Eighth Meeting of the Pacific Meteorological Council (PMC-8)

Weather Ready for a Secured and Sustainable Pacific

10, 11, 14 September 2026 | Nuku'alofa, Tonga

Agenda Item 21.1: Climate and Oceans Support Program in the Pacific – Phase 3 (COSPPac3)

Purpose:

1. To report on the progress and achievements of the Climate and Oceans Support Program in the Pacific (COSPPac), including key achievements in strengthening Pacific National Meteorological and Hydrological Services (NMHSs).
2. To provide COSPPac's perspective on emerging opportunities and continuity considerations for regional climate, ocean, sea level and geospatial services.

Objectives:

1. **Highlight** COSPPac's key achievements and contribution to strengthening the capability of Pacific National Meteorological and Hydrological Services (NMHSs) and Lands and Survey Departments (LSDs) to deliver useful, usable and inclusive climate, ocean and geospatial information services.
2. **Provide** COSPPac perspective on opportunities to build on more than three decades of regional investment through stronger Pacific leadership, national and regional capability, coordination and sustainable service delivery.

Background:

1. At the Twentieth South Pacific Forum held in Tarawa in 1989, the Government of Australia announced a long-term commitment to support Pacific Island countries through the establishment of a regional network of sea-level monitoring stations to improve understanding of sea-level rise and its impacts, in response to Pacific Leaders' calls for better information on the threats posed by climate change and sea level rise. Building on this investment, Australia subsequently supported the establishment of a regional geodetic network to monitor vertical land movement, providing critical data to monitor sea level variations.
2. This laid the foundation for three decades of partnership and support in climate, ocean, sea level and geospatial services. These have included the *South Pacific Sea Level and Climate Monitoring Project* (SPSLCMP) (1991–2010), the *Pacific Islands Climate Prediction Project* (PICPP) (2003–2012), the *Pacific Climate Change Science Program* (PCCSP) (2009–2011), the *Pacific-Australia Climate Change Science and Adaptation Planning Program* (PACCSAP) (2011–2014), and the *Climate and Oceans Support Program in the Pacific* (COSPPac) Phases 1–3 (2012–2027). New

3. Zealand has provided co-funding to COSPPac since 2019, supporting expanded regional partnerships and the involvement of Earth Sciences New Zealand, including support for climate services and Tokelau.
4. Collectively, these investments have significantly strengthened the capability of NMHSs and LSDs to deliver climate, ocean, sea level and geospatial information services that support disaster risk reduction, sustainable development, climate adaptation and community resilience across the Blue Pacific.
5. PMC-6 endorsed the implementation and delivery of COSPPac Phase 3 (2023–2027) and acknowledged the programme's role in strengthening Pacific resilience through sustained climate, ocean, sea-level and geospatial services, capacity development, and regional partnerships.
6. COSPPac as a program aims to strengthen the capacity of NMHS and LSDs to deliver reliable, accessible, and inclusive climate, ocean, sea-level, and geospatial services. Through investments in observation networks, data systems, products, communications, capacity development, and regional partnerships, the programme supports Pacific Island countries and territories to make informed decisions, strengthen resilience to climate change and disasters, and improve the safety, security, and prosperity of Pacific communities
7. The program is implemented by the Australian Bureau of Meteorology (the bureau), in partnership with Geoscience Australia (GA), Earth Sciences New Zealand (ES NZ), the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), in close collaboration with 15 Pacific Island Countries and Territories. COSPPac is delivered through a hybrid management model, with the bureau leading contractual and fiduciary administration; SPC leading programme coordination and cross-cutting functions, ocean, sea level and geospatial activities, and SPREP leading climate services. Geoscience Australia, the Bureau of Meteorology, and Earth Sciences New Zealand provide technical leadership and advisory support in their respective areas of expertise.

Key achievements and contribution to regional climate, ocean, sea level and geospatial services.

