

Enhancing Climate Information and Knowledge Services for resilience in 5 island countries of the Pacific Ocean (UNEP CIS-Pac5)

- As Pacific Small Island Developing States (SIDS), the Cook Islands, Niue, Palau, the Republic of Marshall Islands (RMI) and Tuvalu are extremely vulnerable to increasingly frequent and intense climate-related hazards and extreme weather events, such as tropical cyclones, flooding and drought. Sea-level rise also poses a major threat.
- Disaster risk is at its highest in Oceania. Total damage replacement costs for assets, infrastructure and crops at risk from natural disasters in the five Programme countries amount to over \$7.6 billion (PCRAFI, 2019).
- As these events increase in frequency and intensity, Pacific SIDS need accurate, timely and actionable information and early warnings on local weather, water, climate and ocean conditions and related risks to human and environmental health.
- Approved at the twenty-seventh meeting of the Green Climate Fund Board (B.27) on 10 November 2020, the USD 49.9 million Programme (FP147) will establish **integrated climate and ocean information services and multi-hazard early warning systems (MHEWS)** in the Cook Islands, Niue, Palau, RMI and Tuvalu.
- The Programme addresses priority needs identified in the **Pacific Islands Meteorological Strategy 2017-2026** and the **Framework for Resilient Development in the Pacific**.
- The Programme will directly contribute to the attainment of selected targets and indicators of Article 7 of the **Paris Agreement**, **Sustainable Development Goal (SDG) 13 on Climate Action**, the **Sendai Framework for Disaster Risk Reduction**, and the **SAMOA Pathway**.

Why have Pacific SIDS prioritised Climate Information and Early Warning Systems?

- **National Meteorological and Hydrological Services (NMHSs) underpin economic growth and sustainable development** in Pacific Island countries. They support key economic and livelihood areas such as agriculture, health, disaster risk reduction, water, fisheries, and environmental management.
- **Strengthened resilience and reduced vulnerability to climate variability and climate change** of key sectors and communities in Pacific Island countries cannot be achieved without scientific knowledge and data on weather, climate, water and oceans.
- **Early Warning Systems facilitate effective disaster risk reduction and climate change adaptation.** They empower vulnerable populations to initiate timely and appropriate actions to reduce the impact of climate-related hazards and extreme weather events.
- **Climate services investments have an overall cost benefit ratio of one to 10.** Systematic investment in the cascading global-regional-national hydrometeorological system that underpins climate services outweighs the costs by about 80 to one (WMO, 2019).

What is the expected impact of the Programme?

- **At least 80 percent** of the populations of the five countries as **direct beneficiaries**.
- **15-30 percent reduction in economic loss and damage** incurred due to climate-related hazards.



What will the Programme do?

- **Facilitate a paradigm shift to science-based climate-resilient policy, planning, preparedness and early action** through timely, accurate and actionable weather, climate and ocean information and multi-hazard early warning.
- **Strengthen delivery models for climate information services and MHEWS covering oceans and islands** through increased multi-stakeholder coordination and collaboration and the development of National Frameworks for Climate Services to enhance use of climate information and facilitate provision of best practice climate services.
- Enable compliance with **Global Basic Observing Network (GBON)** standards to **ensure reliable, real-time access to essential surface-based observational data** for global Numerical Weather Prediction – the basis on which all weather and climate services are built.
- **Strengthen ocean services** to support sustainable marine ecosystems management, particularly benefiting vulnerable coastal communities (90 – 100 percent of the populations of the five countries) and contributing to the **UN Decade of Ocean Science for Sustainable Development**.

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- **Establish Impact-based Forecasting and Forecast-based Financing** as innovative disaster risk management approaches that enable risk-informed anticipatory action and minimise socio-economic costs of weather and climate hazards.
- **Enhance dissemination and communication of risk information and early warnings** through strengthened last-mile communication systems and people-centred MHEWS tailored to specific needs and vulnerabilities of different population groups – including women, youth, elderly people, Indigenous Peoples, and people with a disability.
- **Improve preparedness, response capabilities and resilience to climate risks from national to local level** through capacity building, awareness-raising, Traditional Knowledge integration, and community-led disaster risk management.
- **Enhance regional knowledge management and cooperation** for climate services and MHEWS to optimise synergies, economies of scale, and avoid duplication of efforts.

Partners

- The Programme is anchored in a coalition of local, regional and international partners, including:



APEC Climate Center (APCC)



Australian Bureau of Meteorology (BoM)



East-West Center (EWC)



Stitching Red Cross/ Red Crescent Centre on Climate Change and Disaster Preparedness (Climate Centre)



New Zealand National Institute of Water and Atmospheric Research (NIWA)



US National Oceanic and Atmospheric Administration (NOAA)



Pacific Community (SPC)



Pacific Regional Environment Programme (SPREP)



University of Hawaii



World Meteorological Organization (WMO)

