Vanuatu Presentation

Geo-Hazards
and
Disaster Management

Introduction

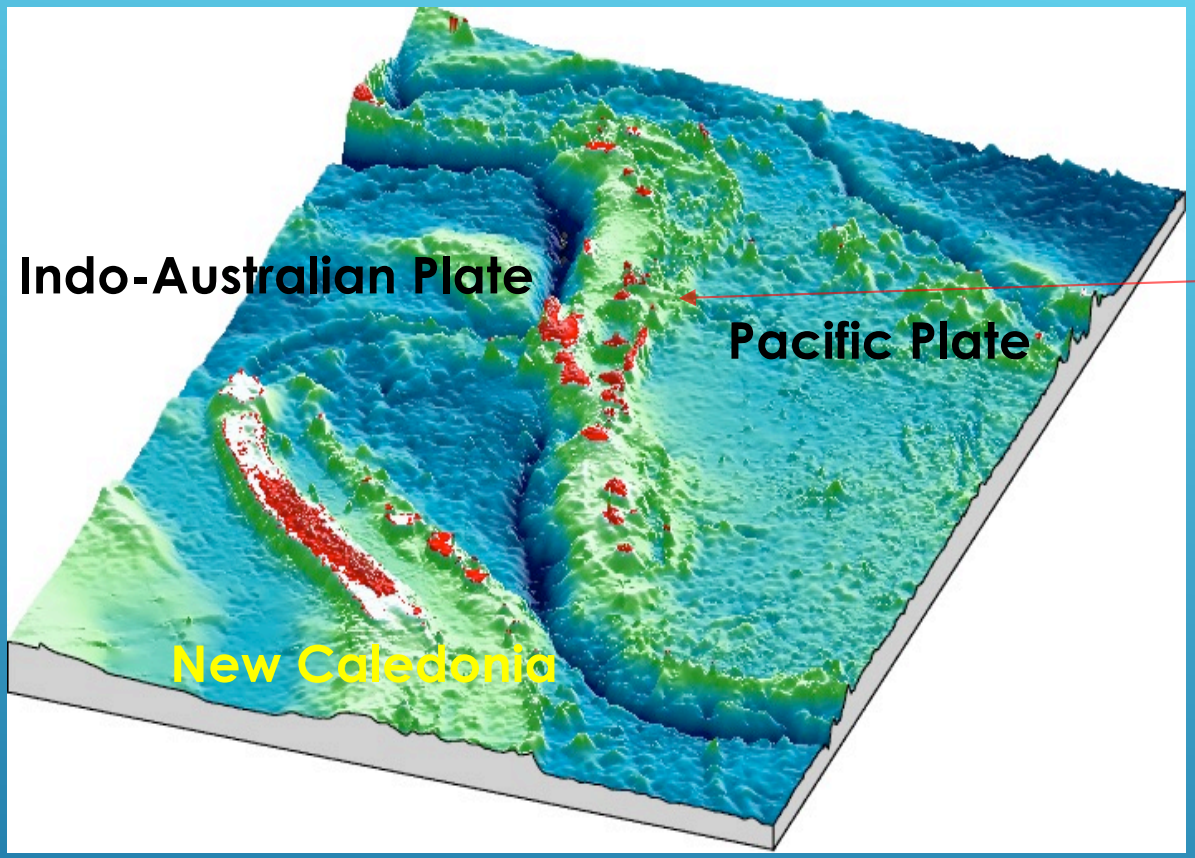
- Vanuatu is a picturesque small island nation situated to the North West of Fiji, South east of Solomon and North East of New Caledonia, making it part of the broader Pacific Islands region. It consists of a total of 83 islands, which are divided into 6 provinces. The nation also includes 2 municipalities. The capital city of Vanuatu is Port Vila, situated on the island of Efate. One of the unique aspects of Vanuatu is its linguistic diversity. Despite its relatively small population, there are over 100 mother languages spoken within the country. Among these languages, three hold official status: Bislama, French, and English. Bislama is a Creole language that serves as a lingua franca among the various communities and languages in Vanuatu. French and English are also used for administrative and official purposes. Vanuatu's population numbers over 300,000 peoples. The nation's economy is primarily based on agriculture, tourism, and offshore financial services. The country's unique culture is a blend of traditional Melanesian customs.
- In terms of Disaster, Vanuatu is regarded of one of the Vulnerable country from 2011 to 20215 in the cop meeting in the USA with 9 potential hazard and Tsunami is one of them.
- Vanuatu's location places it in close proximity to the convergence of two tectonic plates. This geological context renders the country susceptible to seismic activity and, consequently, tsunamis.