8. Key achievements and contributions to Pacific NMHSs include:
    a. **Climate Services**: Over the past two decades, COSPPac and predecessor investments have supported NMHSs to develop from paper-based data-collection agencies into modern, professional climate service providers; digitizing records, improving data management, and building climate and forecasting capability. Earlier phases also supported dedicated climate officer positions within NMHSs, helping establish national capability that has subsequently supported sustained delivery of climate services.
        i. 15 NMHSs now use CliDE for climate data management.
        ii. 13 NMHSs consistently deliver climate outlook/ bulletins drawing on COSPPac tools and portals.
        iii. 15 NMHSs participate in regional climate and ocean outlook processes through the Pacific Climate Outlook Forum (PICOF) and have attended monthly Ocean and Climate Outlook Forums (OCOF), strengthening regional peer learning and national interpretation of climate and ocean information.

b. **Ocean Services**:
    i. 13 NMHS have developed national oceans outlooks or bulletins with COSPPac support over the past decade, supported by the Pacific Ocean Portal and regional capacity development.
    ii. 15 NMHSs deliver tide calendars to 41 Pacific locations, providing locally tailored products available in printed and digital format.
c. **Observation network**:
    i. 13 NMHSs trained in tide gauge maintenance, with growing capability of NMHSs and LSDs to undertake routine six-monthly preventative maintenance of tide gauges and Global Navigation Satellite System (GNSS) Continuously Operating Reference Stations (CORS). National staff now routinely undertake scheduled inspections, preventative maintenance and minor repairs, improving equipment reliability and extending the operational life of critical infrastructure.
d. **Sea level risk science**: COSPPac sea level rise records have contributed to global scientific knowledge and policy, including the *2019 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*. Robust, IPCC-recognised datasets support eligibility and competitiveness for climate funding (e.g., Green Climate Fund, Adaptation Fund, Loss and Damage funds) by providing credible evidence of risk and need.
e. **Inclusive communication**:
    i. 7 NMHSs have developed **Traditional Knowledge (TK) databases** with COSPPac support for data collection, database installation and maintenance, and integration into communications. These activities strengthen the relevance and accessibility of climate information while recognising the value of Pacific knowledge systems alongside contemporary science.
    ii. Improving capacity in NMHS **gender equity and social and disability inclusion (GEDSI)**, including formation of the inaugural GEDSI Focal Point Network and GEDSI Roadmaps in 11 countries.
    iii. A major achievement has been the establishment of a regional science communication community of practice network through recruitment of Pacific Communications Officers and expanded communication training across the region. These investments are strengthening national capability to communicate climate and ocean information, engage priority stakeholders and increase national ownership of communication activities.
f. **Support to the PMC and Secretariat**: COSPPac staff have been key participants in four PMC panels.

9. Climate and ocean information generated through COSPPac is now routinely supporting decision-making across a broad range of sectors including disaster risk management, water security, agriculture, fisheries, renewable energy, marine transport, infrastructure planning, public health and climate adaptation. During the past four months, COSPPac products and services supported Pacific preparedness for the developing El Niño event, enabling NMHSs to provide coordinated advice to governments and sector agencies on drought risk, water resource management, food security and other climate-sensitive sectors. For e.g. COSPPac-supported drought monitoring and

climate outlook products informed the Government of Tonga's assessment of worsening dry conditions associated with the current El Niño. This information supported the declaration of a drought in Ha'apai and guided the deployment of water tanks and other relief supplies to affected communities, demonstrating the value of climate services in enabling early action and informed decision-making.

