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SIXTH MEETING OF THE PACIFIC METEOROLOGICAL COUNCIL (PMC-6) THIRD PACIFIC MINISTERIAL MEETING ON METEOROLOGY (PMMM-3)

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## Sixth Meeting of the Pacific Meteorological Council (PMC-6)

Sustaining Weather, Climate, Water and Ocean Services for a Resilient Blue Pacific

14-16 August 2023, Sofitel Fiji Resort and Spa, Denarau, Nadi, Fiji

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### **Agenda item 17.7: Climate Information Services for Resilient Development Planning in Vanuatu – FP035 (Vanuatu Klaemet Infomesen blong redy, adapt mo protect – VanKIRAP)**

#### **Purpose:**

The purpose of this paper is:

1. To introduce to the Council, the Climate Information Services for Resilient Development Planning in Vanuatu – FP035 (VanKIRAP) project and provide an overview.
2. To inform the Council on activities, progress and achievement made under the VanKIRAP project.

#### **Background:**

1. The Climate Information Services for Resilient Development Planning in Vanuatu project, locally known in Bislama as the *Vanuatu Infomesen blong redy, adapt mo protekt (VanKIRAP)* project, is a USD\$18 million Government of Vanuatu initiative, funded by the Green Climate Fund (GCF) through SPREP as the accredited entity (AE). The project implementation is led by the Vanuatu Meteorology and Geo-hazards Department (VMGD) with support from SPREP, APCC, CSIRO and BOM. The project lifespan is from 2018 to 2023.
2. The project is using science to better prepare Vanuatu's policy makers and local communities in the last mile for a changing climate.
3. VanKIRAP builds on and complement the previous and current activities in Vanuatu such as the Republic of Korea Pacific Islands Climate Prediction Services (ROKPI CliPS Phases 1 and 2), Pacific Australia Adaptation to Climate Change Science and Adaptation Planning (PACSSAP), Next-Generation Climate Projection for the Pacific (Next Gen) project, and the Climate and Ocean Support Program for the Pacific (COSPPac).

#### **Objectives:**

1. The VanKIRAP project embarks to institute a paradigm shift to standardize the use of science-based climate information. This is seen as a necessary base to underpin awareness raising and long-term policy planning around climate change.
2. This project expands the use of Climate Information Services (CIS) in five targeted climate sensitive sectors: tourism, agriculture, infrastructure, water management and fisheries identified in the Vanuatu Framework for Climate Services. Specific project goals include building technical capacity to harness and manage climate data, developing practical CIS tools, fostering their use and disseminating tailored climate information.

## Update

### A. Instrumentation

1. The project has strengthened the Vanuatu weather and climate observations network with the installation of 8 automatic weather stations (AWSs) and 8 automatic raingauges (ARGs) in partnership with NIWA.
2. A new ocean monitoring network (6 ocean buoys) has been established to monitor sea surface temperature, wave heights and direction to support ocean services. The new network complements the sea level monitoring gauges in Port Vila, Luganville, Tanna and Malekula.
3. Basic hydrology functions of the Vanuatu Water Resources Department re-established through the installation of a river monitoring gauge at the Sarakata river in Luganville, Santo, Sanma Province and building the technical capacity of DoWR with a Tideda hydro database and standard operating procedures.
4. A network of groundwater monitoring sensors have been installed within the Sarakata river catchment with telemetry capability to stream near-real-time data to the Tideda database.
5. A citizen science program for schools has been established to monitor and collect rainfall observations and traditional knowledge data in 30 locations in Tanna, Malekula and Ambae.
6. RbR sensors (8 sites) established to monitor pressure and oceanic temperatures in select Marine protected areas (MPAs) in collaboration with the Fisheries Department.
7. A weather radar system (C-band) with dual polarization capability is under procurement.
8. To enhance the capacity of the infrastructure sector, the project has supplied the Vanuatu Public Works Department with a DJI Matrice 300 drone aircraft with LIDAR and photogrammetry capability. The project is now collecting LIDAR data with two NZ certified drone pilots. [LIDAR 3D Animation Nguna Road: <https://bit.ly/3OO91Mm>]

### B. Data rescue and digitization

1. The project has rescued more than 350,000 paper records converted into digital formats (png, jpeg) using the new A3 Bookeye Digital Scanner technology. Data rescue efforts is now turning its focus on sector data eg water/hydrological and agriculture paper records.
2. The data digitization program with university students is very successful and continues to key-in climate observations into CliDE. BOM/COSSPac will provide further CliDE training for VMGD staff in September 2023.

