Vanuatu Multi-Hazard Risk Assessment and Early Warning System

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Outline

- Background Information
- Multi-Hazard Early Warning System
- Multi-Hazard Risk Assessment
- Gaps, challenges and new initiatives





- **Vanuatu Meteorology and Geo-Hazards Department (VMGD) and NDMO within the Ministry of Climate Change, which also includes Climate Change, Energy, and Environment**

Background Information

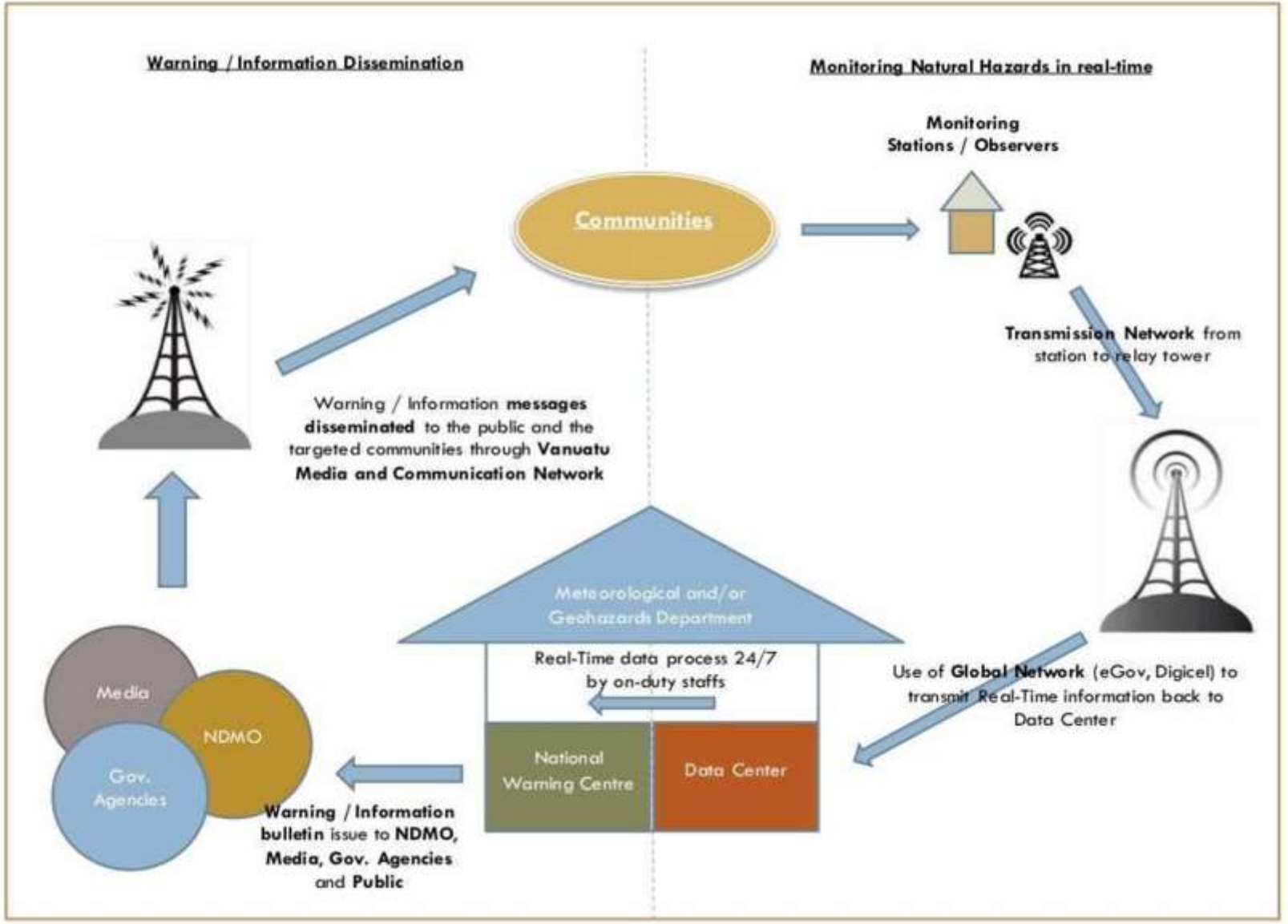
- Amalgamation of Geo-Hazards into Vanuatu Met Service in 2009
- Creation of the Ministry of Climate Change in 2013
- Creation of the National Advisory Board on Climate Change and DRR
- 2016-2017, transfer of Hydrology/Flood Forecasting into VMGD





