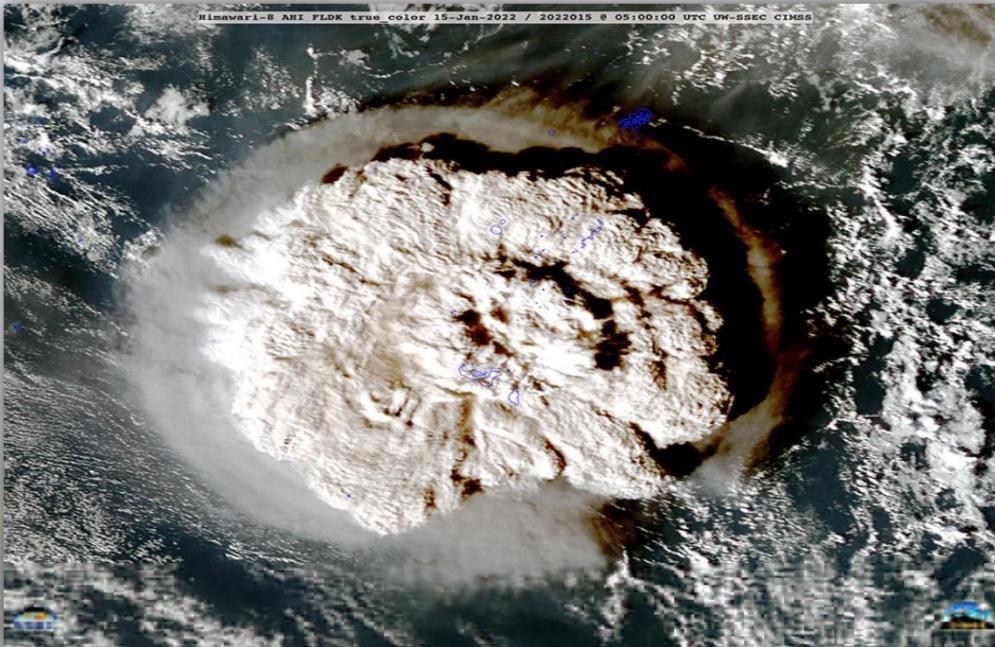




Tonga Meteorological Service

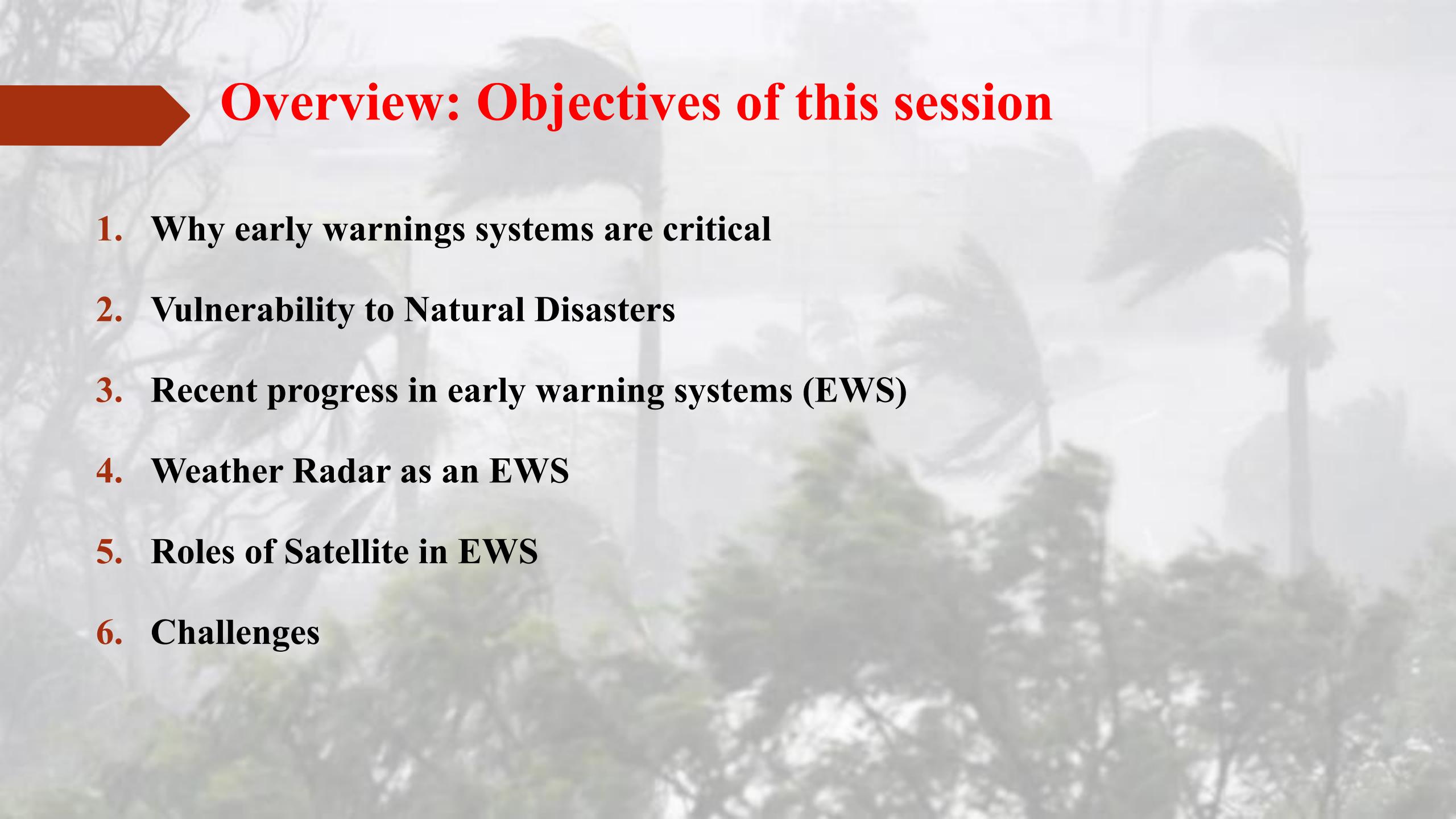


“Importance of Early Warning Systems For Tonga”



Presented by : Inoke Lelenga

Date: 30th 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”



