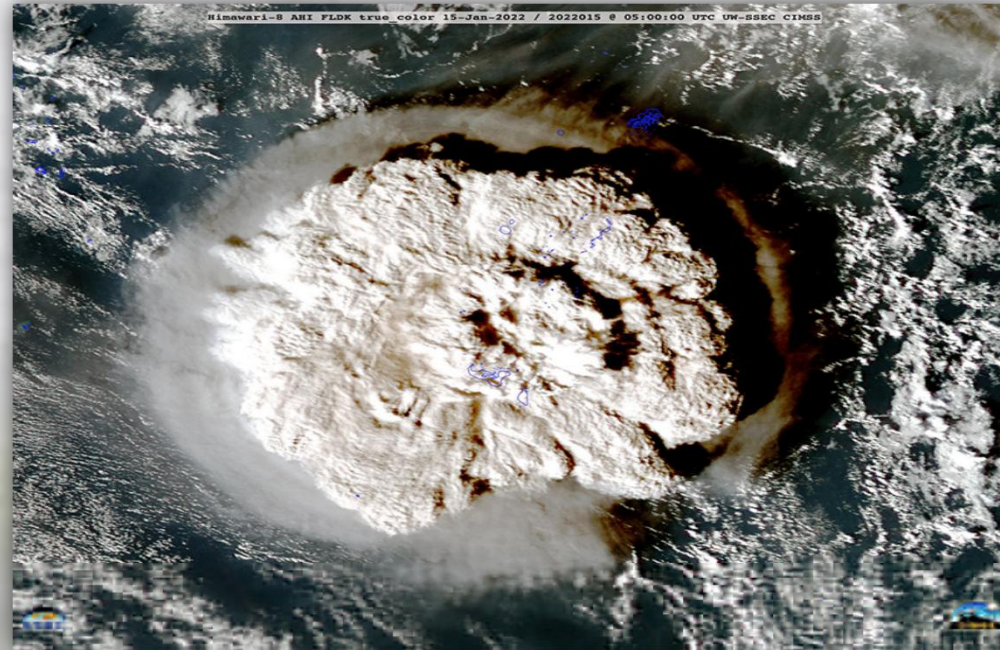




# Tonga Meteorological Service

## *“Importance of Early Warning Systems For Tonga”*



**Presented by : Inoke Lelenga**

**Date: 30<sup>th</sup> October 2025**



# **Overview: Objectives of this session**

- 1. Why early warnings systems are critical**
- 2. Vulnerability to Natural Disasters**
- 3. Recent progress in early warning systems (EWS)**
- 4. Weather Radar as an EWS**
- 5. Roles of Satellite in EWS**
- 6. Challenges**



# Why early warning system are critical for Tonga!!!

- **Tonga is vulnerable to various natural disaster and are increasing in frequency/severity**
- **It is a low lying island nations, with remote island communities where response options are limited EWS are critical**
- **Early warning gives people time to act: evacuate, secure assets and protect lives**
- **“The significance of early warning systems...timeliness and accuracy saves lives”**



# Context and Vulnerability

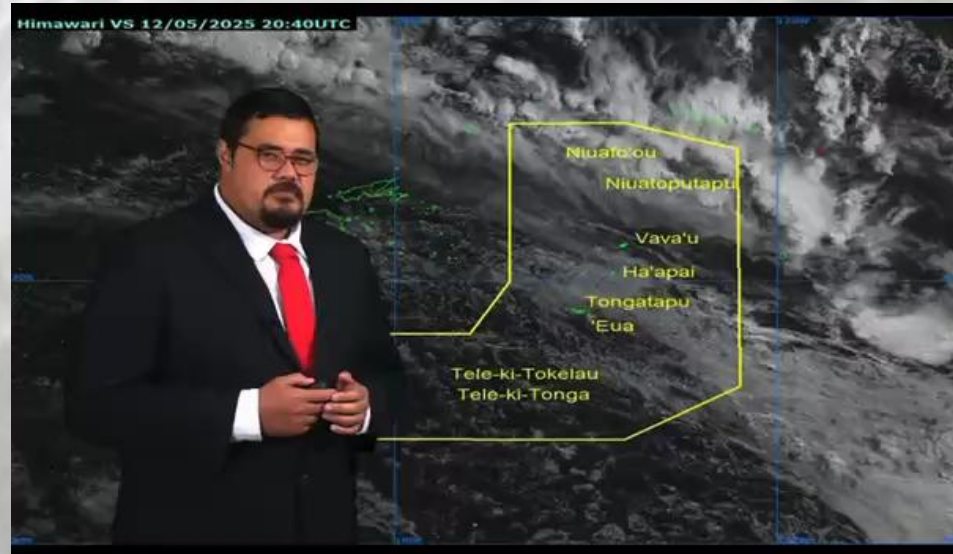
- Tonga is a small developing island nation in the South Pacific ocean, sitting along the Pacific Ring of Fire.
- We are expose to various types of disaster such as
  - Tropical cyclone
  - Tsunami
  - Volcanic eruption
  - Heavy rainfall (Flooding)
  - Earthquakes





