



# Solomon Islands Meteorological Services Tsunami Warning Arrangements



**Geological Survey Division  
Solomon Islands Government**



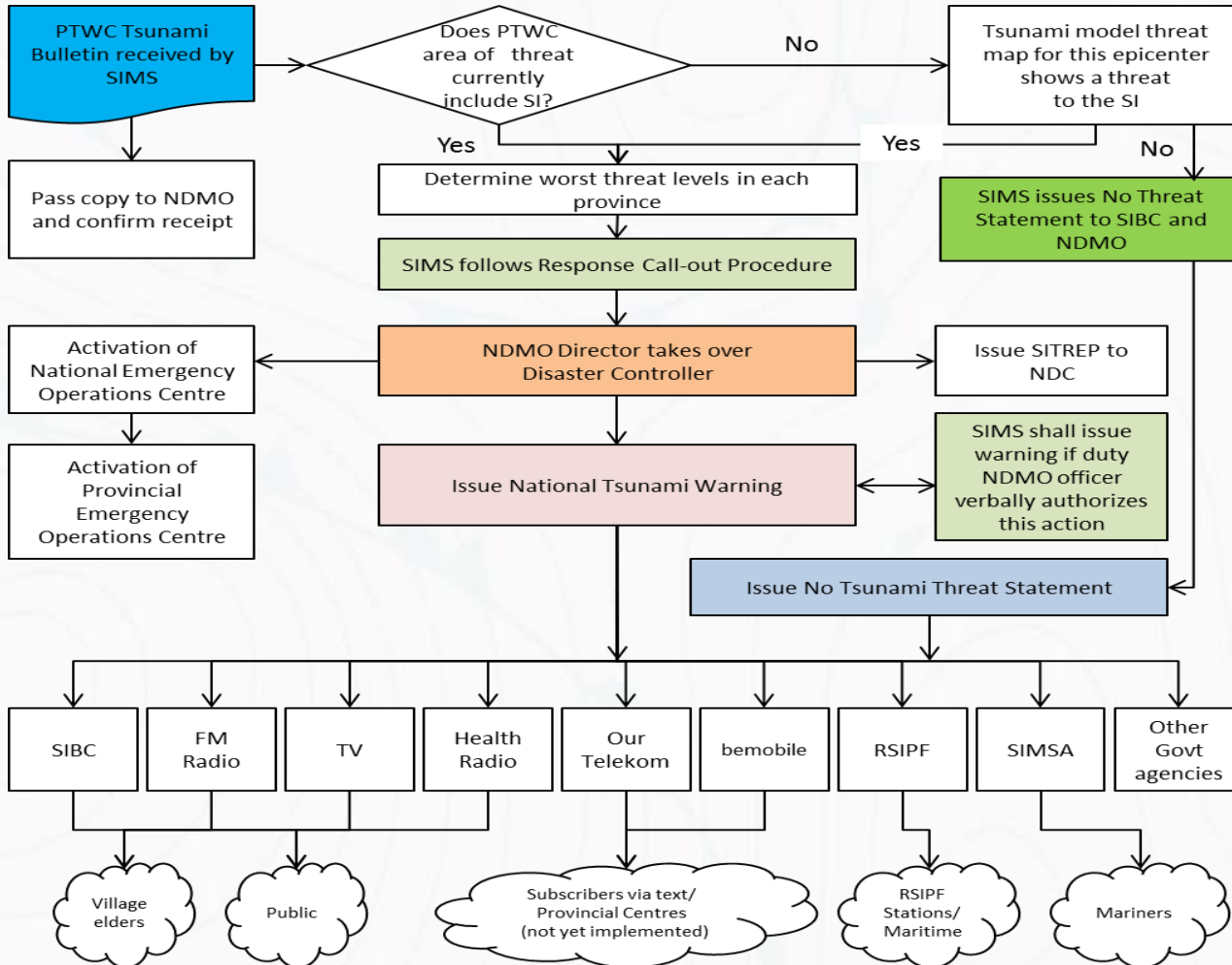
**Solomon Islands  
Meteorological Services**



