



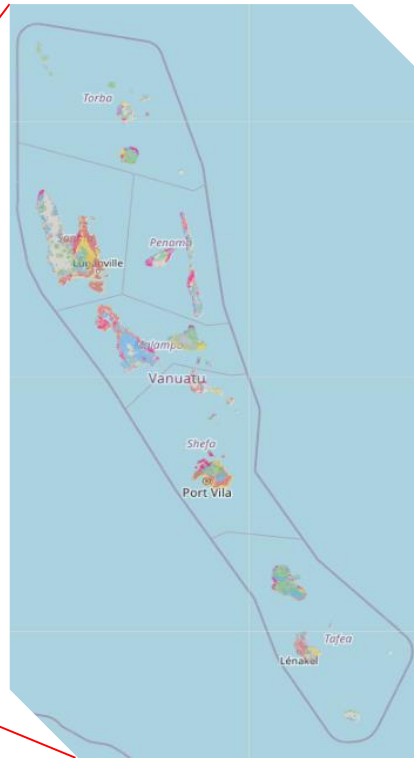
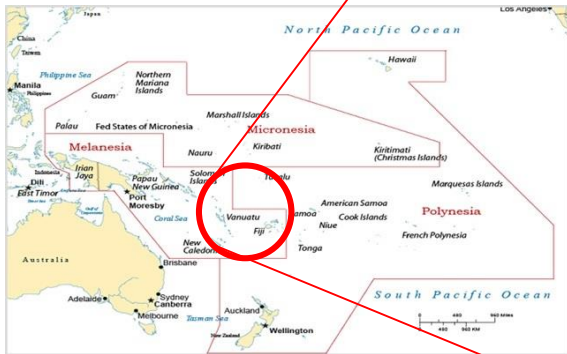
Climate Information Services for Resilient Development Planning in Vanuatu



Jong Ahn Chun
APEC Climate Center

Climate Information Services for Resilient Development Planning in Vanuatu (Van-CIS-RDP)

Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt (Van-KIRAP)

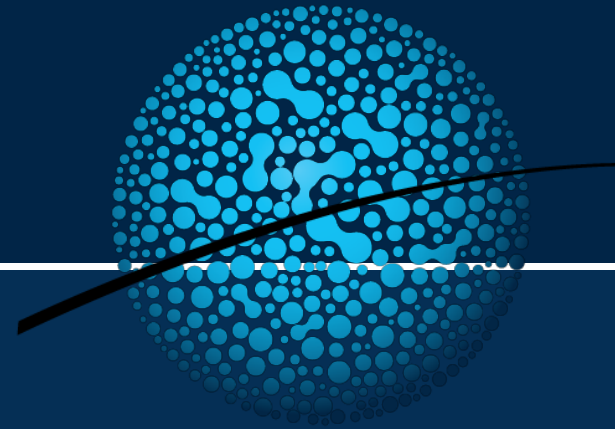


- Increase the ability of decision-makers, communities and individuals
 - Across five target sectors (Agriculture, Water, Fisheries, Tourism, and Infrastructure)
 - To plan for and respond to the long- and short-term impacts of climate variability and change
- Grant : USD 18,106,905
- Project Period: 1. 2018 – 12. 2025
- Executing Entity: SPREP, VMGD
- Delivery Partner: APCC, CSIRO, BoM



Project Inception and Stakeholder Consultation (2016, June)





Major Activities

- ❖ Develop Agro-met information portal including new on-line IT infrastructure and software (**OSCAR** prototype)
- ❖ Collecting, modeling, analysis and reporting of **agro-met data** to determine optimal agriculture crop planning options
- ❖ Undertaking **field trials and validation** prior to incorporation into DSS delivery platforms, ground-truthing and **outreach** with target Next/End-Users
- ❖ Develop the **crop-climate diary** customised for agro-met data collection

tailOred System of Climate services for AgRiculture (OSCAR)

EQUIPPING FARMERS WITH CLIMATE-RESPONSIVE SOLUTIONS

Agromet Bulletin

Delivers seasonal forecasts and agricultural advice to local farmers, accessible via mobile for informed last-mile decision-making

#Seasonal Forecasts #Drought index
#ENSO alert #Mobile access

Farming Advisory

Leveraging seasonal forecasts, provides crop modeling and traditional knowledge based guidance to enhance productivity

