

EIGHTH MEETING OF THE PACIFIC METEOROLOGICAL COUNCIL

PMC-8

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

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 7.1: 2017-2026 PIMS Regional Progress Report

Purpose:

This paper presents a consolidated account of regional collective progress over the ten-year life of the Pacific Islands Meteorological Strategy (PIMS) 2017-2026. As the current strategy concludes and its successor is prepared, the paper invites the Council to reflect on how far the region and its Members have come together, to recognize the achievements of National Meteorological and Hydrological Services.

The evidence base for this paper is the “*Most Significant Change (MSC) Brief*” at Annex A, which merges the documentary record with structured consultations of long-serving figures in the Pacific NMHS community.

Objectives:

1. Provide the Council with a region-wide view of progress achieved under PIMS 2017-2026, presented as the shared achievement of Members, the PMC and its Panels, and supporting partners;
2. Acknowledge the eight areas of most significant change identified through the review, spanning governance, national enabling environments, NMHS capacity, funding access, observing infrastructure, disaster-risk partnership, climate services, and regional collaboration and inclusion;
3. Confirm the evidence gap left by the absence of a Monitoring, Evaluation and Learning (MEL) Framework under PIMS 2017-2026, and the case for a rigorous MERL Framework under the successor strategy;

Background:

Countries and territories, donors and agencies have invested significant resources in Pacific NMHSs over the past decade. While each institution can measure the outcomes of its own contribution, no region-wide account of collective progress across the PIMS lifetime has previously been compiled. SPREP, with SPC, therefore prepared the “*Most Significant Change Brief*” at Annex A to provide that view for PMC-8 and PMMM-4. The focus is deliberately on regional collective progress, what the region and its countries have achieved together, rather than on the external support provided by individual programmes, whose outcomes are reported through their own channels.

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Because PIMS 2017-2026 operated without a defined MEL Framework, documented evidence of progress was found to be severely limited. The review therefore drew on three strands of evidence; an expert documentary account, structured expert consultations informed by the Most Significant Change technique, and Panel and country-report evidence, — and, where necessary, used objectively countable proxy indicators (such as enacted legislation, qualified staff and operational infrastructure) to stand in for outcome measures that were never systematically tracked. These proxies indicate the foundations of progress rather than its full effect, a limitation acknowledged throughout the Brief.

The evidence converges on eight areas of most significant change over the decade:

- 1) Regional governance, coordination and visibility - from a directors-only forum with a single Panel to a mature architecture of regular PMC and Ministers meetings, six Panels, a standalone CSI Programme, and the Pacific-led Weather Ready Pacific (WRP) programme;
- 2) National enabling environment - dedicated meteorological legislation rising from seven to at least 11 countries, strategic plans from five to at least twelve, and two new standalone departments;
- 3) NMHS capacity and national funding - most services now conduct their own forecasting with at least one qualified meteorologist, funded overwhelmingly from national budgets;
- 4) Access to external funding - nine countries have accessed multilateral climate finance since 2017, reversing an earlier concentration in a single country;
- 5) Observing infrastructure and the regional radar network - operational radars up from one to three, a first regional radar strategy developed, and a Sustainable Maintenance Facility in prospect;
- 6) Disaster-risk partnership and public communication - a shift toward shared responsibility with NDMOs and communities, impact-based forecasting, anticipatory action, and new dissemination channels;
- 7) Climate services and data management - NMHSs transformed from paper-based data agencies into modern climate-service providers, supported by PICO and the Pacific RCC-Network;
- 8) Regional collaboration, shared systems and inclusion - the RTC and RIC progressing to operations from 2027, shared communities of practice, and strengthened MERL and GEDSI practice.

The Brief also identifies progress beyond the spotlight, including small services such as Tokelau, the French territories, and structurally under-represented hydrological services that a highlights-led narrative can miss, and recommends direct country interviews to capture it. Finally, the review documents the evidence gap created by the absence of a MEL Framework and makes the case, corroborated independently by the ongoing PIMS strategy-update consultancy, for the successor strategy to include a rigorous MERL Framework as an early act of its implementation.

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Recommendations:

The Meeting is invited to:

- I. Note the consolidated account of regional collective progress under PIMS 2017-2026 set out in the Most Significant Change Brief at Annex A, and the eight areas of most significant change it identifies;
- II. Note the limitations of the evidence base arising from the absence of a MEL Framework under PIMS 2017-2026, and the reliance on proxy indicators and expert consultation as a consequence;
- III. Acknowledge the achievements of Members, the PMC and its Panels, and supporting partners in advancing weather, climate, water and ocean services across the region over the decade;

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Annex A:

Most Significant Change Brief:

Regional Achievements Under the Pacific Islands Meteorological Strategy 2017-2026

By Ed Hawkes (SPC), Sugyeong Park (SPREP) & Richard Lal (SPREP)

30 July 2026

1.0 Purpose

To provide the Pacific Meteorological Council (PMC) with a consolidated account of regional progress over the ten-year life of the Pacific Islands Meteorological Strategy (PIMS) 2017–2026. The report merges the documentary record with consultations held with some of the long-serving figures in the Pacific NMHS community, and provides the evidence base for a PMC meeting paper on regional collective progress.

The focus is regional collective progress: what the region and its countries have achieved together. It is not a report on the external support provided by individual programmes, whose outcomes are reported through their own channels. Progress is therefore presented as the shared achievement of Members, the PMC and its Panels, and supporting partners, without attributing individual results to individual programmes.