- **VMGD has a current Act, however it did not cover current developments. A new draft bill in place, should be enacted later this year**
- **NDMO has a current act, also developing a draft bill**
- **Climate change policy developed in 2015**

Multi-Hazard Early Warning and Dissemination System



- **Early Warning System are made of 3 sub-systems:**
  - ***Multi-Hazards Monitoring Network***
  - ***National Warning Center / Data center***
  - ***Warning and Information Dissemination System***



National Warning Center / Data Center

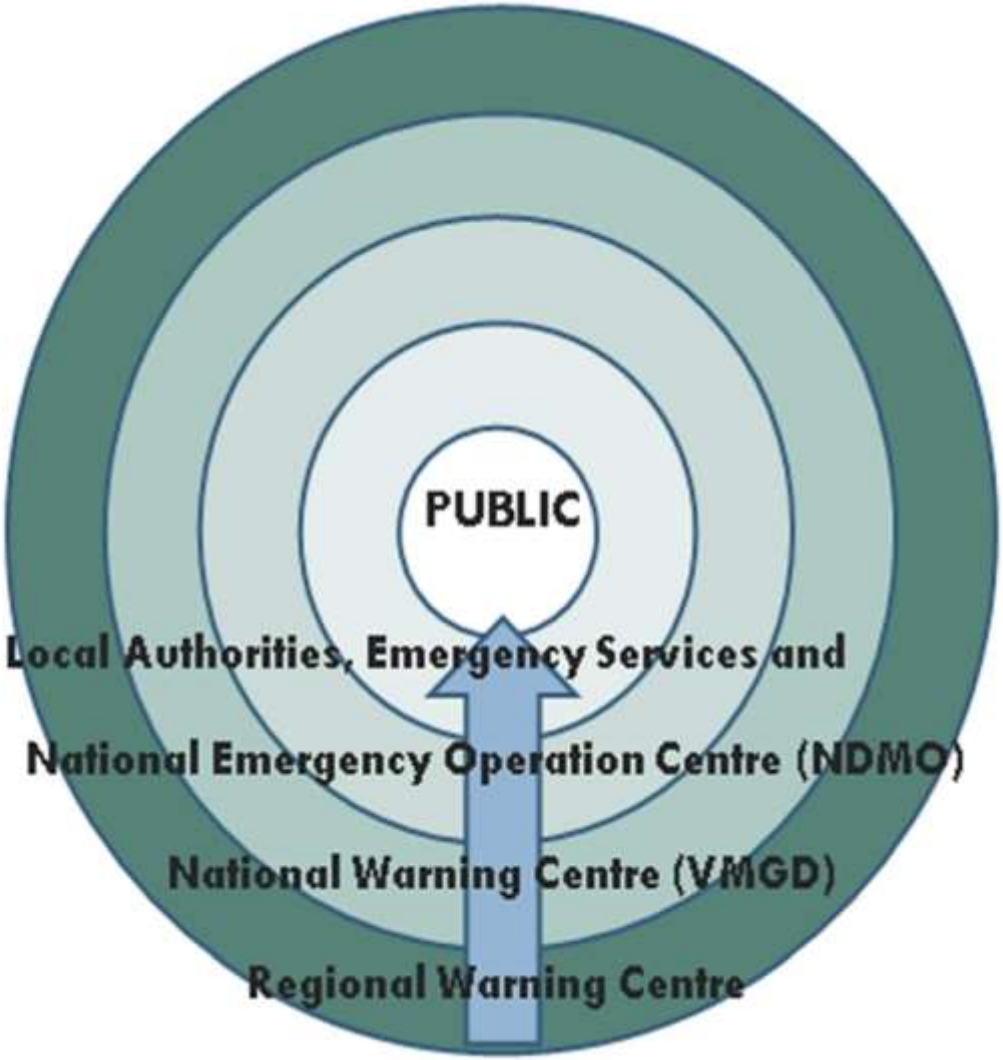
- **National Warning / Data Center:**
  - *Common Data Analysis Software*
    - **Seiscomp3**
    - **Tide Tool**
    - **Clide**
    - **TC Module**
    - **Smart Met / Smart Alert**
    - **Synergie / MeteoFactory**
  - *Standard Operating Procedures*
  - *Data Center installation and maintenance documentation*



