# Exercise PACIFEX 15

Participant Handbook

A Pacific Tsunami Warning Exercise March 25, 2015

US National Tsunami Hazard Mitigation Program Warning Coordination Subcommittee





NOTE: The contents of this handbook are patterned after the Exercise Pacific Wave 08 manual published by the Intergovernmental Oceanographic Commission. Citation: *Exercise Pacific Wave 08. A Pacific-wide Tsunami Warning and Communication Exercise, 28-30 October 2008.* IOC Technical Series No. 82. Paris, UNESCO, 2008, and the PACIFEX14 handbooks.



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#### 1. Background

This tsunami exercise is being conducted to assist tsunami preparedness efforts along the U.S. and Canadian Pacific coasts. Historical tsunami records from the National Oceanic and Atmospheric Administration's (NOAA) National Geophysical Data Center (NGDC) show that approximately 85% of the world's oceanic tsunamis occur in the Pacific Basin and surrounding seas. Tsunamis have impacted U.S. and Canadian Pacific coasts several times in the past century with devastating results. Preparing and exercising emergency response plans throughout this region is an important part of tsunami preparedness.

#### Scenario

The Pacifex15 exercise simulates a tsunami generated by a magnitude 8.6 subduction zone earthquake located east of the Kamchatka peninsula at 53.5N 162.0E (Figure 1).

The tectonics (Figure 2) of the offshore Kamchatka region is dominated by the Kamchatka subduction zone which is expressed at the ocean floor by the Kuril-Kamchatka trench. Here, the Pacific plate is subducting beneath the North American plate at approximately 8 cm/year. This subduction is responsible for volcanic activity in Kamchatka as well as the long history of major earthquakes in the region (Table 1).

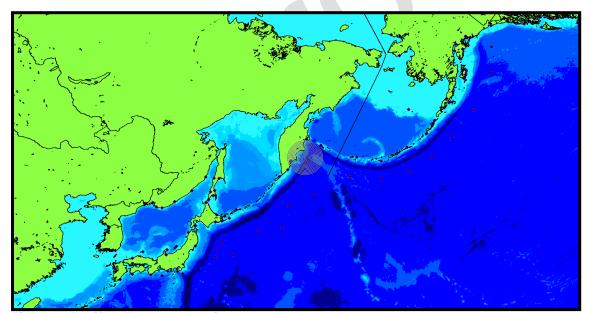


Figure 1. Pacifex15 source location.

Date	Location	Magnitude	
February 3, 1923	Kamchatka	8.4	
November 4, 1952	Kamchatka	9.0	
November 6, 1958	Kuril Islands	8.4	
October 13, 1963	Kuril Islands	8.5	
October 4, 1994	Kuril Islands	8.3	
November 15, 2006	Kuril Islands	8.3	
May 24, 2013	Sea of Okhotsk	8.3	

Table 1. Historical major earthquakes in the Kuril/Kamchatka region.

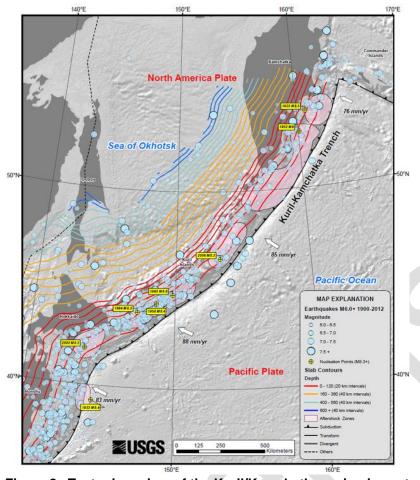


Figure 2. Tectonic regime of the Kuril/Kamchatka region in eastern Russia from the USGS.

#### **Historic Tsunamis**

The two best-known tsunamis generated in the Kamchatka region are the 1952 tsunami triggered by the magnitude Mw 9.0 earthquake and the 1923 tsunami to the north of that one triggered by an Mw 8.4 earthquake. The 1952 tsunami is thought to have killed approximately 4000 people in the Kuril Islands. From the NGDC tsunami catalog (1952):

"The magnitude 9.0 Mw earthquake off the east coast of Kamchatka generated a 13-meter wave locally. The waves struck the Hawaiian Islands at 1:00 pm. Property damage from these waves in the Hawaiian Islands was estimated at \$800,000 to \$1,000,000; however no lives were lost. It also caused damage on the west coast of the United States and was observed on tide gauges throughout the Pacific Basin."

#### And

"The greatest destruction and suffering of 4-5 November were caused by the tsunami which arose as a result of the earthquake and which took in about 700 km of the east coasts of Kamchatka and the Kuril Is. On the average the height of the waves on the coast reached 6-7 m. In Kamchatka and on the Kuril Is. destructive sea waves appeared 30-40 minutes after the earthquake. At most points the beginning phase of the waves was accompanied by a lowering of the level of the ocean. Hence it follows that the actual moment of appearance of the waves on the coast occurred half a period earlier."

From the NGDC tsunami catalog (1923):

"A series of strong shocks occurred on the coast of the Gulf of Kronotski, Kamchatka. It generated a tsunami with 6-8 meter runups in Kolgir Bay and Semljachik Kamchatka, and resulted in two deaths in Russia and one death and \$1.5 million damage in Hawaii."

#### **Tsunami Warning System**

To help communities respond to tsunami hazards, NOAA operates a tsunami warning system for U.S. Pacific coasts and western Canada through its National Tsunami Warning Center (NTWC) in Alaska and the Pacific Tsunami Warning Center (PTWC) in Hawaii. These Centers provide rapid tsunami alerts after an earthquake's occurrence followed by impact estimates based on tsunami forecast models.

Primary recipients of Tsunami Warning Center (TWC) messages include National Weather Service (NWS) coastal Weather Forecast Offices (WFOs), state/territory warning points, national Coast Guards, Canada's Provincial Emergency Program, national tsunami warning focal points, and military organizations. These agencies transmit the message to people potentially impacted by a tsunami.

NOAA and the National Tsunami Hazard Mitigation Program (NTHMP) are providing the framework for this exercise as a means for emergency responders along Pacific coasts to test and update tsunami response plans. High levels of vulnerability along the Pacific coast and the well-known tsunami threat in the Pacific should provide a strong incentive for local jurisdictions to prepare for a tsunami.

# 2. Exercise Concept

# 2.1 Purpose

The purpose of this exercise is to improve the effectiveness of the tsunami warning system along the U.S. and Canadian Pacific coasts. The exercise provides an opportunity for emergency management organizations along these coasts to exercise their operational lines of communications, review their tsunami response procedures, and promote tsunami preparedness. Regular exercising of response plans is critical to maintain readiness for an emergency. This is particularly true for tsunamis which are infrequent, but high impact events. Every coastal U.S. and Canadian Pacific emergency management organization (EMO) is encouraged to participate.

# 2.2 Objectives

Each organization can develop their objectives for the exercise depending on their level of involvement in the scenario. The following are the exercise's overarching objectives.

• Ensure message transmission from the TWC to Tsunami Warning Focal Points (TWFP) and from these primary contacts to the EMOs.

- Test tsunami response plans for Pacific EMOs that have developed plans, and provide a catalyst for countries and EMOs that have not developed plans.
- EMOs, Tsunami Warning Focal Points (TWFP) and Tsunami National Contacts review, discuss, and evaluate the various communication alternatives for receiving and disseminating tsunami messages.
- EMOs, Tsunami Warning Focal Points and Tsunami National Contacts review, discuss, and evaluate potential response actions and challenges.

# 2.3 Type of Exercise

The exercise should be carried out such that communications and decision making at various organizational levels are exercised and conducted without disrupting or alarming the general public. Individual localities, however, may at their discretion elect to extend the exercise down to the level of testing local notification systems such as the Emergency Alert System (EAS), sirens, or loudspeakers.

Exercises stimulate the development, training, testing, and evaluation of Disaster Plans and Standard Operating Procedures. Exercise participants may use their own past multi-hazard drills (e.g. flood, hurricane, tsunami, earthquake, etc.) as a framework to conduct Pacifex15.

Exercises can be conducted at various scales of magnitude and sophistication. The following are examples of types of exercises conducted by EMOs:

- 1. Orientation Exercise (Seminar): An Orientation Exercise lays the groundwork for a comprehensive exercise program. It is a planned event, developed to bring together individuals and officials with a role or interest in multi-hazard response planning, problem solving, development of standard operational procedures (SOPs), and resource integration and coordination. An Orientation Exercise will have a specific goal and written objectives and result in an agreed upon Plan of Action.
- 2. **Drill:** The Drill is a planned activity that tests, develops, and/or maintains skills in a single or limited emergency response procedure. Drills generally involve operational response of single departments or agencies. Drills can involve internal notifications and/or field activities.
- 3. Tabletop Exercise: The Tabletop Exercise is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal, in a conference room environment, and is designed to elicit constructive discussion from the participants. Participants will examine and attempt to resolve problems, based on plans and procedures, if they exist. Individuals are encouraged to discuss decisions in depth with emphasis on slow-paced problem solving, rather than rapid, real time decision-making. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative (see Appendix A for a Sample Tabletop Exercise Outline).
- 4. **Functional Exercise:** A Functional Exercise is a planned activity designed to test and evaluate organizational capacities. It is also utilized to evaluate the

capability of a community's emergency management system by testing the Emergency Operations Plan (EOP). It is based on a simulation of a realistic emergency situation that includes a description of the situation (narrative) with communications between players and simulators. The Functional Exercise gives the players (decision-makers) a fully simulated experience of being in a major disaster event. It should take place at the appropriate coordination location (i.e. emergency operations center, emergency command center, command post, master control center, etc.) and activate all the appropriate members designated by the plan. Both internal and external agencies (government, private sector, and volunteer agencies) should be involved. It requires players, controllers, simulators, and evaluators. Message traffic will be simulated and inserted by the control team for player response/actions, under real time constraints. It may or may not include public evacuations. A Functional Exercise should have specific goals, objectives, and a scenario narrative.

5. Full-scale Exercise: A Full-scale Exercise is the culmination of a progressive exercise program that has grown with the capacity of the community to conduct exercises. A Full-Scale exercise is a planned activity in a "challenging" environment that encompasses a majority of the emergency management functions. This type of exercise involves the actual mobilization and deployment of the appropriate personnel and resources needed to demonstrate operational capabilities. EOCs and other command centers are required to be activated. A Full-scale Exercise is the largest, costliest, and most complex exercise type. It may or may not include public evacuations.

#### **Example Time Frames for Different Exercise Types**

Style	Planning Period	Duration	Comments
Orientation Exercise	2 weeks	Hours	Individual or mixed groups
Drill	2 months	1 day	Individual technical groups generally
Tabletop Exercise	1 month	1-3 days	Single or multiple agency
Functional Exercise	>3 months	1-5 days	Multiple Agency participation
Full-scale Exercise	>6 months	1 day/ week	Multiple Agency participation

#### 3. Exercise Outline

#### 3.1 General

Tsunami messages for this exercise are issued by the TWCs based on a hypothetical earthquake with the following hypocenter parameters:

Origin Time 15:00:00 UTC March 25, 2015

Latitude 53.5°N
 Longitude 162.0°E
 Magnitude 8.6 – Mw
 Depth 30 km

Note that bulletin #1 is issued with a magnitude 8.1. For very large earthquakes, the initial magnitude determination at the TWCs is commonly low. Expected impact for this event is determined from tsunami forecast models. Appendix B provides model results.

Various levels of alert are issued by the TWCs throughout the event. PTWC international messages do not give a level of alert, but indicate whether or not there is a tsunami threat. Definitions of the U.S. domestic products that will be issued by the TWCs during this exercise are provided below.

#### U.S. Tsunami Warning Centers domestic alert definitions:

**Tsunami Warning** - A tsunami warning is issued when a tsunami with the potential to generate widespread inundation is imminent, expected, or occurring. Warnings alert the public that dangerous coastal flooding accompanied by powerful currents is possible and may continue for several hours after initial arrival. Warnings alert emergency management officials to take action for the entire tsunami hazard zone. Appropriate actions to be taken by local officials may include the evacuation of low-lying coastal areas, and the repositioning of ships to deep waters when there is time to safely do so. Warnings may be updated, adjusted geographically, downgraded, or cancelled. To provide the earliest possible alert, initial warnings are normally based only on seismic information.

**Tsunami Advisory** - A tsunami advisory is issued due to the threat of a potential tsunami which may produce strong currents or waves dangerous to those in or near the water. Coastal regions historically prone to damage due to strong currents induced by tsunamis are at the greatest risk. The threat may continue for several hours after the arrival of the initial wave, but significant widespread inundation is not expected for areas under an advisory. Appropriate actions to be taken by local officials may include closing beaches, evacuating harbors and marinas, and the repositioning of ships to deep waters when there is time to safely do so. Advisories are normally updated to continue the advisory, expand/contract affected areas, upgrade to a warning, or cancel the advisory.

**Tsunami Watch** - A tsunami watch is issued to alert emergency management officials and the public of an event which may later impact the watch area. The watch area may be upgraded to a warning or advisory - or canceled - based on updated information and analysis. Therefore, emergency management officials and the public should prepare to take action. Watches are normally issued based on seismic information without confirmation that a destructive tsunami is underway.

**Tsunami Information Statement (TIS) –** A tsunami information statement is issued to inform emergency management officials and the public that an earthquake has

occurred, or that a tsunami warning, watch or advisory has been issued for another section of the ocean. In most cases, information statements are issued to indicate there is no threat of a destructive basin wide tsunami and to prevent unnecessary evacuations as the earthquake may have been felt in coastal areas. An information statement may, in appropriate situations, caution about the possibility of destructive local tsunamis. Information statements may be re-issued with additional information, though normally these messages are not updated. However, a watch, advisory or warning may be issued for the area, if necessary, after analysis and/or updated information becomes available.

The TWCs will not issue live messages over broadcast dissemination channels other than to issue initial dummy messages to start the exercise at 1505 UTC on March 25, 2015. The content of the dummy message is given in Appendix C. The dummy message will indicate that exercise participants should refer to the first message provided in this handbook. From then on, participants should follow the schedule in Table 2 to look at new messages. Table 2 is the message timeline and can be used by EMOs to drive the exercise timing. The messages (Appendix D) cover a 14-hour period, though in an actual event they would likely continue longer. World Meteorological Organization (WMO) and Advanced Weather Interactive Processing System (AWIPS) headers used in the dummy messages are listed in Table 3.

The U.S. NTWC issues three official products each time a message is issued. The messages provided in Appendix D are known as the public message and do not contain codes or text intended for automated systems. The other messages not shown in Appendix D are the segmented message and the Spanish message. The segmented message includes encoded NWS zones, Valid Time Event Codes (VTEC), and their level of threat. The segmentation is used for automated processing systems which parse NWS products. The Spanish message is a new product which mimics the English public message provided in Appendix D.

The U.S. PTWC also issues several official products each time a message is issued. The messages given in Appendix D include the international message and the messages directed at Hawaii, American Samoa, and Guam/CNMI. The TWCs also issue additional graphical and web-based products to their web sites.

Participants may elect to conduct this exercise using their own timelines in order to achieve their particular objectives. For example, a particular EMO's Exercise Controller may choose to feed the TWC bulletins into the exercise at times of their own choosing, or alternatively put them in envelopes with the time they must be opened written on each, with each key participant agency having their own set of envelopes. The messages, provided in Appendix D, will facilitate this approach.

EMOs are welcome to modify estimated arrival times and/or wave amplitudes to suit their exercise – for example, to have the tsunami arrive sooner and with larger amplitude. Other exercise injects, such as tsunami damage reports, are also encouraged.

# 3.2 Master Schedule (Exercise Script)

#### **Table 2: Scenario Timeline**

Tsunami generated by a magnitude 8.6 earthquake with epicenter at 53.5°N, 162.0°E occurring on March 25, 2015 at 1500 UTC. The initial alert is disseminated at 1505 UTC and is based on a magnitude of 8.1. In message 2 the magnitude is raised to 8.6.

Date	Time		NTWC Message				ΓWC ssage	
(UTC)	(UTC)	#	Туре	Dummy	Pacific	Hawaii	Guam/CNMI	American Samoa
03/25/2015	1500			**	*Earthquake	Occurs***		
03/25/2015	1505	01	Adv	Yes	Threat	Wat	TIS	TIS
03/25/2015	1530	02	Warn/Adv/Wat	No	Threat	Wat	Wat	TIS
03/25/2015	1603	03	Warn/Adv/Wat	No	Threat	Warn	Adv	Adv
03/25/2015	1704	04	Warn/ Adv	No	Threat	Warn	Adv	Adv
03/25/2015	1804	05	Warn/ Adv	No	Threat	Warn	Adv	Adv
03/25/2015	1900	06	Warn/ Adv	No	Threat	Warn	Adv	Adv
03/25/2015	2003	07	Adv	No	Threat	Warn	Adv	Adv
03/25/2015	2100	80	Adv	No	Threat	Warn	Adv	Adv
03/25/2015	2201	09	Adv	No	Threat	Warn	Adv	Adv
03/25/2015	2300	10	Adv	No	Threat	Warn	Adv	Adv
03/26/2015	0005	11	Adv	No	Threat	Warn	Adv	Adv
03/26/2015	0100	12	Can	No	Threat	Adv	Can	Adv
03/26/2015	0200	13			Threat	Adv		Adv
03/26/2015	0300	14			No Threat	Can		Can

The initial dummy messages will be disseminated over all standard TWC broadcast channels as listed in Table 3. These are being issued to test communications with EMOs and Tsunami Warning Focal Points, and to start the exercise.

A real tsunami warning/watch/advisory issued for an event as described would likely last many hours longer than this exercise. The exercise is being tailored to complete within a compressed time frame.

#### **TWC Message Types:**

Warn Tsunami Warning Adv Tsunami Advisory Wat Tsunami Watch

TIS Tsunami Information Statement

Can Cancellation

Threat PTWC International Message - Alert No Threat PTWC International Message - No Alert

#### **Dummy:**

Yes Dummy Issued No Dummy Not Issued

**Table 3: Product Types** 

Product Types Issued for Dummy Messages with Transmission Methods

Center	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	Fax	Email
NTWC	WEPA41 PAAQ	TSUWCA	Yes	Yes	Yes	Yes	Yes	Yes
NTWC	WEAK51 PAAQ	TSUAK1	Yes	Yes	Yes	Yes	Yes	Yes
NTWC	WEPA40 PHEB	TSUSPN	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WEPA40 PHEB	TSUPAC	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WEHW40 PHEB	TSUHWX	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WEGM40 PHEB	TSUGUM	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WEZS40 PHEB	TSUPPG	Yes	Yes	Yes	Yes	Yes	Yes

NWWS NOAA Weather Wire Service
GTS Global Telecommunications System

EMWIN Emergency Manager's Weather Information Network AISR Aeronautical Information System Replacement

#### 3.3 Actions in Case of a Real Event

In the case of a real event occurring during the exercise, the TWC will issue their normal messages for the event. Such messages will be given full priority and a decision will be made by the TWC whether to issue the dummy message. Smaller earthquakes that only trigger a Tsunami Information Statement will not disrupt the exercise. All documentation and correspondence relating to this exercise is to be clearly identified as "Pacifex15" and "Exercise."

#### 3.4 Procedure for False Alarm

Any time disaster response exercises are conducted, the potential exists for the public or media to interpret the event as real. Procedures should be set up by all participating entities to address public or media concerns involving this exercise in case of misinterpretation by media or the public.

#### 3.5 Resources

Although EMOs will have advance notice of the exercise and may elect to stand up a special dedicated shift to allow normal core business to continue uninterrupted, it is requested that realistic resource levels be deployed in order to reflect some of the issues that are likely to be faced in a real event.

Questions on the exercise can be addressed to:

Person	Telephone #	<u>Email</u>
Kevin Miller CA EMA, Tsunami PM	510-286-0817	kevin.miller@calema.ca.gov
Althea Turner OR OEM Tsunami PM	503-378-2911	Althea.Rizzo@state.or.us
John Schelling WA EMD Tsunami PM	253-512-7084	j.schelling@emd.wa.gov
Kelli Kryzanowski BC Tsunami PM	250-952-5834	teron.moore@gov.bc.ca
Kevin Richards HI CD Tsunami PM	808-733-4301	krichards@scd.hawaii.gov
Erv Petty AK DHS&EM Tsunami PM	907-428-7015	ervin.petty@alaska.gov
Paul Whitmore NTWC Director	907-745-4212	paul.whitmore@noaa.gov
James Waddell NTWC Rep.	907-745-4212	james.waddell@noaa.gov
Charles McCreery PTWC Director	808-689-8207	Charles.mccreery@noaa.gov
Gerard Fryer PTWC Rep.	808-689-8207	Gerard.fryer@noaa.gov

# 3.6 Media Arrangements

One advantage in conducting exercises is that it provides a venue to promote awareness of the exercise topic. Many residents along the Pacific coasts may not realize that a tsunami warning system exists for their region, let alone the proper response. Communities may wish to invite their local media to the exercise to promote local awareness of the tsunami hazard. Appendix E contains a sample press release which can be adapted as necessary.

#### Appendix A. Example Tabletop Exercise

#### **Tabletop Exercise Development Steps**

Source: California Office of Emergency Services

A Tabletop Exercise is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal and slow paced, in a conference room environment, and is designed to elicit constructive discussion from the participants to assess plans, policies, and procedures. Participants will examine and attempt to resolve problems, based on plans and procedures, if they exist. Individuals are encouraged to discuss decisions in depth based on their organization's Standard Operating Procedures (SOPs), with emphasis on slow-paced problem solving, rather than rapid, real time decision-making. An Exercise Controller (moderator) introduces a simulated tsunami scenario to participants via written message, simulated telephone or radio call, or by other means. Exercise problems and activities (injects) are further introduced. Participants conduct group discussions where resolution is generally agreed upon and then summarized by a group leader. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative.

The following provides a Tabletop Exercise structure with sample text and example.

#### 1. Vulnerability Analysis: Problem Statement

An example for a hurricane might be:

Due to the recent Hurricane incidents in the Southeast region of the United States, an awareness of the threat risk involved in these disasters has become more apparent, therefore the need for evacuation system is vital. The state of Louisiana continues its ongoing tasks of planning, preparing, and training for Hurricane preparedness.

#### 2. Purpose (Mission): Intent, what you plan to accomplish (Policy Statement)

An example for a hurricane might be:

The State of Louisiana has realized and recognizes the need for a more efficient and effective evacuation system, and is responding with this Comprehensive Exercise Plan. These events will include seminars, workshops, a tabletop exercise, functional and full-scale exercises within an 18-month time frame, under the State Homeland Security grant program.

3. Scope: Exercise Activities Agencies Involved

**Hazard Type** 

**Geographic Impact Area** 

An example might be:

Emergency Services coordinators at local levels of government will identify representative jurisdictions from each of the six mutual aid regions located throughout the State to participate as host jurisdictions in a series of disaster preparedness exercises. These host jurisdictions will develop a progressive series of exercises each type building upon the previous type of exercise. The process will begin with a vulnerability analysis for each jurisdiction and continue through a progression of exercise activities including: orientation seminars, workshops, and tabletop and functional exercises. The eventual objective of these activities will be to reduce disaster impacts to their populations and city infrastructure. All events will be evaluated utilizing US Homeland Security Exercise Evaluation Program (HSEEP) after action reporting (AAR)

standards. Steps for corrective actions will be made a part of the after action process and report. Surrounding jurisdictions in the mutual aid area will act as exercise design team members, exercise evaluators, or exercise observers for the purpose of information transfer to increase their operational readiness. Jurisdictions will participate on a rotational basis every two years to provide the opportunity for multiple jurisdiction participation.

#### 4. Goals and Objectives:

Criteria for good objectives: Think SMART

- Simple (concise)
- Measurable
- Achievable (can this be done during the exercise?)
- Realistic (and challenging)
- Task Oriented (oriented to functions)

#### An example might be:

Comprehensive Exercise Program (CEP) Objectives

- To improve operational readiness
- To improve multi-agency coordination and response capabilities for effective disaster response
- To identify communication pathways and problem areas pre-event between local jurisdictions and operational area, regional and state emergency operations centers
- To establish uniform methods for resource ordering, tracking, and supply for agencies involved at all levels of government.

#### 5. Narrative:

The Narrative should describe the following:

- Triggering emergency/disaster event
- Describe the environment at the time the exercise begins
- Provide necessary background information
- Prepare participants for the exercise
- Discovery, report: how do you find out?
- Advance notice?
- Time, location, extent or level of damage

#### 6. Evaluation:

The Evaluation should describe the following:

- Objectives Based
- Train Evaluation Teams
- Develop Evaluation Forms
- 7. After Action Report (AAR): The AAR should be compiled using the evaluation reports
- **8. Improvement Plan (IP):** The IP should reduce vulnerabilities.

# Appendix B. Scenario Description

Tsunami models were computed using the Short-term Inundation Forecasting of Tsunamis (SIFT), the Alaska Tsunami Forecast Model (ATFM), and the Rapid Inundation Forecasting of Tsunamis (RIFT) models to generate expected impacts throughout the region.

The earthquake hypocenter parameters used in ATFM and RIFT are:

•	Origin Time	15:00:00 UTC March 25, 2015
•	Latitude	53.5°N
•	Longitude	161.6°E – location at center/updip edge of fault
•	Magnitude	8.6 – Mw
•	Depth	5 km at updip edge of fault
•	Strike	212
•	Dip	25
•	Slip	90
•	Length	347
•	Width	109

The following graphics show some of the model output for a better understanding of the event. When using the forecast coastal amplitudes, note that the highest tsunami elevation reached on shore could be double that of the coastal forecast since these are determined at the coast.

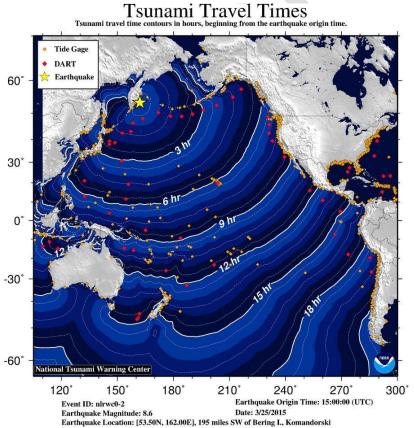
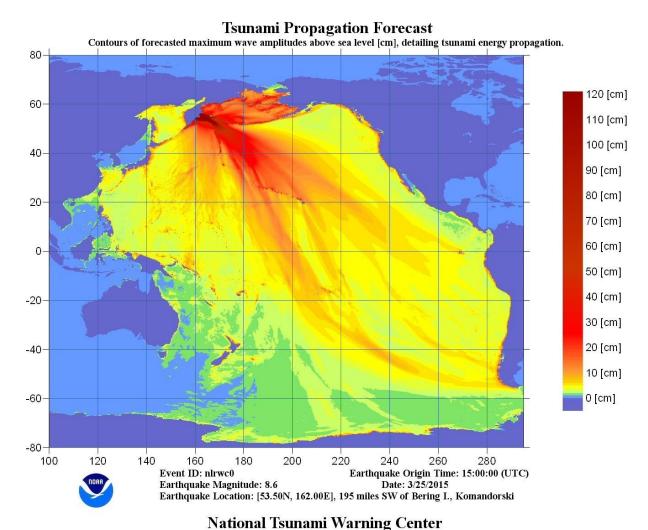


Figure C1. Tsunami travel time map for Pacifex15.



# Alaska Tsunami Forecast Model

Figure C2. ATFM Maximum tsunami amplitude map for Pacifex15.

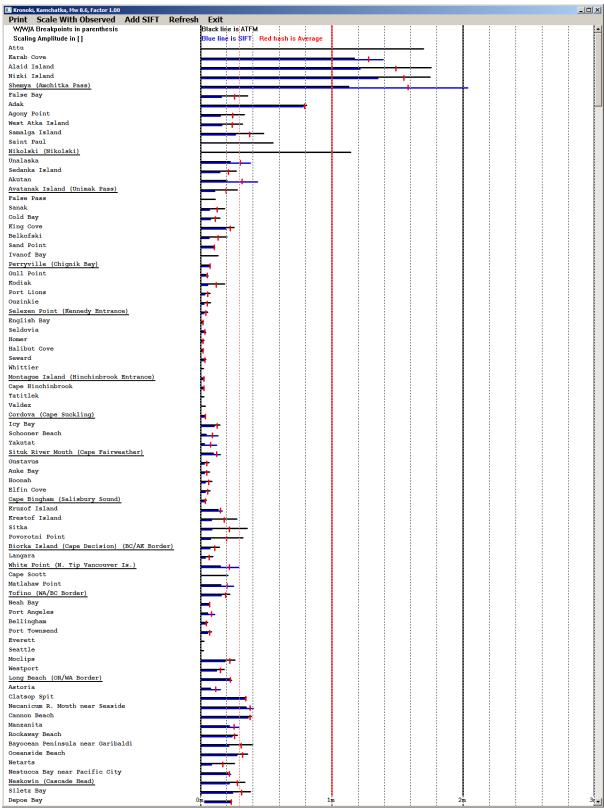


Figure C3. Bar chart showing expected coastal amplitudes from the Aleutian Islands through Depoe Bay, Oregon. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

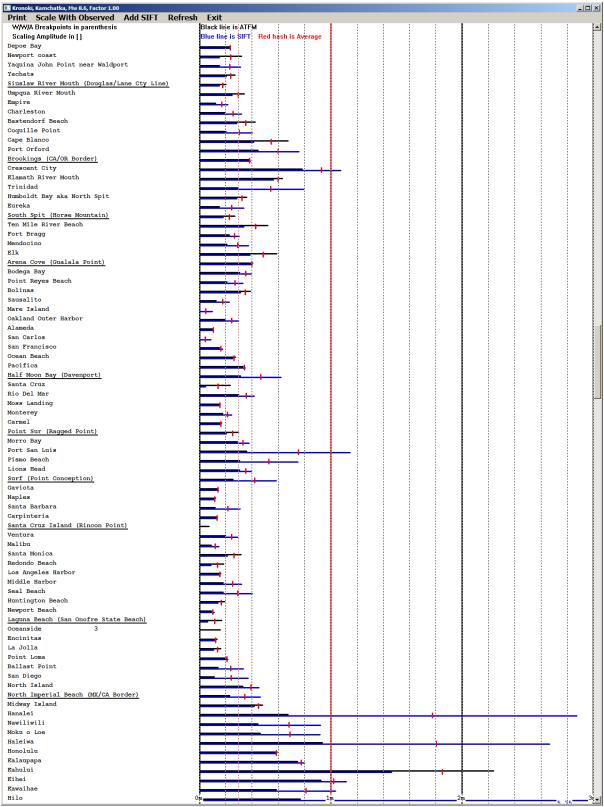


Figure C4. Bar chart showing expected coastal amplitudes from Depoe Bay, Oregon to the California/Mexico border, and Hawaii. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

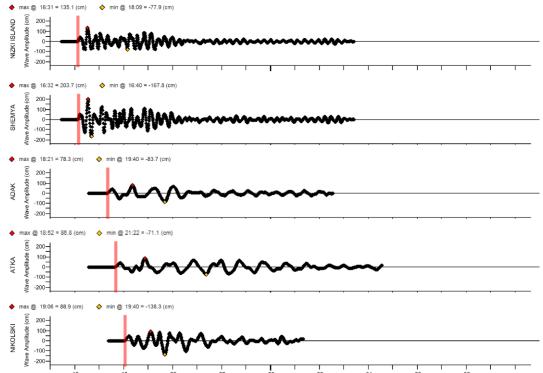


Figure C5. Tsunami time series for selected sites in the Aleutian Islands based on the SIFT forecast.

#### Event ID: nbbz00-01.01

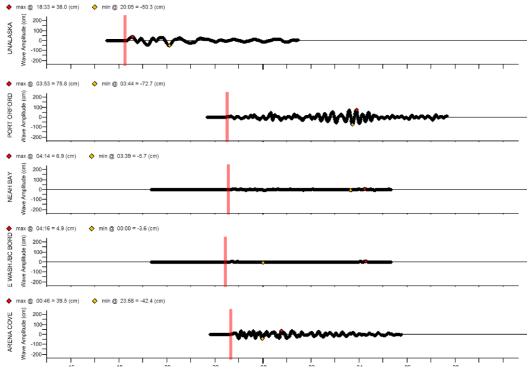


Figure C6. Tsunami time series for selected sites in the Aleutian Islands and Pacific Northwest coast based on the SIFT forecast.

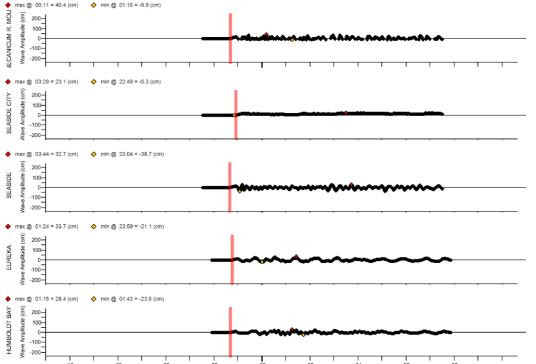


Figure C7. Tsunami time series for selected sites in the Pacific Northwest based on the SIFT forecast.

#### Event ID: nbbz00-01.01

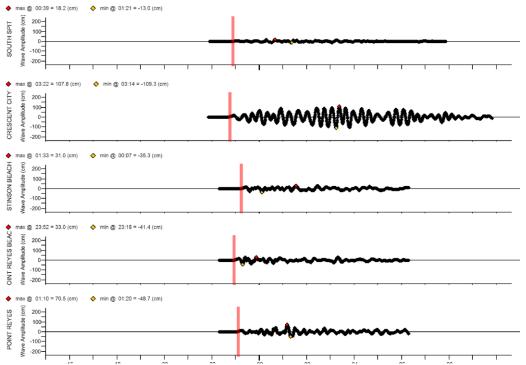


Figure C8. Tsunami time series for selected sites in California based on the SIFT forecast.

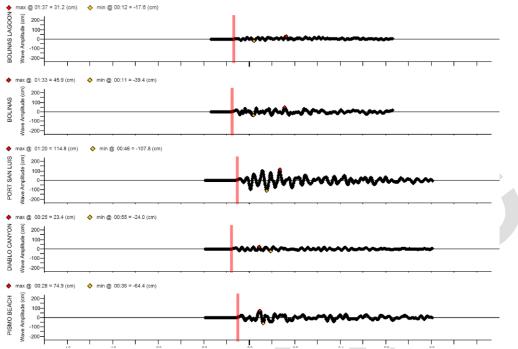


Figure C9. Tsunami time series for selected sites in California based on the SIFT forecast.

#### Event ID: nbbz00-01.01

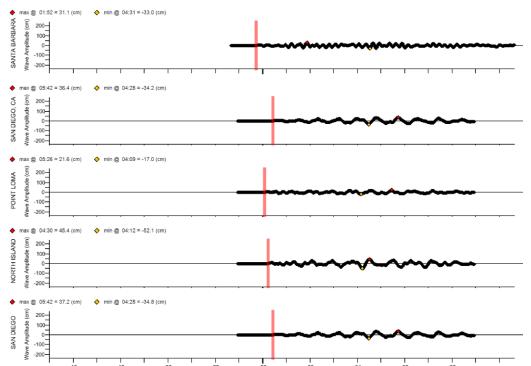
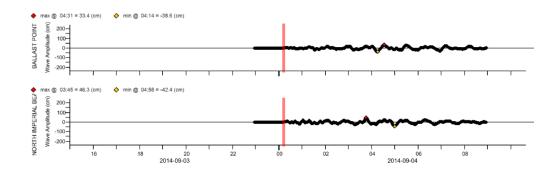


Figure C10. Tsunami time series for selected sites in California based on the SIFT forecast.



SIFT version 3.2.0 (10363) Thu, 24 Jul 2014 Page-7

Figure C9. Tsunami time series for selected sites in California based on the SIFT forecast.

# PTWC Coastal Tsunami Amplitude Forecast 60°N 45°N 3.00 0.30 30°N 0.00 model run at: 19 Oct 2014 14:54:10 Z

150°E

Figure C10. PTWC Coastal amplitude forecast for the northwest Pacific based on the RIFT forecast.

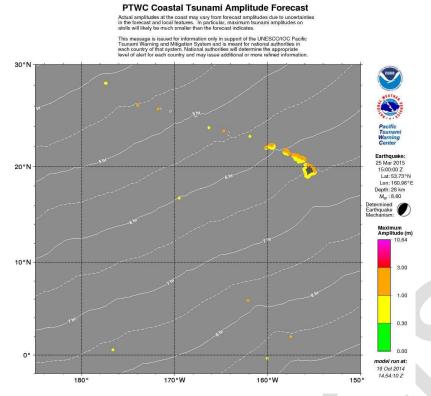


Figure C11. PTWC Coastal amplitude forecast for Hawaii based on the RIFT forecast.

PTWC Coastal Tsunami Amplitude Forecast

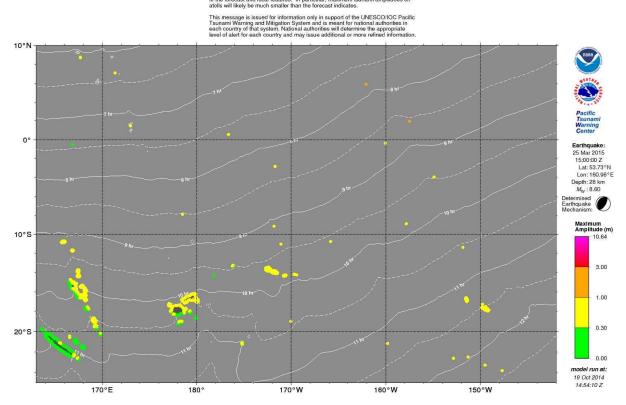


Figure C12. PTWC Coastal amplitude forecast for the south-central Pacific based on the RIFT forecast.

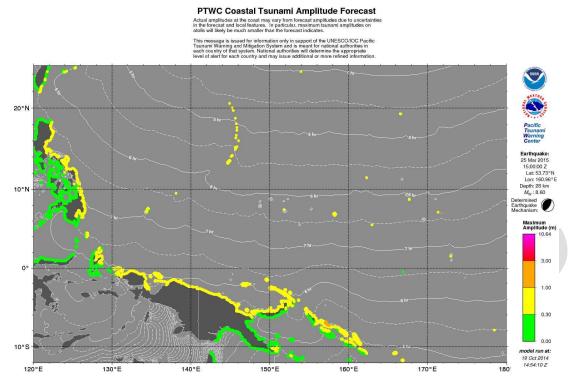
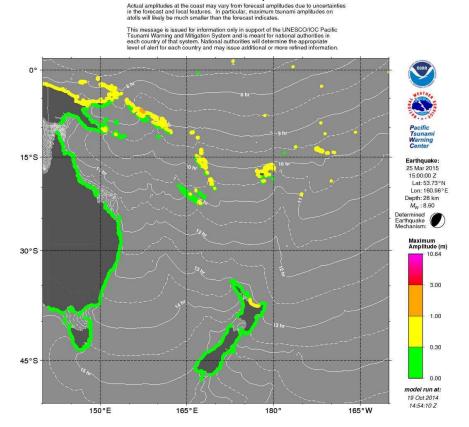


Figure C13. PTWC Coastal amplitude forecast for the west-central Pacific based on the RIFT forecast.



PTWC Coastal Tsunami Amplitude Forecast

Figure C14. PTWC Coastal amplitude forecast for the south-west Pacific based on the RIFT forecast.

### Appendix C. TWC Dummy Messages

#### **NTWC**

WEPA41 PAAQ 251505 TSUWCA

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 805 AM PDT WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO NTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

WEAK51 PAAQ 251505 TSUAK1

TEST...PUBLIC TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 805 AM PDT WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO NTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

WEAK61 PAAQ 251505 TSUSPN

TEST...MENSAJE DE EJERCICIO DE TSUNAMI NUMERO 1...TEST NWS CENTRO NACIONAL DE ALERTA DE TSUNAMI PALMER AK 805 AM PDT WED MAR 25 2015

...MENSAJE PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI PACIFEX 15. REFERIRSE AL MENSAJE 1 DE NTWC EN EL MANUAL PARA EL EJERCICIO. ESTO ES UN EJERCICIO SOLAMENTE...

ESTE MENSAJE ESTA SIENDO USADO PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI PACIFEX 15. ESTE SERA EL UNICO MENSAJE QUE SERA EMITIDO DESDE EL CENTRO NACIONAL DE ALERTA DE TSUNAMI. EL MANUAL ESTA DISPONIBLE EN LA PAGINA

NTWC.ARH.NOAA.GOV. EL PROPOSITO DEL EJERCICIO ES PROVEER A LAS AUTORIDADES DE MANEJO DE EMERGENCIA UN ESCENARIO REALISTICO PARA PROBAR LOS PLANES DE RESPUESTA A TSUNAMIS.

ESTE ES SOLO UN EJERCICIO.

\$\$

#### **PTWC**

ZCZC WEPA40 PHEB 251505 TSUPAC

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1505 UTC WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC INTERNATIONAL MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

ZCZC WEHW40 PHEB 251505 TSUHWX

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1505 UTC WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC HAWAII MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

ZCZC WEGM40 PHEB 251505

#### TSUGUM

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1505 UTC WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC MESSAGE 1 FOR GUAM AND CNMI IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

ZCZC WEZS42 PHEB 251505 TSUPPG

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1505 UTC WED MAR 25 2015

...PACIFEX 15 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC MESSAGE 1 FOR AMERICAN SAMOA IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 15 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

# Appendix D. TWC Exercise Messages

The following messages, created for the Pacifex15 tsunami exercise, are representative of the public messages issued by the U.S. TWCs during a magnitude 8.6 earthquake and tsunami originating at 53.5°N, 162.0°E. During a real event, the TWCs would also issue graphical and html-based products to their web sites and via RSS.

What follows are the NTWC messages for North American coasts, PTWC's International messages, and PTWC's separate messages for Hawaii, Guam/CNMI, and American Samoa. Since this is a US exercise, the international messages end with Message 14, after the tsunami has passed American Samoa. In a real event there would be at least ten further messages to track the tsunami hazard to South American coasts.

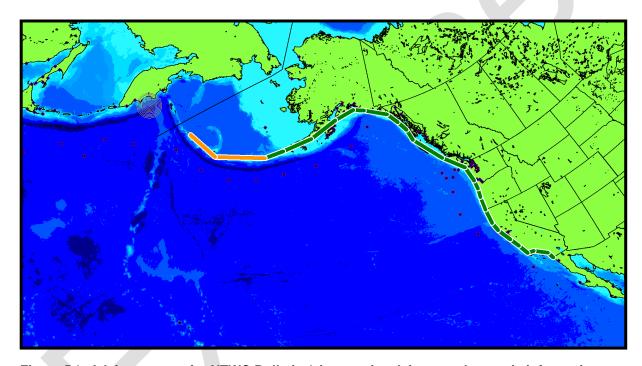


Figure D1: Advisory areas for NTWC Bulletin 1 (orange is advisory and green is information only).

#### NTWC Bulletin #1

WEAK51 PAAQ 251505 TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 1
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
805 AM PDT WED MAR 25 2015

... A TSUNAMI ADVISORY IS NOW IN EFFECT...

WARNINGS/ADVISORIES/WATCHES

TSUNAMI ADVISORY IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA -THE LEVEL OF TSUNAMI DANGER IS BEING EVALUATED. FURTHER INFORMATION WILL BE PROVIDED IN SUPPLEMENTARY MESSAGES.

#### PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.1 \* ORIGIN TIME 0700 AKDT MAR 25 2015 0800 PDT MAR 25 2015

1500 UTC MAR 25 2015

\* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI

145 MILES NE OF PETROPAVLOVSK KAMCHATKA

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

FORECAST START OF

OF TSUNAMI SITE

\* ALASKA

0812 AKDT MAR 25 SHEMYA 0913 AKDT MAR 25 SAINT PAUL 1028 AKDT MAR 25

# NEXT UPDATE AND ADDITIONAL INFORMATION

\* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.

- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

\$\$

INFORMATION.

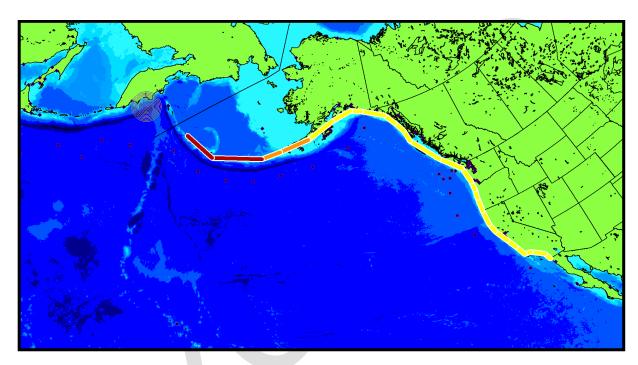


Figure D2: Watch/Warning/Advisory areas for Bulletin 2 (red is warning, orange is advisory, and yellow is watch).

#### **NTWC Bulletin #2**

WEAK51 PAAQ 251530 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 2 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 830 AM PDT WED MAR 25 2015

#### UPDATES

-----

THIS MESSAGE MODIFIES THE ALERT AREAS.
THIS MESSAGE CONTAINS A REVISED MAGNITUDE.

...A TSUNAMI WARNING IS NOW IN EFFECT...

... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

... A TSUNAMI WATCH IS NOW IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES - UPDATED

-----

TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM CHIGNIK BAY ALASKA TO NIKOLSKI ALASKA

TSUNAMI WATCH IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO CHIGNIK BAY ALASKA

#### IMPACTS FOR TSUNAMI WARNING AREAS

-----

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI WATCH AREAS

-----

- \* EXPECTED IMPACT IS UNKNOWN AT THIS TIME.
- \* THE WATCH WILL BE UPGRADED OR CANCELED AT LEAST TWO HOURS BEFORE EXPECTED IMPACT.

#### RECOMMENDED ACTIONS - UPDATED

\_\_\_\_\_

- \* IF YOU ARE IN A WARNING AREA MOVE INLAND TO HIGHER GROUND.
- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.

