

Tsunami Training Country Report for Tuvalu

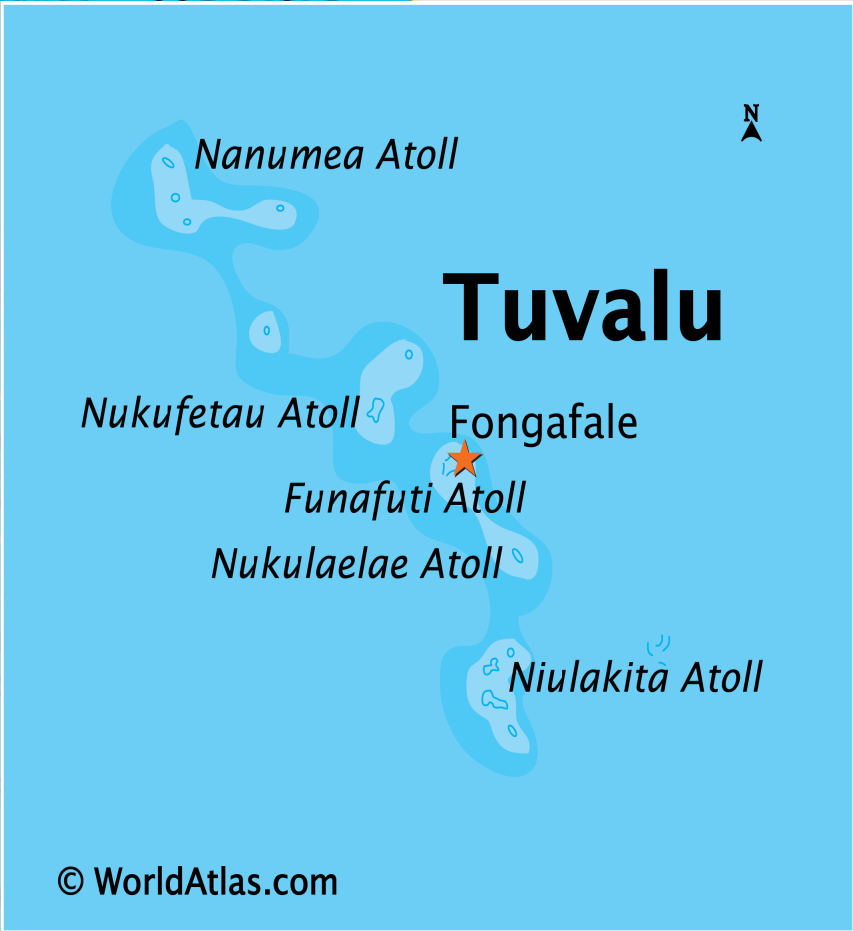
Tuvalu Meteorological Service

Limoni Mativa
Senior Forecaster

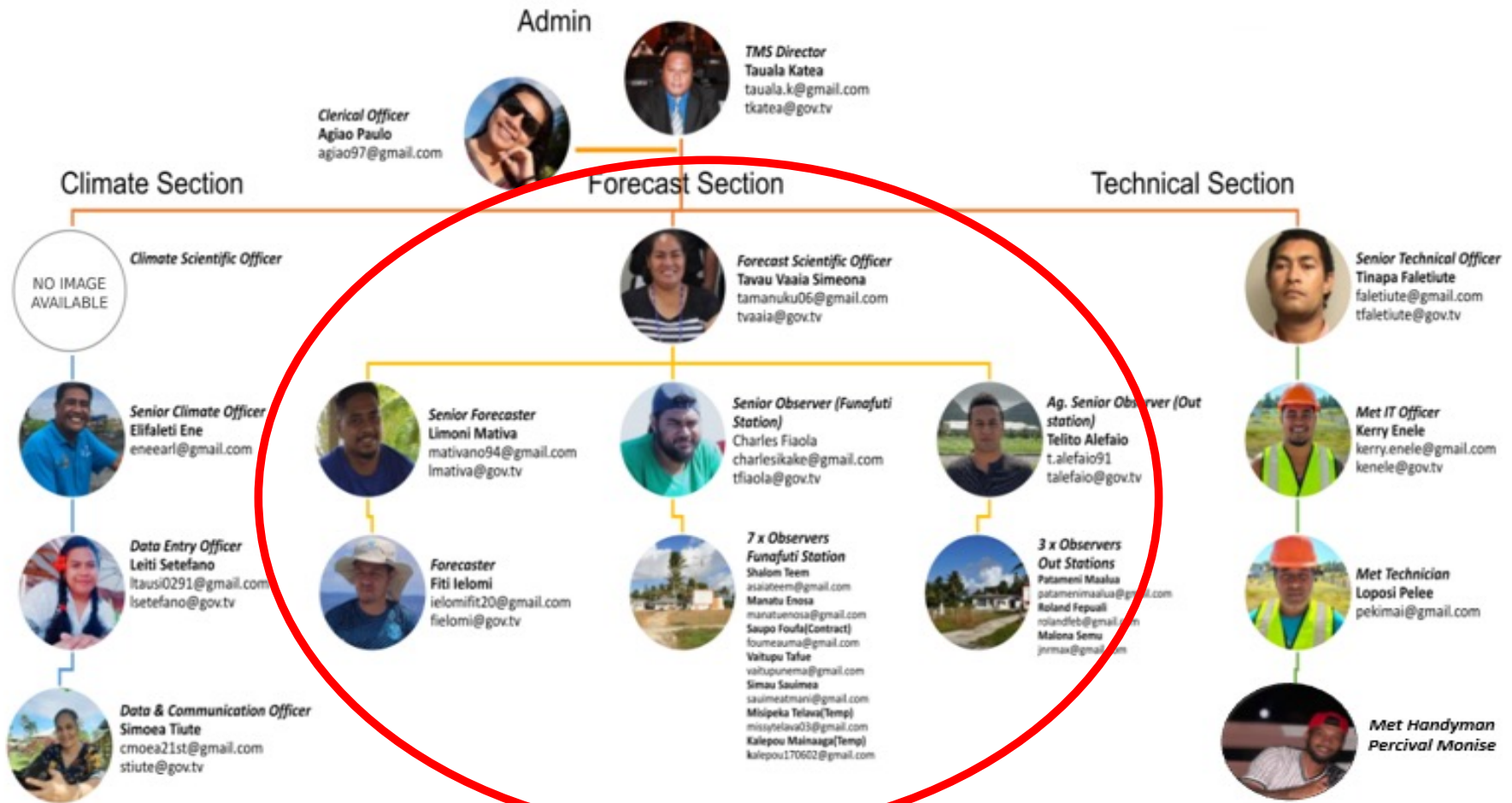


Content

- **Background**
- **Available data and tools**
- **Tsunami SOPs**
- **Dissemination**