2.0 Background and Method

Countries and territories, donors and agencies have invested significant resources in Pacific NMHSs over the past decade. While each institution can measure the outcomes of its own contribution, SPREP sought to provide a region-wide view of progress over the PIMS lifetime. This report captures key highlights and is not an exhaustive list of improvements.

Three strands of evidence were combined:

- i) **Expert account** - an unpublished written account prepared for this review by one of the three long-serving directors consulted, who now serves in an international meteorological role. It traces the regional coordination journey from the Regional Meteorological Service Directors (RMSD) era to the PMC and catalogues national legislation and strategic planning instruments (Sub-annexes 2 and 3). Albeit unpublished and compiled in a personal capacity, the account draws on PMC Country Reports, Panel documents, SPREP and RMSD meeting records, and national legal and planning instruments. It also includes national staffing and service-capability data from the Feasibility Study for a Pacific-Based WMO Regional Training Centre (2019) and PMC Country Reports.
- ii) **Expert consultations** - structured consultations conducted with senior figures who have worked in the Pacific NMHS space across the full PIMS period, using a common question set (before/after, significance, defining moments, sustainability, and voices for the videos). The question set was informed by the Most Significant Change technique, adapted for expert-level consultation: consultees were asked to identify and explain the changes they judged most significant over the strategy period, rather than to score progress against predefined indicators. Responses were received from two long-serving Pacific meteorological leaders, each a former NMHS director who now serves the region in a senior

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regional or international role. The first response (by interview, 26 June 2026) focused on regional governance, visibility and access to funding; the second on NMHS capacity, collaboration, and countries whose progress risks being overlooked. Both are integrated throughout Section 4. Together with the documentary account of a third long-serving director, covering the regional coordination journey and national legislation and planning, the consultations span not only the full arc of PIMS 2017-2026 but also the coordination journey that preceded it, reaching back to the first RMSD meetings of the early 1990s (Section 3.1, Sub-annex 1).

- iii) **Panel and country-report evidence** from PMC Country Reports, Panel documents and interviews with Panel Secretariats (including PIMOS PIETR, PICI and PHS) was gathered where possible, separately from the consultations undertaken for this review.

Documented evidence of progress across the strategy period was found to be severely limited, as PIMS 2017-2026 operated without a defined Monitoring, Evaluation and Learning (MEL) Framework. Where practical, proxy indicators were therefore used to fill evidence gaps; for example, counts of enacted legislation, qualified staff and operational infrastructure standing in for outcome measures that were never systematically tracked. These proxies were selected on two grounds. Each is a necessary foundation for the outcomes PIMS sought: legislation establishes the mandate and permanence of a national service, qualified staff provide its capability to forecast and warn, and operational infrastructure supplies its means to observe and deliver. And each is objectively countable, verifiable against public records, legal instruments and Panel documents rather than recollection; an Act is either enacted, or it is not, a qualification held or not, a radar operational or not. In the absence of a MEL framework, this verifiability gives the report's core claims a durability that testimony alone could not provide. In the context of this study, proxies are nonetheless limited to indicating the foundations of progress rather than its full effect. They show that services are established, staffed and equipped; not whether forecasts are accurate, warnings reach communities in time, or products are trusted and used. Answering those questions requires the systematic monitoring that PIMS 2017-2026 lacked. Notwithstanding, quantitative claims are triangulated across sources where possible.

3.0 Where the Region Started

3.1 The Regional Coordination Journey, 1991-2016

Regional coordination of meteorological services did not begin with PIMS 2017-2026; it is the product of a 25-year institutional journey. The report *The Changing Climate in Paradise - Climate Monitoring and Impacts in the South West Pacific* (December 1991) first called for regular Regional Meetings of Directors as the foundation for regional cooperation in climate monitoring and data services. The first SPREP Meeting of Regional Meteorological Services Directors (RMSD) followed in Port Vila in October 1993, and the RMSD forum met annually thereafter, progressively broadening SPREP's mandate into meteorology and climate services and producing the first regional strategic action plan (SDMP Pacific 2000-2009).

Mounting interest culminated in 2007-2008, when the 12th RMSD, the 16th and 17th SIS Leaders Meetings and the 39th Pacific Islands Forum Leaders called on SPREP to urgently undertake a comprehensive review of regional meteorological services. The resulting report, *Reviewing Weather and Climate Services in the Pacific* (April 2010), recommended establishing a Pacific Desk and recruiting a coordinator. The 21st SPREP Meeting (2010) nominated SPREP as the

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Pacific Desk and endorsed the formation of the Pacific Meteorological Council. In August 2011, the 14th RMSD in Majuro became the First Meeting of the PMC; a transformation that gave the region its enduring governance architecture and produced PIMS 2012-2021 and subsequently PIMS 2017-2026. A full timeline is at Annex 1.

Later, ministerial mandates would further shape regional climate services architecture, with the Pacific Islands Climate Outlook Forum (PICOF) proposed in 2015 and the Pacific Regional Climate Centre Network endorsed in the following years. (see Section 4.7)

3.2 The Situation at the Start of the PIMS Period

Consultations painted a consistent picture of the region in and around 2017:

- No Pacific Meteorological Ministers Meeting existed prior to 2015, and only one PMC Panel (on climate) existed prior to 2014.
- Regional coordination ran through the small Pacific Meteorological Desk Partnership (PMDP) desk rather than a dedicated programme; SPREP's Climate Science and Information (CSI) Programme did not yet exist; there was no Regional Training Centre, and no Pacific-led long-term programmatic approach; support was largely project-led.
- Countries had little or no access to Green Climate Fund financing, and most multilateral funds (over 60 per cent) went to a single country.
- Many NMHSs had limited capacity and depended on others, notably the Fiji RSMC, to sustain internal operations; few had qualified meteorologists.
- Collaboration with NGOs, cross-sectoral partners and NDMOs was limited and centred on issuing warnings; dissemination and uptake were a lower priority, and approaches were more national than regional.
- Apart from Australia and New Zealand, only one other Pacific Island Country had an operational weather radar in the region; New Caledonia, a French territory, had in fact operated a three-radar network since 1988 (see Section 5.0). With no regional radar strategy, acquisition was fragmented and project-driven rather than planned as a network.