- \* IF YOU ARE IN A WATCH AREA STAY ALERT FOR FURTHER INSTRUCTIONS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

FORECAST

	FORE			
G T T T	STAR'	-	-	
SITE	OF T	SUNAM:	L	
			_	
* ALASKA				
	0000	AKDT	MAD	2 5
SHEMYA				
ADAK		AKDT		
UNALASKA		AKDT		
SAINT PAUL		AKDT		
SAND POINT		AKDT		-
COLD BAY		AKDT		
KODIAK		AKDT		
SEWARD		AKDT		
ELFIN COVE		AKDT		
YAKUTAT		AKDT		
SITKA		AKDT		
VALDEZ		AKDT		
CORDOVA		AKDT		
HOMER		AKDT		
CRAIG	1326	AKDT	MAR	25
* BRITISH COLUM				
LANGARA	1335		MAR	
TOFINO	1458	PDT	MAR	25
* OREGON				
PORT ORFORD	1508		MAR	
CHARLESTON	1515		MAR	
BROOKINGS	1519		MAR	
SEASIDE	1523		MAR	
NEWPORT	1525	PDT	MAR	25
* WASHINGTON				
NEAH BAY	1510		MAR	
LONG BEACH	1514		MAR	
MOCLIPS	1519		MAR	
WESTPORT	1525		MAR	
PORT ANGELES	1548	PDT	MAR	25
PORT TOWNSEND	1615	PDT	MAR	25
* CALIFORNIA				
FORT BRAGG	1521	PDT	MAR	25
CRESCENT CITY	1523	PDT	MAR	25
MONTEREY	1544	PDT	MAR	
PORT SAN LUIS	1604	PDT	MAR	25
SAN FRANCISCO	1608	PDT	MAR	25
SANTA BARBARA	1617		MAR	
LOS ANGELES HARB	1633	PDT	MAR	25
NEWPORT BEACH	1640		MAR	25
OCEANSIDE	1643		MAR	

LA JOLLA 1643 PDT MAR 25

#### PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 0700 AKDT MAR 25 2015

0800 PDT MAR 25 2015

1500 UTC MAR 25 2015

\* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

#### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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# NTWC Bulletin #3

WEAK51 PAAQ 251603 TSUAK1

BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 3
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK

002 AM DOW MED MAD 25 2015

903 AM PDT WED MAR 25 2015

UPDATES

---**--**-

THIS MESSAGE CONTAINS NEW OBSERVATIONS.

- ... THE TSUNAMI WARNING REMAINS IN EFFECT...
- ... THE TSUNAMI ADVISORY REMAINS IN EFFECT...
- ...THE TSUNAMI WATCH REMAINS IN EFFECT...

WARNINGS/ADVISORIES/WATCHES

-----

TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

#### TSUNAMI ADVISORY IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM CHIGNIK BAY ALASKA TO NIKOLSKI ALASKA

#### TSUNAMI WATCH IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO CHIGNIK BAY ALASKA

#### IMPACTS FOR TSUNAMI WARNING AREAS

\_\_\_\_\_

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

\_\_\_\_\_

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI WATCH AREAS

- \* EXPECTED IMPACT IS UNKNOWN AT THIS TIME.
- \* THE WATCH WILL BE UPGRADED OR CANCELED AT LEAST TWO HOURS BEFORE EXPECTED IMPACT.

#### RECOMMENDED ACTIONS

\_\_\_\_\_

- \* IF YOU ARE IN A WARNING AREA MOVE INLAND TO HIGHER GROUND.
- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* IF YOU ARE IN A WATCH AREA STAY ALERT FOR FURTHER INSTRUCTIONS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

\_\_\_\_\_

FORECAST START OF

SITE	OF TS	SUNAM	Ι	
			-	
* ALASKA				
SHEMYA	0808	AKDT	млъ	25
ADAK		AKDT		_
UNALASKA		AKDT		
SAINT PAUL		AKDT		
SAND POINT		AKDT		-
COLD BAY		AKDT		
KODIAK	_	AKDT		
SEWARD		AKDT		
ELFIN COVE		AKDT	MAR	
YAKUTAT		AKDT	MAR	
SITKA		AKDT	MAR	
VALDEZ	_	AKDT	MAR	
CORDOVA		AKDT		
HOMER	_	AKDT		_
CRAIG		AKDT		_
CIAIG	1320	AIIDI	HAIN	23
* BRITISH COLUM	⊇⊤Z			
LANGARA		PDT	MΣR	25
TOFINO	1458			
TOPINO	1430	IDI	MAIN	23
* OREGON				
PORT ORFORD	1508	PDT	MAR	25
CHARLESTON	1515			-
BROOKINGS	1519			
SEASIDE	1523			
NEWPORT	1525			
112111 0111	1020	101	11111	20
* WASHINGTON				
NEAH BAY	1510	PDT	MAR	25
LONG BEACH	1514	PDT	MAR	/ -
MOCLIPS	1519	PDT		
WESTPORT	1525	PDT		
PORT ANGELES	1548	PDT		
PORT TOWNSEND	1615	PDT		
* CALIFORNIA				
FORT BRAGG	1521	PDT	MAR	25
CRESCENT CITY	1523	PDT	MAR	25
MONTEREY	1544	PDT	MAR	
PORT SAN LUIS	1604	PDT		
SAN FRANCISCO	1608	PDT		
SANTA BARBARA	1617	PDT		
LOS ANGELES HARB		PDT		
NEWPORT BEACH	1640	PDT		
OCEANSIDE	1643	PDT		
LA JOLLA	1643	PDT	MAR	

#### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

\_\_\_\_\_

	TIME	OBSERVED MAX
SITE	OF MEASUREMENT	TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1551 UTC 03-25	03.5FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_

^	MAGNITIC	JDE	Ö	0.0				
*	ORIGIN	TIME	0	700	AKDT	MAR	25	2015
			0	008	PDT	MAR	25	2015
			1	500	TITTC	MAD	25	2015

1500 UTC MAR 25 2015 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* COORDINATES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

## NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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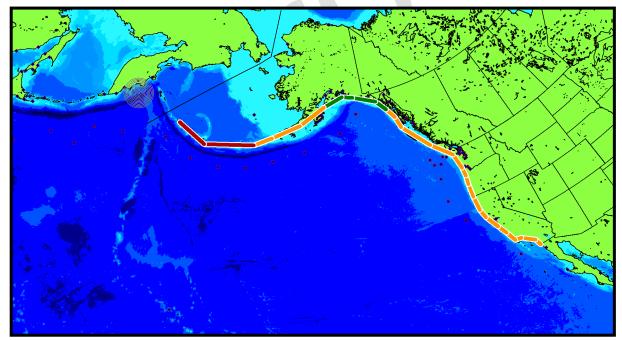


Figure D3: Warning/Advisory areas for Bulletin 4 (red is warning, orange is advisory, and green is no threat).

# **NTWC Bulletin #4**

WEAK51 PAAQ 251704 TSUAK1

BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 4
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK

1004 AM PDT WED MAR 25 2015

#### UPDATES

\_\_\_\_\_

THIS MESSAGE CONTAINS NEW OBSERVATIONS.

THIS MESSAGE MODIFIES THE ALERT AREAS.

THIS MESSAGE CONTAINS REVISED FORECAST INFORMATION.

...THE TSUNAMI WARNING REMAINS IN EFFECT...

...THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES - UPDATED

\_\_\_\_\_

TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO CHIGNIK BAY ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM CHIGNIK BAY ALASKA TO NIKOLSKI ALASKA

#### CANCELLATIONS

\_\_\_\_\_

\* THE TSUNAMI WATCH IS CANCELED FOR THE COASTAL AREAS OF ALASKA FROM SALISBURY SOUND ALASKA TO KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

# IMPACTS FOR TSUNAMI WARNING AREAS

----

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

\_\_\_\_\_

\* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS

TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.

- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS - UPDATED

\_\_\_\_\_

- \* IF YOU ARE IN A WARNING AREA MOVE INLAND TO HIGHER GROUND.
- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

## FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

	FORECAST	ī	FORECAST	FORECAST
	START OF	,	TSUNAMI	MAX TSUNAMI
SITE	OF TSUNA	IMA	DURATION	HEIGHT
* ALASKA				
SHEMYA	0809 AKI	T MAR 25	36 HRS	3.7- 6.7FT
ADAK	0910 AKI	T MAR 25	24 HRS	1.8- 3.4FT
UNALASKA	1014 AKI	OT MAR 25		0.7- 1.3FT
SAINT PAUL	1025 AKI	OT MAR 25	20 HRS	1.5- 2.8FT
SAND POINT	1057 AKI	T MAR 25		LESS THAN 1FT
COLD BAY	1129 AKI	T MAR 25		LESS THAN 1FT
KODIAK	1151 AKI	T MAR 25		LESS THAN 1FT
SITKA	1225 AKI	T MAR 25		LESS THAN 1FT
CRAIG	1326 AKI	T MAR 25		
* BRITISH COLUM	BIA			
LANGARA	1335 PI	T MAR 25		LESS THAN 1FT
TOFINO	1458 PI	T MAR 25		LESS THAN 1FT
* OREGON				
		T MAR 25		1.4- 2.6FT
CHARLESTON	1515 PI	T MAR 25		LESS THAN 1FT
BROOKINGS	1519 PI	T MAR 25	15 HRS	0.8- 1.6FT
SEASIDE	1523 PI	T MAR 25		
NEWPORT	1525 PI	T MAR 25		
* WASHINGTON				
NEAH BAY	1510 PI	T MAR 25		LESS THAN 1FT
LONG BEACH	1514 PI	T MAR 25		LESS THAN 1FT
MOCLIPS	1519 PI	T MAR 25		LESS THAN 1FT
WESTPORT	1525 PI	T MAR 25		LESS THAN 1FT
PORT ANGELES	1548 PI	T MAR 25		LESS THAN 1FT
PORT TOWNSEND	1615 PI	T MAR 25		LESS THAN 1FT

* CALIFORNIA									
FORT BRAGG	1521	PDT	MAR	25			LESS	THAN	1FT
CRESCENT CITY	1523	PDT	MAR	25	24	HRS	2.1-	- 4.0I	FΤ
MONTEREY	1544	PDT	MAR	25			LESS	THAN	1FT
PORT SAN LUIS	1604	PDT	MAR	25	15	HRS	1.8-	- 3.7I	FΤ
SAN FRANCISCO	1608	PDT	MAR	25			LESS	THAN	1FT
SANTA BARBARA	1617	PDT	MAR	25			LESS	THAN	1FT
LOS ANGELES HARB	1633	PDT	MAR	25			LESS	THAN	1FT
NEWPORT BEACH	1640	PDT	MAR	25			LESS	THAN	1FT
OCEANSIDE	1643	PDT	MAR	25			LESS	THAN	1FT
LA JOLLA	1643	PDT	MAR	25			LESS	THAN	1FT

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

## ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUR	EMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1551 UTC	03-25	03.5FT
SHEMYA AK	1635 UTC	03-25	02.9FT
ADAK AK	1645 UTC	03-25	01.6FT
ATKA AK	1652 UTC	03-25	02.3FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

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*	MAGNITUDE	8.6			
*	ORIGIN TIME	0700	AKDT I	MAR 25	2015
		0800	PDT I	MAR 25	2015
		1500	UTC I	MAR 25	2015
*	COORDINATES	53.5	NORTH	162.0	EAST
*	DEPTH	19 M	TLES		

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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# NTWC Bulletin #5

WEAK51 PAAQ 251804 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 5 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 1104 AM PDT WED MAR 25 2015

#### UPDATES

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THIS MESSAGE CONTAINS NEW OBSERVATIONS.

- ... THE TSUNAMI WARNING REMAINS IN EFFECT...
- ... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES

\_\_\_\_\_

TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI WARNING AREAS

-----

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* IF YOU ARE IN A WARNING AREA MOVE INLAND TO HIGHER GROUND.
- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

## FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

	FORECAST		FORECAST	
	START OF		TSUNAMI	MAX TSUNAMI
SITE	OF TSUNAM	ΙΙ	DURATION	HEIGHT
* ALASKA				
	0910 AKD	. MAD OF	24 HDG	1.8- 3.4FT
ADAK		_	24 HRS	
UNALASKA	1014 AKD		00 1120	0.7- 1.3FT
SAINT PAUL	1025 AKD		20 HRS	1.5- 2.8FT
SAND POINT	1057 AKD			LESS THAN 1FT
COLD BAY	1129 AKD	_		LESS THAN 1FT
KODIAK	1151 AKD			LESS THAN 1FT
SITKA	1225 AKD	7		LESS THAN 1FT
CRAIG	1326 AKD	MAR 25		
* BRITISH COLUM				
LANGARA	1335 PD:			LESS THAN 1FT
TOFINO	1458 PD	MAR 25		LESS THAN 1FT
* OREGON				
PORT ORFORD	1508 PD	MAR 25	15 HRS	1.4- 2.6FT
CHARLESTON	1515 PD	MAR 25		LESS THAN 1FT
BROOKINGS	1519 PD:	MAR 25	15 HRS	0.8- 1.6FT
SEASIDE	1523 PD	MAR 25		
NEWPORT	1525 PD	MAR 25		
* WASHINGTON				
NEAH BAY	1510 PD	MAR 25		LESS THAN 1FT
LONG BEACH		MAR 25		LESS THAN 1FT
MOCLIPS	1519 PD7	MAR 25		LESS THAN 1FT
WESTPORT	1525 PD7	MAR 25		LESS THAN 1FT
PORT ANGELES	1548 PD7	MAR 25		LESS THAN 1FT
PORT TOWNSEND	1615 PD	MAR 25		LESS THAN 1FT
* CALIFORNIA				
FORT BRAGG	1521 PD7	MAR 25		LESS THAN 1FT
CRESCENT CITY	1523 PD	MAR 25	24 HRS	2.1- 4.0FT
MONTEREY	1544 PD	MAR 25		LESS THAN 1FT
PORT SAN LUIS	1604 PD	MAR 25	15 HRS	1.8- 3.7FT
SAN FRANCISCO	1608 PD	MAR 25		LESS THAN 1FT
SANTA BARBARA		MAR 25		LESS THAN 1FT

LOS ANGELES HARE	1633	PDT MAR	25	LESS	THAN	1FT
NEWPORT BEACH	1640	PDT MAR	25	LESS	THAN	1FT
OCEANSIDE	1643	PDT MAR	25	LESS	THAN	1FT
LA JOLLA	1643	PDT MAR	25	LESS	THAN	1FT

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

#### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1734 UTC 03-25	02.7FT
NIKOLSKI AK	1758 UTC 03-25	02.5FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_

* MAGNITUDE	8.6
* ORIGIN TIME	0700 AKDT MAR 25 2015
	0800 PDT MAR 25 2015
	1500 UTC MAR 25 2015
* COORDINATES	53.5 NORTH 162.0 EAST
* DEPTH	19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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# **NTWC Bulletin #6**

WEAK51 PAAQ 251900 TSUAK1

BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 6 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 1200 PM PDT WED MAR 25 2015

#### UPDATES

\_\_\_\_\_

THIS MESSAGE CONTAINS NEW OBSERVATIONS.

- ... THE TSUNAMI WARNING REMAINS IN EFFECT...
- ...THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES

\_\_\_\_\_

TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

## TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI WARNING AREAS

-----

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS ARE POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

## IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

# RECOMMENDED ACTIONS

-----

- \* IF YOU ARE IN A WARNING AREA MOVE INLAND TO HIGHER GROUND.
- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT

EXPECTED FOR ADVISORY AREAS.

- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

# FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

SITE	FORE( STAR! OF T		 I		TSU	 ECAST NAMI ATION	
			-				
* ALASKA							
UNALASKA	1014	AKDT	MAR	25			0.7- 1.3FT
SAINT PAUL	1025	AKDT	MAR	25	20	HRS	1.5- 2.8FT
SAND POINT		AKDT		_			LESS THAN 1FT
COLD BAY	_	AKDT		_			LESS THAN 1FT
KODIAK		AKDT		_			LESS THAN 1FT
SITKA	_	AKDT		_			LESS THAN 1FT
CRAIG	1326	AKDT	MAR	25			
* BRITISH COLUM	STA						
LANGARA		PDT	MAR	25			LESS THAN 1FT
TOFINO	1458		MAR				LESS THAN 1FT
* OREGON							
PORT ORFORD	1508	PDT	MAR	25	15	HRS	1.4- 2.6FT
CHARLESTON	1515		MAR				LESS THAN 1FT
BROOKINGS	1519	PDT	MAR	25	15	HRS	0.8- 1.6FT
SEASIDE	1523	PDT	MAR	25			
NEWPORT	1525	PDT	MAR	25			
* WASHINGTON							
NEAH BAY	1510	PDT	MAR	25			LESS THAN 1FT
LONG BEACH	1514	PDT	MAR	25			LESS THAN 1FT
MOCLIPS	1519		MAR				LESS THAN 1FT
WESTPORT	1525		MAR	_			LESS THAN 1FT
PORT ANGELES	1548		MAR				LESS THAN 1FT
PORT TOWNSEND	1615	PDT	MAR	25			LESS THAN 1FT
* CALTEODNIA							
* CALIFORNIA FORT BRAGG	1521	שחם	MAR	25			LESS THAN 1FT
CRESCENT CITY	1523		MAR	_	2.4	HRS	2.1- 4.0FT
MONTEREY	1544		MAR	_	24	IIKS	LESS THAN 1FT
PORT SAN LUIS	1604		MAR		15	HRS	1.8- 3.7FT
SAN FRANCISCO	1608		MAR	_	10	111/0	LESS THAN 1FT
SANTA BARBARA	1617		MAR				LESS THAN 1FT
LOS ANGELES HARB			MAR	_			LESS THAN 1FT
NEWPORT BEACH	1640		MAR	-			LESS THAN 1FT
OCEANSIDE	1643		MAR				LESS THAN 1FT
LA JOLLA	1643		MAR				LESS THAN 1FT
21. 001111	1010	1 1	11111	20			

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH

THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

#### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

\_\_\_\_\_\_

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
	1500	05.0
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1734 UTC 03-25	02.7FT
NIKOLSKI AK	1830 UTC 03-25	03.0FT
UNALASKA AK	1855 UTC 03-25	00.4FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

## PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_

*	MAGNITUDE	8.6
*	ORIGIN TIME	0700 AKDT MAR 25 2015
		0800 PDT MAR 25 2015
		1500 UTC MAR 25 2015
*	COORDINATES	53.5 NORTH 162.0 EAST
*	DEPTH	19 MILES
*	LOCATION	195 MILES SW OF BERING I. KOMANDORSKI
		145 MILES NE OF PETROPAVLOVSK KAMCHATKA

# NEXT UPDATE AND ADDITIONAL INFORMATION

\* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.

- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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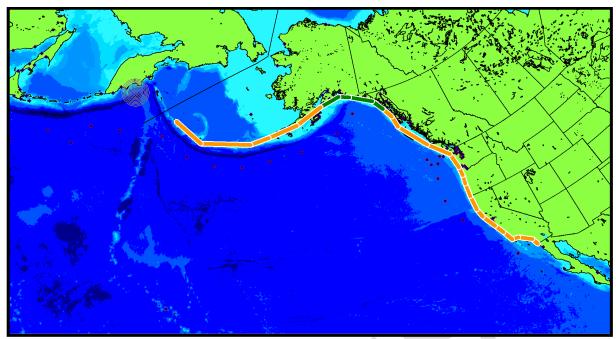


Figure D4: Warning/Advisory areas for Bulletin 7 (orange is advisory and green is no threat).

# NTWC Bulletin #7

WEAK51 PAAQ 252003 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 7 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 103 PM PDT WED MAR 25 2015

#### UPDATES

\_\_\_\_\_

THIS MESSAGE CONTAINS NEW OBSERVATIONS. THIS MESSAGE MODIFIES THE ALERT AREAS.

... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

WARNINGS/ADVISORIES/WATCHES - UPDATED

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS - UPDATED

-----

- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

# FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

	FORE(	r of			TSU	IMAN	
SITE	OF T	SUNAM:	I		DURA	NOITA	HEIGHT
	+	-+	- (				
A							
* ALASKA							
COLD BAY	1129	AKDT	MAR	25			LESS THAN 1FT
KODIAK	1151	AKDT	MAR	25			LESS THAN 1FT
SITKA	1225	AKDT	MAR	25			LESS THAN 1FT
CRAIG	1326	AKDT	MAR	25			
* BRITISH COLUM	BIA						
LANGARA	1335	PDT	MAR	25			LESS THAN 1FT
TOFINO	1458	PDT	MAR	25			LESS THAN 1FT
* OREGON							
PORT ORFORD	1508	PDT	MAR	25	15	HRS	1.4- 2.6FT
CHARLESTON	1515	PDT	MAR	25			LESS THAN 1FT
BROOKINGS	1519	PDT	MAR	25	15	HRS	0.8- 1.6FT
SEASIDE	1523	PDT	MAR	25			
NEWPORT	1525	PDT	MAR	25			
* WASHINGTON							
NEAH BAY	1510	PDT	MAR	25			LESS THAN 1FT
LONG BEACH	1514	PDT	MAR	25			LESS THAN 1FT
MOCLIPS	1519	PDT	MAR	25			LESS THAN 1FT
WESTPORT	1525		MAR				LESS THAN 1FT
PORT ANGELES	1548		MAR				LESS THAN 1FT
PORT TOWNSEND	1615		MAR	_			LESS THAN 1FT
I OTAL I OWINDLIND	T 0 T 0	1 1 1	T 17 7T /	20			IIIII II I

1521	PDT	MAR	25			LESS THAN 1FT
1523	PDT	MAR	25	24	HRS	2.1- 4.0FT
1544	PDT	MAR	25			LESS THAN 1FT
1604	PDT	MAR	25	15	HRS	1.8- 3.7FT
1608	PDT	MAR	25			LESS THAN 1FT
1617	PDT	MAR	25			LESS THAN 1FT
1633	PDT	MAR	25			LESS THAN 1FT
1640	PDT	MAR	25			LESS THAN 1FT
1643	PDT	MAR	25			LESS THAN 1FT
1643	PDT	MAR	25			LESS THAN 1FT
	1523 1544 1604 1608 1617 1633 1640 1643	1523 PDT 1544 PDT 1604 PDT 1608 PDT 1617 PDT 1633 PDT 1640 PDT 1643 PDT	1523 PDT MAR 1544 PDT MAR 1604 PDT MAR 1608 PDT MAR 1617 PDT MAR 1633 PDT MAR 1640 PDT MAR 1643 PDT MAR	1523 PDT MAR 25 1544 PDT MAR 25 1604 PDT MAR 25 1608 PDT MAR 25 1617 PDT MAR 25 1633 PDT MAR 25 1640 PDT MAR 25 1643 PDT MAR 25	1523 PDT MAR 25 24 1544 PDT MAR 25 15 1604 PDT MAR 25 15 1608 PDT MAR 25 1617 PDT MAR 25 1633 PDT MAR 25 1640 PDT MAR 25 1643 PDT MAR 25	1523 PDT MAR 25 24 HRS 1544 PDT MAR 25 1604 PDT MAR 25 1608 PDT MAR 25 1617 PDT MAR 25 1633 PDT MAR 25 1640 PDT MAR 25 1643 PDT MAR 25 1643 PDT MAR 25

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

## ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

\_\_\_\_\_

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1814 UTC 03-25	02.8FT
NIKOLSKI AK	1928 UTC 03-25	03.7FT
UNALASKA AK	1935 UTC 03-25	01.0FT
SAINT PAUL AK	1958 UTC 03-25	02.1FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

	<del></del>	
*	MAGNITUDE	8.6
*	ORIGIN TIME	0700 AKDT MAR 25 2015
		0800 PDT MAR 25 2015
		1500 UTC MAR 25 2015
*	COORDINATES	53.5 NORTH 162.0 EAST
*	DEPTH	19 MILES
*	LOCATION	195 MILES SW OF BERING I. K

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- $^{\star}$  THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

## NTWC Bulletin #8

WEAK51 PAAQ 252100 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 8 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 200 PM PDT WED MAR 25 2015

#### UPDATES

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THIS MESSAGE CONTAINS NEW OBSERVATIONS.

... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES

\_\_\_\_\_

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

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- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

								-	
	FORECAST START OF			FORECAST FORECAST TSUNAMI MAX TSUNAMI			ΙΙ		
SITE	OF TS	EUNAM:	I		DURA	NOITA	HEIG	TF	
			-						
* ALASKA									
SITKA	1225	AKDT	MAR	25			LESS	THAN	1FT
CRAIG	1326	AKDT	MAR	25					
* BRITISH COLUM									
LANGARA		PDT		_			LESS	THAN	1FT
TOFINO	1458	PDT	MAR	25			LESS	THAN	1FT
* OREGON	1 - 0 0	ъъш	147 D	<b>٥</b> -	1 -	IID O	1 1	0 6	۱ ا
	1508			_	15	HRS	1.4		
	1515				1 -	HD C		THAN	
BROOKINGS		PDT			15	HRS	0.8	- 1.6E	: T
SEASIDE		PDT							
NEWPORT	1525	PDT	MAR	25					
* WASHINGTON									
NEAH BAY	1510	PDT	MAR	25			LESS	THAN	1FT
LONG BEACH		PDT					LESS		
MOCLIPS	1519	PDT	MAR	25			LESS		
WESTPORT	1525	PDT	MAR	25			LESS	THAN	1FT
PORT ANGELES	1548	PDT	MAR	25			LESS	THAN	1FT
PORT TOWNSEND	1615	PDT	MAR	25			LESS	THAN	1FT
* CALIFORNIA									
FORT BRAGG	1521	PDT	MAR	25			LESS	THAN	1FT
CRESCENT CITY	1523	PDT	MAR	25	24	HRS	2.1	- 4.0H	ŦΤ
MONTEREY	1544	PDT	MAR	25			LESS	THAN	1FT
PORT SAN LUIS	1604	PDT	MAR	25	15	HRS	1.8	<b>-</b> 3.7E	FΤ
SAN FRANCISCO	1608	PDT	MAR	25			LESS	THAN	1FT
SANTA BARBARA	1617	PDT	MAR	25			LESS	THAN	1FT
LOS ANGELES HARB	1633	PDT	MAR	25			LESS	THAN	1FT
NEWPORT BEACH	1640	PDT	MAR	25			LESS	THAN	1FT
OCEANSIDE	1643	PDT	MAR	25			LESS	THAN	1FT
LA JOLLA	1643	PDT	MAR	25			LESS	THAN	1FT

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

# ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

TIME OBSERVED MAX
SITE OF MEASUREMENT TSUNAMI HEIGHT

PETROPAVLOVSK RUSSIA 1733 UTC 03-25 05.2FT
SHEMYA AK 1725 UTC 03-25 04.2FT
ADAK AK 1715 UTC 03-25 02.8FT
ATKA AK 1814 UTC 03-25 02.8FT
NIKOLSKI AK 1928 UTC 03-25 03.7FT

UNALASKA AK	1935 UTC 03-25	01.0FT
SAINT PAUL AK	2055 UTC 03-25	02.3FT
SAND POINT AK	2030 UTC 03-25	00.5FT
KING COVE AK	2048 UTC 03-25	01.5FT
KODIAK AK	2052 UTC 03-25	00.4FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

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*	MAGNITUDE	8.6	ò				
*	ORIGIN TIM	E 070	00 A	KDT 1	MAR 2	25 2	2015
		080	0.0	PDT 1	MAR 2	25 2	2015
		150	0.0	UTC 1	MAR 2	25 2	2015
*	COORDINATE	S 53	.5 N	IORTH	162	.0 1	EAST

\* DEPTH 19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

## NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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## NTWC Bulletin #9

WEAK51 PAAQ 252201 TSUAK1

## BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 9 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 301 PM PDT WED MAR 25 2015

#### UPDATES

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THIS MESSAGE CONTAINS NEW OBSERVATIONS.

... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

### WARNINGS/ADVISORIES/WATCHES

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TSUNAMI ADVISORY IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA

\* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

\_\_\_\_\_

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

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- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

								_	
	FORECA	ST			FORE	ECAST	FORE	CAST	
	START	OF			TSU	IMAI	MAX '	TSUNAN	ΊΙ
SITE	OF TSU	NAM1			DURA	NOITA	HEIG	HT	
	,		-						
* ALASKA									
CRAIG	1326 A	KDT	MAR	25					
* BRITISH COLUM	BIA								
LANGARA	1335	PDT	MAR	25			LESS	THAN	1FT
TOFINO	1458	PDT	MAR	25			LESS	THAN	1FT
* OREGON									
PORT ORFORD	1508	PDT	MAR	25	15	HRS	1.4	- 2.6I	FΤ
CHARLESTON	1515	PDT	MAR	25			LESS	THAN	1FT
BROOKINGS	1519	PDT	MAR	25	15	HRS	0.8	- 1.6E	FΤ
SEASIDE	1523	PDT	MAR	25					
NEWPORT	1525	PDT	MAR	25					
* WASHINGTON									
NEAH BAY	1510	PDT	MAR	25			LESS	THAN	1FT
LONG BEACH	1514	PDT	MAR	25			LESS	THAN	1FT
MOCLIPS	1519	PDT	MAR	25			LESS	THAN	1FT
WESTPORT	1525	PDT	MAR	25			LESS	THAN	1FT

PORT ANGELES	1548	PDT	MAR	25			LESS	THAN	1FT
PORT TOWNSEND	1615	PDT	MAR	25			LESS	THAN	1FT
* CALIFORNIA									
FORT BRAGG	1521	PDT	MAR	25			LESS	THAN	1FT
CRESCENT CITY	1523	PDT	MAR	25	24	HRS	2.1-	- 4.0H	T
MONTEREY	1544	PDT	MAR	25			LESS	THAN	1FT
PORT SAN LUIS	1604	PDT	MAR	25	15	HRS	1.8-	- 3.7E	T
SAN FRANCISCO	1608	PDT	MAR	25			LESS	THAN	1FT
SANTA BARBARA	1617	PDT	MAR	25			LESS	THAN	1FT
LOS ANGELES HARB	1633	D D I	3 6 3 D	0.5					1
TOS ANGELES HAND	1033	PD.I.	MAR	25			LESS	THAN	1FT
NEWPORT BEACH	1640		MAR MAR					THAN	1FT 1FT
		PDT		25			LESS		

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

## ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

\_\_\_\_\_\_

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1814 UTC 03-25	02.8FT
NIKOLSKI AK	1928 UTC 03-25	03.7FT
UNALASKA AK	1935 UTC 03-25	01.0FT
SAINT PAUL AK	2055 UTC 03-25	02.3FT
SAND POINT AK	2110 UTC 03-25	00.9FT
KING COVE AK	2048 UTC 03-25	01.5FT
KODIAK AK	2052 UTC 03-25	00.4FT
SEWARD AK	2152 UTC 03-25	00.3FT
YAKUTAT AK	2130 UTC 03-25	00.4FT
SITKA AK	2145 UTC 03-25	00.7FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

## PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.6

\* ORIGIN TIME 0700 AKDT MAR 25 2015
0800 PDT MAR 25 2015
1500 UTC MAR 25 2015

\* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

# NEXT UPDATE AND ADDITIONAL INFORMATION

<sup>\*</sup> THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.

- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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# NTWC Bulletin #10

WEAK51 PAAQ 252300 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 10 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 400 PM PDT WED MAR 25 2015

#### UPDATES

\_\_\_\_\_

THIS MESSAGE CONTAINS NEW OBSERVATIONS.

...THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES

\_\_\_\_\_

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

## IMPACTS FOR TSUNAMI ADVISORY AREAS

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- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

\_\_\_\_\_

\* IF YOU ARE IN AN ADVISORY AREA - MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.

- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- $^{\star}$  DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

#### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

	FORECAST				FORECAST		FORECAST	
	START	OF			TSU	IMAN	MAX TSUNAMI	
SITE	OF TS	JNAM:	Ι		DUR	ATION	HEIGHT	
			-					
* ODECOM								
* OREGON	1 = 0 0	DDM	V( ) D	O.E.	1 5	IIDC	1 4 2 600	
PORT ORFORD				_	15	HRS	1.4- 2.6FT	
CHARLESTON	1515			_	1 -	IID O	LESS THAN 1FT	
BROOKINGS			MAR	_	15	HRS	0.8- 1.6FT	
SEASIDE			MAR					
NEWPORT	1525	PDT.	MAR	25				
* WASHINGTON								
NEAH BAY	1510	שחם	MΛD	25			LESS THAN 1FT	
LONG BEACH	1514						LESS THAN 1FT	
MOCLIPS			MAR				LESS THAN 1FT	
WESTPORT			MAR	_			LESS THAN 1FT	
PORT ANGELES			MAR				LESS THAN 1FT	
PORT TOWNSEND							LESS THAN 1FT	
PORT TOWNSEND	1013	PDI	MAK	23			TESS THAN IT	
* CALIFORNIA								
FORT BRAGG	1521	PDT	MAR	25			LESS THAN 1FT	
CRESCENT CITY	1523		MAR		2.4	HRS	2.1- 4.0FT	
MONTEREY	1544	PDT	MAR	25			LESS THAN 1FT	
PORT SAN LUIS	1604		MAR	-	1.5	HRS	1.8- 3.7FT	
SAN FRANCISCO	1608		MAR			11110	LESS THAN 1FT	
SANTA BARBARA	1617		MAR				LESS THAN 1FT	
LOS ANGELES HARB			MAR				LESS THAN 1FT	
NEWPORT BEACH	1640		MAR	7			LESS THAN 1FT	
OCEANSIDE	1643		MAR				LESS THAN 1FT	
LA JOLLA	1643		MAR				LESS THAN 1FT	
=== 302221	_ 0 _ 0							

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

# ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1814 UTC 03-25	02.8FT
NIKOLSKI AK	1928 UTC 03-25	03.7FT
UNALASKA AK	1935 UTC 03-25	01.0FT

SAINT PAUL AK	2055 UTC 03-25	02.3FT
SAND POINT AK	2110 UTC 03-25	00.9FT
KING COVE AK	2048 UTC 03-25	01.5FT
KODIAK AK	2052 UTC 03-25	00.4FT
SEWARD AK	2152 UTC 03-25	00.3FT
YAKUTAT AK	2130 UTC 03-25	00.4FT
SITKA AK	2145 UTC 03-25	00.7FT
LANGARA BC	2222 UTC 03-25	00.2FT
TOFINO BC	2234 UTC 03-25	00.9FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

#### PRELIMINARY EARTHQUAKE PARAMETERS

-----

*	MAGNITU	JDE	8.	6					
*	ORIGIN	TIME	07	700	AKDT	MAR	25	2015	
			0.8	300	PDT	MAR	25	2015	
			15	00	UTC	MAR	25	2015	
*	COORDIN	NATES	53	3.5	NORTH	H 162	2.0	EAST	

\* DEPTH 19 MILES

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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# NTWC Bulletin #11

WEAK51 PAAQ 260005 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 11 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 505 PM PDT WED MAR 25 2015

#### UPDATES

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THIS MESSAGE CONTAINS NEW OBSERVATIONS.

... THE TSUNAMI ADVISORY REMAINS IN EFFECT...

#### WARNINGS/ADVISORIES/WATCHES

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TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO ATTU ALASKA

FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THERE IS NO TSUNAMI THREAT.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

-----

- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
- \* CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

-----

- \* IF YOU ARE IN AN ADVISORY AREA MOVE OFF THE BEACH AND OUT OF HARBORS AND MARINAS. WIDESPREAD INUNDATION OF LAND IS NOT EXPECTED FOR ADVISORY AREAS.
- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.
- \* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

## FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

SITE	FORECA START OF TSU	OF			TSU	ECAST NAMI ATION	FOREC MAX T HEIGH	SUNAN	4I 
* WASHINGTON PORT TOWNSEND	1615	PDT	M 7 D	25			TECC	THAN	1 F T
PORT TOWNSEND	1013	PDI.	MAR	23			LESS	IHAN	T T T
* CALIFORNIA									
PORT SAN LUIS	1604	PDT	MAR	25	15	HRS	1.8-	- 3.7E	T
SAN FRANCISCO	1608	PDT	MAR	25			LESS	THAN	1FT
SANTA BARBARA	1617	PDT	MAR	25			LESS	THAN	1FT
LOS ANGELES HARB	1633	PDT	MAR	25			LESS	THAN	1FT
NEWPORT BEACH	1640	PDT	MAR	25			LESS	THAN	1FT
OCEANSIDE	1643	PDT	MAR	25			LESS	THAN	1FT
LA JOLLA	1643	PDT :	MAR	25			LESS	THAN	1FT

FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

FORECAST TSUNAMI DURATION IS THE APPROXIMATE LENGTH OF TIME WHICH THE TSUNAMI MAY PRODUCE DANGEROUS CURRENTS AND WAVE ACTIVITY.

#### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUR	EMENT	OBSERVED MAX TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC	03-25	05.2FT
SHEMYA AK	1725 UTC	03-25	04.2FT
ADAK AK	1715 UTC	03-25	02.8FT
ATKA AK	1814 UTC	03-25	02.8FT
NIKOLSKI AK	1928 UTC	03-25	03.7FT
UNALASKA AK	1935 UTC	03-25	01.0FT
SAINT PAUL AK	2055 UTC	03-25	02.3FT
SAND POINT AK	2110 UTC	03-25	00.9FT
KING COVE AK	2048 UTC	03-25	01.5FT
KODIAK AK	2052 UTC	03-25	00.4FT
SEWARD AK	2152 UTC	03-25	00.3FT
YAKUTAT AK	2130 UTC	03-25	00.4FT
SITKA AK	2145 UTC	03-25	00.7FT
LANGARA BC	2222 UTC	03-25	00.2FT
TOFINO BC	2234 UTC	03-25	00.9FT
WESTPORT WA	2333 UTC	03-25	00.6FT
NEAH BAY WA	2347 UTC	03-25	00.2FT
CHARLESTON OR	2355 UTC	03-25	00.6FT
PORT ORFORD OR	2344 UTC	03-25	01.4FT
CRESCENT CITY CA	2356 UTC	03-25	02.3FT
HUMBOLDT BAY CA	2358 UTC	03-25	00.5FT
POINT ARENA CA	2345 UTC	03-25	01.2FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

## PRELIMINARY EARTHQUAKE PARAMETERS

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*	MAGNITUDE	8.6				
*	ORIGIN TIME	0700	AKDT	MAR	25	2015
		0800	PDT	MAR	25	2015
		1500	UTC	MAR	25	2015
*	COORDINATES	53.5	NORTH	H 162	2.0	EAST
*	DEPTH	19 M	ÌLES			

\* LOCATION 195 MILES SW OF BERING I. KOMANDORSKI 145 MILES NE OF PETROPAVLOVSK KAMCHATKA

## NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_

- \* THIS MESSAGE WILL BE UPDATED WITHIN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

# **NTWC Bulletin #12**

WEAK51 PAAQ 260100 TSUAK1

#### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 12 NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK 600 PM PDT WED MAR 25 2015

... THE TSUNAMI ADVISORY IS CANCELLED...

#### CANCELLATIONS

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- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF CALIFORNIA OREGON WASHINGTON BRITISH COLUMBIA AND ALASKA FROM THE CAL./MEXICO BORDER TO SALISBURY SOUND ALASKA
- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA /WHICH IS LOCATED 40 MILES SW OF HOMER/ TO ATTU ALASKA

# IMPACTS - UPDATED

\_\_\_\_\_\_

- \* TSUNAMI ACTIVITY HAS SUBSIDED ALONG THE COASTS OF THE U.S. WEST COAST STATES... BRITISH COLUMBIA AND ALASKA.
- \* ONGOING ACTIVITY MAY PERSIST IN SOME AREAS CAUSING STRONG CURRENTS DANGEROUS TO SWIMMERS AND BOATS.
- \* THE DETERMINATION TO RE-OCCUPY HAZARD ZONES MUST BE MADE BY LOCAL OFFICIALS.

### RECOMMENDED ACTIONS - UPDATED

\_\_\_\_\_

\* DO NOT RE-OCCUPY HAZARD ZONES UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

# OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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	TIME	OBSERVED MAX
SITE	OF MEASUREMENT	TSUNAMI HEIGHT
PETROPAVLOVSK RUSSIA	1733 UTC 03-25	05.2FT
SHEMYA AK	1725 UTC 03-25	04.2FT
ADAK AK	1715 UTC 03-25	02.8FT
ATKA AK	1814 UTC 03-25	02.8FT
NIKOLSKI AK	1928 UTC 03-25	03.7FT
UNALASKA AK	1935 UTC 03-25	01.0FT
SAINT PAUL AK	2055 UTC 03-25	02.3FT
SAND POINT AK	2110 UTC 03-25	00.9FT
KING COVE AK	2048 UTC 03-25	01.5FT
KODIAK AK	2052 UTC 03-25	00.4FT
SEWARD AK	2152 UTC 03-25	00.3FT
YAKUTAT AK	2130 UTC 03-25	00.4FT
SITKA AK	2145 UTC 03-25	00.7FT

WESTPORT WA       2333 UTC       03-25       00.6FT         NEAH BAY WA       2347 UTC       03-25       00.2FT         CHARLESTON OR       2355 UTC       03-25       00.6FT         PORT ORFORD OR       2344 UTC       03-25       01.4FT         CRESCENT CITY CA       0034 UTC       03-26       02.9FT         HUMBOLDT BAY CA       2358 UTC       03-25       00.5FT         POINT ARENA CA       0044 UTC       03-26       01.6FT         SAN FRANCISCO CA       0033 UTC       03-26       00.3FT         MONTEREY CA       0028 UTC       03-26       00.6FT         PORT SAN LUIS CA       0051 UTC       03-26       01.0FT         SANTA BARBARA CA       0058 UTC       03-26       01.0FT         SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0049 UTC       03-26       00.5FT         SAN DIEGO CA       0055 UTC       03-26       00.3FT	LANGARA BC TOFINO BC	2222 2234	UTC	03-25 03-25	00.2FT 00.9FT
CHARLESTON OR 2355 UTC 03-25 00.6FT PORT ORFORD OR 2344 UTC 03-25 01.4FT CRESCENT CITY CA 0034 UTC 03-26 02.9FT HUMBOLDT BAY CA 2358 UTC 03-25 00.5FT POINT ARENA CA 0044 UTC 03-26 01.6FT SAN FRANCISCO CA 0033 UTC 03-26 00.3FT MONTEREY CA 0028 UTC 03-26 00.6FT PORT SAN LUIS CA 0051 UTC 03-26 01.1FT SANTA BARBARA CA 0058 UTC 03-26 01.0FT SANTA MONICA CA 0052 UTC 03-26 00.9FT LOS ANGELES CA 0054 UTC 03-26 00.6FT LA JOLLA CA 0049 UTC 03-26 00.5FT	WESTPORT WA	2333	UTC	03-25	00.6FT
PORT ORFORD OR         2344 UTC         03-25         01.4FT           CRESCENT CITY CA         0034 UTC         03-26         02.9FT           HUMBOLDT BAY CA         2358 UTC         03-25         00.5FT           POINT ARENA CA         0044 UTC         03-26         01.6FT           SAN FRANCISCO CA         0033 UTC         03-26         00.3FT           MONTEREY CA         0028 UTC         03-26         00.6FT           PORT SAN LUIS CA         0051 UTC         03-26         01.1FT           SANTA BARBARA CA         0058 UTC         03-26         01.0FT           SANTA MONICA CA         0052 UTC         03-26         00.9FT           LOS ANGELES CA         0054 UTC         03-26         00.6FT           LA JOLLA CA         0049 UTC         03-26         00.5FT	NEAH BAY WA	2347	UTC	03-25	00.2FT
CRESCENT CITY CA 0034 UTC 03-26 02.9FT HUMBOLDT BAY CA 2358 UTC 03-25 00.5FT POINT ARENA CA 0044 UTC 03-26 01.6FT SAN FRANCISCO CA 0033 UTC 03-26 00.3FT MONTEREY CA 0028 UTC 03-26 00.6FT PORT SAN LUIS CA 0051 UTC 03-26 01.1FT SANTA BARBARA CA 0058 UTC 03-26 01.0FT SANTA MONICA CA 0052 UTC 03-26 00.9FT LOS ANGELES CA 0054 UTC 03-26 00.6FT LA JOLLA CA 0049 UTC 03-26 00.5FT	CHARLESTON OR	2355	UTC	03-25	00.6FT
HUMBOLDT BAY CA       2358 UTC       03-25       00.5FT         POINT ARENA CA       0044 UTC       03-26       01.6FT         SAN FRANCISCO CA       0033 UTC       03-26       00.3FT         MONTEREY CA       0028 UTC       03-26       00.6FT         PORT SAN LUIS CA       0051 UTC       03-26       01.1FT         SANTA BARBARA CA       0058 UTC       03-26       01.0FT         SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0054 UTC       03-26       00.6FT         LA JOLLA CA       0049 UTC       03-26       00.5FT	PORT ORFORD OR	2344	UTC	03-25	01.4FT
POINT ARENA CA       0044 UTC       03-26       01.6FT         SAN FRANCISCO CA       0033 UTC       03-26       00.3FT         MONTEREY CA       0028 UTC       03-26       00.6FT         PORT SAN LUIS CA       0051 UTC       03-26       01.1FT         SANTA BARBARA CA       0058 UTC       03-26       01.0FT         SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0054 UTC       03-26       00.6FT         LA JOLLA CA       0049 UTC       03-26       00.5FT	CRESCENT CITY CA	0034	UTC	03-26	02.9FT
SAN FRANCISCO CA       0033 UTC 03-26       00.3FT         MONTEREY CA       0028 UTC 03-26       00.6FT         PORT SAN LUIS CA       0051 UTC 03-26       01.1FT         SANTA BARBARA CA       0058 UTC 03-26       01.0FT         SANTA MONICA CA       0052 UTC 03-26       00.9FT         LOS ANGELES CA       0054 UTC 03-26       00.6FT         LA JOLLA CA       0049 UTC 03-26       00.5FT	HUMBOLDT BAY CA	2358	UTC	03-25	00.5FT
MONTEREY CA       0028 UTC       03-26       00.6FT         PORT SAN LUIS CA       0051 UTC       03-26       01.1FT         SANTA BARBARA CA       0058 UTC       03-26       01.0FT         SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0054 UTC       03-26       00.6FT         LA JOLLA CA       0049 UTC       03-26       00.5FT	POINT ARENA CA	0044	UTC	03-26	01.6FT
PORT SAN LUIS CA       0051 UTC       03-26       01.1FT         SANTA BARBARA CA       0058 UTC       03-26       01.0FT         SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0054 UTC       03-26       00.6FT         LA JOLLA CA       0049 UTC       03-26       00.5FT	SAN FRANCISCO CA	0033	UTC	03-26	00.3FT
SANTA BARBARA CA       0058 UTC       03-26       01.0ft         SANTA MONICA CA       0052 UTC       03-26       00.9ft         LOS ANGELES CA       0054 UTC       03-26       00.6ft         LA JOLLA CA       0049 UTC       03-26       00.5ft	MONTEREY CA	0028	UTC	03-26	00.6FT
SANTA MONICA CA       0052 UTC       03-26       00.9FT         LOS ANGELES CA       0054 UTC       03-26       00.6FT         LA JOLLA CA       0049 UTC       03-26       00.5FT	PORT SAN LUIS CA	0051	UTC	03-26	01.1FT
LOS ANGELES CA 0054 UTC 03-26 00.6FT LA JOLLA CA 0049 UTC 03-26 00.5FT	SANTA BARBARA CA	0058	UTC	03-26	01.0FT
LA JOLLA CA 0049 UTC 03-26 00.5FT	SANTA MONICA CA	0052	UTC	03-26	00.9FT
	LOS ANGELES CA	0054	UTC	03-26	00.6FT
SAN DIEGO CA 0055 UTC 03-26 00.3FT	LA JOLLA CA	0049	UTC	03-26	00.5FT
	SAN DIEGO CA	0055	UTC	03-26	00.3FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS WILL BE THE FINAL U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGE ISSUED FOR THIS EVENT.
- \* REFER TO THE INTERNET SITE NTWC.ARH.NOAA.GOV FOR MORE INFORMATION.
- \* PACIFIC COASTAL REGIONS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

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## PTWC International Message #1

ZCZC WEPA40 PHEB 251505 TSUPAC

TSUNAMI MESSAGE NUMBER 1 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1505 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

#### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_\_

\* MAGNITUDE 8.1

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.1 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

# TSUNAMI THREAT FORECAST

\* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

RUSSIA AND JAPAN

## RECOMMENDED ACTIONS

\_\_\_\_\_

\* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

\* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITH AN ETA WITHIN THE NEXT SIX HOURS. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
UST KAMCHATSK	RUSSIA	56.1N 162.6E	1533 03/25
PETROPAVLOVSK	RUSSIA	53.2N 159.6E	
MEDNNY ISLAND	RUSSIA	54.7N 167.4E	1549 03/25
OSTROV KARAGINS	RUSSIA	58.8N 164.5E	1601 03/25
SIMUSHIR	RUSSIA	46.7N 151.8E	
SEVERO KURILSK	RUSSIA	50.8N 156.1E	1655 03/25
KUSHIRO	JAPAN	42.9N 144.3E	1713 03/25
HACHINOHE	JAPAN	40.5N 141.5E	
KATSUURA	JAPAN	35.1N 140.3E	
HACHIJO JIMA	JAPAN	33.1N 139.8E	1820 03/25
CHICHI JIMA	JAPAN	27.0N 142.3E	1846 03/25
MINAMITORISHIMA	JAPAN	24.3N 154.0E	
GASTELLO	RUSSIA	49.1N 143.0E	1901 03/25
MIDWAY ISLAND	MIDWAY ISLAND	28.2N 177.4W	1902 03/25
SHIMIZU	JAPAN	32.8N 133.0E	
SAPPORO	JAPAN	43.5N 141.0E	
WAKE ISLAND	WAKE ISLAND	19.3N 166.6E	1931 03/25
NOBEOKA	JAPAN	32.5N 131.8E	1933 03/25
NIIGATA	JAPAN	38.0N 139.0E	1950 03/25
VLADIVOSTOK	RUSSIA	42.8N 132.0E	2006 03/25
SAIPAN	NORTHERN MARIANA	42.8N 132.0E 15.3N 145.8E	2020 03/25
SINCHANG	DPR OF KOREA	40.1N 128.5E	
GUAM	GUAM	13.4N 144.7E	2042 03/25
UST KAHYRYUZOVO	RUSSIA	57.1N 156.7E	2048 03/25
SHIMANE	JAPAN	35.8N 133.0E	2049 03/25
JOHNSTON ISLAND			
VANINO	RUSSIA	49.0N 140.4E	2056 03/25
ENIWETOK	MARSHALL ISLANDS	11.4N 162.3E	2056 03/25
KWAJALEIN	MARSHALL ISLANDS	8.7N 167.7E	2103 03/25
OKINAWA	JAPAN	26.2N 127.8E	2104 03/25

# POTENTIAL IMPACTS

- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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#### PTWC Coastal Tsunami Amplitude Forecast Polygons

Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on atolls will likely be much smaller than the forecast indicates.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information. Earthquake: 25 Mar 2015 15:00:00 Z Lat: 53.50°N Lon: 162.00°E Depth: 30 km M<sub>W</sub>: 8.60 Determined Earthquake Mechanism: 60°N Maximum Amplitude (m) 45°N > 3 m 30°N 1 - 3 m 15°N 0° 0.3 - 1 m 15°S < 0.3 m 30°S Threat Not 45°S Computed model run at: 18 Nov 2014 00:57:56 Z 105°E 120°E 135°E 150°E 165°E 180° 165°W 150°W 135°W 120°W 105°W 90°W 60°W

Figure D5: PTWC Threat polygons to accompany International Message #2.