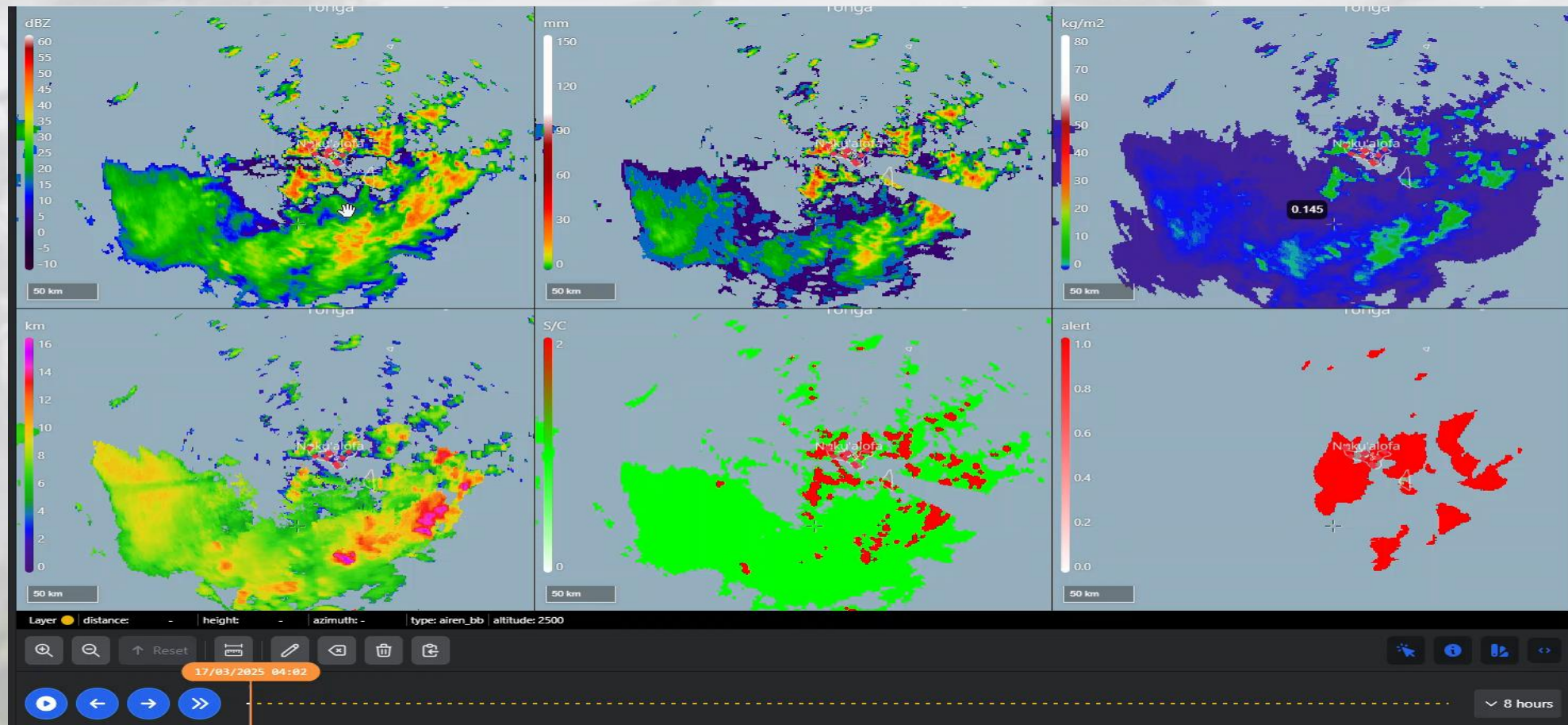
# Tonga's Recent progress in EWS

- Tsunami sirens
- TV Broadcast
- Weather Mobile apps
- Satellite imagery
- Community based warning dissemination
- Weather Radar