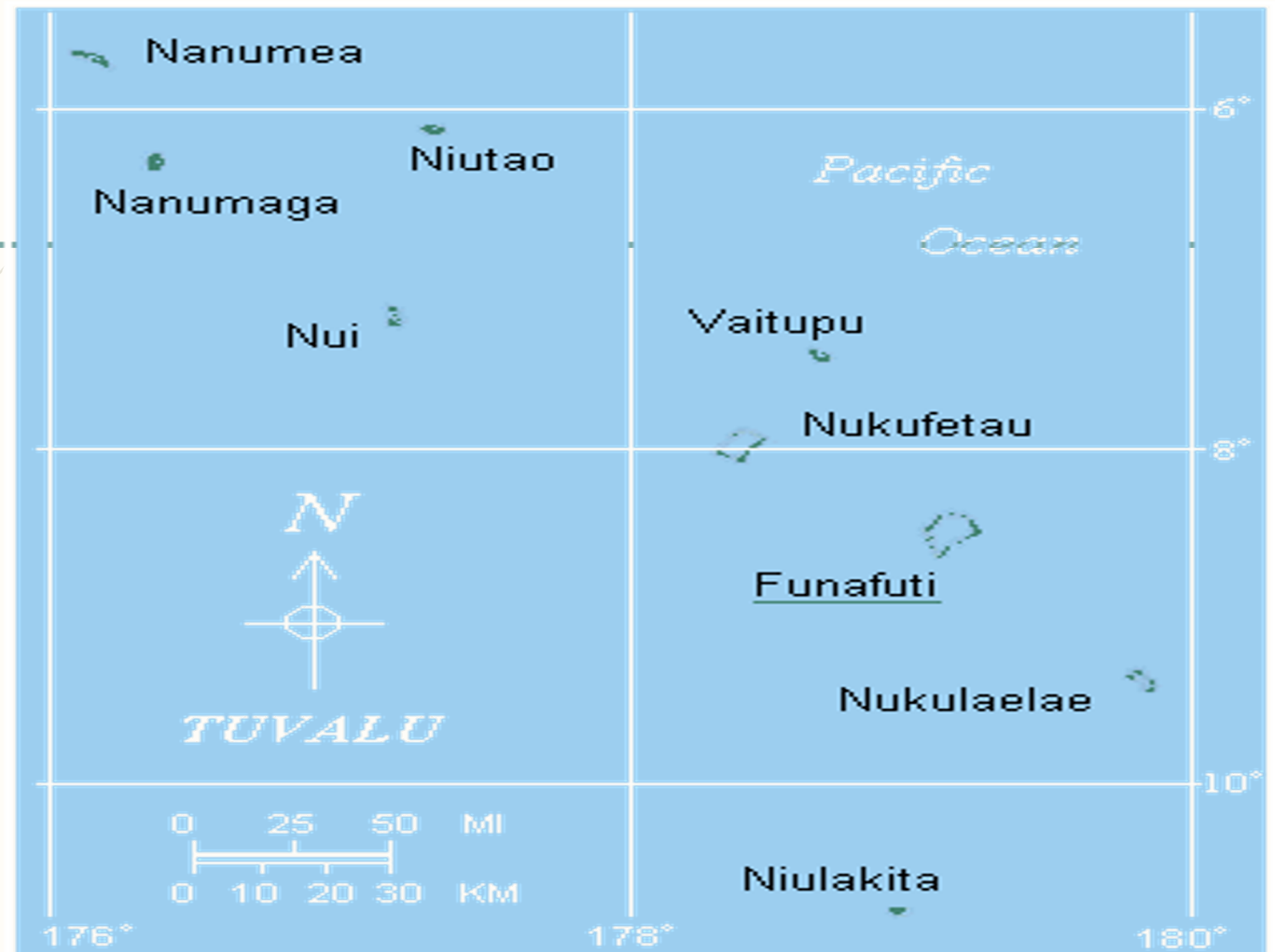


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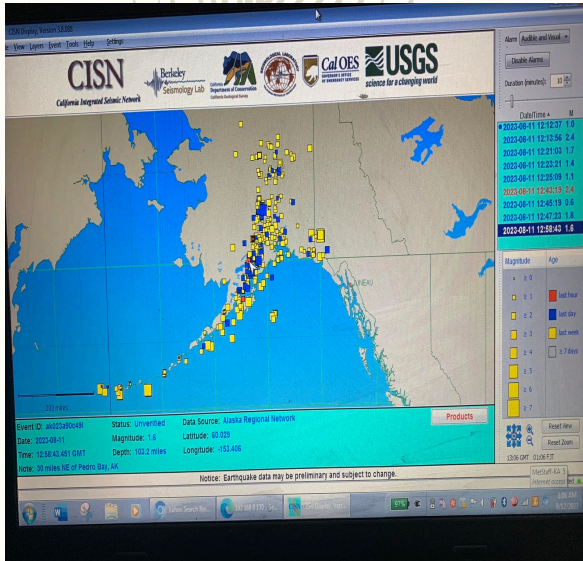


Existing observation system network

