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

"At the Frontline of Weather, Climate, Water, and Ocean Action in the Pacific"

17-19 September 2024, Warwick Le Lagon-Vanuatu Resort, Port Vila, Vanuatu

Agenda Item 10.5: Update on the VanKIRAP Project

Purpose:

1. To provide update on the activities, progress and achievements of the Vanuatu Climate Information Services for Resilient Development Planning (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 2025.
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 (PACCSSAP), 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

3. A C-band dual polarisation doppler weather radar provided by Vaisala Pty Ltd will be launched in mid 2025 to enhance early warning services in Vanuatu.
4. 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.
5. 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.
6. 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.
7. 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.
8. A citizen science program for schools has been established to monitor and collect rainfall observationsand traditional knowledge data in 30 locations in Tanna, Malekula and Ambae.
9. 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 rescue more than 450,000 paper records converted into digital formats (png, jpeg) using the new A3 Bookeye Digital Scanner technology.

2. The data digitization program with university students is very successful and continue to key-in climate observations into CliDE. BOM/COSSPac provided further CliDE training for VMGD staff in September 2023.

C. DataManagementandGovernancePolicy

1. In partnership with CLIMsystems NZ, the project has developed a (i) Data Management and Governance Policy, (ii) Cost Recovery Mechanism and Models 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 insectors 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. Established 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

1. Tailored System of Climate Services for Agriculture (OSCAR)–web and mobile service developed with support from APEC Climate Center (APCC), a VanKIRAP Delivery Partner.
2. Flood Management Plan and Early Warning System and Standard Operating Procedures (SOP) for the Sarakata community. [https://bit.ly/43SdPVn]

3. Climatological and Operational Maps for rainfall,t emperature, LaNina, El Nino and ENSO neutral (769 maps) at national and provincial scales [https://bit.ly/3s6fhWL]
4. Fisheries and Tourism climate bulletins developed based on sectoral requirements from a user survey.
5. Re-establishment of the Vanuatu Agromet services through the OSCAR system.
6. Fifteen sector case studies completed to demonstrate the utility of climate information in Agriculture, Fisheries, Tourism, Infrastructure and Water sectors.

F. 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. Provincial and community-based traditional knowledge calendars developed in consultation with communities. [https://bit.ly/3KBGSp4]
3. 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]

G. Climate change services and tools

1. CSIRO and NGIS Australia (Delivery Partners) have developed the Vanuatu Climate Futures Portal (web-based tool). This will includes 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]

2. Updated national and sub-national climatology (current/future)mean/extreme: temperature, rainfall and drought, tropical cyclones, sea level, marine heatwaves and ocean chemistry.
3. Sectoral, hazard-based impacts assessments: Fisheries, Agriculture, Instratructure, Tourism, Water.
4. Macro-economic analysis of climate information services in the Western Tropical Pacific and Vanuatu.
5. Communications products: guidance materials, factsheets/infobytes, videos/social media etc.

Project websites:

1. https://www.pacificmet.net/project/climate-information-services-resilient-development-planning-vanuatu-fp035-vankirap
2. https://www.nab.vu/project/vanuatu-klaemet-blong-redy-adapt-mo- protekt-van-kirap-project
3. https://bit.ly/45ok5VI

Project social media:

a. https://web.facebook.com/VanKIRAP

Recommendations:

The Meeting is invited to:

- **Recommend** that the project lessons learnt, and cutting-edge CIS tools developed for Vanuatu can be replicated and upscaled in a VanKIRAP Phase 2 under the One Pacific Programme (OPP) to benefit other NMHSs.
- **Note** the update and the significant progress made by the VanKIRAP project.
- **Acknowledge** the leadership demonstrated by the Vanuatu Meteorology and Geohazards Department and delivery partners for their work in the implementation of the VanKIRAP project and outcomes.