4.0 Progress 2017-2026: Eight Perceived Areas of Change

The evidence converges on eight areas of change, identified through the consultations as the most significant of the decade and corroborated against the documentary record, where possible. Each is presented as before/now, with milestones, consultation voices, and the perceived prospects for sustaining the change.

4.1 Regional Governance, Coordination and Visibility

Before: a directors-only RMSD forum; one panel; no ministerial-level engagement; project-led external support; limited regional visibility for SPREP and Members.

Now: a mature governance architecture. SPREP delivers regular PMC meetings and established the Pacific Meteorological Ministers Meeting (PMMM) in 2015, with further meetings in 2017, 2023 and 2026. PMC Panels have expanded from one before 2014 to six in 2026. SPREP established the CSI programme as a standalone division alongside the Pacific Climate Change Resilience programme, and CSI has since doubled its staffing resources. Weather Ready Pacific (WRP) stands as the first Pacific-led, long-term programmatic initiative; a decisive shift away from fragmented project-led support.

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Consultees observed that Directors have become markedly more amenable to regional priorities, with strong working relationships and mutual support channelled visibly through Panel presentations and the PMC.

“The transformation of the former Regional Meteorological Service Directors forum to the current PMC was a major development that has given Met Directors a wide regional and even international recognition and an authoritative voice which we struggled for during the pre-PMC years.” - Fiji Meteorological Service

What makes it stick: the PMC/PMMM cycle is institutionalised in SPREP governance; WRP embeds a specific focus on sustainability; and regional visibility is now reinforced by national-level demand for services.

4.2 National Enabling Environment: Legislation, Planning and Institutional Form

Before: eight countries had some form of meteorological legislation, legal mandate or legislative development underway. This included four countries with dedicated meteorological Acts, three with meteorological mandates embedded in broader legal arrangements, and one where drafting had begun. Three countries had stand-alone meteorological or weather service strategic plans prior to 2017, while seven others had NMHS priorities embedded in broader ministry, corporate or national plans.

Now: at least 11 countries have dedicated meteorological legislation and at least twelve have strategic plans; two countries established standalone departments for meteorology. Since 2017: Tonga (Act 2017; Bill and Regulation drafted 2024), Vanuatu (Act commenced 2017), Kiribati (Act 2021), Samoa (Act 2021), Fiji (Act 2024), Nauru (Act 2023), Tuvalu (2022 revised edition); the Marshall Islands began drafting in 2025) and Solomon Islands is reviewing its 1985 Act. The same period saw a wave of national strategies and frameworks for weather, climate and ocean services; for example, FSM, Fiji, Kiribati, RMI (with implementation plan), Niue, PNG, Palau (with implementation plan), Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. Country-by-country indicative views are presented in Annexes 2 and 3.

Consultees emphasised the importance of stronger governance systems: standalone departments, strategic planning, regulations that solidify national mandates, and the ability to attract funding from external and national sources. These are the structural mechanisms that allow continuity and sustainability of operations. They also enable more effective collaboration with NDMOs and the health, infrastructure, tourism, agriculture, fisheries and water sectors.

“Greater contribution to national level decision making, policy development and parliamentary discussions.” - Vanuatu

4.3 NMHS Capacity and National Funding

Before: many national forecasting services depended on the Fiji RSMC and lacked qualified meteorologists.

Now: most Met Services conduct their own forecasting and have at least one qualified meteorologist; NMHSs increasingly fulfill their mandates, reduce dependence on other countries, and better support national growth, disaster management and resilience. Across the region:

- The number of qualified meteorologists has increased from 35-40 in 2017 to **38 in 2026, excluding 42 reported for New Caledonia & Wallis and Futuna**. For example, Kiribati went from zero to four or five qualified officers; Tonga from two to nine; and Met Offices now employ far more postgraduates than before.

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- NMHSs with access to aviation weather observations and forecasts have increased from 6 of the 11 countries covered in 2017 **to 9 of the 13** reporting units with classifiable responses in 2026, including six with in-house capacity and three with partial in-country capacity.
- NMHSs with in-country capacity to provide marine warnings increased from seven in 2017 **to 11** of the 14 **reporting units in 2026, including nine with in-house capacity and two with partial in-country capacity.**
- NMHSs delivering ocean outlooks/bulletins increased from zero in 2017 **to 13 in 2026.**

Total staffing has grown in parallel with qualifications. Available figures indicate Nauru grew from 2 to 13 staff, Tokelau from 2 to 4, Tuvalu from 14 to 50 (from workshop survey in May 2026) and Kiribati from 24 to 33 over the period, with Tonga at 40 staff (40 staff approved from gov, 30 staff are currently filled) in 2026; among the larger services, Fiji reports 123 staff (120 staff from workshop survey response in May 2026) and Niue seven (four seconded to projects) (12 staff from workshop survey response in May 2026).¹

What makes it stick: National governments fund almost all Met Service staff; the increase in staffing reflects increased national investment in meteorological services. Consultees observed that national funding is a stronger sustainability signal than external finance alone

"In 2017, many national forecasting services were dependent on the Fiji RSMC, and many lacked qualified BIP-M meteorologists. Now, most Met Services can do their own forecasting and have at least one qualified meteorologist." - PIMOS Panel

4.4 Access to External Funding

Before: countries had little to no access to multi-lateral funding such as the Green Climate Fund (GCF), Adaptation Fund (AF) funding, and more than 60 per cent of multilateral funds went to one country.