#Seasonal forecasts (APCC MME)
#Best crop planting week
#Yield forecast

Interactive Weather Map

Offers near real-time, location specific weather data to support timely farming adjustments

#Quality-controlled #Gap-filling

DRIVING AGRICULTURAL GROWTH WITH DATA-DRIVEN FARMING

STRENGTHENING AGRICULTURAL RESILIENCE WITH TAILORED CLIMATE TOOLS

Crop Climate Diary (CCD)

Tracks crop growth and yields and accumulates field data to monitor climate change impacts

#Systematic Field Data Management
#Deep learning #Computer vision

Vanuatu Digital Soil Map

Offers agronomy potential to guide farmers in crop suitability decisions

#Location-based soil suitability

Climate Extremes & Agromet indices

Delivers early warnings to help farmers mitigate risks and adjust their practices

#Early warning #Risk reduction
#Monitoring and forecast indices

OSCAR
tailOred System of Climate
services for AgRiculture

Weather Map >
Climate Extremes Index >
Agro-met Index >
Agro-met Bulletin >

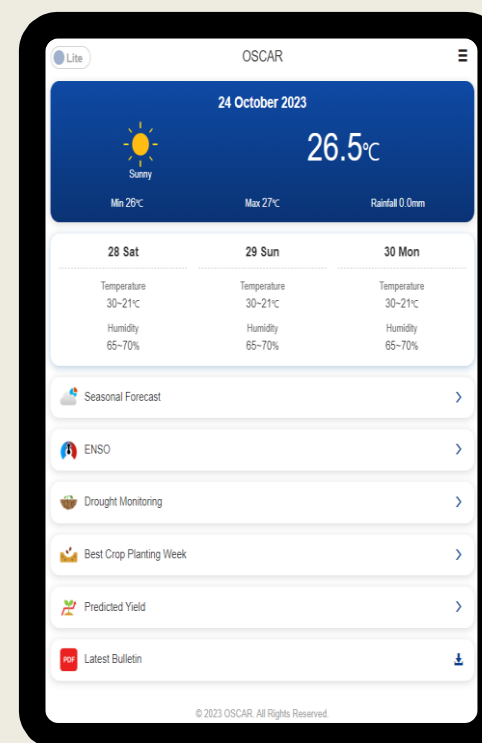
Automatic Weather Station

© Vanuatu Meteorology and Geo-hazards Department, 2022

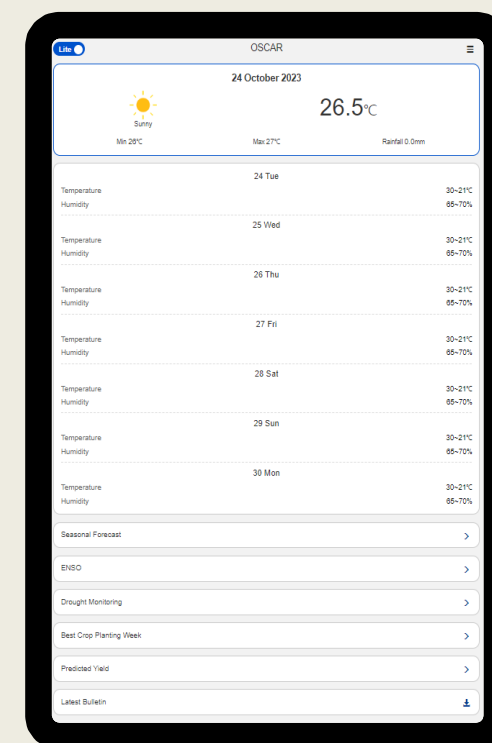


OSCAR Website
(<https://oscar.gov.vu/>)