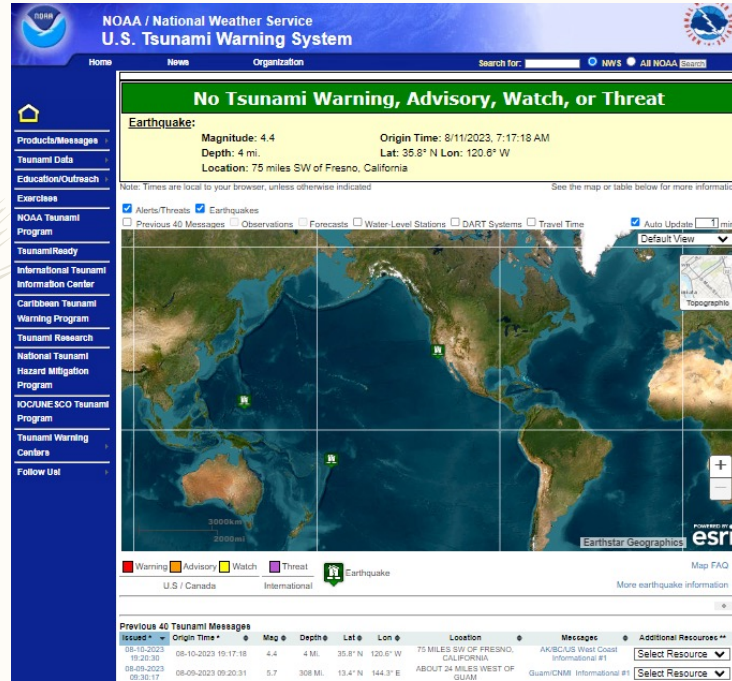
- Nanumea
 - Nanumaga
 - Niutao
 - Nui
 - Vaitupu
 - Nukufetau
 - Funafuti (Capital)
 - Nukulaelae
 - Niulakita
- 1 tide gauge
- 1 seismic station
- 4 synoptic stations



