



SEVENTH MEETING OF THE PACIFIC METEOROLOGICAL COUNCIL (PMC-7)

AGENDA ITEM: 10.4

Title: Pacific Regional Climate Centre Network Update

Simon McGree, Bureau of Meteorology, (Chair Pacific RCC-N Management Committee)



Purpose of the Paper

- To report on activities and achievements of the WMO RA-V Pacific RCC-N since PMC-6;
- Highlight the need to halt the decline in quality and quantity of climatological standard observations and recommend activities to address the decline.



Background

- Pacific RCC-N remains in demonstration phase
 - virtual Centre of Excellence that assists NMHSs deliver enhanced climate products and services and strengthens NMHSs capacity to meet national climate information and service delivery needs.
 - Pacific Islands and territories that are members of the PMC are supported by the Pacific RCC-N (excluding the Australian and NZ Islands and US State of Hawaii).
 - four mandatory nodes (Long-Range Forecasting, Climate Monitoring, Operational Data Services and Training) and a highly recommended function, Climate Change.
- Management committee made up of representatives from node leads/co-leads and PMC panels



Progress/Update

Amendments to management committee Terms of Reference

Revised ToR presented as Annex 1. Major amendments include:

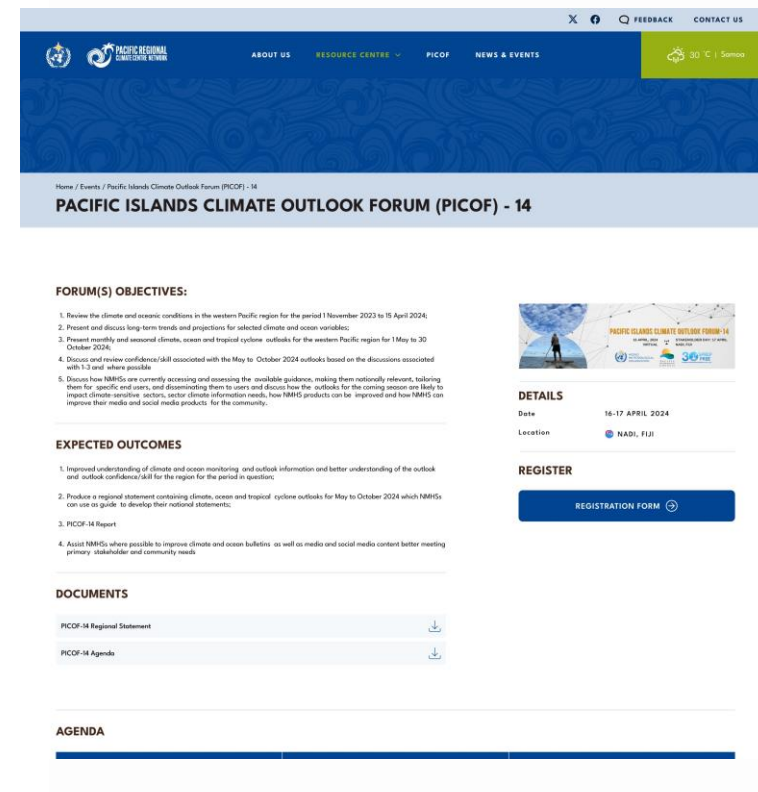
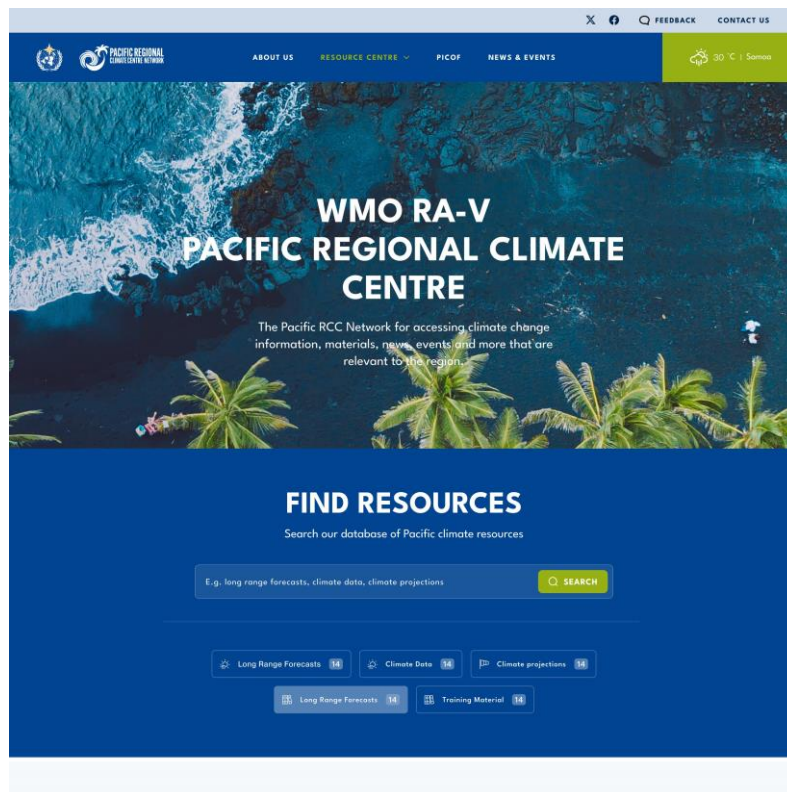
- new vice-chair role, replaces the chair at end of chair's term. Change introduced to ensure management continuity. Ben Noll (NIWA) appointed as vice-chair;
- node on Climate Change projections now Node on Climate Change. Climate change monitoring now responsibility of the Node on Climate Change (previously Node for Climate Monitoring);
- node membership changes. NOAA now member and co-lead of Node on Climate Change. SPC now a Node on Training Function co-lead;
- membership and leadership requirements clarified. Any SPREP Member or Observer that is an NMHS or another institution which is a recognised entity producing climatological and/or ocean services with relevant expertise, technology, and capability is welcome to join the Pacific RCC-N provided they meet requirements outlined in the revised ToR.