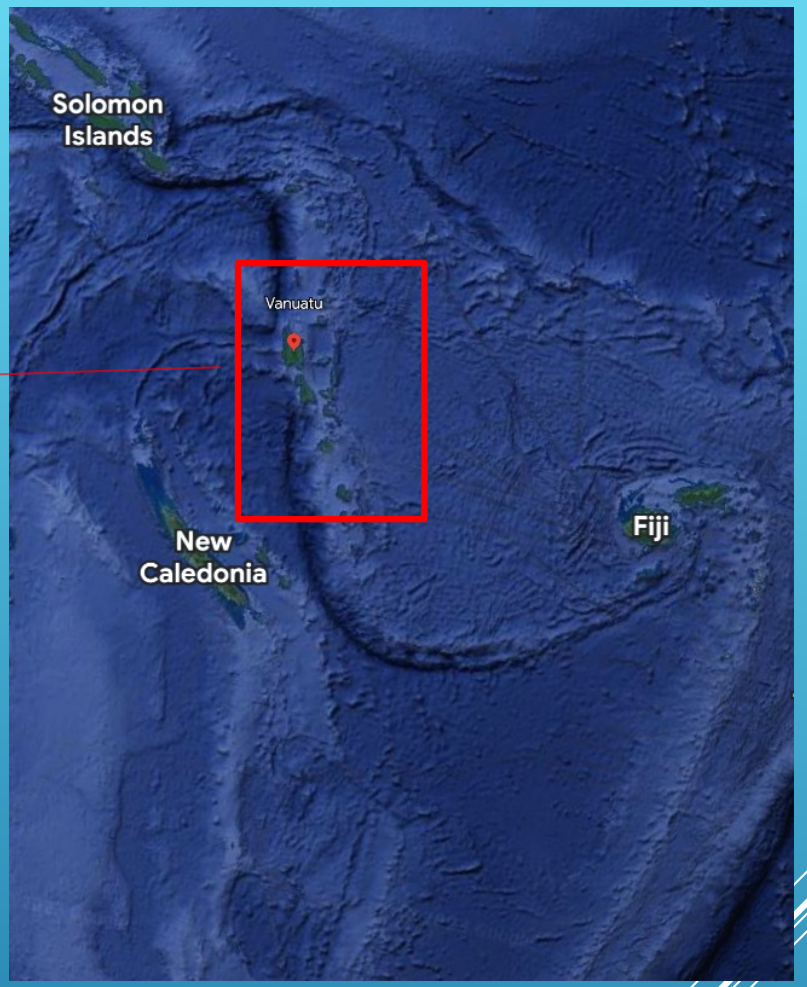


Vanuatu in the World Map



The Pacific Ring of Fire





Vanuatu is located on the trench between the two tectonic, making it a seismic hotspot

Figure2: The subduction zone where Vanuatu lies
(Institut de Recherche pour le Développement, Nouméa, 2004)

- The effects of a tsunami can be devastating due to the immense volumes of water and energy involved. This can cause damage to Vanuatu's settlements, as most of **the settlements are located on flat plains of the coastal areas**.
- **Vanuatu Tsunami Early Warning services for an earthquake event commence whenever earthquakes are recorded with magnitudes ≥ 6.5 within Vanuatu Region and magnitudes ≥7 M≥ 8.0 in Pacific region and Circum of Pacific Belt** .
- Duty officers respond immediately and begin their analysis of the even.
- **The analysis includes automatic and interactive processes for determining the earthquake's epicenter, depth, and origin time, as well as its magnitude.**
- In the subsequent sections, we will delve deeper into the specifics of these programs and explore their individual contributions to disaster risk reduction in Vanuatu's ongoing efforts to protect its coastal populations from the threats of tsunamis.



History event: Tsunamis in Vanuatu

April 21, 1997

- 7.8 Mw Torres Islands Earthquake & Tsunami,

November 26, 1999

- 7.5 Mw Ambrym Earthquake(Hedquek), tsunami (SOO-NAH-MEE) (runup 6.6 m)

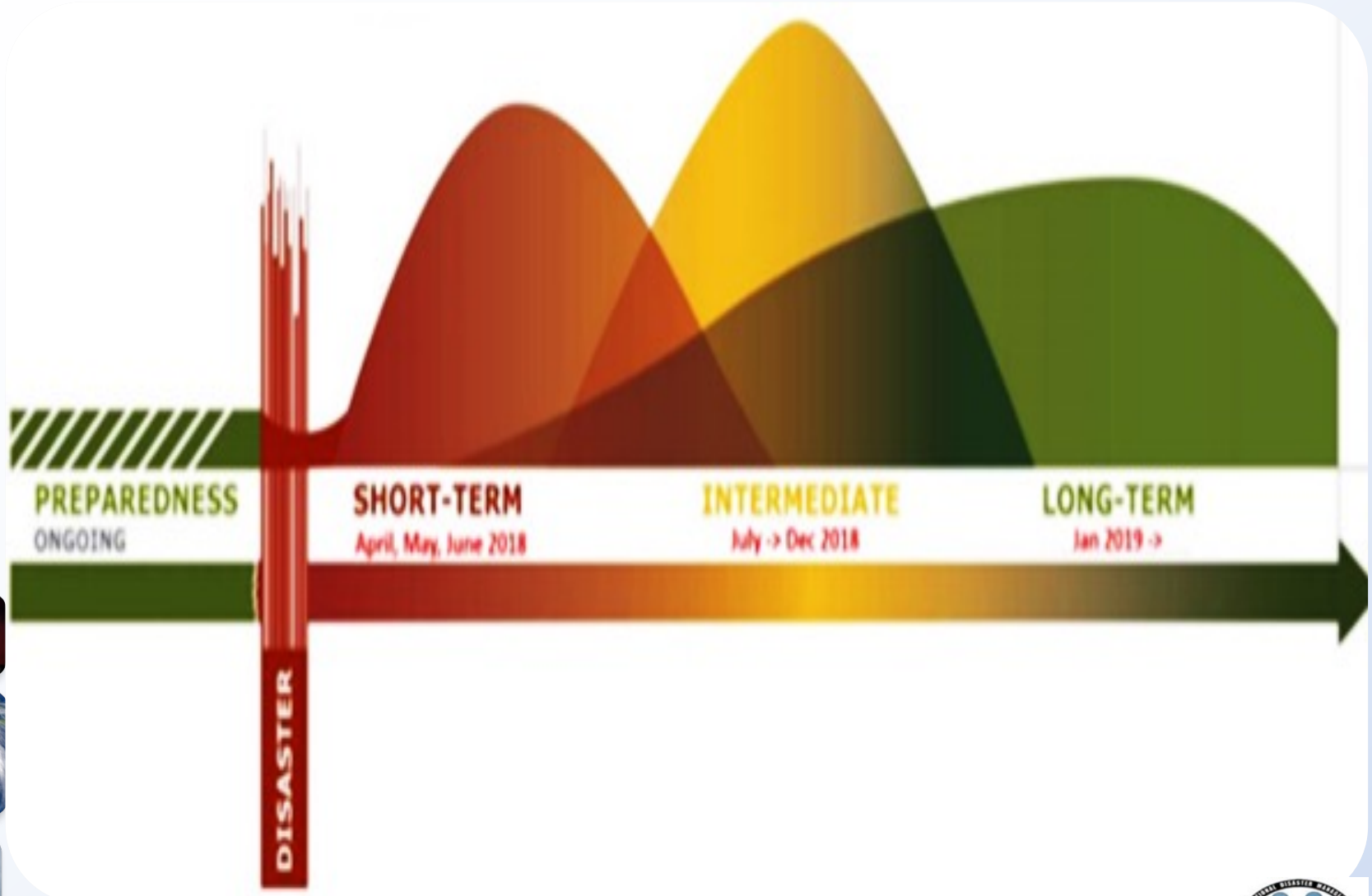
December 26, 2010

- Baie Martelli, South Pentecost
- M7.3 West Tanna Earthquake & Tsunami (runup 4.10 m)

