

# Exercise PACIFEX 14 Participant Handbook

A Pacific Tsunami Warning Exercise  
March 27, 2014

US National Tsunami Hazard Mitigation Program  
Warning Coordination Subcommittee

Based on the 2014 USGS Science Application for Risk  
Reduction Tsunami Scenario



## PACIFEX 14 Handbook

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 PACIFEX13 handbooks.

Exercise

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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.

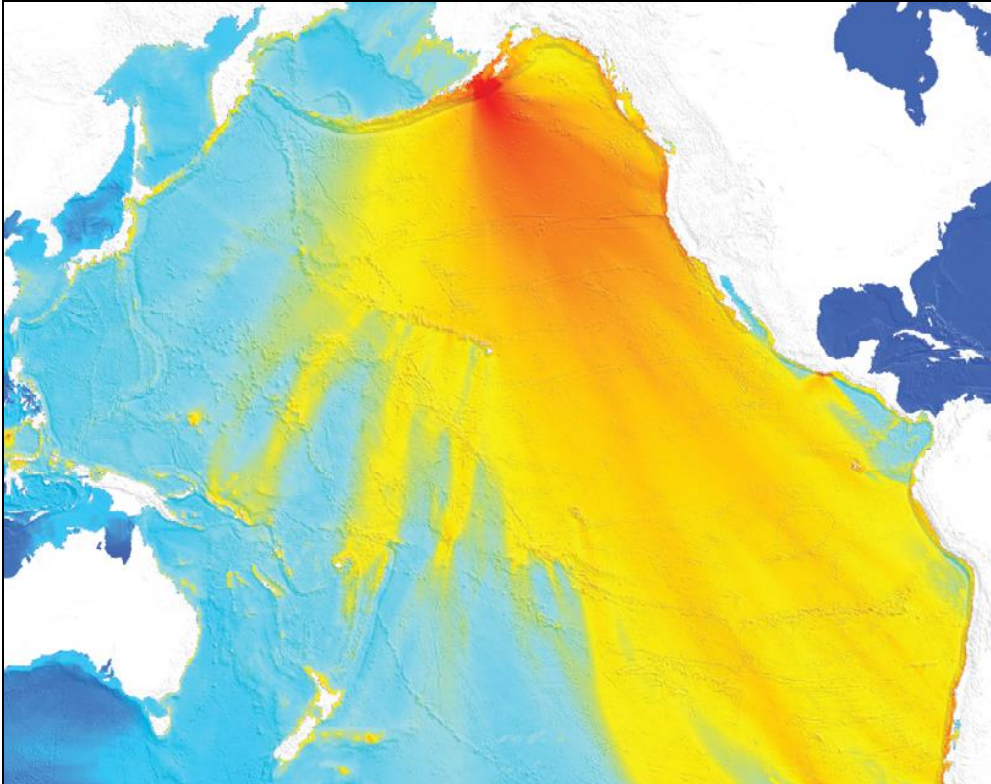
Scenario: The PACIFEX14 exercise simulates a tsunami generated by a major subduction zone earthquake located south of the Alaska Peninsula. This tsunami scenario was developed by the United States Geological Survey (USGS) Science Application for Risk Reduction (SAFRR) project which included contributions from the USGS, NOAA, California Geological Survey (CGS), California Governor's Office of Emergency Services (Cal OES), and other academic, private, and government organizations (Ross et al., 2013). The SAFRR scenario depicts a hypothetical, but plausible, worst case scenario for a distant tsunami impacting southern California. A full description of the SAFRR scenario can be found at <http://pubs.usgs.gov/of/2013/1170/index.html>. The report describes the source as:

*...The source earthquake for the scenario, defined by the USGS Tsunami Source Working Group, is set in the Semidi subduction sector, between Kodiak Island and the Shumagin Islands off the Pacific coast of the Alaska Peninsula (Figure 1). The strike of the fault in that area tends to focus the waves towards the California coast and especially towards southern California and the economically critical Ports of Los Angeles and Long Beach. The Semidi sector's geology and tectonic setting are similar to the setting of the 2011 Tohoku event, so the assumed slip distribution is approximately that of the Tohoku earthquake adapted to the 2 fault structure in the Semidi sector. The scenario earthquake has a moment magnitude of 9.1 and a fault length of 360 km...*

Expected inundation to California is described by the report as:

*...Over the entire California coastline, less than 40 percent of the State's maximum tsunami inundation zone is flooded in the SAFRR Tsunami Scenario. Fourteen cities have more than 1,000 residents in the scenario inundation area, with the largest affected areas in Long Beach and San Diego. Other highly impacted areas are low-lying portions of southern Los Angeles and northern Orange Counties, along with coastal communities in Northern California including Del Norte, Marin, San Francisco, Alameda, and Santa Cruz Counties. Nearly 92,000 people live inside the SAFRR Tsunami Scenario inundation zone. An additional 175,000 residents would be evacuated if such an order were to be given using the State's maximum tsunami inundation zone. An estimated 81,000 employees would be in the scenario inundation zone with an additional 88,000 within the State's maximum tsunami inundation zone. Additionally, more than 260,000 visitors would be expected on California's beaches and in parks on the day of the scenario event. The visitor numbers would increase to over one million if the same tsunami were to occur during*

summer months, when beach and coastal use is highest. An estimated 8,500 residents in the SAFRR tsunami scenario inundation zone would likely need shelter because of damage to their homes. Some island and peninsula communities, and low-lying landfill islands within the ports, could provide serious evacuation challenges because of limited exit options and short warning time prior to expected inundation. Evacuations would also be a challenge for dependent-care populations such as patients in hospitals and nursing homes and children in daycare facilities. Education and planning tailored to each of these communities would be required to make tsunami evacuations successful...



**Figure 1.** Maximum wave heights of the tsunami simulated in the SAFRR (Science Application for Risk Reduction) tsunami scenario across the Pacific basin used in the Pacifex14 Exercise. Note that red is 3m and greater; orange approximately 1m; yellow approximately 0.2m; and blue 0.15m and below. From USGS Open File Report 2013-1170-A.

The SAFRR project performed a detailed assessment of potential economic impact to California due to this tsunami. The report describes this impact as:

*...A significant economic impact of the scenario in California may be disruptions of the Ports of Los Angeles and Long Beach. A tsunami warning would advise evacuation of port personnel. Strong and dangerous currents would last for two days. Therefore, the ports would be shut down for at least that long. There would also be inundation of dry land in the ports resulting in approximately \$100 million in damages to container and vehicle cargo and related systems, and additional downtime at some terminals. The direct exposure of port trade value from damages*

*and downtime totals more than \$1.2 billion, while associated business interruption losses would be more than triple that value. However, resilience in the forms of using excess cargo handling capacity, using existing inventories of materials, and working extra shifts could reduce these business interruption losses by an order of magnitude.*

*Coastal fisheries, particularly invertebrate species such as sea cucumber, sea urchin, inshore crab, and spiny lobster are vulnerable to risk from surge, debris or other habitat damage and fishery disruptions. Collectively these fisheries are valued at about \$78 million per year. Shellfish farms and restored shellfish beds along the central and northern California coast and San Francisco Bay area are also at risk. Business interruption to commercial fishing at the ports would involve lost fishing days, perished catch, and damages to vessels, but in our estimates an allowance was made for the industry to make up for lost fishing days.*

*Although there is only a small exposure for the agricultural sector, there would be damage and impacts to soils, crops, and infrastructure that have not been experienced in recent distant-source tsunamis. Repair to agricultural fields and infrastructure could cost \$4 million. This estimate does not include soil remediation, which could add substantially to costs...*

Exercise: 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 Palmer, Alaska and the Pacific Tsunami Warning Center (PTWC) in Ewa Beach, Hawaii. These Centers provide tsunami warning, advisory, watch, and information messages approximately five minutes after an earthquake's occurrence for earthquakes in the United States and Canada. 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, the National Tsunami Hazard Mitigation Program (NTHMP), and the USGS through its SAFRR study 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.

This exercise is driven by tsunami warning messages from the NTWC in response to a hypothetical earthquake located 100 miles SE of Chignik, Alaska. Exercises like this will ensure that the U.S./Canadian Pacific coasts are ready to respond in case of a dangerous tsunami. Other recent tsunami exercises in the Pacific and Atlantic Basins have proven effective in strengthening preparedness levels of emergency management organizations.

## **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 test 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 own 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 TWCs to primary tsunami warning recipients.
- To improve operational readiness of the Tsunami Warning System by testing tsunami response plans for EMOs that have developed plans, and provide a catalyst for other EMOs that have not developed plans.
- Review communication alternatives for receiving tsunami messages, locally disseminating tsunami alerts, and evaluate potential response actions and challenges at EMOs and Tsunami Warning Focal Points (TWFP).
- Identify processes to issue local all-clear notices.

### **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 PACIFEX 14.

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 wks	1 day	Individual or mixed groups
Drill	2 days	1 day	Individual technical groups generally
Tabletop Exercise	2 weeks	1-3 days	Single or multiple agency
Functional Exercise	1-2 months	1-5 days	Multiple Agency participation
Full-scale Exercise	2-6 months	1 day/ week	Multiple Agency participation

## 3. Exercise Outline

### 3.1 General

Tsunami Warning, Advisory, and Watch messages for this exercise are issued by the NTWC based on a hypothetical earthquake with the following hypocenter parameters:

- Origin Time 18:50:00 UTC March 27, 2014
- Latitude 55.2°N
- Longitude 156.7°W
- Magnitude 9.1 – Mw
- Depth 18.5 km

Expected impact for this event is based on the SAFRR project results (The SAFRR Tsunami Modeling Working Group, 2013). Appendix B summarizes some of the project results.

Definitions of the products that will be issued by the TWC during this exercise are provided below.

#### National Tsunami Warning Center:

**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.

The TWC will not issue live messages over broadcast dissemination channels other than to issue an initial dummy message to start the exercise at 1854 UTC on March 27, 2014. 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 1 to look at new messages. Table 1 is the timeline for when messages would be issued by the TWC if this were a real event, and can be used by EMOs to drive the exercise timing. The warning messages (as shown in Appendix D) cover a 48-hour period. World Meteorological Organization (WMO) and Advanced Weather Interactive Processing System (AWIPS) headers used in the dummy message are listed in Table 2.

The NTWC issues two official products each time a message is issued. The ones provided in Appendix D are known as the public message and do not contain codes or text intended for automated systems. The public message format has been recently updated to a bulleted format. The other message not shown in Appendix D is the segmented message. This message includes encoded NWS zones, Valid Time Event Codes (VTEC), and level of threat. The segmentation is used for automated processing systems which parse NWS products.

Participants may elect to 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 1: Scenario Timeline**

Tsunami generated by a magnitude 9.1 earthquake with epicenter at 55.2°N, 156.7°W occurring on March 27, 2014 at 1850 UTC. The initial warning is being disseminated at 1854 UTC.

Date (UTC)	Time (UTC)	NTWC Message		
		#	Type	Dummy
03/27/2014	1850		***Earthquake Occurs***	
03/27/2014	1854	01	Warn/Wat/Dummy	Yes
03/27/2014	1931	02	Warn/Wat	No
03/27/2014	2003	03	Warn/Wat	No
03/27/2014	2105	04	Warn/Adv	No
03/27/2014	2201	05	Warn/Adv	No
03/27/2014	2301	06	Warn/Adv	No
03/28/2014	0002	07	Warn/Adv	No
03/28/2014	0101	08	Warn/Adv	No
03/28/2014	0201	09	Warn/Adv	No
03/28/2014	0301	10	Warn/Adv	No
03/28/2014	0401	11	Warn/Adv	No
03/28/2014	0501	12	Warn/Adv	No
03/28/2014	0600	13	Warn/Adv	No
03/28/2014	0701	14	Warn/Adv	No
03/28/2014	0800	15	Warn/Adv	No
03/28/2014	0901	16	Warn/Adv	No
03/28/2014	1000	17	Warn/Adv	No
03/28/2014	1100	18	Warn/Adv	No
03/28/2014	1200	19	Warn/Adv	No
03/28/2014	1300	20	Warn/Adv	No
03/28/2014	1401	21	Warn/Adv	No
03/28/2014	1500	22	Warn/Adv	No
03/28/2014	1601	23	Warn/Adv	No
03/28/2014	1701	24	Warn/Adv	No
03/28/2014	1801	25	Warn/Adv	No
03/28/2014	1902	26	Warn/Adv	No
03/28/2014	2000	27	Warn/Adv	No
03/28/2014	2101	28	Warn/Adv	No
03/28/2014	2200	29	Warn/Adv	No
03/28/2014	2300	30	Warn/Adv	No
03/29/2014	0004	31	Warn/Adv	No
03/29/2014	0101	32	Warn/Adv	No
03/29/2014	0201	33	Warn/Adv	No
03/29/2014	0302	34	Warn/Adv	No
03/29/2014	0402	35	Warn/Adv	No
03/29/2014	0500	36	Warn/Adv	No
03/29/2014	0600	37	Warn/Adv	No
03/29/2014	0700	38	Warn/Adv	No
03/29/2014	0800	39	Warn/Adv	No

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03/29/2014	0901	40	Warn/Adv	No
03/29/2014	1000	41	Warn/Adv	No
03/29/2014	1101	42	Warn/Adv	No
03/29/2014	1200	43	Warn/Adv	No
03/29/2014	1300	44	Warn/Adv	No
03/29/2014	1401	45	Warn/Adv	No
03/29/2014	1501	46	Warn/Adv	No
03/29/2014	1601	47	Warn/Adv	No
03/29/2014	1702	48	Adv	No
03/29/2014	1801	49	Adv	No
03/29/2014	1900	50	Can	No

The initial dummy message will be disseminated over all standard TWC broadcast channels as listed in Table 2. This is being issued to test communications with primary warning recipients, and to start the exercise. *Please note that the NTWC Dummy message is being issued with the WMO ID WEAK51 PAAQ and AWIPS ID TSUAK1.*

### TWC Message Types:

Warn	Tsunami Warning
Adv	Tsunami Advisory
Wat	Tsunami Watch
Can	Cancellation

### Dummy:

Yes	Dummy Issued
No	Dummy Not Issued

**Table 2: Product Types**

Product Types Issued for Dummy Message with Transmission Methods

Center	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	Fax	Email
NTWC	WEAK51 PAAQ	TSUAK1	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 "PACIFEX 14" 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:

<b>Person</b>	<b>Telephone #</b>	<b>Email</b>
Kevin Miller CA EMA, Tsunami PM	510-286-0817	<a href="mailto:kevin.miller@calema.ca.gov">kevin.miller@calema.ca.gov</a>
Althea Turner OR OEM Tsunami PM	503-378-2911	<a href="mailto:Althea.Rizzo@state.or.us">Althea.Rizzo@state.or.us</a>
John Schelling WA EMD Tsunami PM	253-512-7084	<a href="mailto:j.schelling@emd.wa.gov">j.schelling@emd.wa.gov</a>
Teron Moore BC PEP Tsunami PM	250-952-5834	<a href="mailto:teron.moore@gov.bc.ca">teron.moore@gov.bc.ca</a>
Erv Petty AK DHS&EM Tsunami PM	907-428-7015	<a href="mailto:ervin.petty@alaska.gov">ervin.petty@alaska.gov</a>
Paul Whitmore NTWC Director	907-745-4212	<a href="mailto:paul.whitmore@noaa.gov">paul.whitmore@noaa.gov</a>
James Waddell NTWC Rep.	907-745-4212	<a href="mailto:james.waddell@noaa.gov">james.waddell@noaa.gov</a>

### 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 coast 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.

## 4. References

Kirby, S., Scholl, D., von Huene, R., and Wells, R., 2013, Alaska earthquake source for the SAFRR tsunami scenario, chap. B *in* Ross, S.L., and Jones, L.M., eds., The SAFRR (Science Application for Risk Reduction) Tsunami Scenario: U.S. Geological Survey Open-File Report 2013–1170, 40 p., <http://pubs.usgs.gov/of/2013/1170/b/>.

Ross, S.L., Jones, L.M., Miller, Kevin, P., K.A., Wein, A., Wilson, Ri.I., Bahng, B., Barberopoulou, A., Borrero, J.C., Brosnan, D.M., Bwarie, J.T., Geist, E.L., Johnson, L.A., Kirby, S.H., Knight, W.R., Long, K., Lynett, P., Mortensen, C.E., Nicolsky, D.J.,

Perry, S.C., Plumlee, G.S., Real, C.R., Ryan, K., Suleimani, E., Thio, H., Titov, V.V., Whitmore, P.M. and Wood, N.J., 2013, SAFRR (Science Application for Risk Reduction) Tsunami Scenario—Executive Summary and Introduction: U.S. Geological Survey Open-File Report 2013–1170–A, *in* Ross, S.L., and Jones, L.M., eds., The SAFRR (Science Application for Risk Reduction) Tsunami Scenario: U.S. Geological Survey Open-File Report 2013–1170, 17 p., <http://pubs.usgs.gov/of/2013/1170/a/>.

The SAFRR Tsunami Modeling Working Group, 2013, Modeling for the SAFRR Tsunami Scenario—Generation, propagation, inundation, and currents in ports and harbors, chap. D *in* Ross, S.L., and Jones, L.M., eds., The SAFRR (Science Application for Risk Reduction) Tsunami Scenario: U.S. Geological Survey Open-File Report 2013–1170, 136 p., <http://pubs.usgs.gov/of/2013/1170/d/>.

Exercise

## 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 that 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

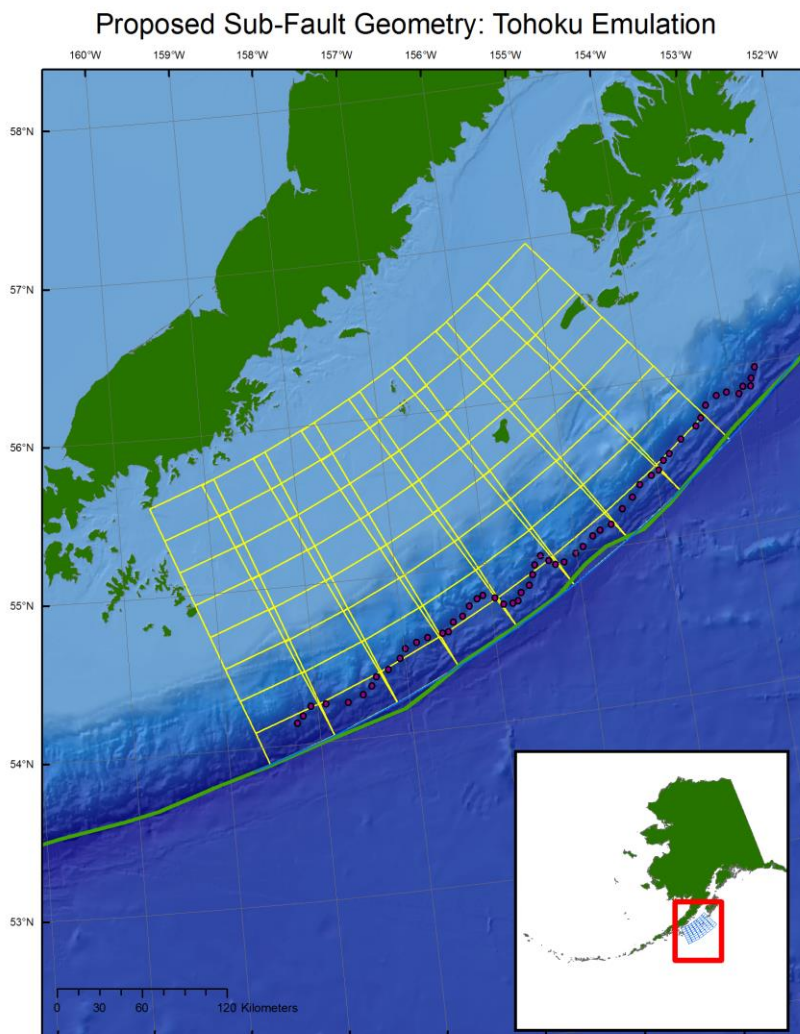
**8. Improvement Plan (IP):** The IP should reduce vulnerabilities.



## Appendix B. Scenario Description

Extensive modeling was performed for the source by The SAFRR Tsunami Modeling Working Group (2013) based on a source described by Kirby, et al. (2013). Results from these two studies are excerpted here and are fully available at <http://pubs.usgs.gov/of/2013/1170/d/> and <http://pubs.usgs.gov/of/2013/1170/b/index.html>.

The source is based on the 2011 magnitude 9.1 Tohoku earthquake. Multiple sub-faults (64) are described which mimic the behavior of the 2011 earthquake and are displayed in Figure B1.



