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# Vanuatu Climate Futures Portal



The Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt (Van-KIRAP) project is developing and delivering climate data, information, decision support tools and associated knowledge products in the form of climate information services to raise climate awareness and guide decision-making for a range of key stakeholders in Vanuatu.

The climate information services are relevant across multiple time scales including current and future climate, and relate to five priority sectors: infrastructure, water, agriculture, fisheries, and tourism.

The products, specifically relevant over multi-decadal (climate change) timescales, are presented in multiple formats, including hard copy and digital, and are accessible via a new cloud-based portal hosted by the Vanuatu Meteorology and Geo-hazards Department (VMGD).

## Portal Features

The portal provides access to climate information, data, visualisation and analysis tools, and downloadable images. The key features of the portal are:



### Climate Mapping Tool

This allows you to select climate variables (e.g. temperature), greenhouse gas emissions scenarios (e.g. low/high), future time periods (e.g. 2050), and locations (e.g. local area council) to generate and download customised maps and data sets. You can zoom in and out, display maps side-by-side for comparison, average by year, season or month, and view histograms. There is also a link to Climate Extremes factsheets for information about extreme rainfall, tropical cyclones, coastal inundation, marine heatwaves, drought, and ocean acidification. Climate Summaries describe projected changes for north, central and south Vanuatu.



### Case Studies

These provide examples of how climate information services can be used in impact assessments in each of the five sectors. There are 15 case studies and each of which follows an 8-step impact assessment process.



### Resources

This includes an 8-step guide on how to undertake an impact assessment. Explaners and reports provide more technical information about specific topics such as greenhouse gas emissions, climate variability and climate projections.



### Climate Summaries and Extremes

This includes summaries for north, central and south Vanuatu, along with factsheets on extreme rainfall, tropical cyclones, drought, extreme sea level, and marine heatwaves.



### Data

This provides access to most of the data and graphs displayed on the portal, along with relevant metadata and quality assurance information.



### Videos

Here you can find short videos on impact assessment, sectoral impacts, regional climate summaries, how to use the portal and many more to view and share.





## Information products

The portal contains 38 information products (Table 1) which consist of a series of short (5-6 page) case studies (called infobytes), complemented by cross-cutting guidance materials, thematic explainers, and more detailed factsheets and technical reports.

The target audience for infobytes includes decision-makers across government and the local community in Vanuatu with limited technical understanding of climate science. The explainers, factsheets and reports target decision-makers with greater technical capabilities including policymakers, resource and risk managers, donors, NGOs, national meteorology services, academia, consultants and other researchers and delivery partners.

All products were co-designed and, where appropriate, co-produced with key sectoral stakeholders in Vanuatu to ensure relevance to their needs.

Table 1 Van-KIRAP products relevant for current and future climate variability and change

Van-KIRAP products	Total
Infobytes for sectors (infrastructure, water, agriculture, fisheries and tourism)	15
Factsheets and explainers for specific climate variables	6
Summaries on current and future climate variability and change for Vanuatu North, Central and South	3
Factsheets describing methods	5
Factsheets describing technology	2
Videos	7
<b>Total number of products</b>	<b>38</b>

The case study infobytes demonstrate sectoral application of climate information in impact assessments following an 8-step guide. Note that some of the hazards and associated impacts described in the infobytes are cross-cutting in terms of risk management implications for multiple sectors in Vanuatu.

The explainers, reports and factsheets provide useful additional details supporting the infobytes, and fall into different categories indicated in Table 2.



Videos have been produced to assist users accessing the climate information services:

- Vanuatu Climate Futures Portal overview
- 8-step guide for climate hazard-based impact assessment
- Vanuatu sub-national climate summary
- Climate change impacts on agriculture
- Climate change impacts on fisheries
- Climate change impacts on infrastructure and water
- Climate change impacts on tourism

The Vanuatu Climate Futures portal enables visualisation and mapping of much of the material documented in the infobytes, and a search function to quickly find what you need.

Table 2 Van-KIRAP Climate Futures products matrix. Crosses indicate high relevance between the explainers/reports (columns) and the infobytes (rows)

		Climate Variables and Extremes Explainers						Technical Reports			Methods Factsheets					Technology Factsheets	
Infobytes	Main climate variable assessed	Coastal inundation	Extreme rainfall	Tropical cyclone	Drought	Marine heat waves	Ocean acidification	Climate variability	Vanuatu national and sub-national climate projections	Climate summaries	Guidance	Climate projections for use in impact assessments	Climate risk concepts	Greenhouse gas emissions	Global climate models	Ocean monitoring buoys	LiDAR/ drone
<b>Infrastructure Sector</b>																	
Roads	Coastal inundation	X						X			X	X	X	X	X		X
Airports	Extreme rain		X	X				X			X	X	X	X	X		
Electricity demand	Daily maximum temperature							X			X	X	X	X	X		
<b>Tourism Sector</b>																	
Bungalow location	Coastal inundation	X						X			X	X	X	X	X		X
Bungalow building design	Tropical cyclones			X				X			X	X	X	X	X		
<b>Water Sector</b>																	
Port Vila flood risk	Extreme rain		X					X			X	X	X	X	X		X
Sarakata flood risk	Extreme rain		X					X			X	X	X	X	X		X
Water Security	Drought				X			X			X	X	X	X	X		
<b>Fisheries Sector</b>																	
Coral bleaching	Degree heating weeks					X	X	X			X	X	X	X	X	X	
Seagrass	Marine heat waves					X	X	X			X	X	X	X	X	X	
Sea Turtles	Sand temperature					X	X	X			X	X	X	X	X	X	
<b>Agriculture Sector</b>																	
Coffee	Average temperature							X			X	X	X	X	X		
Cocoa	Maximum temperature and rainfall							X			X	X	X	X	X		
Root crops	Average temperature							X			X	X	X	X	X		
Agriculture	Tropical cyclones			X				X			X	X	X	X	X		