March 9 2012

- 6.8 SE Erromango Earthquake & Tsunami Aniwa; Canoes hauled out into the ocean M 6.4
- Paama Earthquake & Tsunami - Inundation distances up to 150 m inland -flow depth of > 1.50 m -run up of ~6.0 m
- Aneityum ; M 7.6 Earthquake located off Loyalty island

Disaster Response Timeline





Preparedness part

- SimEx during IDRR Day
- Awareness and Capacity building
- ADAM software
- National Management Office staffs (18 staffs: 6 PDO/ 12 Officers in National Office)



Continue….

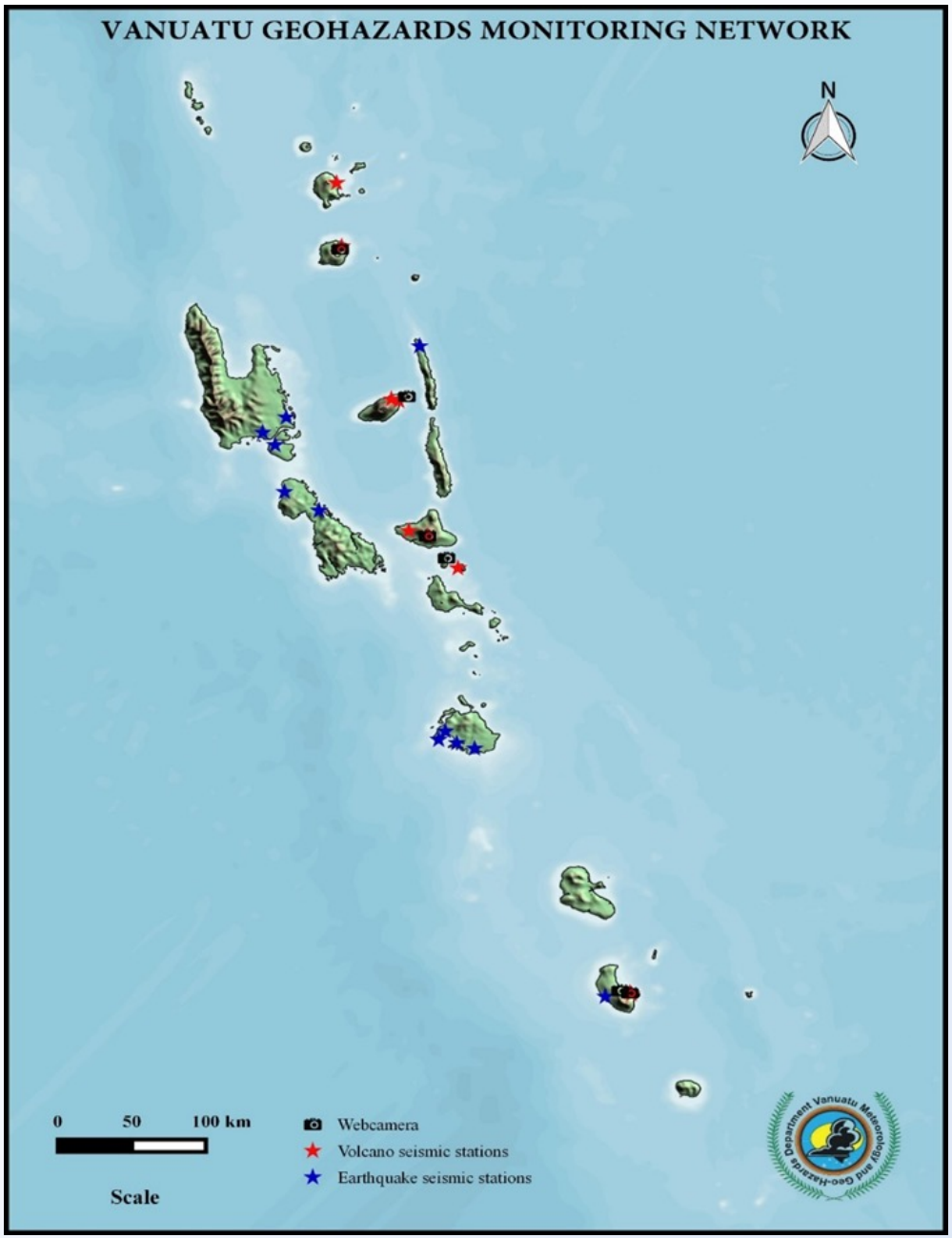
Immediate Response

Any detection of earthquake by SEISCOMP/CISN/USGS/IRIS,if magnitude equal to tsunami threshold

- All Seismology team and other Geo-hazards team should assemble at warning centre to carry out earthquake and tsunami analysis and response;
- Earthquake picking at the Earthquake desk
- Run Tide Tool at the Tsunami desk and check IOC Tide website
- Ready for call answering from media or public
- Checking PTWC email
- Ready for any assistance if request by forecast section
- Division Manager ,Tsunami Officer and Seismology Officer brief the Department Director