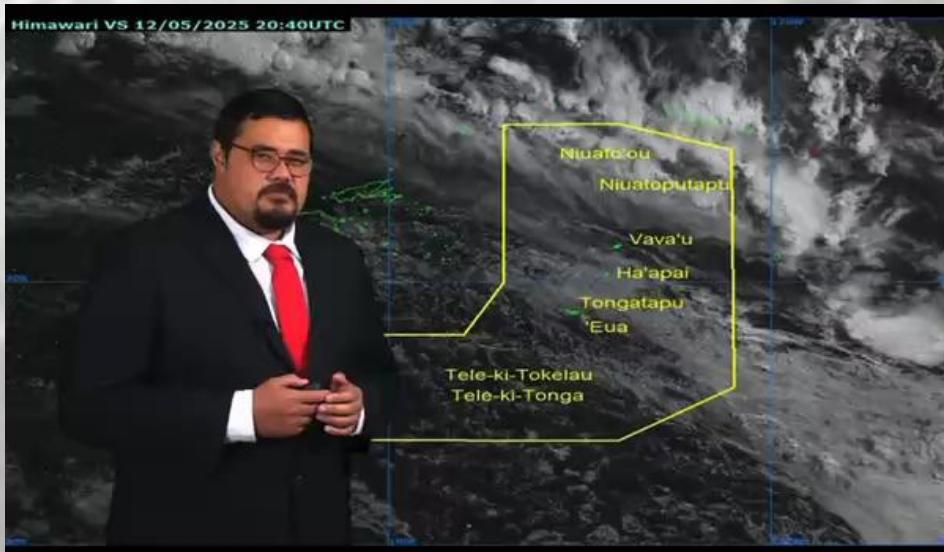
Context and Vulnerability

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



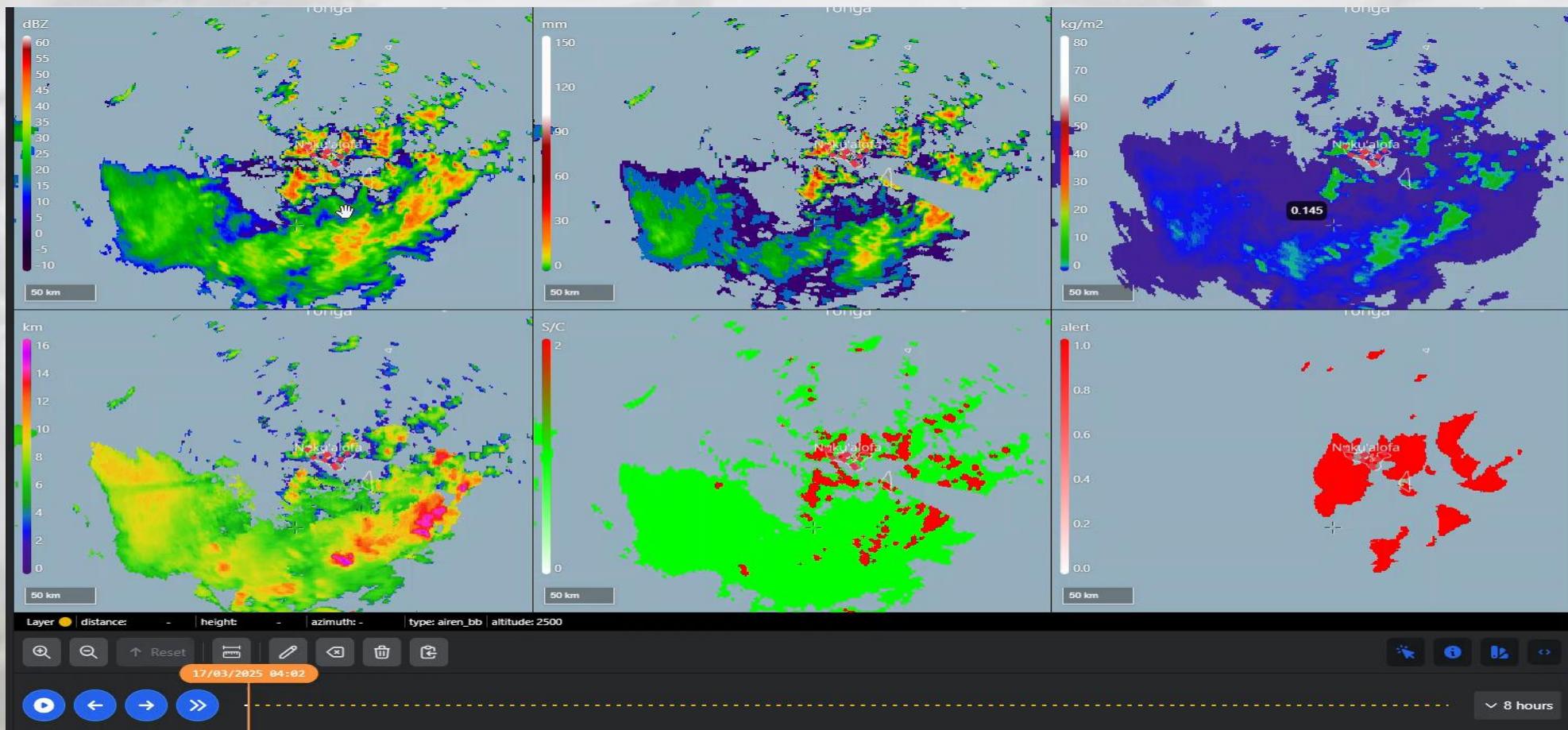
Tonga's Recent progress in EWS

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