**National Disaster Management Office  
National Disaster Council**

# Tsunami Warning Sub-plan

- Sub plan of the DRM Plan
- Latest version is the 2013



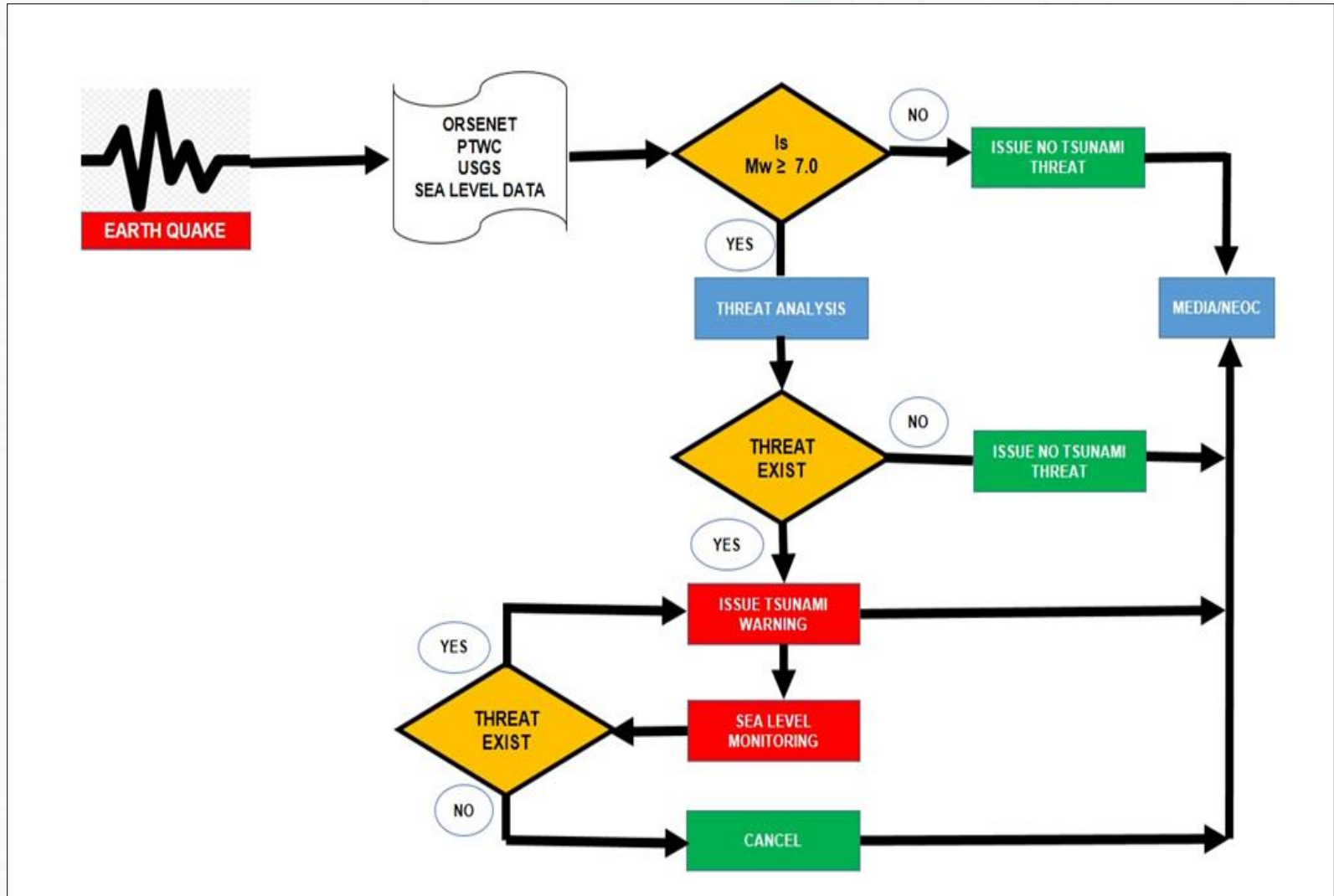
# Activation of SIMS Standard Operating Procedures

- The activation of this SOP commence whenever earthquakes are felt locally or detected from the CISN, ORSNET- GSD or upon a receipt of a tsunami bulletin from the (Pacific Tsunami Warning Centre (PTWC))

Solomon Islands Meteorological  
Services  
Standard Operating Procedure  
for  
Responding to Tsunami



# FLOW CHART FOR TSUNAMI WARNINGS:



# CALL-OUT PROCEDURE

## **STEP 1: Receipt of PTWC bulletin or case of a felt earthquake**

**Action Officer:**  
SIMS duty forecaster (or airport duty observer if forecaster is not on duty).

**Step 1: Start at time:  $T_0$**

**Identify source of information:**

- Earthquake felt by SIMS/NDMO staff
- Felt earthquake reported to SIMS/NDMO from the media or public. Identify source: phone call / TV / radio / email / SMS
- Faxed bulletin from PTWC.
- EMWIN bulletin from PTWC.

