung Wei	Aw	Singapore	OTT Hydromet
Corinne	Malot	Australia	Campbell Scientific Australia
Cyrille	Honore		WMO

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
David	Farrell	Barbados	Caribbean Institute for Meteorology and Hydrology
David	Corbelli	UK	UK Met Office
David	Hiriasia	Solomon Islands	Director
Dennis	Bellew	USA	Baron Weather
Diego	Lopez Perez	Fiji	UNICEF
Dilwei Maria	Ngemaes	Palau	Meteorologist In Charge / Director
Diminski	Reweru	Nauru	Director of Disaster Risk Management Office
Do-Shick	Shin	South Korea	APEC Climate Center
Doyi	Kim	South Korea	SI Analytics
Duncan	Tippins	Australia	Weatherzone
Edwin Stephen John (Stephen)	Hunt	New Zealand	MetService
Elinor	Lutu-McMoore	American Samoa	U.S. National Weather Service
Elisabeth	Thompson	UK	UK Met Office
Elisapeta	Alailima-Eteuati	Samoa	UNEP
Eric	Baptiste	United States	Enterprise Electronics Corporation
Esiki	Tukana	Fiji	FMS
Espen	Ronneberg	Samoa	SPC
Felix	McGowan	Fiji	Drone Services Fiji
Fetalai	Gagaeolo	Samoa	Principal Community Disaster Preparedness Officer
Filipe	Naikaso	Fiji	FBC News
Folauhola	Latuila	Tonga	Assistant Geologist
Gabrielle	Emery	-	UNDRR
Geoff	Gooley	Australia	CSIRO
Geoffrey	Gooley	Australia	CSIRO
Geoffrey	Kabino	Palau	Personal Assistant of Villaney Remengesau
Graham Reuben James	Elley	New Zealand	Principal Scientist Environmental Monitoring – NIWA
Grant	Mathew	Australia	Campbell Scientific Australia
Graymea	Ika	Nauru	Director
H. Gingerlei	Porter	United States	Director – Pacific International Training Desk, UH
Hannah	Marley	New Zealand	Climate Applications Scientist – NIWA
Harish	Pratap	Fiji	Fiji Meteorological Service
Helen	Tukutama	Niue	-

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Henry	Taiki	Samoa	World Meteorological Organization (WMO)
Herve	Dalmanian	Fiji	SPC
Hong	Sungjin	South Korea	Project Engineer – RainbirdGEO
Hyejin	Lee	South Korea	APEC Climate Center
Imgook	Jung	South Korea	APEC CLIMATE CENTER
Iosefo	Cauravouvinaka	Fiji	Fiji Meteorological Service
Jack	Kaobata	Solomon Islands	Water Resources Division; Solomon Islands Government
Jaclyn	Brown	Australia	CSIRO
Jacqueline (Jacqui)	Reid	Fiji	SPC
James	Lunny	New Zealand	Meteorological Service of New Zealand Ltd
Janice	Mitchell	Fiji	Fiji Meteorogical Services
Jay	Nasilasila		FDPF
Jennifer	Stewart	Fiji	IFRC
Jennifer	Strahl	United States	Meteorologist Trainer – Pacific International Training Desk (PITD), UH
Jennifer	Stewart	Fiji	IFRC
Jeremaia	Tadu	Fiji	Ministry of Health
Jerome	Aucan	New Caledonia	SPC
Ji Hyun	Kim	South Korea	APEC Climate Center
Jimmy	Gomoga	Papua New Guinea	Director
Jin Ho	Yoo	South Korea	APEC Climate Center
Jinjoo	Jinjoo	South Korea	Korea Meteorological Institute
Jiuta	Korovulavula	Fiji	UNESCO/IOC
Joel	Nilon	Fiji	PIFS
John	Strickland	Cook Islands	Director
Jonah	Taviti	Vanuatu	Water Sector Coordinator (Van CISRDP)
Jonathan	Cox	Barbados	Carribean Institute for Meteorology and Hydrology
Jongahn	Chun	South Korea	APEC Climate Center
Joseph	Intsiful	-	Green Climate Fund
Josephine	Wilson	Switzerland	OTT Hydromet
Jukka Petteri	Taalas	Switzerland	World Meteorological Organization (WMO)
Karen	McCourt (Hann In passport)	United Kingdom	Met Office