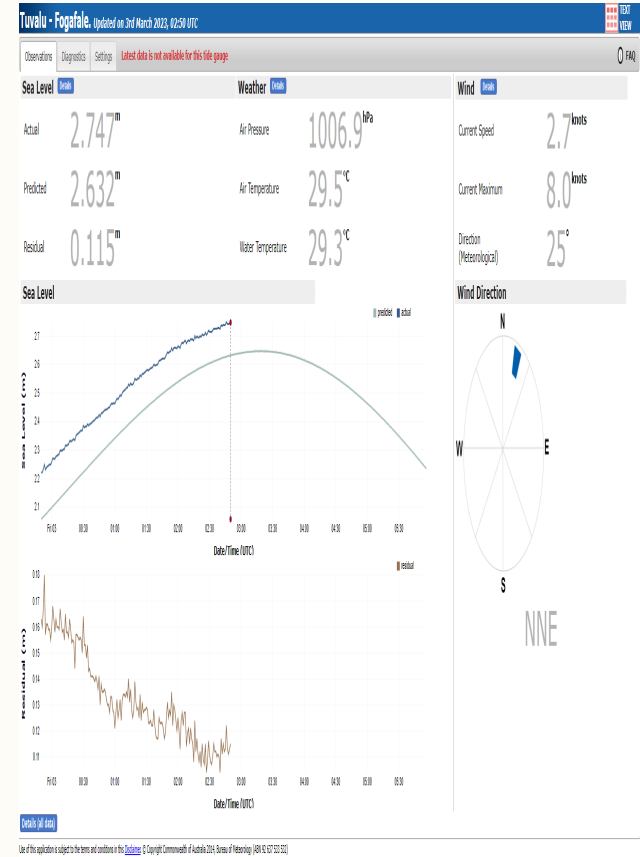
Available tools & data



CISM (USGS)