Progress/Update

Development of new website

- Tender awarded to Phoenix Design Aid.
- Sitemap and wireframe produced;
- Developers working with Pacific RCC-N members to determine website content requirements and begin developing the new website;
- Activity funded by ClimSA.





Progress/Update

Pacific RCC-N designation application

- Partly drafted;
- Work on application will continue when web development has been completed as designation application depends heavily on the website as a product delivery tool.

Pacific RCC-N logo

- Logo released in April 2024;
- Activity funded by ClimSA.



**PACIFIC REGIONAL
CLIMATE CENTRE NETWORK**



Progress/Update

Pacific Islands Climate Outlook Forum (PICOF) stakeholder engagement

- Changes to PICOF include amending Day-2 stakeholder engagement from single-theme sector engagement (e.g. agriculture) with national stakeholders to multi-sector engagement with regional representatives;
- Sectors are those identified in the Pacific Roadmap for Strengthening Climate Services. Agriculture and Food Security, Tourism, Water, Fisheries and Aquaculture, Energy, Disaster Risk Management and Health;
- Ideally, these representatives would attend PICOF every year with the sectoral 'expert' consequently supporting national climate outlook forums (NCOF) as and when required.



Progress/Update

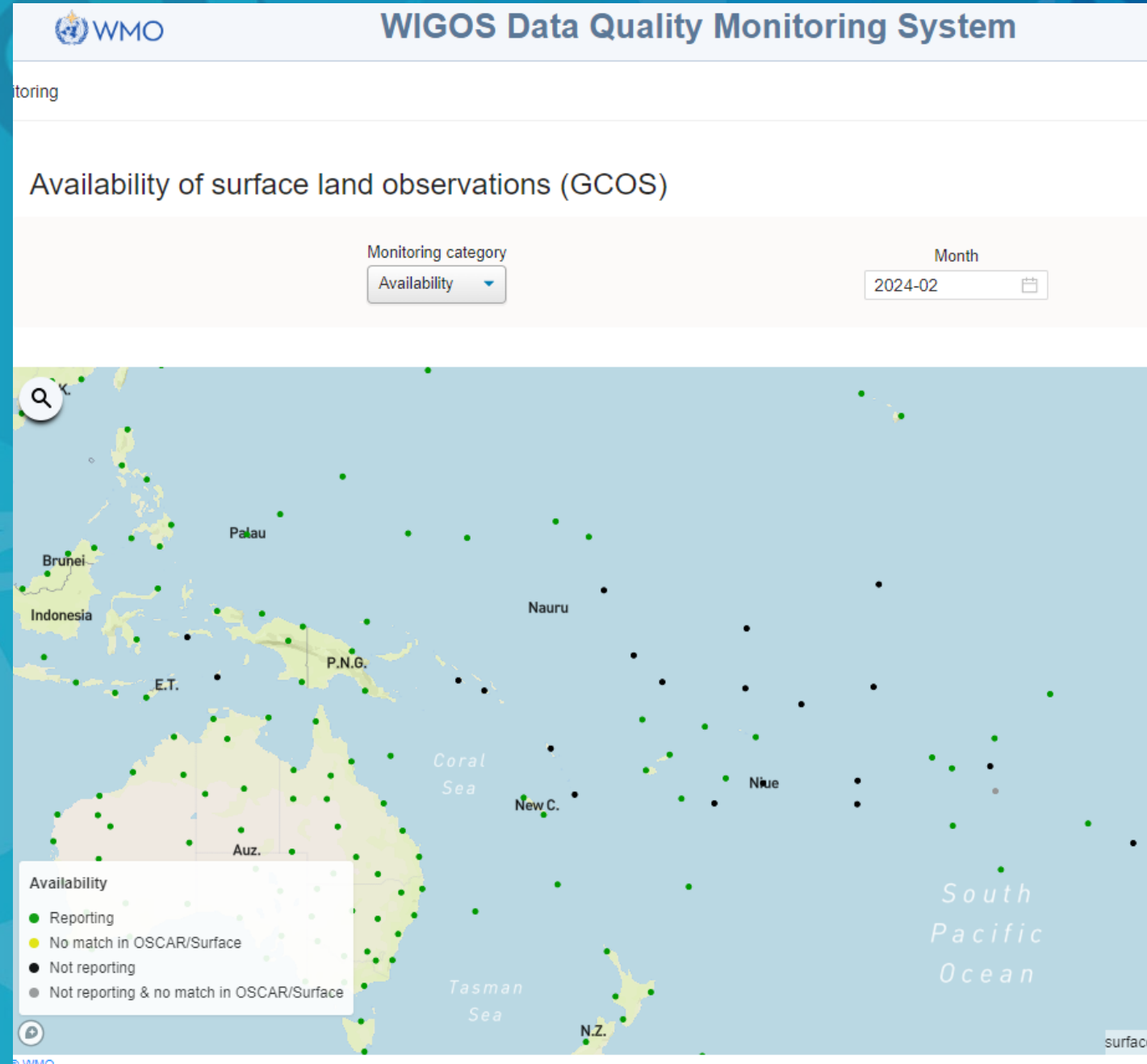
Establishment of and Support for a Pacific Regional Climate Reference Network