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Katabwena	Tawaka	Fiji	Deparment of Foreign Affairs and Trade
Katherine	Berryman	Australia	Department of Foreign Affairs and Trade
Katie	Barkans	UK	Varysian
Kaushik	Singh	Fiji	Fiji Meteorological Service
Keni	Vure	Fiji	Fiji Meteorological Service
Kevin	Maitava	Fiji	SPC
Kevin	Alder	New Zealand	Met Service
Kiniconi	Lomavere	Fiji	Ministry of Health
Koji	Kuroiwa		JICA
Kristine	Tovmasyan	Fiji	UNESCO Pacific
Lawrence	Kees		NIWA
Lealaisalanoa Frances	Brown Reupena	SAMOA	MNRE
Lebaiatelaite	Gaunavinaka	Fiji	In-Country Geospatial and Adaptation Specialist
Leonard	Bale	Fiji	FMS
Lepani	Vunituraga	Fiji	UNOCHA
Litea	Biukoto	Fiji	Pacific Community
Litia	Naitanui	Nausori/Fiji	FDPF
Luke	Pierce	-	Varysian Ltd
Luteru	Tauvale	Samoa	Samoa Met/ MNRE
Maciu	Ratu	Fiji	Fiji MFAT
Mafua	Maka	Tonga	Director
Makiti	Raratabu	Fiji	CAA – Fiji
Malaki Saufoi	Iakopo	Samoa	Ministry of Natural Resources and Environment
Mariana	Tuinasavusavu	Fiji	Fiji MFAT
Martin	Palmer	Australia	Weather zone/DTN
Merana	Kitione	Fiji	SPC
Mereoni	Ketewai	Fiji	United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA)
Michael	Brewer	New Zealand	New Zealand Ministry of Foreign Affairs and Trade
Michal	Najman	Czechia	Meteopress
Mile	Fonua	Tokelau	
Minju	Baek	South Korea	Researcher – EPINET
Moirah	Matou	Vanuatu	Van-KIRAP Project – VMGD

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Molly	Powers	New Zealand	NIWA
Monesh	Kumar	Fiji	Fiji Airway Flights Planner
Montin	Romone	Vanuatu	Director
Moon Yong Jae	Moon	South Korea	Kyung Hee University
Moyenda	Chaponda		WMO
Naheed	Hussein	Fiji	SPREP
Nakul	Prasad	Switzerland	Project Officer – WMO
Naomi	Tai	Fiji/Solomon Islands	PWDSI
Narend	Kumar	Fiji	Pacific Aviation Safety Office
Nazgul	Borkosheva	Fiji	UNDRR
Nelson	William		NetVault
Nihmei Kaniaha	Salesa	Samoa	SPREP
Nila	Prasad	Fiji	Senior Program Officer – Japan International Cooperation Agency
Ofa	Faanunu	Tonga	Director
Pakoa	Leo	Vanuatu	Department of Agriculture and Rural development
Patricia	Sachs-Cornish	Fiji	
Patricia	Mallam	Samoa	SPREP
Paul	Bridge	U.S.A	Market Development Manager – Campbell Scientific
Paula	Acethorp	New Zealand	Chief Meteorological Officer – Civil Aviation Authority New Zealand
Peer	Hechler		WMO
Peter	Dunda	Thailand	ICAO
Peter	Sinclair	Fiji	SPC
Pua	Kamaka	United States	NOAA
Rahul	Nair	Fiji	Pacific Technologies
Ravinay	Kumar	Fiji	Fiji Meteorological Service
Raymond Masaharu	Tanabe	United States	NOAA/National Weather Service, Pacific Region
Reginald	White	Marshall Is.	Director/Meteorologist in Charge
Rhonda	Robinson	Fiji	SPC
Robert	Ireland	Australia	Vaisala Pty Ltd.
Robin	Hekau	Niue	Manager
Rosalini	Dalituicama	Fiji	Fiji MoF