10. COSPPac has been an **integral contributor to the Pacific Islands Meteorology Strategy (PIMS)**. COSPPac is a significant implementation mechanism for agreed Pacific meteorological and climate priorities. Over the past decade, COSPPac has significantly contributed to:
    a. COSPPac has made significant contributions to six Pacific Key Outcomes under the Pacific Islands Meteorology Strategy particularly in climate services, ocean services, multi-hazard early warning systems, observing networks, climate data management, and regional capacity development. Through these investments, COSPPac has supported approximately 20 PIMS regional actions and 16 implementation actions under the Pacific Roadmap for Strengthened Climate Services
    b. Improved SPC and SPREP capacity through the transition of PSLGM, oceans and climate services, and cross-cutting functions (see next section).
    c. Progress in NMHS climate and oceans services, climate data management, long-term sea level rise records, and an outstanding example of equipment maintenance, among other outcomes.
11. Regional partnerships and support: COSPPac facilitates strong, long-term partnerships between Australian and New-Zealand based agencies and Pacific NMHSs. These partnerships have provided the platform for other support and programs across the Pacific.
12. COSPPac has also contributed to the Pacific geospatial sector through the Pacific Geospatial and Surveying Council and provision of resources and capability development for Land and Survey Departments.
13. . An independent Mid-Term Review (MTR) of the COSPPac programme, completed in the first half of 2026 found the program remains highly relevant to regional priorities and is delivering significant value through its integrated approach to observations, climate, ocean and geospatial services, communications and regional partnerships.

COSPPac activities include:

14. More than **4,500 training participants** over the past 10 years, demonstrating the ongoing suite of capacity-building support across climate science, data management, ocean and geospatial services, infrastructure maintenance, ICT, communications, Traditional Knowledge, GEDSI, and more.
15. Delivery and maintenance of critical tools and systems, including
    a. **CliDE** strengthens climate data management and usage across participating countries and supports improved alignment with the World Meteorological Organization Information System (WIS2).
    b. The Bureau's **ACCESS-S** seasonal prediction model continues to provide regional and national climate guidance, supporting more accurate outlooks, strengthening national

c. climate products. The ACCESS-S model stands as the unique, Pacific-tailored seasonal prediction model delivering sophisticated sub-monthly to seasonal outlooks.
d. The new **Climate Indices for Pacific Sectoral Applications (CIPSA) Portal** hosted at the bureau provides Pacific NMHSs and their stakeholders with improved access to historical climate information, trends and climate extremes indices.
e. The **Ocean and Climate Outlook Forum (OCOF)** is a monthly teleconference where climate and oceans officers from across the Pacific gather to discuss and analyse events from the past month and predict future conditions. This includes forecasting rainfall, monitoring El Niño and La Niña, discussing ocean temperatures, and sharing the impacts such as food and water shortages.
f. The **Pacific Ocean Portal**, hosted at SPC provides access to historical, near real-time, and future ocean conditions, as well as in situ observations. It has been designed to meet the needs of a wide range of ocean stakeholders across the Pacific, providing customizable maps and graphs, and a vast array of data sets.
g. Design and delivery of **tide calendars** by SPC for 41 different locations across the Pacific, including physical copies for 15 NMHSs to distribute to national stakeholders.
h. The **CliDEsc** system allows countries to provide customised products and visuals.
i. The **regional climate bulletin** which provides essential information on climate conditions in the Pacific region. It includes forecasts for rainfall, cyclone activity, and other climate-related events.
j. **Real-Time Sea Level Dashboard** managed by the bureau provides a convenient 'dashboard' view of sea level and weather conditions from COSPPac tide gauges.
k. The **Pacific Tides App** developed and maintained by SPC allows a simple way to get access to unlimited tidal, moon, and sun phase predictions. The App provides 100% offline access with wide range of built in features which makes it user-friendly and efficient for those in remote areas.
l. **Vertical Land Motion reports** managed by the Geoscience Australia provide long-term, high accurate records of vertical land motion, which can be combined tide gauge data to show sea level rise in each country.

16. **Management** of the network of tide gauges and GNSS CORS stations, including infrastructure maintenance, upgrades, levelling surveys, data processing and publishing results. Significant progress has been made in increasing the capability of Pacific (NMHSs and LSDs) to operate, maintain and sustain critical meteorological, oceanographic and geodetic infrastructure while progressively transitioning operational responsibilities to Pacific institutions.
17. **Funding** for NMHS climate officer roles (in previous phases) and science communications officer roles (in the current phase)
18. Collectively, these investments have improved infrastructure reliability, increased regional technical capability, strengthened Pacific ownership of critical observing infrastructure and ensured the continuity of high-quality observations that support weather, climate, ocean, tsunami and sea level services across the Pacific.