Now: nine countries have accessed multilateral funds since 2017. Over the past decade NMHSs accessed \$40.8 million from the Green Climate Fund, \$52 million from the Global Environment Facility and \$17 million from UNDP as per Pacific Partnership Coordination Mechanism Dashboard. Funding support to Met services, both regional and national, has increased, translating directly into improved quality of service and reach.

Why it matters: improved access reflects NMHS ambition and maturity in navigating complex funding sources, and growing recognition of the NMHS role in global initiatives.²

4.5 Observing Infrastructure and the Regional Radar Network

Before: only one country had an operational weather radar in the region; there was no regional radar strategy, and radar acquisition was fragmented, project-by-project.

¹ Depth nonetheless remains a work in progress: the 2026 consultancy analysis reports a continuing shortage of WMO Class 1 qualified forecasters even in the largest services, and definitions of 'qualified' vary across country reports.

² This observation is drawn from consultations and could not be verified against financial records. Financial data in country reports remains patchy across the region, and evidence of national budget growth is either unavailable or inconsistent; national budget figures are generally not in the public domain. Funding data compiled through partner mechanisms, including the PPCM dashboard, is drawn from partner submissions and has not been independently validated. Figures in this section should therefore be read as indicative of scale and direction rather than as audited or validated amounts.

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Now: the region has moved from isolated installations toward a coordinated radar network, strengthening warning capacity and filling critical data gaps. Operational radars increased from one in 2017 (Fiji) to three (Fiji, Vanuatu, Tonga) in 2026, with several more planned through projects. Where acquisition was once fragmented, procurement has improved through preferred-supplier arrangements; the first regional radar strategy has been developed and endorsed by the WRP Steering Committee; and the region is moving to establish a Sustainable Maintenance Facility so that radars and other critical assets, once commissioned, stay operational.

Defining moments: the first regional radar strategy; the first radars commissioned in countries that had never had one; and Tonga's integration of radar imagery into its television weather and communications strategy (Section 4.6).

Consultees noted a telling symptom of maturity: Met Services are now bold enough to bring forward high-cost investment proposals, notably radar, reflecting both grown capacity and grown ambition. Service demand and sector-specific (client) services have risen in parallel and remain work in progress.

4.6 Disaster Risk Partnership and Public Communication

Before: engagement with NDMOs, NGOs and cross-sectoral partners was limited and focused narrowly on issuing warnings; dissemination and uptake were a lower priority.

Now: a governance shift toward shared responsibility for disaster management among NMHSs, NDMOs, local authorities, civil society and communities:

- At least eight countries have established disaster/EWS working groups or key national bodies, formalising critical Met Service roles.
- NMHSs in 14 countries improved impact-based forecasting and community-based early warnings.
- NMHSs in at least three countries implemented an Anticipatory Action framework.
- NMHSs in nine countries established traditional knowledge (TK) databases and collected data on TK indicators; work of growing importance for climate finance and of high interest at COP.
- Countries have upgraded and adopted new dissemination technologies such as mobile apps, websites, social media and television, giving Met services far greater visibility in national media, with warnings that are more timely, accurate and fit for audience.

Given the frequency of disasters, Met services now operate in a much greater public spotlight and are held accountable by the public, particularly through social media; a marker of how essential they have become. Tonga's new TV weather service and communications strategy, including public access to radar imagery, was repeatedly cited as the exemplar; a sector-user testimonial from Tonga is proposed for the video series.

Hydrological services have assumed a more prominent role within the disaster-risk agenda. National investment has strengthened flood early-warning capability - notably through Fiji's expanded hydrological monitoring and Samoa's Vaisagano Flood Decision Support System.

"These [Anticipatory Action] developments are significant because they move governance from 'decide after impact' to 'act when risk thresholds are crossed,' which requires different legal, financial, operational and accountability arrangements." - **Consultation**

4.7 Climate Services and Data Management

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Before: In 2007, Met Services were paper-based data collection agencies, where climate staff recorded climate observations and provided limited climate services or insights.

Now: Over the past two decades, Met services have grown into modern, professional climate service providers; digitizing records, improving data quality and building weather and climate forecasting capability. Climate Services introduced seasonal, sub-seasonal and tailored products (for example drought and dengue outlooks), and strengthened regional coordination and stakeholder engagement. This progress is also reflected in the development of the Pacific Islands Climate Outlook Forum (PICO) and the Pacific Regional Climate Centre Network (Pacific RCC-Network). Together, these initiatives have improved the consistency of climate services across Pacific Island Countries and Territories.

Governments have restructured NMHSs and channelled resources to support their expanded climate roles. For example, in 2016 Vanuatu consolidated four legal frameworks into a single VMGD housed within a new Ministry of Climate Change Adaptation, and by 2024 the department reported 'drastic growth' now demands further expanding the Act to match the department's expanded roles. The department also expanded its workforce with headcount reaching 119 by 2024, which is described as a 'drastic increase' since 2020.