## **STEP 2: Threat assessment**

SI provinces are under threat based on:

- PTWC information; and/or,
- Threat maps from tsunami model(MOST & TsuCat)

**Step 2: Start at time:  $T_0 + 1 \text{ min}$**

## **STEP 3: Call-out senior staff**

SIMS duty forecaster contacts the following officers in this order:

- SIMS Director
- NDMO Director
- NDMO Duty Officer

**Step 3: Start at time:  $T_0 + 2 \text{ min}$**

**Step 4: Start at time:  $T_0 + 5 \text{ min}$**

## **STEP 4: Government, Media and Police notification**

If senior staff notified in step 3 approve of further notifications, the SIMS duty forecaster makes the following calls:

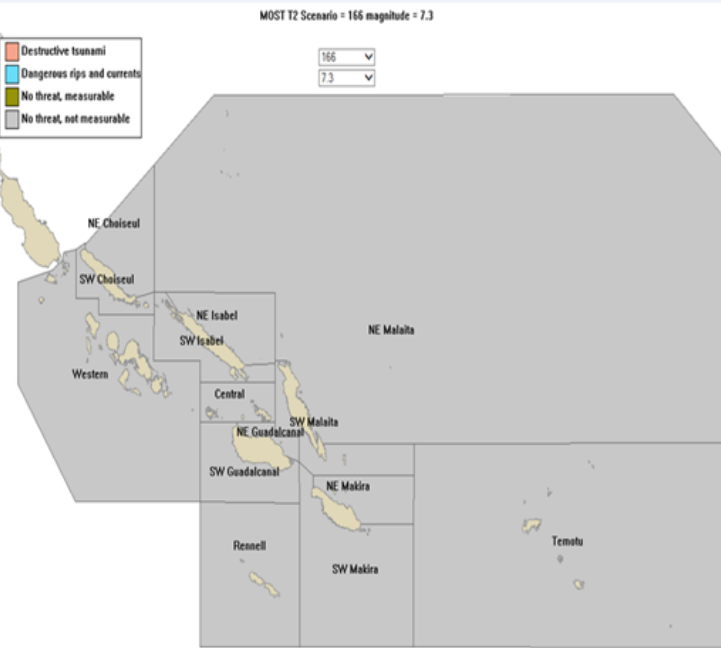
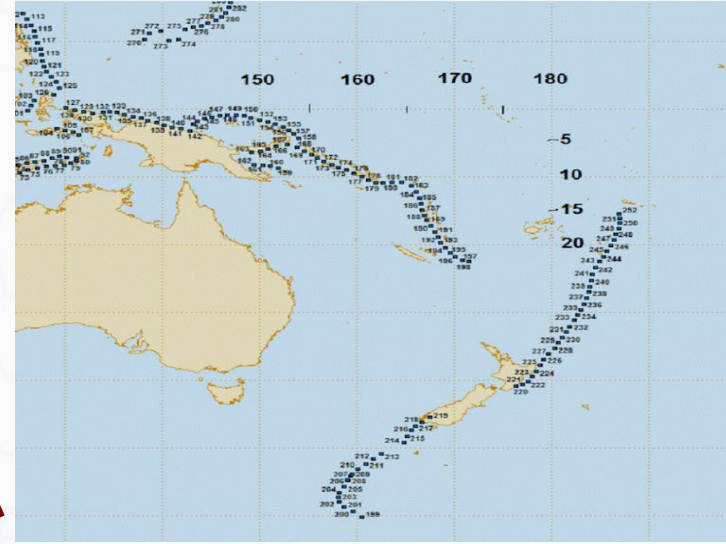
- SIMS Senior Forecaster
- SIBC
- Head of MMERE Seismology Section
- 999. Request that the RSIPF Police Operations Centre broadcast the warning to all RSIPF stations.