Strengthening Pacific Leadership:

19. A defining feature of COSPPac has been the continued strengthening of Pacific leadership across governance, technical delivery and strategic decision-making. Building on more than three decades of regional collaboration, the program has continued to evolve from delivering services for the Pacific towards listening and responding to PIC needs and enabling Pacific institutions to lead, coordinate and sustain regional climate and ocean services.
20. Over the past decade, COSPPac investment and the progressive transition of responsibilities from staff directly engaged by COSPPac have contributed to increased institutional capability within SPC and SPREP. These regional agencies now play a central role in program governance and management, and technical delivery including climate, oceans, sea level, infrastructure, surveying, and cross-cutting functions communications, GEDSI, and MEL.
21. These institutional developments demonstrate that the benefits of transition extend beyond the transfer of individual products or activities. COSPPac has contributed to stronger regional organisations, deeper technical networks and improved coordination of support to Pacific countries.
22. Collaboration between the bureau, SPC, SPREP, GA and ES NZ remains a key strength of COSPPac. The integrated partnership model has enabled delivery partners to coordinate investments, share technical expertise and jointly support Pacific priorities, while also strengthening alignment with complementary regional initiatives, including the Weather Ready Pacific (WRP) program and the Pacific Regional Climate Centre (RCC) Network.
23. Pacific NMHSs and LSDs remain at the centre of COSPPac governance through representation on the COSPPac Steering Committee, which is co-chaired by a Pacific NMHS Director (PMC Chair) and a Pacific LSD representative (The Pacific Geospatial and Surveying Council (PGSC) Chair), providing strategic oversight of program priorities, implementation and future direction. The Steering Committee has continued to expand its representation to better reflect the diversity of Pacific stakeholders, including increased participation by LSDs, implementing partners, development partners and, for the first time, the Pacific Disability Forum (PDF).
24. In recognition of the importance of strengthening coordination across regional meteorological investments, the WRP Program also participates as a permanent observer to the Steering Committee. This arrangement supports closer collaboration, alignment of governance, and coordinated planning across the Pacific's regional weather and climate programs while avoiding duplication and maximising the value of investments. Together, these enhancements have strengthened inclusive governance and ensured program decisions are informed by a broader range of Pacific perspectives and regional partnerships. Mid-Term Review of the COSPPac programme recognised the value of strengthened alignment between COSPPac and the WRP, and their distinct and complementary roles within the regional architecture

Lessons and Sustainability:

25. More than three decades of regional investment have demonstrated the importance of sustained partnerships in maintaining the scientific, technical and institutional capability required to deliver climate, ocean, sea level and geospatial services across the Pacific. While COSPPac has made

significant progress in strengthening Pacific capability and transitioning responsibilities to national and regional organisations, the Mid-Term Review and program experience have also highlighted that some specialised scientific, technical and engineering functions require long-term regional and international collaboration to maintain service quality, observing networks and continuity of critical climate and ocean records.

26. The COSPPac Mid-Term Review:
    a. confirmed that COSPPac remains highly relevant to Pacific priorities and is delivering significant regional value through its integrated approach to observations, climate and ocean services, communications and capacity development.
    b. recognised the program's strong regional partnerships, technical excellence and long-standing relationships with Pacific NMHSs and Lands and Survey Departments.
    c. Recognised that COSPPac functions as a system-level investment, underpinning regional climate infrastructure, global scientific contributions, and complementary initiatives. It is not designed with a defined exit, and abrupt cessation would likely disrupt essential services and weaken national capacity, with downstream implications for disaster risk management and climate resilience.
    d. identified opportunities to further strengthen sustainability planning, Pacific leadership, transition arrangements and Monitoring, Evaluation, Research and Learning (MERL).
    e. recommended that future climate, oceans and geospatial support align with WRP while retaining a distinct role.
27. In response to the Mid-Term Review recommendations, implementing partners have developed a coordinated Management Response to guide delivery during the final year of Phase 3 and inform the design of future regional investments.

