



VANUATU METEOROLOGICAL AND GEO- HAZARDS DEPARTMENT COUNTRY REPORT

Reporting on National Priority Actions of the Pacific Islands Meteorological
Strategy (PIMS) 2017-2026

This Report is presented to the Fifth Pacific Meteorological Council (PMC-5) Meeting held in Apia, Samoa from 7-9 August 2019

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1.0 Summary

The report is structured to allow the secretariat to capture the Progress of the Vanuatu Meteorological and Geo-Hazards Department (VMGD) against the National Priority Actions of the 11 Pacific Key Outcomes (PKO's) of the Pacific Islands Meteorological Strategy (PIMS) 2017-2026 which will be reviewed at this meeting. This report will contribute to;

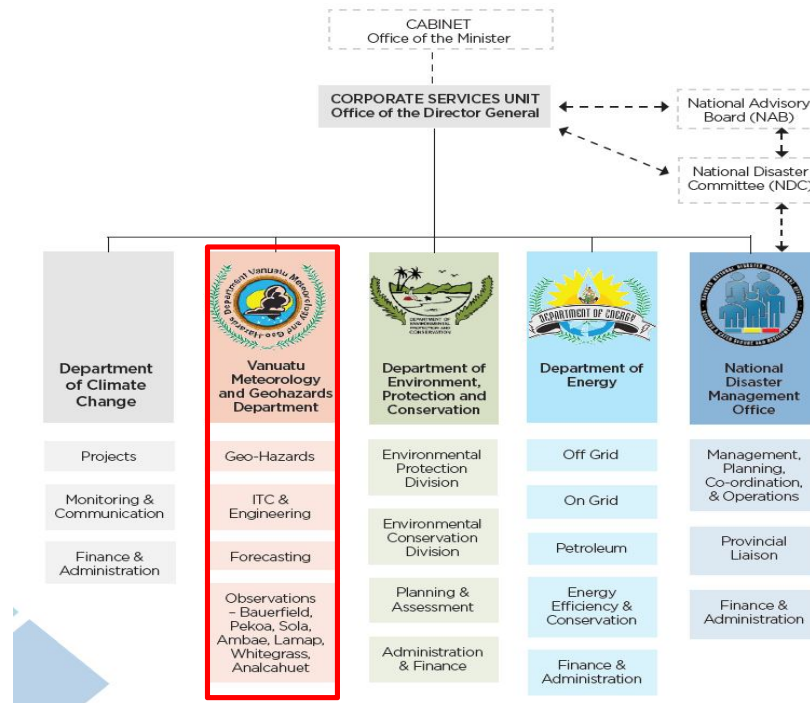
- i. monitoring the progress of the Vanuatu Meteorological and Geo-Hazards Department against the implementation of the PIMS with respect to the Pacific Key (PKOs)
- ii. inform the Work Program of the Pacific Met Desk Partnership (PMDP)
- iii. highlight the gaps currently existing in VMGD with respect to seeking further continued support in national activities towards the achievement of PKOs of the Strategic Plan

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2.0 Background Information

2.1 Institutional Setup

The Vanuatu Meteorology and Geo-Hazards Department (VMGD) is one of the five (5) Departments of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management (MoCC).



The **vision** of VMGD is to be a world class meteorological and geo-hazards institution that contributes to the sustainable development of Vanuatu, and the Pacific region.

The **mission** of VMGD is to be a fully professional institution comprising skilled and motivated staff, using updated and state of the art science and technology, within an efficient and effective organization, providing high quality meteorological and geo-hazards services that are widely available and accessible, effectively applied, beneficial and highly valued by all sections of the community in Vanuatu

The Vanuatu Meteorology and Geo-Hazards Department is administered by the **Administration Division** with five (5) technical Divisions of **Geo-Hazards, ICT and Engineering, Climate Information Services, Weather Forecasting Services, and weather Observations**. These Divisions work together to achieve the Department's vision and mission by:

- Improving enabling environment for development and improvement of weather, climate, climate change, water, volcano, earthquake and other related environment and geo-hazard information and services
- Improving weather information, forecasts, services and warnings for air navigation
- Improving quality, timelines, and availability of climate and other related environment information, forecasts, services and warnings.
- Improving accuracy, timelines, quality of geo-hazards' information, alerts, warnings and services.
- Improving quality, timelines, availability, accessibility, presentation and delivery of observation data, weather, climate, flood and geo-hazard information, forecasts, warnings and services both within VMGD and among its sections and, to VMGD's clients.
- Ensuring the safety, security and wellbeing of the people and communities of Vanuatu
- Fulfilling Vanuatu's commitments and obligations under relevant regional and international agreements and conventions.
- Guiding national planners, donors and partners to focus on priority capacity building activities and transfer of technology identified by the VMGD that may be delivered either through national budgetary mechanisms, bilaterally and/or through regional and international approaches;
- Guiding the VMGD towards critical activities aimed at building or strengthening capacity, planning;

The guiding principles of the VMGD is set out to ensure:

Vanuatu focus: The work of the VMGD is primarily focused on effective delivery of meteorological (weather and climate) and geo-hazards services for the benefit of the people and communities of Vanuatu, with its focus of development consistent with the priorities of relevant national sustainable development framework.

Partnerships: Partnerships with the WMO, regional inter-governmental agencies and organizations, and technical partners are critical to the success of the department. The participation of VMGD in a national and regional coordinated approach enhances effectiveness in increasing resources, targeting effort and managing potential overlap between agencies, organizations and development partners, especially where these are managed through national, bilateral and multilateral arrangements.

Supporting gender equality and the most vulnerable in society: VMGD accepts the need to operate and deliver services in ways that address principles of gender equality and the needs, both internally of the Department and in the development and delivery of VMGD services to the most vulnerable in Vanuatu society.

Cost effective: Services should be delivered in an efficient, cost-effective way. VMGD's ability to deliver the actions in this Strategy is critically dependent on the resources available to it. The VMGD will endeavor to be strategic in the alignment of the development and delivery of VMGD services in ways that maximize the development support from national government and from regional partners.

Sharing information: The VMGD is committed to sharing data in line with national obligations and international policies; in particular the WMO commitment to free and unrestricted exchange of meteorological and related data and products (WMO Resolutions 40 and 25).

Regional and Global contribution: The VMGD recognizes the regional and global character of weather, climate, and geo-hazards, and the need for an international approach that is consistent with relevant guiding regional frameworks such as the Pacific Islands Meteorological Strategy, the Disaster Risk Management Framework, and the Pacific Islands Framework for Action on Climate Change, amongst others.

Governance	Description
MET LEGISLATION: Update on whether or not your country have a stand-alone Meteorology Act or equivalent in place.	The Meteorology, Geological Hazards and Climate change Act number 25 was enacted in December of 2016, which then becomes law in February 1st 2017. In addition, a new regulation order n-80 was approved in July 2017 which focus on services to the aviation sector.
Do you require for your Act to be reviewed? What support would you require to complete this activity?	There should be review of the current regulation on products and services develop new regulations to empower department to implement the current Act. The support need will be the consultant with legal background assist in the drafting of these Act.
Strategic Planning	
Does your NMHS have a strategic plan, implementation/operational plan or equivalent(s)?	A new Strategic Development Plan (SDP) 2014-2023 was completed launched by the then Minister for Climate Change, the Hon. Thomas Laken in 2014. The VMGD SDP is in line with the existing national plan called People's plan 2030.
Describe how meteorology (weather) and climatology (climate variability and climate change) are featured in the current national development plan, government ministries corporate and implementation/operational plans.	The strategic plan and people's plan are streamlined into the corporate plan 2019-2021 which highlight the priorities of the department for the 3 years. The priorities are developed into yearly activities work plans of the department. The VMGD activities and priorities are aligned with the Environmental pillar of the people's plan 2030 number 3 (Env 3.1, 3.2, 3.3, 3.4 and 3.5)
Describe the process if your NMHSs is reporting against the SDG or its national equivalent	The department of strategic planning under the Prime Minister's office is coordinating the reporting of VMGD against the SDG and people's plan in a yearly basis. The reporting is based on the annual report of the department achievement.

2.2 Staffing

This is an update record of the staffing of VMGD after the high staff turnover in 2017/2018.