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Rossylynn	Pulehetoa-Mitiepo	Niue	Director
Roy Harry	Mumu	PNG	PNG Department of Transport
Ruci	Senikula	Fiji	Pacific Disability Forum
Russell	Vincent	Australia	ALS Water and Hydrographics Pty Ltd
Saimoni	Waqa	Fiji	
Sairusi	Koroi	Fiji	MOFA
Sajiva	Sharma	Fiji	Fiji Meteorological Service
Sakeasi	Waibuta	Fiji	Fiji Meteorological Organisation
Samisoni	Waqavakatoga	Fiji	Fiji Meteorological Service
Sanghyun	Park	South Korea	Deputy director – EPINET
Sarah	Ransom	Australia	Australian Water Partnership
Savaira	Maka	Fiji	UNDRR
Sebastien	Boulay	USA	Advisor – Tomorrow.io
Seongkyu	Lee	South Korea	APEC Climate Center
Setareki	Macanawai	Fiji	UNDRR
Sezin	Tokar	USA	Sr. Hydrometeorological Hazard Advisor – USAID
Sharon	Rolls	Fiji	Shifting the Power Coalition
Shimala	Kuar	Fiji	UNDRR
Shweta	Shiwangni	Fiji	Fiji Meteorological Service
Simon	McGree	Australia	The Bureau of Meteorology
Simon	Harrod		VAISALA
Simone	Esler	Fiji	World Bank Group
Siosinamele	Lui	Samoa	SPREP
Sivendra	Michael	Fiji	Disaster Risk Management Specialist – United Nations Development Programme
Sonia	Dick	Vanuatu	VBC
Sophie	Martinoni	French Polynesia	MÃ©tÃ©o-France
Sosikeni	Ramese	Samoa	SPREP
Stephen	Hunt	New Zealand	MetService
Stephen	Meke	Fiji	Fiji Meteorological Service
Steve	Chamberlain-Ward		OTT Hydromet
Sugyeong	Park	South Korea	Researcher – APEC Climate Center
Sunny	Kamuta Seuseu	Vanuatu	SPREP

GIVEN NAME	SURNAME	COUNTRY	ORGANISATION
Tagaloa	Cooper	Samoa	SPREP
Takashi	Oba	Fiji	Assistant Resident Representative – JICA
Tauala	Katea	Tuvalu	Director
Tavita	Sua	Samoa	SPREP
Telesia	Kobiti		FMS
Tepola	Rabuli	Fiji	Pacific Disability Forum
Teuila	Fruean	Samoa	SPREP
Thomas	Copping	UK	Varysian
Tiffany	Baldwin	Vanuatu	VBC
Tikiko	Koroivoutu	Fiji	MOFA
Tilo	Happ	Australia	CSIRO
Timothy	Cookes	Australia	Enterprise Electronics Corporation
Tina	Tapuai	American Samoa	
Tom	Stewart	Australia	SPC
Torika	Manafau	Nausori/Fiji	FDPF (P.A)
Ueneta	Toorua	Kiribati	Director
Unaisi	Sadranu		FDPF
Valerie	Broudic	Fiji	UNOCHA
Vasiti	Soko	Fiji	NDMO Director
Victoria	Alexeeva		WMO
Viliame	Vereivalu	Fiji	Fiji Meteorological Service
Vuniwaqa	Veitokiyaki	Fiji	Fiji Meteorological Services
Wayne	Pene	Fiji	Fiji Meteorological Services
William	Leathes	UK	Met Office
Xiao	Zhou		WMO
Yeji	Choi	South Korea	SI Analytics
Yong Jae	Moon	South Korea	Professor – Kyung Hee University
Yong Jun	An	South Korea	Project Manager – RainbirdGEO
Zoraya	El Raiss Cordero	Fiji	UNICEF Pacific
Zulfikar	Begg	Fiji	SPC
Zuzana	Pestova	Czechia	Meteopress

ANNEX 3. Synthesis of outcomes from World Café discussions

Synthesis of outcomes across four Cafés /thematic areas relating to Aviation Weather Services, Ocean and Climate Services, Water and Hydrology, Communications and Infrastructure

Perspectives on effective donor/partner coordination

1. Establish communities of practice including use of digital platforms for brokerage of knowledge and data
2. Strengthen embedding into national priorities (issue with coordination across national agencies – MOF responsible for financing needs are not aware of/buy into need to invest in water/hydrology, there is poor visibility of Met services under national priorities, or recognition of importance of observations data for other sectors such as Agriculture/Fisheries).
3. Improve collaboration between national agencies (eg. Between Met Services and Aviation regulatory authorities in each country)
4. Avoid duplication of investments and scale up existing or prior investment (eg. For equipment – how can equipment be re-purposed as opposed to being replaced) = stocktake of all equipment for regional planning, shift away from project focused to programmed approach
5. Clear country needs assessment should be undertaken to match with investment opportunities (including by private sector), also to map stakeholders/actors at national and regional levels