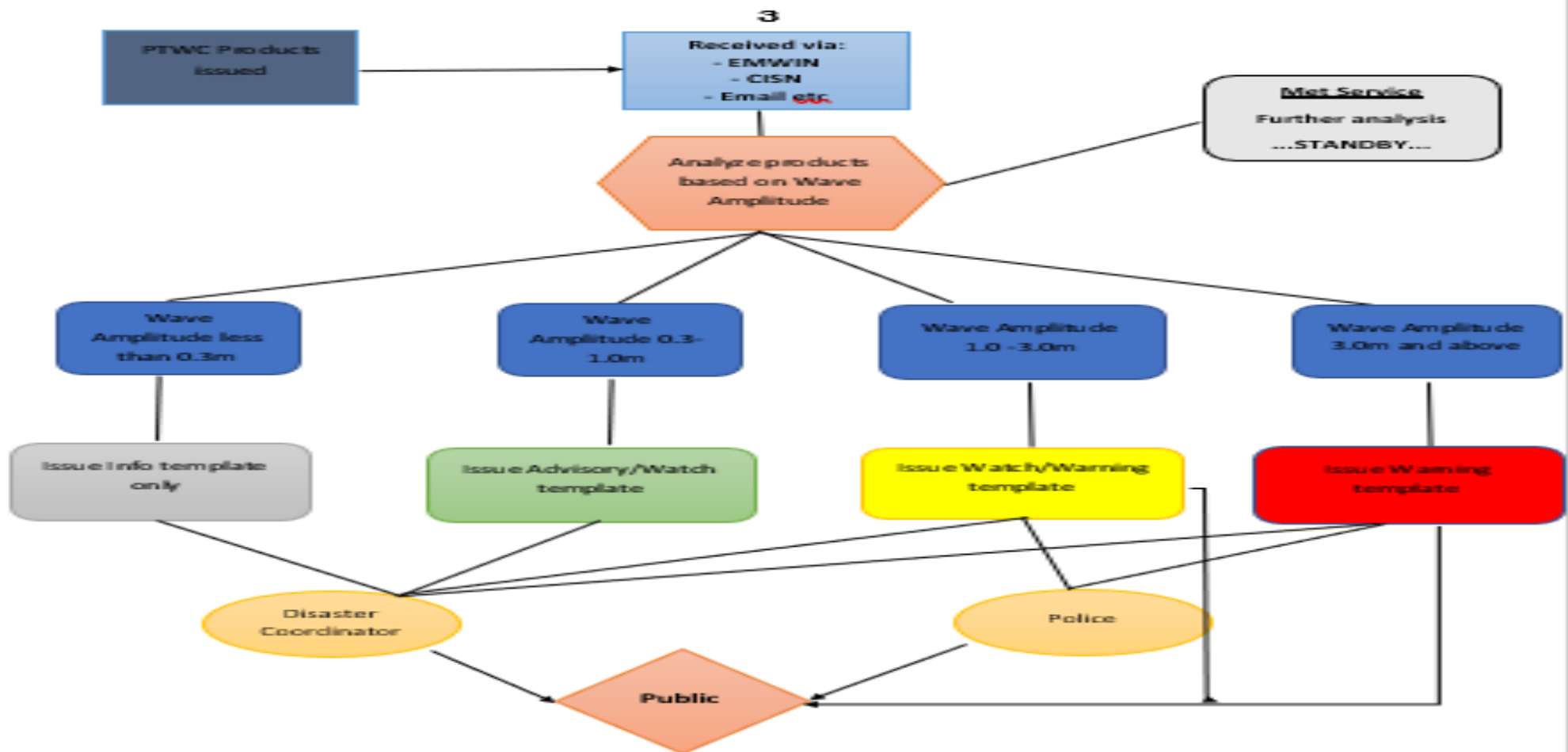
PTWC website



Tide gauge data (Observation)