**Figure B1.** From Kirby, et al. (2013); map of the initial surface sub-fault grid of 25x50 km cells adapted to the Semidi subduction sector bathymetry off the Alaska Peninsula.

These sub-faults produce an uplift pattern which is shown in Figure B2 (The SAFRR Tsunami Modeling Working Group, 2013).

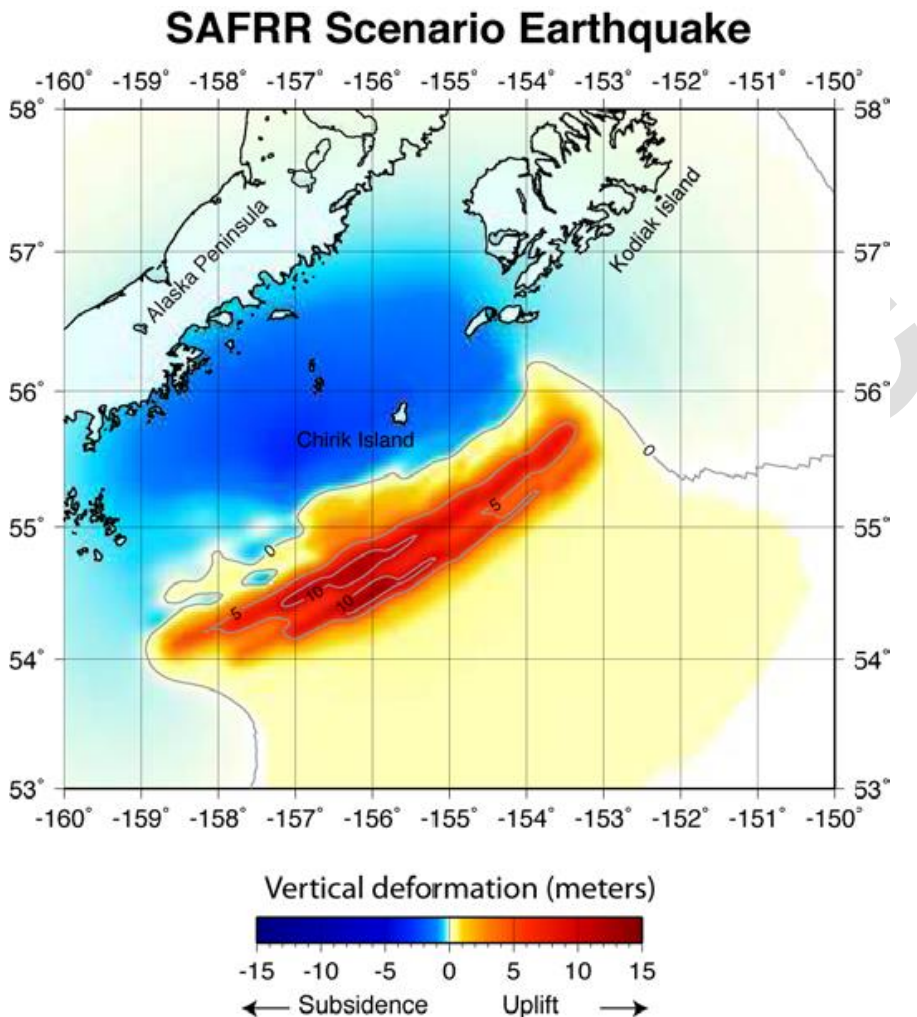


Figure B2. From The SAFRR Tsunami Modeling Working Group (2013); map showing vertical deformation field of the earthquake source region which is used as the initial condition for tsunami models.

The sea floor uplift produced by the earthquake slip provides the initial condition for numerical tsunami models which propagate the tsunami throughout the ocean. Figure B3 shows the maximum modeled tsunami height throughout the northeast Pacific region.

Comment [NWS1]: Add link to kmz

## SAFRR Scenario Maximum Amplitudes

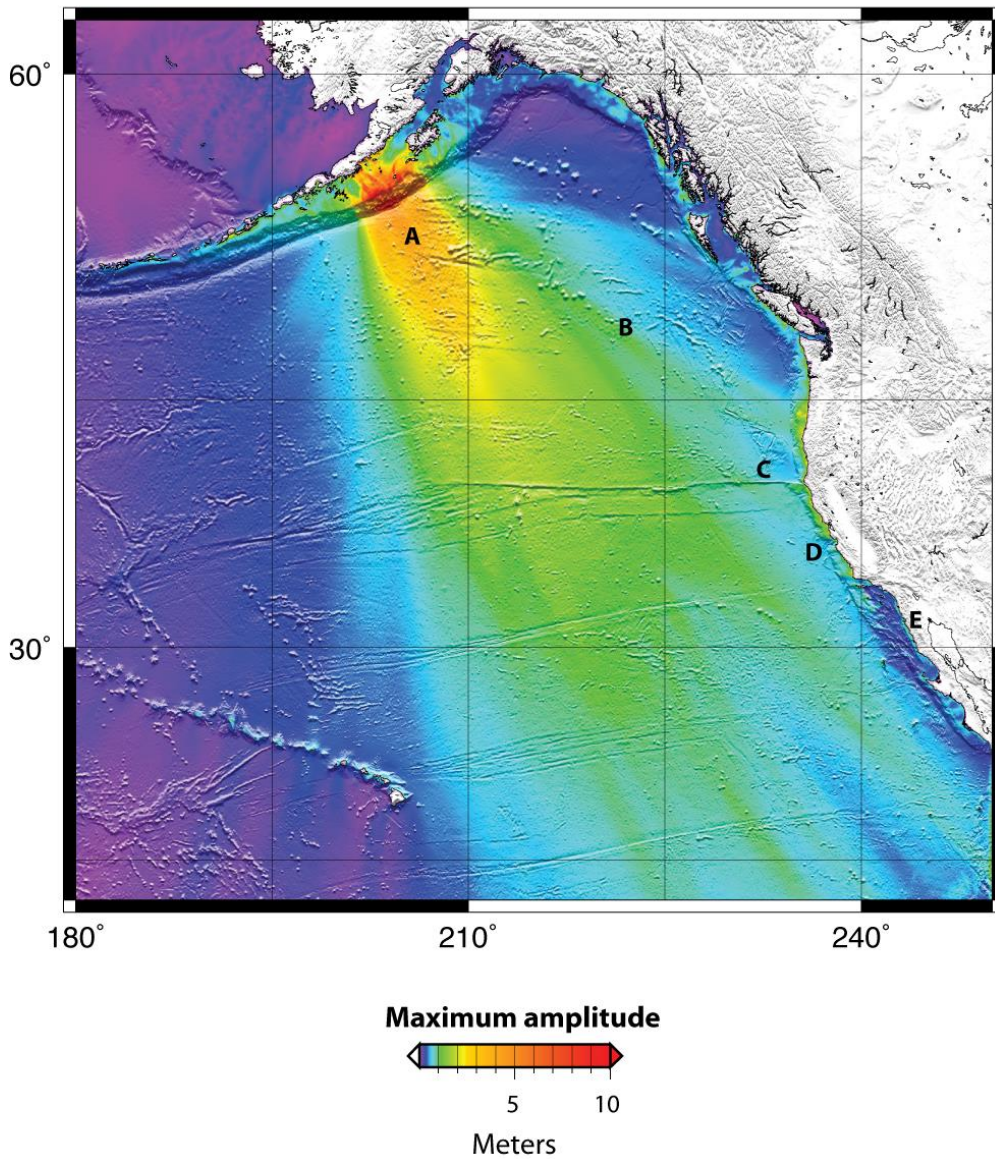


Figure B3. From The SAFRR Tsunami Modeling Working Group (2013); maximum wave elevation above sea level produced by the SAFRR scenario earthquake. Letters relate to text from the source document.

As the tsunami propagates into shallower water along the California coast, finer grids are used in the model to better resolve tsunami activity. Tsunami variations over time at specific coastal points are shown in Figure B4.

**Tsunami timeseries**

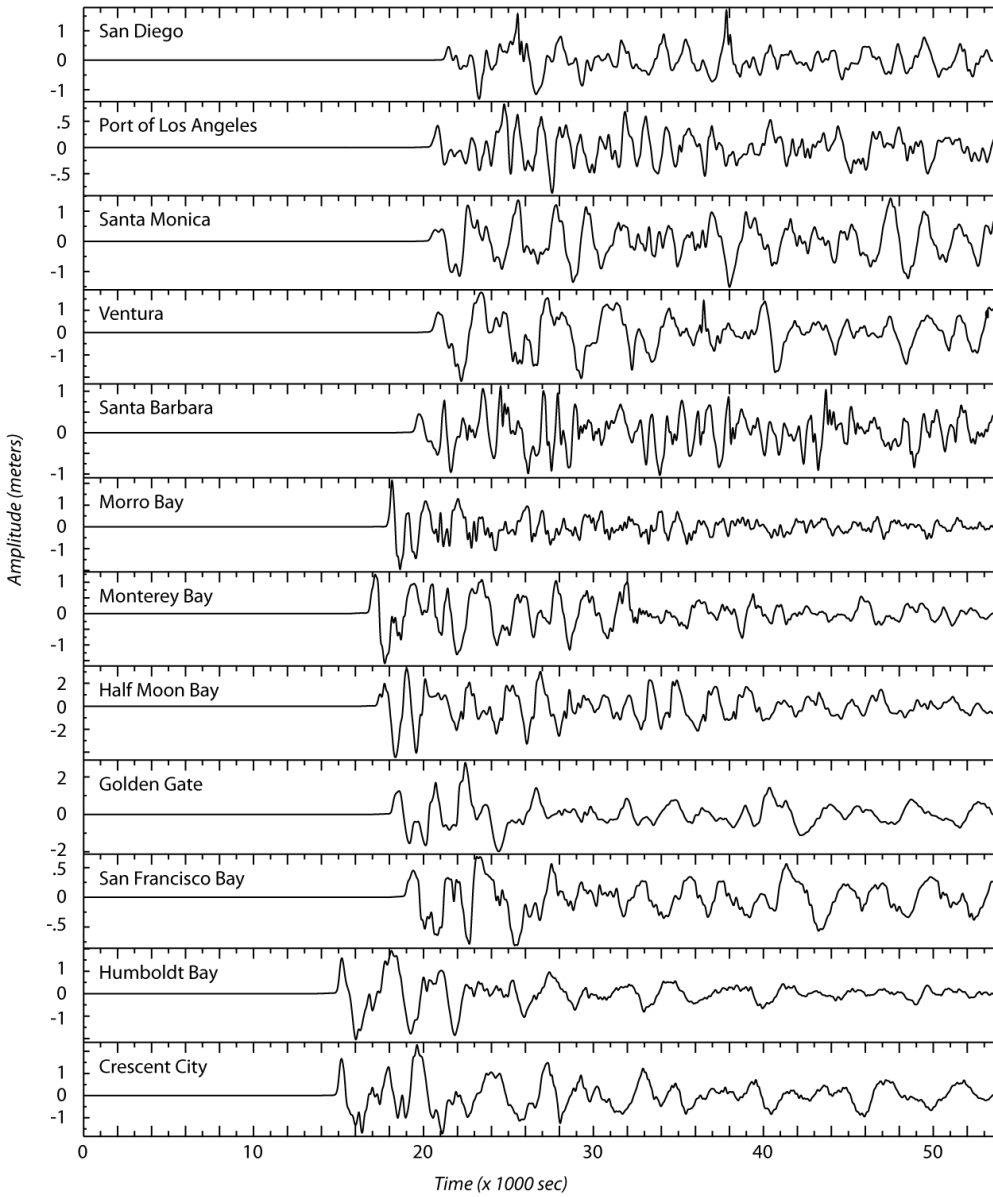


Figure B4. From The SAFRR Tsunami Modeling Working Group (2013); tsunami wave-height time series from the scenario tsunami for various locations along the California coast.

In addition to describing the tsunami characteristics over time as in Figure B4, The SAFRR Tsunami Modeling Working Group (2013) also produced many detailed maps showing inundation and flow levels at specific California communities and are reproduced in Figures B5 through B12.



### Crescent City

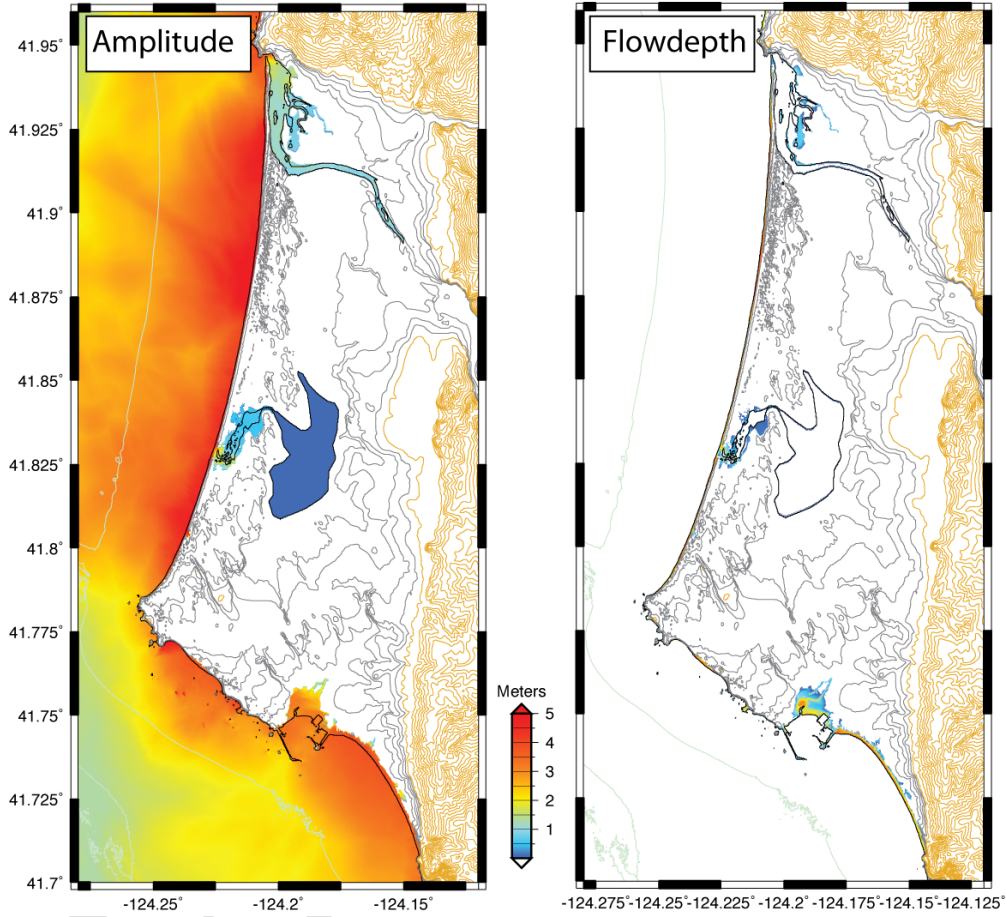


Figure B5. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around Crescent City, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

Half Moon Bay

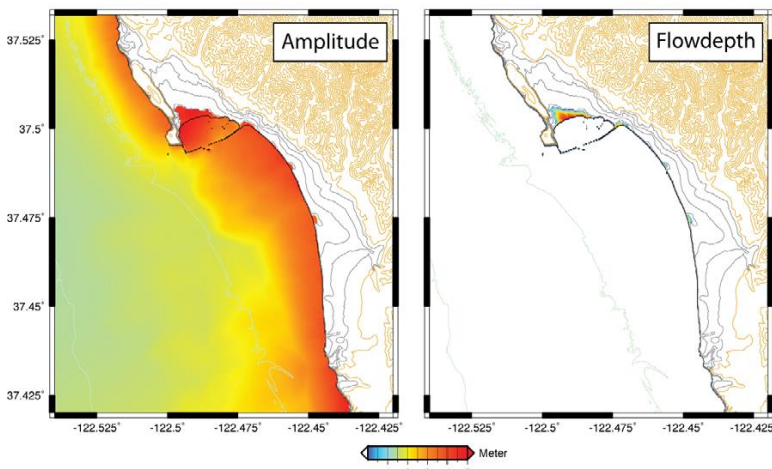


Figure B6. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around Half Moon Bay, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

Monterey Bay

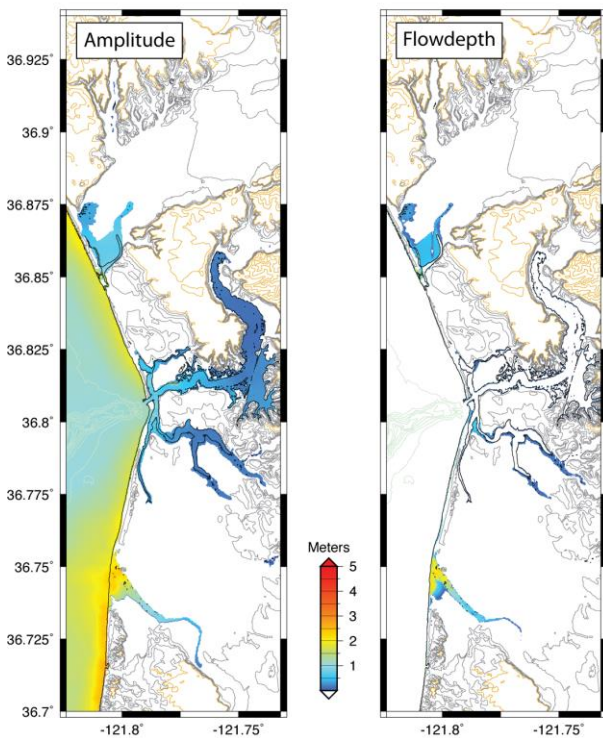


Figure B7. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around Monterey Bay, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

### Morro Bay

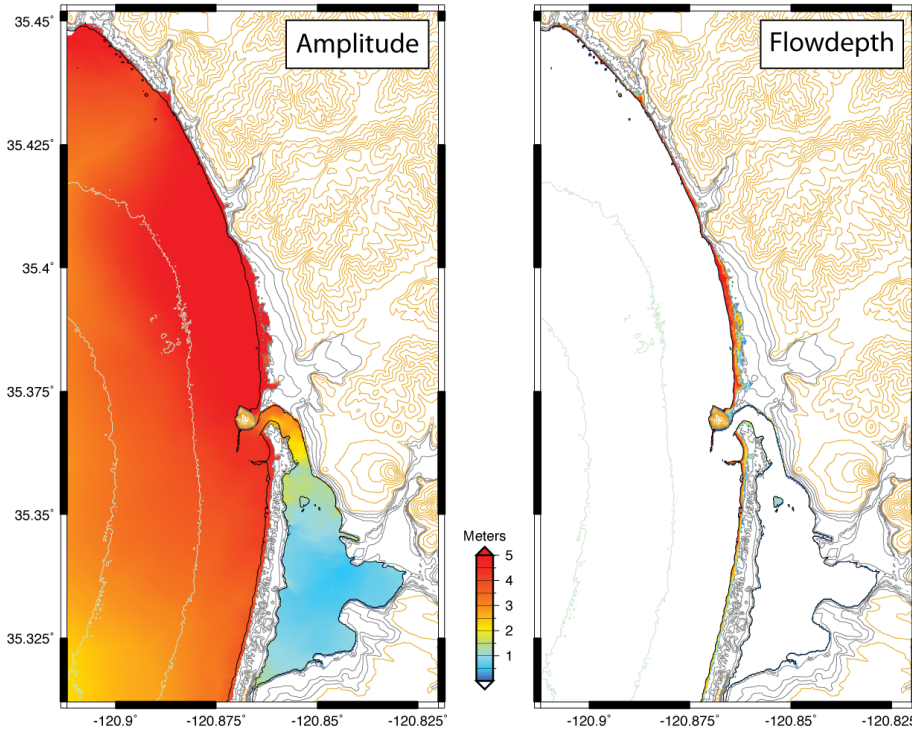


Figure B8. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around Morro Bay, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