# Threat Analysis - Scenario 1



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## NO TSUNAMI THREAT INFORMATION

**MEDIA:** PLEASE BROADCAST THIS INFORMATION IMMEDIATELY

### NO TSUNAMI THREAT INFORMATION

\*\*\*\*\*

Issued by the Solomon Islands Meteorological Service at \_\_\_\_\_

**NO TSUNAMI THREAT TO THE SOLOMON ISLANDS**

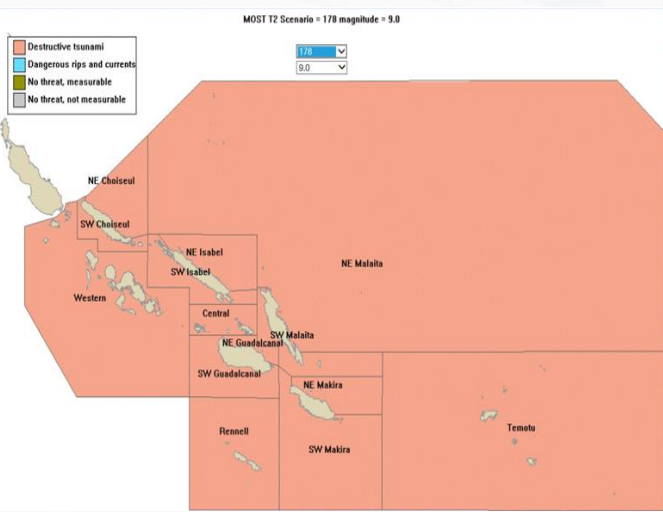
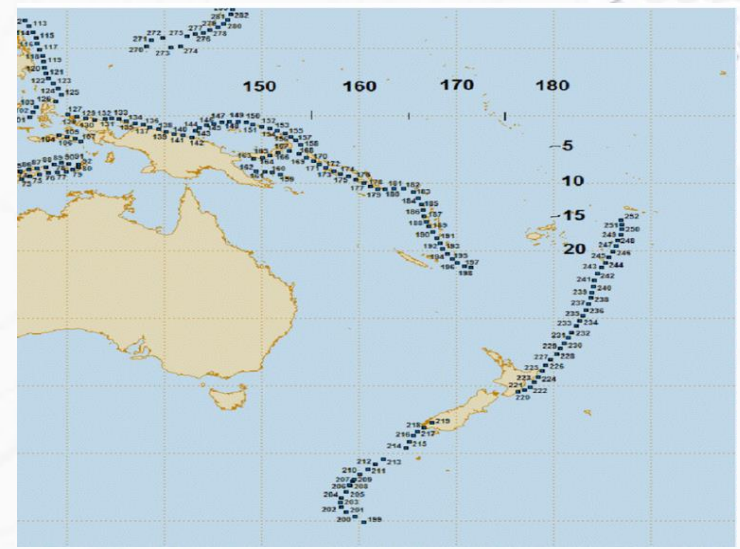
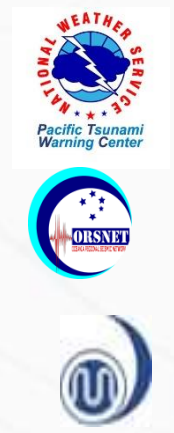
\*\*\*\*\*

An undersea/land-based earthquake of magnitude \_\_\_\_\_ occurred at \_\_\_\_\_ near \_\_\_\_\_ (Latitude \_\_\_\_\_ Longitude \_\_\_\_\_) This is approximately 87 km west of Honiara.

### THERE IS NO TSUNAMI THREAT TO THE SOLOMON ISLANDS

No further updates will be issued unless the situation changes. For earthquake information and advice, refer to Geology Survey Division.

# Distant source - Scenario 2



## TSUNAMI WATCH

**MEDIA: PLEASE BROADCAST THIS INFORMATION IMMEDIATELY**

### TSUNAMI WATCH NUMBER ONE

Issued by the Solomon Islands Meteorological Service at \_\_\_\_\_

Based on the initial threat assessment there is a potential for a Tsunami.

**Yellow alert for Makira**  
A tsunami Watch is enforced for.....**MAKIRA**

Be prepared to act. Stay tuned to local radio/media outlets.

A strong earthquake of magnitude \_\_\_\_ occurred at \_\_\_\_ near \_\_\_\_ (Latitude \_\_\_\_ Longitude \_\_\_\_) This is approximately 87 km west of Honiara.

This is a Final Tsunami Watch Statement.

Alert levels may change once more information is known.