Mobile version



Lite version



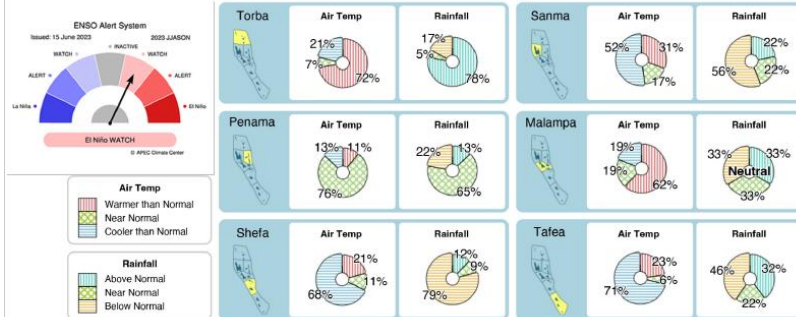
Agromet Bulletin

VANUATU Agromet Bulletin

Volum 6, June 2023

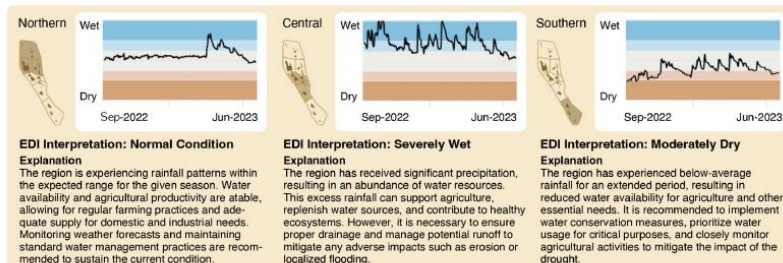
Vanuatu Meteorology & Geo-Hazards Department, Vanuatu Meteorology & Geo-Hazards Department
Department of Agriculture & Rural Development

Seasonal Forecasts



- The APCC ENSO Alert suggests "El Niño WATCH". In July 2023, slightly negative sea surface temperature anomalies were observed over the central equatorial Pacific, whereas above normal ones spanned the eastern equatorial Pacific. The Niño3.4 index is expected to increase from 0.5°C to 1.6°C for July – September 2023. The probability for El Niño conditions is expected to be above 90% for the same period.
- Above normal temperatures are expected for most of the provinces for July – September 2023.
- For the same period, strongly enhanced probability for above normal precipitation is predicted for the Penama, whereas enhanced probability for below normal precipitation is expected for the Samma, Torba, and the Shefa.

The Effective Drought Index



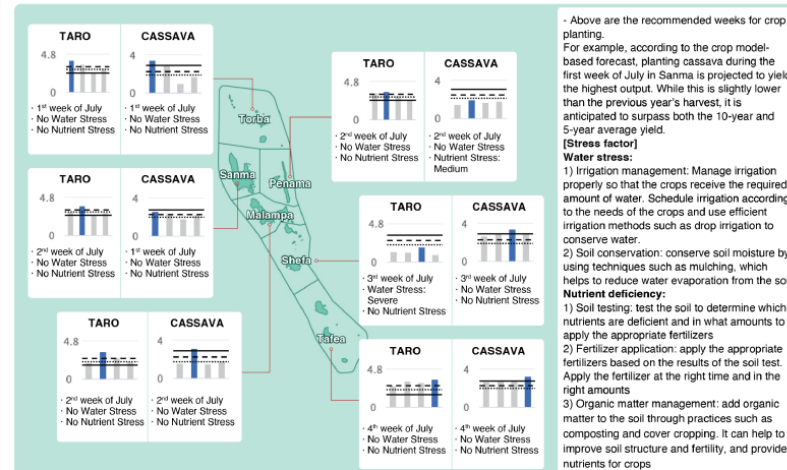
Moon blong Oktoba kasem Disemba 2022

Fes Kwata	Ful Moon	Las Kwata	Niu Moon
3 Octoba	10 Octoba	18 Octoba	25 Octoba
1 Novemba	8 Novemba	17 Novemba	24 Novemba
1 Disemba	8 Disemba	16 Disemba	23 Disemba
30 Disemba			

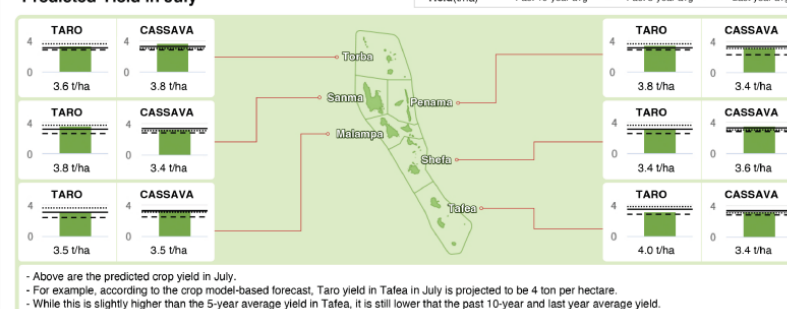
Climate Smart Recommendations for Crop Cultivation