## PTWC Deep-Ocean Tsunami Amplitude Forecast

This map should not be used to estimate coastal tsunami amplitudes or impacts. Deep-ocean amplitudes are usually much smaller than coastal amplitudes.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information.

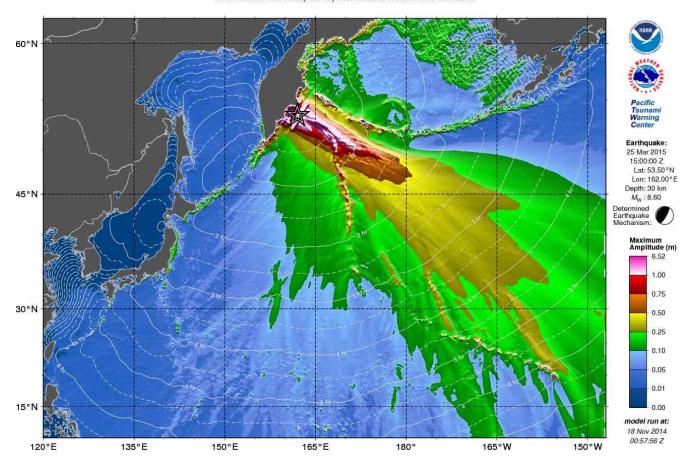


Figure D6: PTWC Deep-Ocean Forecast for the region close to the source. This figure accompanies International Message #2.

#### **PTWC Coastal Tsunami Amplitude Forecast**

Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on atolls will likely be much smaller than the forecast indicates.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information.

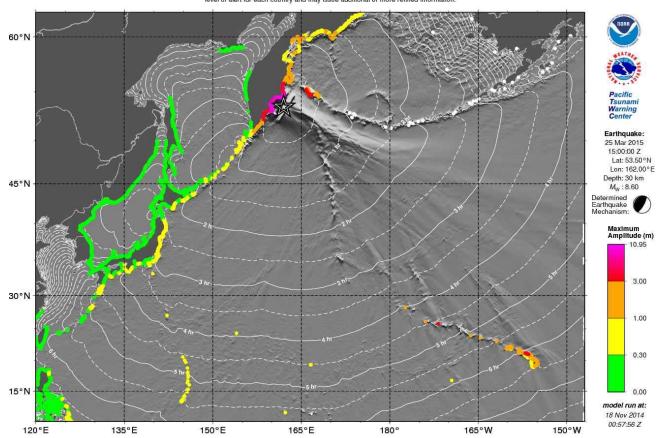


Figure D7: PTWC Coastal amplitude estimates for the region close to the source. This figure accompanies International Message #2.

# PTWC International Message #2

ZCZC WEPA40 PHEB 251530 TSUPAC

TSUNAMI MESSAGE NUMBER 2 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1530 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

THIS MESSAGE CONTAINS A REVISED MAGNITUDE THIS MESSAGE MODIFIES THE THREAT LEVELS

\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED

#### INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

#### PRELIMINARY EARTHQUAKE PARAMETERS

8.6 \* MAGNITUDE

\* MAGNITUDE 8.6 \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

#### TSUNAMI THREAT FORECAST...UPDATED \_\_\_\_\_\_

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

MIDWAY ISLAND.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

JAPAN... PHILIPPINES... NORTHERN MARIANAS... GUAM... MARSHALL ISLANDS... WAKE ISLAND... AND JOHNSTON ISLAND.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

TAIWAN... AND CHINA.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSECUENT PRODUCTS.

### RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE

FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
UST KAMCHATSK	RUSSIA	56.1N 162.6E	1533 03/25
PETROPAVLOVSK	RUSSIA	53.2N 159.6E	
MEDNNY ISLAND		54.7N 167.4E	
OSTROV KARAGINS	RUSSIA	58.8N 164.5E	
SIMUSHIR	RUSSIA	46.7N 151.8E	1619 03/25
SEVERO KURILSK	RUSSIA	50.8N 156.1E	1655 03/25
KUSHIRO	JAPAN	42.9N 144.3E	1713 03/25
HACHINOHE	JAPAN	40.5N 141.5E	
KATSUURA	JAPAN	35.1N 140.3E	1802 03/25
HACHIJO JIMA	JAPAN	33.1N 139.8E	1820 03/25
CHICHI JIMA	JAPAN	27.0N 142.3E	1846 03/25
MINAMITORISHIMA	JAPAN	24.3N 154.0E	1855 03/25
MIDWAY ISLAND	MIDWAY ISLAND	28.2N 177.4W	
SHIMIZU	JAPAN	32.8N 133.0E	1929 03/25
WAKE ISLAND	WAKE ISLAND	19.3N 166.6E	1931 03/25
NOBEOKA	JAPAN	32.5N 131.8E	1933 03/25
SAIPAN	NORTHERN MARIANA	15.3N 145.8E	2020 03/25
GUAM	GUAM	13.4N 144.7E	2042 03/25
ENIWETOK	MARSHALL ISLANDS	11.4N 162.3E	2056 03/25
KWAJALEIN	MARSHALL ISLANDS	8.7N 167.7E	2103 03/25
OKINAWA	JAPAN	26.2N 127.8E	2104 03/25
MAJURO	MARSHALL ISLANDS	7.1N 171.4E	2116 03/25
PALANAN	PHILIPPINES	17.1N 122.6E	2128 03/25
LEGASPI	PHILIPPINES	13.2N 123.8E	
DAVAO	PHILIPPINES	6.8N 125.7E	2226 03/25

# POTENTIAL IMPACTS

- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHOUAKE.USGS.GOV/EARTHOUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

\$\$

# PTWC Coastal Tsunami Amplitude Forecast Polygons

Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on atolls will likely be much smaller than the forecast indicates.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information. Earthquake: 25 Mar 2015 15:00:00 Z Lat: 53.73°N Lon: 160.96°E Depth: 28 km Mw: 8.60 Determined 60°N Earthquake Mechanism: Maximum Amplitude (m) 45°N > 3 m 30°N 1 - 3 m 15°N 0° 0.3 - 1 m 15°S < 0.3 m 30°S Threat 45°S Computed nodel run at: 19 Oct 2014 60°S 135°E 150°E 165°E 180° 165°W 150°W 135°W 120°W 105°W 90°W 60°W

Figure D8: PTWC Tsunami Threat Level Polygons to accompany International Message #3.

# PTWC Deep-Ocean Tsunami Amplitude Forecast

This map should not be used to estimate coastal tsunami amplitudes or impacts. Deep-ocean amplitudes are usually much smaller than coastal amplitudes.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information.

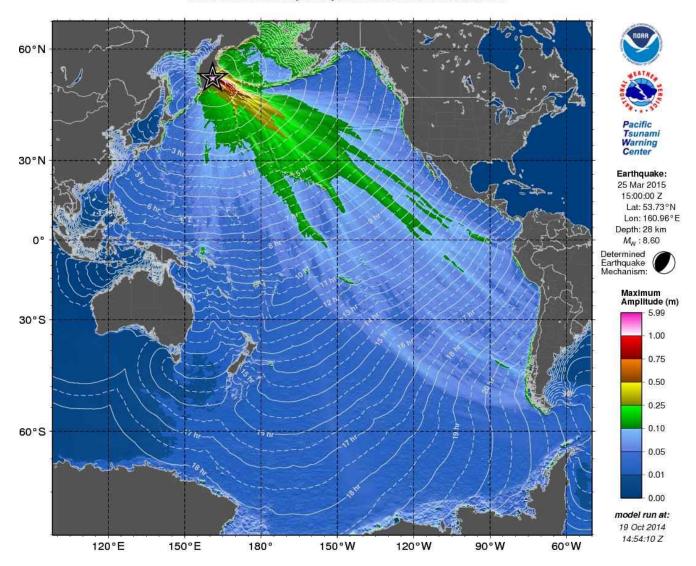


Figure D9: PTWC Deep-Ocean Forecast to accompany International Message #3

## PTWC Coastal Tsunami Amplitude Forecast

Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on atolls will likely be much smaller than the forecast indicates.

This message is issued for information only in support of the UNESCO/IOC Pacific Tsunami Warning and Mitigation System and is meant for national authorities in each country of that system. National authorities will determine the appropriate level of alert for each country and may issue additional or more refined information.

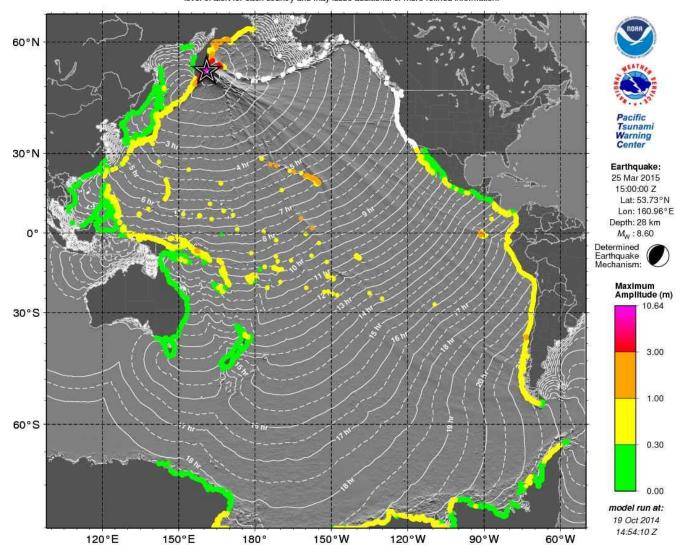


Figure D10: PTWC Coastal Amplitude Forecast to accompany International Message #3.

# PTWC International Message #3

ZCZC
WEPA40 PHEB 251603
TSUPAC

TSUNAMI MESSAGE NUMBER 3
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1603 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...
THIS MESSAGE MODIFIES THE THREAT LEVELS
THIS MESSAGE LISTS TSUNAMI OBSERVATIONS

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

# PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST...UPDATED

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE

THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

## RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
UST KAMCHATSK PETROPAVLOVSK MEDNNY ISLAND OSTROV KARAGINS	RUSSIA RUSSIA RUSSIA RUSSIA	56.1N 162.6E 53.2N 159.6E 54.7N 167.4E 58.8N 164.5E	1547 03/25 1549 03/25
SIMUSHIR SEVERO KURILSK KUSHIRO HACHINOHE	RUSSIA RUSSIA JAPAN JAPAN	46.7N 151.8E 50.8N 156.1E 42.9N 144.3E 40.5N 141.5E	1655 03/25 1713 03/25
KATSUURA	JAPAN	35.1N 140.3E	1802 03/25
HACHIJO JIMA	JAPAN	33.1N 139.8E	
CHICHI JIMA	JAPAN	27.0N 142.3E	
MINAMITORISHIMA GASTELLO MIDWAY ISLAND	JAPAN RUSSIA MIDWAY ISLAND	24.3N 154.0E 49.1N 143.0E 28.2N 177.4W	1901 03/25 1902 03/25
SHIMIZU	JAPAN	32.8N 133.0E	1929 03/25
SAPPORO	JAPAN	43.5N 141.0E	1930 03/25
WAKE ISLAND	WAKE ISLAND	19.3N 166.6E	1931 03/25
NOBEOKA	JAPAN	32.5N 131.8E	1933 03/25
NIIGATA	JAPAN	38.0N 139.0E	1950 03/25
SAIPAN	NORTHERN MARIANA	15.3N 145.8E	2020 03/25
GUAM	GUAM	13.4N 144.7E	2042 03/25
UST KAHYRYUZOVO	RUSSIA	57.1N 156.7E	
SHIMANE	JAPAN	35.8N 133.0E	
ENIWETOK	MARSHALL ISLANDS	11.4N 162.3E	

KWAJALEIN         MARSHALL ISLANDS         8, 7N 167,7E         2103 03/25           OKLNAMA         JAPAN         24, 0N 121,7E         2106 03/25           TATTUNG         TATWAN         24, 0N 121,7E         2106 03/25           NAGASAKI         JAPAN         32, 7N 121,7E         2113 03/25           POHNPEI ISLAND         POHNPEI         7, 1N 171,4E         2116 03/25           KOSRAE ISLAND         YAP         POHNPEI         7, 0N 158,2E         2118 03/25           CHILUMG         TATWAN         25, 2N 121,8E         2119 03/25           CHILUMG         TATWAN         25, 2N 121,8E         2119 03/25           CHUK ISLAND         CHUK         7, 4N 151,8E         2118 03/25           CHUK ISLAND         CHUK         7, 4N 151,8E         2118 03/25           CHUK ISLAND         CHUK         7, 4N 151,8E         2118 03/25           MALAKAL         PALAU         7, 3N 134,5E         2214 03/25           MACKARAL         PALAU         7, 3N 134,5E         2214 03/25           MANDAWARA         INDONSSIA         6, 8N 125,7E         2226 03/25           MANDAWARA         INDONSSIA         6, 8N 125,7E         2226 03/25           MANDAWARA         INDONSSIA         6, 8N 125,7E					
HUALIEN	KWAJALEIN	MARSHALL ISLANDS	8.7N	167.7E	2103 03/25
HUALIEN	$\bigcirc$ K T N $\bigcirc$ W $\bigcirc$	.ΤΔ Ρ Δ Ν	26 2N	127 8E	2104 03/25
TAITUNG					·
MAGASAKI	HUALIEN	TAIWAN			·
MAJURO	TAITUNG	TAIWAN	22.7N	121.2E	2110 03/25
MAJURO	NAGASAKT	JAPAN	32.7N	129.7E	2113 03/25
POHNPET ISLAND					
YAP					
ROSRAE ISLAND	POHNPEI ISLAND	POHNPEI	7.0N	158.2E	2118 03/25
ROSRAE ISLAND   KOSRAE   5.5 N 163.0E   2126 03/25   PALANANN   PHILIPPINES   17.1N 122.6E   2138 03/25   CHUUK ISLAND   CHUUK   7.4N 151.8E   2139 03/25   MALAKAL   PALAU   7.3N 134.5E   2139 03/25   DAVAO   PHILIPPINES   6.8N 125.7E   2226 03/25   DAVAO   PALANEM GUINEA   0.8S 134.2E   2255 03/25   DAVAO   PAPUA NEW GUINEA   0.8S 134.2E   2255 03/25   DAVAD   PAPUA NEW GUINEA   0.8S 134.2E   2253 03/25   DAVAD   PAPUA NEW GUINEA   0.8S 134.2E   2309 03/25   DAVAD   DAVAD   0.8S 134.2E   2309 03/25   DAVAD   0.8S 134.2E	YAP ISLAND	YAP	9.5N	138.1E	2119 03/25
PALLANAN	KOSBAE TSLAND	KOSBIE	5 5N	163 OF	2126 03/25
CHILUNG         TAIWAN         25. 2N         121.8E         2134         03/25           CHUUK         7.4N         151.8E         2139         03/25           MALAKAL         PALAU         7.3N         123.8E         2155         03/25           MALAKAL         PALAU         7.3N         134.5E         2214         03/25           DAVAO         PHILIPPINES         6.8N         125.7E         2226         03/25           BEREBERE         INDONESIA         4.6N         125.7E         2226         03/25           BEREBERE         INDONESIA         0.6N         176.6W         2232         03/25           MANUS ISLAND         PAPUA NEW GUINEA         0.5S         155.8E         2245         03/25           MANUS ISLAND         PAPUA NEW GUINEA         0.5S         150.7E         2255         03/25           MANOKWARI         INDONESIA         0.8S         134.2E         2251         03/25           MANOKWARI         INDONESIA         0.4N         128.8E         2302         03/25           MANON ISLAND         KIRBATI         1.5N         173.0E         2255         03/25           MANIMO         PAPUA NEW GUINEA         1.5E         123.					·
CHUUK ISLAND         CHUUK         7.4N 151.8E         2139 03/25           MALAKAL         PALAU         7.3N 134.5E         2155 03/25           MALAKAL         PALAU         7.3N 134.5E         2214 03/25           DAVAO         PHILIPPINES         6.8N 126.8E         2226 03/25           HOWLAND ISLAND         HOWLAND AND BAKE         0.6N 176.6W         2232 03/25           BERBEREE         INDOMESIA         2.5N 128.7E         2235 03/25           PALMYRA ISLAND         PALMYRA ISLAND         5.9N 162.1W         2243 03/25           MAROSA         INDOMESIA         2.5N 128.7E         2248 03/25           KAVIENG         PAPUA NEW GUINEA         2.5S 150.7E         2251 03/25           KAVIENG         PAPUA NEW GUINEA         2.5S 150.7E         2251 03/25           MANOKARI         INDOMESIA         0.8S 134.2E         225 03 03/25           TARAWA ISLAND         KIRIBATI         0.8S 134.2E         225 03 03/25           VANIMO         PAPUA NEW GUINEA         0.4N 128.8E         2303 03/25           VANIMO         PAPUA NEW GUINEA         0.4N 128.8E         2303 03/25           KANTON ISLAND         KIRIBATI         0.4N 128.8E         2311 03/25           KANTON ISLAND         KIRIBATI <td>PALANAN</td> <td>PHILIPPINES</td> <td></td> <td></td> <td></td>	PALANAN	PHILIPPINES			
LEGASPI	CHILUNG	TAIWAN	25.2N	121.8E	2134 03/25
LEGASPI	CHUUK ISLAND	CHUUK	7.4N	151.8E	2139 03/25
MALEKAL   FALAU   7.3N 134.5E   2214 03/25   GEME   INDONESIA   4.6N 126.8E   2226 03/25   HOWLAND ISLAND   FHILIPPINES   6.8N 125.7E   2226 03/25   HOWLAND ISLAND   HOWLAND AND BAKE   1.76 6W   2232 03/25   PALMWRA ISLAND   PALMWRA ISLAND   1.28 7E   2.28 03/25   WARSA   INDONESIA   2.5N 162.1W   2.243 03/25   WARNAS   INDONESIA   0.6S 135.8E   2.245 03/25   WANNUS ISLAND   PAPUA NEW GUINEA   2.5S 150.7E   2.248 03/25   WANOKWARI   INDONESIA   0.8S 134.2E   2.253 03/25   WANOKWARI   INDONESIA   0.8S 134.2E   2.253 03/25   WANOKWARI   INDONESIA   0.8S 134.2E   2.253 03/25   WANDAWAN ISLAND   KIRIBATI   1.5N 173.0E   2.256 03/25   WANTON ISLAND   PAPUA NEW GUINEA   2.6S 141.3E   2.303 03/25   WANTON ISLAND   KIRIBATI   2.8S 171.7W   2.311 03/25   WANTON ISLAND   FAPUA NEW GUINEA   0.8S 131.1E   2.309 03/25   WEWAK   FAPUA NEW GUINEA   3.5S 143.6E   2.315 03/25   WEWAK   FAPUA NEW GUINEA   4.2S 152.3E   2.316 03/25   WEWAK   FAPUA NEW GUINEA   5.0S 151.3E   2.328 03/25   WEWAK   FAPUA NEW GUINEA   6.1S 155.6E   2.331 03/25   WEWAK   FAPUA N					·
CEME					·
DAVAO	MALAKAL	PALAU			
HOWLAND ISLAND   HOWLAND AND BAKE   2.5N   128.7E   2235   03/25   PALMYRA ISLAND   PALMYRA ISLAND   5.9N   162.1W   22/43   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   137.5E   22/48   03/25   WARSA   INDONESIA   0.6S   137.5E   22/48   03/25   WARWAN ISLAND   PAPUA NEW GUINEA   2.5S   150.7E   22/51   03/25   MANUS ISLAND   KIRIBATI   1.5N   173.0E   22/50   03/25   MANUS ISLAND   KIRIBATI   1.5N   173.0E   22/50   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.4S   140.8E   2300   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.4S   140.8E   2300   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.6S   141.3E   2300   03/25   MANUS ISLAND	GEME	INDONESIA	4.6N	126.8E	2226 03/25
HOWLAND ISLAND   HOWLAND AND BAKE   2.5N   128.7E   2235   03/25   PALMYRA ISLAND   PALMYRA ISLAND   5.9N   162.1W   22/43   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   135.8E   22/45   03/25   WARSA   INDONESIA   0.6S   137.5E   22/48   03/25   WARSA   INDONESIA   0.6S   137.5E   22/48   03/25   WARWAN ISLAND   PAPUA NEW GUINEA   2.5S   150.7E   22/51   03/25   MANUS ISLAND   KIRIBATI   1.5N   173.0E   22/50   03/25   MANUS ISLAND   KIRIBATI   1.5N   173.0E   22/50   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.4S   140.8E   2300   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.4S   140.8E   2300   03/25   MANUS ISLAND   PAPUA NEW GUINEA   2.6S   141.3E   2300   03/25   MANUS ISLAND	DAVAO	PHILIPPINES	6.8N	125.7E	2226 03/25
BEREBERE         INDONESIA         2.5N         128.7E         2255         03/25           WARSA         INDONESIA         5.9N         162.1W         2243         03/25           MANUS ISLAND         PAPUA NEW GUINEA         2.0S         147.5E         2248         03/25           MANUS ISLAND         PAPUA NEW GUINEA         2.5S         150.7E         2251         03/25           MANOKWARI         INDONESIA         0.8S         134.2E         2253         03/25           JAYAPURA         INDONESIA         2.4S         140.8E         2302         03/25           JAYAPURA         INDONESIA         0.4N         128.8E         2303         03/25           VANIMO         PAPUA NEW GUINEA         2.6S         141.3E         2303         03/25           KANTON ISLAND         KIRIBATI         2.8S         171.7W         2311         03/25           KABAUL         PAPUA NEW GUINEA         4.2S         152.3E         231.1E         2309         03/25           KABAUL         PAPUA NEW GUINEA         4.2S         152.3E         231.0         03/25           KARTA         PAPUA NEW GUINEA         5.0S         151.3E         233.0         03/25 <t< td=""><td></td><td></td><td></td><td></td><td></td></t<>					
PALMYRA ISLAND					
WARSA         INDONESIA         0.68         135.8E         2245         03/25           MANUS ISLAND         PAPUA NEW GUINEA         2.05         147.5E         2248         03/25           KAVIENG         PAPUA NEW GUINEA         2.58         150.7E         2251         03/25           MANOKWARI         INDONESIA         0.88         134.2E         2253         03/25           JAYAPURA         INDONESIA         0.48         140.8E         2302         03/25           VANIMO         PAPUA NEW GUINEA         2.68         141.3E         2303         03/25           VANIMO         PAPUA NEW GUINEA         2.68         141.3E         2303         03/25           KANTON ISLAND         KIRTBATI         2.88         171.7W         2311         03/25           KANTON ISLAND         KIRTBATI         2.88         171.7W         2311         03/25           KANTON ISLAND         PAPUA NEW GUINEA         4.28         152.3E         2316         03/25           KANTON ISLAND         KIRTBATI         2.08         171.7W         2317         03/25           KANTON         SILADA         7.48         152.3E         2316         03/25           FULLAMONA					
MANUS ISLAND         PAPUA NEW GUINEA         2.0S         147.5E         2248         03/25           KAVIENG         PAPUA NEW GUINEA         2.5S         150.7E         2251         03/25           MANOKWARI         INDONESIA         0.8S         134.2E         2253         03/25           JAYAPURA         INDONESIA         0.4N         128.8E         2302         03/25           VANIMO         PAPUA NEW GUINEA         0.4N         128.8E         2303         03/25           VANIMO         PAPUA NEW GUINEA         0.6S         141.3E         2303         03/25           SORONG         INDONESIA         0.8S         131.1E         2309         03/25           KANTON ISLAND         KIRIBATI         2.8S         171.7W         2311         03/25           KANTON ISLAND         KIRIBATI         2.8S         171.7W         2311         03/25           KANTON ISLAND         KIRIBATI         2.0N         157.5W         2327         03/25           KEADAUL         PAPUA NEW GUINEA         3.5S         143.6E         2315         03/25           KIETA         PAPUA NEW GUINEA         6.1S         157.5E         2324         03/25           JARVIS ISLAND	PALMYRA ISLAND	PALMYRA ISLAND	5.9N	162.1W	2243 03/25
MANUS ISLAND         PAPUA NEW GUINEA         2.0S         147.5E         2248         03/25           KAVIENG         PAPUA NEW GUINEA         2.5S         150.7E         2251         03/25           MANOKWARI         INDONESIA         0.8S         134.2E         2253         03/25           JAYAPURA         INDONESIA         0.4N         128.8E         2302         03/25           VANIMO         PAPUA NEW GUINEA         0.4N         128.8E         2303         03/25           VANIMO         PAPUA NEW GUINEA         0.6S         141.3E         2303         03/25           SORONG         INDONESIA         0.8S         131.1E         2309         03/25           KANTON ISLAND         KIRIBATI         2.8S         171.7W         2311         03/25           KANTON ISLAND         KIRIBATI         2.8S         171.7W         2311         03/25           KANTON ISLAND         KIRIBATI         2.0N         157.5W         2327         03/25           KEADAUL         PAPUA NEW GUINEA         3.5S         143.6E         2315         03/25           KIETA         PAPUA NEW GUINEA         6.1S         157.5E         2324         03/25           JARVIS ISLAND	WARSA	INDONESIA	0.6S	135.8E	2245 03/25
KAVIENG         PAPUA NEW GUINEA         2,58 150,7E         2251 03/25           MANOKWARI         INDONESIA         0.88 134.2E         2253 03/25           TARAWA ISLAND         KIRIBATI         1.5N 173.0E         2256 03/25           JAYAPURA         INDONESIA         2.48 140.8E         2302 03/25           VANIMO         PAPUA NEW GUINEA         2.68 141.3E         2303 03/25           SORONG         INDONESIA         0.85 131.1E         2309 03/25           KANTON ISLAND         KIRIBATI         0.85 131.1E         2309 03/25           KANTON ISLAND         KIRIBATI         0.85 171.7W         2311 03/25           KABBUL         PAPUA NEW GUINEA         4.28 152.3E         2316 03/25           FUNAFUTI ISLAND         KIRIBATI         2.0N 157.5W         2327 03/25           KIETA         PAPUA NEW GUINEA         6.0S 151.3E         2328 03/25           AMUN         PAPUA NEW GUINEA         6.0S 151.3E         2331 03/25           FALAMAE         PAPUA NEW GUINEA         6.0S 154.7E         2337 03/25           PARGOE         SOLOMON ISLANDS         7.4S 155.6E         2341 03/25           ENSENADA         MEXICO         31.8N 116.8W         2345 03/25           MODALER         PAPUA NEW GUINE	MANIIS TSTAND	PAPIIA NEW CIITNEA	2 09	147 5E	2248 03/25
MANOKWARI					
TARAWA ISLAND KIRIBATI 1.5N 173.0E 2256 03/25 JAYAPURA INDOMESIA 2.4S 140.8E 2302 03/25 PATANI INDOMESIA 0.4N 128.8E 2303 03/25 VANIMO PAPUA NEW GUINEA 2.6S 141.3E 2303 03/25 WEMAK PAPUA NEW GUINEA CANTON ISLAND KIRIBATI 2.8S 171.7W 2311 03/25 WEWAK PAPUA NEW GUINEA CANTON SILAND PAPUA NEW GUINEA CANTON SILAND CA					
JAYAPURA	MANOKWARI	INDONESIA	0.85	134.2E	2253 03/25
JAYAPURA	TARAWA ISLAND	KIRIBATI	1.5N	173.0E	2256 03/25
VANIMO         PAPUA NEW GUINEA         2.68 141.3E         2303 03/25           SORONG         INDONESIA         0.88 131.1E         2309 03/25           KANTON ISLAND         KIRIBATI         2.85 171.7W         2311 03/25           WEWAK         PAPUA NEW GUINEA         3.58 143.6E         2315 03/25           RABAUL         PAPUA NEW GUINEA         4.28 152.3E         2316 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAND         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         0.4S 160.1W         2337 03/25           PARGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           GHATERE         SOLOMON ISLANDS					
VANIMO         PAPUA NEW GUINEA         2.68 141.3E         2303 03/25           SORONG         INDONESIA         0.88 131.1E         2309 03/25           KANTON ISLAND         KIRIBATI         2.85 171.7W         2311 03/25           WEWAK         PAPUA NEW GUINEA         3.58 143.6E         2315 03/25           RABAUL         PAPUA NEW GUINEA         4.28 152.3E         2316 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           CHRISTMAS ISLAND         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         0.4S 160.1W         2337 03/25           PARGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           GHATERE         SOLOMON ISLANDS			2.45	10.00	2302 03/25
SORONG INDONESIA 0.88 131.1E 2309 03/25 KANTON ISLAND KIRIBATI 2.88 171.7W 2311 03/25 WEWAK PAPUA NEW GUINEA 3.5S 143.6E 2315 03/25 FUNAFUTI ISLAND TUVALU 7.9S 178.5E 2324 03/25 FUNAFUTI ISLAND TUVALU 7.9S 178.5E 2324 03/25 KIETA PAPUA NEW GUINEA 5.0S 151.3E 2328 03/25 KIETA PAPUA NEW GUINEA 6.1S 155.6E 2331 03/25 KIETA PAPUA NEW GUINEA 6.1S 155.6E 2331 03/25 FUNAFUTI SLAND PAPUA NEW GUINEA 6.0S 154.7E 2335 03/25 FUNAFUTI SLAND PAPUA NEW GUINEA 6.0S 154.7E 2335 03/25 FALAMAE SOLOMON ISLANDS 7.4S 155.6E 2341 03/25 PANGGOE SOLOMON ISLANDS 7.4S 155.6E 2341 03/25 ENSENADA MEXICO 31.8N 116.8W 2346 03/25 ENSENADA MEXICO 31.8N 116.8W 2346 03/25 FALAMER SOLOMON ISLANDS 7.8S 159.2E 2349 03/25 FALAMER SOLOMON ISLANDS 7.8S 159.2E 2359 03/25 FALAMER SOLOMON ISLANDS 7.8S 159.2E 2359 03/25 FALAMER SOLOMON ISLANDS 7.8S 159.2E 2359 03/25 FALAMER SOLOMON ISLANDS 7.8S 165.9E 2059 03/26 FALAMER SOLOMON TANDS 7.8S 165.9E 205					
KANTON ISLAND         KIRIBATI         2.88 171.7W         2311 03/25           WEWAK         PAPUA NEW GUINEA         3.58 143.6E         2315 03/25           RABAUL         PAPUA NEW GUINEA         4.28 152.3E         2316 03/25           FUNAFUTI ISLAND         TUVALU         7.98 178.5E         2324 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           ULAMONA         PAPUA NEW GUINEA         5.0S 151.3E         2328 03/25           KIETA         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           PARGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           MADANG         PAPUA NEW GUINEA         6.9S 157.2E         2348 03/25           GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2348 03/25           NUKUNONU ISLAND <td>VANIMO</td> <td>PAPUA NEW GUINEA</td> <td>2.6S</td> <td>141.3E</td> <td>2303 03/25</td>	VANIMO	PAPUA NEW GUINEA	2.6S	141.3E	2303 03/25
KANTON ISLAND         KIRIBATI         2.88 171.7W         2311 03/25           WEWAK         PAPUA NEW GUINEA         3.58 143.6E         2315 03/25           RABAUL         PAPUA NEW GUINEA         4.28 152.3E         2316 03/25           FUNAFUTI ISLAND         TUVALU         7.98 178.5E         2324 03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           ULAMONA         PAPUA NEW GUINEA         5.0S 151.3E         2328 03/25           KIETA         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           PARGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           MADANG         PAPUA NEW GUINEA         6.9S 157.2E         2348 03/25           GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2348 03/25           NUKUNONU ISLAND <td>SORONG</td> <td>INDONESIA</td> <td>0.85</td> <td>131.1E</td> <td>2309 03/25</td>	SORONG	INDONESIA	0.85	131.1E	2309 03/25
WEWAK         PAPUA NEW GUINEA         3.5S         143.6E         2315         03/25           RABAUL         PAPUA NEW GUINEA         4.2S         152.3E         2316         03/25           FUNAFUTI ISLAND         TUVALU         7.9S         178.5E         2324         03/25           CHRISTMAS ISLAN         KIRTBATI         2.0N         157.5W         2327         03/25           ULAMONA         PAPUA NEW GUINEA         5.0S         151.3E         2328         03/25           KIETA         PAPUA NEW GUINEA         6.0S         154.7E         2335         03/25           JARVIS ISLAND         6.0S         154.7E         2335         03/25           JARVIS ISLAND         0.4S         160.1W         2337         03/25           PANGGOE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           PANGGOE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           ENSENADA         MEXICO         31.8N         116.8W         2345         03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         5.2S         145.8E         2349         03/25           MUKUNONU ISLAND         TOKELAU         9.	KANTON TSIAND	KIBIBATI	2 85	171 7W	
RABAUL         PAPUA NEW GUINEA         4.2S         152.3E         2316         03/25           FUNAFUTI ISLAND         TUVALU         7.9S         178.5E         2324         03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N         157.5W         2327         03/25           KIETA         PAPUA NEW GUINEA         5.0S         151.3E         2328         03/25           AMUN         PAPUA NEW GUINEA         6.0S         154.7E         2335         03/25           JARVIS ISLAND         JARVIS ISLAND         0.4S         160.1W         2337         03/25           FALAMAE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           FALAMAE         SOLOMON ISLANDS         6.9S         157.2E         2345         03/25           FALAMAE         SOLOMON ISLANDS         6.9S         157.2E         2345         03/25           ENSENADA         MEXICO         31.8N         116.8W         2346         03/25           MADANG         PAPUA NEW GUINEA         9.0S         152.9E         2349         03/25           MALATERE         SOLOMON ISLANDS         10.4S         161.9E         0003         03/26           KIRAKIRA <td></td> <td></td> <td></td> <td></td> <td>·</td>					·
FUNAFUTI ISLAND         TUVALU         7.9S         178.5E         2324         03/25           CHRISTMAS ISLAN         KIRIBATI         2.0N         157.5W         2327         03/25           ULAMONA         PAPUA NEW GUINEA         5.0S         151.3E         2328         03/25           AMUN         PAPUA NEW GUINEA         6.1S         155.6E         2331         03/25           JARVIS ISLAND         JARVIS ISLAND         0.4S         160.1W         2337         03/25           FALMABE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           FANGGOE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           ENSENADA         MEXICO         31.8N         116.8W         2346         03/25           MADANG         PAPUA NEW GUINEA         9.0S         152.9E         2345         03/25           GHATERE         SOLOMON ISLANDS         7.8S         159.2E         2359         03/25           MUKUNONU ISLAND         TOKELAU         9.2S         171.8W         0000         03/26           MUNDA         SOLOMON ISLANDS         8.4S         161.9E         0012         03/26           MUNDA					·
CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           ULAMONA         PAPUA NEW GUINEA         5.0S 151.3E         2328 03/25           KIETA         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         JARVIS ISLAND         0.4S 160.1W         2337 03/25           FALAMAE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           PANGGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         9.0S 152.9E         2348 03/25           MADANG         PAPUA NEW GUINEA         9.0S 152.9E         2349 03/25           GHATER         SOLOMON ISLANDS         7.8S 159.2E         2349 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0010 03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.9S 154.9W         0022 03/26           MA	RABAUL	PAPUA NEW GUINEA			
CHRISTMAS ISLAN         KIRIBATI         2.0N 157.5W         2327 03/25           ULAMONA         PAPUA NEW GUINEA         5.0S 151.3E         2328 03/25           AMUN         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           JARVIS ISLAND         JARVIS ISLAND         0.4S 160.1W         2337 03/25           FALAMAE         SOLOMON ISLANDS         7.4S 155.6E         2341 03/25           PARGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           MUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           MALLIS ISLAND         KIRIBATI         3.9S 154.9W         0022 03/26           WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           PUKAPUKA ISLAND	FUNAFUTI ISLAND	TUVALU	7.9S	178.5E	2324 03/25
ULAMONA         PAPUA NEW GUINEA         5.0S         151.3E         2328         03/25           KIETA         PAPUA NEW GUINEA         6.1S         155.6E         2331         03/25           AMUN         PAPUA NEW GUINEA         6.0S         154.7E         2335         03/25           JARVIS ISLAND         JARVIS ISLAND         0.4S         160.1W         2337         03/25           FALAMAE         SOLOMON ISLANDS         7.4S         155.6E         2341         03/25           PANGGOE         SOLOMON ISLANDS         6.9S         157.2E         2345         03/25           ENSENADA         MEXICO         31.8N         116.8W         2346         03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         5.2S         145.8E         2349         03/25           GHATERE         SOLOMON ISLANDS         7.8S         159.2E         2348         03/25           GHATERE         SOLOMON ISLANDS         7.8S         159.2E         2349         03/25           MUKUNONU ISLAND         TOKELAU         9.2S         171.8W         0000         03/26           MUKINONI ISLAND         SOLOMON ISLANDS         8.8S         160.1E         0003         03/26	CHRISTMAS ISLAN	KTRTBATT	2 - ON	157.5W	2327 03/25
KIETA         PAPUA NEW GUINEA         6.1S 155.6E         2331 03/25           AMUN         PAPUA NEW GUINEA         6.0S 154.7E         2335 03/25           JARVIS ISLAND         0.4S 160.1W         2337 03/25           FALAMAE         SOLOMON ISLANDS         7.4S 155.6E         2341 03/25           PANGGOE         SOLOMON ISLANDS         6.9S 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2359 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         8.8S 160.6E         0003 03/26           AUKI         SOLOMON ISLANDS         8.8S 160.6E         0003 03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           MALDEN ISLAND         MEXICO         26.7N 113.6W         0022 03/26           PUKAPUKA ISLAND         MEXICO         26.7N 113.6W         0022 03/26           PUKAPUKA ISLAND         MEXI					·
AMUN					·
JARVIS ISLAND         JARVIS ISLAND         0.48 160.1W         2337 03/25           FALAMAE         SOLOMON ISLANDS         7.48 155.6E         2341 03/25           PANGGOE         SOLOMON ISLANDS         6.98 157.2E         2345 03/25           ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           MODDLARK ISLAND         PAPUA NEW GUINEA         9.08 152.9E         2348 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2359 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           AUKI         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           WALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           WALLIS ISLAND         KIRTBATI         3.9S 154.9W         0022 03/26           SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S 165.9E         0027 03/26           PUKAPAUKA ISLAND         WEXICO         26.7N 113.6W         0028 03/26	KIETA				
FALAMAE SOLOMON ISLANDS 7.4S 155.6E 2341 03/25 PANGGOE SOLOMON ISLANDS 6.9S 157.2E 2345 03/25 MEXICO 31.8N 116.8W 2346 03/25 MODDLARK ISLAND PAPUA NEW GUINEA 9.0S 152.9E 2348 03/25 PAPUA NEW GUINEA 5.2S 145.8E 2349 03/25 GHATERE SOLOMON ISLANDS 7.8S 159.2E 2359 03/25 NUKUNONU ISLAND TOKELAU 9.2S 171.8W 0000 03/26 KIRAKIRA SOLOMON ISLANDS 10.4S 161.9E 0003 03/26 AUKI SOLOMON ISLANDS 8.8S 160.6E 0008 03/26 LAE PAPUA NEW GUINEA 8.8S 160.6E 0008 03/26 LAE PAPUA NEW GUINEA 6.8S 147.0E 0016 03/26 WALLIS ISLAND WALLIS AND FUTUN 13.3S 176.3W 0021 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0022 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 FUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0030 03/26 FUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0030 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0030 03/26 PUNTA ABREOJOS MEXICO 26.7N 10.8S 165.9W 0030 03/26 PUNTA ABREOJOS MEXI	AMUN	PAPUA NEW GUINEA	6.0s	154.7E	2335 03/25
FALAMAE SOLOMON ISLANDS 7.4S 155.6E 2341 03/25 PANGGOE SOLOMON ISLANDS 6.9S 157.2E 2345 03/25 MEXICO 31.8N 116.8W 2346 03/25 MODDLARK ISLAND PAPUA NEW GUINEA 9.0S 152.9E 2348 03/25 PAPUA NEW GUINEA 5.2S 145.8E 2349 03/25 PAPUA NEW GUINEA 5.2S 145.8E 2349 03/25 PAPUA NEW GUINEA 5.2S 145.8E 2349 03/25 NUKUNONU ISLAND TOKELAU 9.2S 171.8W 0000 03/26 KIRAKIRA SOLOMON ISLANDS 10.4S 161.9E 0003 03/26 AUKI SOLOMON ISLANDS 8.8S 160.6E 0008 03/26 AUKI SOLOMON ISLANDS 8.4S 157.2E 0012 03/26 LAE PAPUA NEW GUINEA 6.8S 147.0E 0016 03/26 MALDEN ISLAND WALLIS AND FUTUN 13.3S 176.3W 0021 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0022 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0034 03/26 FUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0034 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUNTA ABREOJOS MEXICO 26.7N 113.6W 0028 03/26 PUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0034 03/26 PUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0034 03/26 PUTUNA ISLAND WALLIS AND FUTUN 14.3S 178.2W 0034 03/26 PENRYN ISLAND COOK ISLANDS 8.9S 157.8W 0035 03/26 PENRYN ISLAND COOK ISLANDS 8.9S 157.8W 0045 03/26 PAGO PAGO AMERICAN SAMOA 13.8S 171.8W 0037 03/26 PAGO PAGO AMERICAN SAMOA 14.3S 170.7W 0045 03/26 PAGO PAGO PAGO AMERICAN SAMOA 14.3S 170.7W 0045 03/26 PAGO PAGO PAGO PAGO PA	JARVIS ISLAND	JARVIS ISLAND	0.4S	160.1W	2337 03/25
PANGGOE         SOLOMON ISLANDS         6.9S         157.2E         2345         03/25           ENSENADA         MEXICO         31.8N         116.8W         2346         03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         9.0S         152.9E         2348         03/25           MADANG         PAPUA NEW GUINEA         5.2S         145.8E         2349         03/25           GHATERE         SOLOMON ISLANDS         7.8S         159.2E         2359         03/25           NUKUNONU ISLAND         TOKELAU         9.2S         171.8W         0000         03/26           KIRAKIRA         SOLOMON ISLANDS         8.8S         160.6E         0003         03/26           MUNDA         SOLOMON ISLANDS         8.4S         157.2E         0012         03/26           MALLIS         SOLOMON ISLANDS         8.4S         157.2E         0012         03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.3S         176.3W         0021         03/26           MALLIS ISLAND         KIRIBATI         3.9S         154.9W         0022         03/26           PUNTA ABREOJOS         MEXICO         26.7N         113.6W         0022         03/26           P		SOLOMON ISLANDS			2341 03/25
ENSENADA         MEXICO         31.8N 116.8W         2346 03/25           WOODLARK ISLAND         PAPUA NEW GUINEA         9.0S 152.9E         2348 03/25           MADANG         PAPUA NEW GUINEA         5.2S 145.8E         2349 03/25           GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2359 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         10.4S 161.9E         0003 03/26           AUKI         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           WALLIS ISLAND         KIRIBATI         3.9S 154.9W         0022 03/26           SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S 165.9E         0027 03/26           PUNTA ABREOJOS         MEXICO         26.7N 113.6W         0028 03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S 165.9W         0030 03/26           HONIARA         SOLOMON ISLANDS         9.3S 160.0E         0033 03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S 178.2W         0034 03/26 <t< td=""><td></td><td></td><td></td><td></td><td></td></t<>					
WOODLARK ISLAND         PAPUA NEW GUINEA         9.0s         152.9E         2348         03/25           MADANG         PAPUA NEW GUINEA         5.2s         145.8E         2349         03/25           GHATERE         SOLOMON ISLANDS         7.8s         159.2E         2359         03/25           NUKUNONU ISLAND         TOKELAU         9.2s         171.8W         0000         03/26           KIRAKIRA         SOLOMON ISLANDS         8.8s         161.9E         0003         03/26           AUKI         SOLOMON ISLANDS         8.4s         157.2E         0012         03/26           MUNDA         SOLOMON ISLANDS         8.4s         157.2E         0012         03/26           LAE         PAPUA NEW GUINEA         6.8s         147.0E         0016         03/26           WALLIS ISLAND         WALLIS AND FUTUN         13.3S         176.3W         0021         03/26           MALDEN ISLAND         KIRIBATI         3.9s         154.9W         0022         03/26           SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9s         165.9E         0027         03/26           PUKAPUKA ISLAND         COOK ISLANDS         9.3S         160.0E         0033         03/26      <					
WOODLARK ISLAND         PAPUA NEW GUINEA         9.0s         152.9E         2348         03/25           MADANG         PAPUA NEW GUINEA         5.2s         145.8E         2349         03/25           GHATERE         SOLOMON ISLANDS         7.8s         159.2E         2359         03/25           NUKUNONU ISLAND         TOKELAU         9.2s         171.8W         0000         03/26           KIRAKIRA         SOLOMON ISLANDS         8.8s         160.6E         0003         03/26           AUKI         SOLOMON ISLANDS         8.4s         157.2E         0012         03/26           MUNDA         SOLOMON ISLANDS         8.4s         157.2E         0012         03/26           MALLIS ISLAND         WALLIS AND FUTUN         13.3S         176.3W         0021         03/26           WALLIS ISLAND         KIRIBATI         3.9S         154.9W         0022         03/26           SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S         165.9E         0027         03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S         165.9W         0030         03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S         178.2W         0034         03/26	ENSENADA	MEXICO	31.8N	116.8W	2346 03/25
GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2359 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         10.4S 161.9E         0003 03/26           AUKI         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           LAE         PAPUA NEW GUINEA         6.8S 147.0E         0016 03/26           WALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           MALDEN ISLAND         KIRIBATI         3.9S 154.9W         0022 03/26           PUNTA ABREOJOS         MEXICO         26.7N 113.6W         0022 03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S 165.9E         0027 03/26           PUTUNA ISLAND         WALLIS AND FUTUN         14.3S 160.0E         0033 03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S 178.2W         0034 03/26           APIA         SAMOA         13.8S 171.8W         0037 03/26           PENRYN ISLAND         COOK ISLANDS         8.9S 157.8W         0045 03/26           PERRITU SANTO         VANUATU         15.1S 167.3E         0051 03/26           N	WOODLARK ISLAND	PAPUA NEW GUINEA	9.0S	152.9E	2348 03/25
GHATERE         SOLOMON ISLANDS         7.8S 159.2E         2359 03/25           NUKUNONU ISLAND         TOKELAU         9.2S 171.8W         0000 03/26           KIRAKIRA         SOLOMON ISLANDS         10.4S 161.9E         0003 03/26           AUKI         SOLOMON ISLANDS         8.8S 160.6E         0008 03/26           MUNDA         SOLOMON ISLANDS         8.4S 157.2E         0012 03/26           LAE         PAPUA NEW GUINEA         6.8S 147.0E         0016 03/26           WALLIS ISLAND         WALLIS AND FUTUN         13.3S 176.3W         0021 03/26           MALDEN ISLAND         KIRIBATI         3.9S 154.9W         0022 03/26           PUNTA ABREOJOS         MEXICO         26.7N 113.6W         0022 03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S 165.9E         0027 03/26           PUTUNA ISLAND         WALLIS AND FUTUN         14.3S 160.0E         0033 03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S 178.2W         0034 03/26           APIA         SAMOA         13.8S 171.8W         0037 03/26           PENRYN ISLAND         COOK ISLANDS         8.9S 157.8W         0045 03/26           PERRITU SANTO         VANUATU         15.1S 167.3E         0051 03/26           N	MADANG	PAPIIA NEW CIITNEA	5 28	145 8E	2349 03/25
NUKUNONU ISLAND       TOKELAU       9.2S       171.8W       0000       03/26         KIRAKIRA       SOLOMON ISLANDS       10.4S       161.9E       0003       03/26         AUKI       SOLOMON ISLANDS       8.8S       160.6E       0008       03/26         MUNDA       SOLOMON ISLANDS       8.4S       157.2E       0012       03/26         LAE       PAPUA NEW GUINEA       6.8S       147.0E       0016       03/26         WALLIS AND       FUTUN       13.3S       176.3W       0021       03/26         MALDEN ISLAND       KIRIBATI       3.9S       154.9W       0022       03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S       165.9E       0027       03/26         PUNTA ABREOJOS       MEXICO       26.7N       113.6W       0028       03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S       165.9E       0027       03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S       178.2W       0030       03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S       171.8W       0037       03/26         PENRYN ISLAND       COOK ISLANDS       8.9S       157.8W       0045       03/26 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
KIRAKIRA       SOLOMON ISLANDS       10.4s       161.9e       0003       03/26         AUKI       SOLOMON ISLANDS       8.8s       160.6e       0008       03/26         MUNDA       SOLOMON ISLANDS       8.4s       157.2e       0012       03/26         LAE       PAPUA NEW GUINEA       6.8s       147.0e       0016       03/26         WALLIS ISLAND       WALLIS AND FUTUN       13.3s       176.3w       0021       03/26         MALDEN ISLAND       KIRIBATI       3.9s       154.9w       0022       03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9s       165.9e       0027       03/26         PUNTA ABREOJOS       MEXICO       26.7n       113.6w       0028       03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8s       165.9e       0030       03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3s       178.2w       0034       03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3s       178.2w       0034       03/26         PENRYN ISLAND       COOK ISLANDS       8.9s       157.8w       0045       03/26         PAPGO PAGO       AMERICAN SAMOA       14.3s       170.7w       0045					
AUKI       SQLOMON ISLANDS       8.8S 160.6E       0008 03/26         MUNDA       SOLOMON ISLANDS       8.4S 157.2E       0012 03/26         LAE       PAPUA NEW GUINEA       6.8S 147.0E       0016 03/26         WALLIS ISLAND       WALLIS AND FUTUN       13.3S 176.3W       0021 03/26         MALDEN ISLAND       KIRIBATI       3.9S 154.9W       0022 03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S 165.9E       0027 03/26         PUNTA ABREOJOS       MEXICO       26.7N 113.6W       0028 03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S 165.9W       0030 03/26         HONIARA       SOLOMON ISLANDS       9.3S 160.0E       0033 03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S 178.2W       0034 03/26         PENRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PERRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.3S 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26 <td>NUKUNONU ISLAND</td> <td>TOKELAU</td> <td></td> <td></td> <td>0000 03/26</td>	NUKUNONU ISLAND	TOKELAU			0000 03/26
AUKI       SQLOMON ISLANDS       8.8S 160.6E       0008 03/26         MUNDA       SOLOMON ISLANDS       8.4S 157.2E       0012 03/26         LAE       PAPUA NEW GUINEA       6.8S 147.0E       0016 03/26         WALLIS ISLAND       WALLIS AND FUTUN       13.3S 176.3W       0021 03/26         MALDEN ISLAND       KIRIBATI       3.9S 154.9W       0022 03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S 165.9E       0027 03/26         PUNTA ABREOJOS       MEXICO       26.7N 113.6W       0028 03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S 165.9W       0030 03/26         HONIARA       SOLOMON ISLANDS       9.3S 160.0E       0033 03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S 178.2W       0034 03/26         PENRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PERRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.3S 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26 <td>KIRAKIRA</td> <td>SOLOMON ISLANDS</td> <td>10.4S</td> <td>161.9E</td> <td>0003 03/26</td>	KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
MUNDA         SOLOMON ISLANDS         8.4S         157.2E         0012         03/26           LAE         PAPUA NEW GUINEA         6.8S         147.0E         0016         03/26           WALLIS ISLAND         WALLIS AND FUTUN         13.3S         176.3W         0021         03/26           MALDEN ISLAND         KIRIBATI         3.9S         154.9W         0022         03/26           SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S         165.9E         0027         03/26           PUNTA ABREOJOS         MEXICO         26.7N         113.6W         0028         03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S         165.9E         0030         03/26           HONIARA         SOLOMON ISLANDS         9.3S         160.0E         0033         03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S         178.2W         0034         03/26           PENRYN ISLAND         COOK ISLANDS         8.9S         157.8W         0045         03/26           PAGO PAGO         AMERICAN SAMOA         14.3S         170.7W         0045         03/26           ESPERITU SANTO         VANUATU         15.1S         167.3E         0051         03/26	AIIKT	SOLOMON ISLANDS	8 85	160 6E	0008 03/26
LAE       PAPUA NEW GUINEA       6.8S 147.0E       0016 03/26         WALLIS ISLAND       WALLIS AND FUTUN       13.3S 176.3W       0021 03/26         MALDEN ISLAND       KIRIBATI       3.9S 154.9W       0022 03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S 165.9E       0027 03/26         PUNTA ABREOJOS       MEXICO       26.7N 113.6W       0028 03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S 165.9W       0030 03/26         HONIARA       SOLOMON ISLANDS       9.3S 160.0E       0033 03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S 178.2W       0034 03/26         PENRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0037 03/26         PERRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.3S 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26					
WALLIS ISLAND       WALLIS AND FUTUN       13.3S 176.3W       0021 03/26         MALDEN ISLAND       KIRIBATI       3.9S 154.9W       0022 03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S 165.9E       0027 03/26         PUNTA ABREOJOS       MEXICO       26.7N 113.6W       0028 03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S 165.9W       0030 03/26         HONIARA       SOLOMON ISLANDS       9.3S 160.0E       0033 03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S 178.2W       0034 03/26         APIA       SAMOA       13.8S 171.8W       0037 03/26         PENRYN ISLAND       COOK ISLANDS       8.9S 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.3S 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLIN					
MALDEN ISLAND       KIRIBATI       3.9S       154.9W       0022       03/26         SANTA CRUZ ISLA       SOLOMON ISLANDS       10.9S       165.9E       0027       03/26         PUNTA ABREOJOS       MEXICO       26.7N       113.6W       0028       03/26         PUKAPUKA ISLAND       COOK ISLANDS       10.8S       165.9W       0030       03/26         HONIARA       SOLOMON ISLANDS       9.3S       160.0E       0033       03/26         FUTUNA ISLAND       WALLIS AND FUTUN       14.3S       178.2W       0034       03/26         APIA       SAMOA       13.8S       171.8W       0037       03/26         PENRYN ISLAND       COOK ISLANDS       8.9S       157.8W       0045       03/26         PAGO PAGO       AMERICAN SAMOA       14.3S       170.7W       0045       03/26         ESPERITU SANTO       VANUATU       15.1S       167.3E       0051       03/26         NIUATOPUTAPU       TONGA       16.0S       173.5W       0058       03/26         CABO SAN LUCAS       MEXICO       22.8N       110.0W       0113       03/26         NIUE ISLAND       NIUE       19.0S       170.0W       0120       03/26					
SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S         165.9E         0027         03/26           PUNTA ABREOJOS         MEXICO         26.7N         113.6W         0028         03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S         165.9W         0030         03/26           HONIARA         SOLOMON ISLANDS         9.3S         160.0E         0033         03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S         178.2W         0034         03/26           APIA         SAMOA         13.8S         171.8W         0037         03/26           PENRYN ISLAND         COOK ISLANDS         8.9S         157.8W         0045         03/26           PAGO PAGO         AMERICAN SAMOA         14.3S         170.7W         0045         03/26           ESPERITU SANTO         VANUATU         15.1S         167.3E         0051         03/26           NIUATOPUTAPU         TONGA         16.0S         173.5W         0058         03/26           CABO SAN LUCAS         MEXICO         22.8N         110.0W         0113         03/26           VAVAU         TONGA         18.7S         173.9W         0124         03/26           FLINT IS	WALLIS ISLAND	WALLIS AND FUTUN	13.3S	176.3W	0021 03/26
SANTA CRUZ ISLA         SOLOMON ISLANDS         10.9S         165.9E         0027         03/26           PUNTA ABREOJOS         MEXICO         26.7N         113.6W         0028         03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S         165.9W         0030         03/26           HONIARA         SOLOMON ISLANDS         9.3S         160.0E         0033         03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S         178.2W         0034         03/26           APIA         SAMOA         13.8S         171.8W         0037         03/26           PENRYN ISLAND         COOK ISLANDS         8.9S         157.8W         0045         03/26           PAGO PAGO         AMERICAN SAMOA         14.3S         170.7W         0045         03/26           ESPERITU SANTO         VANUATU         15.1S         167.3E         0051         03/26           NIUATOPUTAPU         TONGA         16.0S         173.5W         0058         03/26           CABO SAN LUCAS         MEXICO         22.8N         110.0W         0113         03/26           VAVAU         TONGA         18.7S         173.9W         0124         03/26           FLINT IS	MALDEN ISLAND	KIRIBATI	3.9S	154.9W	0022 03/26
PUNTA ABREOJOS         MEXICO         26.7N         113.6W         0028         03/26           PUKAPUKA ISLAND         COOK ISLANDS         10.8S         165.9W         0030         03/26           HONIARA         SOLOMON ISLANDS         9.3S         160.0E         0033         03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S         178.2W         0034         03/26           APIA         SAMOA         13.8S         171.8W         0037         03/26           PENRYN ISLAND         COOK ISLANDS         8.9S         157.8W         0045         03/26           PAGO PAGO         AMERICAN SAMOA         14.3S         170.7W         0045         03/26           ESPERITU SANTO         VANUATU         15.1S         167.3E         0051         03/26           NIUATOPUTAPU         TONGA         16.0S         173.5W         0058         03/26           PORT VILA         VANUATU         17.8S         168.2E         0113         03/26           CABO SAN LUCAS         MEXICO         22.8N         110.0W         0113         03/26           VAVAU         TONGA         18.7S         173.9W         0124         03/26           FLINT ISLAND					
PUKAPUKA ISLAND         COOK ISLANDS         10.8S 165.9W         0030 03/26           HONIARA         SOLOMON ISLANDS         9.3S 160.0E         0033 03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S 178.2W         0034 03/26           APIA         SAMOA         13.8S 171.8W         0037 03/26           PENRYN ISLAND         COOK ISLANDS         8.9S 157.8W         0045 03/26           PAGO PAGO         AMERICAN SAMOA         14.3S 170.7W         0045 03/26           ESPERITU SANTO         VANUATU         15.1S 167.3E         0051 03/26           NIUATOPUTAPU         TONGA         16.0S 173.5W         0058 03/26           PORT VILA         VANUATU         17.8S 168.2E         0113 03/26           CABO SAN LUCAS         MEXICO         22.8N 110.0W         0113 03/26           NIUE ISLAND         NIUE         19.0S 170.0W         0120 03/26           VAVAU         TONGA         18.7S 173.9W         0124 03/26           FLINT ISLAND         KIRIBATI         11.4S 151.8W         0127 03/26					
HONIARA         SOLOMON ISLANDS         9.3S 160.0E         0033 03/26           FUTUNA ISLAND         WALLIS AND FUTUN         14.3S 178.2W         0034 03/26           APIA         SAMOA         13.8S 171.8W         0037 03/26           PENRYN ISLAND         COOK ISLANDS         8.9S 157.8W         0045 03/26           PAGO PAGO         AMERICAN SAMOA         14.3S 170.7W         0045 03/26           ESPERITU SANTO         VANUATU         15.1S 167.3E         0051 03/26           NIUATOPUTAPU         TONGA         16.0S 173.5W         0058 03/26           PORT VILA         VANUATU         17.8S 168.2E         0113 03/26           CABO SAN LUCAS         MEXICO         22.8N 110.0W         0113 03/26           NIUE ISLAND         NIUE         19.0S 170.0W         0120 03/26           VAVAU         TONGA         18.7S 173.9W         0124 03/26           FLINT ISLAND         KIRIBATI         11.4S 151.8W         0127 03/26					
FUTUNA ISLAND       WALLIS AND FUTUN       14.38 178.2W       0034 03/26         APIA       SAMOA       13.88 171.8W       0037 03/26         PENRYN ISLAND       COOK ISLANDS       8.98 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.38 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.18 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26	PUKAPUKA ISLAND	COOK ISLANDS	10.8S	165.9W	0030 03/26
FUTUNA ISLAND       WALLIS AND FUTUN       14.38 178.2W       0034 03/26         APIA       SAMOA       13.88 171.8W       0037 03/26         PENRYN ISLAND       COOK ISLANDS       8.98 157.8W       0045 03/26         PAGO PAGO       AMERICAN SAMOA       14.38 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.18 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26	HONIARA	SOLOMON ISLANDS	9.3S	160.0E	0033 03/26
APIA SAMOA 13.8S 171.8W 0037 03/26 PENRYN ISLAND COOK ISLANDS 8.9S 157.8W 0045 03/26 PAGO PAGO AMERICAN SAMOA 14.3S 170.7W 0045 03/26 ESPERITU SANTO VANUATU 15.1S 167.3E 0051 03/26 NIUATOPUTAPU TONGA 16.0S 173.5W 0058 03/26 PORT VILA VANUATU 17.8S 168.2E 0113 03/26 CABO SAN LUCAS MEXICO 22.8N 110.0W 0113 03/26 NIUE ISLAND NIUE 19.0S 170.0W 0120 03/26 VAVAU TONGA 18.7S 173.9W 0124 03/26 FLINT ISLAND KIRIBATI 11.4S 151.8W 0127 03/26	FIITIINA TSI.AND	WATITS AND FITTIN			
PENRYN ISLAND         COOK ISLANDS         8.9S 157.8W         0045 03/26           PAGO PAGO         AMERICAN SAMOA         14.3S 170.7W         0045 03/26           ESPERITU SANTO         VANUATU         15.1S 167.3E         0051 03/26           NIUATOPUTAPU         TONGA         16.0S 173.5W         0058 03/26           PORT VILA         VANUATU         17.8S 168.2E         0113 03/26           CABO SAN LUCAS         MEXICO         22.8N 110.0W         0113 03/26           NIUE ISLAND         NIUE         19.0S 170.0W         0120 03/26           VAVAU         TONGA         18.7S 173.9W         0124 03/26           FLINT ISLAND         KIRIBATI         11.4S 151.8W         0127 03/26					
PAGO PAGO       AMERICAN SAMOA       14.3S 170.7W       0045 03/26         ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26					
ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26	PENRYN ISLAND	COOK ISLANDS	8.9S	157.8W	0045 03/26
ESPERITU SANTO       VANUATU       15.1S 167.3E       0051 03/26         NIUATOPUTAPU       TONGA       16.0S 173.5W       0058 03/26         PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26	PAGO PAGO	AMERICAN SAMOA	14.3S	170.7W	0045 03/26
NIUATOPUTAPU       TONGA       16.0s       173.5w       0058       03/26         PORT VILA       VANUATU       17.8s       168.2e       0113       03/26         CABO SAN LUCAS       MEXICO       22.8n       110.0w       0113       03/26         NIUE ISLAND       NIUE       19.0s       170.0w       0120       03/26         VAVAU       TONGA       18.7s       173.9w       0124       03/26         FLINT ISLAND       KIRIBATI       11.4s       151.8w       0127       03/26	ESPERITU SANTO	VANUATU			
PORT VILA       VANUATU       17.8S 168.2E       0113 03/26         CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26					
CABO SAN LUCAS       MEXICO       22.8N 110.0W       0113 03/26         NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26					
NIUE ISLAND       NIUE       19.0S 170.0W       0120 03/26         VAVAU       TONGA       18.7S 173.9W       0124 03/26         FLINT ISLAND       KIRIBATI       11.4S 151.8W       0127 03/26					
VAVAU TONGA 18.7S 173.9W 0124 03/26 FLINT ISLAND KIRIBATI 11.4S 151.8W 0127 03/26	CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
VAVAU TONGA 18.7S 173.9W 0124 03/26 FLINT ISLAND KIRIBATI 11.4S 151.8W 0127 03/26	NIUE ISLAND	NIUE	19.0S	170.0W	0120 03/26
FLINT ISLAND KIRIBATI 11.4S 151.8W 0127 03/26					
ANATUM ISLAND VANUATU 20.2S 169.9E 0136 03/26					
	ANATOM ISLAND	VANUA'I'U	20.2S	169.9E	0136 03/26