Next updates will be issued when new information comes in hand. For earthquake information and advice refer to the earthquake bulletin from GSD.

**Yellow Alert**

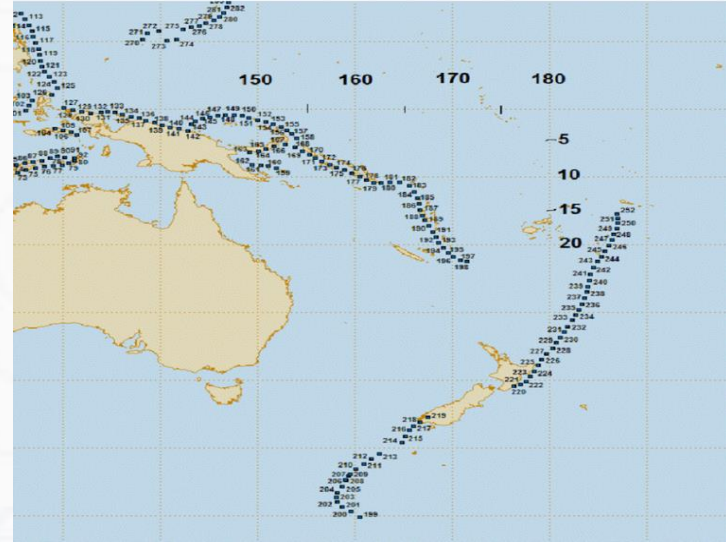
# Threat Analysis - Scenario 3



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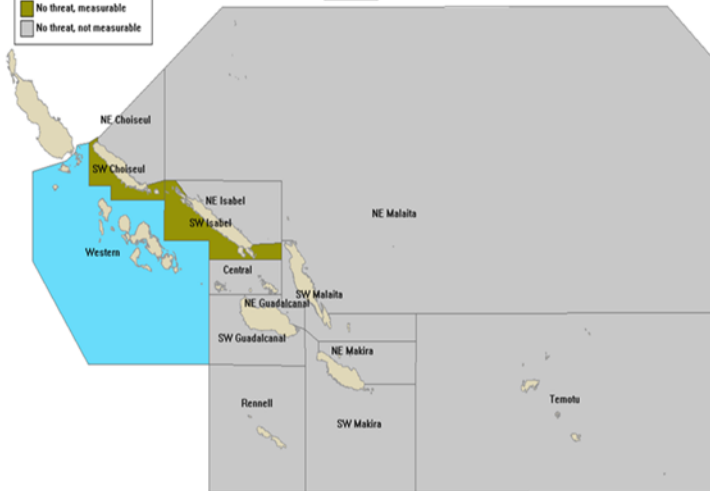
Pacific Tsunami  
Warning Center



MOST T2 Scenario = 172 magnitude = 7.3

- Destructive tsunami
- Dangerous rips and currents
- No threat, measurable
- No threat, not measurable

172  
7.3



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National Disaster Management Office  
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## TSUNAMI ADVISORY

**MEDIA: PLEASE BROADCAST THIS INFORMATION IMMEDIATELY**

### TSUNAMI ADVISORY STATEMENT

Issued by the Solomon Islands Meteorological Service at \_\_\_\_\_

**Orange Alert for coast of Western**

**A Tsunami Advisory is issued for Coast of Western Province and south of Choiseul...**

**STAY OUT OF THE WATER AND AWAY FROM THE SHORE.**

Dangerous sea currents and waves will be experienced along the coast of..... Western Province and south of Choiseul.

An undersea earthquake of magnitude \_\_\_\_ occurred at \_\_\_\_\_ near \_\_\_\_\_ (Latitude \_\_\_\_\_ Longitude \_\_\_\_\_) This is approximately 87 km west of Honiara.

Next updates will be issued when new information comes in hand. For earthquake information and advice refer to the earthquake bulletin from GSD.