## Port San Luis (Avila Beach)

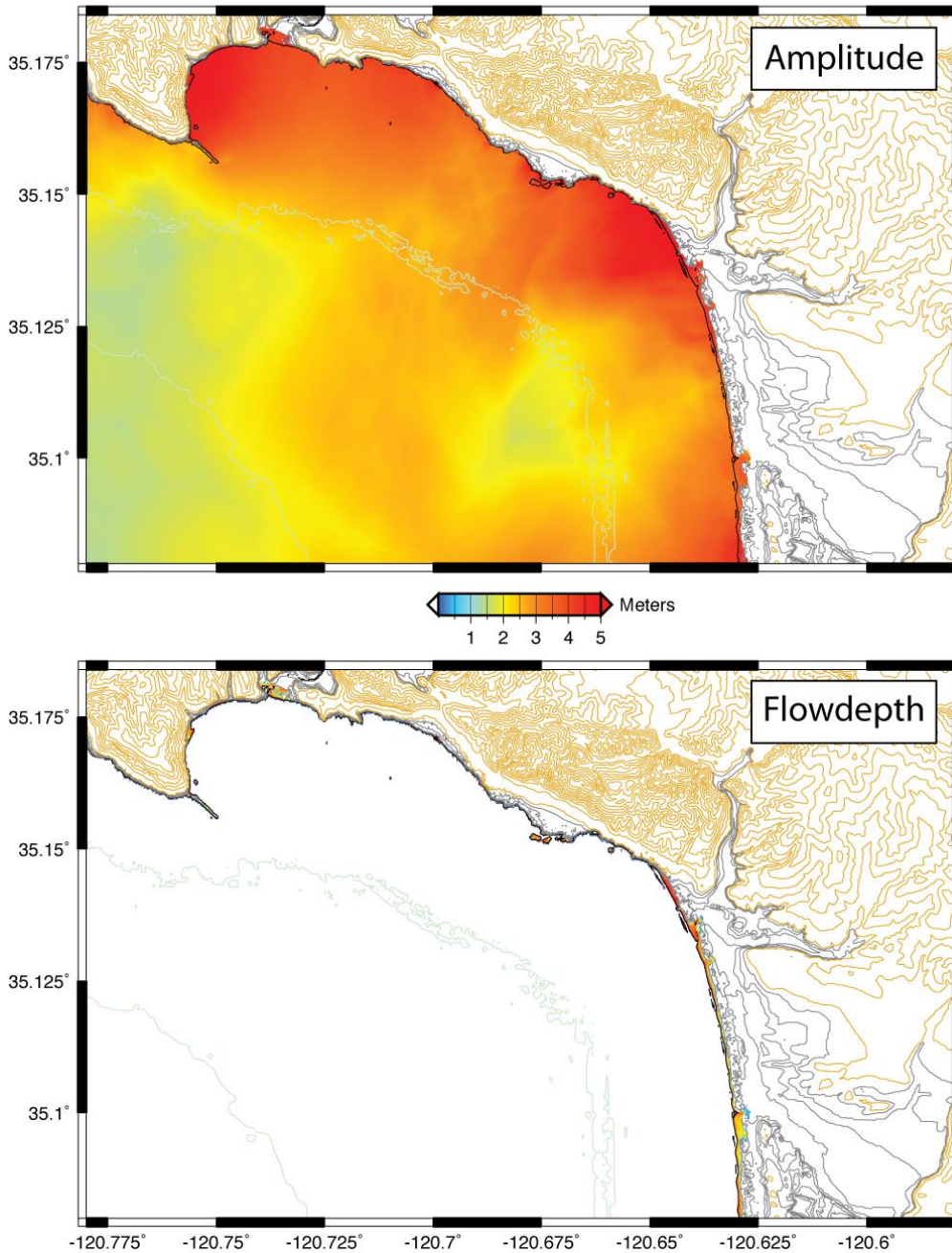


Figure B9. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (top) and maximum flow depth (bottom) in and around Port San Luis, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.



Ventura

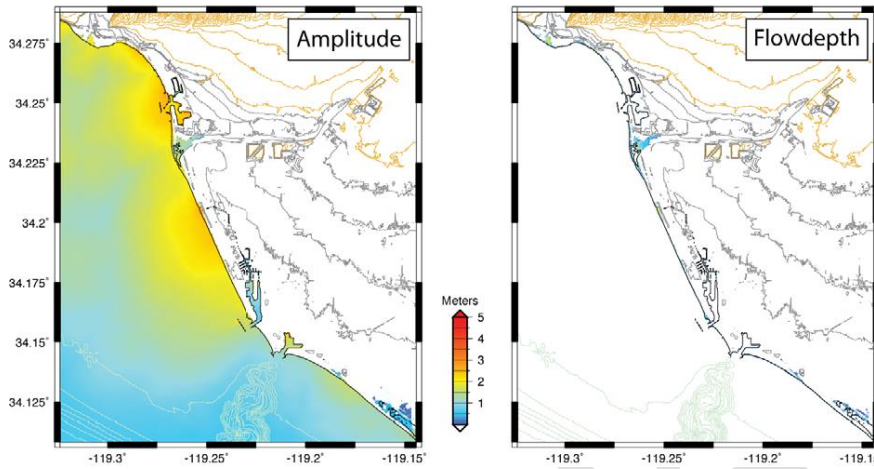


Figure B10. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around Ventura, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

Ports of Los Angeles/Long Beach

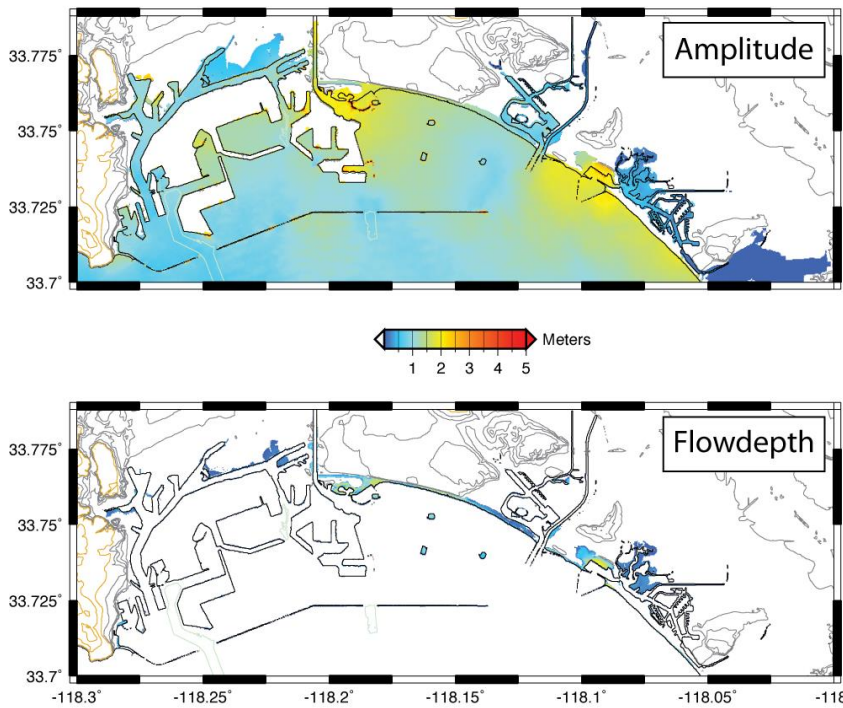


Figure B11. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (top) and maximum flow depth (bottom) in and around the Ports of Los Angeles and Long Beach, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

San Diego

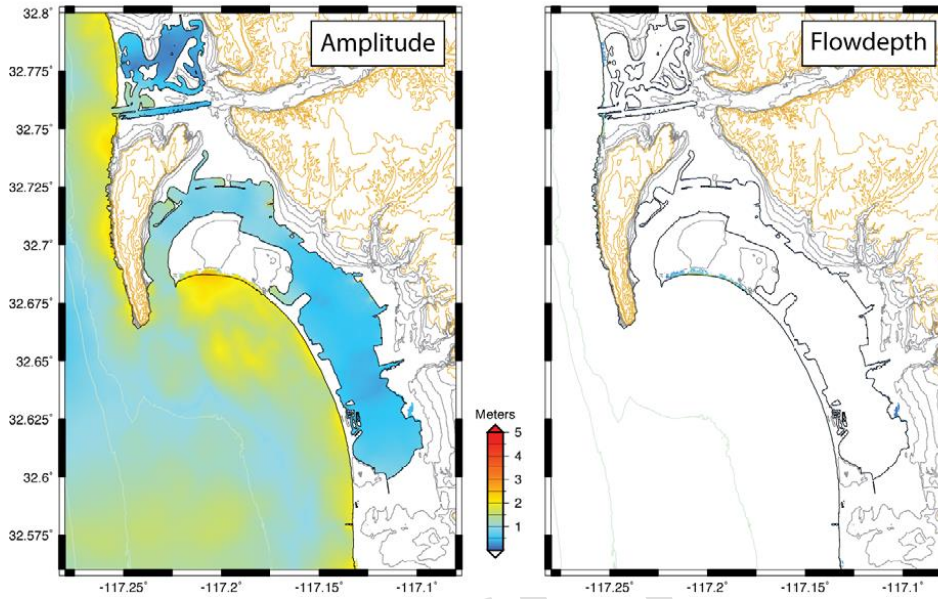


Figure B12. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum amplitude (left) and maximum flow depth (right) in and around San Diego, CA. The flow depths are only shown for areas where the elevations are above mean high water. Color bar refers to both amplitude and flow depth.

Using the highest resolution data available for tsunami modeling, The SAFRR Tsunami Modeling Workgroup (2013) produced expected current maps for certain harbors in California. Examples of this work are shown in Figures B13 through B16.

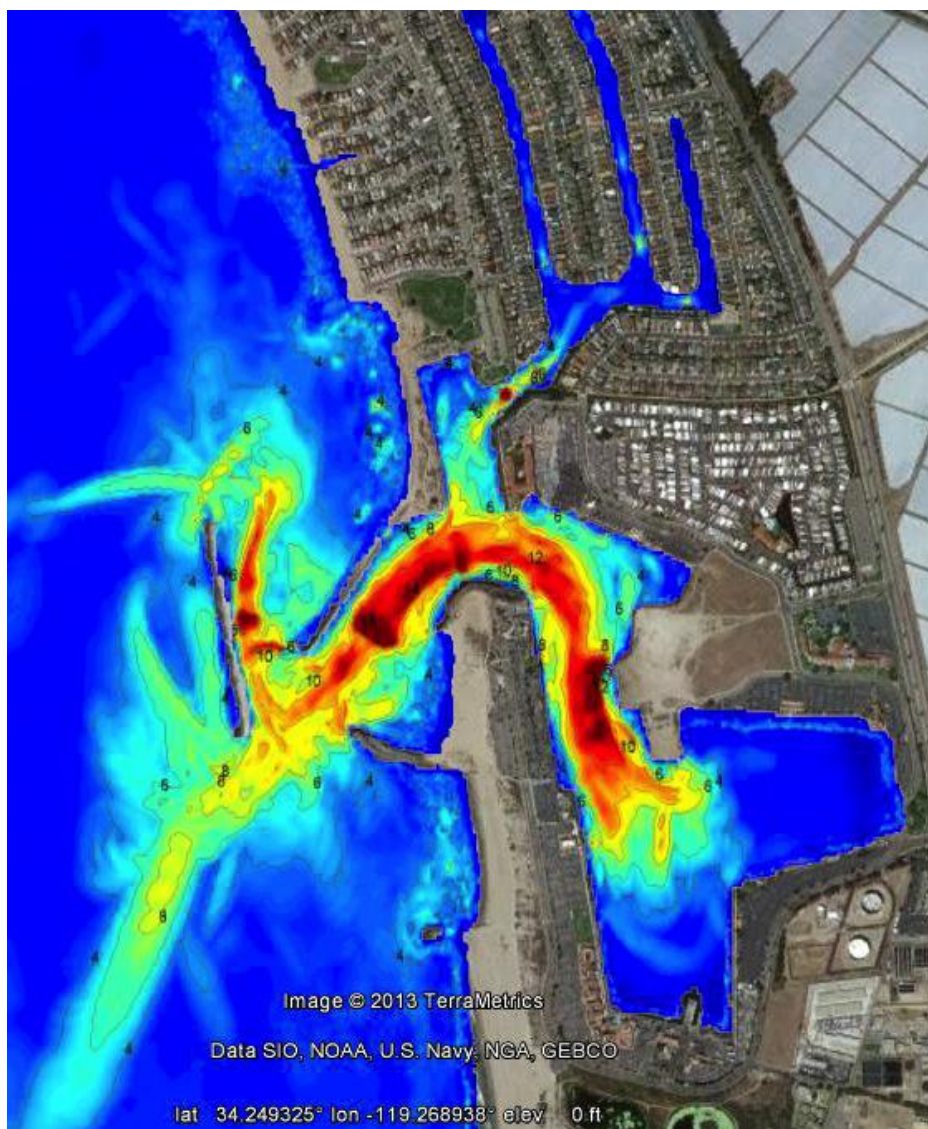


Figure B13. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum tsunami currents in knots (1 knot = 0.51 m/s) in and around Ventura Harbor, CA.



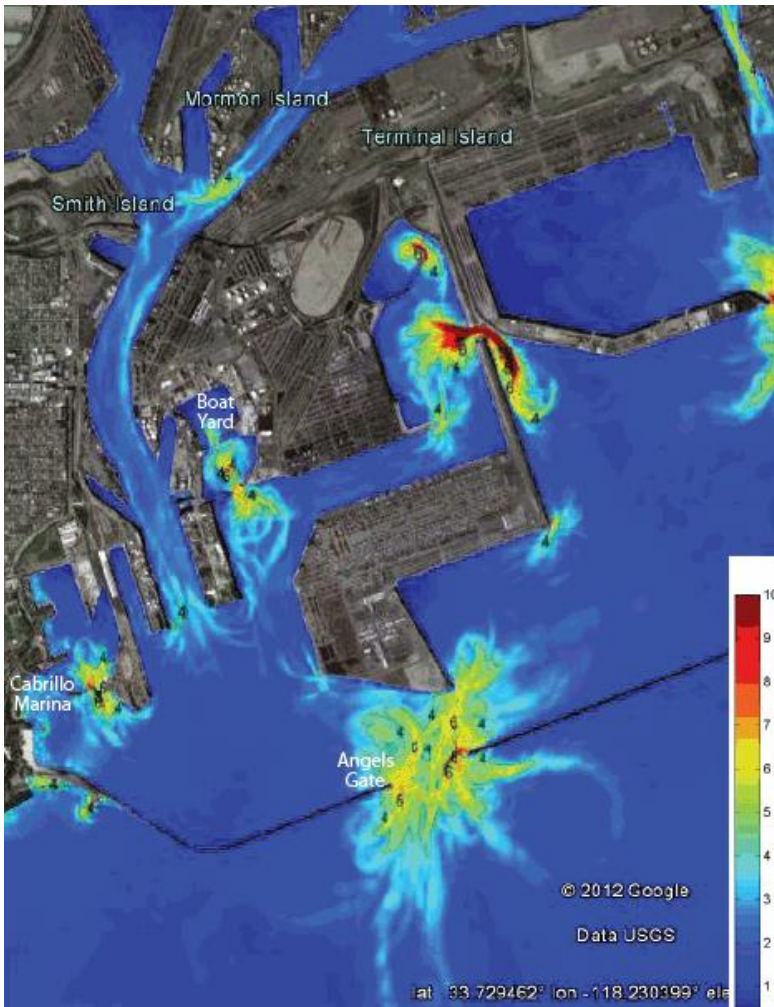


Figure B14. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum tsunami currents in knots (1 knot = 0.51 m/s) in and around the Port of Los Angeles, CA.

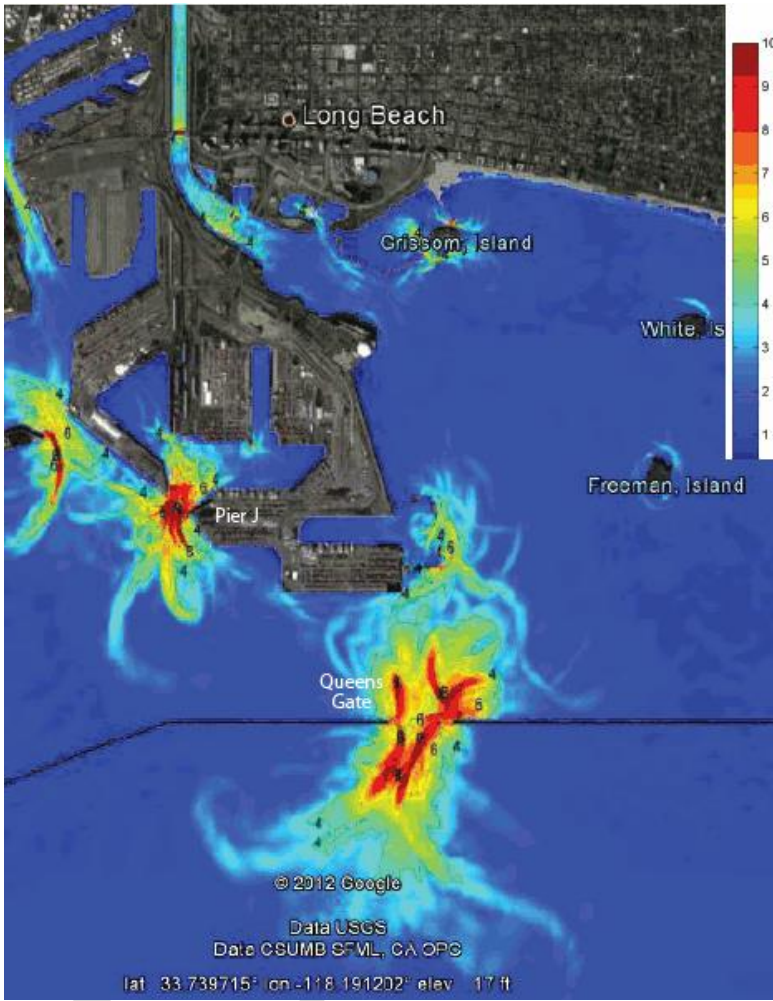


Figure B15. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum tsunami currents in knots (1 knot = 0.51 m/s) in and around Port of Long Beach, CA.

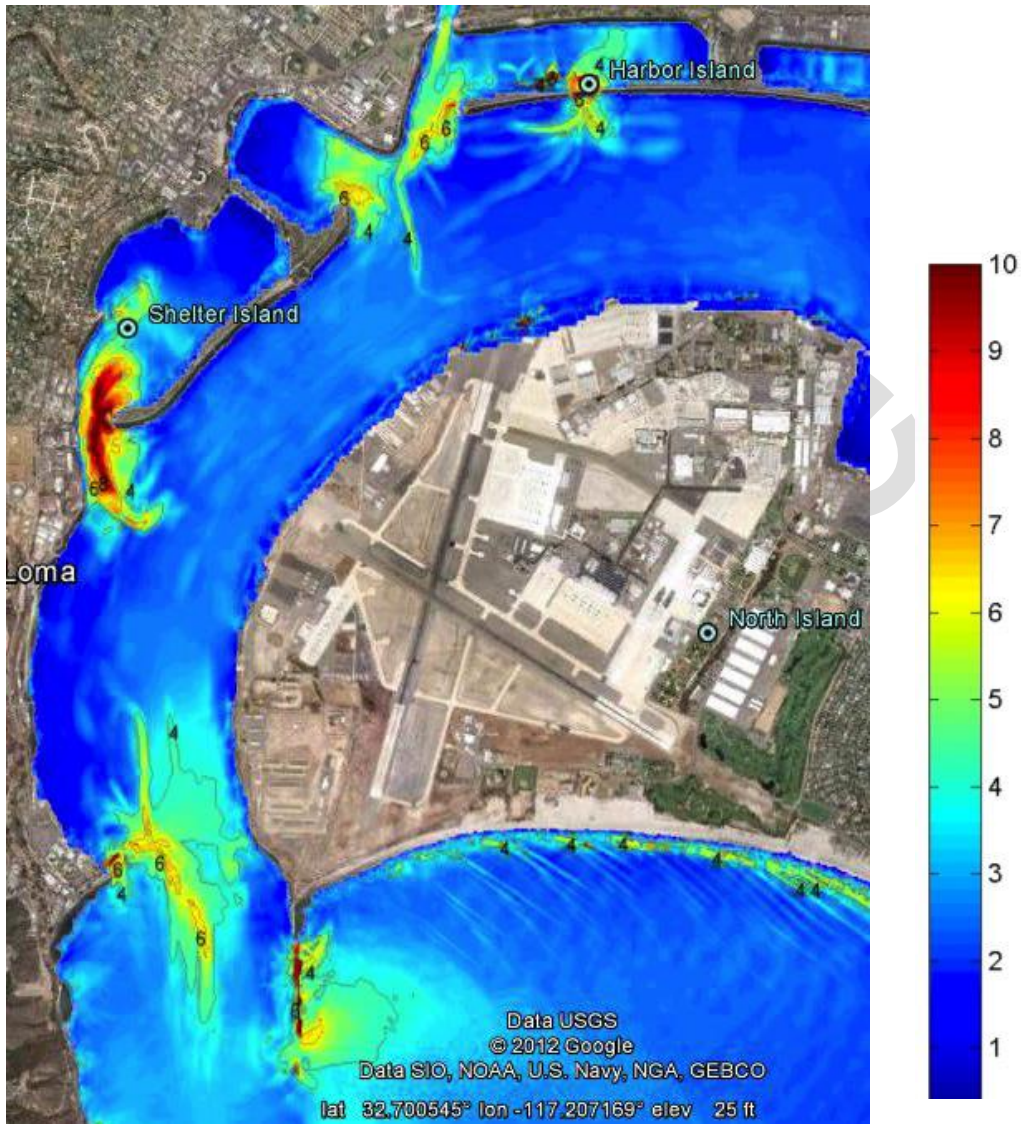


Figure B16. From The SAFRR Tsunami Modeling Working Group (2013); maps showing maximum tsunami currents in knots (1 knot = 0.51 m/s) in and around San Diego Harbor, CA.