2. Vanuatu National Monitoring Network



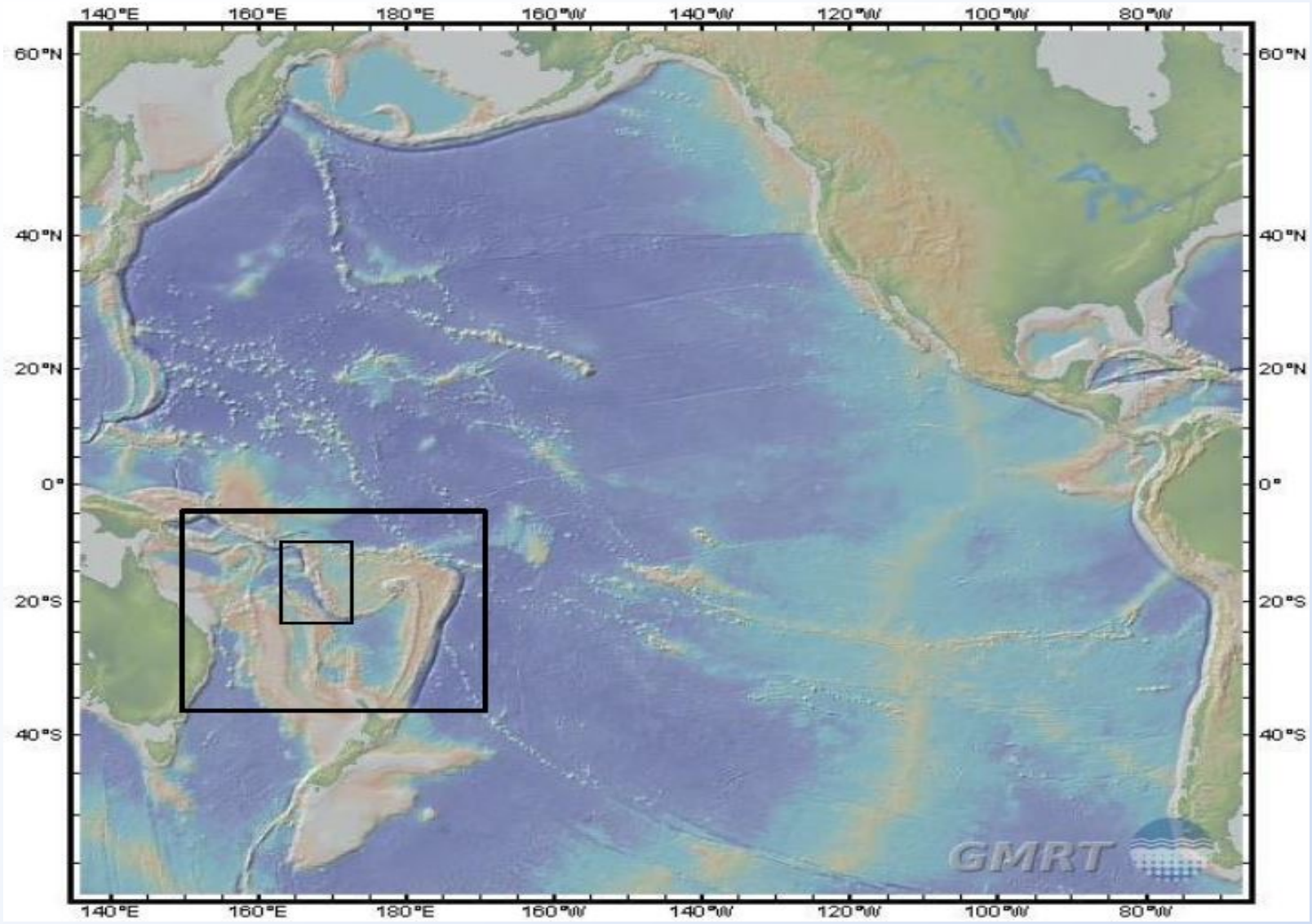
1.Local Seismic Network

- **20** seismic stations in operation
- **4** seismic stations to be integrated in Seiscomp5 (Monitoring software)
- **4** Stand alone stations: No transmission. (Torres group)



3. Tsunami Standard Operating Procedures

- **Area of Responsibility:**



4. Tsunami Ready
Tsunami Siren and Signage

Port Vila Sirens

Siren Name	Location
S01	Mele Village
S02	Black sand
S03	Meteo Office
S09	Port Vila (Sea-front)
S06	Tassiriki
S07	Pango Village
S05	Erakor Village
S04	Eratap Village
S08	Ifra point

Fig. 2 Southwest Efate Sirens' range and Location Map

Luganville and Aore

Siren Name	Location
S10	Malai Cattle
S11	Melcoffe
S13	Aore South
S14	Aore Central
S15	Aore North
S16	Palms Estate
S17	Police Station
S18	Main Street
S19	Migotty
S12	Ban Ban