DODE MODEODY		0 20	146 00	0150 00/06
	PAPUA NEW GUINEA			
NUKUALOFA	TONGA		175.2W	
SUVA	FIJI	18.15	178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W 139.0W	0209 03/26
HIVA OA	FRENCH POLYNESIA	10.0S	139.0W	0211 03/26
PUERTO VALLARTA			105.3W	· · · · · · · · · · · · · · · · · · ·
PAPEETE	FRENCH POLYNESIA	17.5S	149.6W	0225 03/26
NOUMEA	NEW CALEDONIA	22.3S	166.5E 105.3W	0229 03/26
SAN BLAS	MEXICO	21.5N	105.3W	0230 03/26
LAZARO CARDENAS	MEXICO		102.2W	
ACAPULCO	MEXICO	16.9N	99.9W	0307 03/26
NORTH CAPE	NEW ZEALAND	34.4S	173.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA	23.1S	173.3E 135.0W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W	0419 03/26
PITCAIRN ISLAND	PITCAIRN ISLANDS	25.1S	130.1W	0444 03/26
CABO SAN ELENA	COSTA RICA	10.9N	86.0W	0515 03/26
CORINTO	NICARAGUA	12.5N	86.0W 87.2W	0527 03/26
PUERTO SANDINO		12 2N	86.8W	0527 03/26
AUCKLAND EAST			175.0E	
SAN JUAN DL SUR		11 2N	85.9W	0536 03/26
PUERTO OUEPOS	COSTA RICA	0 /N	84.2W	0538 03/26
COCOS ISLAND	COSTA RICA	5.4N	87.1W	0539 03/26
CABO MATAPALO	COSTA RICA			
		0.4N	83.3W 82.9W	0550 03/26
PUNTA BURICA	PANAMA			0530 03/26
BALTRA ISLAND	ECUADOR	0.5s	90.3W	0636 03/26
PUNTA MALA	PANAMA	7.5N	80.0W	0641 03/26
EASTER ISLAND	CHILE			0648 03/26
PUERTO PINA	PANAMA	7.4N	78.0W 77.4W	0655 03/26
BAHIA SOLANO	COLOMBIA		77.4W	0656 03/26
ESMERELDAS	ECUADOR	1.2N	79.8W	0711 03/26
TUMACO	COLOMBIA	1.8N		0718 03/26
LA LIBERTAD	ECUADOR	2.2S		0733 03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736 03/26
TALARA	PERU	4.6S	81.5W	
CAPE ADARE	ANTARCTICA	71.0s	170.0E	0852 03/26
PIMENTAL	PERU	6.9S	80.0W 77.2W	0852 03/26
LA PUNTA	PERU	12.1S	77.2W	0858 03/26
CHIMBOTE	PERU	9.0S	78.8W	0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N		0903 03/26
SAN JUAN	PERU	15.3S	75.2W	0913 03/26
MOLLENDO	PERU	17.1S	75.2W 72.0W	0947 03/26
ARICA	CHILE	18.5S	70.3W	1003 03/26
IQUIQUE	CHILE	20.2S	70.1W	1004 03/26
ANTOFAGASTA	CHILE	23.3s	70.4W	1019 03/26
CALDERA	CHILE	27.1S	70.8W	1039 03/26
COQUIMBO	CHILE	29.9S	71.4W	1048 03/26
VALPARAISO	CHILE	33.0S	71.6W	1105 03/26
THURSTON ISLAND	ANTARCTICA	72.0S	100.0W	1112 03/26
TALCAHUANO	CHILE	36.7S	73.1W	1128 03/26
CORRAL	CHILE	39.85	73.1W	1145 03/26
GOLFO DE PENAS	CHILE	47.1S	73.3W	1228 03/26
PUERTO MONTT	CHILE	47.13 41.5S	74.9W	1423 03/26
TODICIO MONTI	^TII	11.00	, J . O W	1125 05/20

## POTENTIAL IMPACTS

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- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT

THE TIME OF THE MAXIMUM TSUNAMI WAVES.

\* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

### TSUNAMI OBSERVATIONS

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6F7	г 14
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0F7	20
PETROPAVLOVSK RU	53.0N 158.6E	1551	1.1M/03.5FT	20

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #4

ZCZC WEPA40 PHEB 251704 TSUPAC

TSUNAMI MESSAGE NUMBER 4 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1704 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...
THIS MESSAGE LISTS MORE TSUNAMI OBSERVATIONS

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF
  - ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.
- \* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF
  - MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
    PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
    NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
    YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
    SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
    FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
    ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
    TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
    NEW GUINEA... AND INDONESIA.
- \* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF
  - EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA...

REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
SIMUSHIR SEVERO KURILSK	RUSSIA RUSSIA	46.7N 151.8E 50.8N 156.1E	•
KUSHIRO	JAPAN	42.9N 144.3E	1713 03/25
HACHINOHE	JAPAN	40.5N 141.5E	1748 03/25
KATSUURA	JAPAN	35.1N 140.3E	1802 03/25
HACHIJO JIMA	JAPAN	33.1N 139.8E	1820 03/25
CHICHI JIMA	JAPAN	27.0N 142.3E	1846 03/25
MINAMITORISHIMA	JAPAN	24.3N 154.0E	1855 03/25
GASTELLO	RUSSIA	49.1N 143.0E	1901 03/25
MIDWAY ISLAND	MIDWAY ISLAND	28.2N 177.4W	1902 03/25
SHIMIZU	JAPAN	32.8N 133.0E	1929 03/25
SAPPORO	JAPAN	43.5N 141.0E	1930 03/25
WAKE ISLAND	WAKE ISLAND	19.3N 166.6E	1931 03/25
NOBEOKA	JAPAN	32.5N 131.8E	1933 03/25
NIIGATA	JAPAN	38.0N 139.0E	1950 03/25
SAIPAN	NORTHERN MARIANA	15.3N 145.8E	2020 03/25
GUAM	GUAM	13.4N 144.7E	2042 03/25
UST KAHYRYUZOVO	RUSSIA	57.1N 156.7E	2048 03/25
SHIMANE	JAPAN	35.8N 133.0E	2049 03/25
ENIWETOK	MARSHALL ISLANDS	11.4N 162.3E	2056 03/25
KWAJALEIN	MARSHALL ISLANDS	8.7N 167.7E	2103 03/25
OKINAWA	JAPAN	26.2N 127.8E	2104 03/25
HUALIEN	TAIWAN	24.0N 121.7E	2106 03/25
TAITUNG	TAIWAN	22.7N 121.2E	2110 03/25
NAGASAKI	JAPAN	32.7N 129.7E	2113 03/25
MAJURO	MARSHALL ISLANDS	7.1N 171.4E	2116 03/25
POHNPEI ISLAND	POHNPEI	7.0N 158.2E	2118 03/25

YAP ISLAND	YAP	9.5N	138.1E	2119 03/25
KOSRAE ISLAND	KOSRAE	5.5N	163.0E	2126 03/25
PALANAN	PHILIPPINES	17 1N	122.6E	2128 03/25
CHILUNG	TAIWAN		121.8E	2134 03/25
CHUUK ISLAND	CHUUK		151.8E	2139 03/25
LEGASPI	PHILIPPINES	13.2N	123.8E	2155 03/25
MALAKAL	PALAU	7.3N	134.5E	2214 03/25
GEME	INDONESIA			
				·
DAVAO	PHILIPPINES		125.7E	2226 03/25
HOWLAND ISLAND	HOWLAND AND BAKE		176.6W	2232 03/25
BEREBERE	INDONESIA	2.5N	128.7E	2235 03/25
PALMYRA ISLAND	PALMYRA ISLAND	5.9N	162.1W	2243 03/25
WARSA	INDONESIA		135.8E	2245 03/25
MANUS ISLAND	PAPUA NEW GUINEA		147.5E	2248 03/25
KAVIENG	PAPUA NEW GUINEA			2251 03/25
MANOKWARI	INDONESIA	0.85	134.2E	2253 03/25
TARAWA ISLAND	KIRIBATI	1.5N	173.0E	2256 03/25
JAYAPURA	INDONESIA	2 45	140.8E	2302 03/25
			128.8E	
PATANI	INDONESIA			
VANIMO	PAPUA NEW GUINEA	2.68	141.3E	2303 03/25
SORONG	INDONESIA	0.85	131.1E	2309 03/25
KANTON ISLAND	KIRIBATI	2.8S	171.7W	2311 03/25
WEWAK	PAPUA NEW GUINEA		143.6E	2315 03/25
	PAPUA NEW GUINEA		152.3E	
RABAUL				
FUNAFUTI ISLAND	TUVALU	7.95	178.5E 157.5W	2324 03/25
CHRISTMAS ISLAN	KIRIBATI	2.0N	157.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA	5.0S	151.3E	2328 03/25
KIETA	PAPUA NEW GUINEA	6.1s	155.6E	2331 03/25
AMUN	PAPUA NEW GUINEA		154.7E	
		0.05	160.1W	2333 03/23
JARVIS ISLAND	JARVIS ISLAND	0.45	160.1W	2337 03/25
FALAMAE	SOLOMON ISLANDS		155.6E	
PANGGOE	SOLOMON ISLANDS	6.9S	157.2E	2345 03/25
ENSENADA	MEXICO	31.8N	116.8W	2346 03/25
WOODLARK ISLAND	PAPUA NEW GUINEA	9.0s	116.8W 152.9E	2348 03/25
MADANG	PAPUA NEW GUINEA		145.8E	2349 03/25
				2359 03/25
GHATERE	SOLOMON ISLANDS		159.2E	
NUKUNONU ISLAND	TOKELAU		171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
AUKI	SOLOMON ISLANDS		160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS	8.4S	157.2E	0012 03/26
LAE	PAPUA NEW GUINEA	6 85		0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN		176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI		154.9W	0022 03/26
SANTA CRUZ ISLA	SOLOMON ISLANDS		165.9E	0027 03/26
PUNTA ABREOJOS	MEXICO	26.7N	113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10.8S	165.9W	0030 03/26
HONIARA	SOLOMON ISLANDS			0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN		178.2W	0034 03/26
APIA	SAMOA		171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS		157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA	14.3S	170.7W	0045 03/26
ESPERITU SANTO	VANUATU	15.1S	167.3E	0051 03/26
NIUATOPUTAPU	TONGA		173.5W	0058 03/26
PORT VILA	VANUATU		168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
NIUE ISLAND	NIUE	19.0S	170.0W	0120 03/26
VAVAU	TONGA	18.7S	173.9W	0124 03/26
FLINT ISLAND	KIRIBATI	11 45	151.8W	0127 03/26
ANATOM ISLAND	VANUATU		169.9E	0136 03/26
PORT MORESBY			146.9E	0152 03/26
NUKUALOFA	TONGA		175.2W	0153 03/26
SUVA	FIJI		178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W	0209 03/26
HIVA OA	FRENCH POLYNESIA		139.0W	0211 03/26
PUERTO VALLARTA			105.3W	0220 03/26
PAPEETE	FRENCH POLYNESIA		149.6W	0225 03/26
TALDUTE	TUDINCII TOUTNESTA	11.00	117.0W	0223 03/20

NOUMEA SAN BLAS	NEW CALEDONIA MEXICO		166.5E 105.3W	
LAZARO CARDENAS	MEXICO	17 9N	103.3W	0246 03/26
ACAPULCO	MEXICO	16.9N	102.2W 99.9W	0307 03/26
NORTH CAPE	NEW ZEALAND	34.4S	173.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA	23.1S	173.3E 135.0W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W	0419 03/26
	PITCAIRN ISLANDS	25.1S	130.1W	0444 03/26
CABO SAN ELENA	COSTA RICA	10.9N	130.1W 86.0W	0515 03/26
CORINTO	NICARAGUA	12.5N	87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N	87.2W 86.8W	0527 03/26
AUCKLAND EAST	NEW ZEALAND	36.7S	175.0E	0531 03/26
SAN JUAN DL SUR	NICARAGUA	11.2N	85.9W 84.2W	0536 03/26
PUERTO QUEPOS	COSTA RICA	9.4N	84.2W	0538 03/26
COCOS ISLAND	COSTA RICA	5.5N	87.1W	0539 03/26
CABO MATAPALO	COSTA RICA	8.4N	83.3W 82.9W	0542 03/26
PUNTA BURICA	PANAMA			
BALTRA ISLAND	ECUADOR	0.58	90.3W 80.0W	0636 03/26
PUNTA MALA	PANAMA	7.5N	80.0W	0641 03/26
EASTER ISLAND	CHILE		109.4W	0648 03/26
PUERTO PINA	PANAMA	7.4N		0655 03/26
BAHIA SOLANO	COLOMBIA	6.3N		
ESMERELDAS	ECUADOR	1.2N		0711 03/26
TUMACO	COLOMBIA	1.8N	78.9W	0718 03/26
LA LIBERTAD	ECUADOR	2.2S		
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736 03/26 0750 03/26
TALARA	PERU		81.5W	0750 03/26
CAPE ADARE	ANTARCTICA	71.0s		0852 03/26
PIMENTAL	PERU	6.9S	W0.08	0852 03/26
LA PUNTA	PERU	12.1S	77.2W	0858 03/26
CHIMBOTE	PERU	9.0S	78.8W 79.6W	0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N 15.3S	79.6W 75.2W	0903 03/26
SAN JUAN	PERU	15.3S 17.1S		
MOLLENDO ARICA	PERU CHILE	17.1S 18.5S	72.0W 70.3W	1003 03/26
IOUIOUE	CHILE	20.2S	70.3W 70.1W	1003 03/26
ANTOFAGASTA	CHILE	23.3S	70.1W	1019 03/26
CALDERA	CHILE	27.1S	70.4W 70.8W	1039 03/26
COOUIMBO	CHILE	29.9S		
VALPARAISO	CHILE	33.0s	71.4W 71.6W	1105 03/26
THURSTON ISLAND	ANTARCTICA	72 OS	100.0W	1112 03/26
TALCAHUANO	CHILE	36.7S	73.1W	1128 03/26
CORRAL	CHILE	39.8S		1145 03/26
GOLFO DE PENAS	CHILE	47.1S		
PUERTO MONTT	CHILE	41.5S	73.0W	1423 03/26
		55		

### POTENTIAL IMPACTS

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- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS...UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0FT	
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	
PETROPAVLOVSK RU SHEMYA AK ADAK AK	53.0N 158.6E 52.7N 174.1E 51.9N 176.6W	1551 1635 1645	1.1M/03.5FT 0.9M/02.9FT 0.5M/01.6FT	17 15
ATKA AK	52.2N 174.2W	1652	0.7M/02.3FT	18

### NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #5

ZCZC WEPA40 PHEB 251804 TSUPAC

TSUNAMI MESSAGE NUMBER 5 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1804 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS

MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

## RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

## ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION R	EGION	COORD	INATES	ETA (	(UTC)
HACHINOHE JI KATSUURA JI	APAN APAN APAN APAN	40.5N 3 35.1N	144.3E 141.5E 140.3E 139.8E	1748 1802	03/25 03/25 03/25 03/25
CHICHI JIMA JI MINAMITORISHIMA JI	APAN APAN	27.0N 2 24.3N	142.3E 154.0E	1846 1855	03/25
MIDWAY ISLAND M	USSIA IDWAY ISLAND APAN	28.2N 3	143.0E 177.4W 133.0E	1902	03/25 03/25 03/25
WAKE ISLAND WA	APAN AKE ISLAND APAN		166.6E	1931	03/25 03/25 03/25
NIIGATA JZ SAIPAN NO	APAN ORTHERN MARIANA	38.0N 1 15.3N	139.0E 145.8E	1950 2020	03/25
UST KAHYRYUZOVO R	UAM USSIA APAN		156.7E	2048 2049	03/25 03/25 03/25
KWAJALEIN M	ARSHALL ISLANDS ARSHALL ISLANDS APAN	8.7N		2103	03/25 03/25 03/25
TAITUNG TA	AIWAN AIWAN	24.0N 22.7N	121.7E 121.2E	2106 2110	03/25
MAJURO MI POHNPEI ISLAND PO	OHNPEI	7.1N 7.0N	129.7E 171.4E 158.2E 138.1E	2116 2118	03/25 03/25 03/25
KOSRAE ISLAND KO PALANAN PI	AP OSRAE HILIPPINES AIWAN	5.5N	163.0E 122.6E	2126 2128	03/25 03/25 03/25 03/25

CHUUK ISLAND	CHUUK	7.4N	151.8E	2139 03/25
LEGASPI	PHILIPPINES	13 2M	123.8E	2155 03/25
		13.21	123.05	2133 03/23
MALAKAL	PALAU	7.3N	134.5E	2214 03/25
GEME	INDONESIA	4.6N	126.8E	2226 03/25
DAVAO	PHILIPPINES	6 8N	125.7E	0006 00/05
				2220 03/25
HOWLAND ISLAND	HOWLAND AND BAKE		176.6W	2232 03/25
BEREBERE	INDONESIA	2.5N	128.7E	2235 03/25
PALMYRA ISLAND	PALMYRA ISLAND			
		J.9N	102.1W	2243 03/23
WARSA	INDONESIA	0.6S	135.8E	2245 03/25
MANUS ISLAND	PAPUA NEW GUINEA	2.0S	162.1W 135.8E 147.5E	2248 03/25
KAVIENG		2 50	150.7E	2251 03/25
_	PAPUA NEW GUINEA			
MANOKWARI	INDONESIA	0.8S	134.2E	2253 03/25
TARAWA ISLAND	KIRIBATI	1.5N	134.2E 173.0E 140.8E	2256 03/25
-		2 40	140 00	2302 03/25
JAYAPURA	INDONESIA		140.06	2302 03/23
PATANI	INDONESIA		128.8E	2303 03/25
VANIMO	PAPUA NEW GUINEA	2.6S	141.3E	2303 03/25
SORONG	INDONESIA	0 00	141.3E 131.1E 171.7W	2309 03/25
		0.05	131.15	2309 03/23
KANTON ISLAND	KIRIBATI	2.8S	171.7W	2311 03/25
WEWAK	PAPUA NEW GUINEA	3.5S	143.6E	2315 03/25
RABAUL	DADIIA NEW CUINEA	1 20	150 20	2316 03/25
	FAFOA NEW GOINEA	4.23	132.35	2310 03/23
FUNAFUTI ISLAND	PAPUA NEW GUINEA TUVALU	7.98	178.5E	2324 03/25
CHRISTMAS ISLAN	KIRIBATI	2.0N	157.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA		151.3E	
KIETA	PAPUA NEW GUINEA		155.6E	
AMUN	PAPUA NEW GUINEA	6.0S	154.7E 160.1W	2335 03/25
JARVIS ISLAND	JARVIS ISLAND	0.02	160 11	2337 03/25
FALAMAE	SOLOMON ISLANDS		100.00	2341 03/25
PANGGOE	SOLOMON ISLANDS	6.98	157.2E	2345 03/25
ENSENADA	MEXICO		116 9W	2346 03/25
			110.0W	2340 03/23
WOODLARK ISLAND	PAPUA NEW GUINEA		152.9E	2348 03/25
MADANG	PAPUA NEW GUINEA	5.2S	145.8E	2349 03/25
GHATERE	SOLOMON ISLANDS		159.2E	2359 03/25
NUKUNONU ISLAND	TOKELAU	9.2S	171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
AUKI	SOLOMON ISLANDS	8 89	160.6E	0008 03/26
				•
MUNDA	SOLOMON ISLANDS		157.2E	0012 03/26
LAE	PAPUA NEW GUINEA	6.8S	147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN	13 39	176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI		154.9W	
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.9S	165.9E	0027 03/26
PUNTA ABREOJOS	MEXICO	26 7N	113.6W	0028 03/26
				•
PUKAPUKA ISLAND	COOK ISLANDS		165.9W	0030 03/26
HONIARA	SOLOMON ISLANDS	9.3S	160.0E	0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN	14 39	178.2W	0034 03/26
APIA	SAMOA		171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS			
PAGO PAGO	CCCI ICEIIICE	8.9S	157.8W	0045 03/26
				0045 03/26
	AMERICAN SAMOA	14.3S	170.7W	0045 03/26 0045 03/26
ESPERITU SANTO	AMERICAN SAMOA VANUATU	14.3S 15.1S	170.7W 167.3E	0045 03/26 0045 03/26 0051 03/26
	AMERICAN SAMOA	14.3S 15.1S	170.7W	0045 03/26 0045 03/26
ESPERITU SANTO NIUATOPUTAPU	AMERICAN SAMOA VANUATU TONGA	14.3S 15.1S 16.0S	170.7W 167.3E 173.5W	0045 03/26 0045 03/26 0051 03/26 0058 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA	AMERICAN SAMOA VANUATU TONGA VANUATU	14.3S 15.1S 16.0S 17.8S	170.7W 167.3E 173.5W 168.2E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO	14.3s 15.1s 16.0s 17.8s 22.8N	170.7W 167.3E 173.5W 168.2E 110.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA	AMERICAN SAMOA VANUATU TONGA VANUATU	14.3s 15.1s 16.0s 17.8s 22.8N	170.7W 167.3E 173.5W 168.2E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26 0158 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 105.3W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 139.0W 149.6W 166.5E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E 105.3W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0230 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 139.0W 149.6W 166.5E	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26
ESPERITU SANTO NIUATOPUTAPU PORT VILA CABO SAN LUCAS NIUE ISLAND VAVAU FLINT ISLAND ANATOM ISLAND PORT MORESBY NUKUALOFA SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS	AMERICAN SAMOA VANUATU TONGA VANUATU MEXICO NIUE TONGA KIRIBATI VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO	14.3S 15.1S 16.0S 17.8S 22.8N 19.0S 18.7S 11.4S 20.2S 9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N 17.9N	170.7W 167.3E 173.5W 168.2E 110.0W 170.0W 173.9W 151.8W 169.9E 146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E 105.3W	0045 03/26 0045 03/26 0051 03/26 0058 03/26 0113 03/26 0113 03/26 0120 03/26 0124 03/26 0127 03/26 0136 03/26 0152 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0230 03/26

NORTH CAPE	NEW ZEALAND	34.4S	173.3E 135.0W	0354 03/26
RIKITEA	FRENCH POLYNESIA	23.1S	135.0W	0415 03/26
SALINA CRUZ	MEXICO		95.2W	
	PITCAIRN ISLANDS	25.1S	130.1W	0444 03/26
CABO SAN ELENA		10.9N	86.0W	0515 03/26
CORINTO	NICARAGUA	12.5N		0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N	86.8W	0527 03/26
AUCKLAND EAST	NEW ZEALAND	36.7S	175.0E	0531 03/26
SAN JUAN DL SUR		11.2N	85.9W	0536 03/26
PUERTO QUEPOS	COSTA RICA	9.4N	84.2W 87.1W	0538 03/26
COCOS ISLAND	COSTA RICA		87.1W	0539 03/26
CABO MATAPALO	COSTA RICA	8.4N		0542 03/26
PUNTA BURICA	PANAMA		82.9W	
BALTRA ISLAND	ECUADOR	0.5S	90.3W	0636 03/26
PUNTA MALA	PANAMA	7.5N	80.0W 109.4W	0641 03/26
EASTER ISLAND	CHILE		109.4W	0648 03/26
PUERTO PINA	PANAMA	7.4N		
BAHIA SOLANO	COLOMBIA	6.3N	77.4W	
ESMERELDAS	ECUADOR	1.2N		0711 03/26
TUMACO	COLOMBIA	1.8N	78.9W	0718 03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W	0/33 03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	
TALARA	PERU	4.6S	81.5W 170.0E	0750 03/26
CAPE ADARE	ANTARCTICA	71.0s	170.0E	
PIMENTAL	PERU	6.9S	80.0W	0852 03/26
LA PUNTA	PERU		77.2W	0858 03/26
CHIMBOTE	PERU	9.0S	78.8W	0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903 03/26
SAN JUAN	PERU	15.3S	75.2W	0913 03/26
MOLLENDO	PERU	17.1s	72.0W	0947 03/26
ARICA	CHILE	18.5S	70.3W	1003 03/26
IQUIQUE	CHILE	20.2S	70.1W	1004 03/26
ANTOFAGASTA	CHILE	23.3s	70.4W	1019 03/26
CALDERA	CHILE	27.1S	70.8W	1039 03/26
COQUIMBO	CHILE	29.9S	71.4W	1048 03/26
VALPARAISO	CHILE	33.0s	71.6W	1105 03/26
THURSTON ISLAND	ANTARCTICA	72.0s	100.0W	1112 03/26
TALCAHUANO	CHILE	36.7s	73 1W	1128 03/26
CORRAL	CHILE	39.8S	73.5W	1145 03/26
GOLFO DE PENAS	CHILE	47.1S		1228 03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423 03/26

## POTENTIAL IMPACTS

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- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

### TSUNAMI OBSERVATIONS...UPDATED

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<sup>\*</sup> THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE

TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W	1550 1559 1733 1725 1715 1734 1720 1745 1755	3.1M/10.0FT 2.9M/09.5FT 1.6M/05.2FT 0.9M/04.2FT 0.8M/02.8FT 0.8M/02.7FT 0.8M/02.6FT 0.5M/01.6FT 0.5M/01.6FT 0.8M/02.5FT	16 17 17 15 18 20 19

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #6

ZCZC WEPA40 PHEB 251900 TSUPAC

TSUNAMI MESSAGE NUMBER 6
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1900 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...
THIS MESSAGE CONTAINS NEW OBSERVATIONS.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE

UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM...

MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

## RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
KATSUURA HACHIJO JIMA CHICHI JIMA MINAMITORISHIMA GASTELLO MIDWAY ISLAND SHIMIZU SAPPORO WAKE ISLAND NOBEOKA	RUSSIA MIDWAY ISLAND JAPAN JAPAN WAKE ISLAND JAPAN	35.1N 140.3E 33.1N 139.8E 27.0N 142.3E 24.3N 154.0E 49.1N 143.0E 28.2N 177.4W 32.8N 133.0E 43.5N 141.0E 19.3N 166.6E 32.5N 131.8E 38.0N 139.0E	1820 03/25 1846 03/25 1855 03/25 1901 03/25 1902 03/25 1929 03/25 1930 03/25 1931 03/25
NIIGATA SAIPAN GUAM UST KAHYRYUZOVO SHIMANE ENIWETOK KWAJALEIN OKINAWA HUALIEN TAITUNG	JAPAN NORTHERN MARIANA GUAM RUSSIA JAPAN MARSHALL ISLANDS MARSHALL ISLANDS JAPAN TAIWAN TAIWAN	15.3N 145.8E 13.4N 144.7E 57.1N 156.7E 35.8N 133.0E 11.4N 162.3E 8.7N 167.7E 26.2N 127.8E 24.0N 121.7E 22.7N 121.2E	2020 03/25 2042 03/25 2048 03/25 2049 03/25 2056 03/25 2103 03/25 2104 03/25 2106 03/25 2110 03/25
NAGASAKI MAJURO POHNPEI ISLAND YAP ISLAND KOSRAE ISLAND PALANAN CHILUNG CHUUK ISLAND	PHILIPPINES TAIWAN	32.7N 129.7E 7.1N 171.4E 7.0N 158.2E 9.5N 138.1E 5.5N 163.0E 17.1N 122.6E 25.2N 121.8E 7.4N 151.8E	2116 03/25 2118 03/25 2119 03/25 2126 03/25 2128 03/25 2134 03/25

LEGASPI	PHILIPPINES	13.2N	123.8E	2155 03/25
MALAKAL	PALAU	7 3 N	134.5E	2214 03/25
		1.51	104.00	2214 03/23
GEME	INDONESIA	4.6N	126.8E	2226 03/25
DAVAO	PHILIPPINES	6.8N	125.7E	2226 03/25
HOWLAND ISLAND	HOWLAND AND BAKE	0 6N	176.6W	2232 03/25
BEREBERE	INDONESIA	2.5N	128.7E	2235 03/25
PALMYRA ISLAND	PALMYRA ISLAND	5.9N	162.1W	2243 03/25
	INDONESIA		125 07	2245 03/25
WARSA		0.05	133.0E	2243 03/23
MANUS ISLAND	PAPUA NEW GUINEA	2.0S	135.8E 147.5E 150.7E	2248 03/25
KAVIENG	PAPUA NEW GUINEA	2.5S	150.7E	2251 03/25
		0.00	134.2E	2253 03/25
MANOKWARI	INDONESIA			
TARAWA ISLAND	KIRIBATI	1.5N	173.0E	2256 03/25
JAYAPURA	INDONESIA	2.4S	173.0E 140.8E 128.8E	2302 03/25
			128.8E	2303 03/25
PATANI	INDONESIA			
VANIMO	PAPUA NEW GUINEA	2.6S	141.3E	2303 03/25
SORONG	INDONESIA	0.88	131.1E	2309 03/25
KANTON ISLAND	KIRIBATI	2 0 0	131.1E 171.7W 143.6E	2311 03/25
		2.05	1 / 1 • / W	2311 03/23
WEWAK	PAPUA NEW GUINEA			
RABAUL	PAPUA NEW GUINEA	4.2S	152.3E	2316 03/25
FUNAFUTI ISLAND	TUVALU	7 00	170 50	2324 03/25
		7.93	170.56	2324 03/23
CHRISTMAS ISLAN	KIRIBATI	2.0N	178.5E 157.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA		151.3E	2328 03/25
	PAPUA NEW GUINEA		155.6E	
KIETA				
AMUN	PAPUA NEW GUINEA		154.7E	
JARVIS ISLAND	JARVIS ISLAND	0.48	160.1W	2337 03/25
		7 40	160.1W 155.6E	2341 03/25
FALAMAE	SOLOMON ISLANDS		133.0E	2341 03/23
PANGGOE	SOLOMON ISLANDS	6.9S	157.2E	2345 03/25
ENSENADA	MEXICO	31.8N	116.8W	2346 03/25
	PAPUA NEW GUINEA			2348 03/25
WOODLARK ISLAND			102.31	2010 00/20
MADANG	PAPUA NEW GUINEA	5.2S	145.8E	2349 03/25
GHATERE	SOLOMON ISLANDS	7.85	159.2E	2359 03/25
NUKUNONU ISLAND	TOKELAU		171.8W	0000 03/26
				·
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
AUKI	SOLOMON ISLANDS	8.85	160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS		157.2E	0012 03/26
				•
LAE	PAPUA NEW GUINEA	6.8S	147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN	13.3s	176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI		154.9W	0022 03/26
				·
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.98	165.9E	0027 03/26
PUNTA ABREOJOS	MEXICO	26.7N	113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10 89	165.9W	0030 03/26
				·
HONIARA	SOLOMON ISLANDS		160.0E	0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN	14.3S	178.2W	0034 03/26
APIA	SAMOA		171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS	8.95	157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA	14.3S	170.7W	0045 03/26
ESPERITU SANTO	VANUATU		167.3E	
		16 00	173.5W	0058 03/26
NIUATOPUTAPU	TONGA	10.05	1/3.JW	0036 03/20
PORT VILA	VANUATU	17.8S	168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
NIUE ISLAND	NIUE		170.0W	
VAVAU	TONGA	18.7S	173.9W	0124 03/26
FLINT ISLAND	KIRIBATI	11.4S	151.8W	0127 03/26
ANATOM ISLAND				
		20 20	160 00	0136 03/26
PORT MORESBY	VANUATU	20.2S	169.9E	0136 03/26
		9.3S	146.9E	0136 03/26 0152 03/26
NUKUALOFA	VANUATU	9.3S	146.9E	0136 03/26 0152 03/26
	VANUATU PAPUA NEW GUINEA TONGA	9.3S 21.0S	146.9E 175.2W	0136 03/26 0152 03/26 0153 03/26
SUVA	VANUATU PAPUA NEW GUINEA TONGA FIJI	9.3S 21.0S 18.1S	146.9E 175.2W 178.4E	0136 03/26 0152 03/26 0153 03/26 0158 03/26
	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS	9.3S 21.0S 18.1S 21.2S	146.9E 175.2W 178.4E 159.8W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26
SUVA	VANUATU PAPUA NEW GUINEA TONGA FIJI	9.3S 21.0S 18.1S 21.2S	146.9E 175.2W 178.4E	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26
SUVA RAROTONGA HIVA OA	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA	9.3S 21.0S 18.1S 21.2S 10.0S	146.9E 175.2W 178.4E 159.8W 139.0W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO	9.3S 21.0S 18.1S 21.2S 10.0S 20.6N	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26
SUVA RAROTONGA HIVA OA	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA	9.3s 21.0s 18.1s 21.2s 10.0s 20.6N 17.5s	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO	9.3s 21.0s 18.1s 21.2s 10.0s 20.6N 17.5s	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA	9.3s 21.0s 18.1s 21.2s 10.0s 20.6N 17.5s 22.3s	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO	9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0230 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS LAZARO CARDENAS	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO MEXICO	9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N 17.9N	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E 105.3W 102.2W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0229 03/26 0230 03/26 0246 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS LAZARO CARDENAS	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO	9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N 17.9N	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0230 03/26
SUVA RAROTONGA HIVA OA PUERTO VALLARTA PAPEETE NOUMEA SAN BLAS LAZARO CARDENAS	VANUATU PAPUA NEW GUINEA TONGA FIJI COOK ISLANDS FRENCH POLYNESIA MEXICO FRENCH POLYNESIA NEW CALEDONIA MEXICO MEXICO	9.3S 21.0S 18.1S 21.2S 10.0S 20.6N 17.5S 22.3S 21.5N 17.9N 16.9N	146.9E 175.2W 178.4E 159.8W 139.0W 105.3W 149.6W 166.5E 105.3W 102.2W	0136 03/26 0152 03/26 0153 03/26 0158 03/26 0209 03/26 0211 03/26 0220 03/26 0225 03/26 0229 03/26 0229 03/26 0230 03/26 0246 03/26

		00 10	105 057	0.415 00./06
RIKITEA	FRENCH POLYNESIA	23.15	135.0W 95.2W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W 130.1W	0419 03/26
	PITCAIRN ISLANDS			
CABO SAN ELENA			86.0W	
CORINTO	NICARAGUA	12.5N	87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N	86.8W	0527 03/26
AUCKLAND EAST	NEW ZEALAND	36.7S	86.8W 175.0E 85.9W	0531 03/26
SAN JUAN DL SUR		11.2N	85.9W	0536 03/26
PUERTO QUEPOS	COSTA RICA		84.2W	
COCOS ISLAND	COSTA RICA		87.1W	0539 03/26
CABO MATAPALO	COSTA RICA	8.4N	83.3W	0542 03/26
PUNTA BURICA	PANAMA	8.0N	82.9W	0550 03/26
BALTRA ISLAND	ECUADOR	0.5S	90.3W	0636 03/26
PUNTA MALA	PANAMA	7.5N	82.9W 90.3W 80.0W	0641 03/26
EASTER ISLAND	CHILE	27.1S	109.4W	0648 03/26
PUERTO PINA	PANAMA	7.4N	78.0W	0655 03/26
BAHIA SOLANO	COLOMBIA	6.3N	77.4W	0656 03/26
ESMERELDAS	ECUADOR	1.2N		0711 03/26
TUMACO	COLOMBIA	1.8N	78.9W	0718 03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W	0733 03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736 03/26
TALARA	PERU	4.6S		0750 03/26
CAPE ADARE	ANTARCTICA	71.0s	170.0E	0852 03/26
PIMENTAL	PERU	6.9S	80.0W	0852 03/26
LA PUNTA	PERU	12.1s	77.2W	0858 03/26
CHIMBOTE	PERU	9.0s	78.8W	0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903 03/26
SAN JUAN	PERU	15.3S	75.2W	
MOLLENDO	PERU	17.1S	72.0W	0947 03/26
ARICA	CHILE	18.5S		
IOUIOUE	CHILE	20.2S	70.3W 70.1W	1004 03/26
ANTOFAGASTA	CHILE	23.3S	70.4W	1019 03/26
CALDERA	CHILE	27.1S	70.8W	1039 03/26
COOUIMBO	CHILE	29.9S	71.4W	
VALPARAISO	CHILE	33.0s	71.6W	
THURSTON ISLAND			100 OW	1112 03/26
TALCAHUANO	CHILE	36 79	100.0W 73.1W	1128 03/26
CORRAL	CHILE	39.85	73.1W	1145 03/26
GOLFO DE PENAS	CHILE	47.1S	73.3W	1228 03/26
PUERTO MONTT	CHILE	47.13 41.5S	74.9W	1423 03/26
LOUKIO MONII	CUITE	41.35	/3.0W	1423 03/20

# POTENTIAL IMPACTS

- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

## TSUNAMI OBSERVATIONS...UPDATED

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<sup>\*</sup> THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0FT	16
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	
PETROPAVLOVSK RU	53.0N 158.6E	1733	1.6M/05.2FT	
SHEMYA AK ADAK AK ATKA AK	52.7N 174.1E 51.9N 176.6W 52.2N 174.2W	1725 1715 1734	0.9M/04.2FT 0.8M/02.8FT 0.7M/02.7FT	15 18
KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK	43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W	1720 1745 1755 1830	0.8M/02.6FT 0.5M/01.6FT 0.5M/01.6FT 0.8M/03.0FT	19 18 15
DUTCH HBR AK	51.1N 164.0W	1855	0.1M/00.4FT	17

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #7

ZCZC WEPA40 PHEB 252000 TSUPAC

TSUNAMI MESSAGE NUMBER 7 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 2000 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\* NOTICE \*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS

MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

## RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

## ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
GASTELLO MIDWAY ISLAND SHIMIZU SAPPORO	RUSSIA MIDWAY ISLAND JAPAN JAPAN	49.1N 143.0E 28.2N 177.4W 32.8N 133.0E 43.5N 141.0E	1902 03/25 1929 03/25
WAKE ISLAND	WAKE ISLAND	19.3N 166.6E	1931 03/25
NOBEOKA	JAPAN	32.5N 131.8E	1933 03/25
NIIGATA	JAPAN	38.0N 139.0E	1950 03/25
SAIPAN	NORTHERN MARIANA	15.3N 145.8E	2020 03/25
GUAM	GUAM	13.4N 144.7E	2042 03/25
UST KAHYRYUZOVO	RUSSIA		2048 03/25
SHIMANE	JAPAN		2049 03/25
ENIWETOK	MARSHALL ISLANDS		2056 03/25
KWAJALEIN	MARSHALL ISLANDS	8.7N 167.7E	2103 03/25
OKINAWA	JAPAN	26.2N 127.8E	2104 03/25
HUALIEN	TAIWAN	24.0N 121.7E	2106 03/25
TAITUNG	TAIWAN	22.7N 121.2E	2110 03/25
NAGASAKI	JAPAN	32.7N 129.7E	2113 03/25
MAJURO	MARSHALL ISLANDS	7.1N 171.4E	2116 03/25
POHNPEI ISLAND	POHNPEI	7.0N 158.2E	2118 03/25
YAP ISLAND	YAP	9.5N 138.1E	2119 03/25
KOSRAE ISLAND	KOSRAE	5.5N 163.0E	2126 03/25
PALANAN	PHILIPPINES	17.1N 122.6E	2128 03/25
CHILUNG	TAIWAN	25.2N 121.8E	2134 03/25
CHUUK ISLAND	CHUUK	7.4N 151.8E	2139 03/25
LEGASPI	PHILIPPINES	13.2N 123.8E	2155 03/25
MALAKAL	PALAU	7.3N 134.5E	2214 03/25
GEME	INDONESIA	4.6N 126.8E	2226 03/25
DAVAO	PHILIPPINES	6.8N 125.7E	2226 03/25
HOWLAND ISLAND	HOWLAND AND BAKE	0.6N 176.6W	2232 03/25

BEREBERE	INDONESIA	2.5N	128.7E	2235 03/25
PALMYRA ISLAND	PALMYRA ISLAND	5 9N	162.1W	2243 03/25
		J. JN	10Z.IW	2245 05/25
WARSA	INDONESIA	0.68	135.8E	2245 03/25
MANUS ISLAND	PAPUA NEW GUINEA	2.0s	147.5E	2248 03/25
KAVIENG	PAPUA NEW GUINEA	2.5S	150.7E	2251 03/25
MANOKWARI	PAPUA NEW GUINEA PAPUA NEW GUINEA INDONESIA	0 88	13/1 25	2253 03/25
			134.25	2255 05/25
TARAWA ISLAND	KIRIBATI	1.5N	173.0E	2256 03/25
JAYAPURA	INDONESIA	2.4S	140.8E	2302 03/25
PATANI	INDONESIA	0.4N	128.8E	2303 03/25
VANIMO	PAPUA NEW GUINEA	2 69	140.8E 128.8E 141.3E	2303 03/25
		0.00	101 10	2303 03/25
SORONG	INDONESIA	0.88	131.1E	2309 03/25
KANTON ISLAND	KIRIBATI PAPUA NEW GUINEA PAPUA NEW GUINEA	2.8S	171.7W	2311 03/25
WEWAK	PAPUA NEW GUINEA	3.5S	143.6E	2315 03/25
RABAUL	PAPIIA NEW GIITNEA	4 2S	152 3E	2316 03/25
FUNAFUTI ISLAND	TUVALU	7 90	178.5E	2324 03/25
		7.93	1/0.56	2324 03/23
CHRISTMAS ISLAN	KIRIBATI	2.UN	15/.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA	5.0s	151.3E	2328 03/25
KIETA	PAPUA NEW GUINEA	6.1S	157.5W 151.3E 155.6E	2331 03/25
AMUN	PAPUA NEW GUINEA	6 09	15/ 75	2335 03/25
JARVIS ISLAND	JARVIS ISLAND	0.48	160.1W	2337 03/25
FALAMAE	SOLOMON ISLANDS	7.4S	160.1W 155.6E	2341 03/25
PANGGOE	SOLOMON ISLANDS	6.9S	157.2E	2345 03/25
ENSENADA	MEXICO		116.8W	
WOODLARK ISLAND	PAPUA NEW GUINEA		152.9E	
MADANG	PAPUA NEW GUINEA	5.2S	145.8E 159.2E	2349 03/25
GHATERE	SOLOMON ISLANDS	7.8S	159.2E	2359 03/25
NUKUNONU ISLAND	TOKELAU	9 25	171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS		161.9E	0003 03/26
AUKI	SOLOMON ISLANDS		160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS	8.4S	157.2E	0012 03/26
LAE	PAPUA NEW GUINEA	6.85	147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN		176.3W	0021 03/26
				·
MALDEN ISLAND	KIRIBATI		154.9W	0022 03/26
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.9S	165.9E	0027 03/26
PUNTA ABREOJOS	MEXICO	26.7N	113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10 85	165.9W	0030 03/26
			160.0E	0033 03/26
HONIARA	SOLOMON ISLANDS			· · · · · · · · · · · · · · · · · · ·
FUTUNA ISLAND	WALLIS AND FUTUN		178.2W	0034 03/26
APIA	SAMOA	13.8S	171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS	8.9S	157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA		170.7W	0045 03/26 0045 03/26
			167.3E	
ESPERITU SANTO	VANUATU			0051 03/26
NIUATOPUTAPU	TONGA	16.0S	173.5W	0058 03/26
PORT VILA	VANUATU	17.8S	168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
NIUE ISLAND	NIUE		170.0W	0120 03/26
VAVAU	TONGA		173.9W	0124 03/26
FLINT ISLAND	KIRIBATI		151.8W	0127 03/26
ANATOM ISLAND	VANUATU	20.2S	169.9E	0136 03/26
PORT MORESBY	PAPUA NEW GUINEA		146.9E	0152 03/26
			175.2W	
NUKUALOFA	TONGA			0153 03/26
SUVA	FIJI		178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W	0209 03/26
HIVA OA	FRENCH POLYNESIA	10.0s	139.0W	0211 03/26
PUERTO VALLARTA	MEXICO		105.3W	0220 03/26
PAPEETE	FRENCH POLYNESIA		149.6W	0225 03/26
NOUMEA	NEW CALEDONIA		166.5E	0229 03/26
SAN BLAS	MEXICO	21.5N	105.3W	0230 03/26
LAZARO CARDENAS	MEXICO		102.2W	0246 03/26
ACAPULCO	MEXICO		99.9W	0307 03/26
NORTH CAPE	NEW ZEALAND		173.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA		135.0W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W	0419 03/26
PITCAIRN ISLAND	PITCAIRN ISLANDS	25.1S	130.1W	0444 03/26
CABO SAN ELENA	COSTA RICA		86.0W	0515 03/26
CORINTO	NICARAGUA	ı∠.5N	87.2W	0527 03/26

PUERTO SANDINO	NICARAGUA	12.2N	86.8W	0527	03/26
AUCKLAND EAST	NEW ZEALAND	36.7S	175.0E	0531	03/26
SAN JUAN DL SUR	NICARAGUA	11.2N	85.9W	0536	03/26
PUERTO OUEPOS	COSTA RICA	9.4N	84.2W	0538	03/26
COCOS ISLAND	COSTA RICA	5.5N	87.1W	0539	03/26
CABO MATAPALO	COSTA RICA	8.4N	83.3W	0542	
PUNTA BURICA	PANAMA	8.0N		0550	
BALTRA ISLAND	ECUADOR	0.5S	90.3W	0636	03/26
PUNTA MALA	PANAMA	7.5N	80.0W		03/26
EASTER ISLAND	CHILE	27.1S	109.4W	0648	
PUERTO PINA	PANAMA	7.4N	78.0W	0655	
BAHIA SOLANO	COLOMBIA	6.3N		0656	
ESMERELDAS	ECUADOR	1.2N		0711	03/26
TUMACO	COLOMBIA	1.8N		0718	03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W	0733	03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736	
TALARA	PERU	4.6S	81.5W	0750	03/26
CAPE ADARE	ANTARCTICA	71.0s	170.0E	0852	03/26
PIMENTAL	PERU	6.9S	80.0W	0852	03/26
LA PUNTA	PERU	12.1S	77.2W	0858	03/26
CHIMBOTE	PERU	9.0S	78.8W	0900	03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903	03/26
SAN JUAN	PERU	15.3S	75.2W	0913	03/26
MOLLENDO	PERU	17.1s	72.0W	0947	03/26
ARICA	CHILE	18.5S	70.3W	1003	03/26
IQUIQUE	CHILE	20.2S	70.1W	1004	03/26
ANTOFAGASTA	CHILE	23.3S	70.4W	1019	03/26
CALDERA	CHILE	27.1s	70.8W	1039	03/26
COQUIMBO	CHILE	29.9S	71.4W	1048	03/26
VALPARAISO	CHILE	33.0s	71.6W	1105	03/26
THURSTON ISLAND	ANTARCTICA	72.0s	100.0W	1112	03/26
TALCAHUANO	CHILE	36.7S	73.1W	1128	03/26
CORRAL	CHILE	39.8S		1145	03/26
GOLFO DE PENAS	CHILE	47.1S	74.9W	1228	03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423	03/26

### POTENTIAL IMPACTS

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- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- $^\star$  IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

## TSUNAMI OBSERVATIONS...UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAU	IGE	TIME OF	MAXIMUM	WAVE
	COORDI	NATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT	LON	(UTC)	HEIGHT	(MIN)

DART 21416	48.0N 163	.5E 1554	0.8M/02.6FT	14
DART 21415	50.2N 171	.8E 1616	0.4M/01.3FT	15
			0 1 / 1 0 0	
UST KAMCHATSK RU	56.0N 163		3.1M/10.0FT	20
NIKOL'SKOE RU	55.2N 166	.0E 1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N 158	.6E 1733	1.6M/05.2FT	17
SHEMYA AK	52.7N 174	.1E 1725	0.9M/04.2FT	17
ADAK AK	51.9N 176	.6W 1715	0.8M/02.8FT	15
ATKA AK	52.2N 174	.2W 1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N 144	.4E 1720	0.8M/02.6FT	20
HANASAKI JP	43.3N 145	.6E 1745	0.5M/01.6FT	19
OFUNATO JP	39.0N 141	.8E 1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N 168	.9W 1928	1.1M/03.7FT	15
DUTCH HBR AK	51.1N 164	.0W 1935	0.3M/01.0FT	17
OMAEZAKI JP	34.6N 138	.2E 1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N 142	.2E 1855	0.3M/01.2FT	
MIDWAY US	28.2N 177	.4W 1918	0.9M/02.9FT	14
WAKE US	19.3N 166	.6E 1940	0.5M/01.6FT	14

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #8

ZCZC WEPA40 PHEB 252100 TSUPAC

TSUNAMI MESSAGE NUMBER 8 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 2100 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_\_

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

RUSSIA.

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION...
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

PROCEDURES AND THE LEVEL OF THREAT.

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
SAIPAN	NORTHERN MARIANA	15.3N 145.8E	2020 03/25
GUAM	GUAM	13.4N 144.7E	2042 03/25
UST KAHYRYUZOVO	RUSSIA	57.1N 156.7E	2048 03/25
SHIMANE	JAPAN	35.8N 133.0E	2049 03/25
ENIWETOK KWAJALEIN	MARSHALL ISLANDS		2049 03/25 2056 03/25 2103 03/25
OKINAWA	MARSHALL ISLANDS JAPAN	26.2N 127.8E	2104 03/25
HUALIEN	TAIWAN	24.0N 121.7E	2106 03/25
TAITUNG	TAIWAN	22.7N 121.2E	2110 03/25
NAGASAKI		32.7N 129.7E	2113 03/25
MAJURO		7.1N 171.4E	2116 03/25
POHNPEI ISLAND	POHNPEI	7.0N 158.2E	2118 03/25
YAP ISLAND	YAP	9.5N 138.1E	2119 03/25
KOSRAE ISLAND	KOSRAE	5.5N 163.0E	2126 03/25
PALANAN	PHILIPPINES	17.1N 122.6E	2128 03/25
CHILUNG	TAIWAN	25.2N 121.8E	2134 03/25
CHUUK ISLAND	CHUUK	7.4N 151.8E	2139 03/25
LEGASPI	PHILIPPINES	13.2N 123.8E	2155 03/25
MALAKAL	PALAU	7.3N 134.5E	2214 03/25
GEME	INDONESIA	4.6N 126.8E	2226 03/25
DAVAO	PHILIPPINES	6.8N 125.7E	2226 03/25
HOWLAND ISLAND	HOWLAND AND BAKE INDONESIA	0.6N 176.6W	2232 03/25
BEREBERE		2.5N 128.7E	2235 03/25
PALMYRA ISLAND	PALMYRA ISLAND	5.9N 162.1W	2243 03/25
WARSA	INDONESIA	0.6S 135.8E	2245 03/25
MANUS ISLAND	PAPUA NEW GUINEA	2.0S 147.5E	2248 03/25
KAVIENG	PAPUA NEW GUINEA	2.5S 150.7E	2251 03/25
MANOKWARI	INDONESIA	0.8S 134.2E	2253 03/25
TARAWA ISLAND	KIRIBATI	1.5N 173.0E	2256 03/25
JAYAPURA	INDONESIA	2.4S 140.8E	2302 03/25

PATANI	INDONESIA	0.4N	128.8E	2303 03/25
VANIMO	PAPUA NEW GUINEA	2 69	141.3E	2303 03/25
				•
SORONG	INDONESIA		131.1E	2309 03/25
KANTON ISLAND	KIRIBATI	2.8S	171.7W	2311 03/25
WEWAK	PAPUA NEW GUINEA	3 55	143.6E	2315 03/25
RABAUL	PAPUA NEW GUINEA		152.3E	2316 03/25
FUNAFUTI ISLAND	TUVALU	7.9s	178.5E	2324 03/25
CHRISTMAS ISLAN	KIRIBATI	2 ON	157.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA		151.3E	2328 03/25
KIETA	PAPUA NEW GUINEA	6.1S	155.6E	2331 03/25
AMUN	PAPUA NEW GUINEA	6.05	154.7E	2335 03/25
			160.1W	
JARVIS ISLAND	JARVIS ISLAND			2337 03/25
FALAMAE	SOLOMON ISLANDS	7.4S	155.6E	2341 03/25 2345 03/25
PANGGOE	SOLOMON ISLANDS	6.98	157.2E	2345 03/25
ENSENADA	MEXICO		116.8W	
WOODLARK ISLAND	PAPUA NEW GUINEA	9.0S	152.9E	2348 03/25
MADANG	PAPUA NEW GUINEA	5.2S	145.8E	2349 03/25
GHATERE	SOLOMON ISLANDS	7 89	159.2E	2359 03/2
NUKUNONU ISLAND	TOKELAU		171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
AUKI	SOLOMON ISLANDS	8 85	160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS		157.2E	0012 03/20
LAE	PAPUA NEW GUINEA	6.8S	147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN	13.3S	176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI			
		3.95	154.9W 165.9E	0022 03/20
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.98	165.9E	0027 03/2
PUNTA ABREOJOS	MEXICO	26.7N	113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10 89	165.9W	0030 03/26
				•
HONIARA	SOLOMON ISLANDS		160.0E	0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN	14.3s	178.2W	0034 03/26
APIA	SAMOA	13 85	171.8W	0037 03/26
				0045 03/26
PENRYN ISLAND	COOK ISLANDS		157.8W	•
PAGO PAGO	AMERICAN SAMOA	14.3S	170.7W	0045 03/26
ESPERITU SANTO	VANUATU	15.1S	167.3E	0051 03/26
NIUATOPUTAPU	TONGA	16 09	173.5W	0058 03/26
PORT VILA	VANUATU		168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
NIUE ISLAND	NIUE	19 05	170.0W	0120 03/26
	TONGA		173.9W	0124 03/26
VAVAU				
FLINT ISLAND	KIRIBATI	11.4S	151.8W	0127 03/26
ANATOM ISLAND	VANUATU	20.2S	169.9E	0136 03/26
PORT MORESBY	PAPUA NEW GUINEA	9 3 9	146.9E	0152 03/26
NUKUALOFA	TONGA		175.2W	0153 03/26
SUVA	FIJI	18.1S	178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W	0209 03/20
HIVA OA	FRENCH POLYNESIA		139.0W	0211 03/26
PUERTO VALLARTA	MEXICO	20.6N	105.3W	0220 03/26
PAPEETE	FRENCH POLYNESIA	17.5S	149.6W	0225 03/26
NOUMEA	NEW CALEDONIA		166.5E	0229 03/26
SAN BLAS	MEXICO		105.3W	0230 03/26
LAZARO CARDENAS	MEXICO	17.9N	102.2W	0246 03/26
ACAPULCO	MEXICO	16.9N	99.9W	0307 03/26
NORTH CAPE	NEW ZEALAND		173.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA		135.0W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W	0419 03/26
PITCAIRN ISLAND	PITCAIRN ISLANDS	25 15	130.1W	0444 03/26
CABO SAN ELENA	COSTA RICA		86.0W	0515 03/2
CORINTO	NICARAGUA	12.5N	87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N	86.8W	0527 03/26
AUCKLAND EAST	NEW ZEALAND		175.0E	0531 03/26
SAN JUAN DL SUR	NICARAGUA	11.2N		0536 03/26
PUERTO QUEPOS	COSTA RICA	9.4N	84.2W	0538 03/26
COCOS ISLAND	COSTA RICA	5.5N	87.1W	0539 03/26
CABO MATAPALO	COSTA RICA		83.3W	0542 03/26
PUNTA BURICA	PANAMA		82.9W	0550 03/26
DATEDA TOTAMO	ECUADOR	0.5S	90.3W	0636 03/26
BALTRA ISLAND	ECOADOR	0.00	30.51	0000 00,2

PUNTA MALA	PANAMA	7.5N	80.0W	0641	03/26
EASTER ISLAND	CHILE	27.1S	109.4W	0648	03/26
PUERTO PINA	PANAMA	7.4N	78.0W	0655	03/26
BAHIA SOLANO	COLOMBIA	6.3N	77.4W	0656	03/26
ESMERELDAS	ECUADOR	1.2N	79.8W	0711	03/26
TUMACO	COLOMBIA	1.8N	78.9W	0718	03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W	0733	03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736	03/26
TALARA	PERU	4.6S	81.5W	0750	03/26
CAPE ADARE	ANTARCTICA	71.0s	170.0E	0852	03/26
PIMENTAL	PERU	6.9S	80.0W	0852	03/26
LA PUNTA	PERU	12.1S	77.2W	0858	03/26
CHIMBOTE	PERU	9.0S	78.8W	0900	03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903	03/26
SAN JUAN	PERU	15.3S	75.2W	0913	•
MOLLENDO	PERU	17.1S	72.0W	0947	03/26
ARICA	CHILE	18.5S	70.3W		03/26
IQUIQUE	CHILE	20.2S	70.1W		03/26
ANTOFAGASTA	CHILE	23.3S	70.4W		03/26
CALDERA	CHILE	27.1S	70.8W	1039	03/26
COQUIMBO	CHILE	29.9S	71.4W	1048	03/26
VALPARAISO	CHILE	33.0S	71.6W		03/26
THURSTON ISLAND	ANTARCTICA	72.0S	100.0W		•
TALCAHUANO	CHILE	36.7S			•
CORRAL	CHILE	39.8S	73.5W		•
GOLFO DE PENAS	CHILE	47.1S		-	03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423	03/26

### POTENTIAL IMPACTS

\_\_\_\_\_

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## TSUNAMI OBSERVATIONS...UPDATED

\_\_\_\_\_

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GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W	1550 1559 1733 1725 1715	3.1M/10.0FT 2.9M/09.5FT 1.6M/05.2FT 0.9M/04.2FT 0.8M/02.8FT	16 17 17

ATKA AK	52.2N	174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N	144.4E	1720	0.8M/02.6FT	20
HANASAKI JP	43.3N	145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N	141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N	168.9W	1928	1.1M/03.7FT	15
DUTCH HBR AK	51.1N	164.0W	1935	0.3M/01.0FT	17
OMAEZAKI JP	34.6N	138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N	142.2E	1855	0.3M/01.2FT	
MIDWAY US	28.2N	177.4W	1918	0.9M/02.9FT	14
WAKE US	19.3N	166.6E	1940	0.5M/01.6FT	14
KODIAK AK	57.7N	152.5W	2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	14

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #9

ZCZC WEPA40 PHEB 252200 TSUPAC

TSUNAMI MESSAGE NUMBER 9 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 2200 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 30 KM / 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST...UPDATED

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

### RECOMMENDED ACTIONS

#### -----

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

## ESTIMATED TIMES OF ARRIVAL

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\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
KWAJALEIN OKINAWA HUALIEN TAITUNG NAGASAKI	MARSHALL ISLANDS JAPAN TAIWAN TAIWAN JAPAN	26.2N 127.8E 24.0N 121.7E 22.7N 121.2E	2104 03/25 2106 03/25 2110 03/25 2113 03/25
MAJURO POHNPEI ISLAND YAP ISLAND	MARSHALL ISLANDS POHNPEI YAP	7.1N 171.4E 7.0N 158.2E 9.5N 138.1E 5.5N 163.0E	2116 03/25 2118 03/25 2119 03/25
KOSRAE ISLAND PALANAN	KOSRAE PHILIPPINES	5.5N 163.0E 17.1N 122.6E	2126 03/25 2128 03/25
CHILUNG CHUUK ISLAND	TAIWAN CHUUK PHILIPPINES	25.2N 121.8E 7.4N 151.8E	2134 03/25 2139 03/25
LEGASPI MALAKAL GEME	PALAU INDONESIA	17.1N 122.6E 25.2N 121.8E 7.4N 151.8E 13.2N 123.8E 7.3N 134.5E 4.6N 126.8E 6.8N 125.6	2133 03/25 2214 03/25 2226 03/25
DAVAO HOWLAND ISLAND	PHILIPPINES HOWLAND AND BAKE INDONESIA	6.8N 125.7E 0.6N 176.6W 2.5N 128.7E 5.9N 162.1W	2226 03/25 2232 03/25
BEREBERE PALMYRA ISLAND WARSA	INDONESIA	5.9N 162.1W 0.6S 135.8E	2243 03/25 2245 03/25
MANUS ISLAND KAVIENG MANOKWARI	PAPUA NEW GUINEA PAPUA NEW GUINEA INDONESIA	0.6S 135.8E 2.0S 147.5E 2.5S 150.7E 0.8S 134.2E	2248 03/25 2251 03/25
MANOKWARI TARAWA ISLAND JAYAPURA	KIRIBATI INDONESIA INDONESIA	1.5N 173.0E 2.4S 140.8E 0.4N 128.8E	2256 03/25 2302 03/25
PATANI VANIMO	PAPUA NEW GUINEA	2.6S 141.3E	2303 03/25
SORONG KANTON ISLAND WEWAK	INDONESIA KIRIBATI PAPUA NEW GUINEA	2.8S 171.7W 3.5S 143.6E	2311 03/25 2315 03/25
RABAUL FUNAFUTI ISLAND	PAPUA NEW GUINEA TUVALU	4.2S 152.3E 7.9S 178.5E	2316 03/25 2324 03/25
CHRISTMAS ISLAN ULAMONA KIETA	KIRIBATI PAPUA NEW GUINEA PAPUA NEW GUINEA	5.0S 151.3E	2328 03/25
AMUN JARVIS ISLAND FALAMAE	PAPUA NEW GUINEA JARVIS ISLAND	6.0S 154.7E 0.4S 160.1W	2335 03/25 2337 03/25 2341 03/25
PANGGOE ENSENADA WOODLARK ISLAND	SOLOMON ISLANDS SOLOMON ISLANDS MEXICO PAPUA NEW GUINEA	6.9S 157.2E 31.8N 116.8W 9.0S 152.9E	2345 03/25 2346 03/25 2348 03/25

W. D. J. V. C.		F 00	1 4 5 0 5	0040	00/05
MADANG	PAPUA NEW GUINEA		145.8E		03/25
GHATERE	SOLOMON ISLANDS	7.8S	159.2E		03/25
NUKUNONU ISLAND	TOKELAU	9.2S	171.8W	0000	03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003	03/26
AUKI	SOLOMON ISLANDS		160.6E		03/26
	SOLOMON ISLANDS		157.2E		03/26
MUNDA					•
LAE	PAPUA NEW GUINEA		147.0E		03/26
WALLIS ISLAND	WALLIS AND FUTUN		176.3W		03/26
MALDEN ISLAND	KIRIBATI	3.9S	154.9W	0022	03/26
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.9S	165.9E	0027	03/26
PUNTA ABREOJOS	MEXICO		113.6W		03/26
PUKAPUKA ISLAND	COOK ISLANDS		165.9W		03/26
					•
HONIARA	SOLOMON ISLANDS		160.0E		03/26
FUTUNA ISLAND	WALLIS AND FUTUN				03/26
APIA	SAMOA	13.8S	171.8W	0037	03/26
PENRYN ISLAND	COOK ISLANDS	8.9S	157.8W	0045	03/26
PAGO PAGO	AMERICAN SAMOA	14.3S	170.7W	0045	03/26
ESPERITU SANTO		15 1s	167.3E	0051	03/26
NIUATOPUTAPU	TONGA		173.5W		03/26
			168.2E		
PORT VILA	VANUATU			0113	03/26
CABO SAN LUCAS	MEXICO		110.0W		03/26
NIUE ISLAND	NIUE		170.0W		03/26
VAVAU	TONGA	18.7S	173.9W	0124	03/26
FLINT ISLAND	KIRIBATI	11.4S	173.9W 151.8W	0127	03/26
ANATOM ISLAND	VANUATU		169.9E		03/26
PORT MORESBY	PAPUA NEW GUINEA		146.9E		03/26
					•
NUKUALOFA	TONGA		175.2W		03/26
SUVA	FIJI	18.1S	178.4E	0158	03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W	0209	03/26
HIVA OA	FRENCH POLYNESIA	10.0S	139.0W	0211	03/26
PUERTO VALLARTA	MEXICO		105.3W		03/26
PAPEETE	FRENCH POLYNESIA		149.6W		03/26
NOUMEA	NEW CALEDONIA		166.5E		03/26
SAN BLAS	MEXICO		105.3W		03/26
LAZARO CARDENAS	MEXICO		102.2W		03/26
ACAPULCO	MEXICO		99.9W	0307	03/26
NORTH CAPE	NEW ZEALAND	34.4S	173.3E	0354	03/26
RIKITEA	FRENCH POLYNESIA	23.1s	135.0W	0415	03/26
SALINA CRUZ	MEXICO				03/26
	PITCAIRN ISLANDS				03/26
CABO SAN ELENA	COSTA RICA	10 OM	130.1W 86.0W	0515	03/26
CORINTO	NICARAGUA	12.5N	87.2W		03/26
PUERTO SANDINO	NICARAGUA		86.8W		03/26
AUCKLAND EAST	NEW ZEALAND	36.7s	175.0E	0531	03/26
SAN JUAN DL SUR	NICARAGUA	11.2N	85.9W	0536	03/26
PUERTO QUEPOS	COSTA RICA	9.4N	84.2W	0538	03/26
COCOS ISLAND	COSTA RICA	5.5N	87.1W		03/26
CABO MATAPALO	COSTA RICA	8.4N			03/26
PUNTA BURICA		8.0N			03/26
	PANAMA				
BALTRA ISLAND	ECUADOR				03/26
PUNTA MALA	PANAMA		80.0W		03/26
EASTER ISLAND	CHILE		109.4W	0648	03/26
PUERTO PINA	PANAMA	7.4N	78.0W	0655	03/26
BAHIA SOLANO	COLOMBIA	6.3N	77.4W	0656	03/26
ESMERELDAS	ECUADOR	1.2N	79.8W		03/26
TUMACO	COLOMBIA	1.8N	78.9W		03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W		03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W		03/26
TALARA	PERU	4.6S	81.5W		03/26
CAPE ADARE	ANTARCTICA		170.0E	0852	03/26
PIMENTAL	PERU	6.9S	80.0W	0852	03/26
LA PUNTA	PERU	12.1S	77.2W	0858	03/26
CHIMBOTE	PERU	9.0S	78.8W		03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W		03/26
SAN JUAN	PERU	15.3S	75.0W		03/26
MOLLENDO	PERU	17.1S	72.0W	0947	03/26

ARICA	CHILE	18.5S	70.3W	1003	03/26
IQUIQUE	CHILE	20.2S	70.1W	1004	03/26
ANTOFAGASTA	CHILE	23.3S	70.4W	1019	03/26
CALDERA	CHILE	27.1S	70.8W	1039	03/26
COQUIMBO	CHILE	29.9S	71.4W	1048	03/26
VALPARAISO	CHILE	33.0s	71.6W	1105	03/26
THURSTON ISLAND	ANTARCTICA	72.0s	100.0W	1112	03/26
TALCAHUANO	CHILE	36.7S	73.1W	1128	03/26
CORRAL	CHILE	39.8S	73.5W	1145	03/26
GOLFO DE PENAS	CHILE	47.1S	74.9W	1228	03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423	03/26

## POTENTIAL IMPACTS

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- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

### TSUNAMI OBSERVATIONS...UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATE LAT LON		-	WAVE PERIOD (MIN)
DART 21416	48.0N 163.			
DART 21415	50.2N 171.	8E 1616	0.4M/01.3FT	15
UST KAMCHATSK RU	56.0N 163.		3.1M/10.0FT	
NIKOL'SKOE RU	55.2N 166.		2.9M/09.5FT	
PETROPAVLOVSK RU	53.0N 158.		1.6M/05.2FT	
SHEMYA AK	52.7N 174.	1E 1725	0.9M/04.2FT	
ADAK AK	51.9N 176.	6W 1715	0.8M/02.8FT	
ATKA AK	52.2N 174.	2W 1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N 144.	4E 1720	0.8M/02.6FT	
HANASAKI JP	43.3N 145.	6E 1745	0.5M/01.6FT	19
OFUNATO JP	39.0N 141.	8E 1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N 168.	9W 1928	1.1M/03.7FT	15
DUTCH HBR AK	51.1N 164.	OW 1935	0.3M/01.0FT	17
OMAEZAKI JP	34.6N 138.	2E 1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N 142.	2E 1855	0.3M/01.2FT	
MIDWAY US	28.2N 177.	4W 1918	0.9M/02.9FT	14
WAKE US	19.3N 166.	6E 1940	0.5M/01.6FT	14
KODIAK AK	57.7N 152.	5W 2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23.9N 166.	3W 2025	0.9M/03.0FT	14
YAKUTAT AK	59.5N 139.	7W 2130	0.1M/00.4FT	
PAGO BAY GU	13.4N 144.		0.5M/01.7FT	
SEWARD AK	60.1N 149.		0.1M/00.3FT	
HANALEI HI	22.2N 159.	5W 2110	1.0M/03.3FT	

NAWILIWILI HI	21.9N 159.	4W 2130	0.8M/02.7FT	17
HALEIWA HI	21.6N 158.	1W 2125	1.1M/03.6FT	15
HONOLULU HI	21.3N 157.	9W 2135	0.4M/01.3FT	19
DEKEHTIK FM	7.0N 158.	2E 2124	0.3M/01.0FT	13
HILO HI	19.7N 155.	OW 2150	1.3M/04.3FT	18

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
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## PTWC International Message #10

ZCZC WEPA40 PHEB 252300 TSUPAC

TSUNAMI MESSAGE NUMBER 10 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 2300 UTC WED MAR 25 2015

...PTWC TSUNAMI THREAT MESSAGE...

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\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015

\* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

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- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

\* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

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## ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
MALAKAL GEME	PALAU INDONESIA	7.3N 134.5E 4.6N 126.8E 6.8N 125.7E	2214 03/25
GEME DAVAO	PHILIPPINES	4.0N 120.0E	2226 03/25
	HOWLAND AND BAKE	0.0N 123.7E	2220 03/23
DEDEREDE	TNDONESTA	2 5N 128 7F	2232 03/25
PATMYRA TSTAND	PATMYRA TSTAND	5 9N 162 1W	2243 03/25
WARGA	INDONESIA PALMYRA ISLAND INDONESIA	2.5N 128.7E 5.9N 162.1W 0.6S 135.8E	2245 03/25
MANUS TSTAND	PAPUA NEW GUINEA	2 OS 147 5E	2248 03/25
KAVIENG	PAPIIA NEW GUITNEA	2.05 147.3E 2.55 150 7E	2251 03/25
MANOKWARI	PAPUA NEW GUINEA INDONESIA KIRIBATI	0.8S 134.2E	2253 03/25
TARAWA ISLAND	KIRIBATI	1.5N 173.0E	2256 03/25
JAYAPURA	INDONESIA	2.4S 140.8E	2302 03/25
PATANI	INDONESIA	0.4N 128.8E	2303 03/25
VANIMO	PAPUA NEW GUINEA	2.6S 141.3E	2303 03/25
SORONG	INDONESIA	0 8S 131 1E	2309 03/25
KANTON ISLAND	KIRIBATI PAPUA NEW GUINEA PAPUA NEW GUINEA TUVALU	2.8s 171.7W	2311 03/25
WEWAK	PAPUA NEW GUINEA	3.5S 143.6E	2315 03/25
RABAUL	PAPUA NEW GUINEA	4.2S 152.3E	2316 03/25
FUNAFUTI ISLAND	TUVALU	7.9S 178.5E	2324 03/25
CHRISTMAS ISLAN	TUVALU KIRIBATI	2.0N 157.5W	2327 03/25
ULAMONA	KIRIBATI PAPUA NEW GUINEA PAPUA NEW GUINEA PAPUA NEW GUINEA	5.0s 151.3E	2328 03/25
KIETA	PAPUA NEW GUINEA	6.1S 155.6E	2331 03/25
AMUN	PAPUA NEW GUINEA	6.0S 154.7E	2335 03/25
JARVIS ISLAND	JARVIS ISLAND SOLOMON ISLANDS SOLOMON ISLANDS MEXICO	0.4S 160.1W	2337 03/25
FALAMAE	SOLOMON ISLANDS	7.4S 155.6E	2341 03/25
PANGGOE	SOLOMON ISLANDS	6.9S 157.2E	2345 03/25
ENSENADA	MEXICO	31.8N 116.8W	2346 03/25
WOODLARK ISLAND	PAPUA NEW GUINEA	9.0S 152.9E	2348 03/25
MADANG	PAPUA NEW GUINEA SOLOMON ISLANDS TOKELAU	5.2S 145.8E	2349 03/25
GHATERE	SOLOMON ISLANDS	7.8S 159.2E	2359 03/25
NUKUNONU ISLAND	TOKELAU	9.2S 171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S 161.9E	0003 03/26
AUKI	SOLOMON ISLANDS	8.85 I6U.6E	0008 03/26
MUNDA LAE	SOLOMON ISLANDS SOLOMON ISLANDS PAPUA NEW GUINEA	8.45 157.2E	0012 03/26
WALLIS ISLAND	MALLIC AND ELEVIN	0.05 147.UE	0010 03/20
MALLIS ISLAND	WALLIS AND FUTUN	13.35 170.3W	0021 03/26
CANTA CDII7 TCIA	KIRIBATI SOLOMON ISLANDS MEXICO	10 00 165 0F	0022 03/20
DIINTA ARREATOS	MEYICO	26 7N 113 6W	0027 03/20
PIIKAPIIKA TST.AND	COOK ISLANDS	10.8S 165.9W	0030 03/26
HONIARA	SOLOMON ISLANDS	9.3S 160.0E	0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN	14.3S 178.2W	0033 03/20
APIA	SAMOA	13.8S 171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS	8.9S 157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA	14.3S 170.7W	0045 03/26
ESPERITU SANTO	VANUATU	15.1S 167.3E	0051 03/26
NIUATOPUTAPU	TONGA	16.0s 173.5W	0058 03/26
PORT VILA	VANUATU	17.8S 168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N 110.0W	0113 03/26

NTIE TOTAND	NITIE	10 00	170.0W	0120 03/26
NIUE ISLAND	NIUE			
VAVAU	TONGA	18./5	173.9W	0124 03/26
FLINT ISLAND	KIRIBATI	11.45	151.8W 169.9E	0127 03/26
ANATOM ISLAND	VANUATU	20.2S	169.9E	
PORT MORESBY	PAPUA NEW GUINEA		146.9E	
NUKUALOFA	TONGA	21.0S	175.2W	0153 03/26
SUVA	FIJI	18.1S	178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	178.4E 159.8W	0209 03/26
HIVA OA	FRENCH POLYNESIA	10.0s	139.0W	0211 03/26
PUERTO VALLARTA			105.3W	
PAPEETE	FRENCH POLYNESIA	17 5s	149 6W	
NOUMEA	NEW CALEDONIA	22 35	149.6W 166.5E	0229 03/26
SAN BLAS	MEXICO	21 5N	105.3W	0230 03/26
LAZARO CARDENAS		21.JN	103.3W	0230 03/20
		17.9N	102.2W	0246 03/26
ACAPULCO	MEXICO	16.9N	99.9W 173.3E	0307 03/26
NORTH CAPE	NEW ZEALAND	34.4S	1/3.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA	23.1S	135.0W	0415 03/26
SALINA CRUZ	MEXICO	16.5N	95.2W	0419 03/26
PITCAIRN ISLAND	PITCAIRN ISLANDS	25.1S	130.1W 86.0W	0444 03/26
CABO SAN ELENA	COSTA RICA	10.9N	86.0W	0515 03/26
CORINTO	NICARAGUA	12.5N	87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N	86.8W	0527 03/26
AUCKLAND EAST	NEW ZEALAND	36.7S	175.0E	0531 03/26
SAN JUAN DL SUR	NICARAGUA	11.2N	175.0E 85.9W	0536 03/26
PUERTO OUEPOS	COSTA RICA		84.2W	
COCOS ISLAND	COSTA RICA			0539 03/26
CABO MATAPALO	COSTA RICA			0542 03/26
PUNTA BURICA	PANAMA	NP.0	82.9W	0550 03/26
BALTRA ISLAND	ECUADOR	0.01	90.3W	0636 03/26
PUNTA MALA	PANAMA			
		7.JN	80.0W	0640 03/26
EASTER ISLAND	CHILE	7.15	109.4W 78.0W	0648 03/26
PUERTO PINA	PANAMA	7.4N	78.0W	0655 03/26
BAHIA SOLANO	COLOMBIA			
ESMERELDAS	ECUADOR	1.2N	79.8W	0711 03/26
TUMACO	COLOMBIA	1.8N	78.9W 81.2W	0718 03/26
LA LIBERTAD	ECUADOR	2.2S	81.2W	0733 03/26
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736 03/26
TALARA	PERU	4.6S	81.5W	0750 03/26
CAPE ADARE	ANTARCTICA	71.0s	170.0E 80.0W	0852 03/26
PIMENTAL	PERU	6.9S	80.0W	0852 03/26
LA PUNTA	PERU	12.1S	77.2W	
CHIMBOTE	PERU	9.0S		0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903 03/26
SAN JUAN	PERU	15.3S	75.2W	0913 03/26
MOLLENDO	PERU	17.1S	72.0W	0947 03/26
ARICA	CHILE	18.5S	70.3W	1003 03/26
IQUIQUE	CHILE	20.2S	70.1W	1004 03/26
ANTOFAGASTA	CHILE	23.3S	70.4W	1019 03/26
CALDERA	CHILE	27.1S	70.8W	1039 03/26
COQUIMBO	CHILE	29.9S	71.4W	1048 03/26
VALPARAISO	CHILE	33.0S	71.6W	1105 03/26
THURSTON ISLAND	ANTARCTICA	72.0S	100.0W	1112 03/26
TALCAHUANO	CHILE	36.7S	73.1W	1128 03/26
CORRAL	CHILE	39.8S	73.1W 73.5W	1145 03/26
GOLFO DE PENAS	CHILE	47.1S	74.9W	1228 03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423 03/26

### POTENTIAL IMPACTS

<sup>\*</sup> A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

<sup>\*</sup> IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO

THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

# TSUNAMI OBSERVATIONS...UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAU		TIME OF		WAVE
GAUGE LOCATION	COORDI LAT		MEASURE (UTC)	HEIGHT	PERIOD (MIN)
DART 21416		163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N	171.8E	1616	0.4M/01.3FT	15
		163.0E		3.1M/10.0FT	
NIKOL'SKOE RU		166.0E		2.9M/09.5FT	
PETROPAVLOVSK RU		158.6E	1733	1.6M/05.2FT	
SHEMYA AK		174.1E	1725	0.9M/04.2FT	17
ADAK AK		176.6W	1715	0.8M/02.8FT	15
		174.2W	1734	0.7M/02.7FI	18
		144.4E	1/20	0.8M/02.6FT	20
		145.6E	1745	0.5M/01.6FT	
		141.8E	1755	0.5M/01.6FT	18
		168.9W	1830	1.1M/03.7FT	
		164.0W	1855		
		138.2E		0.4M/01.3FT	
		142.2E		0.3M/01.2FT	
		177.4W		0.9M/02.9FT	
WAKE US		166.6E			
KODIAK AK		152.5W			
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	
YAKUTAT AK		139.7W	2130 2105	0.1M/00.4FT	
PAGO BAY GU		144.8E	2105		
SEWARD AK		149.4W	2132	0.1M/00.3FT	
LANGARA PT BC		133.1W	2222	0.1M/00.2FT	
HANALEI HI		159.5W	2110	1.0M/03.3FT	
NAWILIWILI HI		159.4W	2130	0.8M/02.7FT	
HALEIWA HI		158.1W	2125	1.1M/03.6FT	
HONOLULU HI		157.9W	2135	0.4M/01.3FT	
DEKEHTIK FM			2124		
HILO HI NAURU NR				1.3M/04.3FT	
			2236	0.2M/00.7FT 0.2M/00.7FT	
BETIO TARAWA KI	1.4N	1 / 乙・9上	2240	0.2M/00./FT	Τ 0

# NEXT UPDATE AND ADDITIONAL INFORMATION

\* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

\* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT

<sup>\*</sup> AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.

PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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# PTWC International Message #11

ZCZC WEPA40 PHEB 260000 TSUPAC

TSUNAMI MESSAGE NUMBER 11 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 0000 UTC THU MAR 26 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TSUNAMI THREAT FORECAST

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\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...
SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU...
FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON
ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA...
TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA
NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
JAYAPURA	INDONESIA	2.4S 140.8E	2302 03/25
PATANI	INDONESIA	0.4N 128.8E	2303 03/25

VANIMO	PAPUA NEW GUINEA	2.6S	141.3E	2303 03/25
SORONG	INDONESIA	0 89	131.1E	2309 03/25
				·
KANTON ISLAND	KIRIBATI			2311 03/25
WEWAK	PAPUA NEW GUINEA	3.5s	143.6E	2315 03/25
RABAUL	PAPUA NEW GUINEA	4.2S	152.3E	2316 03/25
				2324 03/25
FUNAFUTI ISLAND	TUVALU		178.5E	
CHRISTMAS ISLAN	KIRIBATI	2.0N	157.5W	2327 03/25
ULAMONA	PAPUA NEW GUINEA	5.0S	151.3E	2328 03/25
KIETA	PAPUA NEW GUINEA		155.6E	2331 03/25
AMUN	PAPUA NEW GUINEA		154.7E	2335 03/25
JARVIS ISLAND	JARVIS ISLAND	0.4S	160.1W	2337 03/25
FALAMAE	SOLOMON ISLANDS	7 4S	155.6E	2341 03/25
PANGGOE	SOLOMON ISLANDS	0.95	157.2E 116.8W	2343 03/23
ENSENADA	MEXICO	31.8N	116.8W	2346 03/25
WOODLARK ISLAND	PAPUA NEW GUINEA	9.0s	152.9E	2348 03/25
MADANG	PAPUA NEW GUINEA	5 29	145.8E	2349 03/25
GHATERE	SOLOMON ISLANDS		159.2E	2359 03/25
NUKUNONU ISLAND	TOKELAU	9.2S	171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S	161.9E	0003 03/26
AUKI	SOLOMON ISLANDS		160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS		157.2E	0012 03/26
LAE	PAPUA NEW GUINEA	6.8S	147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN	13.35	176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI		154.9W	0022 03/26
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.98	165.9E 113.6W	0027 03/26
PUNTA ABREOJOS	MEXICO	26.7N	113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10.85	165.9W	0030 03/26
HONIARA	SOLOMON ISLANDS		160.0E	0033 03/26
				·
FUTUNA ISLAND	WALLIS AND FUTUN		178.2W	0034 03/26
APIA	SAMOA	13.8S	171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS	8.9S	157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA	14 35	170.7W	0045 03/26
ESPERITU SANTO	VANUATU		167.3E	0051 03/26
				·
NIUATOPUTAPU	TONGA		173.5W	0058 03/26
PORT VILA	VANUATU	17.8S	168.2E	0113 03/26
CABO SAN LUCAS	MEXICO	22.8N	110.0W	0113 03/26
NIUE ISLAND	NIUE		170.0W	0120 03/26
				·
VAVAU	TONGA		173.9W	0124 03/26
FLINT ISLAND	KIRIBATI	11.4S	151.8W	0127 03/26
ANATOM ISLAND	VANUATU	20.2S	169.9E	0136 03/26
PORT MORESBY	PAPUA NEW GUINEA		146.9E	0152 03/26
				·
NUKUALOFA	TONGA		175.2W	0153 03/26
SUVA	FIJI	18.1S	178.4E	0158 03/26
RAROTONGA	COOK ISLANDS	21.2S	159.8W	0209 03/26
HIVA OA	FRENCH POLYNESIA	10 05	139.0W	0211 03/26
PUERTO VALLARTA			105.3W	0220 03/26
PAPEETE	FRENCH POLYNESIA			0225 03/26
NOUMEA	NEW CALEDONIA	22.3S	166.5E	0229 03/26
SAN BLAS	MEXICO	21.5N	105.3W	0230 03/26
LAZARO CARDENAS			102.2W	0246 03/26
ACAPULCO	MEXICO		99.9W	0307 03/26
NORTH CAPE	NEW ZEALAND	34.4S	173.3E	0354 03/26
RIKITEA	FRENCH POLYNESIA	23.1s	135.0W	0415 03/26
SALINA CRUZ	MEXICO		95.2W	0419 03/26
				•
	PITCAIRN ISLANDS			
CABO SAN ELENA	COSTA RICA		86.0W	0515 03/26
CORINTO	NICARAGUA	12.5N	87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA		86.8W	0527 03/26
AUCKLAND EAST			175.0E	0531 03/26
SAN JUAN DL SUR			85.9W	0536 03/26
PUERTO QUEPOS	COSTA RICA		84.2W	0538 03/26
COCOS ISLAND	COSTA RICA	5.5N	87.1W	0539 03/26
CABO MATAPALO	COSTA RICA		83.3W	0542 03/26
	PANAMA		82.9W	0550 03/26
BALTRA ISLAND	ECUADOR		90.3W	0636 03/26
PUNTA MALA	PANAMA	7.5N	80.0W	0641 03/26

EASTER ISLAND	CHILE		109.4W	0648 03/2	
PUERTO PINA	PANAMA	7.4N	78.0W	0655 03/2	
BAHIA SOLANO	COLOMBIA	6.3N	77.4W	0656 03/2	26
ESMERELDAS	ECUADOR	1.2N	79.8W	0711 03/2	2 6
TUMACO	COLOMBIA	1.8N	78.9W	0718 03/2	2 6
LA LIBERTAD	ECUADOR	2.2S	81.2W	0733 03/2	2 6
BUENAVENTURA	COLOMBIA	3.8N	77.2W	0736 03/2	26
TALARA	PERU	4.6S	81.5W	0750 03/2	2 6
CAPE ADARE	ANTARCTICA	71.0S	170.0E	0852 03/2	26
PIMENTAL	PERU	6.9S	80.0W	0852 03/2	26
LA PUNTA	PERU	12.1S	77.2W	0858 03/2	26
CHIMBOTE	PERU	9.0S	78.8W	0900 03/2	2 6
BALBOA HEIGHTS	PANAMA	9.0N	79.6W	0903 03/2	2 6
SAN JUAN	PERU	15.3S	75.2W	0913 03/2	2 6
MOLLENDO	PERU	17.1S	72.0W	0947 03/2	26
ARICA	CHILE	18.5S	70.3W	1003 03/2	26
IQUIQUE	CHILE	20.2S	70.1W	1004 03/2	26
ANTOFAGASTA	CHILE	23.3S	70.4W	1019 03/2	26
CALDERA	CHILE	27.1S	70.8W	1039 03/2	26
COQUIMBO	CHILE	29.9S	71.4W	1048 03/2	2.6
VALPARAISO	CHILE	33.0s	71.6W	1105 03/2	
THURSTON ISLAND	ANTARCTICA	72.0s	100.0W	1112 03/2	2.6
TALCAHUANO	CHILE	36.7S	73.1W	1128 03/2	
CORRAL	CHILE	39.85	73.5W	1145 03/2	
GOLFO DE PENAS	CHILE	47.1S	74.9W	1228 03/2	
PUERTO MONTT	CHILE	41.5S			

# POTENTIAL IMPACTS

- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

# TSUNAMI OBSERVATIONS...UPDATED

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	14
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	15
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0FT	20
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N 158.6E	1733	1.6M/05.2FT	17
SHEMYA AK	52.7N 174.1E	1725	0.9M/04.2FT	17
ADAK AK	51.9N 176.6W	1715	0.8M/02.8FT	15
ATKA AK	52.2N 174.2W	1734	0.7M/02.7FT	18

				0 0 / 0 0 0	
KUSHIRO JP		144.4E	1720	0.8M/02.6FT	20
HANASAKI JP		145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N	141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N	168.9W	1830	1.1M/03.7FT	15
DUTCH HBR AK	51.1N	164.0W	1855	0.3M/01.0FT	17
OMAEZAKI JP	34.6N	138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N	142.2E	1855	0.3M/01.2FT	
MIDWAY US	28.2N	177.4W	1918	0.9M/02.9FT	14
WAKE US	19.3N	166.6E	1940	0.5M/01.6FT	14
KODIAK AK	57.7N	152.5W	2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	14
YAKUTAT AK	59.5N	139.7W	2130	0.1M/00.4FT	
PAGO BAY GU	13.4N	144.8E	2105	0.5M/01.7FT	17
SEWARD AK	60.1N	149.4W	2152	0.1M/00.3FT	20
LANGARA PT BC	54.2N	133.1W	2222	0.1M/00.2FT	
HANALEI HI	22.2N	159.5W	2110	1.0M/03.3FT	16
NAWILIWILI HI	21.9N	159.4W	2130	0.8M/02.7FT	17
HALEIWA HI	21.6N	158.1W	2125	1.1M/03.6FT	15
HONOLULU HI	21.3N	157.9W	2135	0.4M/01.3FT	19
DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT	13
HILO HI	19.7N	155.0W	2150	1.3M/04.3FT	18
NAURU NR	0.5S	166.9E	2236	0.2M/00.7FT	15
BETIO TARAWA KI	1.4N	172.9E	2248	0.2M/00.7FT	16
MANUS PG	2.0S	147.4E	2320	0.3M/01.0FT	
KANTON KI	2.85	171.7W	2321	0.1M/00.4FT	13
WESTPORT WA	46.9N	124.1W	2333	0.2M/00.6FT	
FUNAFUTI TV	8.5S	179.2E	2355	0.1M/00.3FT	
CRESCENT CITY CA	41.7N	124.2W	2356	0.7M/02.3FT	

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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# PTWC International Message #12

ZCZC WEPA40 PHEB 260100 TSUPAC

TSUNAMI MESSAGE NUMBER 12 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 0100 UTC THU MAR 26 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

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- \* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# TSUNAMI THREAT FORECAST

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA...
PERU... ANTARCTICA... JAPAN... PHILIPPINES... NEW CALEDONIA...
NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU...
YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI...

SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU... FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA... TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
NUKUNONU ISLAND	TOKELAU	9.2S 171.8W	0000 03/26
KIRAKIRA	SOLOMON ISLANDS	10.4S 161.9E	0003 03/26
AUKI	SOLOMON ISLANDS	8.8S 160.6E	0008 03/26
MUNDA	SOLOMON ISLANDS	8.4S 157.2E	0012 03/26
LAE	PAPUA NEW GUINEA	6.8S 147.0E	0016 03/26
WALLIS ISLAND	WALLIS AND FUTUN	13.3S 176.3W	0021 03/26
MALDEN ISLAND	KIRIBATI	3.9S 154.9W	0022 03/26
SANTA CRUZ ISLA	SOLOMON ISLANDS	10.9S 165.9E	0027 03/26
PUNTA ABREOJOS	MEXICO	26.7N 113.6W	0028 03/26
PUKAPUKA ISLAND	COOK ISLANDS	10.8S 165.9W	0030 03/26
HONIARA	SOLOMON ISLANDS	9.3S 160.0E	0033 03/26
FUTUNA ISLAND	WALLIS AND FUTUN	14.3S 178.2W	0034 03/26
APIA	SAMOA	13.8S 171.8W	0037 03/26
PENRYN ISLAND	COOK ISLANDS	8.9S 157.8W	0045 03/26
PAGO PAGO	AMERICAN SAMOA	14.3S 170.7W	0045 03/26
ESPERITU SANTO	VANUATU	15.1S 167.3E	0051 03/26

NIUATOPUTAPU	TONGA	16.0S 173.5W 0058 03	/26
PORT VILA	VANUATU	17.8S 168.2E 0113 03,	/26
CABO SAN LUCAS	MEXICO	22.8N 110.0W 0113 03	/26
NIUE ISLAND	NIUE	22.8N 110.0W 0113 03 19.0S 170.0W 0120 03, 18.7S 173.9W 0124 03,	
VAVAU	TONGA	18.7S 173.9W 0124 03	
FLINT ISLAND	KIRIBATI	11.4s 151.8w 0127 03,	
		11.45 131.0W 012/ 03,	
ANATOM ISLAND	VANUATU	20.2S 169.9E 0136 03	
PORT MORESBY	PAPUA NEW GUINEA	20.2S 169.9E 0136 03 9.3S 146.9E 0152 03, 21.0S 175.2W 0153 03,	
NUKUALOFA		21.0s 175.2w 0153 03,	
SUVA	FIJI	18.1S 178.4E 0158 03	
RAROTONGA	COOK ISLANDS	21.2S 159.8W 0209 03 10.0S 139.0W 0211 03, 20.6N 105.3W 0220 03,	
HIVA OA	FRENCH POLYNESIA	10.0S 139.0W 0211 03,	/26
PUERTO VALLARTA	MEXICO	20.6N 105.3W 0220 03,	/26
PAPEETE	FRENCH POLYNESIA	17.5S 149.6W 0225 03,	/26
NOUMEA	NEW CALEDONIA	22.3S 166.5E 0229 03	/26
SAN BLAS	MEXICO	22.3S 166.5E 0229 03 21.5N 105.3W 0230 03, 17.9N 102.2W 0246 03,	/26
LAZARO CARDENAS	MEXICO	17.9N 102.2W 0246 03	
ACAPULCO	MEXICO	16.9N 99.9W 0307 03	
NORTH CAPE	NEW ZEALAND		
RIKITEA	FRENCH POLYNESIA	34.4S 173.3E 0354 03, 23.1S 135.0W 0415 03,	
SALINA CRUZ	MEXICO	16.5N 95.2W 0419 03,	
	PITCAIRN ISLANDS	25.1s 130.1w 0444 03	
		20.15 130.1W 0444 03	
CABO SAN ELENA		10.9N 86.0W 0515 03, 12.5N 87.2W 0527 03,	
CORINTO	NICARAGUA	12.5N 87.2W 0527 03,	
PUERTO SANDINO	NICARAGUA	12.2N 86.8W 0527 03	
AUCKLAND EAST		36.7s 175.0E 0531 03	
SAN JUAN DL SUR		11.2N 85.9W 0536 03,	/26
PUERTO QUEPOS	COSTA RICA	9.4N 84.2W U538 U3,	/ 26
COCOS ISLAND	COSTA RICA	5.5N 87.1W 0539 03	/26
CABO MATAPALO	COSTA RICA	8.4N 83.3W 0542 03	/26
PUNTA BURICA	PANAMA	8.0N 82.9W 0550 03, 0.5S 90.3W 0636 03, 7.5N 80.0W 0641 03,	/26
BALTRA ISLAND	ECUADOR	0.5S 90.3W 0636 03,	/26
PUNTA MALA	PANAMA	7.5N 80.0W 0641 03	/26
EASTER ISLAND	CHILE	27.1S 109.4W 0648 03	
PUERTO PINA	PANAMA	7.4N 78.0W 0655 03	/26
BAHIA SOLANO	COLOMBIA	7.4N 78.0W 0655 03, 6.3N 77.4W 0656 03, 1.2N 79.8W 0711 03,	
ESMERELDAS	ECUADOR	1.2N 79.8W 0711 03,	
TUMACO	COLOMBIA	1.8N 78.9W 0718 03	
LA LIBERTAD	ECUADOR	2.2S 81.2W 0733 03	
BUENAVENTURA	COLOMBIA	2.2S 81.2W 0733 03, 3.8N 77.2W 0736 03, 4.6S 81.5W 0750 03,	
TALARA	PERU	4.6S 81.5W 0750 03,	
CAPE ADARE	ANTARCTICA	71.0S 170.0E 0852 03	
PIMENTAL	PERU	6.9S 80.0W 0852 03,	
LA PUNTA	PERU	12.1s 77.2w 0858 03,	
CHIMBOTE	PERU		/26
BALBOA HEIGHTS	PANAMA		/26
SAN JUAN	PERU		/26
MOLLENDO	PERU	17.1S 72.0W 0947 03,	/26
ARICA	CHILE	18.5S 70.3W 1003 03,	/26
IQUIQUE	CHILE	20.2S 70.1W 1004 03,	/26
ANTOFAGASTA	CHILE	23.3S 70.4W 1019 03,	/26
CALDERA	CHILE	27.1S 70.8W 1039 03	
COQUIMBO	CHILE	29.9S 71.4W 1048 03	/26
VALPARAISO	CHILE		/26
THURSTON ISLAND	ANTARCTICA		/26
TALCAHUANO	CHILE		/26
CORRAL	CHILE	39.8S 73.5W 1126 03	
GOLFO DE PENAS	CHILE		/26
PUERTO MONTT		41.5S 73.0W 1228 03,	
TOEKTO MONIT	CHILE	-1.00 /0.0W 1423 03,	- 20

# POTENTIAL IMPACTS

<sup>\*</sup> A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR

MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

# TSUNAMI OBSERVATIONS...UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF		WAVE
	COORDINATES	MEASURE		PERIOD
GAUGE LOCATION	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	
21110	00.21 171.02	1010	0.111/01.311	10
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0FT	20
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N 158.6E		1.6M/05.2FT	
SHEMYA AK	52.7N 174.1E	1725	0.9M/04.2FT	17
ADAK AK	51.9N 176.6W	1715	0.8M/02.8FT	15
ATKA AK	52.2N 174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N 144.4E	1720	0.8M/02.6FT	20
HANASAKI JP	43.3N 145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N 141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N 168.9W	1830	1.1M/03.7FT 0.3M/01.0FT	15
DUTCH HBR AK	51.1N 164.0W			
OMAEZAKI JP	34.6N 138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N 142.2E	1855	0.3M/01.2FT	
MIDWAY US	28.2N 177.4W		0.9M/02.9FT	
WAKE US	19.3N 166.6E 57.7N 152.5W	1940	0.5M/01.6FT 0.1M/00.4FT	14
KODIAK AK				
TERN FR FRIGATE US	23.9N 166.3W	2025	0.9M/03.0FT	14
YAKUTAT AK	59.5N 139.7W	2130	0.1M/00.4FT	
PAGO BAY GU	13.4N 144.8E		0.5M/01.7FT	
SEWARD AK	60.1N 149.4W 54.2N 133.1W	2152	0.1M/00.3FT	20
LANGARA PT BC				
HANALEI HI	22.2N 159.5W		1.0M/03.3FT	
NAWILIWILI HI	21.9N 159.4W	2130	0.8M/02.7FT	17
HALEIWA HI	21.6N 158.1W		1.1M/03.6FT	
HONOLULU HI	21.3N 157.9W	2135	0.4M/01.3FT 0.3M/01.0FT	19
	7.0N 158.2E	2124		
HILO HI	19.7N 155.0W	2150	1.3M/04.3FT	18
NAURU NR	0.5S 166.9E	2236	0.2M/00.7FT 0.2M/00.7FT 0.3M/01.0FT	15
BETIO TARAWA KI	1.4N 172.9E	2248	0.2M/00.7FT	16
MANUS PG	2.0S 147.4E			
KANTON KI	2.8S 171.7W		0.1M/00.4FT	
WESTPORT WA	46.9N 124.1W		0.2M/00.6FT	
FUNAFUTI TV	8.5S 179.2E	2355	0.1M/00.3FT 0.7M/02.3FT	12
CRESCENT CITY CA	41.7N 124.2W			
ENSENADA MX	31.8N 116.6W		0.5M/01.6FT	14
LATA WHARF SB	10.7S 165.8E	0025	0.4M/01.4FT	
LOS ANGELES CA	33.7N 118.3W		0.2M/00.6FT	
APIA WS	13.8S 171.8W	0055	0.4M/01.3FT	
PAGO PAGO AS	14.3S 170.7W	0052	0.3M/01.0FT	

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHOUAKE.USGS.GOV/EARTHOUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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### PTWC International Message #13

ZCZC WEPA40 PHEB 260200 TSUPAC

TSUNAMI MESSAGE NUMBER 13 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 0200 UTC THU MAR 26 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### EVALUATION

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

#### TSUNAMI THREAT FORECAST...UPDATED -----

\* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

ECUADOR... CHILE... KIRIBATI... PALMYRA ISLAND... SOLOMON ISLANDS... HAWAII... AND NW HAWAIIAN ISLANDS.

\* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

MEXICO... COSTA RICA... NICARAGUA... PANAMA... COLOMBIA... PERU... ANTARCTICA... PHILIPPINES... NEW CALEDONIA... NEW ZEALAND... TAIWAN... NORTHERN MARIANAS... GUAM... PALAU... YAP... POHNPEI... CHUUK... KOSRAE... MARSHALL ISLANDS... FIJI... SAMOA... AMERICAN SAMOA... COOK ISLANDS... TOKELAU... VANUATU... FRENCH POLYNESIA... WAKE ISLAND... MIDWAY ISLAND... JOHNSTON ISLAND... JARVIS ISLAND... HOWLAND AND BAKER... TONGA... TUVALU... WALLIS AND FUTUNA... PITCAIRN ISLANDS... NIUE... PAPUA NEW GUINEA... AND INDONESIA.

\* TSUNAMI WAVES ARE FORECAST TO BE LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL FOR THE COASTS OF

EL SALVADOR... GUATEMALA... HONDURAS... AUSTRALIA... CHINA... REPUBLIC OF KOREA... DPR OF KOREA... NAURU... VIETNAM... MALAYSIA... AND BRUNEI.

- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.
- \* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS NECESSARY IN SUBSEQUENT PRODUCTS.

# RECOMMENDED ACTIONS

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN A REGION WITH FORECAST TSUNAMI AMPLITUDES OF 0.3 METERS AND GREATER ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
PORT VILA CABO SAN LUCAS	VANUATU MEXICO	17.8S 168.2E 22.8N 110.0W	0113 03/26 0113 03/26
NIUE ISLAND	NIUE	22.8N 110.0W 19.0S 170.0W	0120 03/26
VAVAU	TONGA	18.7S 173.9W	0124 03/26
FLINT ISLAND	KIRIBATI	11.4S 151.8W	0127 03/26
ANATOM ISLAND	VANUATU PAPUA NEW GUINEA	20.2S 169.9E	0136 03/26
PORT MORESBY	PAPUA NEW GUINEA	9.3S 146.9E	0152 03/26
NUKUALOFA	TONGA	21.0S 175.2W	
SUVA	FIJI	18.1S 178.4E	0158 03/26
RAROTONGA HIVA OA	COOK ISLANDS FRENCH POLYNESIA	21.2S 159.8W	0209 03/26
	FRENCH POLYNESIA	10.0S 139.0W	0211 03/26
PUERTO VALLARTA		20.6N 105.3W	
PAPEETE	FRENCH POLYNESIA		0225 03/26
NOUMEA SAN BLAS	NEW CALEDONIA	22.3S 166.5E 21.5N 105.3W	0229 03/26
	MEXICO	21.5N 105.3W 17.9N 102.2W	0230 03/26
LAZARO CARDENAS	MEXICO	17.9N 102.2W	0246 03/26
ACAPULCO NORTH CAPE	MEXICO	16.9N 99.9W	0307 03/26
RIKITEA	MEXICO NEW ZEALAND FRENCH POLYNESIA	34.45 173.3E	0334 03/26
SALINA CRUZ	MEXICO	16.5N 95.2W	0413 03/20
		25 19 130 1W	0419 03/20
CARO SAN ELENA	PITCAIRN ISLANDS COSTA RICA NICARAGUA	10 9N 86 0W	0515 03/26
CORINTO	NICARAGUA	12.5N 87.2W	0527 03/26
PUERTO SANDINO	NICARAGUA	12.2N 86.8W	0527 03/26
AUCKLAND EAST		36.7S 175.0E	0531 03/26
SAN JUAN DL SUR		11.2N 85.9W	0536 03/26
PUERTO QUEPOS	COSTA RICA	36.7s 175.0E 11.2N 85.9W 9.4N 84.2W	0538 03/26
COCOS ISLAND	COSTA RICA	5.5N 87.1W	0539 03/26
CABO MATAPALO	COSTA RICA	8.4N 83.3W 8.0N 82.9W 0.5S 90.3W	0542 03/26
	PANAMA	8.0N 82.9W	0550 03/26
		0.5S 90.3W	0636 03/26
PUNTA MALA	PANAMA	7.5N 80.0W	
EASTER ISLAND		27.1S 109.4W	0648 03/26
PUERTO PINA BAHIA SOLANO	PANAMA COLOMBIA	7.4N 78.0W 6.3N 77.4W	0656 03/26
ESMERELDAS	ECUADOR	1.2N 79.8W	0030 03/20
TUMACO	COLOMBIA	1.8N 78.9W	
LA LIBERTAD	ECUADOR	2.2S 81.2W	0733 03/26
BUENAVENTURA	COLOMBIA	2.2S 81.2W 3.8N 77.2W	0736 03/26
TALARA	PERU	4.6S 81.5W	0750 03/26
CAPE ADARE	ANTARCTICA	71.0S 170.0E	0852 03/26
PIMENTAL	PERU	6.9S 80.0W	0852 03/26
LA PUNTA	PERU	12.1S 77.2W	0858 03/26
CHIMBOTE	PERU	9.0S 78.8W	0900 03/26
BALBOA HEIGHTS	PANAMA	9.0N 79.6W	0903 03/26
SAN JUAN	PERU	15.3S 75.2W	0913 03/26
MOLLENDO	PERU	17.1S 72.0W	0947 03/26
ARICA	CHILE	18.5S 70.3W	1003 03/26
IQUIQUE	CHILE	20.2S 70.1W	1004 03/26
ANTOFAGASTA	CHILE	23.3S 70.4W	1019 03/26
CALDERA	CHILE CHILE	27.1S 70.8W 29.9S 71.4W	1039 03/26 1048 03/26
COQUIMBO VALPARAISO	CHILE	33.0S 71.6W	1048 03/26 1105 03/26
THURSTON ISLAND	ANTARCTICA	72.0S 100.0W	1112 03/26
INOUSION ISHAND	1111 I AINCI I CA	, 2 . 00 I 00 . 0 W	1112 00/20

TALCAHUANO	CHILE	36.7s	73.1W	1128 03/26
CORRAL	CHILE	39.8S	73.5W	1145 03/26
GOLFO DE PENAS	CHILE	47.1S	74.9W	1228 03/26
PUERTO MONTT	CHILE	41.5S	73.0W	1423 03/26

# POTENTIAL IMPACTS

- -----
  - \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
  - \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
  - \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
  - \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

### TSUNAMI OBSERVATIONS - UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATE: LAT LON	S MEASURE	MAXIMUM TSUNAMI HEIGHT	PERIOD
DART 21416 DART 21415	48.0N 163.5 50.2N 171.8	5E 1554 8E 1616	0.8M/02.6FT 0.4M/01.3FT	14 15
UST KAMCHATSK RU	56.0N 163.0		3.1M/10.0FT	
	55.2N 166.		2.9M/09.5FT	
PETROPAVLOVSK RU				
SHEMYA AK	52.7N 174.			
ADAK AK	51.9N 176.			
ATKA AK	52.2N 174.2	2W 1734	0.7M/02.7FT	
KUSHIRO JP	43.0N 144.4 43.3N 145.	4E 1720	0.8M/02.6FT	
HANASAKI JP	43.3N 145.0	6E 1745	0.5M/01.6FT	
OFUNATO JP	39.0N 141.8	8E 1755		
NIKOLSKI AK	52.9N 168.		1.1M/03.7FT	
	51.1N 164.0			
OMAEZAKI JP CHICHIJIMA JP	34.6N 138.2 27.1N 142.2		0.4M/01.3FT 0.3M/01.2FT	
MIDWAY US	28.2N 177.		0.3M/01.2F1 0.9M/02.9FT	
WAKE US	19.3N 166.	4W 1910	0.9M/02.9F1 0.5M/01.6FT	
KODIAK AK	57 7N 150	5W 2052	0.5M/01.0F1	1.0
KODIAK AK TERN FR FRIGATE US	23 9N 166	3W 2002	0.1M/00.4F1	1 /
YAKUTAT AK	50 5N 100.	7W 2130	0.1M/00.4FT	14
PAGO BAY GU			0.5M/01.7FT	
SEWARD AK		4W 2152		
LANGARA PT BC				
HANALEI HI	22.2N 159.			
NAWILIWILI HI	21.9N 159.			
HALEIWA HI	21.6N 158.	1W 2125		
HONOLULU HI	21.3N 157.	9W 2135	0.4M/01.3FT	
	7.0N 158.3	2E 2124	0.3M/01.0FT	
	19.7N 155	OW 2150	1.3M/04.3FT	18
NAURU NR		9E 2236	0.2M/00.7FT	

BETIO TARAWA KI	1.4N 172.9E	2248	0.2M/00.7FT	16
MANUS PG	2.0S 147.4E	2320	0.3M/01.0FT	14
KANTON KI	2.8S 171.7W	2321	0.1M/00.4FT	13
WESTPORT WA	46.9N 124.1W	2333	0.2M/00.6FT	
FUNAFUTI TV	8.5S 179.2E	2355	0.1M/00.3FT	12
CRESCENT CITY CA	41.7N 124.2W	2356	0.7M/02.3FT	
ENSENADA MX	31.8N 116.6W	0012	0.5M/01.6FT	14
LATA WHARF SB	10.7S 165.8E	0025	0.4M/01.4FT	12
LOS ANGELES CA	33.7N 118.3W	0054	0.2M/00.6FT	
APIA WS	13.8S 171.8W	0055	0.4M/01.3FT	14
PAGO PAGO AS	14.3S 170.7W	0130	0.5M/01.6FT	

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

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# PTWC International Message #14

ZCZC WEPA40 PHEB 260300 TSUPAC

TSUNAMI MESSAGE NUMBER 14 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 0300 UTC THU MAR 26 2015

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

## PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_

\* MAGNITUDE 8.6

\* ORIGIN TIME 1500 UTC MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 30 KM / 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 1500 UTC ON WEDNESDAY MARCH 25 2015.
- \* BASED ON ALL DATA AVAILABLE TO THIS CENTER... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS NOW MOSTLY PASSED. ANY REMAINING THREAT SHOULD BE EVALUATED BY LOCAL AUTHORITIES IN IMPACTED AREAS.

# TSUNAMI THREAT FORECAST...UPDATED

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\* THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

### RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.
- \* PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.
- \* REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

### POTENTIAL IMPACTS

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\* MINOR SEA LEVEL FLUCTUATIONS MAY OCCUR IN COASTAL AREAS NEAR THE EARTHQUAKE OVER THE NEXT FEW HOURS.... AND CONTINUING FOR UP TO SEVERAL HOURS.

### TSUNAMI OBSERVATIONS

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

		GAU	JGE	TIME OF	' MAXIMUM	WAVE
		COORDI	INATES	MEASURE	TSUNAMI	PERIOD
GAUGE	LOCATION	LAT	LON	(UTC)	HEIGHT	(MIN)
DART	21416	48.0N	163.5E	1554	0.8M/02.6FT	14
DART	21415	50.2N	171.8E	1616	0.4M/01.3FT	15

UST KAMCHATSK RU		163.0E	1550	3.1M/10.0FT	20
NIKOL'SKOE RU	55.2N	166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N	158.6E	1733	1.6M/05.2FT	17
SHEMYA AK	52.7N	174.1E	1725	0.9M/04.2FT	17
ADAK AK		176.6W	1715	0.8M/02.8FT	15
ATKA AK	52.2N	174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N	144.4E	1720	0.8M/02.6FT	20
HANASAKI JP	43.3N	145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N	141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N	168.9W	1830	1.1M/03.7FT	15
DUTCH HBR AK	51.1N	164.0W	1855	0.3M/01.0FT	17
OMAEZAKI JP	34.6N	138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N	142.2E	1855	0.3M/01.2FT	
MIDWAY US	28.2N	177.4W	1918	0.9M/02.9FT	14
WAKE US	19.3N	166.6E	1940	0.5M/01.6FT	14
KODIAK AK	57.7N	152.5W	2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	14
YAKUTAT AK	59.5N	139.7W	2130	0.1M/00.4FT	
PAGO BAY GU	13.4N	144.8E	2105	0.5M/01.7FT	17
SEWARD AK	60.1N	149.4W	2152	0.1M/00.3FT	20
LANGARA PT BC	54.2N	133.1W	2222	0.1M/00.2FT	
HANALEI HI	22.2N	159.5W	2110	1.0M/03.3FT	16
NAWILIWILI HI	21.9N	159.4W	2130	0.8M/02.7FT	17
HALEIWA HI	21.6N	158.1W	2125	1.1M/03.6FT	15
HONOLULU HI	21.3N	157.9W	2135	0.4M/01.3FT	19
DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT	13
HILO HI	19.7N	155.0W	2150	1.3M/04.3FT	18
NAURU NR	0.5s	166.9E	2236	0.2M/00.7FT	15
BETIO TARAWA KI	1.4N	172.9E	2248	0.2M/00.7FT	16
MANUS PG	2.0S	147.4E	2320	0.3M/01.0FT	14
KANTON KI	2.85	171.7W	2321	0.1M/00.4FT	13
WESTPORT WA	46.9N	124.1W	2333	0.2M/00.6FT	
FUNAFUTI TV	8.5S	179.2E	2355	0.1M/00.3FT	12
CRESCENT CITY CA	41.7N	124.2W	2356	0.7M/02.3FT	
ENSENADA MX	31.8N	116.6W	0012	0.5M/01.6FT	14
LATA WHARF SB	10.7s	165.8E	0025	0.4M/01.4FT	12
LOS ANGELES CA	33.7N	118.3W	0054	0.2M/00.6FT	
APIA WS	13.85	171.8W	0055	0.4M/01.3FT	14
PAGO PAGO AS	14.3S	170.7W	0130	0.5M/01.6FT	
NUKU HIVA PF	8.98	140.1W	0240	0.8M/02.6FT	

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWER CASE-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.



### PTWC Hawaii Message #1

ZCZC
WEHW40 PHEB 251505
TSUHWX
HIZ001>003-005>009-012>014-016>021-023>026-251705/O.NEW.PHEB.TS.A.0366.150325T1505Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 1
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
505 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WATCH

A TSUNAMI WATCH IS ISSUED FOR THE STATE OF HAWAII EFFECTIVE AT 0505 AM  $\mbox{\sc hst}$  .

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.1 MOMENT

#### EVALUATION

BASED ON ALL AVAILABLE DATA A TSUNAMI MAY HAVE BEEN GENERATED BY THIS EARTHQUAKE THAT COULD BE DESTRUCTIVE ON COASTAL AREAS EVEN FAR FROM THE EPICENTER. AN INVESTIGATION IS UNDERWAY TO DETERMINE IF THERE IS A TSUNAMI THREAT TO HAWAII.

IF TSUNAMI WAVES IMPACT HAWAII THE ESTIMATED EARLIEST ARRIVAL OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #2

ZCZC

WEHW40 PHEB 251530

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-251730-/O.CON.PHEB.TS.A.0366.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 2 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 530 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WATCH SUPPLEMENT

A TSUNAMI WATCH CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

#### EVALUATION

BASED ON ALL AVAILABLE DATA A TSUNAMI MAY HAVE BEEN GENERATED BY THIS EARTHQUAKE THAT COULD BE DESTRUCTIVE ON COASTAL AREAS EVEN FAR FROM THE EPICENTER. AN INVESTIGATION IS UNDERWAY TO DETERMINE IF THERE IS A TSUNAMI THREAT TO HAWAII.

IF TSUNAMI WAVES IMPACT HAWAII THE ESTIMATED EARLIEST ARRIVAL OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #3

ZCZC

WEHW40 PHEB 251603

TSUHWX

/O.CAN.PHEB.TS.A.0366.00000T0000Z-00000T0000Z/

/O.NEW.PHEB.TS.W.0124.150325T1603Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 3

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 603 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING

A TSUNAMI WARNING IS ISSUED FOR THE STATE OF HAWAII EFFECTIVE AT 0603 AM  ${\tt HST.}$ 

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

### MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	14
PETROPAVLOVSK RU	53.0N 158.6E	1551	1.1M/03.5FT	
UST KAMCHATSK RU	56.0N 163.0E	1550	3.1M/10.0FT	

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

#### EVALUATION

A TSUNAMI HAS BEEN GENERATED THAT COULD CAUSE DAMAGE ALONG COASTLINES OF ALL ISLANDS IN THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER CAN CONTINUE FOR MANY HOURS AFTER THE INITIAL WAVE AS SUBSEQUENT WAVES ARRIVE. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS. ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

THE ESTIMATED ARRIVAL TIME IN HAWAII OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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## PTWC Hawaii Message #4

ZCZC
WEHW40 PHEB 251704
TSUHWX
HIZ001>003-005>009-012>014-016>021-023>026-251904/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 4
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
704 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	14

DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	15
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N 158.6E	1551	1.1M/03.5FT	20
SHEMYA AK	52.7N 174.1E	1635	0.9M/02.9FT	17
ADAK AK	51.9N 176.6W	1645	0.5M/01.6FT	15
ATKA AK	52.2N 174.2W	1652	0.7M/02.3FT	18

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL. IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

#### EVALUATION

A TSUNAMI HAS BEEN GENERATED THAT COULD CAUSE DAMAGE ALONG COASTLINES OF ALL ISLANDS IN THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER CAN CONTINUE FOR MANY HOURS AFTER THE INITIAL WAVE AS SUBSEQUENT WAVES ARRIVE. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS. ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

THE ESTIMATED ARRIVAL TIME IN HAWAII OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #5

7.C.7.C

WEHW40 PHEB 251804

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-252004-

/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 5

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

804 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

		AUGE	TIME OF	MAXIMUM	WAVE
		DINATES	MEASURE		PERIOD
GAUGE LOCATION	LAT	LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N	163.5E	1554	0.8M/02.6FT	14
DART 21415		171.8E	1616	0.4M/01.3FT	15
	F.F. 037	166 07	1 5 5 0	0.01/00.577	1.6
NIKOL'SKOE RU	55.2N	166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N	158.6E	1733	1.6M/05.2FT	17
SHEMYA AK	52.7N	174.1E	1725	0.9M/04.2FT	17
ADAK AK	51.9N	176.6W	1715	0.8M/02.8FT	15
ATKA AK	52.2N	174.2W	1734	0.8M/02.7FT	18
KUSHIRO JP	43.0N	144.4E	1720	0.8M/02.6FT	20
HANASAKI JP	43.3N	145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N	141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N	168.9W	1758	0.8M/02.5FT	15

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

A TSUNAMI HAS BEEN GENERATED THAT COULD CAUSE DAMAGE ALONG COASTLINES OF ALL ISLANDS IN THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER CAN CONTINUE FOR MANY HOURS AFTER THE INITIAL WAVE AS SUBSEQUENT WAVES ARRIVE. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS. ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

THE ESTIMATED ARRIVAL TIME IN HAWAII OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #6

ZCZC

WEHW40 PHEB 251900

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-252100-

/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 6

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

900 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

### MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(UTC)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	14
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	15
NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W	1559 1733 1725 1715 1734 1720 1745 1755 1830 1855	2.9M/09.5FT 1.6M/05.2FT 0.9M/04.2FT 0.8M/02.8FT 0.7M/02.7FT 0.8M/02.6FT 0.5M/01.6FT 0.5M/01.6FT 0.8M/03.0FT 0.1M/00.4FT	16 17 17 15 18 20 19 18 15

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL. IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT) .

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

A TSUNAMI HAS BEEN GENERATED THAT COULD CAUSE DAMAGE ALONG COASTLINES OF ALL ISLANDS IN THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER CAN CONTINUE FOR MANY HOURS AFTER THE INITIAL WAVE AS SUBSEQUENT WAVES ARRIVE. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS. ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE

CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

THE ESTIMATED ARRIVAL TIME IN HAWAII OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #7

ZCZC WEHW40 PHEB 252000 TSUHWX HIZ001>003-005>009-012>014-016>021-023>026-252200-/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1000 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

- OFF THE EAST COAST OF KAMCHATKA RUSSIA - 8.6 MOMENT LOCATION

MAGNITUDE

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (UTC)	-	WAVE PERIOD (MIN)
DART 21416	48.0N 163.5E	1554	0.8M/02.6FT	14
DART 21415	50.2N 171.8E	1616	0.4M/01.3FT	15
NIKOL'SKOE RU	55.2N 166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU	53.0N 158.6E	1733	1.6M/05.2FT	17
SHEMYA AK	52.7N 174.1E	1725	0.9M/04.2FT	17
ADAK AK	51.9N 176.6W	1715	0.8M/02.8FT	15
ATKA AK	52.2N 174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N 144.4E	1720	0.8M/02.6FT	20
HANASAKI JP	43.3N 145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N 141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N 168.9W	1830	1.1M/03.7FT	15
DUTCH HBR AK	51.1N 164.0W	1855	0.3M/01.0FT	17
OMAEZAKI JP	34.6N 138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP	27.1N 142.2E	1855	0.3M/01.2FT	
MIDWAY US	28.2N 177.4W	1918	0.9M/02.9FT	14
WAKE US	19.3N 166.6E	1940	0.5M/01.6FT	14

LAT - LATITUDE (N-NORTH, S-SOUTH) LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT) .