Tsunami travel times are initially determined based on the depth of the water over which the tsunami passes. Figure B17 is a tsunami travel time map showing how long the tsunami will take to travel throughout the Pacific Ocean using NTWC product generation software.



## Tsunami Travel Times

Tsunami travel time contours in hours, beginning from the earthquake origin time.

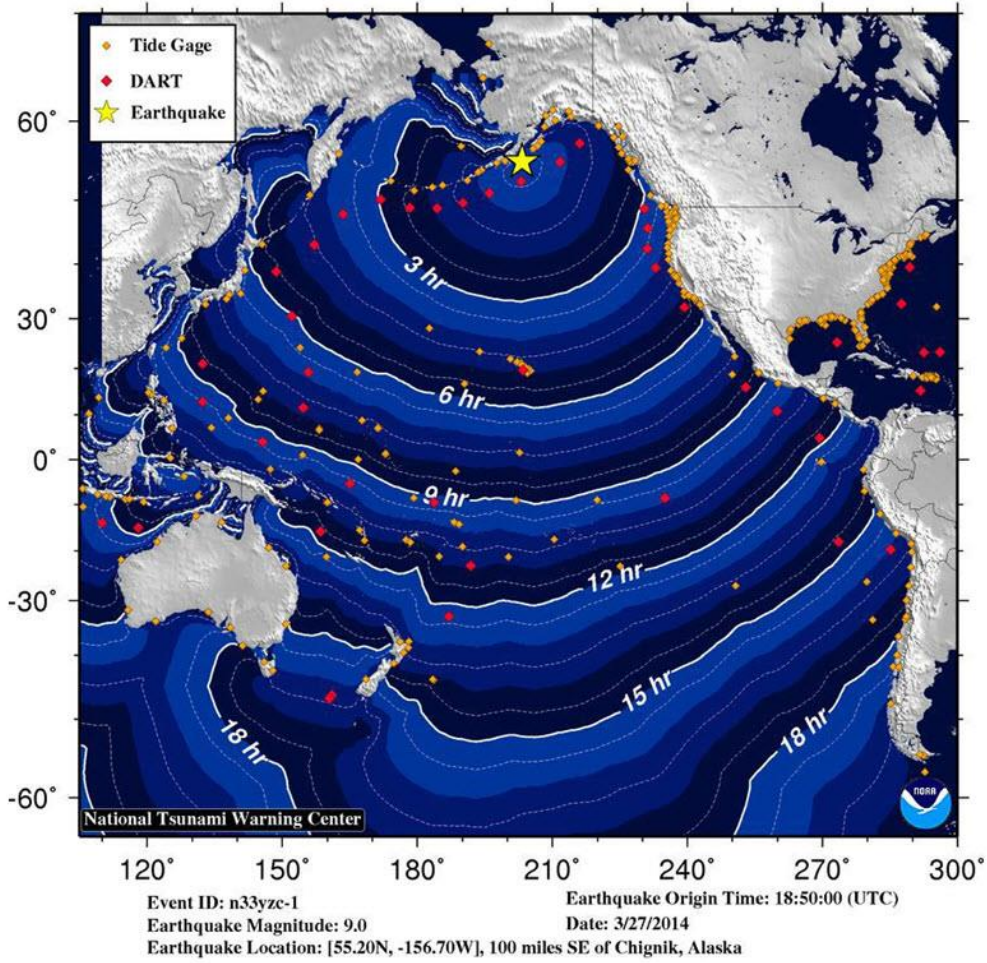


Figure B17: Tsunami travel time map for the Pacifex 14 exercise.

## Appendix C. TWC Dummy Message

### NTWC

WEAK51 PAAQ 271854  
TSUAK1

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1054 AM EDT THUR MAR 27 2014

...PACIFEX 14 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 14 PACIFIC TSUNAMI EXERCISE.  
THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL TSUNAMI  
WARNING CENTER. THE EXERCISE 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.

\$\$

Exercise



## Appendix D. TWC Exercise Messages

The following messages, created for the PACIFEX 14 tsunami exercise, are representative of the official standard products issued by the NTWC during a large magnitude 9.1 earthquake and tsunami originating 100 miles southeast of Chignik, Alaska at 55.2°N, 156.7°W. During a real event, the TWC would also issue graphical and html-based products to their web sites and via RSS.

### NTWC Bulletin #1

WEAK51 PAAQ 271854  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 1  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1054 AM AKDT THU MAR 27 2014

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

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

WARNINGS/ADVISORIES/WATCHES - UPDATED

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF BRITISH COLUMBIA AND ALASKA FROM THE NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA TO ATTU ALASKA

TSUNAMI WATCH IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON AND BRITISH COLUMBIA FROM THE CALIFORNIA-MEXICO BORDER TO THE NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE           8.2  
\* ORIGIN TIME        1050 AKDT MAR 27 2014  
                      1150 PDT MAR 27 2014  
                      1850 UTC MAR 27 2014  
\* COORDINATES        55.2 NORTH 156.7 WEST  
\* DEPTH               11 MILES  
\* LOCATION           100 MILES SE OF CHIGNIK ALASKA  
                      485 MILES SW OF ANCHORAGE ALASKA

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER

## PACIFEX 14 Handbook

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 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.
- \* 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	FORECAST START OF OF TSUNAMI
----	-----
* ALASKA	
SAND POINT	1213 AKDT MAR 27
KODIAK	1228 AKDT MAR 27
UNALASKA	1231 AKDT MAR 27
SEWARD	1253 AKDT MAR 27
COLD BAY	1254 AKDT MAR 27
ELFIN COVE	1255 AKDT MAR 27
ADAK	1256 AKDT MAR 27
YAKUTAT	1303 AKDT MAR 27
SITKA	1303 AKDT MAR 27
VALDEZ	1313 AKDT MAR 27
CORDOVA	1322 AKDT MAR 27
SHEMYA	1340 AKDT MAR 27
HOMER	1346 AKDT MAR 27
SAINT PAUL	1333 AKDT MAR 27
CRAIG	1404 AKDT MAR 27
* BRITISH COLUMBIA	
LANGARA	1413 PDT MAR 27
TOFINO	1540 PDT MAR 27
* WASHINGTON	
NEAH BAY	1552 PDT MAR 27
LONG BEACH	1555 PDT MAR 27

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MOCLIPS 1559 PDT MAR 27  
WESTPORT 1608 PDT MAR 27  
PORT ANGELES 1620 PDT MAR 27  
PORT TOWNSEND 1677 PDT MAR 27

\* OREGON

PORT ORFORD 1558 PDT MAR 27  
CHARLESTON 1603 PDT MAR 27  
SEASIDE 1606 PDT MAR 27  
NEWPORT 1610 PDT MAR 27  
BROOKINGS 1612 PDT MAR 27

\* CALIFORNIA

CRESCENT CITY 1612 PDT MAR 27  
FORT BRAGG 1618 PDT MAR 27  
MONTEREY 1642 PDT MAR 27  
SAN FRANCISCO 1706 PDT MAR 27  
PORT SAN LUIS 1707 PDT MAR 27  
SANTA BARBARA 1721 PDT MAR 27  
LOS ANGELES HARB 1737 PDT MAR 27  
NEWPORT BEACH 1739 PDT MAR 27  
LA JOLLA 1748 PDT MAR 27  
OCEANSIDE 1744 PDT MAR 27

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 30 MINUTES.

\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

\$\$

11.82

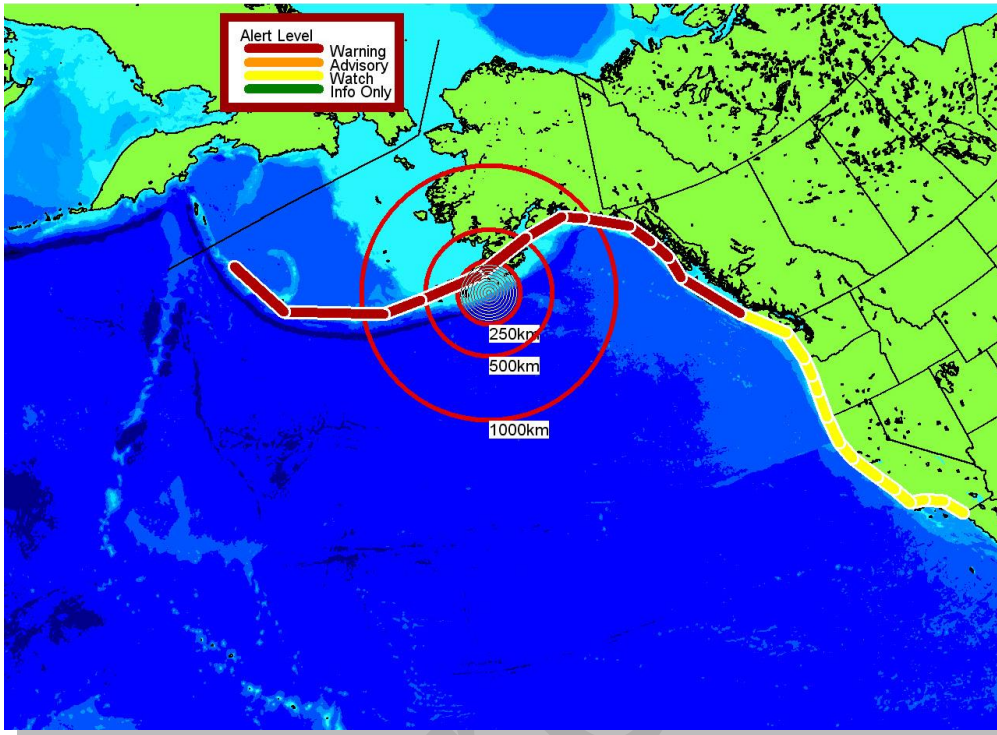


Figure D1: Watch/Warning areas after Bulletin 1.

**NTWC Bulletin #2**

WEAK51 PAAQ 271931  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 2  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1131 AM AKDT THU MAR 27 2014

THIS MESSAGE INCREASES MAGNITUDE TO 8.6.

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

...THE TSUNAMI WATCH REMAINS IN EFFECT...

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF BRITISH COLUMBIA AND ALASKA FROM THE  
NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA TO ATTU

PACIFEX 14 Handbook

ALASKA

TSUNAMI WATCH IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON AND BRITISH COLUMBIA FROM THE CALIFORNIA-MEXICO BORDER TO THE NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER 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 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.
- \* 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	FORECAST START OF OF TSUNAMI
* ALASKA	
SAND POINT	1213 AKDT MAR 27
KODIAK	1228 AKDT MAR 27
UNALASKA	1231 AKDT MAR 27
SEWARD	1253 AKDT MAR 27
COLD BAY	1254 AKDT MAR 27
ELFIN COVE	1255 AKDT MAR 27
ADAK	1256 AKDT MAR 27
YAKUTAT	1303 AKDT MAR 27
SITKA	1303 AKDT MAR 27

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VALDEZ	1313	AKDT	MAR 27
CORDOVA	1322	AKDT	MAR 27
SHEMYA	1340	AKDT	MAR 27
HOMER	1346	AKDT	MAR 27
SAINT PAUL	1333	AKDT	MAR 27
CRAIG	1404	AKDT	MAR 27

### \* BRITISH COLUMBIA

LANGARA	1413	PDT	MAR 27
TOFINO	1540	PDT	MAR 27

### \* WASHINGTON

NEAH BAY	1552	PDT	MAR 27
LONG BEACH	1555	PDT	MAR 27
MOCLIPS	1559	PDT	MAR 27
WESTPORT	1608	PDT	MAR 27
PORT ANGELES	1620	PDT	MAR 27
PORT TOWNSEND	1677	PDT	MAR 27

### \* OREGON

PORT ORFORD	1558	PDT	MAR 27
CHARLESTON	1603	PDT	MAR 27
SEASIDE	1606	PDT	MAR 27
NEWPORT	1610	PDT	MAR 27
BROOKINGS	1612	PDT	MAR 27

### \* CALIFORNIA

CRESCENT CITY	1612	PDT	MAR 27
FORT BRAGG	1618	PDT	MAR 27
MONTEREY	1642	PDT	MAR 27
SAN FRANCISCO	1706	PDT	MAR 27
PORT SAN LUIS	1707	PDT	MAR 27
SANTA BARBARA	1721	PDT	MAR 27
LOS ANGELES HARB	1737	PDT	MAR 27
NEWPORT BEACH	1739	PDT	MAR 27
LA JOLLA	1748	PDT	MAR 27
OCEANSIDE	1744	PDT	MAR 27

FORECAST MODELS PROJECT THAT 22 FOOT/6.7 METER WAVES COULD DEVELOP ALONG THE COAST OF ALASKA. WAVES OF THIS SIZE ARE KNOWN TO CAUSE INUNDATION AND DAMAGE TO COASTAL STRUCTURES. IN ALASKA THE TSUNAMI IS EXPECTED TO REACH PEAK SIZE 30 MINUTES TO TWO HOURS AFTER THE EXPECTED ARRIVAL TIME.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

-----  
DEEP OCEAN PRESSURE SENSOR DATA INDICATES A TSUNAMI WAS GENERATED.

### PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

-----  
\* MAGNITUDE 8.6  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA

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485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 30 MINUTES.
  - \* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

\$\$

**NTWC Bulletin #3**

WEAK51 PAAQ 272003  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 3  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
1203 PM AKDT THU MAR 27 2014

THIS MESSAGE INCREASES MAGNITUDE TO 9.1 AND EXPANDS THE  
WARNING AREA.

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

...THE TSUNAMI WATCH REMAINS IN EFFECT...

WARNINGS/ADVISORIES/WATCHES - UPDATED

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF OREGON - WASHINGTON AND BRITISH COLUMBIA FROM THE OREGON-CALIFORNIA BORDER TO THE NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA
- \* THE COASTAL AREAS OF BRITISH COLUMBIA AND ALASKA FROM THE NORTH TIP OF VANCOUVER ISLAND BRITISH COLUMBIA TO ATTU ALASKA

TSUNAMI WATCH IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO THE OREGON-CALIFORNIA BORDER

IMPACTS FOR TSUNAMI WARNING AREAS

-----

## PACIFEX 14 Handbook

\* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER 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 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.
- \* 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* ALASKA				
SAND POINT	1157 AKDT	MAR 27		4.5FT
KODIAK	1213 AKDT	MAR 27		
UNALASKA	1215 AKDT	MAR 27		
COLD BAY	1232 AKDT	MAR 27		
SEWARD	1239 AKDT	MAR 27		
ADAK	1240 AKDT	MAR 27		
ELFIN COVE	1240 AKDT	MAR 27		
YAKUTAT	1248 AKDT	MAR 27		
SITKA	1248 AKDT	MAR 27		
VALDEZ	1258 AKDT	MAR 27		
CORDOVA	1308 AKDT	MAR 27		
SHEMYA	1323 AKDT	MAR 27		
HOMER	1332 AKDT	MAR 27		
SAINT PAUL	1333 AKDT	MAR 27		
CRAIG	1351 AKDT	MAR 27		

\* BRITISH COLUMBIA

LANGARA	1400 PDT	MAR 27		
TOFINO	1527 PDT	MAR 27		

\* WASHINGTON



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NEAH BAY 1540 PDT MAR 27  
LONG BEACH 1538 PDT MAR 27  
MOCLIPS 1541 PDT MAR 27  
WESTPORT 1556 PDT MAR 27  
PORT ANGELES 1610 PDT MAR 27  
PORT TOWNSEND 1637 PDT MAR 27

\* OREGON

PORT ORFORD 1542 PDT MAR 27  
CHARLESTON 1547 PDT MAR 27  
SEASIDE 1548 PDT MAR 27  
NEWPORT 1552 PDT MAR 27  
BROOKINGS 1554 PDT MAR 27

\* CALIFORNIA

CRESCENT CITY 1606 PDT MAR 27  
FORT BRAGG 1602 PDT MAR 27  
MONTEREY 1632 PDT MAR 27  
SAN FRANCISCO 1702 PDT MAR 27  
PORT SAN LUIS 1656 PDT MAR 27  
SANTA BARBARA 1718 PDT MAR 27  
LOS ANGELES HARB 1735 PDT MAR 27  
NEWPORT BEACH 1733 PDT MAR 27  
LA JOLLA 1746 PDT MAR 27  
OCEANSIDE 1738 PDT MAR 27

FORECAST MODELS PROJECT THAT 22 FOOT/6.7 METER WAVES COULD DEVELOP ALONG THE COAST OF ALASKA. WAVES OF THIS SIZE ARE KNOWN TO CAUSE INUNDATION AND DAMAGE TO COASTAL STRUCTURES. IN ALASKA THE TSUNAMI IS EXPECTED TO REACH PEAK SIZE 30 MINUTES TO TWO HOURS AFTER THE EXPECTED ARRIVAL TIME. A 4.5-FOOT TSUNAMI HAS BEEN REPORTED AT SAND POINT AK.

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.

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

-----  
DEEP OCEAN PRESSURE SENSOR DATA INDICATES A TSUNAMI WAS GENERATED.

PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

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NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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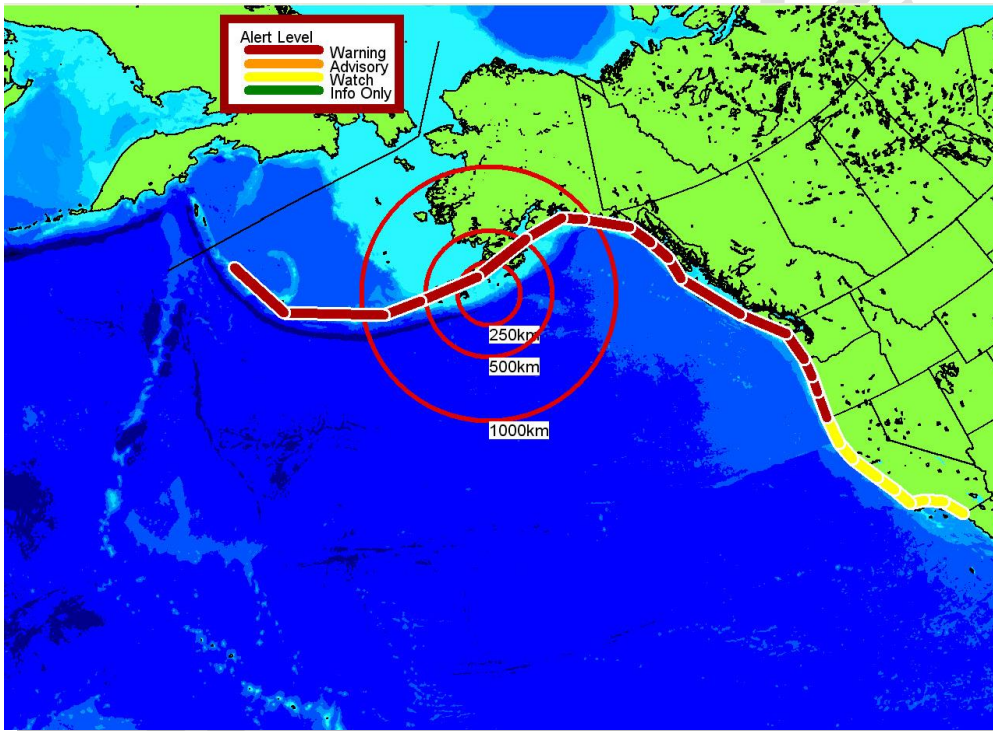


Figure D2: Watch/Warning areas after Bulletin 3.

