

## 1. CRITERIA TABLE - NO QUANTITATIVE PTWC FORECAST PRODUCT

Criteria Table for NTWC tsunami alerts and emergency response actions based upon the initial PTWC product, typically issued within 10 minutes of any large Pacific earthquake, prior to the computation of a quantitative tsunami forecast. Key criteria for each situation are indicated in bold red letters.

PTWC Product Type	Earthquake Parameters	Potential Tsunami Type	Are Possible Hazardous Tsunami Waves Indicated for Your Country or Area	Threatened Coast	Time left to Initial Wave Arrival (ETA)	NTWC Alert Level for Threatened Coast	Emergency Response Action	
<b>Tsunami Information Statement</b>	Magnitude of 6.5-7.0, or on land, or $\geq 100$ km depth	None or Very Minor	<b>No</b>	None	Not applicable	INFORMATION	No action required	
<b>Tsunami Threat Message</b>	<b>Magnitude of 7.1-7.5</b> , undersea or very near the sea, and $< 100$ km depth	Local Tsunami	<b>Yes</b>	$< 300$ km from earthquake	$< 1$ hr typical	WARNING	Evacuate threatened coast	
			<b>No</b>	$\geq 300$ km from earthquake	Not given	INFORMATION	Monitor subsequent messages	
	<b>Magnitude of 7.6-7.8</b> , undersea or very near the sea, and $< 100$ km depth	Regional Tsunami	<b>Yes</b>	$< 1000$ km from earthquake	$< 3$ hrs typical	WARNING	Evacuate threatened coast	
			<b>No</b>	$\geq 1000$ km from earthquake	Not given	INFORMATION	Monitor subsequent messages	
	<b>Magnitude of 7.9 and greater</b> , undersea or very near the sea, and $< 100$ km depth	Basin-wide Tsunami	Potential for a basin-wide tsunami	<b>Yes</b>		<b><math>&lt; 3</math> hours</b>	WARNING	Evacuate coast within 3 hours of ETA
				<b>No</b>		<b>3 to 6 hours</b>	WATCH	Prepare to evacuate
<b>No</b>				<b><math>&gt; 6</math> hours</b>		INFORMATION	Monitor subsequent messages	

### NOTES:

- In a local tsunami situation, in order to provide the fastest alert, earthquake magnitude criteria should be used. Issuance of a Warning, Watch, or Information is dependent on the magnitude of the earthquake and its closeness to coastlines. Smaller magnitude earthquakes that are closer to the coast may warrant issuance of a Warning.
- Local tsunami warning threshold criteria based solely on magnitude should be determined after examining a country's historical earthquake tsunami hazard. In some places, the local tsunami magnitude threshold may need to be lower than M7.1. The M7.1 threshold is used by PTWC for its Caribbean Tsunami Watch Service and was used by the PTWC for its Indian Ocean Tsunami Watch Service.
- The 3-hour time criteria is based on the amount of time required for a country to safely complete a coastal evacuation. The 3-hr threshold used by PTWC is considered a conservative, but reasonable time criteria. Historically, the value is from a requirement from Hawaii State Emergency Management Agency as the time required to safely evacuate all coasts of the State of Hawaii. Each country should consider their situation.

## CRITERIA TABLE - QUANTITATIVE PTWC FORECAST PRODUCT:

Warning / Watch Alerts (1.0 m threshold)

Criteria Table for NTWC tsunami alerts and emergency response actions based upon PTWC threat messages that include a quantitative tsunami forecast typically issued 30 minutes to one hour after a large Pacific earthquake with a tsunami-genic potential. Key criteria for each situation are indicated in bold red letters. This is the same criteria ( $\geq 1$  m) that PTWC will use until September 30, 2014 to designate Warning/Watch alert levels.

PTWC Product Type	Earthquake Parameters	Maximum Tsunami Wave Amplitude Indicated for Your Country or Area	Threatened Coast	Time left to Initial Wave Arrival	NTWC Alert Level for Threatened Coast	Emergency Response Action
<b>Tsunami Threat Message</b>	Magnitude of 7.1 or greater, undersea or very near the sea, and < 100 km depth	$\geq 1$ m	Sections of coast with forecast amplitudes $\geq 1$ m	< 3 hrs	WARNING	Evacuate threatened coast
				3 to 6 hrs	WATCH	Prepare to evacuate
				> 6 hrs	INFORMATION	Monitor for subsequent forecasts
		< 1 m	None	INFORMATION	Monitor for subsequent forecasts	

### NOTES:

- Threatened coast information can be gotten from the public text message, coastal forecast amplitude maps or the KMZ file. If only the Public Text message is used, then the entire country should be placed in a Warning.
- The 3-hour time criteria is based on the amount of time required for a country to safely complete a coastal evacuation. The 3-hr threshold used by PTWC is considered a conservative, but reasonable time criteria. Historically, the value is from a requirement from Hawaii State Emergency Management Agency as the time required to safely evacuate all coasts of the State of Hawaii. Each country should consider their situation.

Correction, 18 September 2014

**CRITERIA TABLE - QUANTITATIVE PTWC FORECAST PRODUCT:**

Warning / Advisory Watch Alerts (0.3 / 1.0 m thresholds)

PTWC Product Type	Earthquake Parameters	Maximum Tsunami Wave Amplitude Indicated for Your Country or Area	Threatened Coast	Time left to Initial Wave Arrival	NTWC Alert Level for Threatened Coast	Emergency Response Action
<b>Tsunami Threat Message</b>	Magnitude 7.1 or greater, undersea or very near the sea, and < 100 km depth	<b>≥ 1 m</b>	Sections of coast with forecast amplitudes ≥ 1 m	<b>&lt; 3 hrs</b>	WARNING	Evacuate threatened coast
				<b>3 to 6 hrs</b>	WATCH	Prepare to evacuate
				<b>&gt; 6 hrs</b>	INFORMATION	Monitor for subsequent forecasts
		<b>0.3 to 1 m</b>	Sections of coast with forecast amplitudes 0.3 to 1 m	<b>&lt; 3 hrs</b>	ADVISORY	Evacuate beaches and harbors
				<b>3-6 hrs</b>	WATCH	Prepare to evacuate
				<b>&gt; 6 hrs</b>	INFORMATION	Monitor for subsequent forecasts
		<b>&lt; 0.3 m</b>	None		INFORMATION	Monitor for subsequent forecasts

NOTES:

- Threatened coast information from public text message, coastal forecast amplitude maps or the KMZ file. If only the Public Text message is used, then the entire country should be placed in a Warning.
- The 3-hour time criteria is based on the amount of time required for a country to safely complete a coastal evacuation. The 3-hr threshold used by PTWC is considered a conservative, but reasonable time criteria. Historically, the value is from a requirement from Hawaii State Emergency Management Agency as the time required to safely evacuate all coasts of the State of Hawaii. Each country should consider their situation.