National Warning Centre

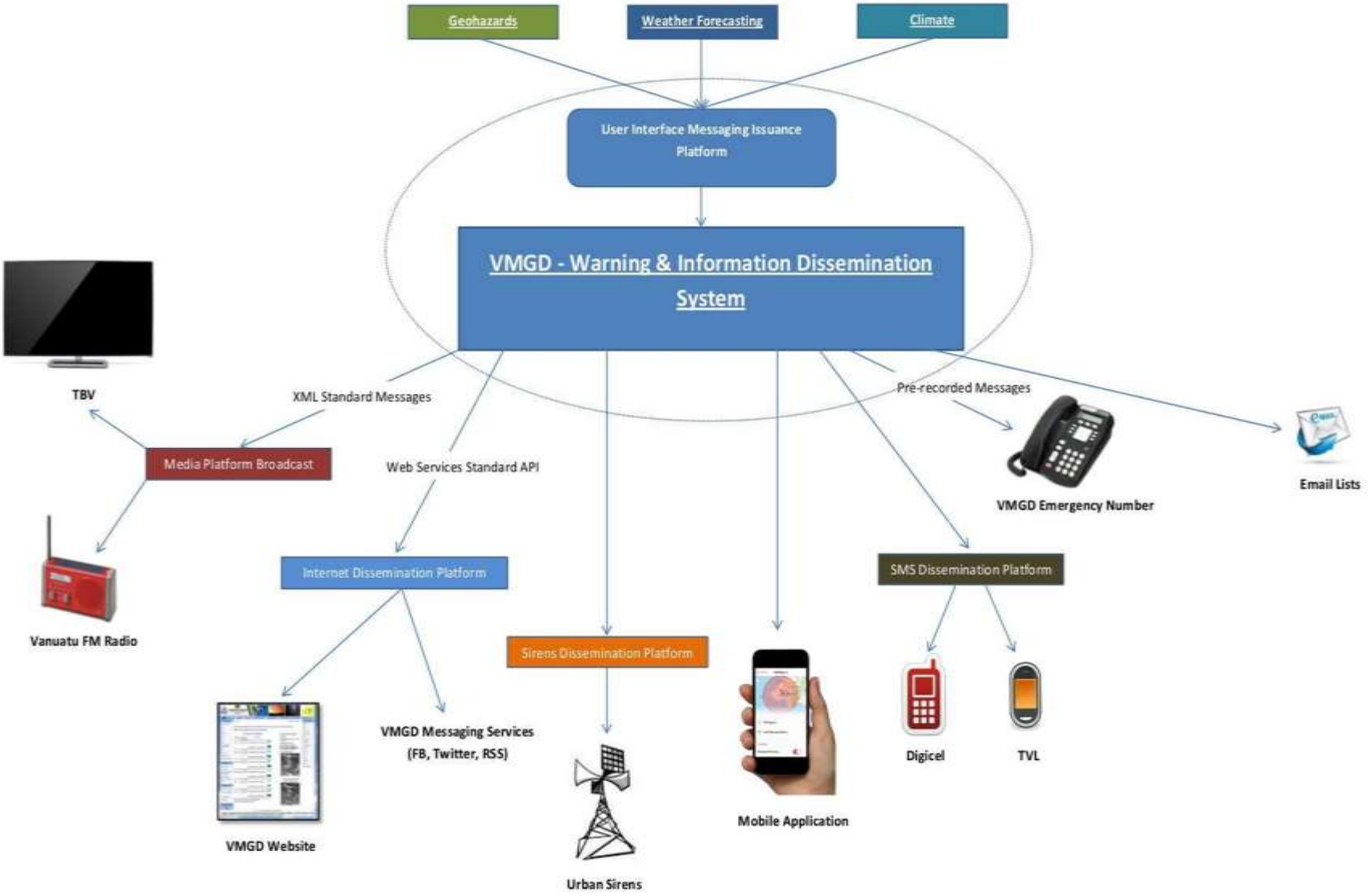
National Emergency Operation Centre



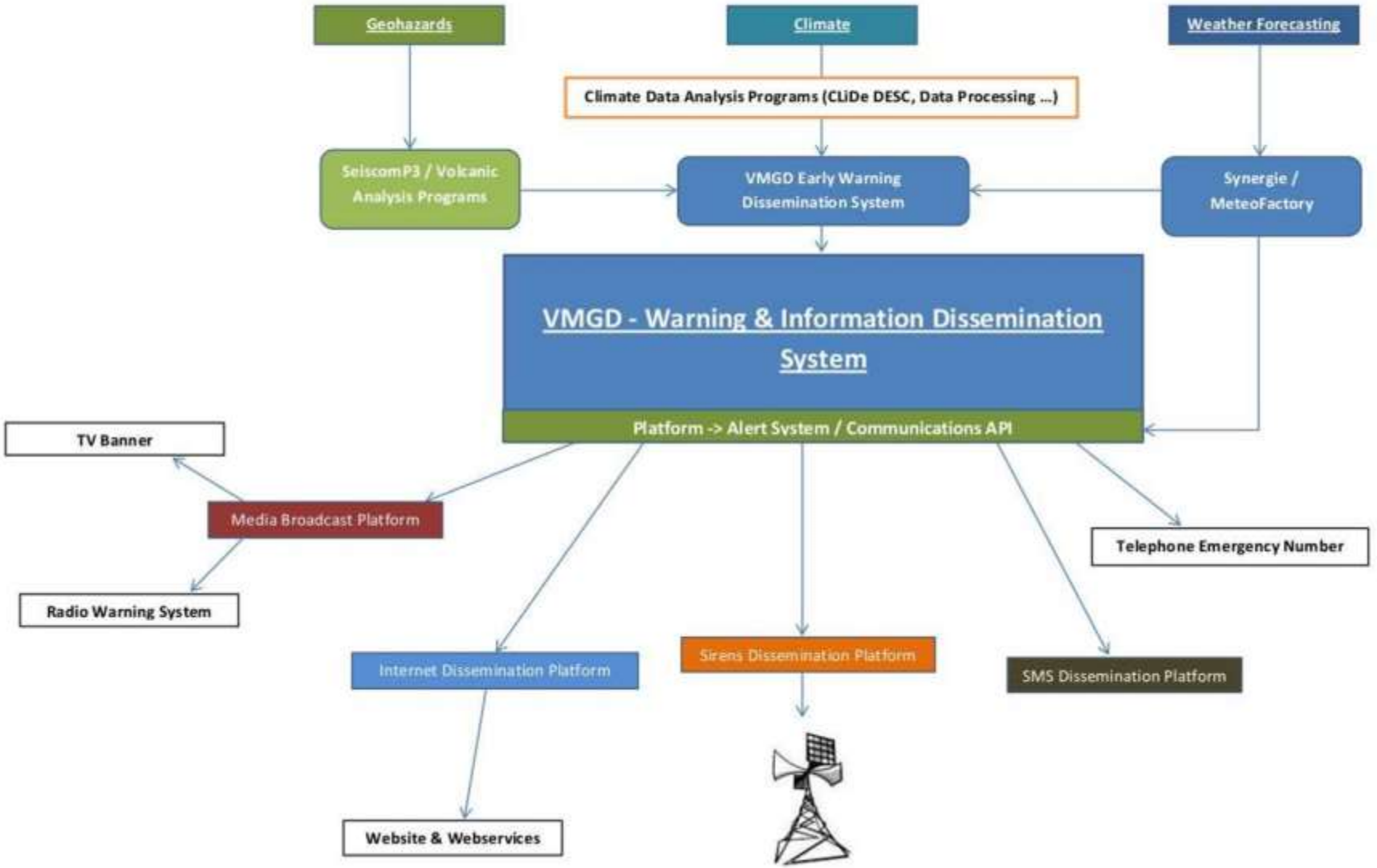

PUBLIC
Local Authorities, Emergency Services and
National Emergency Operation Centre (NDMO)
National Warning Centre (VMGD)
Regional Warning Centre






Geohazards
Weather Forecasting
Climate
User Interface Messaging Issuance Platform
VMGD - Warning & Information Dissemination System
TBV
XML Standard Messages
Pre-recorded Messages
Email Lists
Media Platform Broadcast
Web Services Standard API
VMGD Emergency Number
Vanuatu FM Radio
Internet Dissemination Platform
SMS Dissemination Platform
Sirens Dissemination Platform
VMGD Messaging Services (FB, Twitter, RSS)
Digicel
TVL
VMGD Website
Mobile Application
Urban Sirens

VMGD Warning & Information Dissemination Platform – Technical specifications



Multi-Risk Assessment

- Traditional assessment Practice and Processes
  - Post disasters - manual or field assessments on the impact base on observation and community participatory process
  - Use of devices such as unman flying machines (Drones) to assess with aerial overview of disaster impacts on development and livelihood

- Aerial surveillance conducted during and post - disaster impact assessment

- Basic GIS application tool is use for acquiring demographic data and assessing logistic capacity