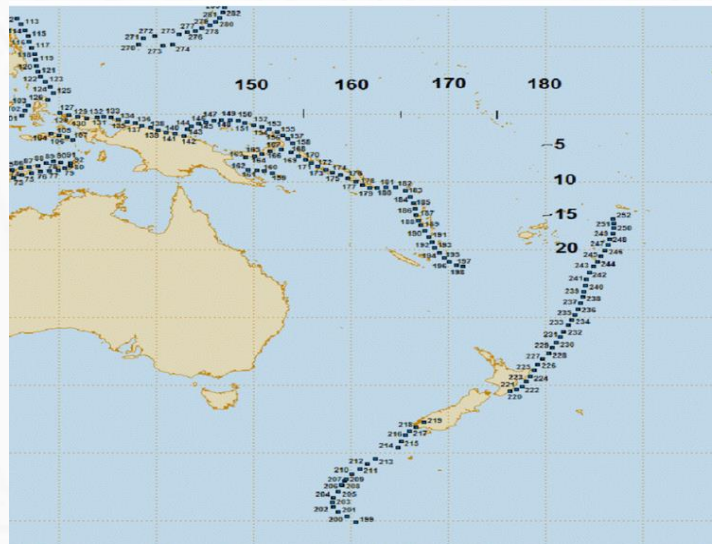
**Orange Alert -**



# Threat Analysis - Scenario 4



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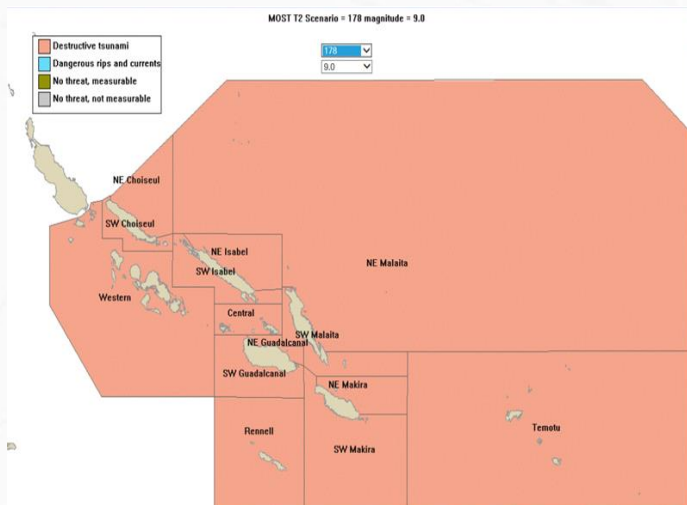
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Solomon Islands Government



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Meteorological Services



National Disaster Management Office  
National Disaster Council



## TSUNAMI WARNING

**MEDIA: PLEASE BROADCAST THIS INFORMATION IMMEDIATELY**

Issued by the Solomon Islands Meteorological Service at \_\_\_\_\_

Based on the initial threat assessment there is a potential for Tsunami.

**Red Alert for ...Honiara**

**A tsunami warning is enforced for the following..... Provinces:**

People living near coast or along river systems should Move to high ground or inland immediately.

Be aware aftershocks that can also cause damage. People should get out of buildings if they showing some signs of damage.

A strong earthquake of magnitude \_\_\_\_\_ occurred at \_\_\_\_\_ near \_\_\_\_\_ (Latitude \_\_\_\_\_ Longitude \_\_\_\_\_) This is approximately 87 km west of Honiara.

Next updates will be issued when new information comes in hand. For earthquake information and advice refer to the earthquake bulletin from GSD.

**RED ALERT -**

# Threat Analysis - VOLCANO GENERATED TSUNAMI



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*Volcanic Activity Statement*

.....  
 National Emergency Operations Centre  
 National Disaster Management Office  
 Solomon Islands Government  
 Honiara  
 .....

**VOLCANIC ACTIVITY STATEMENT**

**MEDIA:**  
 PLEASE BROADCAST THIS INFORMATION IF REFERRING TO THE VOLCANO IN  
 NEWS BROADCASTS  
 .....

**ADVICE ON POSSIBLE LOCAL TSUNAMI THREAT TO THE SOLOMON ISLANDS  
 DUE TO VOLCANIC ACTIVITY**

Issued by the National Emergency Operations Centre at \_\_\_\_\_  
 .....

Information from the National Disaster Management Office indicates that a strong volcanic  
 eruption at in progress on the (~~delete volcanoes that are not applicable~~)

Savo, Simbo, ~~Tinakula, Kavachi~~ volcano in the  
**Central, Western, Temotu, Western Province** of the Solomon Islands.