Staff name	Qualification	Title	Professional staff		Total number of staff
Administration					
Esline GARAEBITI	BSc; MSc; MSc	Director		F	
Williams B. Worwor	WMO Class III & II, Certificate in Management	Training and community liaison officer	M		
Rebecca Nihapi	Certificate	Admin and Finance Officer		F	
John Moses		Driver	M		
Juanota Kota	Certificate	Cleaner (new)		F	
TOTAL			2	3	5
Weather Forecasting Division					
Fred Jockley	WMO Class I (Graduate Diploma), BEd	Manager Forecast	M		
Jerry Timothy	BEd, Graduate Dip (Mathematics), WMO Class 1	Forecast-PSO, Aviation	M		
Ellen Luke	BEd, WMO Class 1	Forecast-PSO, Marine		F	
Levu B Antfalo	BEd, WMO Class 1	Forecast – Forecaster	M		
Iuma Bani	BEd	Forecast – Forecaster	M		
Franky Peter	BSc	Forecast – Forecaster	M		
Ian Nelson	WMO Class IV, INTV Certificate	Forecast – Forecaster	M		
Tom Natick	WMO Class 1 (Graduate Diploma), BSc	Forecast – Forecaster	M		
TOTAL			7	1	8
Climate Services Division					

Allan Rarai	WMO class II, BA, MSc	Manager Climate	M		
Robson Silas	BSc, MSc, PhD	Climate-PSO, Research &Dev	M		
Kalo Abel	WMO Class IV	Climate-SMO, Climate	M		
Kalsuak Gordon	WMO class IV	Climate-Rainfall Network	M		
Glenda Pakoa	BSc	Assistant Seasonal Forecaster (new)		F	
Albert Willy	Diplomat	Traditional Knowledge (VANKIRAP-new)	M		
Stephen tom	Diplomat	Outreach Officer (VANKIRAP-new)	M		
Neil Malosu	BSc	Data Archive officer (VANKIRAP-new)	M		
Daphne Nalawas	Diploma	Homogenization officer (VANKIRAP-new)		F	
TOTAL			7	2	9
ICT/Engineering Division					
Patricia Mawa	BSc, MSc	ICT/Engineering-Manager		F	
Esther Saul	BSc	PSO		F	
Igor Michel	Diploma	IT officer	M		
Patterson Nautt	Electrical Certificate, INTV	ICT/Engineering - IT	M		
Severing Langon	WMO class IV, BSc				
Loic Jimmy	Electrical Certificate, INTV	ICT/Engineering - Electrician	M		
Janvion Cevuard	Electrotechnical HVC 1, VIT, 2007	Senior Volcano technician	M		
Athanas Worwor	Certificat 12 e anne'eElectrotechnique, INTV, 2006	Assistant technician volcanology	M		
Julius Mala	Bachelor of Engineering	Assistant technician Seismology	M		
Jerry Bani	WMO class IV, Certificate in Maintenance and Calibration	Observation-Technician, Instruments	M		

Gino	Diplomat Engineering	Engineer (VANKIRAP-new)	M		
TOTAL			8	3	11
Observation Division					
Joe Mala	WMO class IV, Certificate/Diploma in Management	Observation-Manager	M		
Grace Johnolson	BSc	PSO		F	
David Nigel	WMO class IV	SMO	M		
Bradley Bani	WMO class IV	Observation-Observer	M		
Joseph Nishina	WMO class IV	Observation-Observer	M		
Tom Kaio	WMO class IV	SMO	M		
Alvin Wotlolan	WMO class IV	SMO		F	
Willie Molisa	WMO class IV	Observation-Observer	M		
David Tari	WMO class IV	Observation-Observer	M		
Arnaud Yakelo	WMO class IV	Observation-Observer	M		
Hilton Henry	WMO class IV	SMO	M		
Patterson Malsale	WMO class IV	Observation-Observer	M		
Tensley Tambeana	Certificate	Observation-Observer (new)	M	F	
Shina Mala	Certificate	Observation-Observer (new)	M		
Richie Francois	Certificate	Observation-Observer (new)	M		