- paper led by NIWA highlights the degraded state of many Pacific climate stations and illustrates why these stations are so important.
- outlines the issues which have led to the degradation of the network and provide recommendations for remediation
- advocates for the establishment of a Pacific Regional Climate Reference Station (CRS) Network and investment in the network under upcoming development initiatives.

Draft paper is presented as Annex 4.

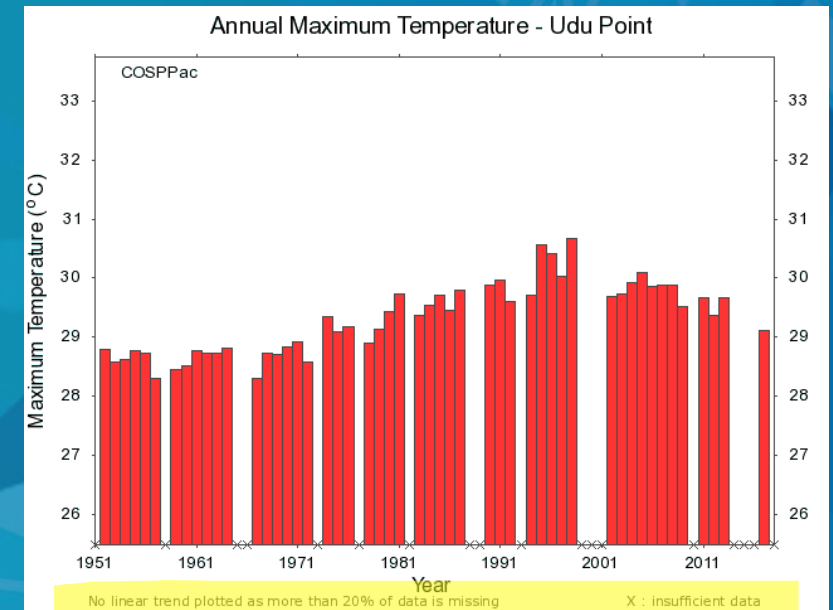
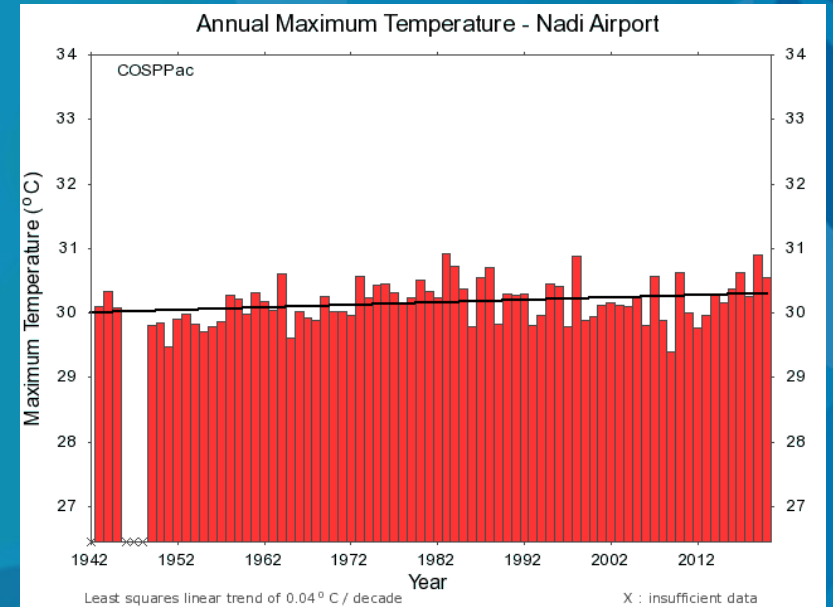
Snapshot of GCOS Network