### C. Data Management and Governance Policy

1. In partnership with CLIMsystems NZ, the project is developing a Data Management and Governance Policy for VMGD. This is guiding the protection, management and delivery of data to users; moreover, to streamline cost recovery with the organization's structure, positions and functions. [<https://bit.ly/47tyRwg>]

### D. Strengthening uptake of CIS in sectors and communities

1. Developed sector specific CIS Policy Review, Actions and Communications plans.
2. "Klaemet Save" – Vanuatu's new climate brand for climate information for a resilient future.
3. Fulltime sector coordinators positions (x5) embedded within each sector to enhance the coordination, communication, uptake of and application of CIS.
4. Establish the Vanuatu Technical Working Group (TWG) consisting of VMGD and sector and community representatives to further improve coordination.
5. Established six community climate information centres (hubs) in all provinces to receive and relay CIS to reach "last mile" end users. This is recognizing the

Government of Vanuatu de-centralization policy and taking climate information to the people.

#### **E. Climate services and tools**

- A. Tailored System of Climate Services for Agriculture (OSCAR) – web and mobile service [<https://oscar.gov.vu/lite/mobile.do>]
- B. Flood Management Plan and Early Warning System for the Sarakata community. [<https://bit.ly/43SdPVn>]
- C. Climatological and Operational Maps for rainfall, temperature, La Nina, El Nino and ENSO neutral (769 maps) at national and provincial scales [<https://bit.ly/3s6fhWL>]
- D. Fisheries and Tourism climate bulletins developed based on sectoral requirements.
- E. Sector case studies (x 5) to demonstrate the utility of climate information in Agriculture, Fisheries, Tourism, Infrastructure and Water.
- F. Re-establishment of the Vanuatu Agromet services through the OSCAR system.

#### **G. Traditional Knowledge Program**

1. SPREP in partnership with BOM and VMGD launched the Vanuatu Traditional Knowledge Strategy. The Van-KIRAP Traditional Knowledge Strategy provides a guiding framework to enhance the capacity of VMGD to coordinate and ensure that all traditional knowledge relating to weather, climate and disaster risk responses activities are delivered effectively in partnership with government agencies, NGOs, regional technical agencies, donor partners and research institutions. The Strategy defines the traditional knowledge process to be undertaken and highlights the roles of the partners in the project, in managing and coordinating traditional knowledge activities. [<https://bit.ly/3Yw0ReT>]
2. Draft National Traditional Knowledge Indicator booklet to be launched in November 2023.
3. Provincial and community-based traditional knowledge calendars developed in consultation with communities. [<https://bit.ly/3KBGSp4>]
4. Climate Watch App Vanuatu available in English and Bislama to better engage the public in climate science and environmental monitoring and for building stronger partners with other sector organisations. The Climate Watch App Vanuatu was developed by Earthwatch through co-financing from COSPPac, and the IUCN/Global EbA Fund. [<https://bit.ly/3qrflul>]

#### **H. Climate change services**

1. CSIRO and NGIS Australia (Delivery Partners) have developed the Vanuatu Climate Futures Portal (web-based tool). This will include enhanced functionality for accessing, analyzing and visualizing multi-decadal GCM and down-scaled projections and sector specific application-ready datasets for key climate variables; and assimilation of on-line training materials and guidance materials for accessing and applying projections for risk assessments across five sectors. [<https://bit.ly/44Z5hx2>]

#### **Project websites:**

- a. <https://www.nab.vu/project/vanuatu-klaemet-blong-redy-adapt-mo-protekt-van-kirap-project>
- b. <https://bit.ly/45ok5Vl>

#### **Project social media:**

- a. <https://web.facebook.com/VanKIRAP>

## Recommendations:

The Meeting is invited to:

- **Note** and welcome the Climate Information Services for Resilient Development Planning in Vanuatu FP035 (VanKIRAP)
  - **Note** through VanKIRAP and its delivery partners considerable progress has been made on the implementation of the project.
  - **Applaud** the efforts of the VanKIRAP project in strengthening the capacity of VMGD and climate sensitive sectors to utilize tailored climate information services.
  - **Applaud** the financial support provided by the Green Climate Fund.
  - **Recognise** the contributions of the delivery partners APCC, BOM, CSIRO and SPREP in the delivery of the cutting-edge climate information services (CIS) and tools to support resilient development in Vanuatu.
  - **Recommend** for a follow-up project (Phase 2) to upscale and expand to other sectors eg Health, Energy, Disaster Risk Reduction etc; the new innovations and the climate information services products are taken up for decision making.
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