**NTWC Bulletin #4**

WEAK51 PAAQ 272105  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 4  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
105 PM AKDT THU MAR 27 2014

## PACIFEX 14 Handbook

THIS MESSAGE EXPANDS THE WARNING/ADVISORY AREA AND REMOVES THE WATCH. FORECAST TSUNAMI HEIGHTS ARE ADDED BELOW.

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

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

### WARNINGS/ADVISORIES/WATCHES - UPDATED

#### ----- TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO THE OREGON-CALIFORNIA BORDER
- \* THE COASTAL AREAS OF OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-CALIFORNIA BORDER TO NIKOLSKI ALASKA

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

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

### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

## PACIFEX 14 Handbook

\* 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* ALASKA				
SAND POINT	1157 AKDT MAR 27	48 HRS	17.0FT+/-5.1	4.5FT
KODIAK	1213 AKDT MAR 27	24 HRS	4.1FT +/-1.2	4.5FT
UNALASKA	1215 AKDT MAR 27	24 HRS	2.9FT +/-0.9	0.8FT
COLD BAY	1232 AKDT MAR 27	24 HRS	3.0FT +/-0.9	
SEWARD	1239 AKDT MAR 27	18 HRS	2.6FT +/-0.8	3.2FT
ADAK	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	0.6FT
ELFIN COVE	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	1.3FT
YAKUTAT	1248 AKDT MAR 27	24 HRS	2.9FT +/-0.9	
SITKA	1248 AKDT MAR 27	30 HRS	4.6FT +/-1.4	2.6FT
VALDEZ	1258 AKDT MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308 AKDT MAR 27		Less than 1 FT	
SHEMYA	1323 AKDT MAR 27		Less than 1 FT	
HOMER	1332 AKDT MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333 AKDT MAR 27		Less than 1 FT	
CRAIG	1351 AKDT MAR 27			
* BRITISH COLUMBIA				
LANGARA	1400 PDT MAR 27	18 HRS	1.6FT +/- 0.5	
TOFINO	1527 PDT MAR 27	24 HRS	3.2FT +/- 1.0	
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	
LONG BEACH	1538 PDT MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541 PDT MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556 PDT MAR 27	18 HRS	2.4FT +/- 0.7	
PORT ANGELES	1610 PDT MAR 27	18 HRS	1.6FT +/- 0.5	
PORT TOWNSEND	1637 PDT MAR 27	18 HRS	2.5FT +/- 0.7	
* OREGON				
PORT ORFORD	1542 PDT MAR 27	36 HRS	5.6FT +/- 1.7	
CHARLESTON	1547 PDT MAR 27	24 HRS	2.8FT +/- 0.8	
SEASIDE	1548 PDT MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552 PDT MAR 27	36 HRS	6.0FT +/- 2.0	
BROOKINGS	1554 PDT MAR 27	36 HRS	5.2FT +/- 1.6	
* CALIFORNIA				
CRESCENT CITY	1606 PDT MAR 27	42 HRS	6.9FT +/- 2.1	
FORT BRAGG	1602 PDT MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632 PDT MAR 27	24 HRS	3.1FT +/- 1.0	
SAN FRANCISCO	1702 PDT MAR 27	24 HRS	3.0FT +/- 0.9	
PORT SAN LUIS	1656 PDT MAR 27	30 HRS	4.6FT +/- 1.4	
SANTA BARBARA	1718 PDT MAR 27	24 HRS	2.7FT +/- 0.8	
LOS ANGELES HARB	1735 PDT MAR 27	18 HRS	2.3FT +/- 0.7	
NEWPORT BEACH	1733 PDT MAR 27	18 HRS	2.0FT +/- 0.7	

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LA JOLLA 1746 PDT MAR 27 24 HRS 3.5FT +/- 1.1  
OCEANSIDE 1738 PDT MAR 27 24 HRS 3.1FT +/- 1.0

A 4.5-FOOT TSUNAMI HAS BEEN REPORTED AT KODIAK AK. KING COVE AK HAS REPORTED A 4.3-FOOT TSUNAMI, AND CHIGNIK AK HAS REPORTED A 21.8-FOOT TSUNAMI.

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.

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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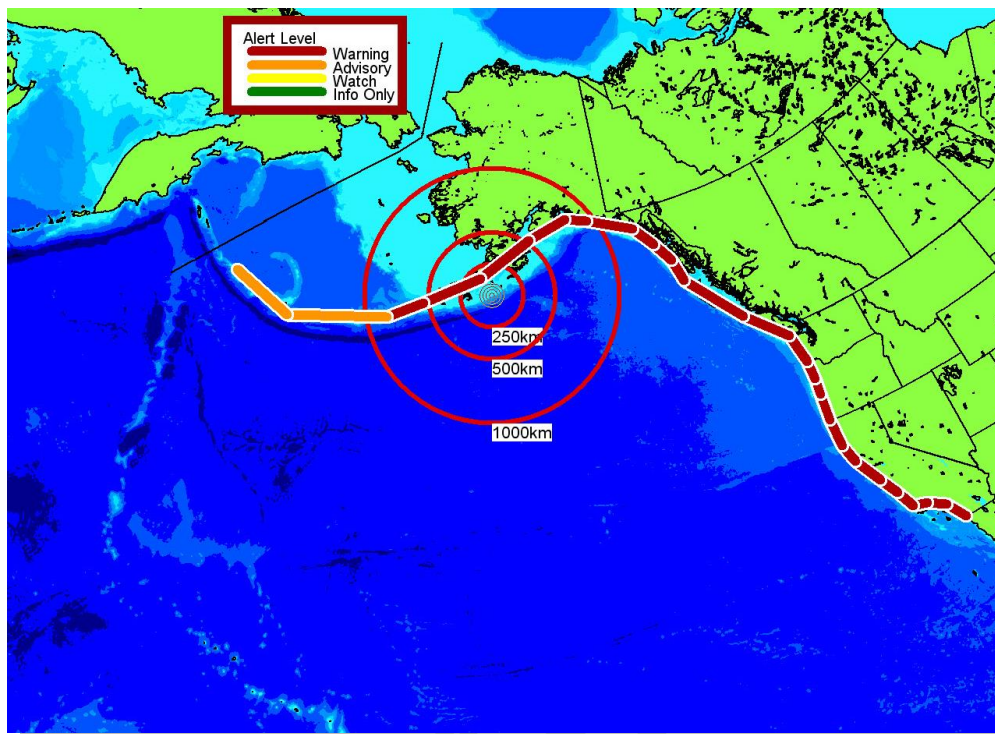


Figure D3: Watch/Advisories areas after Bulletin 4.

**NTWC Bulletin #5**

WEAK51 PAAQ 272201  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 5  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
201 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

## PACIFEX 14 Handbook

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* ALASKA				
SAND POINT	1157 AKDT MAR 27	48 HRS	17.0FT+/-5.1	11.6FT
KODIAK	1213 AKDT MAR 27	24 HRS	4.1FT +/-1.2	4.5FT
UNALASKA	1215 AKDT MAR 27	24 HRS	2.9FT +/-0.9	1.4FT
COLD BAY	1232 AKDT MAR 27	24 HRS	3.0FT +/-0.9	
SEWARD	1239 AKDT MAR 27	18 HRS	2.6FT +/-0.8	3.2FT

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ADAK	1240	AKDT	MAR 27	18 HRS	1.9FT +/-0.6	0.9FT
ELFIN COVE	1240	AKDT	MAR 27	18 HRS	1.9FT +/-0.6	1.3FT
YAKUTAT	1248	AKDT	MAR 27	24 HRS	2.9FT +/-0.9	1.7FT
SITKA	1248	AKDT	MAR 27	30 HRS	4.6FT +/-1.4	2.6FT
VALDEZ	1258	AKDT	MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308	AKDT	MAR 27		Less than 1 FT	
SHEMYA	1323	AKDT	MAR 27		Less than 1 FT	0.3FT
HOMER	1332	AKDT	MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333	AKDT	MAR 27		Less than 1 FT	
CRAIG	1351	AKDT	MAR 27			2.8FT

\* BRITISH COLUMBIA

LANGARA	1400	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	
TOFINO	1527	PDT	MAR 27	24 HRS	3.2FT +/- 1.0	

\* WASHINGTON

NEAH BAY	1540	PDT	MAR 27	18 HRS	2.0FT +/- 0.6	
LONG BEACH	1538	PDT	MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541	PDT	MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556	PDT	MAR 27	18 HRS	2.4FT +/- 0.7	
PORT ANGELES	1610	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	
PORT TOWNSEND	1637	PDT	MAR 27	18 HRS	2.5FT +/- 0.7	

\* OREGON

PORT ORFORD	1542	PDT	MAR 27	36 HRS	5.6FT +/- 1.7	
CHARLESTON	1547	PDT	MAR 27	24 HRS	2.8FT +/- 0.8	
SEASIDE	1548	PDT	MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552	PDT	MAR 27	36 HRS	6.0FT +/- 2.0	
BROOKINGS	1554	PDT	MAR 27	36 HRS	5.2FT +/- 1.6	

\* CALIFORNIA

CRESCENT CITY	1606	PDT	MAR 27	42 HRS	6.9FT +/- 2.1	
FORT BRAGG	1602	PDT	MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	
SAN FRANCISCO	1702	PDT	MAR 27	24 HRS	3.0FT +/- 0.9	
PORT SAN LUIS	1656	PDT	MAR 27	30 HRS	4.6FT +/- 1.4	
SANTA BARBARA	1718	PDT	MAR 27	24 HRS	2.7FT +/- 0.8	
LOS ANGELES HARB	1735	PDT	MAR 27	18 HRS	2.3FT +/- 0.7	
NEWPORT BEACH	1733	PDT	MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746	PDT	MAR 27	24 HRS	3.5FT +/- 1.1	
OCEANSIDE	1738	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	

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.

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
KING COVE AK	2023 UTC 3-27	4.33 FT



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CHIGNIK AK	2026	UTC	3-27	21.82 FT
NIKOLSKI AK	2054	UTC	3-27	1.61 FT
UNALASKA AK	2056	UTC	3-27	1.44 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #6**

WEAK51 PAAQ 272301  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 6  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
301 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH NEW OBSERVATIONS AND FORECAST DURATIONS.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -

## PACIFEX 14 Handbook

BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* ALASKA				
SAND POINT	1157 AKDT MAR 27	48 HRS	17.0FT+/-5.1	11.6FT
KODIAK	1213 AKDT MAR 27	24 HRS	4.1FT +/-1.2	4.5FT
UNALASKA	1215 AKDT MAR 27	24 HRS	2.9FT +/-0.9	1.4FT

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COLD BAY	1232	AKDT	MAR 27	24 HRS	3.0FT +/-0.9	
SEWARD	1239	AKDT	MAR 27	18 HRS	2.6FT +/-0.8	3.2FT
ADAK	1240	AKDT	MAR 27	18 HRS	1.9FT +/-0.6	0.9FT
ELFIN COVE	1240	AKDT	MAR 27	18 HRS	1.9FT +/-0.6	1.3FT
YAKUTAT	1248	AKDT	MAR 27	24 HRS	2.9FT +/-0.9	1.7FT
SITKA	1248	AKDT	MAR 27	30 HRS	4.6FT +/-1.4	3.7FT
VALDEZ	1258	AKDT	MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308	AKDT	MAR 27		Less than 1 FT	0.9FT
SHEMYA	1323	AKDT	MAR 27		Less than 1 FT	0.3FT
HOMER	1332	AKDT	MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333	AKDT	MAR 27		Less than 1 FT	
CRAIG	1351	AKDT	MAR 27			2.8FT

\* BRITISH COLUMBIA

LANGARA	1400	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	
TOFINO	1527	PDT	MAR 27	24 HRS	3.2FT +/- 1.0	

\* WASHINGTON

NEAH BAY	1540	PDT	MAR 27	18 HRS	2.0FT +/- 0.6	
LONG BEACH	1538	PDT	MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541	PDT	MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556	PDT	MAR 27	18 HRS	2.4FT +/- 0.7	
PORT ANGELES	1610	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	
PORT TOWNSEND	1637	PDT	MAR 27	18 HRS	2.5FT +/- 0.7	

\* OREGON

PORT ORFORD	1542	PDT	MAR 27	36 HRS	5.6FT +/- 1.7	4.9FT
CHARLESTON	1547	PDT	MAR 27	24 HRS	2.8FT +/- 0.8	
SEASIDE	1548	PDT	MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552	PDT	MAR 27	36 HRS	6.0FT +/- 2.0	
BROOKINGS	1554	PDT	MAR 27	36 HRS	5.2FT +/- 1.6	

\* CALIFORNIA

CRESCENT CITY	1606	PDT	MAR 27	42 HRS	6.9FT +/- 2.1	
FORT BRAGG	1602	PDT	MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	
SAN FRANCISCO	1702	PDT	MAR 27	24 HRS	3.0FT +/- 0.9	
PORT SAN LUIS	1656	PDT	MAR 27	30 HRS	4.6FT +/- 1.4	
SANTA BARBARA	1718	PDT	MAR 27	24 HRS	2.7FT +/- 0.8	
LOS ANGELES HARB	1735	PDT	MAR 27	18 HRS	2.3FT +/- 0.7	
NEWPORT BEACH	1733	PDT	MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746	PDT	MAR 27	24 HRS	3.5FT +/- 1.1	
OCEANSIDE	1738	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	

FORECAST MODELS PROJECT TSUNAMIS UP TO 12.0-FOOT HEIGHT COULD DEVELOP IN CERTAIN LOCATIONS ALONG THE US AND CANADIAN WEST COASTS. WAVES OF THIS SIZE ARE KNOWN TO CAUSE INUNDATION AND DAMAGE TO COASTAL STRUCTURES. ALONG THE WEST COAST TSUNAMIS ARE EXPECTED TO REACH PEAK SIZE TWO TO THREE HOURS AFTER THE EXPECTED ARRIVAL TIME AND VERY SLOWLY DIMINSH AFTER THAT.

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.

PACIFEX 14 Handbook

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
ADAK AK	2142 UTC 3-27	0.86 FT
CRAIG AK	2152 UTC 3-27	2.79 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
PORT ORFORD OR	2252 UTC 3-27	4.92 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #7**

WEAK51 PAAQ 280002  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 7  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
402 PM AKDT THU MAR 27 2014

## PACIFEX 14 Handbook

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

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

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

#### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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

## PACIFEX 14 Handbook

INDICATE IT IS SAFE TO DO SO.

### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

SITE	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* ALASKA				
SAND POINT	1157 AKDT MAR 27	48 HRS	17.0FT+/-5.1	11.6FT
KODIAK	1213 AKDT MAR 27	24 HRS	4.1FT +/-1.2	4.5FT
UNALASKA	1215 AKDT MAR 27	24 HRS	2.9FT +/-0.9	1.4FT
COLD BAY	1232 AKDT MAR 27	24 HRS	3.0FT +/-0.9	
SEWARD	1239 AKDT MAR 27	18 HRS	2.6FT +/-0.8	3.2FT
ADAK	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	0.9FT
ELFIN COVE	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	1.3FT
YAKUTAT	1248 AKDT MAR 27	24 HRS	2.9FT +/-0.9	2.4FT
SITKA	1248 AKDT MAR 27	30 HRS	4.6FT +/-1.4	3.7FT
VALDEZ	1258 AKDT MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308 AKDT MAR 27		Less than 1 FT	0.9FT
SHEMYA	1323 AKDT MAR 27		Less than 1 FT	0.3FT
HOMER	1332 AKDT MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333 AKDT MAR 27		Less than 1 FT	
CRAIG	1351 AKDT MAR 27			2.8FT
* BRITISH COLUMBIA				
LANGARA	1400 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.6FT
TOFINO	1527 PDT MAR 27	24 HRS	3.2FT +/- 1.0	2.4FT
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
LONG BEACH	1538 PDT MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541 PDT MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556 PDT MAR 27	18 HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.4FT
PORT TOWNSEND	1637 PDT MAR 27	18 HRS	2.5FT +/- 0.7	
* OREGON				
PORT ORFORD	1542 PDT MAR 27	36 HRS	5.6FT +/- 1.7	6.8FT
CHARLESTON	1547 PDT MAR 27	24 HRS	2.8FT +/- 0.8	1.6FT
SEASIDE	1548 PDT MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552 PDT MAR 27	36 HRS	6.0FT +/- 2.0	2.5FT
BROOKINGS	1554 PDT MAR 27	36 HRS	5.2FT +/- 1.6	
* CALIFORNIA				
CRESCENT CITY	1606 PDT MAR 27	42 HRS	6.9FT +/- 2.1	5.9FT
FORT BRAGG	1602 PDT MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632 PDT MAR 27	24 HRS	3.1FT +/- 1.0	4.0FT
SAN FRANCISCO	1702 PDT MAR 27	24 HRS	3.0FT +/- 0.9	2.4FT
PORT SAN LUIS	1656 PDT MAR 27	30 HRS	4.6FT +/- 1.4	
SANTA BARBARA	1718 PDT MAR 27	24 HRS	2.7FT +/- 0.8	
LOS ANGELES HARB	1735 PDT MAR 27	18 HRS	2.3FT +/- 0.7	
NEWPORT BEACH	1733 PDT MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746 PDT MAR 27	24 HRS	3.5FT +/- 1.1	
OCEANSIDE	1738 PDT MAR 27	24 HRS	3.1FT +/- 1.0	

## PACIFEX 14 Handbook

FORECAST MODELS PROJECT TSUNAMIS UP TO 12.0-FOOT HEIGHT COULD DEVELOP IN CERTAIN LOCATIONS ALONG THE US AND CANADIAN WEST COASTS. WAVES OF THIS SIZE ARE KNOWN TO CAUSE INUNDATION AND DAMAGE TO COASTAL STRUCTURES. ALONG THE WEST COAST TSUNAMIS ARE EXPECTED TO REACH PEAK SIZE TWO TO THREE HOURS AFTER THE EXPECTED ARRIVAL TIME AND VERY SLOWLY DIMINSH AFTER THAT.

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.

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

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	2314 UTC 3-27	2.76 FT
POINT REYES CA	2344 UTC 3-27	3.15 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	2347 UTC 3-27	1.74 FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 9.1  
 \* ORIGIN TIME 1050 AKDT MAR 27 2014  
 1150 PDT MAR 27 2014  
 1850 UTC MAR 27 2014  
 \* COORDINATES 55.2 NORTH 156.7 WEST  
 \* DEPTH 11 MILES  
 \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
 485 MILES SW OF ANCHORAGE ALASKA

PACIFEX 14 Handbook

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
  - \* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #8**

WEAK51 PAAQ 280101  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 8  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
501 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.

- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

IMPACTS FOR TSUNAMI ADVISORY AREAS



## PACIFEX 14 Handbook

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- \* A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
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  - \* THE FIRST WAVE MAY NOT BE THE LARGEST.

### RECOMMENDED ACTIONS

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- \* IF YOU ARE IN A WARNING AREA - MOVE INLAND TO HIGHER GROUND.
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### FORECASTS AND/OR OBSERVATIONS OF TSUNAMI ACTIVITY

SITE	FORECAST START OF OF TSUNAMI	FORECAST DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
----	-----	-----	-----	-----
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COLD BAY	1232 AKDT MAR 27	24 HRS	3.0FT +/-0.9	
SEWARD	1239 AKDT MAR 27	18 HRS	2.6FT +/-0.8	4.1FT
ADAK	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	1.0FT
ELFIN COVE	1240 AKDT MAR 27	18 HRS	1.9FT +/-0.6	1.3FT
YAKUTAT	1248 AKDT MAR 27	24 HRS	2.9FT +/-0.9	2.4FT
SITKA	1248 AKDT MAR 27	30 HRS	4.6FT +/-1.4	3.7FT
VALDEZ	1258 AKDT MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308 AKDT MAR 27		Less than 1 FT	0.9FT
SHEMYA	1323 AKDT MAR 27		Less than 1 FT	0.3FT
HOMER	1332 AKDT MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333 AKDT MAR 27		Less than 1 FT	
CRAIG	1351 AKDT MAR 27			3.9FT
* BRITISH COLUMBIA				
LANGARA	1400 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.6FT
TOFINO	1527 PDT MAR 27	24 HRS	3.2FT +/- 1.0	2.4FT
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
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MOCLIPS	1541	PDT	MAR 27	36	HRS	5.0FT +/- 1.6	
WESTPORT	1556	PDT	MAR 27	18	HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610	PDT	MAR 27	18	HRS	1.6FT +/- 0.5	1.4FT
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\* OREGON

PORT ORFORD	1542	PDT	MAR 27	36	HRS	5.6FT +/- 1.7	6.8FT
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BROOKINGS	1554	PDT	MAR 27	36	HRS	5.2FT +/- 1.6	

\* CALIFORNIA

CRESCENT CITY	1606	PDT	MAR 27	42	HRS	6.9FT +/- 2.1	6.7FT
FORT BRAGG	1602	PDT	MAR 27	24	HRS	3.9FT +/- 1.3	
MONTEREY	1632	PDT	MAR 27	24	HRS	3.1FT +/- 1.0	4.0FT
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LOS ANGELES HARB	1735	PDT	MAR 27	18	HRS	2.3FT +/- 0.7	1.2FT
NEWPORT BEACH	1733	PDT	MAR 27	18	HRS	2.0FT +/- 0.7	
LA JOLLA	1746	PDT	MAR 27	24	HRS	3.5FT +/- 1.1	
OCEANSIDE	1738	PDT	MAR 27	24	HRS	3.1FT +/- 1.0	

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

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ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
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CHIGNIK AK	2026 UTC 3-27	21.82 FT
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UNALASKA AK	2056 UTC 3-27	1.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	2344 UTC 3-27	3.15 FT
ALAMEDA CA	0029 UTC 3-28	1.12 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0022 UTC 3-28	5.58 FT
SANTA MONICA CA	0044 UTC 3-28	2.43 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT

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HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT

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 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

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\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV) FOR MORE INFORMATION.  
  