- An initial review of existing stations reveals 94 across 22 Pacific Islands which are:
 - A. Essential long-term stations
 - B. Isolated/ geographically critical stations
 - C. Other valuable stations (opportunistic, mid-to-long term data, rare data sets)
- Of the 94, 30% report availability issues
- These cannot be used to monitor climate change leading to reduced understanding of our current and future climate in the region



Value of these stations

- Critical to establish long-term climate trends
- Can qualify for 'Centennial Observing Station' status (0 in the Pacific)



Centennial Stations

Filter by Country: No category selected

Filter by Station Type: No category selected

Filter by Start of Operation: No category selected

404 Recognized Stations

70 Members

372 Meteorological Station

10 Marine Stations

22 Hydrological Station:

How to use dashboard:

- Zoom in on the map to display more details about each station.
- Click in the table to select specific stations and display

◀ 403 of 404 ▶

Australia - Willis Island

Australia (RA 5)

Station name: Willis Island

Type: Meteorological station

Start of observations: 1921

Elevation: 9.29 m

WMO number: 0-20000-0-94299

Bureau of Meteorology

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The dashboard features a world map with colored dots representing station locations. The map is divided into regions: North America, Central America, Caribbean, Europe, Asia, Africa, South America, and South West Pacific. A search bar and navigation icons are located in the top right of the map area. A zoom control is in the bottom right.

Issues/ Considerations

- 1. Change in equipment-** transition from manual to AWS, mercury thermometer ban, parallel manual/automatic observations needed for transition
- 2. Change in observation site or surroundings-** continuity of measurements is compromised if a site it changed without parallel obs transition
- 3. Maintenance issues-** poorly calibrated instruments, malfunction
- 4. Resource allocation-** insufficient resourcing for network maintenance and staff resource for reporting
- 5. Reporting mechanism-** staff may be unaware of WIGOS observation reporting requirements and procedures
- 6. Weather v Climate-** many new stations monitor weather variables needed for EWS, but not essential climate variables (e.g. air temp vs. daily max/min)
- 7. Training-** with staff turnover, instrument techs and observers require refreshed training



Recommendations

The Meeting is invited to:

- **Acknowledge** the ongoing work of the WMO Pacific RCC-N, which delivers enhanced regional climate products and services and strengthens NMHS capacity to meet national climate information and service delivery needs;
- **Request** BOM, NIWA, NOAA, University of Hawaii, CSIRO, APCC, SPC, SPREP, Meteo-France, USGS and UPNG as members of the Pacific RCC-N to note past pledges to support the functions of the Pacific RCC-N and ensure they continue to deliver core and where possible highly recommended functions ideally with programmatic/sustained resources;
- **Request** the PMC endorse the revised and improved Pacific RCC-N Management Committee ToR;



Recommendations

The Meeting is invited to:

- **Request** the PMC promote the allocation of resources via national and regional projects with the aim to identify, refurbish, maintain and enhance meteorological observations from long-lived observation stations which are essential for the delivery of operational climate services and research;
- **Request** PMC members and observers to increase data sharing at national, regional and international levels (e.g. GTS/WIS) and request appropriate regional technical partners and organisations support NMHSs with this task with the aim of better understanding weather and climate in region, reducing vulnerability to weather, climate and ocean extremes and increase economic development;



Recommendations

The Meeting is invited to:

- **Request** PMC members and observers consider the benefits of long-lived observation stations being classed WMO 'Centennial Observing Stations' and apply for designation as soon as possible;
- **Request** the PMC approve the establishment of Regional (and National) Climate Reference Station Networks that safeguard existing long-term climate stations in addition to ensuring that all countries and territories have at least one Pacific Regional Climate Reference Station in their network;



Recommendations

The Meeting is invited to:

- **Note** progress with reference to the application for RCC-N designation. The new Pacific RCC-N logo is available and work on the new website has commenced and will be completed as soon as possible. The designation application will be submitted to WMO as soon as possible, with designation ideally obtained before PMC-8;
- **Note** PICOF amendments which aim to include regional level climate-sensitive sector representatives in future PICOFs, to better identify potential impacts in the coming season and identify response strategies to potential impacts. This will be followed by regional sectorial experts supporting national representatives with preparations for the coming season.