Nixon Koah Iata	Certificate	Observation-Observer (new)	M		
TOTAL			13	3	16
Geo-Hazards Division					
Sandrine Cevuard	Diplomat,	SO Volcano logy & Acting Manager Geo-Hazards		F	
Melinda Aru	BSc	Volcano Data analyst		F	
Glen Siba	Diplomat	Tsunami Officer	M		
Dan Tari	BSc	SO Seismology	M		
Juanita Laga	Diplomat	Earthquake data analyst		F	
Rerena	Bsc	Earthquake Data analyst (new)		F	
Estonia M	BSc	Volcano data analyst (new)		F	
Ricardo Williams	BSc	So Geo-Chemistry (new)	M		
TOTAL			3	5	8
Project Management Unit					
Moirah Yerta	MSc	VANKIRAP project Manager (new)		F	
Yumi Schyultz	-	VAN-REDI Project Coordinator (new)		F	
Lydvina Karia	Diplomat	VAKIRAP Finance Officer (new)		F	
Carol Andeng Samuel	Diplomat	VANKIRAP Admin Officer (new)		F	
TOTAL				4	4
GRAND TOTAL			40	21	61

2.3 Finance

Below is the financial statement for the Vanuatu Meteorology and Geo-Hazards Department for 2018 and 2019

Description	USD	Vatu		Total [vatu]
	Total Budget (USD)	Administration (USD)	Operation (USD)	
<i>Government Support</i>				
2018 Funds in vatu	USD 1,157,987	107,431,525 VT	28,269,881VT	135,707,406 Vt
2019 Funds in Vatu	USD 1,292,201	122,851,333 Vt	28,585,172 Vt	151,436,505 Vt
.....				
Total	USD 2,450,188	230,282,858 Vt	56,855,053 Vt	287,137,911 Vt

2.3.1 Projects supporting the NMHSs

The number of major projects available under VMGD in 2019.

Name of Project	Total Project Budget	Percentage of how much is provided to the NMHSs	Summary of NMHSs activities covered by the project
<i>Climate Information Services for Resilient Development – GCF funded project through SPREP</i>	USD 20,492,685	USD 11,541,465	Support climate resilient development in Vanuatu through the development, communication and application of climate information services (CIS) tailored to Fisheries, water, agriculture, infrastructure, and tourism sectors
<i>Regional Disaster Resilience for Pacific SIDS – Russian funding through RESPAC/UNDP</i>	USD 232,830	USD 73,029	Digitize historical climate data and strengthening of climate services to health sector
<i>Enhancing the Capacity of Issuing Earthquake, Tsunami and Storm surge. – funded by JICA</i>	USD 50,000	-	This project is a capacity development project, VMGD are committed in training activities for Geo-hazards staffs, Weather forecasters,

			weather observers and ICT & Engineering staffs, training in tide observations, seismology and tsunami early warning systems
Total (USD)	USD 20,775,515	USD 11,614,494	

3.0 Progress of the NMHS

3.1. UPDATE on Achievements of the NMHS from 2017-2019

This update reflects existing and new activities implemented by VMGD. Each activity is relevant to certain PKO(s) as highlighted below.

No.	Achievements (Activities) of the NMHS (2017-2019)	1	2	3	4	5	6	7	8	9	10	11
1	• Install and maintain 11 automatic weather stations around Vanuatu and 7 synoptic stations	X	X	X	X	X	X		X	X		
2	• Improve and update VMGD website for automated products uploads and warning dissemination	X	X	X	X				X			
3	• Installation of weather forecasting displays at Pekoa Air traffic Controller Office	X	X	X								
4	• Renovate 7 outstations offices and upgrade their communication systems, desktops and displays for the provinces				X				X	X		
5	• Conduct National Climate outlook forum for VMGD and its climate stakeholders						X	X			X	X
6	• Incorporating Climate services into health sector through a memorandum of understanding							X				
7	• New products (EAR Watch) developed and disseminated to stakeholders, continued engagement with regional and international partners on climate issues					X		X			X	
8	• Development and issuance of the Vanuatu Ocean Outlook for Fisheries and coastal communities,					X	X				X	