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

#### EVALUATION

A TSUNAMI HAS BEEN GENERATED THAT COULD CAUSE DAMAGE ALONG COASTLINES OF ALL ISLANDS IN THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

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THE ESTIMATED ARRIVAL TIME IN HAWAII OF THE FIRST TSUNAMI WAVE IS

1055 AM HST WED 25 MAR 2015

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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### PTWC Hawaii Message #8

ZCZC

WEHW40 PHEB 252100

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-252300-/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1100 AM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION LAT LON TIME AMPL PER

DART 21416 DART 21415	48.0N 50.2N	163.5E 171.8E	1554 1616	0.8M/02.6FT 0.4M/01.3FT	14 15
NIKOL'SKOE RU		166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU SHEMYA AK		158.6E 174.1E	1733 1725	1.6M/05.2FT 0.9M/04.2FT	17 17
ADAK AK		176.6W	1715	0.8M/02.8FT	15
ATKA AK		174.2W 144.4E	1734 1720	0.7M/02.7FT 0.8M/02.6FT	18
KUSHIRO JP HANASAKI JP		144.4E 145.6E	1745	0.5M/02.6FT	19
OFUNATO JP		141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK		168.9W 164.0W	1830 1855	1.1M/03.7FT 0.3M/01.0FT	15 17
DUTCH HBR AK OMAEZAKI JP		138.2E	1859	0.4M/01.3FT	19
CHICHIJIMA JP		142.2E	1855	0.3M/01.2FT	
MIDWAY US		177.4W	1918	0.9M/02.9FT	14
WAKE US		166.6E	1940	0.5M/01.6FT	14
KODIAK AK TERN FR FRIGATE US	57.7N 23.9N	152.5W 166.3W	2052 2025	0.1M/00.4FT 0.9M/03.0FT	18 14
00	= = • • • •				

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

#### EVALUATION

TSUNAMI WAVES ARE NOW IMPACTING THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER MAY PERSIST FOR MANY MORE HOURS AS WAVES ACTIVITY CONTINUES. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS SO ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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### PTWC Hawaii Message #9

ZCZC
WEHW40 PHEB 252200
TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260000-/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 9
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1200 PM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

- OFF THE EAST COAST OF KAMCHATKA RUSSIA LOCATION

- 8.6 MOMENT MAGNITUDE

### MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION					PER
DART 21416	48.0N	163.5E	1554	0.8M/02.6FT	
DART 21415	50.2N	171.8E	1616	0.4M/01.3FT	15
NIKOL'SKOE RU	55.2N	166.0E	1559	2.9M/09.5FT	
PETROPAVLOVSK RU					17
SHEMYA AK	52.7N	174.1E	1725		17
ADAK AK	51.9N	176.6W	1715	0.8M/02.8FT	15
ATKA AK KUSHIRO JP	52.2N	174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP	43.0N	144.4E	1720	0.8M/02.6FT	
HANASAKI JP	43.3N	145.6E	1745	0.5M/01.6FT	19
OFUNATO JP	39.0N	141.8E	1755	0.5M/01.6FT	18
NIKOLSKI AK	52.9N	168.9W	1830	1.1M/03.7FT	15
DUTCH HBR AK	51.1N	164.0W	1855	0.3M/01.0FT	17
OMAEZAKI JP					19
CHICHIJIMA JP					
MIDWAY US	28.2N	177.4W	1918	0.9M/02.9FT	14
WAKE US	19.3N	166.6E	1940	0.5M/01.6FT	14
KODIAK AK	57.7N	152.5W	2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	14
YAKUTAT AK	59.5N	139.7W	2130	0.1M/00.4FT	
PAGO BAY GU					17
SEWARD AK	60.1N	149.4W	2152	0.1M/00.3FT	20
HANALEI HI	22.2N	159.5W	2110	1.0M/03.3FT	16
NAWILIWILI HI	21.9N	159.4W	2130	0.8M/02.7FT	17
HALEIWA HI	21.6N	158.1W	2125	1.1M/03.6FT	15
HONOLULU HI	21.3N	157.9W	2135	0.4M/01.3FT	
DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT 1.3M/04.3FT	13
HILO HI	19.7N	155.0W	2150	1.3M/04.3FT	18

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL. IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT) .

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

TSUNAMI WAVES ARE NOW IMPACTING THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER MAY PERSIST FOR MANY MORE HOURS AS WAVES ACTIVITY CONTINUES. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS SO ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE

POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #10

ZCZC

WEHW40 PHEB 252300

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260100-/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 10

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

100 PM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT LON	TIME	AMPL	
	48.0N 163.5E 50.2N 171.8E	1554	0.8M/02.6FT	14
NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU	50.2N 171.8E  55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E 27.1N 142.2E 28.2N 177.4W 19.3N 166.6E 57.7N 152.5W 23.9N 166.3W 59.5N 139.7W 13.4N 144.8E	1616 1559 1733 1725 1715 1734 1720 1745 1755 1830 1855 1859 1855 1918 1940 2052 2025 2130 2105	0.4M/01.3FT  2.9M/09.5FT 1.6M/05.2FT 0.9M/04.2FT 0.8M/02.8FT 0.7M/02.7FT 0.8M/02.6FT 0.5M/01.6FT 1.1M/03.7FT 0.3M/01.0FT 0.4M/01.3FT 0.3M/01.2FT 0.9M/02.9FT 0.5M/01.6FT 0.1M/00.4FT 0.9M/03.0FT 0.1M/00.4FT 0.9M/03.0FT 0.1M/00.4FT	15 16 17 17 15 18 20 19 18 15 17 19 14 14 18 14
LANGARA PT BC HANALEI HI NAWILIWILI HI	22.2N 159.5W 21.9N 159.4W	2222 2110 2130	0.1M/00.2FT 1.0M/03.3FT 0.8M/02.7FT	
HALEIWA HI HONOLULU HI	21.6N 158.1W 21.3N 157.9W			15 19

DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT	13
HILO HI	19.7N	155.0W	2150	1.3M/04.3FT	18
NAURU NR	0.5s	166.9E	2236	0.2M/00.7FT	15
BETIO TARAWA KI	1.4N	172.9E	2248	0.2M/00.7FT	16

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT) .

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

#### EVALUATION

TSUNAMI WAVES ARE NOW IMPACTING THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER MAY PERSIST FOR MANY MORE HOURS AS WAVES ACTIVITY CONTINUES. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS SO ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #11

ZCZC

WEHW40 PHEB 260000

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260200-/O.CON.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 11

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 200 PM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI WARNING SUPPLEMENT

A TSUNAMI WARNING CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION LAT LON TIME AMPL PER

DART 21416 DART 21415		163.5E 171.8E	1554 1616	,	14 15
NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP	53.0N 52.7N 51.9N 52.2N 43.0N 43.3N 39.0N	166.0E 158.6E 174.1E 176.6W 174.2W 144.4E 145.6E 141.8E	1559 1733 1725 1715 1734 1720 1745 1755	1.6M/05.2FT 0.9M/04.2FT 0.8M/02.8FT 0.7M/02.7FT 0.8M/02.6FT 0.5M/01.6FT 0.5M/01.6FT	16 17 17 15 18 20 19
NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP	52.9N 51.1N 34.6N 27.1N	164.0W	1830 1855 1859 1855	0.3M/01.0FT	15 17 19
MIDWAY US WAKE US KODIAK AK	28.2N 19.3N 57.7N	177.4W 166.6E	1918 1940 2052	0.9M/02.9FT 0.5M/01.6FT	14 14 18
TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU	23.9N 59.5N 13.4N	139.7W 144.8E	2025 2130 2105	0.1M/00.4FT 0.5M/01.7FT	14 17
SEWARD AK LANGARA PT BC HANALEI HI NAWILIWILI HI	60.1N 54.2N 22.2N 21.9N	133.1W 159.5W	2152 2222 2110 2130	0.1M/00.2FT 1.0M/03.3FT	20 16 17
HALEIWA HI HONOLULU HI DEKEHTIK FM	21.6N 21.3N	159.4W 158.1W 157.9W 158.2E	2125 2125 2135 2124	1.1M/03.6FT 0.4M/01.3FT	15 19 13
HILO HI NAURU NR BETIO TARAWA KI	19.7N 0.5S	155.0W 166.9E 172.9E	2150 2236 2248	1.3M/04.3FT 0.2M/00.7FT 0.2M/00.7FT	18 15 16
MANUS PG KANTON KI WESTPORT WA FUNAFUTI TV CRESCENT CITY CA	46.9N 8.5S	147.4E 171.7W 124.1W 179.2E 124.2W	2320 2321 2333 2355 2356	0.3M/01.0FT 0.1M/00.4FT 0.2M/00.6FT 0.1M/00.3FT 0.7M/02.3FT	13

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL. IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

TSUNAMI WAVES ARE NOW IMPACTING THE STATE OF HAWAII. URGENT ACTION SHOULD BE TAKEN TO PROTECT LIVES AND PROPERTY.

A TSUNAMI IS A SERIES OF LONG OCEAN WAVES. EACH INDIVIDUAL WAVE CREST CAN LAST 5 TO 15 MINUTES OR MORE AND EXTENSIVELY FLOOD COASTAL AREAS. THE DANGER MAY PERSIST FOR MANY MORE HOURS AS WAVES ACTIVITY CONTINUES. TSUNAMI WAVES EFFICIENTLY WRAP AROUND ISLANDS SO ALL SHORES ARE AT RISK NO MATTER WHICH DIRECTION THEY FACE. THE TROUGH OF A TSUNAMI WAVE MAY TEMPORARILY EXPOSE THE SEAFLOOR BUT THE AREA WILL QUICKLY FLOOD AGAIN. EXTREMELY STRONG AND UNUSUAL NEARSHORE CURRENTS CAN ACCOMPANY A TSUNAMI. DEBRIS PICKED UP AND CARRIED BY A TSUNAMI AMPLIFIES ITS DESTRUCTIVE POWER. SIMULTANEOUS HIGH TIDES OR HIGH SURF CAN SIGNIFICANTLY INCREASE THE TSUNAMI HAZARD.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

# PTWC Hawaii Message #12

ZCZC

WEHW40 PHEB 260100

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260300-

/O.CAN.PHEB.TS.W.0124.000000T0000Z-000000T0000Z/

/O.NEW.PHEB.TS.Y.0133.150326T0100Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 12

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

300 PM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI ADVISORY

EFFECTIVE AT 0300 PM HST THE TSUNAMI WARNING IS NOW DOWNGRADED TO A TSUNAMI ADVISORY FOR THE ENTIRE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL		PER
DART 21416	48.0N	163.5E	1554	0.8M/02.6FT	14	
DART 21415	50.2N	171.8E	1616	0.4M/01.3FT	15	
NIKOL'SKOE RU		166.0E			16	
		158.6E		1.6M/05.2FT	17	
SHEMYA AK		174.1E		0.9M/04.2FT	17	
ADAK AK	51.9N	176.6W	1715	0.8M/02.8FT	15	
ATKA AK	52.2N	174.2W 144.4E	1734	0.7M/02.7FT	18	
KUSHIRO JP	43.0N	144.4E	1720		20	
		145.6E			19	
OFUNATO JP				0.5M/01.6FT	18	
NIKOLSKI AK				1.1M/03.7FT	15	
DUTCH HBR AK	51.1N	164.0W	1855	0.3M/01.0FT		
OMAEZAKI JP	34.6N	138.2E	1859	0.4M/01.3FT 0.3M/01.2FT	19	
CHICHIJIMA JP	27.1N	142.2E	1855	0.3M/01.2FT		
MIDWAY US	28.2N	177.4W	1918		14	
WAKE US			1940		14	
KODIAK AK				0.1M/00.4FT	18	
TERN FR FRIGATE US	23.9N	166.3W	2025	0.9M/03.0FT	14	
YAKUTAT AK	59.5N	139.7W	2130	0.1M/00.4FT		
PAGO BAY GU	13.4N	139.7W 144.8E	2105	0.5M/01.7FT	17	
	60.1N	149.4W	2152		20	
LANGARA PT BC						
			2110		16	
NAWILIWILI HI	21.9N	159.4W	2130	0.8M/02.7FT	17	
HALEIWA HI	21.6N	158.1W	2125	1.1M/03.6FT	15	
HONOLULU HI	21.3N	157.9W	2125 2135	0.4M/01.3FT	19	
DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT	13	
			2150		18	
				0.2M/00.7FT	15	
BETIO TARAWA KI	1.4N	172.9E	2248	0.2M/00.7FT	16	
MANUS PG	2.05	147.4E	2320	0.3M/01.0FT		

KANTON KI	2.8S 171.7W	2321	0.1M/00.4FT	13
WESTPORT WA	46.9N 124.1W	2333	0.2M/00.6FT	
FUNAFUTI TV	8.5S 179.2E	2355	0.1M/00.3FT	
CRESCENT CITY CA	41.7N 124.2W	2356	0.7M/02.3FT	

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

TSUNAMI WAVES HAVE NOW CROSSED THE STATE OF HAWAII AND HAVE DIMISHED TO ADVISORY LEVELS. SEA LEVEL CHANGES AND STRONG CURRENTS MAY OCCUR ALONG ALL COASTS THAT COULD BE A HAZARD TO SWIMMERS AND BOATERS AS WELL AS TO PERSONS NEAR THE SHORE AT BEACHES AND IN HARBORS AND MARINAS. THE THREAT MAY CONTINUE FOR SEVERAL HOURS.

THIS ADVISORY DOES NOT MEAN IT IS SAFE TO RETURN TO EVACUATED AREAS. DECISIONS AND INSTRUCTIONS FOR RETURNING TO EVACUATED AREAS WILL BE MADE AND COME FROM HAWAII STATE AND COUNTY CIVIL DEFENSE AGENCIES.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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## PTWC Hawaii Message #13

7.C.7.C

WEHW40 PHEB 260200

TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260400-/O.CON.PHEB.TS.Y.0133.000000T0000Z-000000T0000Z/

TSUNAMI MESSAGE NUMBER 13

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  $400\,$  PM HST WED MAR  $25\,$   $2015\,$ 

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - TSUNAMI ADVISORY SUPPLEMENT

A TSUNAMI ADVISORY CONTINUES IN EFFECT FOR THE STATE OF HAWAII.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015

COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT LON	TIME AMPL	PER
DART 21416	48.0N 163.5E	1554 0.8M/02.6FT	14
DART 21415	50.2N 171.8E	1616 0.4M/01.3FT	15

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NIKOL'SKOE RU 55.2N 166.0E 1559
PETROPAVLOVSK RU 53.0N 158.6E 1733
SHEMYA AK 52.7N 174.1E 1725
ADAK AK 51.9N 176.6W 1715
ATKA AK 52.2N 174.2W 1734
KUSHIRO JP 43.0N 144.4E 1720
HANASAKI JP 43.3N 145.6E 1745
OFUNATO JP 39.0N 141.8E 1755
NIKOLSKI AK 52.9N 168.9W 1830
DUTCH HBR AK 51.1N 164.0W 1855
OMAEZAKI JP 34.6N 138.2E 1859
CHICHIJIMA JP 27.1N 142.2E 1855
MIDWAY US 28.2N 177.4W 1918
WAKE US 19.3N 166.6E 1940
KODIAK AK 57.7N 152.5W 2052
TERN FR FRIGATE US 23.9N 166.3W 2025
                                                                                                                                      2.9M/09.5FT
                                                                                                                                                                              16
                                                                                                                                      1.6M/05.2FT
                                                                                                                                                                              17
                                                                                                                                      0.9M/04.2FT
                                                                                                                                                                              17
                                                                                                                                      0.8M/02.8FT
                                                                                                                                      0.7M/02.7FT
                                                                                                                                                                              18
                                                                                                                                      0.8M/02.6FT
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                                                                                                                                      0.5M/01.6FT
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                                                                                                                                      1.1M/03.7FT
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                                                                                                                                      0.3M/01.0FT
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                                                                                                                                      0.4M/01.3FT
                                                                                                                                      0.3M/01.2FT
                                                                                                                                      0.9M/02.9FT
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                                                                                                                                      0.5M/01.6FT
                                                                                                                                                                               14
                                                                                                                                      0.1M/00.4FT
                                                                                                                                                                               18
  TERN FR FRIGATE US 23.9N 166.3W
                                                                                                               2025
                                                                                                                                      0.9M/03.0FT
59.5N 139.7W 2130 0.1M/00.4FT
PAGO BAY GU 13.4N 144.8E 2105 0.5M/01.7FT
SEWARD AK 60.1N 149.4W 2152 0.1M/00.3FT
LANGARA PT BC 54.2N 133.1W 2222 0.1M/00.2FT
HANALEI HI 22.2N 159.5W 2110 1.0M/03.3FT
NAWILIWILI HI 21.9N 159.4W 2130 0.8M/02.7FT
HALEIWA HI 21.6N 158.1W 2125 1.1M/03.6FT
HONOLULU HI 21.3N 157.9W 2135 0.4M/01.3FT
DEKEHTIK FM 7.0N 158.2E 2124 0.3M/01.0FT
HILO HI 19.7N 155.0W 2150 1.3M/04.3FT
NAURU NR 0.5S 166.9E 2236 0.2M/00.7FT
BETIO TARAWA KI 1.4N 172.9E 2248 0.2M/00.7FT
MANUS PG 2.0S 147.4E 2320 0.3M/01.0FT
KANTON KI 2.8S 171.7W 2321
                                                                                                                                                                               14
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                                                                                                                                                                              15
 BETIO TARAWA KI 1.4N 172.9E 2248 0.2M/00.7FT

MANUS PG 2.0S 147.4E 2320 0.3M/01.0FT

KANTON KI 2.8S 171.7W 2321 0.1M/00.4FT

WESTPORT WA 46.9N 124.1W 2333 0.2M/00.6FT

FUNAFUTI TV 8.5S 179.2E 2355 0.1M/00.3FT

CRESCENT CITY CA 41.7N 124.2W 2356 0.7M/02.3FT

ENSENADA MX 31.8N 116.6W 0012 0.5M/01.6FT

LATA WHARF SB 10.7S 165.8E 0025 0.4M/01.4FT

LOS ANGELES CA 33.7N 118.3W 0054 0.2M/00.6FT
                                                                                                                                                                              16
                                                                                                                                                                               14
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                                                                                                                                                                               12
                                                                                                                                                                               12
                                                                                                                 0054 0.2M/00.6FT
  LOS ANGELES CA
                                                           33.7N 118.3W
  APIA WS
                                                              13.8S 171.8W
                                                                                                                0055 0.4M/01.3FT
                                                                                                                                                                               14
                                                             14.3S 170.7W
  PAGO PAGO AS
                                                                                                                0130
                                                                                                                                  0.5M/01.6FT
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LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL. IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

TSUNAMI WAVES THAT CAN BE A HAZARD TO SWIMMERS AND BOATERS AS WELL AS TO PERSONS NEAR THE SHORE AT BEACHES AND IN HARBORS AND MARINAS ARE NOW AFFECTING THE STATE OF HAWAII. THIS HAZARD COULD CONTINUE FOR SEVERAL HOURS. THE SITUATION IS BEING MONITORED CLOSELY AND THE ADVISORY WILL END WHEN THE HAZARD HAS PASSED.

FURTHER MESSAGES WILL BE ISSUED HOURLY OR SOONER AS CONDITIONS WARRANT UNTIL THE THREAT TO HAWAII HAS PASSED.

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# PTWC Hawaii Message #14

ZCZC WEHW40 PHEB 260300

### TSUHWX

HIZ001>003-005>009-012>014-016>021-023>026-260500-/O.CAN.PHEB.TS.Y.0133.000000T0000Z-00000T0000Z/

TSUNAMI MESSAGE NUMBER 14 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 500 PM HST WED MAR 25 2015

TO - EMERGENCY MANAGEMENT IN THE STATE OF HAWAII

SUBJECT - FINAL TSUNAMI ADVISORY

THE TSUNAMI ADVISORY IS ENDED FOR THE STATE OF HAWAII EFFECTIVE AT  $0500~\mathrm{PM}$  HST.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0500 AM HST 25 MAR 2015 COORDINATES - 53.5 NORTH 162.0 EAST

LOCATION - OFF THE EAST COAST OF KAMCHATKA RUSSIA

MAGNITUDE - 8.6 MOMENT

### MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
DART 21416	48.0N	163.5E	1554	0.8M/02.6FT	14
DART 21415		171.8E	1616	0.4M/01.3FT	15
NIKOL'SKOE RU		166.0E	1559	2.9M/09.5FT	16
PETROPAVLOVSK RU		158.6E	1733	1.6M/05.2FT	17
SHEMYA AK		174.1E	1725	0.9M/04.2FT	17
ADAK AK		176.6W	1715	0.8M/02.8FT	15
ATKA AK		174.2W	1734	0.7M/02.7FT	18
KUSHIRO JP		144.4E	1720	0.8M/02.6FT	20
HANASAKI JP		145.6E	1745	0.5M/01.6FT	19
OFUNATO JP		141.8E		0.5M/01.6FT	18
NIKOLSKI AK		168.9W	1830	1.1M/03.7FT 0.3M/01.0FT	15 17
DUTCH HBR AK	51.IN	164.0W 138.2E	1855		19
OMAEZAKI JP				0.4M/01.3FT 0.3M/01.2FT	19
CHICHIJIMA JP MIDWAY US	20 2M	142.2E	1918	0.3M/01.2FT 0.9M/02.9FT	14
WAKE US	20.2N	177.4W 166.6E	1910	0.5M/01.6FT	14
KODIAK AK	57 7N	152.5W	2052	0.1M/00.4FT	18
TERN FR FRIGATE US	23 9N			0.9M/03.0FT	14
YAKUTAT AK		139.7W	2130	0.1M/00.4FT	1 1
PAGO BAY GU		144.8E		0.5M/01.7FT	17
SEWARD AK	60 1N	149.4W	2152	0.1M/00.3FT	20
LANGARA PT BC	54.2N	133.1W	2222	0.1M/00.2FT	_ 0
HANALEI HI		159.5W	2110	1.0M/03.3FT	16
NAWILIWILI HI		159.4W		0.8M/02.7FT	17
HALEIWA HI		158.1W	2125	1.1M/03.6FT	15
HONOLULU HI		157.9W	2135	0.4M/01.3FT	19
DEKEHTIK FM	7.0N	158.2E	2124	0.3M/01.0FT	13
HILO HI	19.7N	155.0W	2150	1.3M/04.3FT	18
NAURU NR	0.58	166.9E	2236	0.2M/00.7FT	15
BETIO TARAWA KI	1.4N	172.9E		0.2M/00.7FT	16
MANUS PG	2.08	147.4E	2320	0.3M/01.0FT	14
KANTON KI	2.85	171.7W	2321	0.1M/00.4FT	13
WESTPORT WA		124.1W	2333	0.2M/00.6FT	
FUNAFUTI TV		179.2E	2355	0.1M/00.3FT	12
CRESCENT CITY CA	41.7N	124.2W	2356	0.7M/02.3FT	
ENSENADA MX	31.8N	124.2W 116.6W	0012		14
LATA WHARF SB	10.75	100.05	0023	0.4M/01.4FT	12
LOS ANGELES CA		118.3W		0.2M/00.6FT	1 /
APIA WS	13.8S	171.8W	0055	0.4M/01.3FT	14

PAGO	PAGO	AS	14.3S	170.7W	0130	0.5M/01.6FT
NUKU	HIVA	PF	8.9S	140.1W	0240	0.8M/02.6FT

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS (M) AND FEET (FT).

PER - PERIOD OF TIME IN MINUTES (MIN) FROM ONE WAVE TO THE NEXT.

### EVALUATION

TSUNAMI WAVE HEIGHTS ACROSS THE STATE OF HAWAII ARE NOW BELOW ADVISORY LEVELS AND ARE CONTINUING TO DIMINISH. BASED ON ALL AVAILABLE DATA THE PACIFIC TSUNAMI WARNING CENTER IS NOW CANCELLING THE TSUNAMI ADVISORY. SMALL SEA LEVEL CHANGES AND STRONG OR UNUSUAL CURRENTS MAY PERSIST FOR SEVERAL ADDITIONAL HOURS IN SOME COASTAL AREAS AND APPROPRIATE CAUTION SHOULD BE EXERCISED BY BOATERS AND SWIMMERS.

THIS WILL BE THE FINAL MESSAGE ISSUED FOR THIS EVENT UNLESS ADDITIONAL DATA ARE RECEIVED.

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## PTWC Message #1 for Guam and CNMI

ZCZC WEGM42 PHEB 251506 TIBGUM

TSUNAMI INFORMATION STATEMENT NUMBER 1 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 106 AM CHST THU MAR 26 2015

...POSSIBLE TSUNAMI THREAT TO GUAM/CNMI FROM A DISTANT EARTHOUAKE...

### AUDIENCE

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.1 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* THE TSUNAMI THREAT TO GUAM... ROTA... TINIAN AND SAIPAN FROM THIS EARTHQUAKE IS STILL UNDER INVESTIGATION.

### RECOMMENDED ACTIONS

\_\_\_\_\_

\* STAY ALERT FOR FURTHER INFORMATION. THERE IS THE POSSIBILITY THAT A TSUNAMI WATCH... ADVISORY... OR WARNING COULD BE ISSUED LATER FOR GUAM... ROTA... TINIAN AND SAIPAN.

### POTENTIAL IMPACTS

\_\_\_\_\_

- \* POTENTIAL TSUNAMI IMPACTS ARE STILL BEING EVALUATED.
- \* IF THERE IS A TSUNAMI THREAT TO GUAM... ROTA... TINIAN AND SAIPAN... THE EARLIEST IMPACTS WOULD BE AROUND 619 AM CHST ON THURSDAY MARCH 26 2015.

### PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.1
- \* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

\* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

\$\$

## PTWC Message #2 for Guam and CNMI

ZCZC

WEGM40 PHEB 251531 TSUGUM

GUZ001>004-251731-

/O.NEW.PHEB.TS.A.0009.150325T1531Z-000000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 2 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 131 AM CHST THU MAR 26 2015

... A TSUNAMI WATCH IS NOW IN EFFECT FOR GUAM AND CNMI...

THIS MESSAGE CONTAINS REVISED ALERT LEVELS... AND EARTHQUAKE PARAMETERS.

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* THE TSUNAMI THREAT TO GUAM... ROTA... TINIAN AND SAIPAN FROM THIS EARTHQUAKE IS STILL BEING EVALUATED.
- \* IF A TSUNAMI THREAT EXISTS... THE EARLIEST ESTIMATED ARRIVAL TIME OF TSUNAMI WAVES WITHIN GUAM... ROTA... TINIAN OR SAIPAN WOULD BE

619 AM CHST ON THURSDAY MARCH 26 2015

### RECOMMENDED ACTIONS

\_\_\_\_\_

- \* STAY ALERT FOR FURTHER INFORMATION. THE TSUNAMI WATCH COULD BE ELEVATED TO AN ADVISORY OR WARNING.
- \* CONSIDER YOUR COURSE OF ACTION IF A TSUNAMI ADVISORY OR WARNING IS ISSUED.

## ESTIMATED TIMES OF ARRIVAL

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\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE

INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (CHST)
MAGICIENNE BAY	SAIPAN	15.1N 145.8E	619 AM 03/26
WING BEACH	SAIPAN	15.3N 145.8E	620 AM 03/26
GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
LONG BEACH	TINIAN	15.0N 145.7E	625 AM 03/26
CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26
SAN JOSE	TINIAN	15.0N 145.6E	626 AM 03/26
ARATSU BAY	ROTA	14.1N 145.2E	628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26
SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

# POTENTIAL IMPACTS

\_\_\_\_\_\_

- \* POTENTIAL TSUNAMI IMPACTS ARE STILL BEING EVALUATED.
- \* IF THERE IS A TSUNAMI THREAT TO GUAM... ROTA... TINIAN AND SAIPAN... THE EARLIEST IMPACTS WOULD BE AROUND 619 AM CHST ON THURSDAY MARCH 26 2015.

# PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

\* MAGNITUDE

8.6 100 AM CHST MAR 26 2015 53.5 NORTH 162 0 \* ORIGIN TIME \* COORDINATES

\* DEPTH 19 MILES

OFF THE EAST COAST OF KAMCHATKA RUSSIA \* LOCATION

### NEXT UPDATE AND ADDITIONAL INFORMATION \_\_\_\_\_

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

\$\$

## PTWC Message #3 for Guam and CNMI

ZCZC WEGM40 PHEB 251604 TSUGUM

GUZ001>004-251804-

/T.CAN.PHEB.TS.A.0006.000000T0000Z-000000T0000Z/ /T.NEW.PHEB.TS.Y.0004.150325T1604Z-000000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 3 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 204 AM CHST THU MAR 26 2015

...A TSUNAMI ADVISORY IS NOW IN EFFECT FOR GUAM AND CNMI...

THIS MESSAGE CONTAINS REVISED ALERT LEVELS.

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO GUAM... ROTA... TINIAN AND SAIPAN OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN GUAM... ROTA... TINIAN OR SAIPAN IS

619 AM CHST ON THURSDAY MARCH 26 2015

## RECOMMENDED ACTIONS

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- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(CHST)
MAGICIENNE BAY WING BEACH	SAIPAN	15.1N 145.8E	619 AM 03/26
	SAIPAN	15.3N 145.8E	620 AM 03/26
GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
LONG BEACH	TINIAN	15.0N 145.7E	625 AM 03/26
CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26
SAN JOSE	TINIAN	15.0N 145.6E	626 AM 03/26
ARATSU BAY	ROTA	14.1N 145.2E	628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26

SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

### POTENTIAL IMPACTS

\_\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

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* 1	MAGNITUDE	8		6
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- \* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(CHST)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	0154	2.6FT/ 0.	1M 20
UST KAMCHATSK RU	56.0N 163.0E	0150	10.0FT/ 3.	
PETROPAVLOVSK RU	53.0N 158.6E	0151	3.5FT/ 1.	

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #4 for Guam and CNMI

ZCZC

WEGM40 PHEB 251705 TSUGUM

GUZ001>004-251905-

/T.NEW.PHEB.TS.Y.0004.150325T1705Z-000000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 4 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 305 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

THIS MESSAGE CONTAINS NEW TSUNAMI OBSERVATIONS.

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO GUAM... ROTA... TINIAN AND SAIPAN OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN GUAM... ROTA... TINIAN OR SAIPAN IS

619 AM CHST ON THURSDAY MARCH 26 2015

### RECOMMENDED ACTIONS

\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

### ESTIMATED TIMES OF ARRIVAL

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\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (CHST)
MAGICIENNE BAY	SAIPAN	15.1N 145.8E	619 AM 03/26
WING BEACH	SAIPAN	15.3N 145.8E	620 AM 03/26
GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
LONG BEACH	TINIAN	15.0N 145.7E	625 AM 03/26
CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26

SAN JOSE	TINIAN	15.0N 145.6E	626 AM 03/26
ARATSU BAY	ROTA	14.1N 145.2E	628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26
SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

### POTENTIAL IMPACTS

\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.6

\* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINA' LAT LO		MAXIMUM TSUNAMI HEIGH	PERIOD
DART 21416 DART 21415	48.0N 16 50.2N 17		2.6FT/ 1.3FT/	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK	56.0N 16: 55.2N 16: 53.0N 15: 52.7N 17: 51.9N 17: 52.2N 17:	6.0E 0159 8.6E 0151 4.1E 0235 6.6W 0245	10.0FT/ 9.5FT/ 3.5FT/ 2.9FT/ 1.6FT/ 2.3FT/	2.9M 16 1 1M 20 0.9M 17 0.5M 15

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

\* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHOUAKE.USGS.GOV/EARTHOUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #5 for Guam and CNMI

ZCZC WEGM40 PHEB 251805 TSUGUM

GUZ001>004-252005-/T.CON.PHEB.TS.Y.0004.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 5 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 405 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

#### AUDIENCE

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EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO GUAM... ROTA... TINIAN AND SAIPAN OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN GUAM... ROTA... TINIAN OR SAIPAN IS

619 AM CHST ON THURSDAY MARCH 26 2015

### RECOMMENDED ACTIONS

\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\_\_\_\_\_\_

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (CHST)
MAGICIENNE BAY	SAIPAN	15.1N 145.8E	619 AM 03/26
WING BEACH	SAIPAN	15.3N 145.8E	620 AM 03/26
GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
LONG BEACH	TINIAN	15.0N 145.7E	625 AM 03/26
CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26
SAN JOSE	TINIAN	15.0N 145.6E	626 AM 03/26
ARATSU BAY	ROTA	14.1N 145.2E	628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26
SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

### POTENTIAL IMPACTS

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.6

8.6 100 AM CHST MAR 26 2015 53.5 NORTH 162.0 EAST 100 AM CHST MAR 26 2015 \* ORIGIN TIME \* COORDINATES

\* DEPTH

19 MILES
OFF THE EAST COAST OF KAMCHATKA RUSSIA \* LOCATION

### TSUNAMI OBSERVATIONS - UPDATED

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE COORDINATES	TIME OF MEASURE	MAXIMUM TSUNAMT	WAVE PERIOD
LAT LON	(CHST)	HEIGHT	(MIN)
48.0N 163.5E 50.2N 171.8E	0154 0216		
56.0N 163.0E 55.2N 166.0E	0150 0159		
53.0N 158.6E 52.7N 174.1E	0333 0235		
51.9N 176.6W	0245		-
43.0N 144.4E 43.3N 145.6E	0320	2.6FT/ 0.8	3M 20
	COORDINATES LAT LON  48.0N 163.5E 50.2N 171.8E  56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E	COORDINATES MEASURE LAT LON (CHST)  48.0N 163.5E 0154 50.2N 171.8E 0216  56.0N 163.0E 0150 55.2N 166.0E 0159 53.0N 158.6E 0333 52.7N 174.1E 0235 51.9N 176.6W 0245 52.2N 174.2W 0252 43.0N 144.4E 0320	COORDINATES MEASURE TSUNAMI LAT LON (CHST) HEIGHT  48.0N 163.5E 0154 2.6FT/ 0.8 50.2N 171.8E 0216 1.3FT/ 0.4  56.0N 163.0E 0150 10.0FT/ 3.1 55.2N 166.0E 0159 9.5FT/ 2.9 53.0N 158.6E 0333 5.2FT/ 1.6 52.7N 174.1E 0235 2.9FT/ 0.9 51.9N 176.6W 0245 1.6FT/ 0.5 52.2N 174.2W 0252 2.3FT/ 0.8 43.0N 144.4E 0320 2.6FT/ 0.8

OFUNATO JP	39.0N 141.8E	0355	1.6FT/ 0.5M	18
NIKOLSKI AK	52.9N 168.9W	0358	2.5FT/ 0.8M	15

# NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_\_

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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# PTWC Message #6 for Guam and CNMI

ZCZC WEGM40 PHEB 251901 TSUGUM

GUZ001>004-252101-/T.CON.PHEB.TS.Y.0004.00000T0000Z-000000T0000Z/

BULLETIN
TSUNAMI MESSAGE NUMBER 6
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
501 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

## AUDIENCE

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EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO GUAM... ROTA... TINIAN AND SAIPAN OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN GUAM... ROTA... TINIAN OR SAIPAN IS

619 AM CHST ON THURSDAY MARCH 26 2015

RECOMMENDED ACTIONS

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (CHST)
MAGICIENNE BAY	SAIPAN	15.1N 145.8E	619 AM 03/26
WING BEACH	SAIPAN	15.3N 145.8E	620 AM 03/26
GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
LONG BEACH	TINIAN	15.0N 145.7E	625 AM 03/26
CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26
SAN JOSE	TINIAN	15.0N 145.6E	626 AM 03/26
ARATSU BAY	ROTA	14.1N 145.2E	628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26
SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

### POTENTIAL IMPACTS

\_\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

## PRELIMINARY EARTHQUAKE PARAMETERS

- 8.6 \* MAGNITUDE
- 100 AM CHST MAR 26 2015 \* ORIGIN TIME \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# TSUNAMI OBSERVATIONS - UPDATED

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

> GAUGE TIME OF MAXIMUM WAVE

GAUGE LOCATION	COORDINATES LAT LON	MEASURE (CHST)	TSUNAMI I HEIGHT	PERIOD (MIN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E			
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W	0235 0245 0252 0320 0345 0355	10.0FT/ 3.1N 9.5FT/ 2.9N 5.2FT/ 1.6N 2.9FT/ 0.9N 1.6FT/ 0.5N 2.3FT/ 0.7N 2.6FT/ 0.8N 1.6FT/ 0.5N 1.6FT/ 0.5N 2.5FT/ 0.8N	1 16 1 17 1 17 1 15 1 18 1 20 1 19
DUTCH HBR AK	51.1N 164.0W	0455	0.4FT/ 0.1N	

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

\$\$

## PTWC Message #7 for Guam and CNMI

ZCZC

WEGM40 PHEB 252001 TSUGUM

GUZ001>004-252201-

/T.CON.PHEB.TS.Y.0004.00000T0000Z-000000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 7

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 601 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

## AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
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- OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN GUAM... ROTA... TINIAN OR SAIPAN IS

619 AM CHST ON THURSDAY MARCH 26 2015

## RECOMMENDED ACTIONS

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- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

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LOCATION	REGION	COORDINATES	ETA(CHST)
MAGICIENNE BAY WING BEACH GARAPAN LONG BEACH CHULU BEACH OBYAN	SAIPAN	15.1N 145.8E	619 AM 03/26
	SAIPAN	15.3N 145.8E	620 AM 03/26
	SAIPAN	15.2N 145.7E	623 AM 03/26
	TINIAN	15.0N 145.7E	625 AM 03/26
	TINIAN	15.1N 145.6E	625 AM 03/26
	SAIPAN	15.1N 145.7E	625 AM 03/26
SAN JOSE ARATSU BAY	TINIAN ROTA	15.1N 145.7E 15.0N 145.6E 14.1N 145.2E	626 AM 03/26 628 AM 03/26
MOCHON BEACH	ROTA	14.2N 145.3E	628 AM 03/26
SONGSONG	ROTA	14.1N 145.1E	631 AM 03/26
PATI POINT	GUAM	13.6N 145.0E	635 AM 03/26
INARAJAN	GUAM	13.3N 144.8E	637 AM 03/26
PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

# POTENTIAL IMPACTS

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

# PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 8.6

\* ORIGIN TIME 100 AM CHST MAR 26 2015

158

\* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE			
	COORDINATES			
GAUGE LOCATION	LAT LON			
DART 21416				
DART 21415	50.2N 171.8E	0216	1.3FT/ 0.	4M 15
UST KAMCHATSK RU	56.0N 163.0E	0150	10.0FT/ 3.	1M 20
NIKOL'SKOE RU	55.2N 166.0E	0159	9.5FT/2.	9M 16
PETROPAVLOVSK RU	53.0N 158.6E	0333	5.2FT/ 1.	6M 17
SHEMYA AK	52.7N 174.1E	0235	2.9FT/ 0.	9M 17
ADAK AK	51.9N 176.6W	0245	1.6FT/ 0.	5M 15
ATKA AK	52.2N 174.2W	0252	2.3FT/ 0.	7M 18
KUSHIRO JP	43.0N 144.4E	0320	2.6FT/ 0.	8M 20
HANASAKI JP	43.3N 145.6E	0345	1.6FT/ 0.	5M 19
OFUNATO JP	39.0N 141.8E	0355	1.6FT/ 0.	5M 18
NIKOLSKI AK	52.9N 168.9W	0528	3.7FT/1.	1M 15
DUTCH HBR AK	51.1N 164.0W	0535	1.0FT/ 0.	3M 17
OMAEZAKI JP	34.6N 138.2E	0459	1.3FT/ 0.	4M 19
CHICHIJIMA JP	27.1N 142.2E	0455	1.2FT/ 0.	3M
MIDWAY US	28.2N 177.4W	0518	2.9FT/ 0.	9M 14
WAKE US	19.3N 166.6E	0540	1.6FT/ 0.	5M 14

# NEXT UPDATE AND ADDITIONAL INFORMATION

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## PTWC Message #8 for Guam and CNMI

ZCZC WEGM40 PHEB 252101 TSUGUM

GUZ001>004-252301-

/T.CON.PHEB.TS.Y.0004.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 8

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 701 AM CHST THU MAR  $26\ 2015$ 

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_

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### RECOMMENDED ACTIONS

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GARAPAN	SAIPAN	15.2N 145.7E	623 AM 03/26
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CHULU BEACH	TINIAN	15.1N 145.6E	625 AM 03/26
OBYAN	SAIPAN	15.1N 145.7E	625 AM 03/26
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PAGO BAY	GUAM	13.4N 144.8E	637 AM 03/26
APRA HARBOR	GUAM	13.5N 144.6E	642 AM 03/26

POTENTIAL IMPACTS

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## PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

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	GAUGE COORDINATES	TIME OF MEASURE	MAXIMUM TSUNAMI P	WAVE ERIOD
GAUGE LOCATION	LAT LON	(CHST)	HEIGHT	(MIN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E	0154 0216	2.6FT/ 0.8M 1.3FT/ 0.4M	
UST KAMCHATSK RU	56.0N 163.0E		10.0FT/ 3.1M	
NIKOL'SKOE RU	55.2N 166.0E	0159	·	
PETROPAVLOVSK RU	53.0N 158.6E		5.2FT/ 1.6M	
SHEMYA AK	52.7N 174.1E		·	
ADAK AK	51.9N 176.6W	0245	1.6FT/ 0.5M	_
ATKA AK	52.2N 174.2W	0252	2.3FT/ 0.7M	18
KUSHIRO JP	43.0N 144.4E	0320	2.6FT/ 0.8M	20
HANASAKI JP	43.3N 145.6E	0345	1.6FT/ 0.5M	19
OFUNATO JP	39.0N 141.8E	0355	1.6FT/ 0.5M	18
NIKOLSKI AK	52.9N 168.9W	0528	3.7FT/ 1.1M	15
DUTCH HBR AK	51.1N 164.0W	0535	1.0FT/ 0.3M	17
OMAEZAKI JP	34.6N 138.2E	0459	1.3FT/ 0.4M	19
CHICHIJIMA JP	27.1N 142.2E	0455	1.2FT/ 0.3M	
MIDWAY US	28.2N 177.4W	0518	2.9FT/ 0.9M	14
WAKE US	19.3N 166.6E	0540	1.6FT/ 0.5M	14
KODIAK AK	57.7N 152.5W		•	
TERN FR FRIGATE US			•	_

# NEXT UPDATE AND ADDITIONAL INFORMATION

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EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

\$\$

# PTWC Message #9 for Guam and CNMI

ZCZC WEGM40 PHEB 252201 TSUGUM

GUZ001>004-260001-/T.CON.PHEB.TS.Y.0004.00000T0000Z-000000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 9 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 801 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI..

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
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  OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN
  HARBORS... AND IN COASTAL WATERS.

### RECOMMENDED ACTIONS

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- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

### POTENTIAL IMPACTS

-----

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
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PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# TSUNAMI OBSERVATIONS - UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	MEASURE	TSUNAMI	PERIOD
DART 21416 DART 21415				
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU SEWARD AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E 27.1N 142.2E 28.2N 177.4W 19.3N 166.6E 57.7N 152.5W 23.9N 166.3W 59.5N 139.7W 13.4N 144.8E 60.1N 149.4W	0150 0159 0333 0235 0245 0252 0325 0345 0355 0528 0535 0459 0455 0518 0540 0652 0625 0730 0705 0752	10.0FT/ 3. 9.5FT/ 2. 5.2FT/ 1. 2.9FT/ 0. 1.6FT/ 0. 2.3FT/ 0. 1.6FT/ 0. 1.6FT/ 0. 3.7FT/ 1. 1.0FT/ 0. 1.3FT/ 0. 1.2FT/ 0. 2.9FT/ 0. 1.6FT/ 0. 3.7FT/ 1. 1.7FT/ 0. 3.0FT/ 0. 3.0FT/ 0. 3.0FT/ 0. 3.7FT/ 0. 3.0FT/ 0.	1M 20 9M 16 6M 17 9M 17 5M 15 7M 18 8M 20 5M 19 5M 18 1M 15 3M 17 4M 19 3M 9M 14 5M 14 1M 18 9M 14 1M 18 9M 14 1M 18 9M 14 1M 20
HALEIWA HI HONOLULU HI	22.2N 159.5W 21.9N 159.4W 21.6N 158.1W 21.3N 157.9W 7.0N 158.2E 19.7N 155.0W	0730 0725 0735 0724	2.7FT/ 0. 3.6FT/ 1. 1.3FT/ 0. 1.0FT/ 0.	8M 17 1M 15 4M 19 3M 13

# NEXT UPDATE AND ADDITIONAL INFORMATION

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## PTWC Message #10 for Guam and CNMI

ZCZC

WEGM40 PHEB 252201

TSUGUM

GUZ001>004-260001-

/T.CON.PHEB.TS.Y.0004.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 9

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 801 AM CHST THU MAR 26 2015

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#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

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### RECOMMENDED ACTIONS

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## POTENTIAL IMPACTS

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## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 100 AM CHST MAR 26 2015
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\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

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DART 21416 DART 21415	48.0N 163.5E	0154	2.6FT/ 0.	8M 14
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU	55.2N 166.0E	0159 0333	9.5FT/ 2.	9M 16
SHEMYA AK ADAK AK ATKA AK	52.7N 174.1E 51.9N 176.6W	0235	2.9FT/ 0. 1.6FT/ 0.	9M 17 5M 15
KUSHTRO JP	43.0N 144.4E	0.320	2.6FT/ 0.	8M 2.0
HANASAKI JP OFUNATO JP NIKOLSKI AK	39.0N 141.8E 52.9N 168.9W	0355	1.6FT/ 0. 3.7FT/ 1.	5M 18 1M 15
DUTCH HBR AK	51.1N 164.0W	0535	1.0FT/ 0.	3M 17
CHICHIJIMA JP MIDWAY US WAKE US	28.2N 177.4W	0518	2.9FT/ 0.	9M 14
WAKE US KODIAK AK TERN FR FRIGATE US	57.7N 152.5W 23.9N 166.3W	0652 0625	0.4FT/ 0. 3.0FT/ 0.	1M 18 9M 14
YAKUTAT AK PAGO BAY GU	59.5N 139.7W 13.4N 144.8E	0730	0.4FT/ 0. 1.7FT/ 0.	1M 5M 17
SEWARD AK HANALEI HI				
NAWILIWILI HI HALEIWA HI HONOLULU HI	01 CN 150 1M	0705	2 ( / 1	114 15
HALEIWA HI HONOLULU HI DEKEHTIK FM HILO HI	7.0N 158.2E 19.7N 155.0W	0724	1.0FT/ 0. 4.3FT/ 1.	3M 13 3M 18

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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# PTWC Message #11 for Guam and CNMI

 $Z\,C\,Z\,C$ 

WEGM40 PHEB 260001 TSUGUM

GUZ001>004-260201-

/T.CON.PHEB.TS.Y.0004.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 11 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1001 AM CHST THU MAR 26 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR GUAM AND CNMI...

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO GUAM... ROTA... TINIAN AND SAIPAN OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.

## RECOMMENDED ACTIONS

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- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.

### POTENTIAL IMPACTS

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- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD BEGAN AROUND 619 AM CHST ON THURSDAY MARCH 26 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (CHST)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
DART 21416 DART 21415	48.0N 163.5E	0154	2.6FT/ 0.	8M 14
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E	0159 0333 0235 0245 0252 0320	9.5FT/ 2. 5.2FT/ 1. 2.9FT/ 0. 1.6FT/ 0. 2.3FT/ 0. 1.6FT/ 0.	9M 16 6M 17 9M 17 5M 15 7M 18 8M 20 5M 19
OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US WAKE US				
CHICHIJIMA JP MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU SEWARD AK HANALEI HI NAWILIWILI HI	57.7N 152.5W 23.9N 166.3W 59.5N 139.7W 13.4N 144.8E 60.1N 149.4W 22.2N 159.5W 21.9N 159.4W	0652 0625 0730 0705 0752 0710 0730	0.4FT/ 0.3.0FT/ 0.0.4FT/ 0.1.7FT/ 0.3FT/ 0.3.3FT/ 1.2.7FT/ 0.	1M 18 9M 14 1M 5M 17 1M 20 0M 16 8M 17
HALEIWA HI HONOLULU HI DEKEHTIK FM HILO HI	21.6N 158.1W 21.3N 157.9W 7.0N 158.2E 19.7N 155.0W	0725 0735 0724 0750	3.6FT/ 1. 1.3FT/ 0. 1.0FT/ 0. 4.3FT/ 1.	1M 15 4M 19 3M 13 3M 18
NAURU NR BETIO TARAWA KI MANUS PG KANTON KI WESTPORT WA FUNAFUTI TV CRESCENT CITY CA	2.8S 171.7W 46.9N 124.1W 8.5S 179.2E 41.7N 124.2W	0921 0933 0955 0956	0.4FT/ 0. 0.6FT/ 0. 0.3FT/ 0. 2.3FT/ 0.	1M 13 2M 1M 7M

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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# PTWC Message #12 for Guam and CNMI

ZCZC

WEGM40 PHEB 260101

TSUGUM

GUZ001>004-260301-

/T.CAN.PHEB.TS.Y.0004.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 12

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  $1101\ \text{AM}\ \text{CHST}\ \text{THU}\ \text{MAR}\ 26\ 2015$ 

...THE TSUNAMI ADVISORY IS NOW CANCELED FOR GUAM AND CNMI...