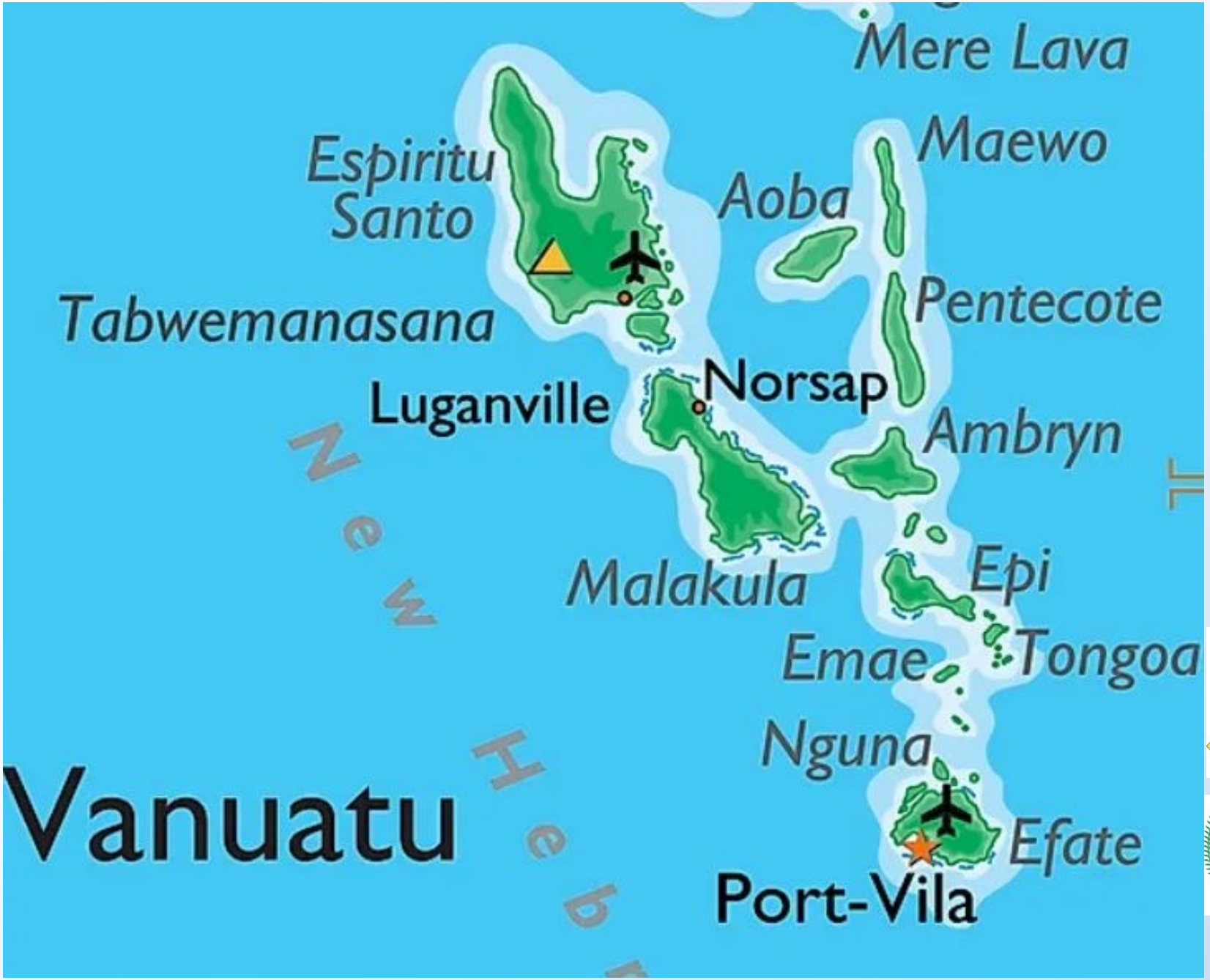
Fig. 1 Santo Sirens' range and Location Map

Legend: Sound Pressure Level dB(A)

60,0 - 65,0
65,0 - 75,0
> 75,0

Scale
0 500 1000 2000 3000 4000 m




Mere Lava
Maewo
Espiritu Santo
Aoba
Pentecote
Tabwemanasana
Norsap
Luganville
Ambryn
Malakula
Epi
Emae
Tongoa
Nguna
Vanuatu
Efate
Port-Vila



NATIONAL DISASTER MANAGEMENT OFFICE STRUCTURE

DIRECTOR
(Abraham Nasak)

MANAGER SUPPORT SERVICES
(Jimmy Naura)

FINANCE
Senior Finance Officer
(Simon Boedovo)

LOGISTICS
Senior Logistics Officer
(Christophe Sumtoh)

LOGISTICS
Assistant Logistics Officer
(Rihanna Brown)

OPERATIONS MANAGER
(Rocky Neveserveth)

INFORMATION & TECHNOLOGY
Senior IT Officer
(Presley Tari)

INFORMATION & COMMUNICATIONS COORDINATION
Senior IM Officer
(Lopanga Yerta)

PLANNING & INTELLIGENCE
Senior Planning Officer
(Fidel Zepetha)

DISASTER RISK REDUCTION
Senior DRR Officer
(Alice Larim)

RAPID RESPONSE
Senior Rapid Response Officer
(Ken Mana)