Best Crop Planting Week

Blue bars indicate the best crop planting week.
Compare the expected yield to monthly yield averages of the past performances (past 10-year, 5-year, and last-year average)



Predicted Yield in July



Please note that the crop yield forecasts provided in these Agromet Bulletins are based on crop models, and may differ from actual results due to various factors. While every effort has been made to ensure the accuracy of the forecasts, they are subject to inherent uncertainties and may not always reflect actual crop yields. Actual crop yields may differ from the forecasted values due to a variety of factors including but not limited to: disease outbreaks, pest infestation, and management practices. Therefore, this information is intended for guidance purposes only and should not be relied upon as a guarantee of actual crop yields.

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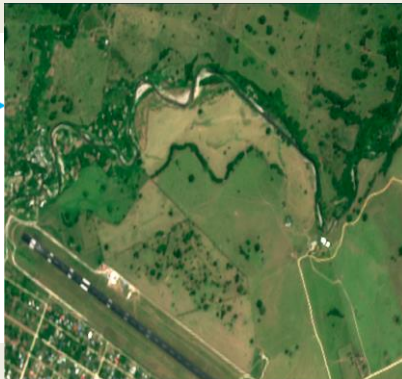
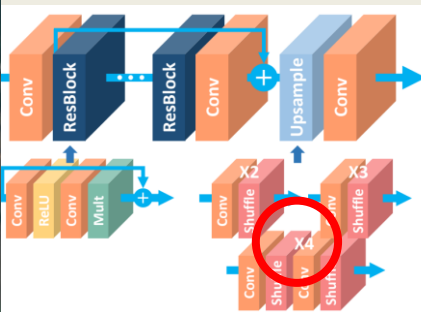
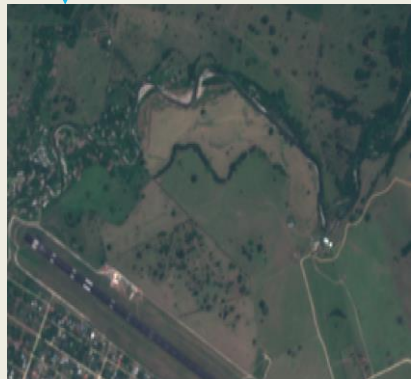
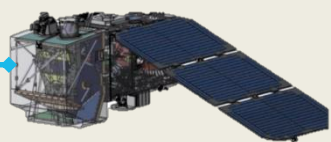
Supported by



Powered by **OSCAR**

Deep Learning Algorithm on Crop-Climote Diary (Off-line Map)

Sentinel-2 satellite



Low-Resolution

10-m

Enhanced Deep Super-Resolution

Lim et al., 2017

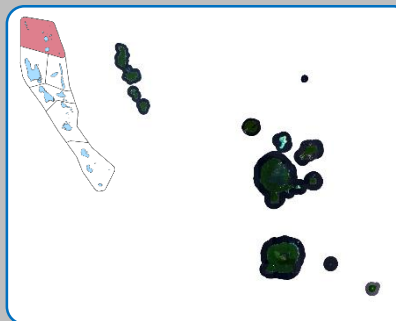
High-Resolution

2.5-m

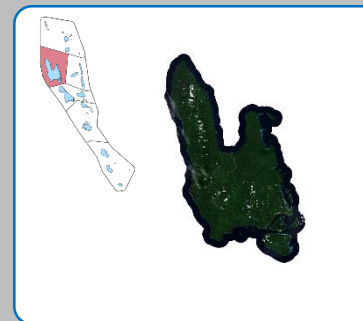
Bauerfield International Airport, Port vila, Vanuatu