The transformation has substantially enhanced credibility, relevance and visibility, shifting NMHSs from under-recognised institutions to respected, essential contributors to national decision-making (see Annex 6 for a 20-year case study from the Tonga Met Service). Integration with global data systems remains an outstanding frontier: only 17 per cent of NMHSs report integration with the WMO Information System (WIS) as of 2026.

"[The most significant change is] the environment and visibility of the Met Service. Going from nobody respecting it in the country, an amateur, to a fully matured professional Met Service... Going from an amateur fighter to a professional!" - Tonga

Feature: Pacific Islands Climate Outlook Forum (PICO)

The Pacific Islands Climate Outlook Forum (PICO) was proposed by Pacific Ministers in 2015 as a regional mechanism to strengthen seasonal climate outlooks and support climate service delivery across the Pacific. The first PICO was convened in October 2015 in Suva, Fiji. Since then, PICO has become an established regional forum, convened twice each year in April and October. To date, 18 forums have been held across Fiji, Vanuatu, Samoa, Tonga, New Caledonia and in virtual formats. PICO brings together forecasters from National Meteorological and Hydrological Services (NMHSs) and regional partners to review the latest climate information and develop consensus-based seasonal outlooks for the region. PICO also facilitates engagement with climate-sensitive sectors, including agriculture, water, health and disaster risk management. Over the PIMS implementation period, PICO has become an important component of regional climate service coordination and seasonal forecasting in the Pacific.

Feature: Pacific Regional Climate Centre Network (Pacific RCC-Network)

The Pacific Regional Climate Centre Network (Pacific RCC-Network) was also proposed by Pacific Ministers to strengthen regional climate services through a coordinated institutional framework. Endorsed by the World Meteorological Organization (WMO) and the Pacific Meteorological Council (PMC), the network is currently operating in its demonstration phase as a virtual Regional Climate Centre serving the Pacific region. As part of WMO Climate Service Information System (CSIS), the Pacific RCC-Network supports regional climate monitoring, seasonal prediction, operational data services and capacity development across the Pacific.

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4.8 Regional Collaboration, Shared Systems and Inclusion

Before: no Regional Training Centre; no regional calibration capability; limited shared systems; GEDSI and MERL largely absent from sectoral practice.

Now: regional collaboration has matured into shared institutions and shared practice:

- The Pacific Regional Training Centre (RTC) and Regional Instrument Calibration Centre (RIC) progressed from an initial proposal at the 2015 PMMM to construction, with operations expected from 2027 - providing regionally accredited training and calibration and reducing reliance on overseas providers.
- The first Tokelau joint mission demonstrated a new model of collective country support.
- Communities of practice are growing in key technologies (for example radar) and are accessible to countries that have not yet begun deployment - spreading benefits beyond first movers.
- Procurement has improved through preferred-supplier arrangements.
- MERL and GEDSI practice have strengthened through the WRP and COSPPac frameworks, with GEDSI now more prominent in NMHS sectoral approaches and operations, alongside improved planning. The first regional baseline in May 2026 indicates that women hold approximately 20-25 per cent of positions in the larger services, that some NMHSs have provided more accessible products and are starting to incorporate inclusion into strategies, regulations and budgets.

What makes it stick: the establishment of WRP with its explicit sustainability focus, the venture to establish a Sustainable Maintenance Facility, and the embedding of MERL and GEDSI frameworks in regional programming.

5.0 Progress Beyond the Spotlight

Consultees highlighted that benefits over the decade have not been evenly shared, and several stories risk being overlooked in a highlights-led narrative prepared for PMC-8:

- Some countries' national arrangements constrain regional engagement; fixed funding relationships can limit their ability to engage other partners, and capacity constraints narrow the assistance they can absorb from regional organisations such as SPREP or SPC. Their progress is real but less visible. It should be captured through direct country interviews, not assumed.
- Tokelau, an NMHS of two staff, launched its first National Climate Outlook Forum in 2026 and now translates products into the Tokelauan language: precisely the kind of milestone a highlights-led narrative can miss.
- The French territories, French Polynesia, New Caledonia, and Wallis and Futuna, maintain well-established Met offices supported by the French Government. New Caledonia's three-radar network - covering the north, Noumea and the outer island of Lifou - has been operational since 1998 and is currently being replaced under a modernisation programme running through 2026. Their progress sits outside the usual programme narrative but forms part of the regional picture.
- Hydrological services remain structurally under-represented in the regional narrative: in many countries they sit outside the NMHS across multiple agencies, and hydrology directors report being spoken for by Met directors rather than directly. The development of a Regional Hydrological Strategy presents an opportunity to strengthen the integration of hydrology within PIMS reinforce collaboration with the PMC. Communities of practice now forming around key technologies (for example radar) matter most for the countries absent from the headline stories: late starters inherit knowledge accumulated by early movers, so the next round of regional "firsts" will begin from a higher floor.

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Recommendation: the countries and services identified above should be interviewed directly before the videos are finalised, so overlooked progress is captured in-country rather than second-hand.

6.0 If Progress Continues: The Next Ten Years

- A Sustainable Maintenance Facility underpins the durability and sustainability of observing infrastructure.
- The regional radar network will enable a radar mosaic across the region, materially improving warning services. Installation is under way in Solomon Islands and procurement in Samoa, with a further five countries - Niue, Cook Islands, Tuvalu, RMI and Palau - planning systems under the CIS-Pac 5 programme.
- The RTC and RIC become operational (from 2027), anchoring regionally accredited training and calibration in the Pacific.
- Continued gains in quality of service and in technological and human capacity translate into fewer casualties and lower economic costs from weather, climate and ocean hazards.