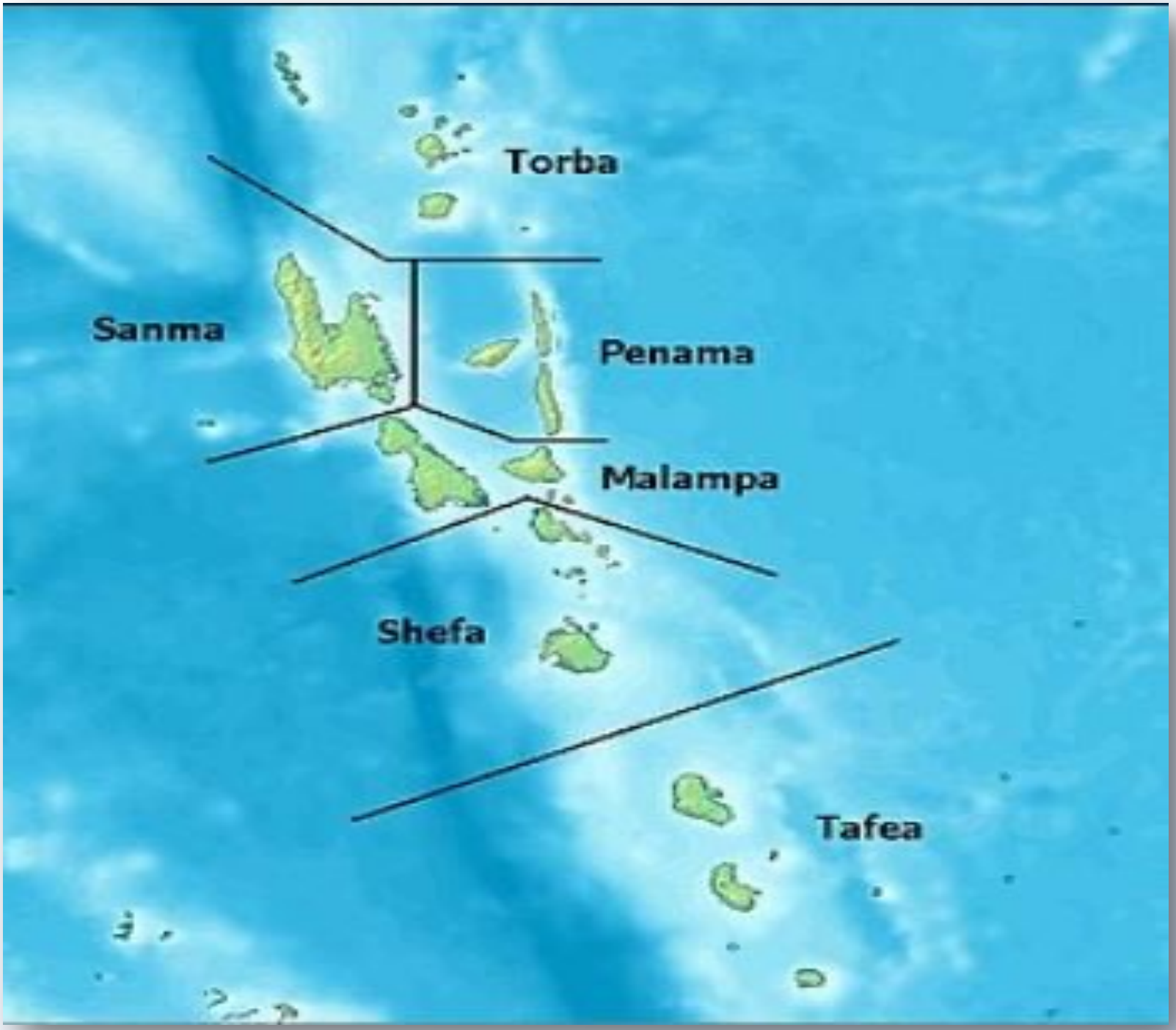
TRAINING & AWARENESS
Vacant

PROVINCIAL DISASTER UNIT
Principal Provincial Liaison Officer
(Philip Meto)

PROVINCIAL DISASTER OFFICERS

TORBA - Betsy Manliwos
SANMA - Micah Kensley
PENAMA - Manson Tari Denga
MALAMPA - Abel Abelson
SHEFA - Vacant
TAFEA - Tony Tavlili




Torba
Sanma
Penama
Malampa
Shefa
Tafea

NDMO Structure and SOP

1. Vanuatu DRM Legislation
2. NDMO - Roles and Responsibilities
3. NDC Roles and Responsibilities Vanuatu DRM Institutional Arrangements
4. NDMO - National Disaster Response Coordination Structure
5. NDMO – Provincial Disaster Response Coordination Structure
6. NDMO - Disaster Response Cluster System
7. Disaster Response Timeline



Roles and Responsibilities

- **The NDMO is the Government agency mandated to respond and coordinate disaster preparedness, emergency including facilitation of international assistance.**
- NDMO acts as the national coordinating and monitoring body for disaster risk management
- Provide DRM advice and administrative support to the National Disaster Committee
- To facilitate the development and implementation of integrated DRM in Vanuatu incl. DRR and CCA
- Coordinate disaster preparedness, emergency and disaster response, including facilitation of international humanitarian assistance.
- To collaborate with and provide support and technical assistance to GoV, partner agencies and communities in DRM
- To identify, analyze and map hazards and conduct related research into their effects and develop responses to the hazards
- To promote the mainstreaming of DRR and CC in all government policy development
- To issue community alert messages of potential threats on the advice of the VMGD
- **To develop SOP for the NEOC**