Challenges

- Limited use of space technology to monitor hazards
- Spatial data capacity issues
- Data sharing and coordination issues



Multi-Hazards Risk Assessment

- New initiative undertaken at National level to address the Multi-Risk Assessment

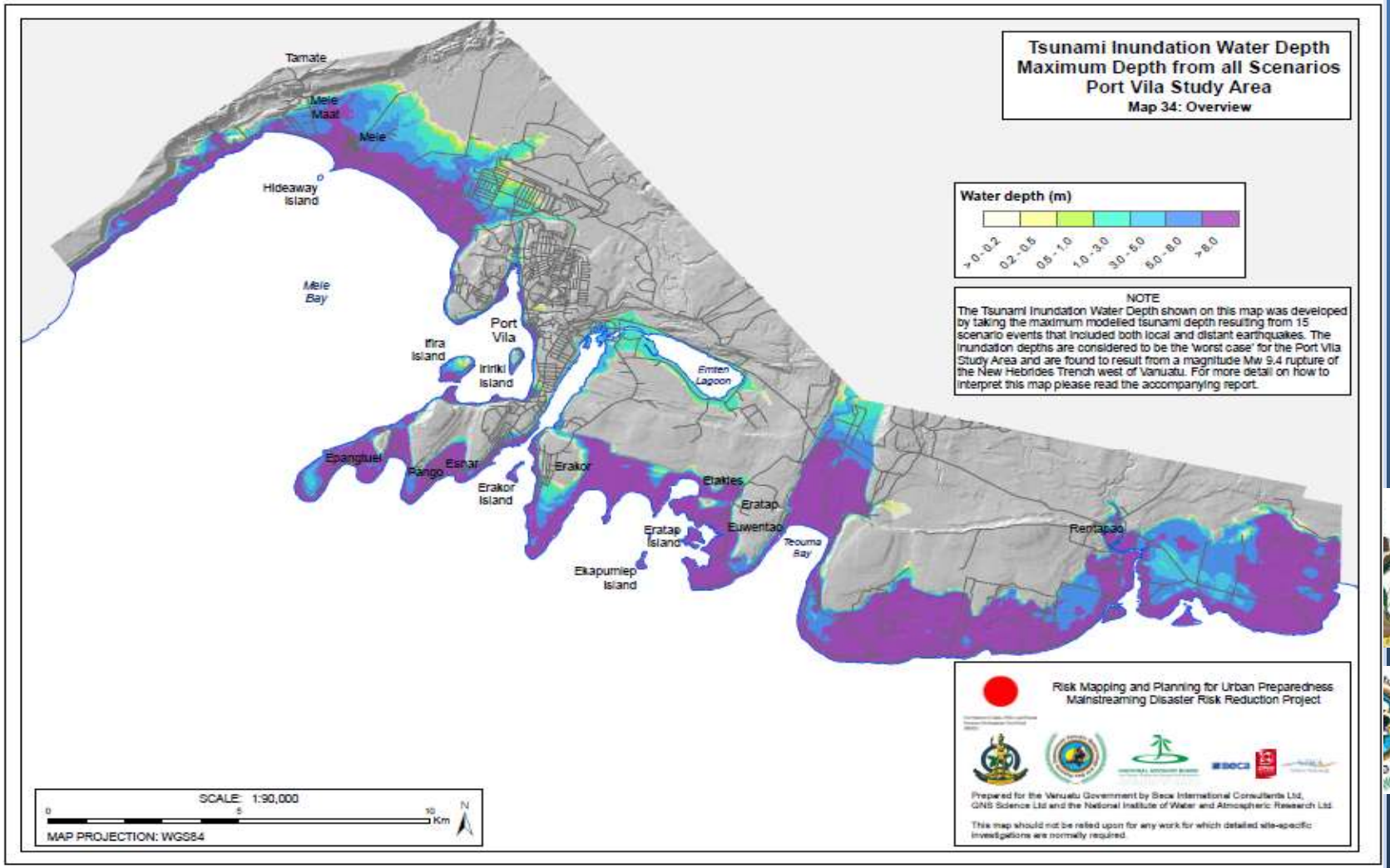
  - Pilot projects targeting main urban areas
  - Introduction of new GIS tools (PACSAFE, RISKSCAPE and QGIS) to strengthen our pre-disaster spatial data
  - Recruitment/capacity building of GIS officers in main government departments to strengthen technical capacity
  - Looking into Space technology to improve our data collection pre-disaster and post –disaster
  - Information Management cluster to strengthen coordination and data sharing among all stakeholders



