FOURTH
PACIFIC MINISTERIAL MEETING ON METEOROLOGY

PMMM-4 Nuku'alofa, Tonga • 15, 16 September 2026

Agenda Item

4

SUSTAINABILITY OF WEATHER, CLIMATE, WATER AND OCEAN SERVICES

FOR A SAFE, SECURE AND PROSPEROUS PACIFIC

4.2 Enhancement and Efficiency of National Meteorological and Hydrological Services

'Ofa Fa'anunu – Weather Ready Pacific Program Manager

Weather Ready for a Secured and Sustainable Pacific

PACIFIC METEOROLOGICAL COUNCIL

SPREP Secretariat of the Pacific Regional Environment Programme

WORLD METEOROLOGICAL ORGANIZATION

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A PROPOSAL FOR THE DECARBONISATION AND GREENING OF NATIONAL METEOROLOGICAL AND HYDROLOGICAL SERVICES

Weather Ready for a Secured and Sustainable Pacific

PACIFIC METEOROLOGICAL COUNCIL

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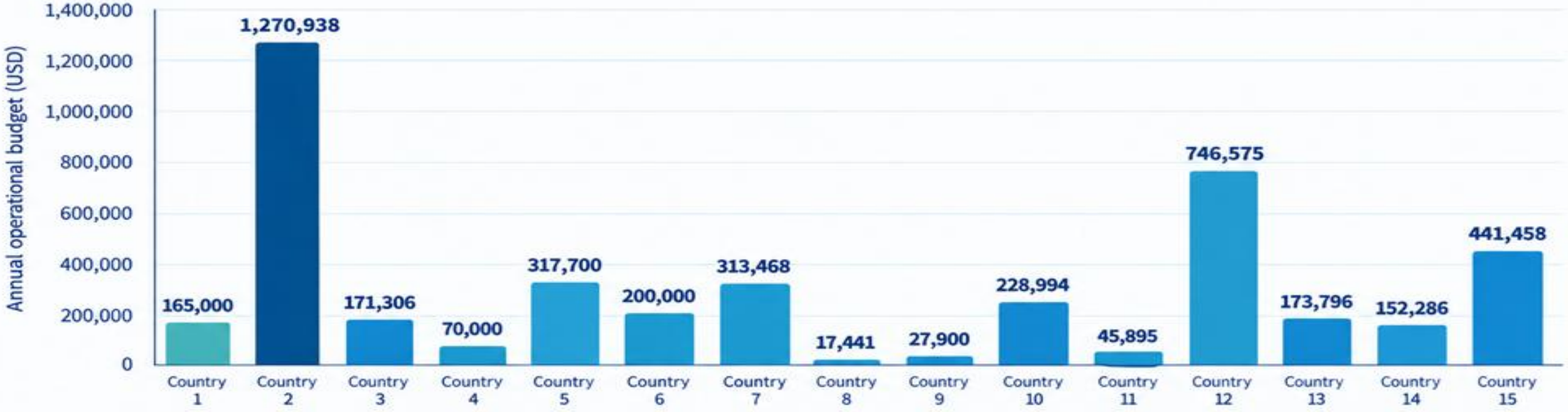
WORLD METEOROLOGICAL ORGANIZATION