# Weather Radar as an EWS

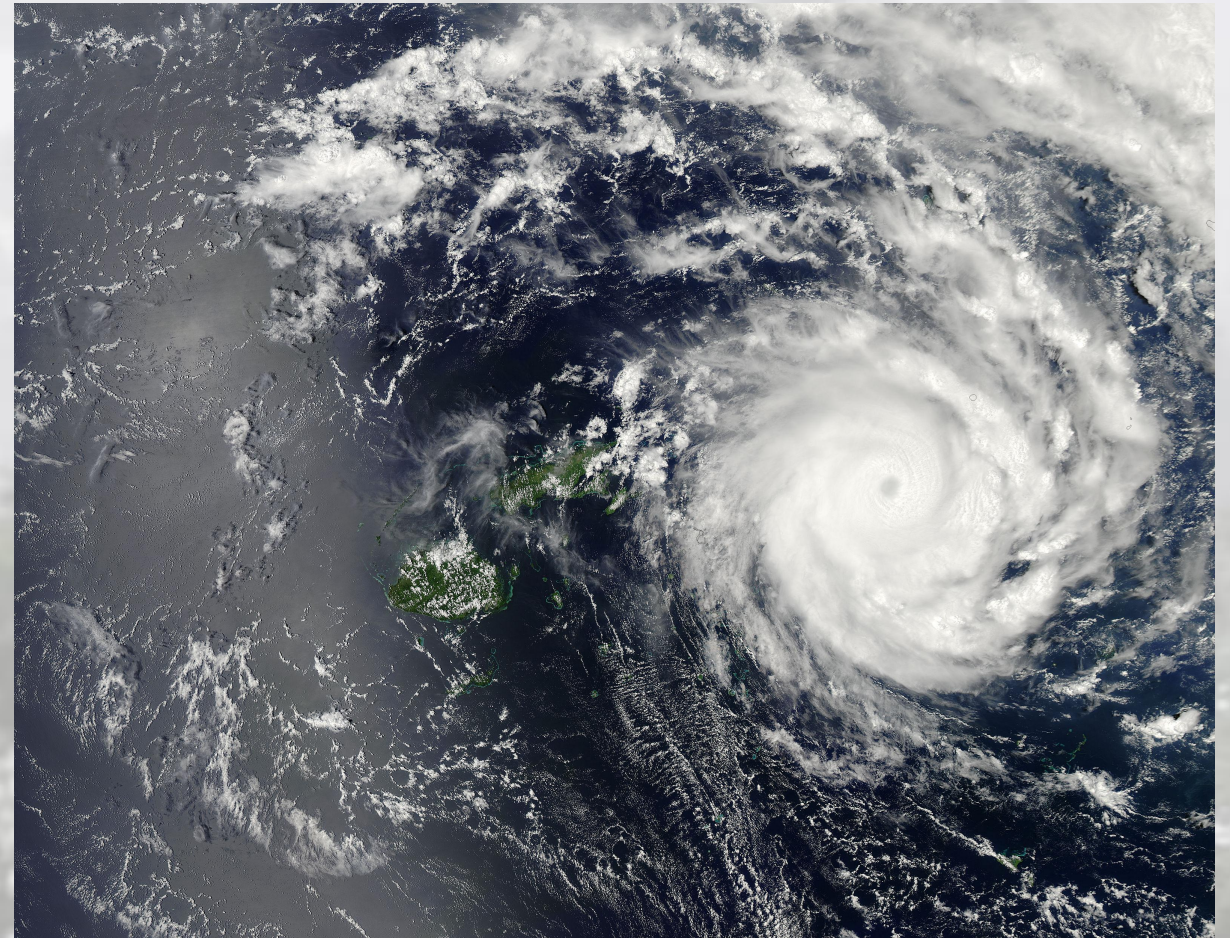
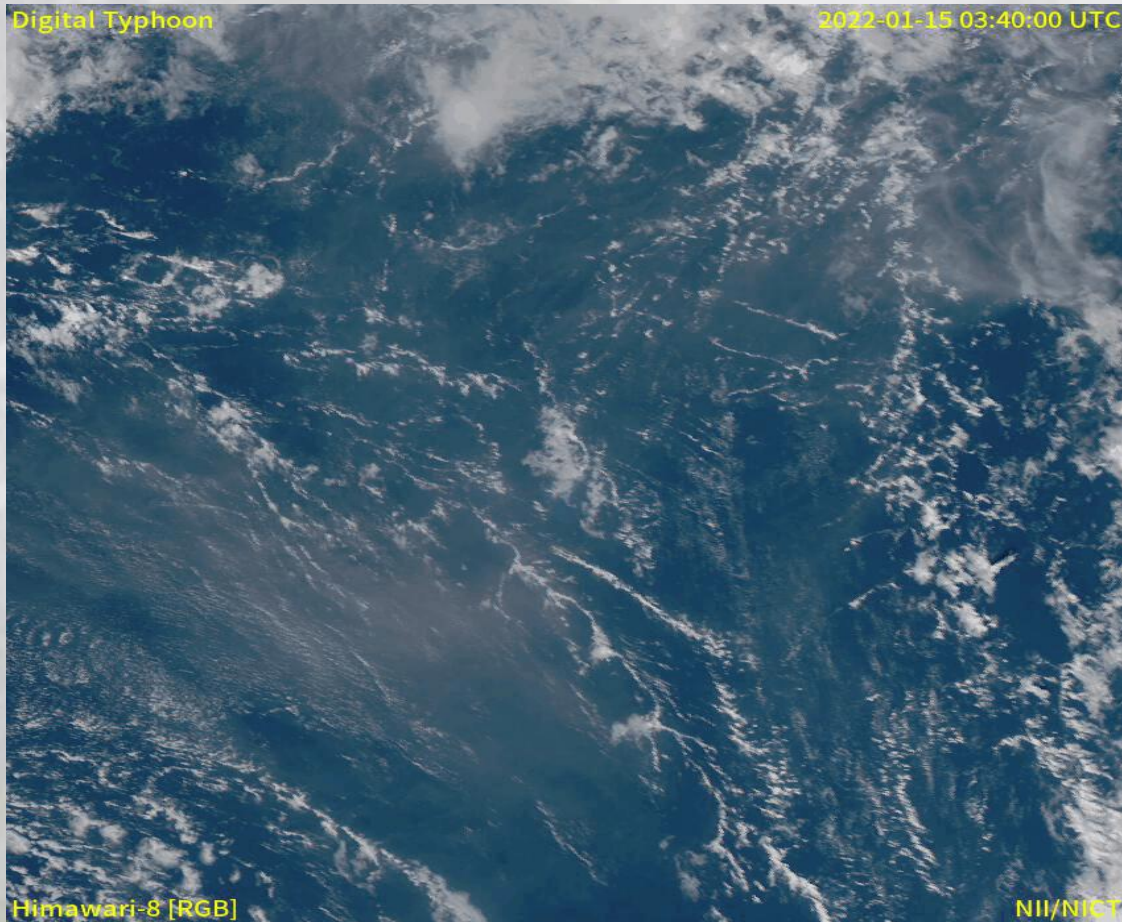
- Early warning for severe weather
- Improved Disaster Preparedness and Response
- Rainfall monitoring





# Roles of Satellite in EWS

- Satellite offers global and remote coverage
- Monitor severe weather events







# Challenges in Implementing EWS

- **Geographic Isolation**
- **Limited Resources**
- **Vulnerability of communities**
- **Cultural Barriers**





**Thank you for your attention!!!**



**MALO 'AUPITO**