7.0 Data Gaps and Sustaining the Call for a Rigorous PIMS MERL Framework

Large gaps in historical data, combined with the absence of a formal PIMS MEL Framework, made a fully rigorous progress review infeasible; a limitation acknowledged throughout this report and by the consultancy tasked to review and update the PIMS. This absence is also why this review turned to Most Significant Change-style consultation: where no indicator framework exists, significance can only be established through the judgement of those who witnessed the period. That judgement has been triangulated and verified wherever possible, but the next review should not have to depend on it.

The analysis of country reports quantifies the gap this review has worked within; seven countries have no baseline records prior to 2020, reporting periods are misaligned across countries, and several key outcome areas such as aviation, public weather services and institutional strengthening, lack consistent data. Its seven recommendations for a standardized digital regional reporting system describe exactly the kind of monitoring system that PIMS 2017-2026 lacked. The convergence of the two analyses, one from an achievement lens, one from a reporting diagnostic, strengthens the same conclusion from both directions.

The new PIMS will therefore include a MERL Framework, a contracted deliverable of the current strategy update, to enable structured monitoring, data storage and reporting, ensuring the next ten-year review can be built on systematic evidence rather than reconstruction. Establishing it should be an early act of the next strategy.

8.0 Gender Equality, Disability, and Social Inclusion

Gender equality, disability and social inclusion (GEDSI) is a relatively recent framework in the sector, but the principle of inclusion is not new. It sits comfortably within Pacific values of communality and collective wellbeing, where including everyone is a cultural norm, not a project requirement. Much of the inclusion achieved over the PIMS period was therefore implicit: embedded in how NMHSs served their communities, but neither deliberately targeted nor systematically recorded. What has changed is not the presence of inclusion but the rigour applied to it: donor requirements and formal GEDSI Framework now provide a more deliberate and measurable lens, shifting the region from inclusion that was assumed to inclusion that is intentionally designed, tracked, and directed at genuine last/next-mile coverage.

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This more deliberate approach is beginning to be reflected in regional programmes. Under both the WRP and COSPPac programmes, GEDSI Frameworks were established in 2025, and MoUs were signed with the Pacific Disability Forum. These initiatives provide an initial basis for incorporating GEDSI into future regional activities.

The May 2026 regional workshop survey also provides the first regional workforce baseline. The available data indicate that women hold approximately 20-25 per cent of positions in the larger NMHSs, while Tonga stands out at 40 per cent. However, the survey did not collect data by position type or across other dimensions of GEDSI indicators, including disability, youth, remoteness and other forms of marginalization, making it difficult to assess broader regional progress.

Looking ahead, the proposed MERL Framework and the new PIMS could potentially strengthen GEDSI monitoring and reporting across the region, ensuring that GEDSI becomes a more visible and measurable component of regional meteorological cooperation.

9.0 Next Steps Toward the PMC Meeting Paper/Video Presentation

- Conduct the recommended country interviews (Section 5) and confirm video interviewees (Annex 5).
- Convert this consolidated report into the standard PMC meeting paper format, with the full report annexed and the video series referenced.
- Confirm quote attributions and obtain clearance from consultees for use in the report and videos.

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Annex 1. Timeline: regional coordination milestones, 1991-2026

Year	Milestone
1991 (Dec)	Report 'The Changing Climate in Paradise' calls for Regional Meetings of Directors (Sub-project 4.2).
1993 (Oct)	First SPREP Meeting of Regional Meteorological Services Directors (RMSD), Port Vila; annual meetings follow.
1994	2nd RMSD: regional coordination body proposed; strategy for climatological cooperation initiated.
1998	5th RMSD: SPREP scope broadened to meteorology and climate services; regional strategic plan urged.
2000	7th RMSD endorses Strategic Action Plan for Development of Meteorology in the Pacific (SDMP) 2000-2009.
2002	8th RMSD: Pacific regional framework for climate services; NMHS needs analysis 'Meeting the Challenge'.
2007-2008	12th RMSD, 16th/17th SIS Leaders Meetings and 39th Pacific Islands Forum Leaders call for an urgent, comprehensive review of regional meteorological services.
2010 (Apr)	'Reviewing Weather and Climate Services in the Pacific' published; recommends a Pacific Desk and Coordinator.
2010	21st SPREP Meeting nominates SPREP as Pacific Desk; endorses formation of the PMC.
2011 (Aug)	14th RMSD (Majuro) becomes the First Meeting of the Pacific Meteorological Council; PMDP concept endorsed; PIMS 2012-2021 adopted.
2014 (May)	The WMO Regional Association V decided to adopt the RCC-Network concept for the Pacific Islands Countries and Territories
2015	First Pacific Meteorological Ministers Meeting (PMMM); RTC/RIC first propose; PMMM proposed the Pacific Islands Climate Outlook Forum (PICOV); first PICOV convened in Suva, Fiji in October 2015
2017	PIMS 2017-2026 commences; PMMM held: Pacific Regional Climate Centre Network (Pacific RCC-N) endorsed for demonstration phase by WMO and PMC with SPREP as regional coordinator.
2023	PMMM held.
2026	PMMM held; PIMS 2017-2026 concludes; ten-year review and new PIMS with MERL Framework.