Annual Meteorological Service Operational Budgets

Pacific Island Countries & Territories



Total annual operational budget
USD 4.3M

Average per country
USD 28.7K

Range (lowest – highest)
USD 17K – 1.27M

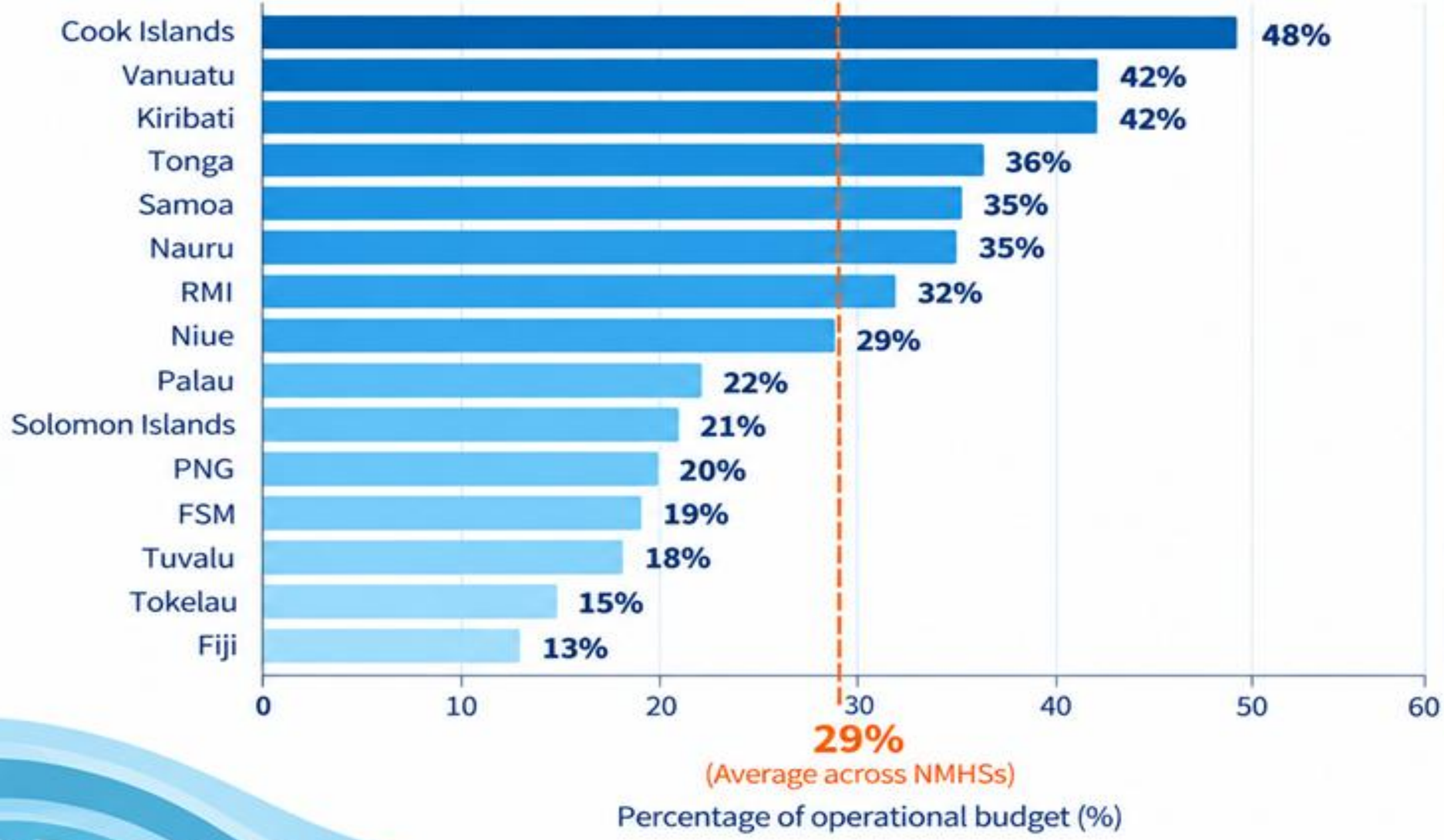
PEOPLE
Safer communities

PARTNERSHIPS
Stronger collaboration

RESILIENT FUTURES
A more secure Pacific

Share of Meteorology Operational Budget
Spent on Electricity and Fuel
Pacific Meteorological Services (Survey Results)

Weather Ready Pacific
Safer People. Stronger Communities.



29%

On average, Pacific Meteorological Services spend **29%** of their operational budgets on electricity and fuel.