□ Provinces

Torba



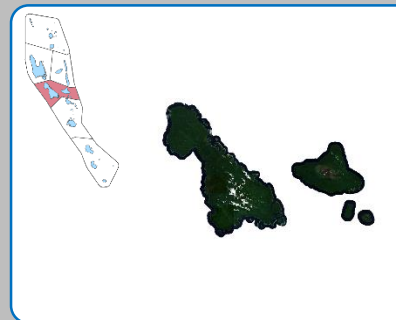
Sanma



Penama



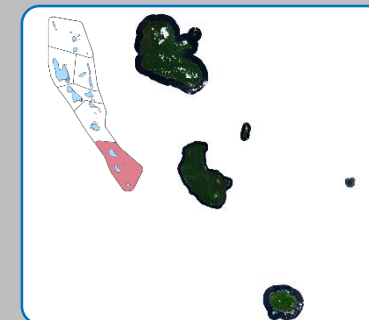
Malampa



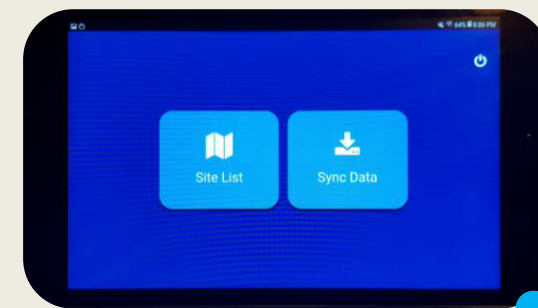
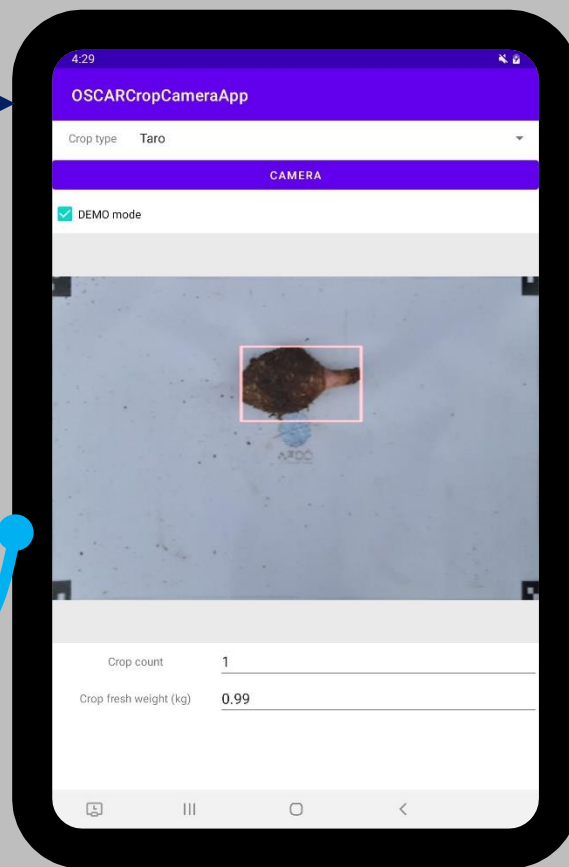
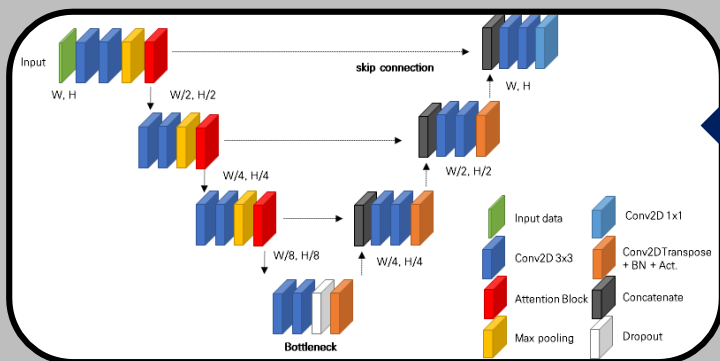
Shefa



Tafea



Deep Learning Application on Crop-Climote Diary



Proposed ToT Workshops for Sustainability



Stakeholder Workshop

June 6

- Trainer: APCC
- Trainee: Extension Workers
- Observer: Expertise Group



1:1 Agromet Bulletin Workshop

June 8

- Trainer: Extension Workers
- Trainee: Champion Farmers
- Observer: APCC



Community Farmer Workshop

June 9

- Trainer: Champion Farmers
- Trainee: Community Farmers
- Observer: Extension Workers & APCC



Handover and Officially Launch the OSCAR System



Sustainable Operation of the OSCAR System

Vanuatu Department of Agriculture & Rural Development
7h · 🌐

Van-KIRAP Agriculture Sector Focal Point and Principal Agriculture Development Officer- SANMA, Pakoa Leo, presenting the OSCAR System