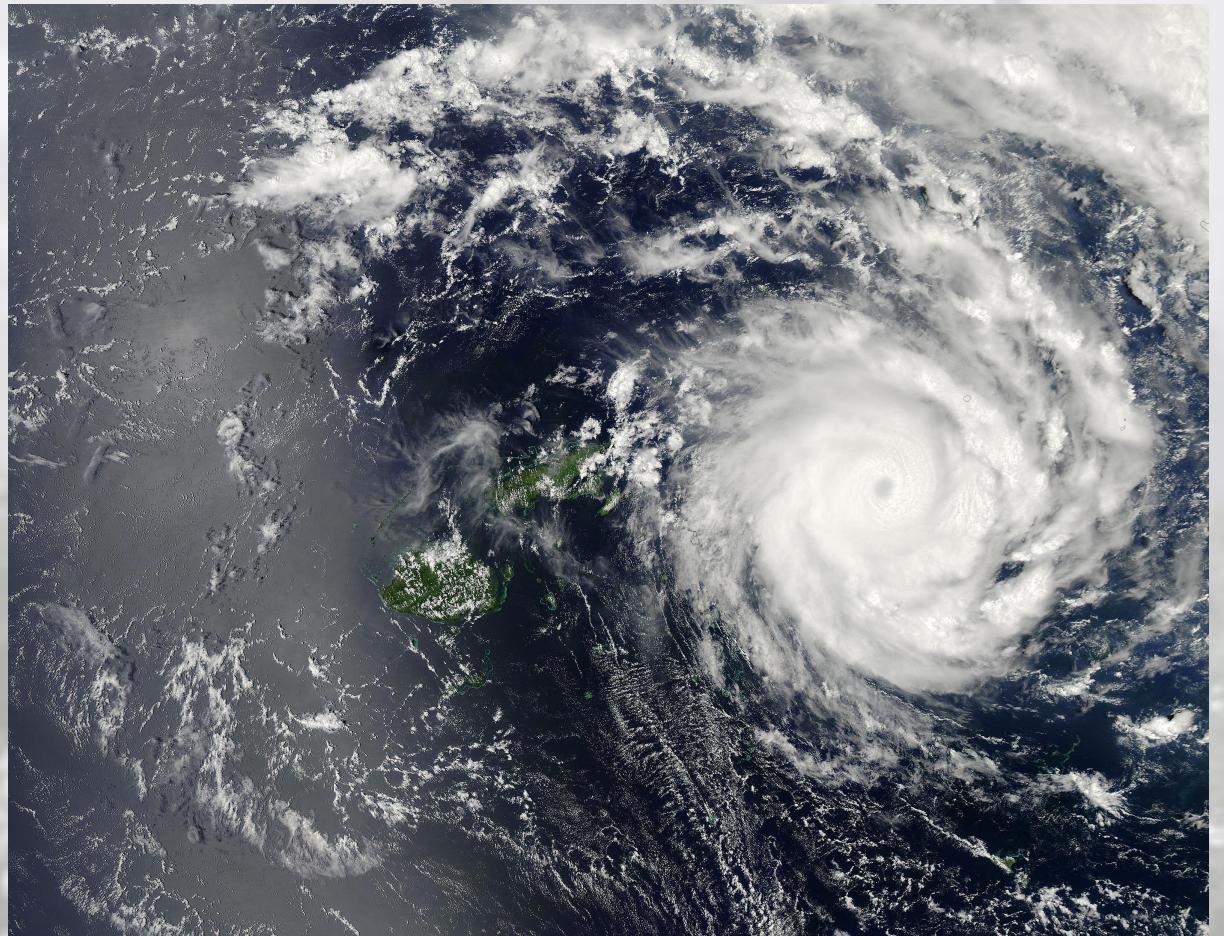
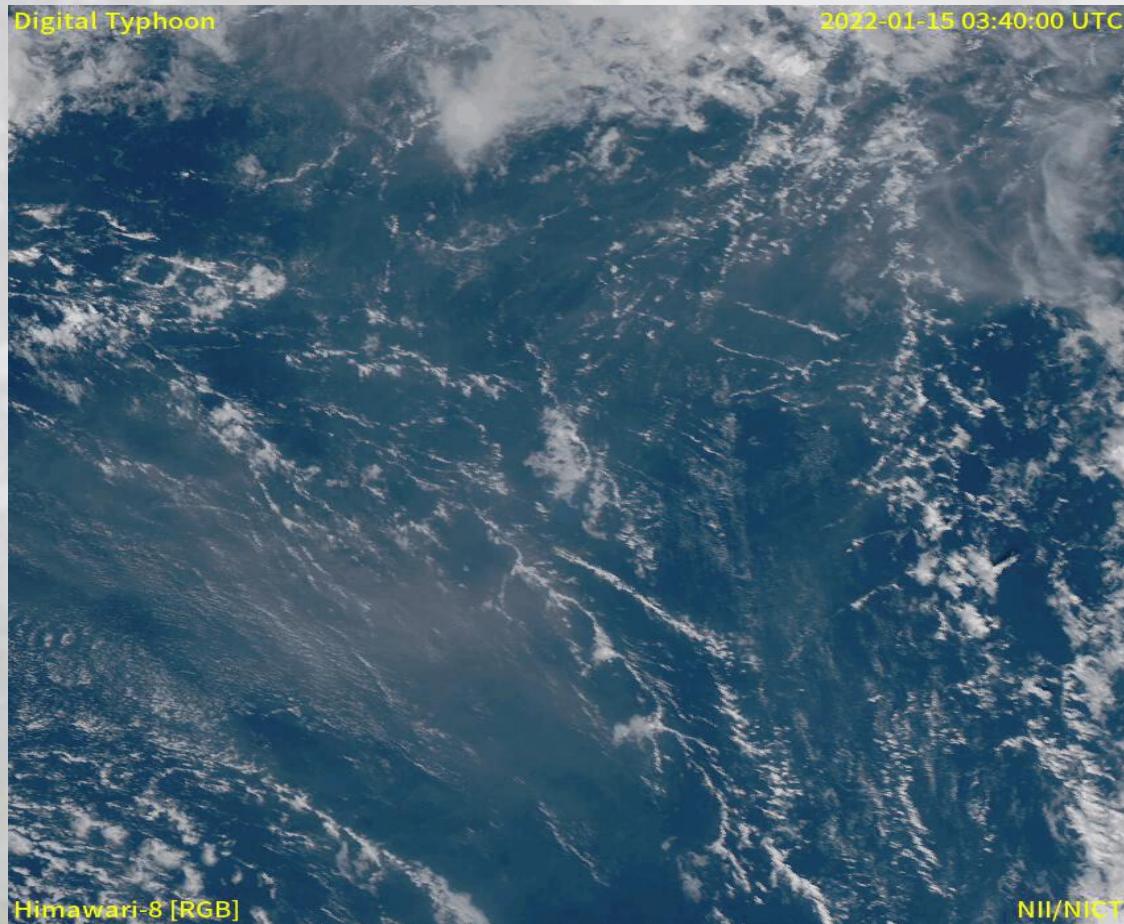
Weather Radar as an EWS

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



Roles of Satellite in EWS

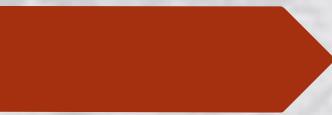
- Satellite offers global and remote coverage
- Monitor severe weather events





Challenges in Implementing EWS

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



Thank you for your attention!!!



MALO 'AUPITO