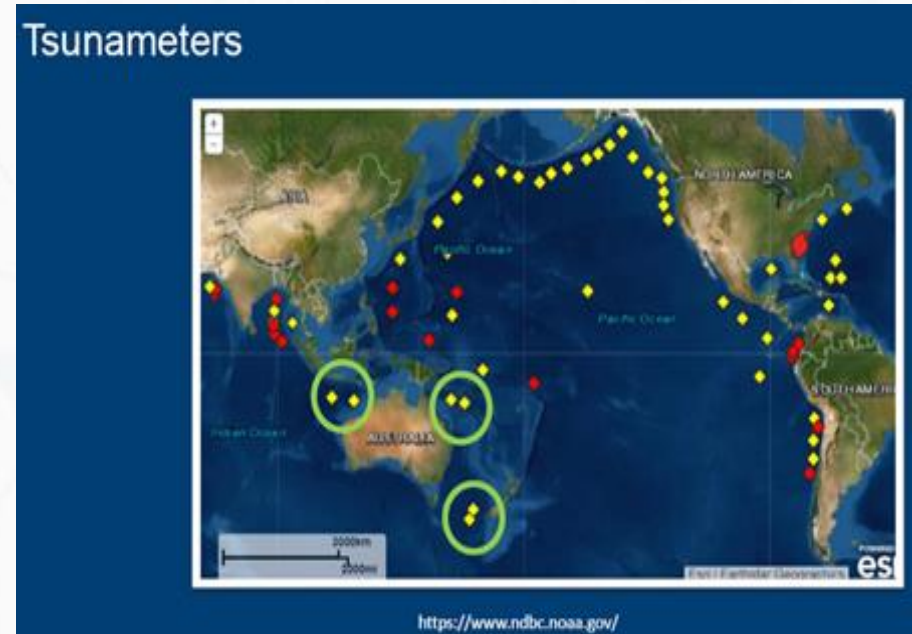
Volcanic eruptions in or near the sea can cause ~~localised~~ tsunamis, and can occasionally cause  
 widespread tsunamis.

People are advised to look out for unusual changes in sea level. If you see these changes, get off  
 the beach immediately

No updates will be issued unless the situation changes.  
 .....

# Monitor of Sea Levels Observation

- Sea-level observation can be obtained from PTWC bulletin via email or ground reports and can be done by Using Tide Tool software to verify and re-asses and update the threat accordingly whether to upgrade to Tsunami Warning, maintain Tsunami Watches or issue a NO THREAT statement.





# Cancellation - Tsunami Warnings

- Tsunami Warning cancellation are based on changed input data, usually a downgrade of earthquake magnitude, or through sea level observations.
- In the situation where tsunami impacts occurred, but based on ground reports, there are no further significant waves being observed, the Cancellation of National Tsunami Warning issued no earlier than 2 hours after the last reported damaging waves.
- **NOTE: ALL CLEAR** messages for the community to re-enter a threatened area is the responsibility of the NDMO.



## TSUNAMI CANCELLATION

**MEDIA:** PLEASE BROADCAST THIS INFORMATION IMMEDIATELY

### TSUNAMI WARNING CANCELLATION

\*\*\*\*\*

Issued by the Solomon Islands Meteorological Service at \_\_\_\_\_

Based on the latest information and tsunami Threat re- assessment ALL tsunami warning previously issued for the following Provinces:.....is NOW CANCELLED.

However, People living near coast or Mariners are advised to take precautionary measures, as unusual sea behavior will still be experienced during today

A strong earthquake of magnitude \_\_\_\_\_ occurred at \_\_\_\_\_ near \_\_\_\_\_ (Latitude \_\_\_\_\_ Longitude \_\_\_\_\_) This is approximately 87 km west of Honiara.

Please take note that the final ALL CLEAR message will be issued by NDMO

No further updates will be issued unless the situation changes.