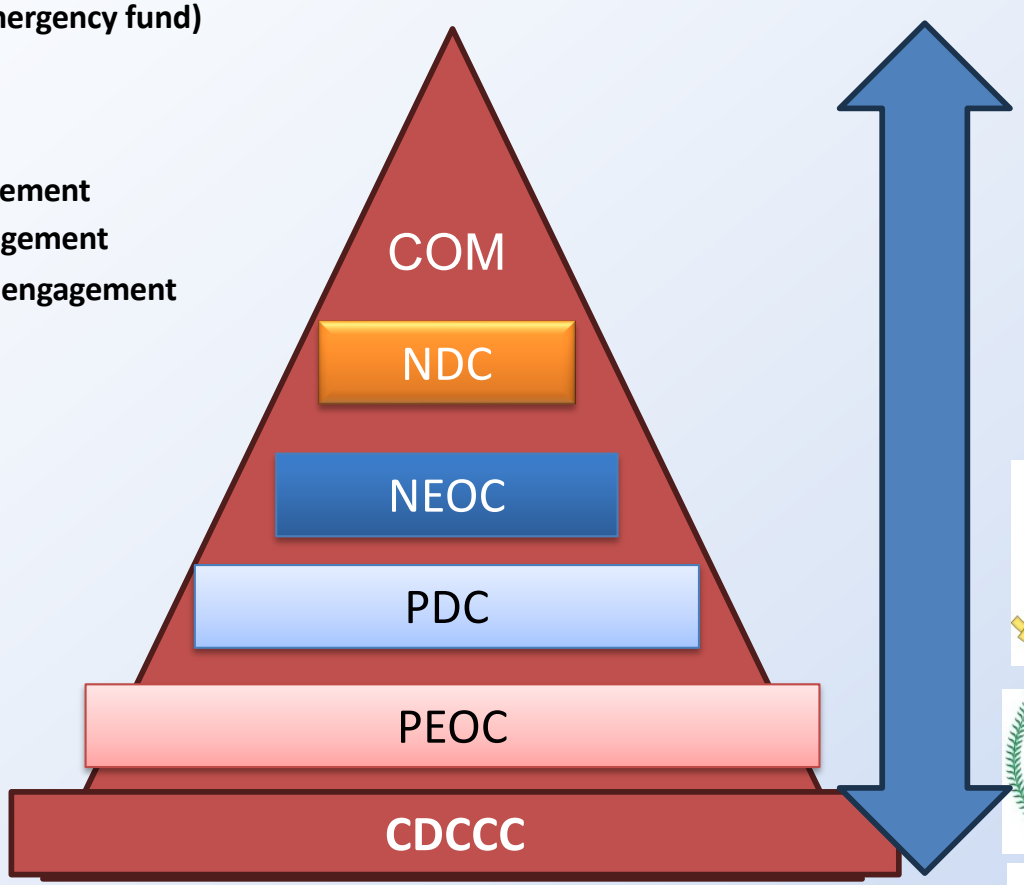


Tsunami Standard Operating Procedures

- **NDMO Process:**
  - **Community Disaster and Climate Change Committee (report)**
  - **Provincial Emergency Operation Center (sitrep)**
  - **Provincial Disaster Committee (recommendation)**
  - **National Emergency Operation Center (Rapid Action Plan and advisory to the NDC)**
  - **National Disaster Committee (Decide on the level of response)**
  - **Council of Ministers (endorse the Emergency fund)**

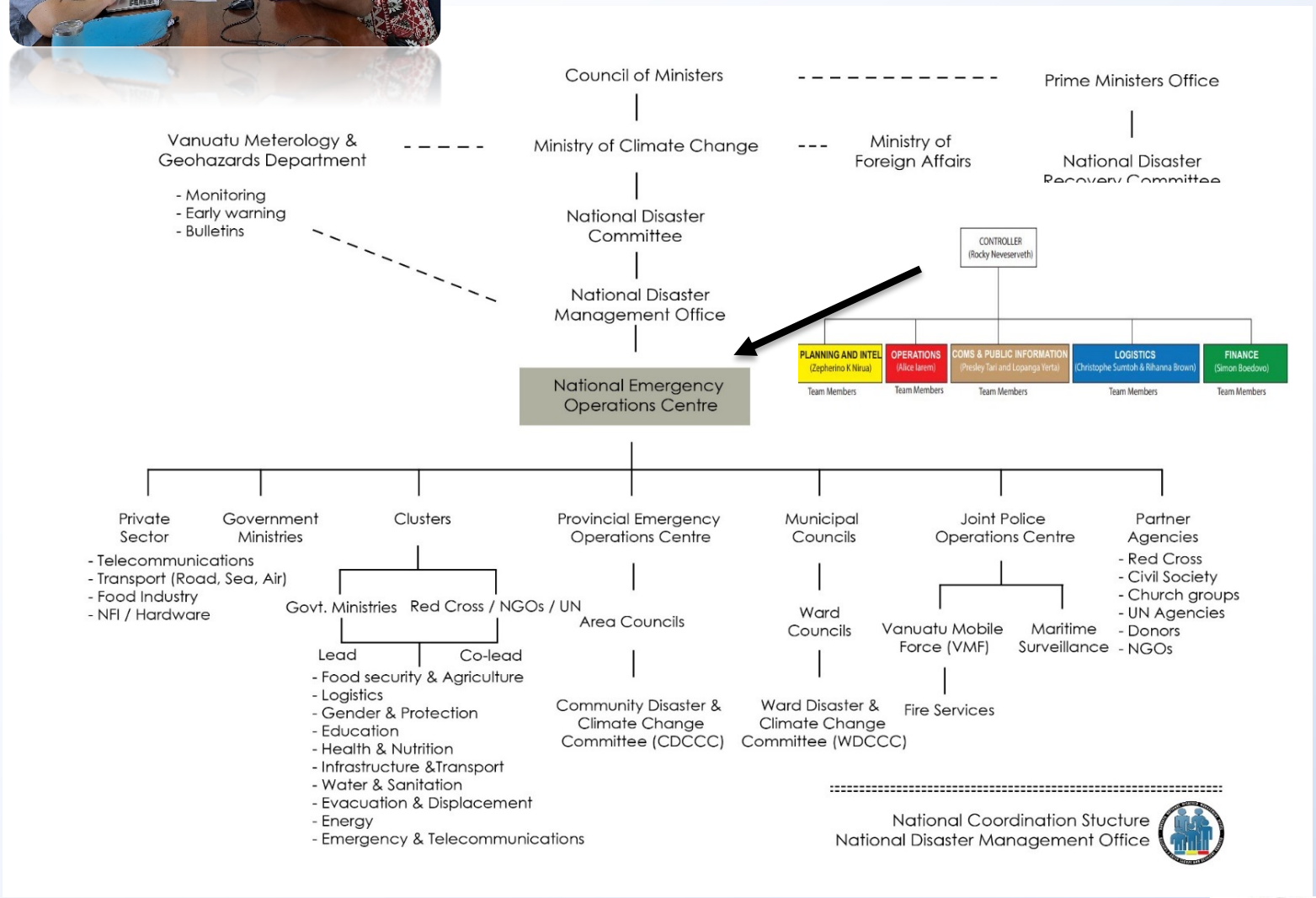
Threshold:

- **Likely case: (M=4)- Community engagement**
- **Best case: (M=5 to 6)- Provincial engagement**
- **Worse case: (M=7.0 review) National engagement**