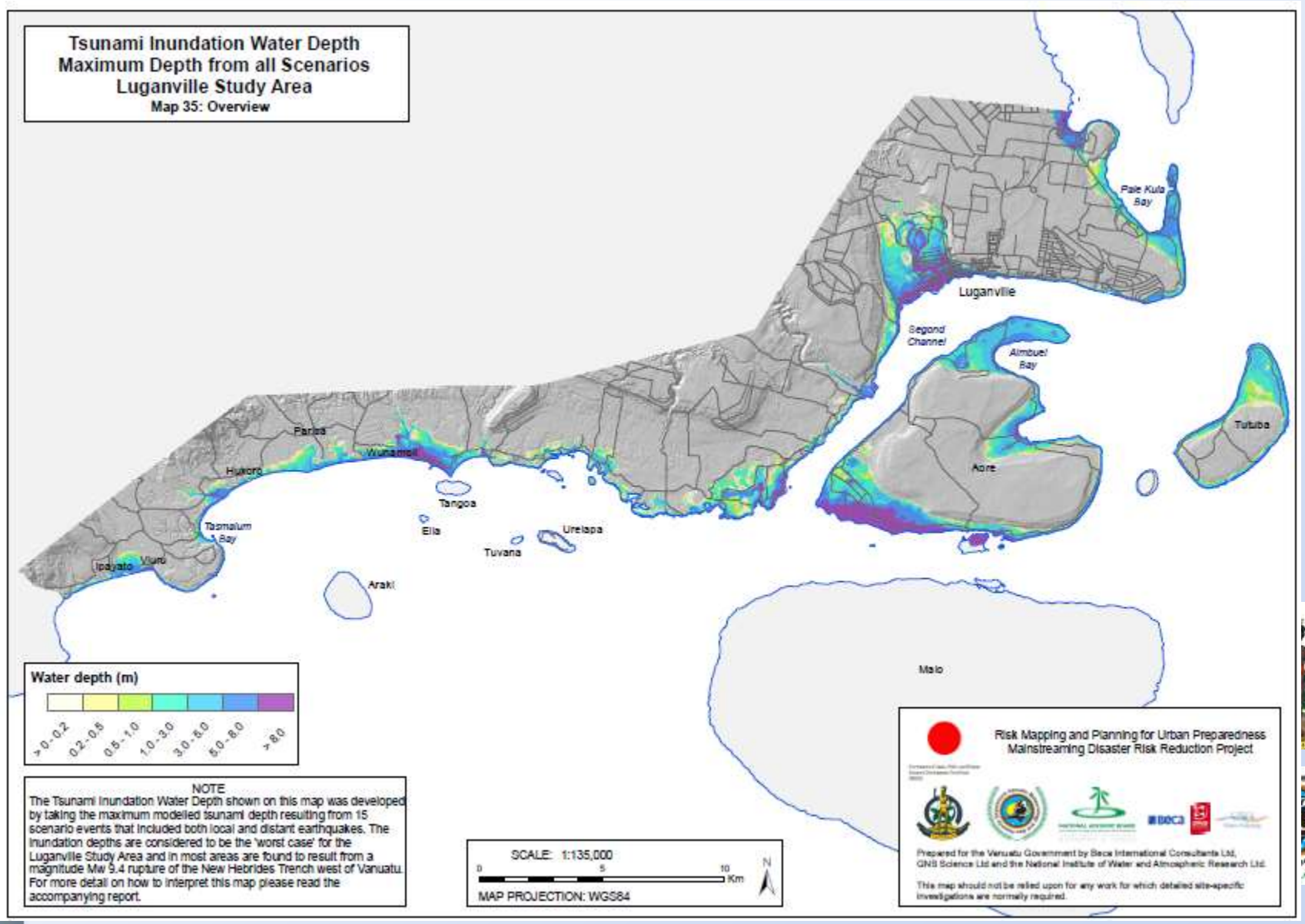
Additional Initiatives

- NAB Portal
- Lidar Data
- Himawari 8, used mostly by weather forecasters (VMGD)
- Satellite Derived Bathymetry - RESTEC
- Pcrafi data
- Taping into the Green Climate Fund to strengthen and improve our multi hazard warning system, particularly climate related hazards

Multi-Risk Assessment



Multi-Risk Assessment





Thank you