Priorities for investment

Cross-Cutting

1. Infrastructure

- Standardisation of equipment/upgrade of obsolete equipment
- Investment in Aircraft Meteorological Data Relay (AMDAR)/aircraft based meteorological observation systems.
- Automated observations systems and instruments
- Rainwater infrastructure in small islands such as Tokelau
- Operations and Maintenance of equipment is important, and an opportunity for private sector to undertake maintenance and train national counterparts to ensure sustainability (there needs to be programmed funding in long term to support maintenance needs for infrastructure/ equipment)
- Stocktake of all infrastructure/equipment to inform standardisation across sector.
- Upgrade of ICT infrastructure to support connectivity for climate information services/Early Warning Systems.
- EWS infrastructure (and engagement of private sector in development and delivery of EWS)
- Re-purpose existing infrastructure beyond project basis (programmatic approach with strong focus on operations/maintenance is important)

2. Capacity Building/Training

- Funding representation to ICAO and other regional/international body meetings – and negotiation training to lobby for region specific regulatory considerations, and then translating this into outreach programmes for national stakeholders.
- Training on calibration of equipment/maintenance.
- Safety management systems for Aviation Weather Services.
- Training programmes to target increased representation of gender and vulnerable groups.
- Hydrology training/opportunities to increase number of qualified hydrologists.
- Training/outreach to support dissemination of information to the last mile, ensuring that information is accessible (e.g. In vernacular, through sign language).

3. Other Investment needs by thematic area

Aviation and Weather Services:

- Quality data (strengthening data supply chain)
- Inspection programmes for upgrade/maintenance of equipment in remote locations
- Backup systems
- Drainage of low-lying airfields (surface water on runways following flooding/storms/torrential rain) – EWS is important to anticipate this and activate.
- EWS mobile applications for national weather services (or to incorporate Aviation Weather Services data)
- More inclusive alert tools on aircrafts

Water and Hydrology:

- Hydrology SOS (Global Hydrological Status and Outlook System)
- Water Quality
- Modelling
- Monitoring (long-term) for flooding

Ocean and Climate Services:

- Scaling up new technology (such as satellite enabled EWS)
- Developing regional climate products for access by all countries

Communications and Infrastructure:

- Dashboard metrics to inform decisions relating to communications/infrastructure (e.g. maintenance)
- Satellite technology
- Communications – strengthening enabling environment (e.g. Cost of connectivity/subsidies)
- Strengthening data/data governance
- Expanding warning styles (eg. From flags) and ensuring systems are designed to be inclusive such as sign language or using local vernacular.

Best practices from past/ongoing investment

- Standard Operating Procedures (SOP) for engaging aviation sector (Tonga has this) – South-South learning exchange across countries is an opportunity (no regional coordination on knowledge sharing).
- WMO Aircraft Meteorological Data Relay (AMDAR) programme
- VanKIRAP use of climate information services
- Programme by Finland on QMS training
- WISER programme
- Training of local counterparts on maintenance/operations of equipment to ensure sustainability.
- UNEP/SPC satellite enabled EWS
- Ships used to provide data for EWS.
- UNESCO/World Bank communications for EWS
- Use of new technology (South-South learning cross PMC members)
- Ecosystem-based Adaptation (EbA) in Solomon Islands (centralised planning by Government requiring all partners to align with in terms of investment) – best practice for coordination.
- Satellite use ("Chatty Beetles" in Marshall Islands) for remote/outer islands communications

Opportunities for private sector engagement

- Provision of services/maintenance of equipment and training of service providers.
- Private sector have an interest as a client/to purchase aviation weather related data.
- ICT solutions/new technology providers (eg. Dashboards, mobile/web-based applications, AI generated/supplemented observation systems).
- Environment monitoring equipment that can be tailored for specific sector needs.

Considerations for funding/investment including funding modalities

- Harmonisation of Monitoring and Evaluation frameworks for investment in Weather Ready Pacific.
- Pooled funding for technical assistance/help with capacity building.
- Met Services can develop a business model to profit from aviation weather data/services (balance needs to be made where this may compromise Government investment in weather services).
- Implementing partners like JICA would work off an investment plan in specific technical areas to align their investments (potentially for capacity building through the Pacific Climate Change Centre).
- Infrastructure focused investment as continuation of funding in infrastructure (World Bank Pacific Resilience Programme (PREP) for example is ongoing) at regional level, with Governments mainstreaming operations and maintenance of infrastructure into national budgets/access to funding – World Bank to consider ways it can align investment to Weather Ready Pacific.
- Green Climate Fund investment may support private sector engagement (particularly in roll out of infrastructure/equipment and new technology) or to support risk products (such as insurance).

Pacific Meteorological Council