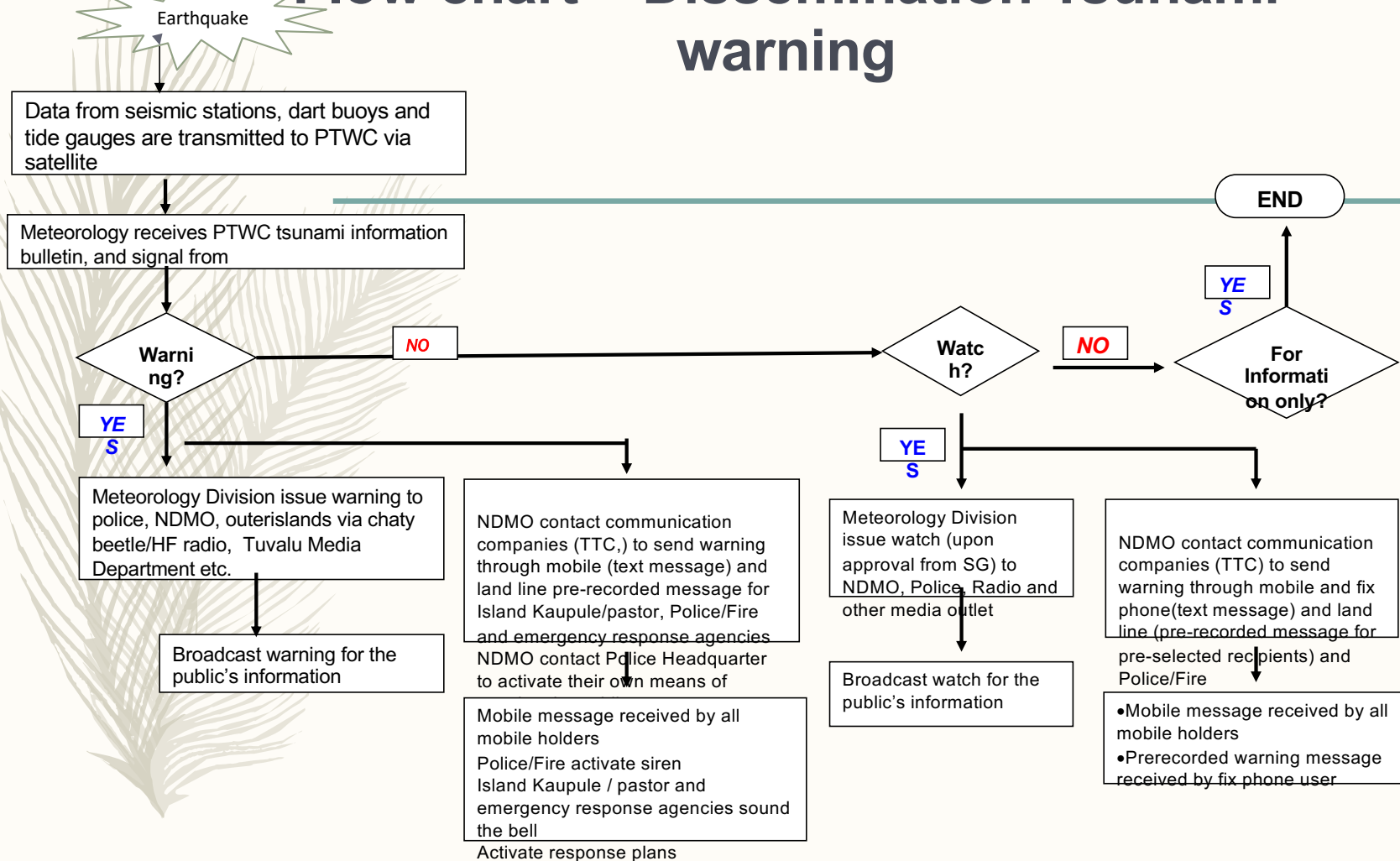
Tsunami warning

TUVALU METEOROLOGICAL SERVICE STANDARD OPERATING PROCEDURES TSUNAMI MESSAGE FLOWCHART



TSUNAMI ACTION TIME LINE	TIME min after EQ	OBSERVATION	ACTION PTWC	ACTION TMS	ACTION NDMO/SecGov	Media	Police	Telecom	Other
	0	Earthquake occur							
	1-5	Seismic Alarm triggers		Receives info EMWIN/CISN and emails					
	5-10	Tsunami threat might observe	PTWC Msg 1	Analysis EQ & text Msg 1					
	10-30	More EQ data collected & being analysis	PTWC Msg 2 Forecast	Analysis EQ & text Msg 2.... Issue decision	Receive decision....	Live broadcast warnings – NDMO	Set fire truck siren alarming the public	Send out txt msg to all subscribers	Red Cross relay warning via Sat phones to all RC reps....
	30-60	Tsunami confirmed	PTWC Msg 3 SL obs	Confirm threat areas and update NDC	Call up NDC all meet in NCC	Live broadcast warnings - NDMO	Set fire truck siren alarming the public	Send out txt msg to all subscribers	-
	1-3+ hrs		PTWC Msg 4+ SL obs	Monitor and report tsunami updates to NDC	NDC decision making on threat zones and evacuation plan/sites	Live broadcast updates - NDMO	Assist on evacuation	Send out txt updates to all subscribers	PWD assist threat zones with evacuation
	3-8+ hrs		PTWC Msg 5+ Last Message	Analyze Msg receive till warning cancellation	Planning, reporting & updates casualty	Live broadcast updates - NDMO	Assist on evacuation	Send out updates to all subscribers	PWD assist threat zones with evacuation
	3+ hrs	Safe to Return		Cancel the warning	Give the All-Clear msg	Live broadcast warning cancellation & all clear - NDMO		Send out updates to all subscribers	

Flow chart – Dissemination Tsunami warning



Gaps & future needs

- Poor connectivity - Low bandwidth → : Using Government WiFi when the internet is down.
- Transportation
- Refresher training for EWS operators on outer islands.
- Install tide gauges on outstations
- Capability to prepare and deliver high-quality early warnings system (Earthquake and Tsunami)
- Training opportunities specifically on the Tsunami Model interpretation!
- Tsunami Signboard
- Siren Alert system



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