Annex 2. National Meteorological Legislation, By Country

Source: Expert Account, PMC Country Reports

Country	Prior to 2017	During 2017-2026
Cook Islands	Meteorology Act 1995-96 No. 12	No change recorded
FSM	No stand-alone Act	No stand-alone Act
Fiji	No Act	Meteorological and Hydrological Services Act 2024 enacted
French Polynesia	No stand-alone Act (Decree n°93-861 of June 18, 1993 creating Meteo-France)	No stand-alone Act (Decree n°93-861 of June 18, 1993 creating Meteo-France; No recent update)
Kiribati	No Act	Meteorology Act 2021 approved
Marshall Islands	No stand-alone Act (NWS operating under Art. VII ss5-13 of COFA)	Drafting of a Meteorology Bill/Act began 2025
Nauru	No Act	Meteorological Services Act 2024 drafted and enacted
Niue	Meteorology Act 2013	No change recorded

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Country	Prior to 2017	During 2017-2026
PNG	Mandate derived from Civil Aviation Act 2000 (am. 2010, 2016)	Continued under Civil Aviation Act
Palau	No stand-alone Act	No stand-alone Act
Samoa	No Act	Meteorology, Geoscience and Ozone Act 2021 enacted
Solomon Islands	Meteorology Act 1985	Reviewing/amending 1985 Act or drafting new Bill
Tokelau	No Act	No Act
Tonga	No stand-alone Act	Meteorology Act 2017; Meteorology Bill 2024 and Regulation 2024 drafted
Tuvalu	Meteorological Service Act 2015	Meteorological Act (2022 Revised Edition) CAP 30.16
Vanuatu	Drafting began 2016	Meteorology, Geo-hazards and Climate Change Act assented and commenced 2017

Annex 3. National strategic planning, by country

Source: Expert Account, PMC Country Reports

Country	Prior to 2017	During 2017-2026
Cook Islands	No strategy plan	No strategy plan recorded [source shows '2027-2026' - verify]
FSM	No NWS strategic plan	FSM NWS Strategic Plan 2022-2032
Fiji	Priorities embedded in ministry corporate/national plans	FMS Strategic Plan 2021-2024
French Polynesia		Météo-France Contrat d'objectifs et de performance 2022-2026; new strategic plan 2027-2031 is under construction
Kiribati	KMS Strategy & Implementation Plan 2014-2019	National Strategy & Framework for Weather, Climate and Ocean Services 2021-2025 (2020)
Marshall Islands	Priorities embedded in ministry plans	NSP-WWCS 2022; Implementation Plan 2024
Nauru	No strategy plan	Planning to develop
Niue	Priorities embedded in ministry plans	NFWCOS Niue 2023-2032
PNG	No NWS strategy plan	NWS Strategy Plan 2019-2025 approved
Palau	Priorities embedded in ministry plans	NSP-WWCS 2022; Implementation Plan 2023
Samoa	Priorities embedded in ministry plans	National strategic plan/framework development began 2023
Solomon Islands	Priorities embedded in ministry plans	National Strategy for Met Services & FWCOS 2023-2028
Tokelau	No stand-alone plan	National Strategic Plan for Meteorology 2022-2026 [source shows '2022-2016' - verify]
Tonga	Priorities embedded in ministry plans	Strategic Plan for Tonga Meteorological Service 2023-2027
Tuvalu	First Met Service Strategy & Implementation Plan (2015)	NFWCOS 2023-2032

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Country	Prior to 2017	During 2017-2026
Vanuatu	VMGD Strategic Development Plan 2014-2023	National Strategy & Framework for Weather, Climate, Hydrometeorology and Ocean Services 2024-2029

Annex 4. Evidence Map: Theme Coverage by Source

Y = substantive evidence in source; Y* = partial or indirect mention; - = not covered. Sources: C1 = second expert consultation (interview; 26 June 2026); C2 = first expert consultation (email, 2 July 2026); C3 = third expert consultation (email, 10-14 July 2026); PC - Panel and Country-report evidence. This map shows where each theme stands across the four evidence sources.

Theme (report section)	C1	C2	C3	PC
Regional coordination journey pre-2017 (S3.1)	-	-	Y	-
Regional governance, PMC/PMMM, Panels, CSI, WRP (S4.1)	Y*	Y	Y	Y
Legislation & strategic planning by country (S4.2, Annexes 2-3)	Y*	-	Y	Y*
Standalone departments / governance systems (S4.2)	Y	-	-	Y
Qualified meteorologists & forecasting independence (S4.3)	Y	-	-	Y
Aviation / marine / ocean services (S4.3)	Y*	-	-	Y
Multilateral & national funding access (S4.4)	Y*	Y	-	Y
Radar network, radar strategy, SMF, procurement (S4.5)	Y*	Y	-	Y*
Disaster partnership: working groups, IBF, AA, TK (S4.6)	Y	-	-	Y
Dissemination: TV, apps, social media; Tonga comms (S4.6)	Y	Y	-	-
Climate services & data management transformation (S4.7)	Y*	-	-	Y
RTC / RIC (S4.8)	-	Y	-	Y
Tokelau joint mission; communities of practice (S4.8)	-	Y	-	-
MERL & GEDSI via WRP / COSPPac (S4.8)	Y	Y	-	-
Overlooked countries & French territories (S5)	Y	Y*	-	-
Next ten years: radar mosaic, outcomes (S6)	Y	Y	-	-

Annex 5. Proposed voices for the report and video series

- Tonga Meteorological Service, the CEO of Tonga Broadcasting, and a sector user - to testify how Tonga's new TV weather service and communications strategy, including access to radar imagery, has changed public service (S4.5-4.6). Contact details:
 - Laitia Fifita | Director | Tonga Met | laitiaf@met.gov.to
- The following current/former Met Directors are being recommended to comment on the capacity and collaboration story (S4.1-4.3):
 - Rossy Mitiepo | Director | Niue Met | Rossy.Mitiepo@gov.nu | Tel: +683 4600 or 4601 | Fax: +683 4602 | www.gov.nu
 - Reginald White | Director | RMI Met | reginald.white@noaa.gov
- Country testimony on improved governance, visibility and funding access - countries to speak to this directly in the videos (S4.1, S4.4).
- Direct interviews with countries whose progress risks being overlooked (S5).