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**NTWC Bulletin #9**

WEAK51 PAAQ 280201  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 9  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
601 PM AKDT THU MAR 27 2014

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

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

WARNINGS/ADVISORIES/WATCHES - UPDATED

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TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO

PACIFEX 14 Handbook

BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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

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- \* 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
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ADAK	1240	AKDT	MAR 27	18 HRS	1.9FT +/-0.6	1.0FT
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SITKA	1248	AKDT	MAR 27	30 HRS	4.6FT +/-1.4	3.7FT
VALDEZ	1258	AKDT	MAR 27	18 HRS	1.5FT +/-0.5	
CORDOVA	1308	AKDT	MAR 27		Less than 1 FT	0.9FT
SHEMYA	1323	AKDT	MAR 27		Less than 1 FT	0.3FT
HOMER	1332	AKDT	MAR 27	24 HRS	3.2FT +/-1.0	
SAINT PAUL	1333	AKDT	MAR 27		Less than 1 FT	
CRAIG	1351	AKDT	MAR 27			3.9FT

\* BRITISH COLUMBIA

LANGARA	1400	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	1.6FT
TOFINO	1527	PDT	MAR 27	24 HRS	3.2FT +/- 1.0	2.4FT

\* WASHINGTON

NEAH BAY	1540	PDT	MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
LONG BEACH	1538	PDT	MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541	PDT	MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556	PDT	MAR 27	18 HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610	PDT	MAR 27	18 HRS	1.6FT +/- 0.5	1.4FT
PORT TOWNSEND	1637	PDT	MAR 27	18 HRS	2.5FT +/- 0.7	

\* OREGON

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SEASIDE	1548	PDT	MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552	PDT	MAR 27	36 HRS	6.0FT +/- 2.0	2.5FT
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\* CALIFORNIA

CRESCENT CITY	1606	PDT	MAR 27	42 HRS	6.9FT +/- 2.1	7.1FT
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MONTEREY	1632	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	4.0FT
SAN FRANCISCO	1702	PDT	MAR 27	24 HRS	3.0FT +/- 0.9	3.7FT
PORT SAN LUIS	1656	PDT	MAR 27	30 HRS	4.6FT +/- 1.4	5.6FT
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FORECAST MAX TSUNAMI HEIGHT IS THE HIGHEST EXPECTED WATER LEVEL ABOVE THE TIDE.

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ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

	TIME	OBSERVED MAX
SITE	OF MEASUREMENT	TSUNAMI HEIGHT

PACIFEX 14 Handbook

Location	Time	Time Zone	Height (FT)
KING COVE AK	2023	UTC 3-27	4.33
CHIGNIK AK	2026	UTC 3-27	21.82
NIKOLSKI AK	2054	UTC 3-27	1.61
UNALASKA AK	2056	UTC 3-27	1.44
PORT ALEXANDER AK	2114	UTC 3-27	1.41
LAPUSH WA	2241	UTC 3-27	3.15
PORT ANGELES WA	2354	UTC 3-27	1.38
GARIBALDI OR	2259	UTC 3-27	1.05
PORT ORFORD OR	2355	UTC 3-27	6.76
NEWPORT OR	2309	UTC 3-27	2.46
ARENA COVE CA	2313	UTC 3-27	5.58
EUREKA CA	0006	UTC 3-28	4.23
POINT REYES CA	0142	UTC 3-28	3.38
ALAMEDA CA	0141	UTC 3-28	1.84
MONTEREY CA	2338	UTC 3-27	3.97
PORT SAN LUIS CA	0108	UTC 3-28	11.82
SANTA MONICA CA	0157	UTC 3-28	4.12
SAN DIEGO CA	0120	UTC 3-28	1.44
MIDWAY IS	2304	UTC 3-27	1.44
NAWILIWILI HI	2323	UTC 3-27	2.20
HALEIWA HI	2338	UTC 3-27	4.99
HONOLULU HI	2338	UTC 3-27	2.23
KAHULUI HI	2341	UTC 3-27	7.15
KAWAIHAE HI	0014	UTC 3-28	2.89
WAKE ISLAND	0052	UTC 3-28	0.33

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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- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
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- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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PACIFEX 14 Handbook

**NTWC Bulletin #10**

WEAK51 PAAQ 280301  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 10  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
701 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

## PACIFEX 14 Handbook

\* 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* BRITISH COLUMBIA				
LANGARA	1400 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.6FT
TOFINO	1527 PDT MAR 27	24 HRS	3.2FT +/- 1.0	2.4FT
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
LONG BEACH	1538 PDT MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541 PDT MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556 PDT MAR 27	18 HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.4FT
PORT TOWNSEND	1637 PDT MAR 27	18 HRS	2.5FT +/- 0.7	
* OREGON				
PORT ORFORD	1542 PDT MAR 27	36 HRS	5.6FT +/- 1.7	6.8FT
CHARLESTON	1547 PDT MAR 27	24 HRS	2.8FT +/- 0.8	2.7FT
SEASIDE	1548 PDT MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552 PDT MAR 27	36 HRS	6.0FT +/- 2.0	2.5FT
BROOKINGS	1554 PDT MAR 27	36 HRS	5.2FT +/- 1.6	
* CALIFORNIA				
CRESCENT CITY	1606 PDT MAR 27	42 HRS	6.9FT +/- 2.1	7.1FT
FORT BRAGG	1602 PDT MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632 PDT MAR 27	24 HRS	3.1FT +/- 1.0	4.0FT
SAN FRANCISCO	1702 PDT MAR 27	24 HRS	3.0FT +/- 0.9	3.7FT
PORT SAN LUIS	1656 PDT MAR 27	30 HRS	4.6FT +/- 1.4	5.6FT
SANTA BARBARA	1718 PDT MAR 27	24 HRS	2.7FT +/- 0.8	2.6FT
LOS ANGELES HARB	1735 PDT MAR 27	18 HRS	2.3FT +/- 0.7	2.8FT
NEWPORT BEACH	1733 PDT MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746 PDT MAR 27	24 HRS	3.5FT +/- 1.1	2.3FT
OCEANSIDE	1738 PDT MAR 27	24 HRS	3.1FT +/- 1.0	

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 40 MORE HOURS ALONG SOUTHERN ALASKA COASTS EAST OF NIKOLSKI.

MUCH DAMAGE HAS BEEN REPORTED ALONG THE OREGON COAST FROM LINCOLN CITY TO NESKOWIN. WAVES HAVE ERODED THE BEACHES AROUND CASCADE HEAD DAMAGING LOCAL RESERVES. LOS ANGELES CA REPORTED A 1.2-FOOT/0.4-METER TSUNAMI.



## PACIFEX 14 Handbook

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.

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

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

PACIFEX 14 Handbook

\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #11**

WEAK51 PAAQ 280401  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 11  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
801 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

## PACIFEX 14 Handbook

-----  
 \* A TSUNAMI WITH SIGNIFICANT WIDESPREAD INUNDATION OF LAND IS EXPECTED.

\* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
----	-----	-----	-----	-----
* BRITISH COLUMBIA				
LANGARA	1400 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.6FT
TOFINO	1527 PDT MAR 27	24 HRS	3.2FT +/- 1.0	2.4FT
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
LONG BEACH	1538 PDT MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541 PDT MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556 PDT MAR 27	18 HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.4FT
PORT TOWNSEND	1637 PDT MAR 27	18 HRS	2.5FT +/- 0.7	

## PACIFEX 14 Handbook

\* OREGON

PORT ORFORD	1542	PDT	MAR 27	36 HRS	5.6FT +/- 1.7	6.8FT
CHARLESTON	1547	PDT	MAR 27	24 HRS	2.8FT +/- 0.8	2.7FT
SEASIDE	1548	PDT	MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552	PDT	MAR 27	36 HRS	6.0FT +/- 2.0	2.5FT
BROOKINGS	1554	PDT	MAR 27	36 HRS	5.2FT +/- 1.6	

\* CALIFORNIA

CRESCENT CITY	1606	PDT	MAR 27	42 HRS	6.9FT +/- 2.1	7.1FT
FORT BRAGG	1602	PDT	MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	4.0FT
SAN FRANCISCO	1702	PDT	MAR 27	24 HRS	3.0FT +/- 0.9	3.7FT
PORT SAN LUIS	1656	PDT	MAR 27	30 HRS	4.6FT +/- 1.4	5.6FT
SANTA BARBARA	1718	PDT	MAR 27	24 HRS	2.7FT +/- 0.8	3.3FT
LOS ANGELES HARB	1735	PDT	MAR 27	18 HRS	2.3FT +/- 0.7	3.1FT
NEWPORT BEACH	1733	PDT	MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746	PDT	MAR 27	24 HRS	3.5FT +/- 1.1	3.2FT
OCEANSIDE	1738	PDT	MAR 27	24 HRS	3.1FT +/- 1.0	

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 40 MORE HOURS ALONG SOUTHERN ALASKA COASTS EAST OF NIKOLSKI.

PT REYES REPORTS STRONG CURRENTS. APPROXIMATELY 50 FEET OF SHORELINE HAS BEEN ERODED FROM POINT REYES BEACH SOUTH AND 35 FEET FROM POINT REYES BEACH NORTH.

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.

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME			OBSERVED MAX
-----	OF MEASUREMENT			TSUNAMI HEIGHT
-----	-----	-----	-----	-----
SAND POINT AK	1945	UTC	3-27	11.60 FT
KING COVE AK	2023	UTC	3-27	4.33 FT
CHIGNIK AK	2026	UTC	3-27	21.82 FT
NIKOLSKI AK	2054	UTC	3-27	1.61 FT
UNALASKA AK	2056	UTC	3-27	1.44 FT
KODIAK AK	2100	UTC	3-27	4.50 FT
SEWARD AK	2110	UTC	3-27	4.11 FT
ADAK AK	2145	UTC	3-27	1.03 FT
ELFIN COVE AK	2133	UTC	3-27	1.32 FT
YAKUTAT AK	2132	UTC	3-27	2.44 FT
PORT ALEXANDER AK	2114	UTC	3-27	1.41 FT
CORDOVA AK	2235	UTC	3-27	1.82 FT
SHEMYA AK	2245	UTC	3-27	0.34 FT
SITKA AK	2222	UTC	3-27	3.74 FT
CRAIG AK	2255	UTC	3-27	3.88 FT
LAPUSH WA	2241	UTC	3-27	3.15 FT
PORT ANGELES WA	2354	UTC	3-27	1.38 FT

## PACIFEX 14 Handbook

GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT

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 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
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### **NTWC Bulletin #12**

WEAK51 PAAQ 280501  
TSUAK1

BULLETIN

## PACIFEX 14 Handbook

PUBLIC TSUNAMI MESSAGE NUMBER 12  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
901 PM AKDT THU MAR 27 2014

THIS MESSAGE IS UPDATED WITH 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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

### IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

PACIFEX 14 Handbook

- \* 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	FORECAST START OF OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT	OBSERVED TSUNAMI HEIGHT
* WASHINGTON				
NEAH BAY	1540 PDT MAR 27	18 HRS	2.0FT +/- 0.6	2.0FT
LONG BEACH	1538 PDT MAR 27	30 HRS	4.4FT +/- 1.5	
MOCLIPS	1541 PDT MAR 27	36 HRS	5.0FT +/- 1.6	
WESTPORT	1556 PDT MAR 27	18 HRS	2.4FT +/- 0.7	2.1FT
PORT ANGELES	1610 PDT MAR 27	18 HRS	1.6FT +/- 0.5	1.4FT
PORT TOWNSEND	1637 PDT MAR 27	18 HRS	2.5FT +/- 0.7	
* OREGON				
PORT ORFORD	1542 PDT MAR 27	36 HRS	5.6FT +/- 1.7	6.8FT
CHARLESTON	1547 PDT MAR 27	24 HRS	2.8FT +/- 0.8	2.7FT
SEASIDE	1548 PDT MAR 27	36 HRS	5.8FT +/- 1.8	
NEWPORT	1552 PDT MAR 27	36 HRS	6.0FT +/- 2.0	2.5FT
BROOKINGS	1554 PDT MAR 27	36 HRS	5.2FT +/- 1.6	
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CRESCENT CITY	1606 PDT MAR 27	42 HRS	6.9FT +/- 2.1	7.1FT
FORT BRAGG	1602 PDT MAR 27	24 HRS	3.9FT +/- 1.3	
MONTEREY	1632 PDT MAR 27	24 HRS	3.1FT +/- 1.0	4.0FT
SAN FRANCISCO	1702 PDT MAR 27	24 HRS	3.0FT +/- 0.9	3.7FT
PORT SAN LUIS	1656 PDT MAR 27	30 HRS	4.6FT +/- 1.4	5.6FT
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NEWPORT BEACH	1733 PDT MAR 27	18 HRS	2.0FT +/- 0.7	
LA JOLLA	1746 PDT MAR 27	24 HRS	3.5FT +/- 1.1	3.5FT
OCEANSIDE	1738 PDT MAR 27	24 HRS	3.1FT +/- 1.0	

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 40 MORE HOURS ALONG SOUTHERN ALASKA COASTS EAST OF NIKOLSKI AND IN BRITISH COLUMBIA.

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.

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

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
------	------------------------	--------------------------------

PACIFEX 14 Handbook

Location	Time (UTC)	Height (FT)
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
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ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT
PAGO PAGO AM SAMOA	0433 UTC 3-28	0.46 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION



## PACIFEX 14 Handbook

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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### **NTWC Bulletin #13**

WEAK51 PAAQ 280600  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 13  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1000 PM AKDT THU MAR 27 2014

IN THIS MESSAGE THE FORECAST CHART HAS BEEN REMOVED AND ALL OBSERVATIONS ARE CONTAINED IN THE OBSERVATION TABLE. SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED FOR MANY LOCATIONS ON THE WEST COAST FOR UP TO 48 HOURS.

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

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

#### WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

#### IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 36 MORE HOURS EAST OF NIKOLSKI AND ALONG THE US AND CANADIAN WEST COAST.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT

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GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #14**

PACIFEX 14 Handbook

WEAK51 PAAQ 280701  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 14  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1101 PM AKDT THU MAR 27 2014

NO NEW INFORMATION IS CONTAINED IN THIS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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

## PACIFEX 14 Handbook

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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 36 MORE HOURS EAST OF NIKOLSKI AND ALONG THE US AND CANADIAN WEST COAST.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT

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MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #15**

WEAK51 PAAQ 280800  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 15  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1200 AM AKDT FRI MAR 28 2014

NO NEW INFORMATION IS CONTAINED IN THIS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

PACIFEX 14 Handbook

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS  
-----

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED  
-----

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT

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CHIGNIK AK	2026	UTC	3-27	21.82	FT
NIKOLSKI AK	2054	UTC	3-27	1.61	FT
UNALASKA AK	2056	UTC	3-27	1.44	FT
KODIAK AK	2100	UTC	3-27	4.50	FT
SEWARD AK	2110	UTC	3-27	4.11	FT
ADAK AK	2145	UTC	3-27	1.03	FT
ELFIN COVE AK	2133	UTC	3-27	1.32	FT
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PORT ALEXANDER AK	2114	UTC	3-27	1.41	FT
CORDOVA AK	2235	UTC	3-27	1.82	FT
SHEMYA AK	2245	UTC	3-27	0.34	FT
SITKA AK	2222	UTC	3-27	3.74	FT
CRAIG AK	2255	UTC	3-27	3.88	FT
LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
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GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
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PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES



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\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #16**

WEAK51 PAAQ 280901  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 16  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
101 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.

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- \* 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
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PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
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NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
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MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
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HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #17**

PACIFEX 14 Handbook

WEAK51 PAAQ 281000  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 17  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
200 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL  
CURRENTS IS 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

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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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 30 MORE HOURS EAST OF NIKOLSKI AND ALONG THE US AND CANADIAN WEST COAST.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT

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MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #18**

WEAK51 PAAQ 281100  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 18  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
300 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

## PACIFEX 14 Handbook

### WARNINGS/ADVISORIES/WATCHES

#### ----- TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

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

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

### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT

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CHIGNIK AK	2026	UTC	3-27	21.82 FT
NIKOLSKI AK	2054	UTC	3-27	1.61 FT
UNALASKA AK	2056	UTC	3-27	1.44 FT
KODIAK AK	2100	UTC	3-27	4.50 FT
SEWARD AK	2110	UTC	3-27	4.11 FT
ADAK AK	2145	UTC	3-27	1.03 FT
ELFIN COVE AK	2133	UTC	3-27	1.32 FT
YAKUTAT AK	2132	UTC	3-27	2.44 FT
PORT ALEXANDER AK	2114	UTC	3-27	1.41 FT
CORDOVA AK	2235	UTC	3-27	1.82 FT
SHEMYA AK	2245	UTC	3-27	0.34 FT
SITKA AK	2222	UTC	3-27	3.74 FT
CRAIG AK	2255	UTC	3-27	3.88 FT
LANGARA BC	2300	UTC	3-27	1.60 FT
TOFINO BC	2334	UTC	3-27	2.41 FT
NEAH BAY WA	2234	UTC	3-27	2.02 FT
LAPUSH WA	2241	UTC	3-27	3.15 FT
WESTPORT WA	2302	UTC	3-27	2.11 FT
PORT ANGELES WA	2354	UTC	3-27	1.38 FT
GARIBALDI OR	2259	UTC	3-27	1.05 FT
NEWPORT OR	2309	UTC	3-27	2.46 FT
CHARLESTON OR	2333	UTC	3-27	2.74 FT
PORT ORFORD OR	2355	UTC	3-27	6.76 FT
CRESCENT CITY CA	0100	UTC	3-28	7.11 FT
ARENA COVE CA	2313	UTC	3-27	5.58 FT
EUREKA CA	0006	UTC	3-28	4.23 FT
POINT REYES CA	0142	UTC	3-28	3.38 FT
SAN FRANCISCO	0155	UTC	3-28	3.71 FT
ALAMEDA CA	0141	UTC	3-28	1.84 FT
MONTEREY CA	2338	UTC	3-27	3.97 FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82 FT
SANTA BARBARA CA	0145	UTC	3-28	3.32 FT
SANTA MONICA CA	0157	UTC	3-28	4.12 FT
SAN PEDRO CA	0230	UTC	3-28	3.11 FT
LA JOLLA CA	0222	UTC	3-28	3.5 FT
SAN DIEGO CA	0214	UTC	3-28	1.74 FT
MIDWAY IS	2304	UTC	3-27	1.44 FT
NAWILIWILI HI	2323	UTC	3-27	2.20 FT
HALEIWA HI	2338	UTC	3-27	4.99 FT
HONOLULU HI	2338	UTC	3-27	2.23 FT
KAHULUI HI	2341	UTC	3-27	7.15 FT
KAWAIHAE HI	0014	UTC	3-28	2.89 FT
WAKE ISLAND	0052	UTC	3-28	0.33 FT
GUAM	0321	UTC	3-28	0.30 FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46 FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE            9.1
- \* ORIGIN TIME        1050 AKDT MAR 27 2014
- 1150 PDT MAR 27 2014
- 1850 UTC MAR 27 2014
- \* COORDINATES       55.2 NORTH 156.7 WEST
- \* DEPTH                11 MILES
- \* LOCATION            100 MILES SE OF CHIGNIK ALASKA



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485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
  - \* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #19**

WEAK51 PAAQ 281200  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 19  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
400 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT

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CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #20**

WEAK51 PAAQ 281300

PACIFEX 14 Handbook

TSUAK1

BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 20  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
500 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL  
CURRENTS IS 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

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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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
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SAN PEDRO CA	0230 UTC 3-28	3.11 FT
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SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT

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KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #21**

WEAK51 PAAQ 281401  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 21  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
601 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

PACIFEX 14 Handbook

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT

## PACIFEX 14 Handbook

UNALASKA AK	2056	UTC	3-27	1.44	FT
KODIAK AK	2100	UTC	3-27	4.50	FT
SEWARD AK	2110	UTC	3-27	4.11	FT
ADAK AK	2145	UTC	3-27	1.03	FT
ELFIN COVE AK	2133	UTC	3-27	1.32	FT
YAKUTAT AK	2132	UTC	3-27	2.44	FT
PORT ALEXANDER AK	2114	UTC	3-27	1.41	FT
CORDOVA AK	2235	UTC	3-27	1.82	FT
SHEMYA AK	2245	UTC	3-27	0.34	FT
SITKA AK	2222	UTC	3-27	3.74	FT
CRAIG AK	2255	UTC	3-27	3.88	FT
LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
PORT ANGELES WA	2354	UTC	3-27	1.38	FT
GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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          9.1
* ORIGIN TIME        1050 AKDT MAR 27 2014
                    1150 PDT MAR 27 2014
                    1850 UTC MAR 27 2014
* COORDINATES        55.2 NORTH 156.7 WEST
* DEPTH              11 MILES
* LOCATION           100 MILES SE OF CHIGNIK ALASKA
                    485 MILES SW OF ANCHORAGE ALASKA
  
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PACIFEX 14 Handbook

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
  - \* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #22**

WEAK51 PAAQ 281500  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 22  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
700 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT

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PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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### **NTWC Bulletin #23**

WEAK51 PAAQ 281601  
TSUAK1

## PACIFEX 14 Handbook

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 23  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
801 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

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

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

### WARNINGS/ADVISORIES/WATCHES

#### ----- TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

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

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

### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL  
CURRENTS IS 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.