Van-KIRAP
9h · 🌐

Tete lo moning, ol atende blong Nasonal Klaemet Aotluk Forum long Luganville i bin harem plante long wok blong VMGD blong leftemap ol klaemet infomesen blong y... See more

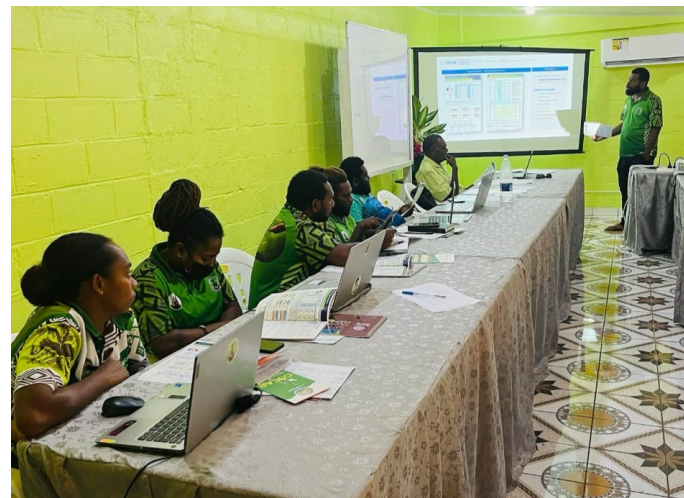
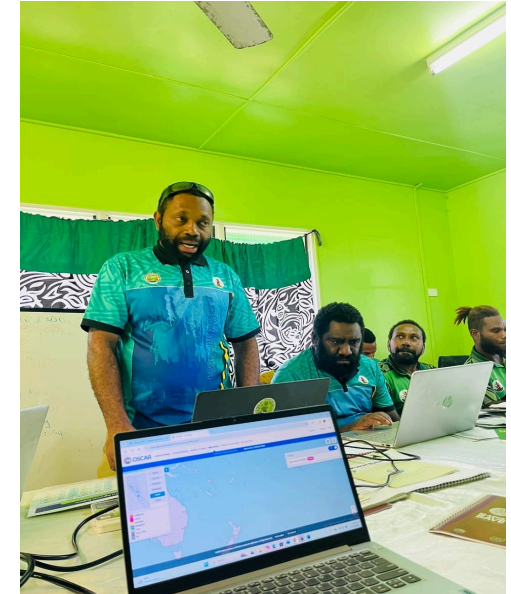
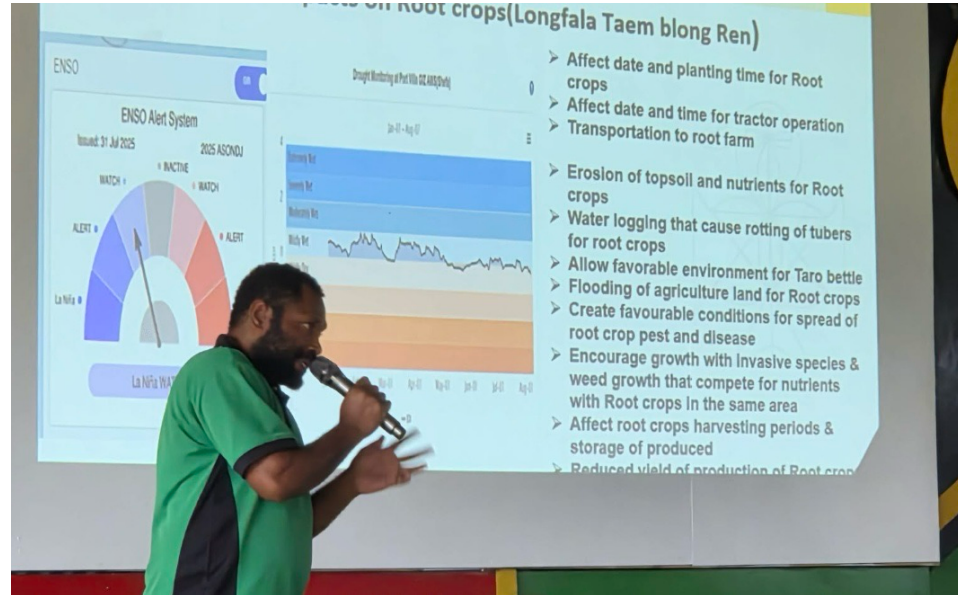
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Tankiu Tumas