THIS MESSAGE CONTAINS REVISED ALERT LEVELS.

### AUDIENCE

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EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

#### \_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 100 AM CHST ON THURSDAY MARCH 26 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS NO FURTHER TSUNAMI THREAT TO GUAM... ROTA... TINIAN OR SAIPAN FROM THIS EARTHQUAKE ALTHOUGH MINOR SEA LEVEL FLUCTUATIONS MAY CONTINUE.

### RECOMMENDED ACTIONS

### \_\_\_\_\_

- \* FOLLOW INSTRUCTIONS AS THEY ARE GIVEN BY GOVERNMENT AGENCIES.
- \* BE OBSERVANT AND EXERCISE NORMAL CAUTION IF YOU ARE NEAR OR IN THE OCEAN.
- \* OTHERWISE... NO FURTHER ACTION IS REQUIRED.

### POTENTIAL IMPACTS

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\* MINOR SEA LEVEL FLUCTUATIONS OF UP TO 1 FOOT ABOVE AND BELOW THE TIDE LEVEL MAY CONTINUE OVER THE NEXT FEW HOURS.

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.6

\* ORIGIN TIME 100 AM CHST MAR 26 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	COORDINATES LAT LON	MEASURE (CHST)	MAXIMUM TSUNAMI HEIGHT	PERIOD (MIN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E	0154 0216	2.6FT/ 0.8 1.3FT/ 0.4	8M 14 4M 15
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK	53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E	0333 0235 0245 0252 0320 0345 0355	5.2FT/ 1.0 2.9FT/ 0.0 1.6FT/ 0.0 2.3FT/ 0.0 2.6FT/ 0.0 1.6FT/ 0.0	6M 17 9M 17 5M 15 7M 18 8M 20 5M 19 5M 18
WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU	19.3N 166.6E 57.7N 152.5W 23.9N 166.3W 59.5N 139.7W	0540 0652 0625 0730	1.6FT/ 0.1 0.4FT/ 0.1 3.0FT/ 0.1 0.4FT/ 0.1	5M 14 1M 18 9M 14 1M
PAGO BAY GU SEWARD AK HANALEI HI NAWILIWILI HI HALEIWA HI	13.4N 144.8E 60.1N 149.4W 22.2N 159.5W 21.9N 159.4W 21.6N 158.1W 21.3N 157.9W	0705 0752 0710 0730 0725	1.7FT/ 0.3 0.3FT/ 0.3 3.3FT/ 1.0 2.7FT/ 0.8 3.6FT/ 1.1	17 1M 20 0M 16 8M 17 1M 15
DEKEHTIK FM HILO HI NAURU NR BETIO TARAWA KI MANUS PG KANTON KI WESTPORT WA FUNAFUTI TV CRESCENT CITY CA	19.7N 155.0W 0.5S 166.9E 1.4N 172.9E 2.0S 147.4E 2.8S 171.7W 46.9N 124.1W 8.5S 179.2E	0750 0836 0848 0920 0921 0933 0955	4.3FT/ 1.0 0.7FT/ 0.0 0.7FT/ 0.0 1.0FT/ 0.0 0.4FT/ 0.0 0.6FT/ 0.0	3M 18 2M 15 2M 16 3M 1M 13 2M
CRESCENT CITY CA ENSENADA MX LATA WHARF SB LOS ANGELES CA APIA WS PAGO PAGO AS	41.7N 124.2W 31.8N 116.6W 10.7S 165.8E 33.7N 118.3W 13.8S 171.8W 14.3S 170.7W	0956 1012 1025 1054 1055 1052	2.3FT/ 0.7 1.6FT/ 0.7 1.4FT/ 0.7 0.6FT/ 0.7 1.3FT/ 0.7	7M 5M 14 4M 12 2M 4M 14 3M

# NEXT UPDATE AND ADDITIONAL INFORMATION

<sup>\*</sup> THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.

<sup>\*</sup> FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

<sup>\*</sup> AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

# PTWC Message #1 for American Samoa

ZCZC WEZS42 PHEB 251506 TIBPPG

TSUNAMI INFORMATION STATEMENT NUMBER 1 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 406 AM SST WED MAR 25 2015

... POSSIBLE TSUNAMI THREAT FROM A DISTANT EARTHQUAKE...

### AUDIENCE

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.1 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* THE TSUNAMI THREAT TO AMERICAN SAMOA FROM THIS EARTHQUAKE IS STILL UNDER INVESTIGATION.

### RECOMMENDED ACTIONS

\* STAY ALERT FOR FURTHER INFORMATION. THERE IS THE POSSIBILITY THAT A TSUNAMI WATCH... ADVISORY... OR WARNING COULD BE ISSUED LATER FOR AMERICAN SAMOA.

### POTENTIAL IMPACTS

\_\_\_\_\_\_

- \* POTENTIAL TSUNAMI IMPACTS ARE STILL BEING EVALUATED.
- IF THERE IS A TSUNAMI THREAT TO AMERICAN SAMOA... THE EARLIEST IMPACTS WOULD BE AROUND 119 PM SST ON WEDNESDAY MARCH 25 2015.

## PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 8.1 \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE

INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

\* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #2 for American Samoa

ZCZC WEZS42 PHEB 251531 TIBPPG

TSUNAMI INFORMATION STATEMENT NUMBER 2 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 431 AM SST WED MAR 25 2015

... POSSIBLE TSUNAMI THREAT FROM A DISTANT EARTHQUAKE...

THIS MESSAGE REVISES THE EARTHQUAKE MAGNITUDE UPWARD.

#### AUDIENCE

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EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

-----

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* THE TSUNAMI THREAT TO AMERICAN SAMOA FROM THIS EARTHQUAKE IS STILL UNDER INVESTIGATION.

### RECOMMENDED ACTIONS

-----

\* STAY ALERT FOR FURTHER INFORMATION. THERE IS THE POSSIBILITY THAT A TSUNAMI WATCH... ADVISORY... OR WARNING COULD BE ISSUED LATER FOR AMERICAN SAMOA.

### POTENTIAL IMPACTS

-----

- \* POTENTIAL TSUNAMI IMPACTS ARE STILL BEING EVALUATED.
- \* IF THERE IS A TSUNAMI THREAT TO AMERICAN SAMOA... THE EARLIEST IMPACTS WOULD BE AROUND 119 PM SST ON WEDNESDAY MARCH 25 2015.

### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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# PTWC Message #3 for American Samoa

ZCZC WEZS40 PHEB 251604 TSUPPG

ASZ001>003-251804-/T.NEW.PHEB.TS.Y.0008.150325T1604Z-000000T0000Z/

BULLETIN
TSUNAMI MESSAGE NUMBER 3
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
504 AM SST WED MAR 25 2015

... A TSUNAMI ADVISORY IS NOW IN EFFECT FOR AMERICAN SAMOA...

IN THIS MESSAGE ARE REVISED ALERTS.

# AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

### RECOMMENDED ACTIONS

\_\_\_\_\_

\* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR

THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.

\* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (SST)
LOCATION	REGION  SWAINS TUTUILA MANUA MANUA	COORDINATES  11.1S 171.1W 14.3S 170.7W 14.2S 170.7W 14.3S 170.6W 14.3S 170.6W 14.3S 170.7W 14.3S 170.7W 14.3S 170.8W 14.3S 170.7W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.6W	ETA(SST)
AUNUU ISLAND TAU ISLAND	AUNUU MANUA	14.3S 170.6W 14.3S 169.5W	148 PM 03/25 151 PM 03/25

# POTENTIAL IMPACTS

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- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE
- 8.6 400 AM SST MAR 25 2015 53.5 NORTH 162.0 EAST \* ORIGIN TIME \* COORDINATES
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### TSUNAMI OBSERVATIONS

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(SST)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	0454	2.6FT/ 0	.8M 14
UST KAMCHATSK RU	56.0N 163.0E	0450	10.0FT/ 3	.1M 20
PETROPAVLOVSK RU	53.0N 158.6E	0451	3.5FT/ 1	.1M 20

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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# PTWC Message #4 for American Samoa

ZCZC WEZS40 PHEB 251705 TSUPPG

ASZ001>003-251905-/T.NEW.PHEB.TS.Y.0008.150325T1705Z-000000T0000Z/

### BULLETIN

TSUNAMI MESSAGE NUMBER 4

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 605 AM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

IN THIS MESSAGE ARE REVISED ALERTS.

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

### 119 PM SST ON WEDNESDAY MARCH 25 2015

# RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

-----

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND	SWAINS	11.1s 171.1W	119 PM 03/25
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM 03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM 03/25
MASEFAU	TUTUILA	14.3S 170.6W	143 PM 03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM 03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM 03/25
AMANAVE	TUTUILA	14.3S 170.7W	145 PM 03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM 03/25
LEONE	TUTUILA	14.3S 170.7W	145 PM 03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGASA	TUTUILA	14.3S 170.3W	145 PM 03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM 03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM 03/25
TULA	TUTUILA	14.25 105.7W	148 PM 03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM 03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM 03/25

### POTENTIAL IMPACTS

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- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

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\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(SST)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	0454	2.6FT/ (	
DART 21415	50.2N 171.8E	0516	1.3FT/ (	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W	0450 0459 0451 0535 0545 0552	10.0FT/ 3 9.5FT/ 3 3.5FT/ 3 2.9FT/ ( 1.6FT/ ( 2.3FT/ (	2.9M 16 1 1M 20 0.9M 17 0.5M 15

# NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_\_

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHOUAKE.USGS.GOV/EARTHOUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #5 for American Samoa

ZCZC

WEZS40 PHEB 251805 TSUPPG

ASZ001>003-252005-

/T.CON.PHEB.TS.Y.0008.00000T0000Z-000000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 5

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 705 AM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

## EVALUATION

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\* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY

MARCH 25 2015.

- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

# RECOMMENDED ACTIONS

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND	SWAINS	11.1S 171.1W	119 PM 03/25
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM 03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM 03/25
MASEFAU	TUTUILA	14.3S 170.6W	143 PM 03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM 03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM 03/25
AMANAVE	TUTUILA	14.3S 170.8W	145 PM 03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM 03/25
LEONE	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGASA	TUTUILA	14.3S 170.7W	145 PM 03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM 03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM 03/25
TULA	TUTUILA	14.3S 170.6W	148 PM 03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM 03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM 03/25

# POTENTIAL IMPACTS

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

# PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

# TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON		MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E		2.6FT/ 0.8 1.3FT/ 0.4	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E	0450 0459 0633	10.0FT/ 3.1 9.5FT/ 2.9 5.2FT/ 1.6	M 16
SHEMYA AK ADAK AK ATKA AK	52.7N 174.1E 51.9N 176.6W 52.2N 174.2W	0535 0545 0552	2.9FT/ 0.9 1.6FT/ 0.5 2.3FT/ 0.7	9M 17 5M 15
KUSHIRO JP HANASAKI JP	43.0N 144.4E 43.3N 145.6E	0620 0645	2.6FT/ 0.8 1.6FT/ 0.5	BM 20 BM 19
OFUNATO JP NIKOLSKI AK	39.0N 141.8E 52.9N 168.9W	0655 0658	1.6FT/ 0.5 2.5FT/ 0.8	_

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

\$\$

## PTWC Message #6 for American Samoa

ZCZC WEZS40 PHEB 251901 TSUPPG

ASZ001>003-252101-

/T.CON.PHEB.TS.Y.0008.00000T0000Z-000000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 6

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

801 AM SST WED MAR 25 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

#### RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (SS	ST)
SWAINS ISLAND	SWAINS	11.1S 171.1W	119 PM	03/25
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM	03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM	03/25
MASEFAU	TUTUILA	14.3S 170.6W	143 PM	03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM	03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM	03/25
AMANAVE	TUTUILA	14.3S 170.8W	145 PM	03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM	03/25
LEONE	TUTUILA	14.3S 170.8W	145 PM	03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM	03/25
FAGASA	TUTUILA	14.3S 170.7W	145 PM	03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM	03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM	03/25
TULA	TUTUILA	14.3S 170.6W	148 PM	03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM	03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM	03/25

# POTENTIAL IMPACTS

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- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

## PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

-----

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
	LAT LON	(SST)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	0454	2.6FT/ 0.	
DART 21415	50.2N 171.8E	0516	1.3FT/ 0.	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E	0450 0459 0633 0535 0545 0552 0620 0645	10.0FT/ 3. 9.5FT/ 2. 5.2FT/ 1. 2.9FT/ 0. 1.6FT/ 0. 2.3FT/ 0. 2.6FT/ 0. 1.6FT/ 0.	9M 16 6M 17 9M 17 5M 15 7M 18 8M 20
OFUNATO JP	39.0N 141.8E	0655	· · · · · · · · · · · · · · · · · · ·	5M 18
NIKOLSKI AK	52.9N 168.9W	0658		8M 15
DUTCH HBR AK	51.1N 164.0W	0755		1M 17

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
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- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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### PTWC Message #7 for American Samoa

ZCZC

WEZS40 PHEB 252001 TSUPPG

ASZ001>003-252201-

/T.CON.PHEB.TS.Y.0008.00000T0000Z-00000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 7 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 901 AM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

### RECOMMENDED ACTIONS

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- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

#### ESTIMATED TIMES OF ARRIVAL

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\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND	SWAINS	11.1S 171.1W	119 PM 03/25

PAGO PAGO	TUTUILA	14.3S 170.7W	1/12	DM	03/25
VATIA	TUTUILA	14.2S 170.7W	143	PM	03/25
MASEFAU	TUTUILA	14.3S 170.6W	143	PM	03/25
PAGAI	TUTUILA	14.3S 170.6W	143	PM	03/25
AUMI	TUTUILA	14.3S 170.7W	143	PM	03/25
AMANAVE	TUTUILA	14.3S 170.8W	145	PM	03/25
TAFUNA	TUTUILA	14.3S 170.7W	145	PM	03/25
LEONE	TUTUILA	14.3S 170.8W	145	PM	03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145	PM	03/25
FAGASA	TUTUILA	14.3S 170.7W	145	PM	03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148	PM	03/25
OFU ISLAND	MANUA	14.2S 169.7W	148	PM	03/25
TULA	TUTUILA	14.3S 170.6W	148	PM	03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148	PM	03/25
TAU ISLAND	MANUA	14.3S 169.5W	151	PM	03/25

## POTENTIAL IMPACTS

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE
- 8.6 400 AM SST MAR 25 2015 53.5 NORTH 162.0 FACT \* ORIGIN TIME \* COORDINATES
- \* DEPTH 19 MILES
- OFF THE EAST COAST OF KAMCHATKA RUSSIA \* LOCATION

# TSUNAMI OBSERVATIONS - UPDATED

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (SST)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E			-
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W	0450 0459 0633 0535 0545 0552 0620 0645 0655	10.0FT/ 3. 9.5FT/ 2. 5.2FT/ 1. 2.9FT/ 0. 1.6FT/ 0. 2.3FT/ 0. 2.6FT/ 0. 1.6FT/ 0. 3.7FT/ 1.	.9M 16 .6M 17 .9M 17 .5M 15 .7M 18 .8M 20 .5M 19 .5M 18

DUTCH HBR AK	51.1N	164.0W	0835	1.0FT/	0.3M	17
OMAEZAKI JP	34.6N	138.2E	0759	1.3FT/	0.4M	19
CHICHIJIMA JP	27.1N	142.2E	0755	1.2FT/	0.3M	
MIDWAY US	28.2N	177.4W	0818	2.9FT/	0.9M	14
WAKE US	19.3N	166.6E	0840	1.6FT/	0.5M	14

# NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #8 for American Samoa

ZCZC WEZS40 PHEB 252101 TSUPPG

ASZ001>003-252301-/T.CON.PHEB.TS.Y.0008.00000T0000Z-00000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 8
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1001 AM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
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- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

## ESTIMATED TIMES OF ARRIVAL

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HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND PAGO PAGO VATIA MASEFAU PAGAI AUMI AMANAVE TAFUNA LEONE FAGAMALO FAGASA OLESEGA ISLAND OFU ISLAND TULA	SWAINS TUTUILA MANUA MANUA TUTUILA	11.1S 171.1W 14.3S 170.7W 14.2S 170.7W 14.3S 170.6W 14.3S 170.6W 14.3S 170.7W 14.3S 170.7W 14.3S 170.7W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.8W 14.3S 170.7W 14.3S 170.7W 14.3S 170.7W 14.3S 170.7W	119 PM 03/25 143 PM 03/25 143 PM 03/25 143 PM 03/25 143 PM 03/25 143 PM 03/25 145 PM 03/25 148 PM 03/25 148 PM 03/25
AUNUU ISLAND TAU ISLAND	AUNUU MANUA	14.3S 170.6W 14.3S 169.5W	148 PM 03/25 151 PM 03/25

### POTENTIAL IMPACTS

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- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

#### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE 8.6

\* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST

\* DEPTH 19 MILES

\* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS.

THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	MEASURE	TSUNAMI P	
DART 21416 DART 21415			·	
OMAEZAKI JP CHICHIJIMA JP MIDWAY US	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E 27.1N 142.2E 28.2N 177.4W	0459 0633 0535 0545 0552 0620 0645 0655 0828 0835 0759 0755 0818	9.5FT/ 2.9M 5.2FT/ 1.6M 2.9FT/ 0.9M 1.6FT/ 0.5M 2.3FT/ 0.7M 2.6FT/ 0.8M 1.6FT/ 0.5M 3.7FT/ 1.1M 1.0FT/ 0.3M 1.3FT/ 0.4M 1.2FT/ 0.3M 2.9FT/ 0.9M	1 16 1 17 1 17 1 15 1 18 1 20 1 19 1 18 1 15 1 17 1 19
WAKE US KODIAK AK TERN FR FRIGATE US		0952	1.6FT/ 0.5M 0.4FT/ 0.1M 3.0FT/ 0.9M	18

## NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #9 for American Samoa

ZCZC WEZS40 PHEB 252201 TSUPPG

ASZ001>003-260001-/T.CON.PHEB.TS.Y.0008.00000T0000Z-000000T0000Z/

BULLETIN

TSUNAMI MESSAGE NUMBER 9

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 1101 AM SST WED MAR 25 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

#### \_\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

#### RECOMMENDED ACTIONS

#### -----

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

## ESTIMATED TIMES OF ARRIVAL

\_\_\_\_\_\_

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND	SWAINS	11.1S 171.1W	119 PM 03/25
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM 03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM 03/25
MASEFAU	TUTUILA	14.3S 170.6W	143 PM 03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM 03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM 03/25
AMANAVE	TUTUILA	14.3S 170.8W	145 PM 03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM 03/25
LEONE	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGASA	TUTUILA	14.3S 170.7W	145 PM 03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM 03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM 03/25
TULA	TUTUILA	14.3S 170.6W	148 PM 03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM 03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM 03/25

#### POTENTIAL IMPACTS

#### \_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.

- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

## PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_\_

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (SST)	TSUNAMI PER	AVE IOD IN)
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E		2.6FT/ 0.8M 1.3FT/ 0.4M	14 15
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E	0459 0633 0535 0545 0552 0620 0645 0655 0828 0835 0759	9.5FT/ 2.9M 5.2FT/ 1.6M 2.9FT/ 0.9M 1.6FT/ 0.5M 2.3FT/ 0.7M 2.6FT/ 0.8M 1.6FT/ 0.5M 1.6FT/ 0.5M 3.7FT/ 1.1M 1.0FT/ 0.3M	20 16 17 17 15 18 20 19 18 15 17
MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU SEWARD AK HANALEI HI NAWILIWILI HI HALEIWA HI HONOLULU HI DEKEHTIK FM HILO HI	19.3N 166.6E 57.7N 152.5W 23.9N 166.3W 59.5N 139.7W 13.4N 144.8E 60.1N 149.4W 22.2N 159.5W 21.9N 159.4W 21.6N 158.1W 21.3N 157.9W	0840 0952 0925 1030 1005 1052 1010 1030 1025 1035	1.6FT/ 0.5M 0.4FT/ 0.1M 3.0FT/ 0.9M 0.4FT/ 0.1M 1.7FT/ 0.5M 0.3FT/ 0.1M 3.3FT/ 1.0M 2.7FT/ 0.8M 3.6FT/ 1.1M 1.3FT/ 0.4M 1.0FT/ 0.3M	14 14 18 14 17 20 16 17 15 19 13

## NEXT UPDATE AND ADDITIONAL INFORMATION

<sup>\*</sup> THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

<sup>\*</sup> FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE

INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

\* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #10 for American Samoa

ZCZC WEZS40 PHEB 252301 TSUPPG

ASZ001>003-260101-/T.CON.PHEB.TS.Y.0008.00000T0000Z-000000T0000Z/

BULLETIN
TSUNAMI MESSAGE NUMBER 10
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1201 PM SST WED MAR 25 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

-----

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

#### RECOMMENDED ACTIONS

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- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

## ESTIMATED TIMES OF ARRIVAL

-----

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF

WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (SST)
SWAINS ISLAND	SWAINS	11.1s 171.1W	·
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM 03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM 03/25
MASEFAU	TUTUILA	14.3S 170.6W	143 PM 03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM 03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM 03/25
AMANAVE	TUTUILA	14.3S 170.8W	145 PM 03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM 03/25
LEONE	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGASA	TUTUILA	14.3S 170.7W	145 PM 03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM 03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM 03/25
TULA	TUTUILA	14.3S 170.6W	148 PM 03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM 03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM 03/25

#### POTENTIAL IMPACTS

\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### TSUNAMI OBSERVATIONS - UPDATED

-----

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT LON	(SST)	HEIGHT	(MIN)
DART 21416	48.0N 163.5E	0454	2.6FT/ 0.	-
DART 21415	50.2N 171.8E	0516	1.3FT/ 0.	
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK	56.0N 163.0E 55.2N 166.0E 53.0N 158.6E 52.7N 174.1E	0450 0459 0633 0535	10.0FT/ 3. 9.5FT/ 2. 5.2FT/ 1. 2.9FT/ 0.	9M 16 6M 17

ADAK AK	51.9N	176.6W	0545	1.6FT/	0.5M	15
ATKA AK	52.2N	174.2W	0552	2.3FT/	0.7M	18
KUSHIRO JP	43.0N	144.4E	0620	2.6FT/	0.8M	20
HANASAKI JP		145.6E	0645	1.6FT/		19
OFUNATO JP		141.8E	0655	1.6FT/		18
NIKOLSKI AK		168.9W	0828	3.7FT/		15
		164.0W				17
DUTCH HBR AK			0835	1.0FT/		
OMAEZAKI JP		138.2E	0759	1.3FT/		19
CHICHIJIMA JP	27.1N	142.2E	0755	1.2FT/	0.3M	
MIDWAY US	28.2N	177.4W	0818	2.9FT/	0.9M	14
WAKE US	19.3N	166.6E	0840	1.6FT/	0.5M	14
KODIAK AK	57.7N	152.5W	0952	0.4FT/	0.1M	18
TERN FR FRIGATE US	23.9N	166.3W	0925	3.0FT/	0.9M	14
YAKUTAT AK	59.5N	139.7W	1030	0.4FT/	0.1M	
PAGO BAY GU	13.4N	144.8E	1005	1.7FT/	0.5M	17
SEWARD AK	60.1N	149.4W	1052	0.3FT/	0.1M	20
HANALEI HI	22.2N	159.5W	1010	3.3FT/	1.0M	16
NAWILIWILI HI	21.9N	159.4W	1030	2.7FT/	0.8M	17
HALEIWA HI	21.6N	158.1W	1025	3.6FT/	1.1M	15
HONOLULU HI	21.3N	157.9W	1035	1.3FT/	0.4M	19
DEKEHTIK FM	7.0N	158.2E	1024	1.0FT/	0.3M	13
HILO HI	19.7N	155.0W	1050	4.3FT/	1.3M	18
NAURU NR	0.58	166.9E	1136	0.7FT/	0.2M	15
BETIO TARAWA KI	1.4N	172.9E	1148	0.7FT/	0.2M	16

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #11 for American Samoa

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ZCZC
WEZS40 PHEB 060001
TSUPPG
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ASZ001>003-060201-

/T.CON.PHEB.TS.Y.0008.00000T0000Z-00000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 11 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 101 PM SST THU MAR 05 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

EVALUATION ----

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE EARLIEST ESTIMATED TIME THAT HAZARDOUS SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS MAY BEGIN IN AMERICAN SAMOA IS

119 PM SST ON WEDNESDAY MARCH 25 2015

## RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

# ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(SST)
SWAINS ISLAND	SWAINS	11.1S 171.1W	119 PM 03/25
PAGO PAGO	TUTUILA	14.3S 170.7W	143 PM 03/25
VATIA	TUTUILA	14.2S 170.7W	143 PM 03/25
MASEFAU	TUTUILA	14.3s 170.6W	143 PM 03/25
PAGAI	TUTUILA	14.3S 170.6W	143 PM 03/25
AUMI	TUTUILA	14.3S 170.7W	143 PM 03/25
AMANAVE	TUTUILA	14.3S 170.8W	145 PM 03/25
TAFUNA	TUTUILA	14.3S 170.7W	145 PM 03/25
LEONE	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGAMALO	TUTUILA	14.3S 170.8W	145 PM 03/25
FAGASA	TUTUILA	14.3S 170.7W	145 PM 03/25
OLESEGA ISLAND	MANUA	14.2S 169.6W	148 PM 03/25
OFU ISLAND	MANUA	14.2S 169.7W	148 PM 03/25
TULA	TUTUILA	14.3S 170.6W	148 PM 03/25
AUNUU ISLAND	AUNUU	14.3S 170.6W	148 PM 03/25
TAU ISLAND	MANUA	14.3S 169.5W	151 PM 03/25

## POTENTIAL IMPACTS

\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.

\* THE HAZARD IS FORECAST TO BEGIN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

#### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_\_

- \* MAGNITUDE 8.6
- \* MAGNITUDE 8.6

  \* ORIGIN TIME 400 AM SST MAR 25 2015

  \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

### TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE		TIME OF	MAXIMUM	WAVE
	COORDI	NATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT	LON	(SST)	HEIGHT	(MIN)
DART 21416					
DART 21415	50.2N	171.8E	0516	1.3FT/ 0.	4M 15
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP	56 ON	163 OE	0450	10 OFT/ 3	1M 20
NIKOL'SKOE RII	55 2N	166 OE	0459	9 5FT/ 2	9M 16
PETROPAVLOVSK RU	53.0N	158.6E	0633	5.2FT/ 1.	6M 17
SHEMYA AK	52.7N	174.1E	0535	2.9FT/ 0.	9M 17
ADAK AK	51.9N	176.6W	0545	1.6FT/ 0.	5M 15
ATKA AK	52.2N	174.2W	0552	2.3FT/ 0.	7M 18
KUSHIRO JP	43.0N	144.4E	0620	2.6FT/ 0.	8M 20
HANASAKI JP	43.3N	145.6E	0645	1.6FT/ 0.	5M 19
OFUNATO JP	39.0N	141.8E	0655	1.6FT/ 0.	5M 18
NIKOLSKI AK	52.9N	168.9W	0828	3.7FT/ 1.	1M 15
DUTCH HBR AK	51.1N	164.0W	0835	1.0FT/ 0.	3M 17
OMAEZAKI JP	34.6N	138.2E	0759	1.3FT/ 0.	4M 19
CHICHIJIMA JP	27.1N	142.2E	0755	1.2FT/ 0.	3M
MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU	28.2N	177.4W	0818	2.9FT/ 0.	9M 14
WAKE US	19.3N	166.6E	0840	1.6FT/ 0.	5M 14
KODIAK AK	57.7N	152.5W	0952	0.4FT/ 0.	1M 18
TERN FR FRIGATE US	23.9N	166.3W	0925	3.0FT/ 0.	9M 14
YAKUTAT AK	59.5N	139.7W	1030	0.4FT/ 0.	1M
PAGO BAY GU	13.4N	144.8E	1005	1.7FT/ 0.	5M 17
SEWARD AK	60.1N	149.4W	1052	0.3FT/0.	1M 20
HANALEI HI	22.2N	159.5W	1010	3.3FT/1.	0M 16
NAWILIWILI HI	21.9N	159.4W	1030	2.7FT/ 0.	8M 17
PAGO BAY GU SEWARD AK HANALEI HI NAWILIWILI HI HALEIWA HI HONOLULU HI DEKEHTIK FM HILO HI NAURU NR	21.6N	158.1W	1025	3.6FT/ 1.	1M 15
HONOLULU HI	21.3N	157.9W	1035	1.3FT/ 0.	4M 19
DEKEHTIK FM	7.0N	158.2E	1024	1.0FT/ 0.	3M 13
HILO HI	19.7N	155.0W	1050	4.3FT/ 1.	3M 18
NAURU NR	0.58	166.9E	1136	0.7FT/ 0.	2M 15
MANUS PG	2.08	147.4E	1220	1.011/ 0.	3M
MANUS PG KANTON KI WESTPORT WA FUNAFUTI TV CRESCENT CITY CA	2.85	1/1./W	1221	0.4 F'T'/ 0.	1M 13
WESTPORT WA	46.9N	124.1W	1233	U.6FT/ U.	∠M 1.76
FUNAFUTI TV	8.5S	1/9.2E	1255	U.3FT/ U.	I M
CRESCENT CITY CA	41./N	124.2W	1256	∠.3FT/ 0.	/ M

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #12 for American Samoa

ZCZC WEZS40 PHEB 260101 TSUPPG

ASZ001>003-260301-/T.CON.PHEB.TS.Y.0009.150326T0101Z-000000T0000Z/

BULLETIN
TSUNAMI MESSAGE NUMBER 12
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
201 PM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

-----

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* A TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE TSUNAMI IS NOW IMPACTING ALL COASTS OF AMERICAN SAMOA

#### RECOMMENDED ACTIONS

-----

- \* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.
- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

### POTENTIAL IMPACTS

\_\_\_\_\_

\* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.

- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD BEGAN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

#### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### TSUNAMI OBSERVATIONS - UPDATED

-----

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

	GAUGE	TIME OF	TIME OF MAXIMUM		WAVE	
	COORDINA	TES MEASURE	TSUNAMI	î PE	PERIOD	
GAUGE LOCATION	LAT L	ON (SST)	HEIGHT	? (	MIN)	
DART 21416	48.0N 16	3.5E 0454	 2.6FT/	0.8M	1 4	
DART 21415						
UST KAMCHATSK RU NIKOL'SKOE RU PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK	56.0N 16	3.0E 0450	10.0FT/	3.1M	20	
NIKOL'SKOE RU	55.2N 16	6.0E 0459	9.5FT/	2.9M	16	
PETROPAVLOVSK RU	53.0N 15	8.6E 0633	5.2FT/	1.6M	17	
SHEMYA AK	52.7N 17	4.1E 0535	2.9FT/	0.9M	17	
ADAK AK	51.9N 17	6.6W 0545	1.6FT/	0.5M	15	
ATKA AK	52.2N 17	4.2W 0552	2.3FT/	0.7M	18	
KUSHIRO JP	43.0N 14	4.4E 0620	2.6FT/	0.8M	20	
HANASAKI JP	43.3N 14	5.6E 0645	1.6FT/	0.5M	19	
OFUNATO JP	39.0N 14	1.8E 0655	1.6FT/	0.5M	18	
NIKOLSKI AK	52.9N 16	8.9W 0828	3.7FT/	1.1M	15	
DUTCH HBR AK	51.1N 16	4.0W 0835	1.0FT/	0.3M	17	
KUSHIRO JP HANASAKI JP OFUNATO JP NIKOLSKI AK DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US WAKE US KODIAK AK TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU SEWARD AK HANALEI HI	34.6N 13	8.2E 0759	1.3FT/	0.4M	19	
CHICHIJIMA JP	27.1N 14	2.2E 0755	1.2FT/	0.3M		
MIDWAY US	28.2N 17	7.4W 0818	2.9FT/	0.9M	14	
WAKE US	19.3N 16	6.6E 0840	1.6FT/	0.5M	14	
KODIAK AK	57.7N 15	2.5W 0952	0.4FT/	0.1M	18	
TERN FR FRIGATE US	23.9N 16	6.3W 0925	3.0FT/	0.9M	14	
YAKUTAT AK	59.5N 13	9.7W 1030	0.4FT/	0.1M		
PAGO BAY GU	13.4N 14	4.8E 1005	1.7FT/	0.5M	17	
SEWARD AK	60.1N 14	9.4W 1052	0.3FT/	0.1M	20	
HANALEI HI	22.2N 15	9.5W 1010	3.3FT/	1.0M	16	
NAWILIWILI HI	21.9N 15	9.4W 1030	2.7FT/	0.8M	17	
NAWILIWILI HI HALEIWA HI HONOLULU HI DEKEHTIK FM HILO HI NAURU NR	21.6N 15	8.1W 1025	3.6FT/	1.1M	15	
HONOLULU HI	21.3N 15	7.9W 1035	1.3FT/	0.4M	19	
DEKEHTIK FM	7.0N 15	8.2E 1024	1.0FT/	0.3M	13	
HITO HI	19./N 15	5.0W 1050	4.3FT/	1.3M	18	
NAURU NR	0.5S 16	6.9E II36	0.7FT/	0.2M	15	
BETIO TARAWA KI	1.4N 1/	2.9E 1148	0./FT/	0.2M	16	
MANUS PG	2.05 14	7.4E 1220	1.0FT/	0.3M	1.0	
KANTON KI	2.85 17	1./W 1221	0.4FT/	0.IM	13	
MANUS PG KANTON KI WESTPORT WA FUNAFUTI TV CRESCENT CITY CA	46.9N IZ	4.1W 1233	0.6FT/	U.∠M		
FUNAFUTI TV	8.55 I/	9.ZE 1255	U.3FT/	O.IM		
CRESCENT CITY CA	41./N 12	4.2W 1256	∠.3FT/	U./M		

ENSENADA MX	31.8N 116.6W	1312	1.6FT/ 0.5M 14
LATA WHARF SB	10.7S 165.8E	1325	1.4FT/ 0.4M 12
LOS ANGELES CA	33.7N 118.3W	1354	0.6FT/ 0.2M
APIA WS	13.8S 171.8W	1355	1.3FT/ 0.4M 14
PAGO PAGO AS	14.3S 170.7W	1352	1.0FT/ 0.3M

# NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #13 for American Samoa

ZCZC WEZS40 PHEB 260201 TSUPPG

ASZ001>003-260401-/T.CON.PHEB.TS.Y.0008.000000T0000Z-000000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 13 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 301 PM SST WED MAR 25 2015

... THE TSUNAMI ADVISORY CONTINUES IN EFFECT FOR AMERICAN SAMOA...

#### AUDIENCE

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EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS A THREAT TO AMERICAN SAMOA OF SEA LEVEL FLUCTUATIONS AND STRONG OCEAN CURRENTS THAT COULD BE A HAZARD ALONG BEACHES... IN HARBORS... AND IN COASTAL WATERS.
- \* THE TSUNAMI IS NOW IMPACTING ALL COASTS OF AMERICAN SAMOA

### RECOMMENDED ACTIONS

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\* PERSONS IN THE OCEAN SHOULD GET OUT OF THE WATER. PERSONS NEAR THE OCEAN SHOULD MOVE AWAY FROM BEACHES AND HARBORS.

\* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.

### POTENTIAL IMPACTS

#### \_\_\_\_\_\_

- \* SEA LEVEL FLUCTUATIONS THAT ARE GENERALLY NO MORE THAN 3 FEET ABOVE AND BELOW THE TIDE LEVEL.
- \* MINOR FLOODING OF BEACH AND HARBOR AREAS.
- \* STRONG AND UNUSUAL OCEAN CURRENTS IN HARBORS... BAYS... AND OTHER NEAR SHORE WATERS.
- \* THE HAZARD BEGAN AROUND 119 PM SST ON WEDNESDAY MARCH 25 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

#### PRELIMINARY EARTHQUAKE PARAMETERS

\_\_\_\_\_\_

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015 \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

#### TSUNAMI OBSERVATIONS - UPDATED

\_\_\_\_\_

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	MEASURE	MAXIMUM TSUNAMI HEIGHT	PERIOD
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E		·	
DUTCH HBR AK OMAEZAKI JP CHICHIJIMA JP MIDWAY US	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E 27.1N 142.2E 28.2N 177.4W 19.3N 166.6E 57.7N 152.5W	0459 0633 0535 0545 0552 0620 0645 0655 0828 0835 0759 0755 0818 0840	9.5FT/ 2.9 5.2FT/ 1.6 2.9FT/ 0.9 1.6FT/ 0.5 2.3FT/ 0.7 2.6FT/ 0.5 1.6FT/ 0.5 3.7FT/ 1.1 1.0FT/ 0.3 1.3FT/ 0.4 1.2FT/ 0.3 2.9FT/ 0.9 1.6FT/ 0.5	M 16 M 17 M 17 M 15 M 18 M 20 M 19 M 18 M 15 M 17 M 19 M 14 M 14 M 14
HANALEI HI NAWILIWILI HI	59.5N 139.7W 13.4N 144.8E 60.1N 149.4W 22.2N 159.5W 21.9N 159.4W 21.6N 158.1W	1005 1052 1010 1030		M 17 M 20 M 16 M 17

HONOLULU HI	21.3N	157.9W	1035	1.3FT/	0.4M	19
DEKEHTIK FM	7.0N	158.2E	1024	1.0FT/	0.3M	13
HILO HI	19.7N	155.0W	1050	4.3FT/	1.3M	18
NAURU NR	0.58	166.9E	1136	0.7FT/	0.2M	15
BETIO TARAWA KI	1.4N	172.9E	1148	0.7FT/	0.2M	16
MANUS PG	2.05	147.4E	1220	1.0FT/	0.3M	
KANTON KI	2.85	171.7W	1221	0.4FT/	0.1M	13
WESTPORT WA	46.9N	124.1W	1233	0.6FT/	0.2M	
FUNAFUTI TV	8.5S	179.2E	1255	0.3FT/	0.1M	
CRESCENT CITY CA	41.7N	124.2W	1256	2.3FT/	0.7M	
ENSENADA MX	31.8N	116.6W	1312	1.6FT/	0.5M	14
LATA WHARF SB	10.7S	165.8E	1325	1.4FT/	0.4M	12
LOS ANGELES CA	33.7N	118.3W	1354	0.6FT/	0.2M	
APIA WS	13.8S	171.8W	1355	1.3FT/	0.4M	14
PAGO PAGO AS	14.3S	170.7W	1430	1.6FT/	0.5M	

## NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## PTWC Message #14 for American Samoa

ZCZC WEZS40 PHEB 260301 TSUPPG

ASZ001>003-260501-/T.CAN.PHEB.TS.Y.0008.00000T0000Z-000000T0000Z/

#### BULLETIN

TSUNAMI MESSAGE NUMBER 14 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI 401 PM SST WED MAR 25 2015

...THE TSUNAMI ADVISORY IS NOW CANCELED FOR AMERICAN SAMOA...

IN THIS MESSAGE ARE REVISED ALERTS.

## AUDIENCE

\_\_\_\_\_

EMERGENCY MANAGERS... MEDIA... GENERAL PUBLIC

#### EVALUATION

\_\_\_\_\_

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.6 OCCURRED OFF THE EAST COAST OF KAMCHATKA, RUSSIA AT 400 AM SST ON WEDNESDAY MARCH 25 2015.
- \* BASED ON ALL AVAILABLE DATA... THERE IS NO FURTHER TSUNAMI

THREAT TO AMERICAN SAMOA FROM THIS EARTHQUAKE ALTHOUGH MINOR SEA LEVEL FLUCTUATIONS MAY CONTINUE.

#### RECOMMENDED ACTIONS

\_\_\_\_\_\_

- \* FOLLOW ANY INSTRUCTIONS FROM GOVERNMENT AGENCIES.
- \* BE OBSERVANT AND EXERCISE NORMAL CAUTION IF YOU ARE NEAR OR IN THE OCEAN.
- \* OTHERWISE... NO FURTHER ACTION IS REQUIRED.

#### POTENTIAL IMPACTS

\_\_\_\_\_\_

\* MINOR SEA LEVEL FLUCTUATIONS OF UP TO 1 FOOT ABOVE AND BELOW THE TIDE LEVEL MAY CONTINUE OVER THE NEXT FEW HOURS.

# PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 8.6
- \* ORIGIN TIME 400 AM SST MAR 25 2015
- \* COORDINATES 53.5 NORTH 162.0 EAST
- \* DEPTH 19 MILES
- \* LOCATION OFF THE EAST COAST OF KAMCHATKA RUSSIA

## TSUNAMI OBSERVATIONS - UPDATED

\* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE

TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	MEASURE	TSUNAMI	PERIOD
DART 21416 DART 21415	48.0N 163.5E 50.2N 171.8E			
PETROPAVLOVSK RU SHEMYA AK ADAK AK ATKA AK KUSHIRO JP	55.2N 166.0E 53.0N 158.6E 52.7N 174.1E 51.9N 176.6W 52.2N 174.2W 43.0N 144.4E 43.3N 145.6E 39.0N 141.8E 52.9N 168.9W 51.1N 164.0W 34.6N 138.2E 27.1N 142.2E 28.2N 177.4W 19.3N 166.6E	0459 0633 0535 0545 0552 0620 0645 0655 0828 0835 0759 0755 0818 0840	9.5FT/ 2 5.2FT/ 1 2.9FT/ 0 1.6FT/ 0 2.3FT/ 0 2.6FT/ 0 1.6FT/ 0 3.7FT/ 1 1.0FT/ 0 1.3FT/ 0 1.2FT/ 0 2.9FT/ 0 1.6FT/ 0	2.9M 16 1.6M 17 1.9M 17 1.5M 15 1.7M 18 1.8M 20 1.5M 19 1.5M 18 1.1M 15 1.3M 17 1.4M 19 1.3M 1.3M 1.3M
TERN FR FRIGATE US YAKUTAT AK PAGO BAY GU SEWARD AK	23.9N 166.3W 59.5N 139.7W 13.4N 144.8E	0925 1030 1005	3.0FT/ 0 0.4FT/ 0 1.7FT/ 0	0.9M 14 0.1M 0.5M 17

HANALEI HI	22.2N	159.5W	1010	3.3FT/	1.0M	16
NAWILIWILI HI	21.9N	159.4W	1030	2.7FT/	0.8M	17
HALEIWA HI	21.6N	158.1W	1025	3.6FT/	1.1M	15
HONOLULU HI	21.3N	157.9W	1035	1.3FT/	0.4M	19
DEKEHTIK FM	7.0N	158.2E	1024	1.0FT/	0.3M	13
HILO HI	19.7N	155.0W	1050	4.3FT/	1.3M	18
NAURU NR	0.5S	166.9E	1136	0.7FT/	0.2M	15
BETIO TARAWA KI	1.4N	172.9E	1148	0.7FT/	0.2M	16
MANUS PG	2.05	147.4E	1220	1.0FT/	0.3M	
KANTON KI	2.85	171.7W	1221	0.4FT/	0.1M	13
WESTPORT WA	46.9N	124.1W	1233	0.6FT/	0.2M	
FUNAFUTI TV	8.5S	179.2E	1255	0.3FT/	0.1M	
CRESCENT CITY CA	41.7N	124.2W	1256	2.3FT/	0.7M	
ENSENADA MX	31.8N	116.6W	1312	1.6FT/	0.5M	14
LATA WHARF SB	10.7S	165.8E	1325	1.4FT/	0.4M	12
LOS ANGELES CA	33.7N	118.3W	1354	0.6FT/	0.2M	
APIA WS	13.8S	171.8W	1355	1.3FT/	0.4M	14
PAGO PAGO AS	14.3S	170.7W	1430	1.6FT/	0.5M	
NUKU HIVA PF	8.9S	140.1W	1540	2.6FT/	0.8M	

## NEXT UPDATE AND ADDITIONAL INFORMATION

\_\_\_\_\_

- \* THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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## Appendix E. Sample Press Release for Local Media

TEMPLATE FOR NEWS RELEASE

**USE AGENCY MASTHEAD** 

Contact: (insert name)

(insert phone number)
(insert email address)

FOR IMMEDIATE RELEASE

(insert date)

## NORTH PACIFIC TSUNAMI EXERCISE TO BE CONDUCTED MARCH 25, 2015

(*insert community/county/state name*) will join other localities in the north Pacific as a participant in a tsunami response exercise on March 25, 2015. The purpose of this exercise is to evaluate local tsunami response plans, increase tsunami preparedness, and improve coordination throughout the region.

(insert a promotional comment from a local official, such as "The 2011 Japan earthquake and tsunami reminded the world again of the urgent need to be more prepared for such events," said (insert name of appropriate official). "This important exercise will test the current procedures of the Tsunami Warning System and help identify operational strengths and weaknesses in each community." (*Please modify for uniqueness.*))

The exercise, titled Pacifex15, will simulate a widespread Tsunami Warning, Watch, and Advisory situation along U.S. and Canadian west coasts requiring implementation of local tsunami response plans. The exercise will (*insert "include"* or "not include") public notification.

A major earthquake and tsunami will be simulated with a source near Petropavlovsk, Kamchatka at 08:00 am Pacific Daylight Time (*or appropriate local time*) on March 25, 2015. Exercise participants will be provided with a handbook which describes the scenario and contains tsunami alert messages.

Insert paragraph tailored for specific community. Could identify participating agencies and specific plans. Could describe current early warning program, past tsunami exercises (if any), ongoing mitigation and public education programs, etc. Could describe tsunami threat, history of tsunami hazards, if any.

If any real tsunami threat occurs during the time period of the exercise, the exercise will be terminated.

The exercise is sponsored by the U.S. National Oceanic and Atmospheric Administration (NOAA) and by the U.S. National Tsunami Hazard Mitigation Program (NTHMP – a partnership of 28 states and territories and three federal agencies). For more information on the U.S. tsunami warning system, see <a href="www.tsunami.gov">www.tsunami.gov</a>. For more information on the NTHMP, see <a href="https://nthub.tsunami.gov">nthub.tsunami.gov</a>.

###

On the Web: National Tsunami Warning Center NOAA Tsunami Program NTHMP:

http://ntwc.arh.noaa.gov http://www.tsunami.gov http://nthmp.tsunami.gov

NOAA Tsunami Program

NTHMP:

Insert state/local emergency response URLs

NTHMP:

http://www.tsu