## PACIFEX 14 Handbook

- \* 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT

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GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #24**

WEAK51 PAAQ 281701  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 24  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
901 AM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -

## PACIFEX 14 Handbook

BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

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

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT

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SEWARD AK	2110	UTC	3-27	4.11	FT
ADAK AK	2145	UTC	3-27	1.03	FT
ELFIN COVE AK	2133	UTC	3-27	1.32	FT
YAKUTAT AK	2132	UTC	3-27	2.44	FT
PORT ALEXANDER AK	2114	UTC	3-27	1.41	FT
CORDOVA AK	2235	UTC	3-27	1.82	FT
SHEMYA AK	2245	UTC	3-27	0.34	FT
SITKA AK	2222	UTC	3-27	3.74	FT
CRAIG AK	2255	UTC	3-27	3.88	FT
LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
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GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
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EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
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ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE            9.1
- \* ORIGIN TIME        1050 AKDT MAR 27 2014  
                          1150 PDT MAR 27 2014  
                          1850 UTC MAR 27 2014
- \* COORDINATES        55.2 NORTH 156.7 WEST
- \* DEPTH                11 MILES
- \* LOCATION            100 MILES SE OF CHIGNIK ALASKA  
                          485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION



PACIFEX 14 Handbook

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #25**

WEAK51 PAAQ 281801  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 25  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1001 AM AKDT FRI MAR 28 2014

THIS MESSAGE REDUCES THE WARNING FOR SOME AREAS IN SOUTHERN CALIFORNIA TO AN ADVISORY.

...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 CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
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WESTPORT WA	2302 UTC 3-27	2.11 FT
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GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT

## PACIFEX 14 Handbook

CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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### **NTWC Bulletin #26**

WEAK51 PAAQ 281902  
TSUAK1

PACIFEX 14 Handbook

BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 26  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1102 AM AKDT FRI MAR 28 2014

THIS MESSAGE REDUCES THE TSUNAMI WARNING TO A TSUNAMI ADVISORY FOR AREAS OF SOUTHERN ALASKA/ BRITISH COLUMBIA AND WASHINGTON. THE TSUNAMI ADVISORY FOR THE WESTERN ALEUTIANS IS CANCELLED.

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

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

WARNINGS/ADVISORIES/WATCHES - UPDATED3.32

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO THE OREGON-WASHINGTON BORDER
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/

CANCELLATIONS

- 
- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF ALASKA FROM NIKOLSKI ALASKA TO ATTU ALASKA

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

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- \* 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 24 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
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KODIAK AK	2100 UTC 3-27	4.50 FT
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ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
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SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
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ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
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MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
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WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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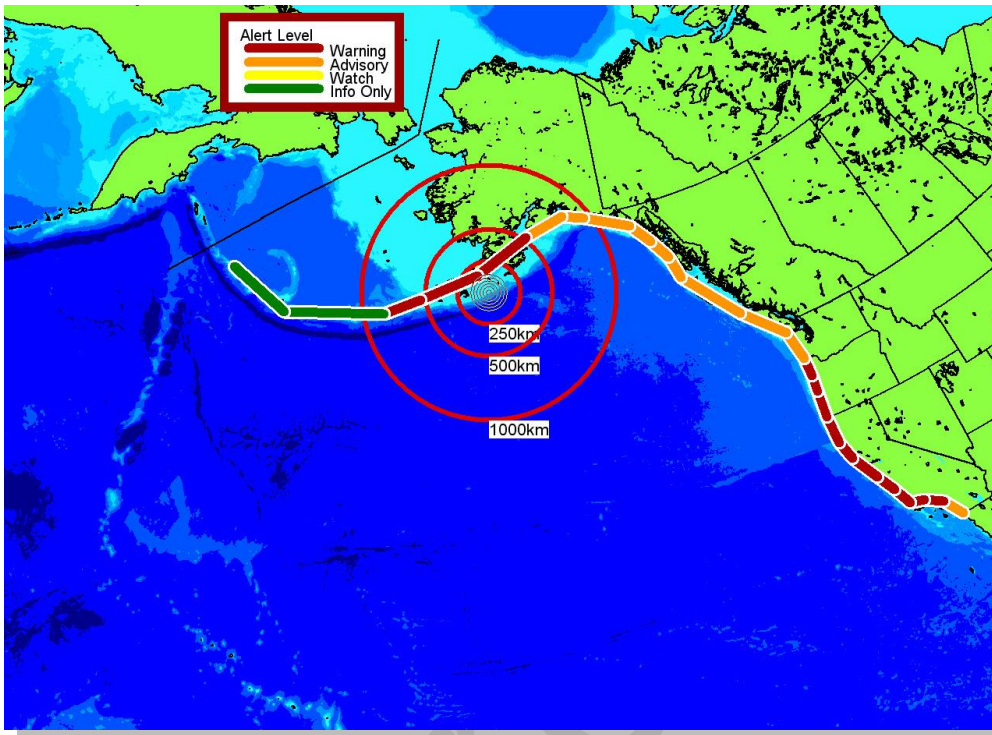


Figure D4: Warning/Advisories areas after Bulletin 26.

**NTWC Bulletin #27**

WEAK51 PAAQ 282000  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 27  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1200 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO THE OREGON-WASHINGTON BORDER

## PACIFEX 14 Handbook

- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

### TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 24 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.



## PACIFEX 14 Handbook

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
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SEWARD AK	2110 UTC 3-27	4.11 FT
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WAKE ISLAND	0052 UTC 3-28	0.33 FT
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HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE  
TIDE LEVEL AT THE TIME OF MEASUREMENT.

PRELIMINARY EARTHQUAKE PARAMETERS

PACIFEX 14 Handbook

\* MAGNITUDE 9.1  
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1150 PDT MAR 27 2014  
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\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
  
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  - \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #28**

WEAK51 PAAQ 282101  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 28  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
101 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO THE OREGON-WASHINGTON BORDER
  
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO

## PACIFEX 14 Handbook

BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./

- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
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### IMPACTS FOR TSUNAMI WARNING AREAS

---

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- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

### IMPACTS FOR TSUNAMI ADVISORY AREAS

---

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- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

### RECOMMENDED ACTIONS

---

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CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE            9.1

\* ORIGIN TIME        1050 AKDT MAR 27 2014  
                               1150 PDT MAR 27 2014  
                               1850 UTC MAR 27 2014

\* COORDINATES        55.2 NORTH 156.7 WEST

\* DEPTH                11 MILES

\* LOCATION            100 MILES SE OF CHIGNIK ALASKA  
                               485 MILES SW OF ANCHORAGE ALASKA

## PACIFEX 14 Handbook

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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### **NTWC Bulletin #29**

WEAK51 PAAQ 282200  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 29  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
200 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO THE OREGON-WASHINGTON BORDER
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

## PACIFEX 14 Handbook

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT

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LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
PORT ANGELES WA	2354	UTC	3-27	1.38	FT
GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE        9.1
- \* ORIGIN TIME      1050 AKDT MAR 27 2014  
                      1150 PDT MAR 27 2014  
                      1850 UTC MAR 27 2014
- \* COORDINATES     55.2 NORTH 156.7 WEST
- \* DEPTH            11 MILES
- \* LOCATION        100 MILES SE OF CHIGNIK ALASKA  
                      485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS

PACIFEX 14 Handbook

EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #30**

WEAK51 PAAQ 282300  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 30  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
300 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO THE OREGON-WASHINGTON BORDER
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

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



## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT

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CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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**NTWC Bulletin #31**

WEAK51 PAAQ 290004  
TSUAK1

## PACIFEX 14 Handbook

### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 31  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
404 PM AKDT FRI MAR 28 2014

THIS MESSAGE DOWNGRADES THE TSUNAMI WARNING TO AN ADVISORY FOR SOME AREAS OF CALIFORNIA AND OREGON.

...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 CALIFORNIA AND OREGON FROM POINT CONCEPTION CALIFORNIA TO DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

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

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./
- \* THE COASTAL AREAS OF CALIFORNIA FROM SAN ONOFRE STATE BEACH CALIFORNIA/LOCATED 45 MILES SE OF L.A./ TO POINT CONCEPTION CALIFORNIA
- \* THE COASTAL AREAS OF OREGON FROM DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/ TO THE OREGON-WASHINGTON BORDER
- \* THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

#### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR MANY HOURS AFTER TSUNAMI ARRIVAL.

- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### IMPACTS FOR TSUNAMI ADVISORY AREAS

## PACIFEX 14 Handbook

- 
- \* 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 18 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

-----

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT

-----

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CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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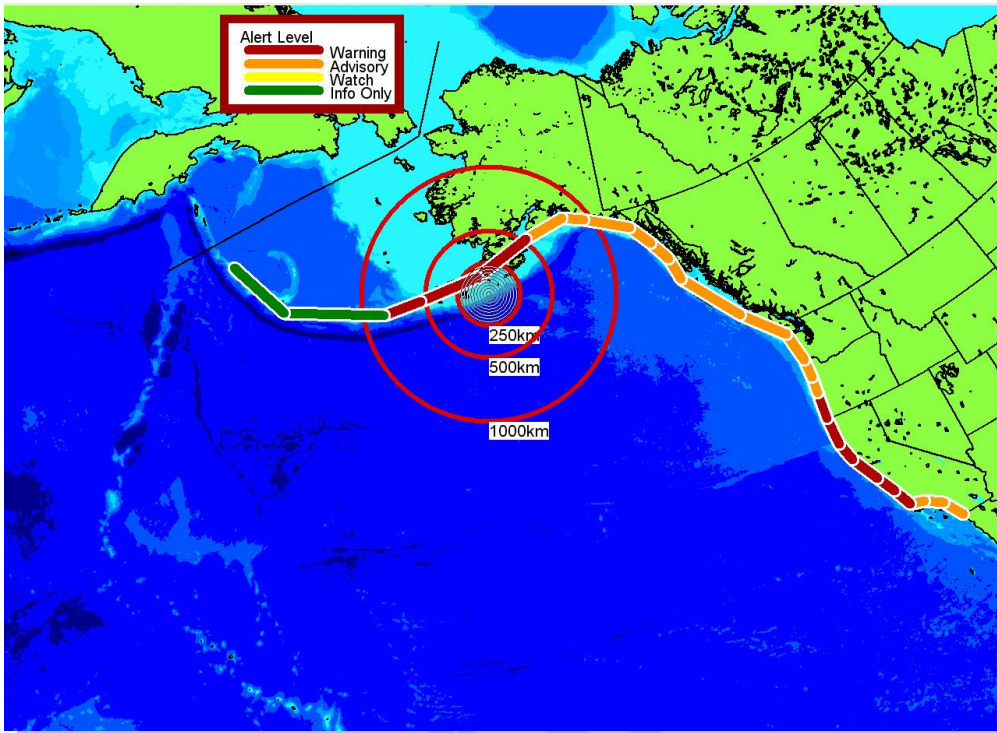


Figure D5: Warning/Advisory areas after Bulletin 31.

**NTWC Bulletin #32**

WEAK51 PAAQ 290101  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 32  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
501 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

\* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM POINT  
CONCEPTION CALIFORNIA TO DOUGLAS-LANE COUNTY LINE OREGON/10  
MILES SW OF FLORENCE/

## PACIFEX 14 Handbook

- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

### TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO POINT CONCEPTION CALIFORNIA
- \* THE COASTAL AREAS OF OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/ TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 18 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

## PACIFEX 14 Handbook

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
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NEAH BAY WA	2234 UTC 3-27	2.02 FT
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GARIBALDI OR	2259 UTC 3-27	1.05 FT
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CHARLESTON OR	2333 UTC 3-27	2.74 FT
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ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
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SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
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LA JOLLA CA	0222 UTC 3-28	3.5 FT
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PAGO PAGO AM SAMOA	0433 UTC 3-28	0.46 FT

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

#### PRELIMINARY EARTHQUAKE PARAMETERS



PACIFEX 14 Handbook

\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #33**

WEAK51 PAAQ 290201  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 33  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
601 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

WARNINGS/ADVISORIES/WATCHES

-----  
TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM POINT CONCEPTION CALIFORNIA TO DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/
  
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

## PACIFEX 14 Handbook

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO POINT CONCEPTION CALIFORNIA
- \* THE COASTAL AREAS OF OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/ TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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KODIAK AK	2100	UTC	3-27	4.50	FT
SEWARD AK	2110	UTC	3-27	4.11	FT
ADAK AK	2145	UTC	3-27	1.03	FT
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SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
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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            9.1

\* ORIGIN TIME        1050 AKDT MAR 27 2014  
                               1150 PDT MAR 27 2014  
                               1850 UTC MAR 27 2014

\* COORDINATES        55.2 NORTH 156.7 WEST

\* DEPTH                11 MILES

\* LOCATION            100 MILES SE OF CHIGNIK ALASKA  
                               485 MILES SW OF ANCHORAGE ALASKA

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NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
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***NTWC Bulletin #34***

WEAK51 PAAQ 290302  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 34  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
702 PM AKDT FRI MAR 28 2014

THIS MESSAGE DOWNGRADES THE TSUNAMI WARNING TO AN ADVISORY FOR ALL AREAS IN CALIFORNIA AND OREGON WHICH WERE IN A WARNING.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO NIKOLSKI ALASKA

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO POINT CONCEPTION CALIFORNIA
- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM POINT CONCEPTION CALIFORNIA TO DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/
- \* THE COASTAL AREAS OF OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM DOUGLAS-LANE COUNTY LINE OREGON/10 MILES SW OF FLORENCE/ TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

## PACIFEX 14 Handbook

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.
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- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

### RECOMMENDED ACTIONS

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- \* 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 15 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
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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 9.1  
 \* ORIGIN TIME 1050 AKDT MAR 27 2014  
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NEXT UPDATE AND ADDITIONAL INFORMATION

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 \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
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## PACIFEX 14 Handbook

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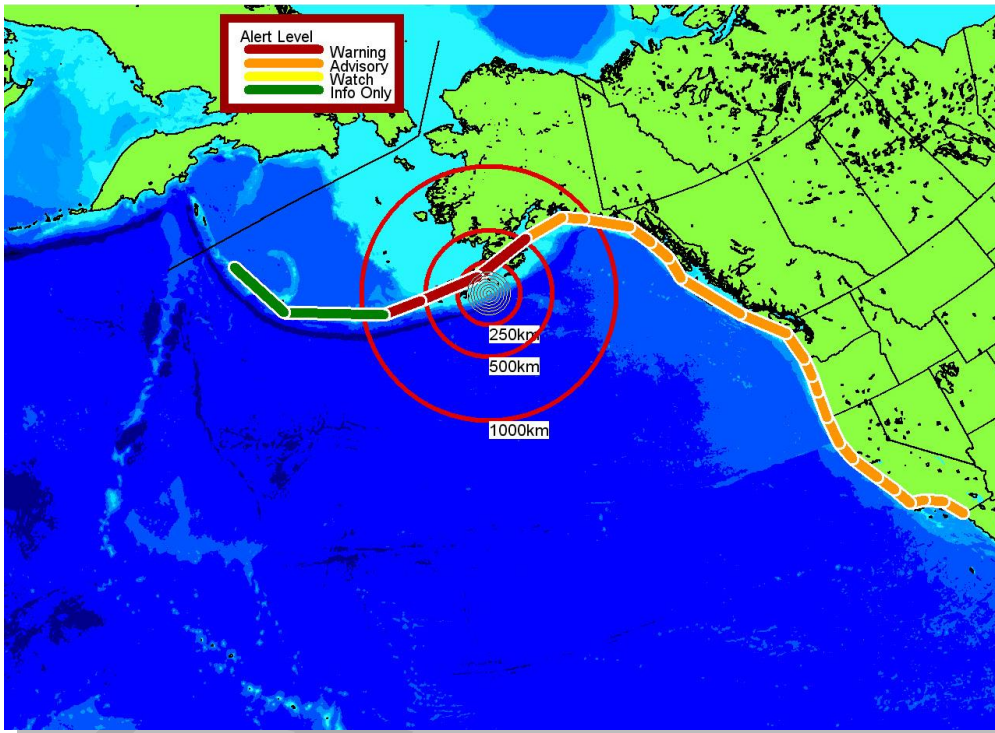


Figure D6: Warning/Advisory areas after Bulletin 34.

### **NTWC Bulletin #35**

WEAK51 PAAQ 290402  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 35  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
802 PM AKDT FRI MAR 28 2014

THIS MESSAGE DOWNGRADES THE TSUNAMI WARNING TO AN ADVISORY FOR SOME REGIONS IN THE EASTERN ALEUTIAN ISLANDS.

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

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

## PACIFEX 14 Handbook

### WARNINGS/ADVISORIES/WATCHES - UPDATED

#### ----- TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

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

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

#### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.
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- \* THE FIRST WAVE MAY NOT BE THE LARGEST.

#### RECOMMENDED ACTIONS

- \* IF YOU ARE IN A WARNING AREA - MOVE INLAND TO HIGHER GROUND.
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- \* BE ALERT TO INSTRUCTIONS FROM YOUR LOCAL EMERGENCY OFFICIALS.
- \* DO NOT GO TO THE COAST TO OBSERVE THE TSUNAMI.



## PACIFEX 14 Handbook

\* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 15 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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PAGO PAGO AM SAMOA

0433 UTC 3-28

0.46 FT

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PRELIMINARY EARTHQUAKE PARAMETERS

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1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS  
EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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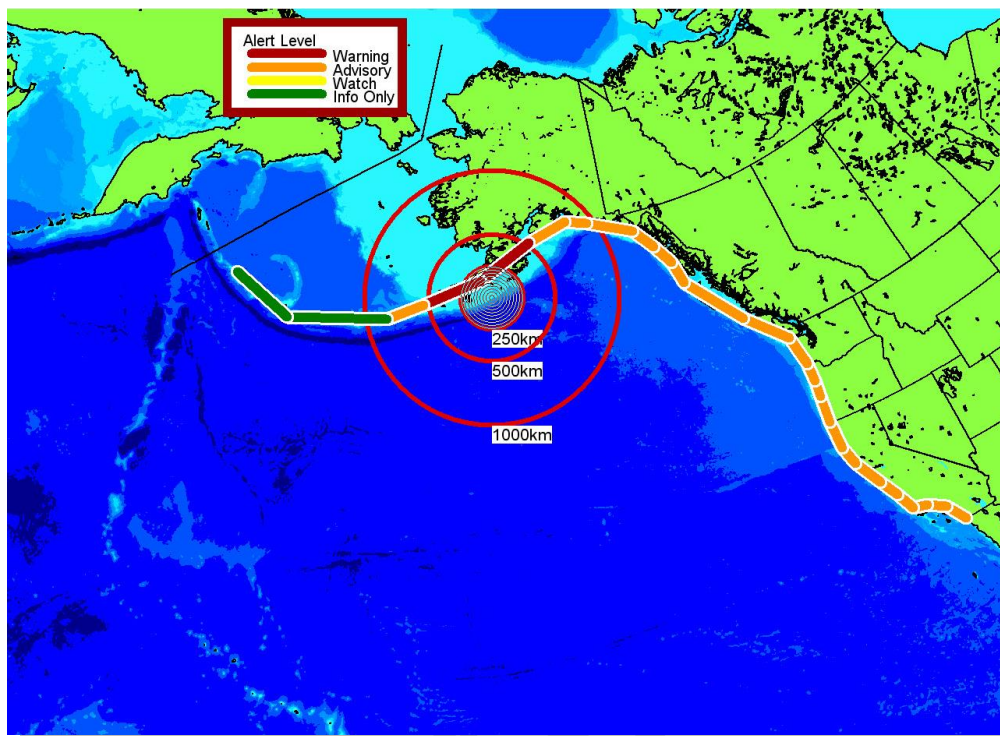


Figure D7: Warning/Advisory areas after Bulletin 35.

