

13 January 2026 - TR Workshop Majuro Day 1
Session 3
Review of Recent Events and RMI Response

Review of Recent Events

Event Details / RMI Response

Event: Kamchatka, Russia

30 July 2025 (RMI) / 29 July 2025 (UTC)

M8.8 Kamchatka Earthquake & Tsunami

An earthquake at a depth of 21 km and a magnitude of 8.8 (USGS) on 30 July 2025 11:24 (RMI) / 29 July 2025 23:24 (UTC) offshore of Kamchatka, Russia resulted in a TSUNAMI THREAT MESSAGE issued by the Pacific Tsunami Warning Center (PTWC), the Tsunami Service Provider (TSP) of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS), 10 min after the event indicating the possibility of hazardous tsunami waves (based on magnitude 8.0 and depth of 74 km) for coasts located in Russia and Japan within 300 km of the earthquake epicenter.

Kamchatka - July 2025: PTWC Timeline

29/23:24 UTC	M8.8 earthquake occurs off the east coast of Kamchatka
29/23:28 UTC	PTWC Operations alerted by seismic alarms
	PTWC Duty Scientists perform preliminary analysis of earthquake
29/23:32 UTC	Observatory Message issued with preliminary earthquake parameters
	PTWC issues an initial set of tsunami products:
	23:34 - Hawaii: Tsunami Watch
threat	23:34 - Pacific countries advised of potential tsunami
	23:35 - Amer. Sam. issued Tsunami Info Statement for
potential threat	23:35 - Guam/CNMI Tsunami Watch

Seismic analysis continues & provides a mechanism for the earthquake; A preliminary tsunami forecast is made using the earthquake mechanism to drive the RIFT numerical hydrodynamic

Kamchatka - July 2025: RMI Response (1 of 5)

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1. What is the first notification of this earthquake to the RMI?
2. Who receives this initial information from the PTWC?
3. How is the information received?
4. What is done with the information from the PTWC?
5. Any areas for improvement to the process up to this point?
 - a. Weaknesses?
 - b. Strengths?

Kamchatka - July 2025: PTWC Timeline

PTWC Issues a 2nd set of Tsunami Products

00:17 - Pacific countries near earthquake advised of max tsunami amplitude along their coasts
produced by numerical model

00:18 - Hawaii continues Tsunami Watch

00:19 - Amer. Sam. Tsunami Information Statement - tsunami threat still under evaluation

00:20 - Guam/CNMI continues Tsunami Watch

0.9m amplitude tsunami wave recorded on the nearest DART buoy

SIFT numerical tsunami forecast model is run constrained by the DART data to provide tsunami amplitudes and inundation for certain locations on US coasts

RIFT model is re-run over domain that includes entire Pacific

Decisions about alert levels for Hawaii, Amer. Sam., Guam/CNMI are made based upon model outputs

Kamchatka - July 2025: PTWC Timeline

PTWC issues 3rd set of tsunami products:

00:43 - Hawaii now in a Tsunami Warning (upgrade from Watch)

00:56 - Guam/CNMI now in a Tsunami Advisory (upgrade from Watch)

01:07 - All Pacific countries advised of the maximum sustained tsunami amplitude along their coasts produced by the numerical model

01:39 - Amer. Sam. now in a Tsunami Advisory (upgrade from the TIS)

Kamchatka - July 2025: PTWC Actions, Continued

SIFT and RIFT tsunami forecast models are run repeatedly as the tsunami passes additional DART gauges and as additional earthquake mechanisms become available. Although each model produces a different forecast, most were consistent in their results for Hawaii, American Samoa and Guam/CNMI.

Tsunami measurements were made on coastal gauges and compared to the forecast as the tsunami crossed the northwest Pacific towards Hawaii.

All products continue to be issued hourly or sooner with the same alert levels, more observations and an updated international forecast if necessary

Kamchatka - July 2025: RMI Response (1 of 5)

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 - b. NDMO

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3. What communications are going out to the Public?
 - a. By WSO Majuro?
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4. How are communications going to the public?

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2. What coordination is taking place within the RMI?
3. What communications are going out to the Public?
 - a. By WSO Majuro?
 - b. By NDMO?
4. How are communications going to the public?
5. Are there any gaps in this process?
 - a. Any agencies missing in the coordination process?
 - b. Any groups / areas not receiving communications?

Kamchatka - July 2025

RMI Actions / Status: Based on PTWC Threat Messages -

1. What was RMI's Status? (no threat? Tsunami Watch? Tsunami Warning?)

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RMI Actions / Status: Based on PTWC Threat Messages -

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2. Was the status received and understood?
3. Any room for improvement?
 - a. If no; why?
 - b. If yes; what?