9	<ul style="list-style-type: none"> Oceans training undertaken between VMGD with marine and maritime stakeholders: 					X	X					X	X
10	<ul style="list-style-type: none"> Launching and maintenance of Tsunami sirens and signage in Port Vila and Luganville for tsunami evacuation 				X								
11	<ul style="list-style-type: none"> Maintain the activities of the Vanuatu rainfall network data collection all throughout Vanuatu 				X	X	X						
12	<ul style="list-style-type: none"> Pilot Traditional Knowledge on Climate information in the banks group. 					X	X						
13	<ul style="list-style-type: none"> QMS Review documentation for compliance to CAR Document Part 174. 	X										X	
14	<ul style="list-style-type: none"> Sustained 24/7 weather forecasting operations and services 	X	X	X	X								
15	<ul style="list-style-type: none"> Five (5) tropical cyclones being tracked in 2018 and 3 cyclones in 2019 			X	X								
16	<ul style="list-style-type: none"> Establishment and maintenance of the integrated weather forecasting systems and warning dissemination 	X	X	X					X				
17	<ul style="list-style-type: none"> Participation in technical workshops and trainings by weather observers, climate officer's ad weather forecasters to improve their skills in the relevant field of work. 	X	X	X	X	X	X	X	X	X	X	X	X
18	<ul style="list-style-type: none"> Identify sector priorities to improve climate information services to Water, tourism, fisheries, infrastructure, and agriculture 					X	X	X				X	
19	<ul style="list-style-type: none"> Develop communication strategy with sector partners for climate information services 					X	X		X				
20	<ul style="list-style-type: none"> Participate in PMC 4 											X	X
21	<ul style="list-style-type: none"> Participate in PMC 5 											X	X
22	<ul style="list-style-type: none"> Participate in RAV meeting in Tonga 	X	X	X	X	X	X	X	X	X	X	X	X
23	<ul style="list-style-type: none"> Participate in COP meetings 					X							
24	<ul style="list-style-type: none"> Issuance of Early Alert Rainfall (EAR) Watch for disaster managers 					X	X	X					

25	• Issuance of Public weather forecasts,			X	X								
26	• Issuance of Vanuatu Monthly Climate Summary for schools and stakeholders,				X	X	X						
27	• Agro met Bulletin jointly with the department of Agriculture and rural development (need to be enhanced).				X	X	X						
28	• Issuance of Marine weather forecasts, and marine weather warnings		X		X								
29	• Issuance of Aviation weather forecasts,	X			X								
30	• Issuance of Tropical cyclone warnings for 5 cyclones in 2018, 3 cyclones in 2019			X	X								
31	• Issuance of Tsunami information/Advisories for 2 tsunamis generated in Vanuatu				X						X	X	
32	• Retirement of 5 staffs, resignation of 4 staffs, promotion of 7 staffs and recruitment of 18 new staffs				X					X			
33	• Collaborate with SPREP to finalize the implementation plan for the project of Climate Information Services for resilient Development and get it approved by 2 steering committees									X	X	X	
34	• Capacity development program in tide observation, seismology and tsunami early warning with the support of JICA		X	X	X				X	X			

4.0. Identify Gaps and Future Needs that would improve the National Meteorological and Hydrological Services

The main Gaps and needs identified to improve VMGD services are:

- 1) Formal training for newly recruited staffs in Meteorology
- 2) Identify appropriate flood forecasting systems to improve services in flood forecasting
- 3) Provide appropriate training for all staffs in relevant field to boost capacity, motivation and knowledge in weather, climate and Geo-Hazards
- 4) Linux training is a requirement these days to be able to run latest observations and forecasting systems for weather climate and Geo-hazards
- 5) Specific technical training is required not only for technicians but also for senior staffs to better understand the tools used for analysis so that they could better supervise, mentor, and coach the junior staffs under their supervision. This would help to ensure consistent data availability, quality and quantity at all times.
- 6) For the sustainability of the meteorological and geo-hazards observations network recruitment of a well experienced engineer is required to provide guidance for further development
- 7) Project management and leadership training is also required for the senior staffs
- 8) A strong administration team would be useful to better support the technical Divisions to deliver the services accurately and in time
- 9) Strengthening of legal framework to better manage VMGD data, assets and resources for effective services
- 10) Capacity gap analysis is required to develop the human resource development and succession planning for the Department