# TSUNAMI IBF MATRIX



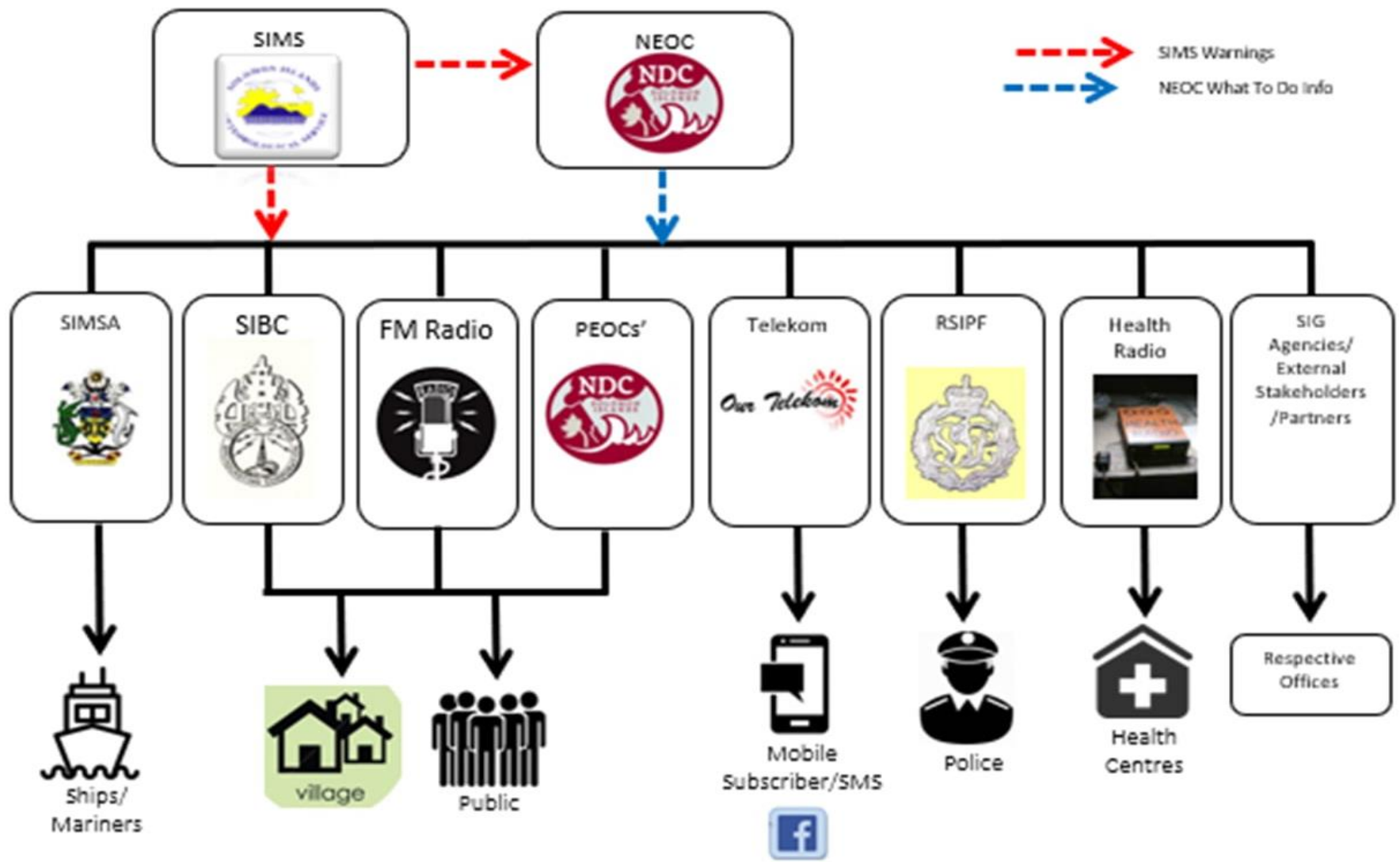
Type of Message	Hazard Potential (Impacts)	Public Action Statement
<b>No threat statement</b> (Scenario 1)	No threat or very distant event for which hazard has not been determined	No action
<b>Tsunami Watch</b> (Scenario 2)	Tsunami Possible Alert level may change once more information is known	Be prepared to act Stay tuned to local radio/TV
<b>Tsunami Advisory</b> (Scenario 3)	Marine threat - Strong currents and waves dangerous to those in or very near coastal waters	Stay out of the water and away from the shore
<b>Tsunami Warning</b> (Scenario 4 )	Marine & Land threat - Dangerous coastal flooding and powerful currents	Move to high ground or inland immediately
<b>Cancellation</b>	Threat passed	
<b>All Clear</b>	Issued by NDMO	





SOLOMON ISLANDS

# DISSEMINATIONS



# Challenges /Limitations

- Challenges with localized Tsunami and Delay of seismic data especially locally felt earthquake – (20- 30 minutes varies with magnitude) .
- Limited observation network- seismic and sea level stations.
- Limited communication coverage and No SMS – Need to established focal contacts.



**Thank you**



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Solomon Islands Government**



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