Emerging Opportunities:

28. Pacific countries are facing increasing demand for accurate, accessible and timely climate, ocean, sea level and geospatial information as climate variability and change continue to affect communities, economies and critical infrastructure. National Meteorological and Hydrological Services are also playing an expanding role in supporting disaster risk reduction, climate adaptation, water security, food security, renewable energy, marine services and climate finance initiatives.
29. Building on the achievements of COSPPac and earlier programs, several strategic opportunities have emerged for strengthening regional climate, ocean, sea level and geospatial services, including:
    a. strengthening Pacific leadership and decision-making capacity across regional climate, ocean and geospatial services;
    b. further enhancing the technical capability of Pacific NMHSs and Lands and Survey Departments;
    c. accelerating digital transformation through cloud-based services, WIS2 implementation and modern data management systems;
    d. strengthening regional observing systems and maintaining internationally recognised climate, ocean and sea level records;

e. Modernising operations and expanding climate, ocean and geospatial services to better support priority sectors including agriculture, fisheries, water resources, renewable energy, tourism, health and disaster management;
f. embedding GEDSI, Traditional Knowledge and user-centred service delivery across regional and national service delivery;
g. strengthening regional science communication, knowledge brokering and community engagement; and
h. improving coordination between regional initiatives, including COSPPac, WRP and the Pacific RCC Network.

30. Collectively, these opportunities provide a strong foundation for the next generation of Pacific climate, ocean and geospatial services that are increasingly Pacific-led, regionally coordinated and responsive to national priorities.

Looking Forward:

31. COSPPac Phase 3 is the latest iteration of more than three decades of support to Pacific climate, ocean, sea level and geospatial services. COSPPac Phase 3 is scheduled to end in June 2027.
32. As COSPPac phase 3 enters its final year of implementation, the focus will increasingly shift from delivery towards sustaining the achievements of the program, actioning the Management Response to the Mid-Term Review findings, and supporting the long-term strengthening of Pacific climate, ocean and geospatial services.
33. The COSPPac Steering Committee called for continued investment in regional climate, ocean, and geospatial services and clarity on future regional support after this phase. Maintaining continuity of critical regional services and capability will be important to avoid disruption to regional observing networks, data and information systems, specialist technical support and national service delivery while Pacific Members and partners consider future priorities and sustainable arrangements.
34. Future regional support should build on the strong foundations established through COSPPac while responding to the changing needs of Pacific countries and territories. This provides an opportunity to further strengthen Pacific leadership, enhance national capability, improve regional coordination, and expand the use of climate, ocean and geospatial information to support resilience, sustainable development, and informed decision-making.

Recommendations:

The Meeting is invited to:

i. **Note** the significant achievements of COSPPac Phase 3, including its contribution to regional meteorological, climate, ocean, sea level, and geospatial priorities through strengthened national capabilities, Pacific leadership, inclusive service delivery, and regional partnerships, and the planned implementation of the Management Response to the COSPPac Mid-Term Review.
ii. **Recognise and commend** the longstanding support and investment provided by the Governments of Australia and New Zealand in advancing climate, ocean, and geospatial services across the Pacific.
iii. **Recognise** the significant risks associated with disruptions to COSPPac-supported regional and national services beyond June 2027, including downstream impacts on end users of these services, operational capacities, staffing, and the continuity of critical observational data and records supported by COSPPac, and the need for continued support while future investment options are considered.
iv. **Acknowledge** the COSPPac Steering Committee's Call for continued investment to ensure the long-term sustainability, delivery, and progress towards regional ownership of essential climate, ocean and geospatial services for Pacific Island Countries and Territories, ensuring Pacific leadership and voice in shaping future priorities and investment.