Reducing energy costs can improve sustainability, free up resources for essential services and support a greener, more resilient Pacific.

Stronger weather services for safer people and stronger communities.

PEOPLE | PARTNERSHIPS | RESILIENT FUTURES

Pacific Meteorology Services

Operational Costs: Electricity and Transport Fuel

15 Pacific Island Countries & Territories (Annual Estimates)

Weather Ready Pacific

SAFER PEOPLE
STRONGER COMMUNITIES

Annual electricity cost
for the 15 Pacific Island Countries & Territories

USD 660K

Annual transport costs
for the 15 Pacific Island Countries & Territories

USD 340K

Total power and fuel cost
for the 15 Pacific Island Countries & Territories

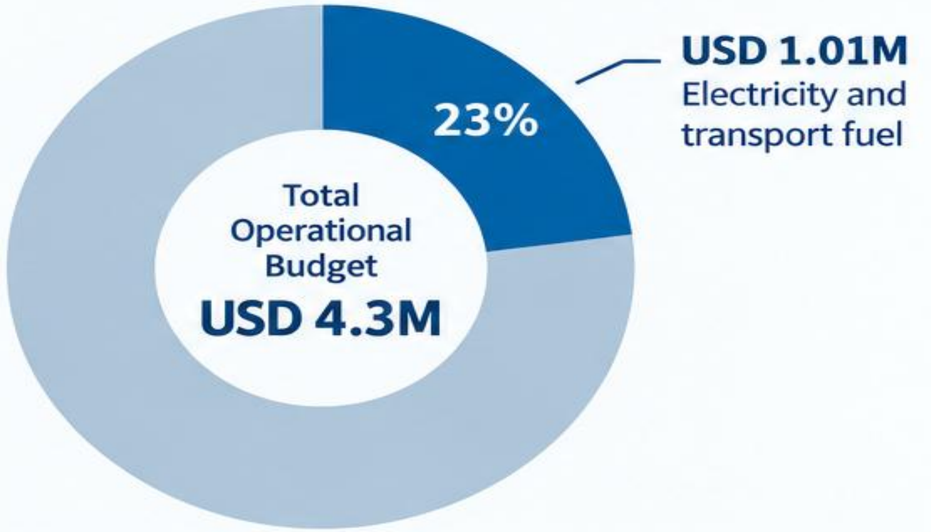
USD 1.01M

Annual operational budget
of the 15 Pacific Island Countries & Territories

USD 4.3M

Power and Fuel as a Share of Meteorology Operational Budgets

15 Pacific Island Countries & Territories



Electricity and transport fuel represent **23%** of the total operational budgets of Pacific Meteorological Services.

PEOPLE
Safer communities

PARTNERSHIPS
Stronger collaboration

RESILIENT FUTURES
A more secure Pacific

A Weather Ready Pacific

FOR A SAFER, STRONGER TOMORROW

Powering a Weather Ready Pacific

Renewable Energy for Stronger, More Resilient Meteorological Services

Clean Energy | Lower Costs | Reliable Services | A Safer, Stronger Pacific

Weather Ready Pacific
SAFER PEOPLE
STRONGER COMMUNITIES

Clean Energy
Stronger Services
Brighter Futures

Current Situation

Annual power and transport fuel costs
(15 Pacific Island Countries & Territories)

Electricity costs
USD 660,000

Transport fuel costs
USD 340,000

Total annual power and fuel costs

USD 1.01 MILLION

Renewable Energy Scenario

90% renewable energy through solar and EVs

90%
RENEWABLE ENERGY
for Meteorological Services

Estimated 90% reduction in electricity and transport fuel costs

Remaining annual cost (10%)	Annual savings (90%)
USD 101,000	**USD 909,000**

10-Year Outlook

Cumulative savings over 10 years

10-year savings

USD 9.1M

These savings can be reinvested to strengthen observation networks, maintenance, and core meteorological services across the Pacific.