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Annex 6 - Case study - 20 years of climate service growth

This case study tells the story from the perspective of one staff member have been involved in the Tonga Met Service since 2005. This story showcases how climate services have developed in one Met Service over the past 20 years.

Has have climate services developed in Tonga Met Service over the past 20 years?

- **Digitising climate records:** 20 years ago, all the climate services team did was get paper records from the outer islands and then update the central paper records. It was all paper, back then the records were all over the place. Programs gave Met Service a system, they brought boxes, slowly things became digitised, they had a database.
- **Build capacity for seasonal forecasting:** Programs offered training and tools (including SCOPIC) to do the seasonal forecasting... That kind of work only happens when you have a database and digital records. Once you have a setup right, you are able to do forecasting.
- **Started seasonal forecasts:** At that time, the only forecasting we did was for rainfall today and tomorrow. There was no outlook products for the next 1-3 months. We started to issue new products - seasonal rainfall forecasts, drought warnings. That was used by farmers and all the other stakeholders.
- **Improved quality control:** Before, we had no system for quality control and data homogenisation. For example, if we changed the station location within the village, that kind of detail we didn't care about. Now with CliDE and data homogenisation training we know what to do.
- **More coherence between Met Services:** Before OCOF each country did their own thing with El Nino. The products at times seemed to contradict; sometimes one country talked about El Nino and another country would disagree... That's why the regional platform OCOF, where countries come together and discuss what is happening, is important. The story in the Pacific could then be more coherent, it has raised the professionalism in the Pacific.
- **Added sub-seasonal forecasts:** There was a gap in our forecasts. The forecast model would go to up to one week, then we had the seasonal model for 1-3 months. There was a gap between 2 - 4 weeks. That is whole idea of ACCESS-S; to cover those sub-seasonal forecasts. For us in Tonga we started to issue forecasts between 3-4 weeks.
- **Started tide predictions:** Before the [COSPPac] tide calendars there was no warning of the tide. There was no tide predictions in Tonga. Now we have predictions in Nuku'alofa and Neiafu that we share with the public.
- **Sparked tide warnings:** Not only did regional programs give us the tide calendar, they also marked the spring tide. That triggered us in Tonga to find out what they looked like, from there we came up with a threshold. Whenever the tide gets above this threshold now, we issue an extreme high tide warning for Tonga. When there is tropical cyclone, if it comes during high tide, then we expect a large inundation period. So it helps our coastal inundation forecasts too.
- **Improved wind forecast warnings:** Our wind forecasts were too high, and we were not aware of it until we used the real-time display [from the tide gauges]. Because we found out that that wind was always 5 knots higher in the model than the real wind. That was the first time for us to validate the model. So over those years we had been overpredicting the wind, because of lack of information - because all our other wind observation stations were inland [whereas tide gauges were on the coast].

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- **Tsunami monitoring:** The real-time display also helps with tsunami warning. When there is a tsunami warning in Tonga, we put Nukulofa, Suva, Niue, real-time data on the screen, we look at the real-time displays to see if a tsunami has been propagated. Allows for real-time monitoring and issuing warnings.
- **Integrated traditional knowledge:** For our Met Service, we knew TK existed, but we didn't take it seriously. Before then it was not scientific so it would stay in the community. There was a clear distinction between them and us. We were not interested whatsoever in TK. Then other Met Services, then slowly Tonga became interested. We went from zero interest, now Tonga has a TK database... We use TK in our products now, during El Nino, also during seasonal forecasts and TC forecasts. Because some people in the community do not trust science, they trust TK. And some people don't trust TK, they trust science. The best approach is to combine them. In a way it has enhanced the effectiveness of the product. Those that believe in TK, they take the forecast warning more seriously now.
- **Started offering ocean products:** Our Met Service started with climate products, mainly rainfall. Slowly we have started to release sea surface temperature, sea level, chlorophyll, fisheries products.
- **Offered new tailored products:** COSPPac went around the countries with a template, developed some tailored products. We did a health product on chance for dengue fever. I don't know if the products are still used, but the products were developed.
- **Engagement with in-country stakeholders:** Developed our relationships within the country, the Ministry of Land and Survey, the Wharf, Port Authority, Fisheries, and Agriculture, making things much easier for us. We don't have any initiative in Tonga to bring together these stakeholders, because we don't have any money for it. Only when programs come in, it creates a platform to bring us together, then we work together on products and their needs. That's the platform.
- **Reporting sea level rise:** The Met Service can respond to requests about sea level rise [and the land sinking into the ocean], that data comes from the tide gauge.

Of all the outcomes for your Met Service, what is the most significant change, from your perspective?

[The most significant change is] **the environment and visibility of the Met Service.** Going from nobody respecting it in the country, an amateur, to **a fully matured professional Met Service.** Before, nobody paid any respect to the Met Service. I'm talking about Tonga, but I'm sure it's the same case for lots of the Pacific. All they did was collect data and that's it. Now people can respect us. Going from an amateur fighter to a professional!

Why is that the most significant change, from your perspective?

Because the needs of society evolve; you have new business, new technologies, their needs change as well. We expect the Met Services to keep up with those changes. So we need the Met Services to not stay stagnant, but to evolve as well!