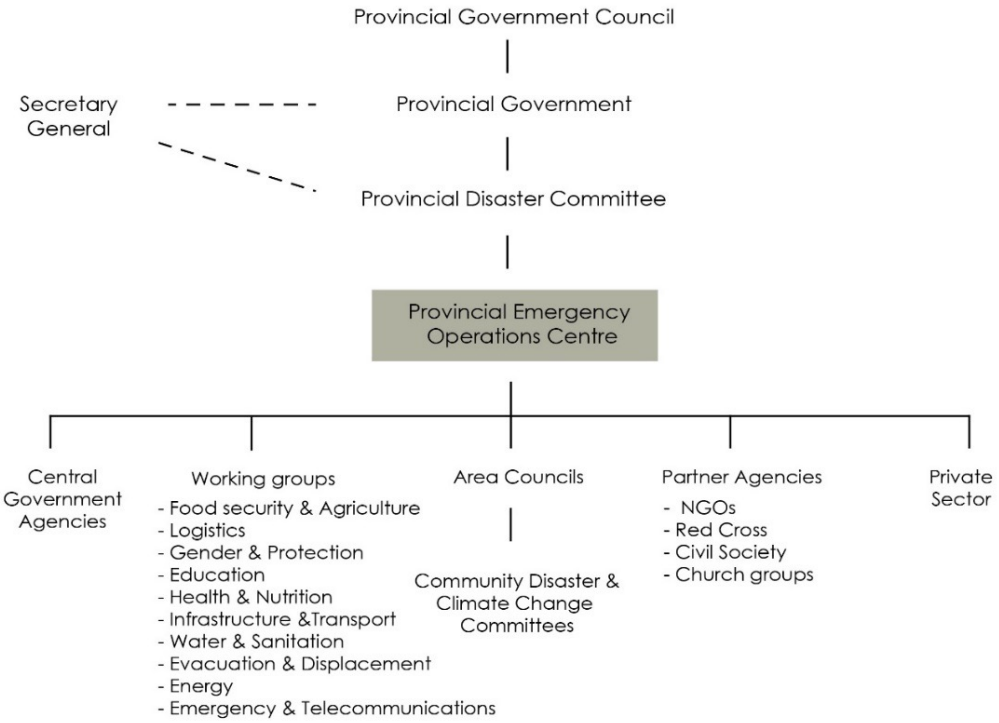




National Coordination Structure and clusters system



6 Provincial Emergency Operation Structure



Provincial Coordination Stucture
National Disaster Management Office



Challenges

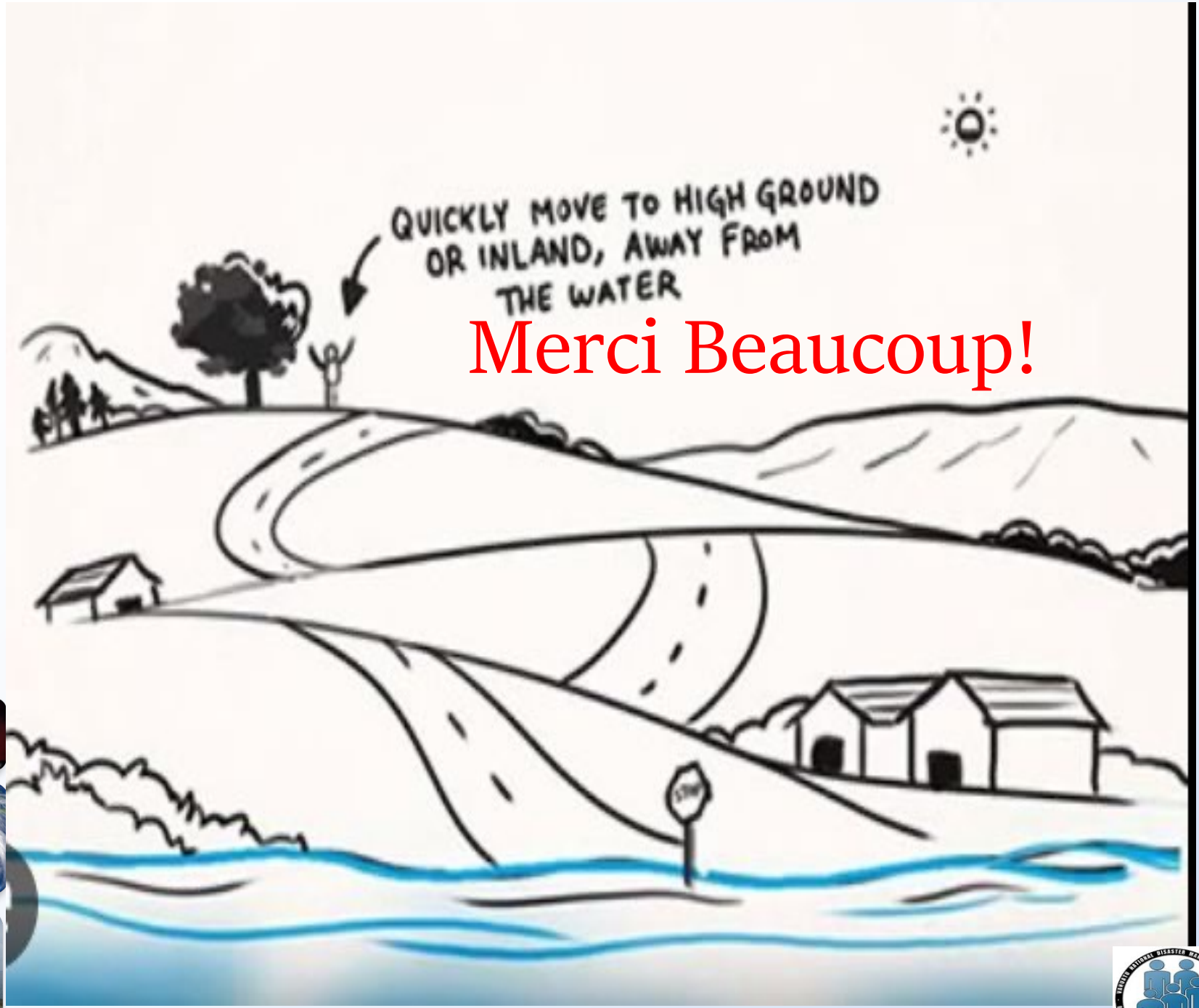
- **Geography**
- **Resources maintenance**
- **Emergency fund only for response of a SOE**



Tsunami Ready Program Plan

- **Trainings/Awareness Tsunami ready Program**
- **Complete the program indicators and registration**
- **Community consultations (traditional knowledge)**
- **Community Tsunami Response Plans**
- **Tsunami Drill/Simulation**
- **Install Tsunami Sirens and Signages in whole Vanuatu.**





Merci Beaucoup!