What can we do with the savings?

With ~USD 909,000 saved each year, Meteorological Services can invest in:

Equipment maintenance and calibration
Service radars, AWS, ocean buoys, tide gauges and upper-air systems

Spare parts and consumables
Build regional spare parts stock and reduce downtime

Technical training and capacity building
Train local technicians and build maintenance skills

Backup power and resilient infrastructure
Install battery storage, backup generators and improve facility resilience

ICT and data systems
Maintain servers, communications and data management systems

Fleet transition and maintenance
Purchase and maintain EVs, charging infrastructure and reduce fuel imports

More than cost savings...

- More reliable early warnings
- Stronger resilience for communities
- Lower greenhouse gas emissions
- Greater energy independence
- A cleaner, healthier Pacific

PEOPLE | PARTNERSHIPS | RESILIENT FUTURES

A Greener Pacific for a Safer Tomorrow

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PROPOSAL FOR A ONE PACIFIC METEOROLOGY PROGRAM FRAMEWORK

Weather Ready for a Secured and Sustainable Pacific

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Two Meteorology streams currently operating in the Pacific

WMO Stream

- WMO Congress (Geneva)
- WMO Region V Program
- NMHSs Directors (Permanent Representatives of WMO)

Pacific Island Forum (PIF) Stream

- Pacific Leaders Forum
- SPREP (Climate Science and Information Program)
- NMHSs Directors (Pacific Meteorological Council)

While these two main program streams bring substantial benefits the Pacific, but multiple programmes have resulted in separate governance arrangements, country consultations, needs assessments, technical missions, workplans, training programmes, procurement processes, monitoring systems, reporting requirements, steering committees, donor engagement processes and investment pipe-lines.

For small NMHSs with limited human resources, participation in multiple programme processes can itself become a significant operational burden. The challenge is therefore to ensure that available assistance is coordinated, complementary, country-led and strategically targeted.

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CONSIDERATIONS FOR A ONE PACIFIC METEOROLOGY PROGRAM FRAMEWORK

COUNTRIES LEAD → REGION COORDINATES → PARTNERS INVEST

1 GOVERNANCE & ACCOUNTABILITY

- Governance arrangements
- Roles and responsibilities
- Transition arrangements

2 COUNTRY-LED PLANNING & INVESTMENT

- Country planning
- Partner mapping
- Investment mapping
- Annual programming

3 COORDINATED DELIVERY

- Mission protocols
- Donor coordination
- Information sharing
- Workforce development

4 RESULTS, LEARNING & SUSTAINABILITY

- MERL
- Monitoring of investments and results
- Knowledge sharing
- Continuous improvement

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SEEKING PMMM4 ENDORSEMENT

ONE PACIFIC METEOROLOGY PROGRAMM FRAMEWORK

PACIFIC METEOROLOGICAL COUNCIL 8 – Paper 8.5

RECOMMENDED that *PMMM4* endorse the One Pacific Meteorology approach as a strategic direction for regional cooperation.

TOWARDS IMPLEMENTATION

TOWARDS A STRONGER, MORE RESILIENT AND SUSTAINABLE PACIFIC

Weather Ready for a Secured and Sustainable Pacific

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SEEKING PMMM4 ENDORSEMENT

TWO PRIORITIES FOR A STRONGER, MORE RESILIENT AND SUSTAINABLE PACIFIC

1 Powering a Weather Ready Pacific Initiative

Endorse the Powering a Weather Ready Pacific Initiative and the development of a Regional Policy and costed Implementation and Investment Plan to transition Pacific NMHSs towards more energy resilient, financially sustainable and low carbon operations.

2 One Pacific Meteorology Framework

ENDORSE the approach of the One Pacific Meteorology Programme Framework and support its concept, as endorsed in principle at the PMC-8.

Endorse both priorities and champion their implementation and investment.

Weather Ready for a Secured and Sustainable Pacific

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