**NTWC Bulletin #36**

WEAK51 PAAQ 290500  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 36  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
900 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE  
ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS
- ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

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### TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 12 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT
PAGO PAGO AM SAMOA	0433 UTC 3-28	0.46 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 9.1  
 \* ORIGIN TIME 1050 AKDT MAR 27 2014

PACIFEX 14 Handbook

1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #37**

WEAK51 PAAQ 290600  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 37  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1000 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED

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80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA

- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT

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PORT ALEXANDER AK	2114	UTC	3-27	1.41	FT
CORDOVA AK	2235	UTC	3-27	1.82	FT
SHEMYA AK	2245	UTC	3-27	0.34	FT
SITKA AK	2222	UTC	3-27	3.74	FT
CRAIG AK	2255	UTC	3-27	3.88	FT
LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
PORT ANGELES WA	2354	UTC	3-27	1.38	FT
GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE            9.1
- \* ORIGIN TIME        1050 AKDT MAR 27 2014  
                          1150 PDT MAR 27 2014  
                          1850 UTC MAR 27 2014
- \* COORDINATES        55.2 NORTH 156.7 WEST
- \* DEPTH                11 MILES
- \* LOCATION            100 MILES SE OF CHIGNIK ALASKA  
                          485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV) FOR MORE



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INFORMATION.

- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #38**

WEAK51 PAAQ 290700  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 38  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1100 PM AKDT FRI MAR 28 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

---

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
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LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT

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CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
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HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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### **NTWC Bulletin #39**

WEAK51 PAAQ 290800  
TSUAK1

## PACIFEX 14 Handbook

### BULLETIN

PUBLIC TSUNAMI MESSAGE NUMBER 39  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1200 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE  
ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS  
ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF  
HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED  
80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA -  
THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL  
CURRENTS IS 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.

## PACIFEX 14 Handbook

### 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
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NIKOLSKI AK	2054 UTC 3-27	1.61 FT
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KODIAK AK	2100 UTC 3-27	4.50 FT
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ADAK AK	2145 UTC 3-27	1.03 FT
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CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT

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LA JOLLA CA	0222	UTC	3-28	3.5 FT
SAN DIEGO CA	0214	UTC	3-28	1.74 FT
MIDWAY IS	2304	UTC	3-27	1.44 FT
NAWILIWILI HI	2323	UTC	3-27	2.20 FT
HALEIWA HI	2338	UTC	3-27	4.99 FT
HONOLULU HI	2338	UTC	3-27	2.23 FT
KAHULUI HI	2341	UTC	3-27	7.15 FT
KAWAIHAE HI	0014	UTC	3-28	2.89 FT
WAKE ISLAND	0052	UTC	3-28	0.33 FT
GUAM	0321	UTC	3-28	0.30 FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46 FT

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 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #40**

WEAK51 PAAQ 290901  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 40  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
101 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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

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

## PACIFEX 14 Handbook

### WARNINGS/ADVISORIES/WATCHES

#### ----- TSUNAMI WARNING IN EFFECT FOR...

- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

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

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

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\* DO NOT RETURN TO THE COAST UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 9 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT



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PAGO PAGO AM SAMOA 0433 UTC 3-28 0.46 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #41**

WEAK51 PAAQ 291000  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 41  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
200 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

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TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 9 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

TIME	OBSERVED MAX
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PACIFEX 14 Handbook

SITE	OF MEASUREMENT	TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT
PAGO PAGO AM SAMOA	0433 UTC 3-28	0.46 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

\* MAGNITUDE 9.1  
 \* ORIGIN TIME 1050 AKDT MAR 27 2014  
 1150 PDT MAR 27 2014

PACIFEX 14 Handbook

1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #42**

WEAK51 PAAQ 291101  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 42  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
301 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
  
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED

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80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA

- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT

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PORT ALEXANDER AK	2114	UTC	3-27	1.41	FT
CORDOVA AK	2235	UTC	3-27	1.82	FT
SHEMYA AK	2245	UTC	3-27	0.34	FT
SITKA AK	2222	UTC	3-27	3.74	FT
CRAIG AK	2255	UTC	3-27	3.88	FT
LANGARA BC	2300	UTC	3-27	1.60	FT
TOFINO BC	2334	UTC	3-27	2.41	FT
NEAH BAY WA	2234	UTC	3-27	2.02	FT
LAPUSH WA	2241	UTC	3-27	3.15	FT
WESTPORT WA	2302	UTC	3-27	2.11	FT
PORT ANGELES WA	2354	UTC	3-27	1.38	FT
GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE            9.1
- \* ORIGIN TIME        1050 AKDT MAR 27 2014
- 1150 PDT MAR 27 2014
- 1850 UTC MAR 27 2014
- \* COORDINATES       55.2 NORTH 156.7 WEST
- \* DEPTH                11 MILES
- \* LOCATION            100 MILES SE OF CHIGNIK ALASKA
- 485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV) FOR MORE

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INFORMATION.

- \* PACIFIC COASTAL RESIDENTS OUTSIDE CALIFORNIA... OREGON... WASHINGTON... BRITISH COLUMBIA AND ALASKA SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #43**

WEAK51 PAAQ 291200  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 43  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
400 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

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

## PACIFEX 14 Handbook

### 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 6 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT



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PORT ANGELES WA	2354	UTC	3-27	1.38	FT
GARIBALDI OR	2259	UTC	3-27	1.05	FT
NEWPORT OR	2309	UTC	3-27	2.46	FT
CHARLESTON OR	2333	UTC	3-27	2.74	FT
PORT ORFORD OR	2355	UTC	3-27	6.76	FT
CRESCENT CITY CA	0100	UTC	3-28	7.11	FT
ARENA COVE CA	2313	UTC	3-27	5.58	FT
EUREKA CA	0006	UTC	3-28	4.23	FT
POINT REYES CA	0142	UTC	3-28	3.38	FT
SAN FRANCISCO	0155	UTC	3-28	3.71	FT
ALAMEDA CA	0141	UTC	3-28	1.84	FT
MONTEREY CA	2338	UTC	3-27	3.97	FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE        9.1

\* ORIGIN TIME      1050 AKDT MAR 27 2014  
                           1150 PDT MAR 27 2014  
                           1850 UTC MAR 27 2014

\* COORDINATES     55.2 NORTH 156.7 WEST

\* DEPTH            11 MILES

\* LOCATION        100 MILES SE OF CHIGNIK ALASKA  
                           485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

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\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.

\* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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PACIFEX 14 Handbook

**NTWC Bulletin #44**

WEAK51 PAAQ 291300  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 44  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
500 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE  
PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE  
ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS  
ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO  
BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF  
HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED  
80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA -  
THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL  
CURRENTS IS 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

## PACIFEX 14 Handbook

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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT

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PORT SAN LUIS CA	0108	UTC	3-28	11.82	FT
SANTA BARBARA CA	0145	UTC	3-28	3.32	FT
SANTA MONICA CA	0157	UTC	3-28	4.12	FT
SAN PEDRO CA	0230	UTC	3-28	3.11	FT
LA JOLLA CA	0222	UTC	3-28	3.5	FT
SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #45**

WEAK51 PAAQ 291401  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 45  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
601 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

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...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 KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

- 
- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

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- \* 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT

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GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

-----  
\* MAGNITUDE 9.1  
\* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

-----  
\* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.  
  
\* REFER TO THE INTERNET SITE NTCW.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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #46**

WEAK51 PAAQ 291501  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 46  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
701 AM AKDT SAT MAR 29 2014

THIS MESSAGE CONTINUES THE WARNING AND ADVISORY AS IN THE PREVIOUS MESSAGE.

...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 KENNEDY ENTRANCE  
ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS  
ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

## PACIFEX 14 Handbook

### TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANADIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### IMPACTS FOR TSUNAMI WARNING AREAS

---

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 3 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

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SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT
PAGO PAGO AM SAMOA	0433 UTC 3-28	0.46 FT

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

PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014

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1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014  
\* COORDINATES 55.2 NORTH 156.7 WEST  
\* DEPTH 11 MILES  
\* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- 
- \* THIS MESSAGE WILL BE UPDATED IN 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 FOR INFORMATION ON THIS EVENT AT PTWC.WEATHER.GOV.

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**NTWC Bulletin #47**

WEAK51 PAAQ 291601  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 47  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
801 AM AKDT SAT MAR 29 2014

THIS MESSAGE CANCELS THE ADVISORY FOR AREAS IN SOUTHERN CALIFORNIA.

...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 KENNEDY ENTRANCE  
ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS  
ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON -  
BRITISH COLUMBIA AND ALASKA FROM RINCON POINT  
CALIFORNIA/LOCATED 15 MILES SE OF SANTA BARBARA/ TO KENNEDY  
ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED

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80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA

CANCELLATIONS

- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF CALIFORNIA FROM THE CALIFORNIA-MEXICO BORDER TO RINCON POINT CALIFORNIA/LOCATED 15 MILES SE OF SANTA BARBARA/
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

IMPACTS FOR TSUNAMI WARNING AREAS

- \* WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS 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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 3 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
------	------------------------	--------------------------------

## PACIFEX 14 Handbook

SAND POINT AK	1945	UTC	3-27	11.60 FT
KING COVE AK	2023	UTC	3-27	4.33 FT
CHIGNIK AK	2026	UTC	3-27	21.82 FT
NIKOLSKI AK	2054	UTC	3-27	1.61 FT
UNALASKA AK	2056	UTC	3-27	1.44 FT
KODIAK AK	2100	UTC	3-27	4.50 FT
SEWARD AK	2110	UTC	3-27	4.11 FT
ADAK AK	2145	UTC	3-27	1.03 FT
ELFIN COVE AK	2133	UTC	3-27	1.32 FT
YAKUTAT AK	2132	UTC	3-27	2.44 FT
PORT ALEXANDER AK	2114	UTC	3-27	1.41 FT
CORDOVA AK	2235	UTC	3-27	1.82 FT
SHEMYA AK	2245	UTC	3-27	0.34 FT
SITKA AK	2222	UTC	3-27	3.74 FT
CRAIG AK	2255	UTC	3-27	3.88 FT
LANGARA BC	2300	UTC	3-27	1.60 FT
TOFINO BC	2334	UTC	3-27	2.41 FT
NEAH BAY WA	2234	UTC	3-27	2.02 FT
LAPUSH WA	2241	UTC	3-27	3.15 FT
WESTPORT WA	2302	UTC	3-27	2.11 FT
PORT ANGELES WA	2354	UTC	3-27	1.38 FT
GARIBALDI OR	2259	UTC	3-27	1.05 FT
NEWPORT OR	2309	UTC	3-27	2.46 FT
CHARLESTON OR	2333	UTC	3-27	2.74 FT
PORT ORFORD OR	2355	UTC	3-27	6.76 FT
CRESCENT CITY CA	0100	UTC	3-28	7.11 FT
ARENA COVE CA	2313	UTC	3-27	5.58 FT
EUREKA CA	0006	UTC	3-28	4.23 FT
POINT REYES CA	0142	UTC	3-28	3.38 FT
SAN FRANCISCO	0155	UTC	3-28	3.71 FT
ALAMEDA CA	0141	UTC	3-28	1.84 FT
MONTEREY CA	2338	UTC	3-27	3.97 FT
PORT SAN LUIS CA	0108	UTC	3-28	11.82 FT
SANTA BARBARA CA	0145	UTC	3-28	3.32 FT
SANTA MONICA CA	0157	UTC	3-28	4.12 FT
SAN PEDRO CA	0230	UTC	3-28	3.11 FT
LA JOLLA CA	0222	UTC	3-28	3.5 FT
SAN DIEGO CA	0214	UTC	3-28	1.74 FT
MIDWAY IS	2304	UTC	3-27	1.44 FT
NAWILIWILI HI	2323	UTC	3-27	2.20 FT
HALEIWA HI	2338	UTC	3-27	4.99 FT
HONOLULU HI	2338	UTC	3-27	2.23 FT
KAHULUI HI	2341	UTC	3-27	7.15 FT
KAWAIHAE HI	0014	UTC	3-28	2.89 FT
WAKE ISLAND	0052	UTC	3-28	0.33 FT
GUAM	0321	UTC	3-28	0.30 FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46 FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

\* MAGNITUDE            9.1

\* ORIGIN TIME           1050 AKDT MAR 27 2014  
                               1150 PDT MAR 27 2014  
                               1850 UTC MAR 27 2014

\* COORDINATES           55.2 NORTH 156.7 WEST

PACIFEX 14 Handbook

- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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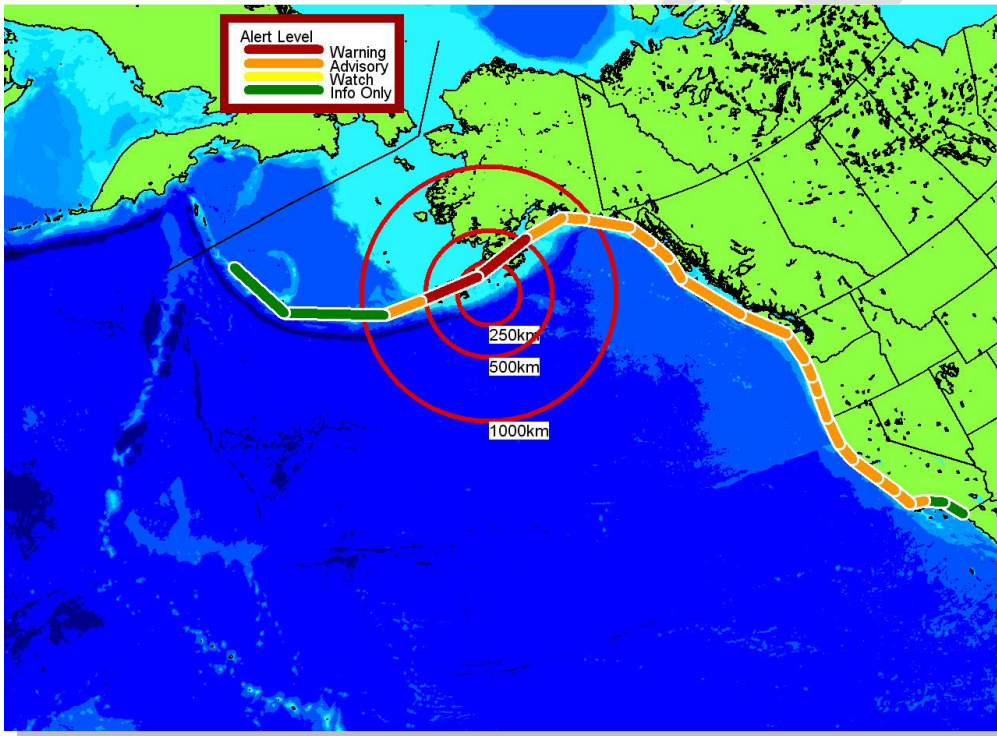


Figure D8: Warning/Advisory areas after Bulletin 47.

**NTWC Bulletin #48**

WEAK51 PAAQ 291702  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 48

## PACIFEX 14 Handbook

NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
902 AM AKDT SAT MAR 29 2014

THIS MESSAGE DOWNGRADES THE PREVIOUSLY WARNED REGION IN ALASKA TO ADVISORY AND CANCELS THE ADVISORY FOR PORTIONS OF ALASKA/ BRITISH COLUMBIA AND WASHINGTON.

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

### WARNINGS/ADVISORIES/WATCHES - UPDATED

-----

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA AND OREGON FROM RINCON POINT CALIFORNIA/LOCATED 15 MILES SE OF SANTA BARBARA/ TO THE OREGON-WASHINGTON BORDER
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

### CANCELLATIONS

-----

- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF WASHINGTON - BRITISH COLUMBIA AND ALASKA FROM THE OREGON-WASHINGTON BORDER TO KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/
- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF ALASKA FROM UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/ TO NIKOLSKI ALASKA
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

### 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.

## PACIFEX 14 Handbook

\* 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.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT
NAWILIWILI HI	2323 UTC 3-27	2.20 FT
HALEIWA HI	2338 UTC 3-27	4.99 FT
HONOLULU HI	2338 UTC 3-27	2.23 FT
KAHULUI HI	2341 UTC 3-27	7.15 FT
KAWAIHAE HI	0014 UTC 3-28	2.89 FT
WAKE ISLAND	0052 UTC 3-28	0.33 FT
GUAM	0321 UTC 3-28	0.30 FT

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PAGO PAGO AM SAMOA

0433 UTC 3-28

0.46 FT

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

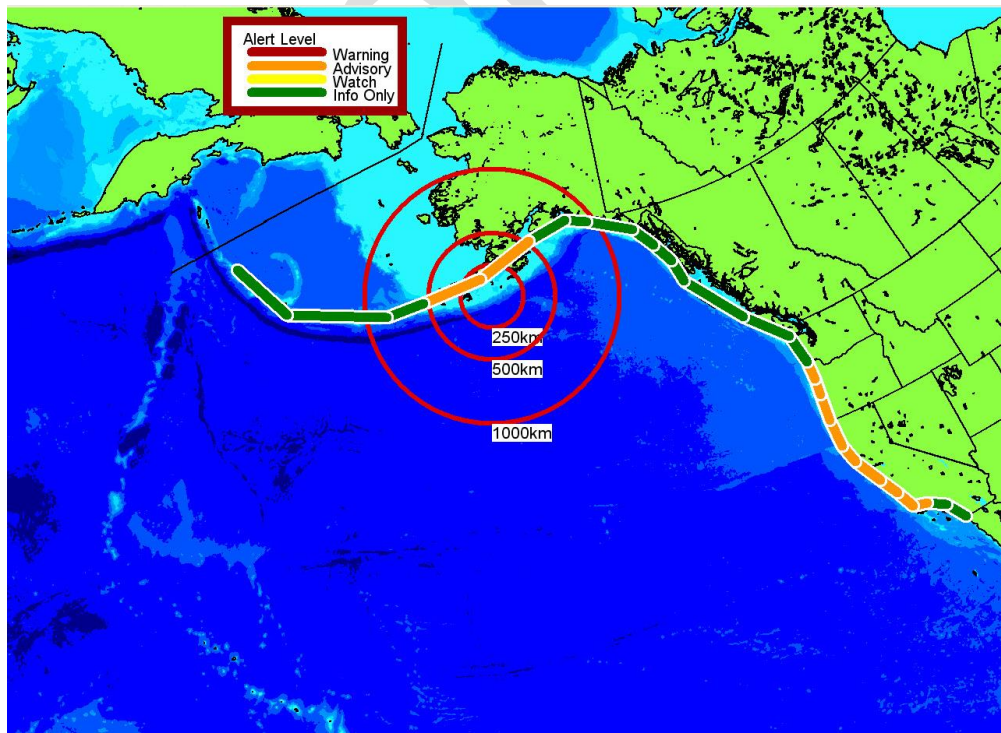
PRELIMINARY EARTHQUAKE PARAMETERS

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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Figure D9: Warning/Advisory areas after Bulletin 48.

**NTWC Bulletin #49**

WEAK51 PAAQ 291801  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 49  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1001 AM AKDT SAT MAR 29 2014

THIS MESSAGE CANCELS THE TSUNAMI ADVISORY FOR THE COAST OF OREGON.  
...THE TSUNAMI ADVISORY REMAINS IN EFFECT...

WARNINGS/ADVISORIES/WATCHES - UPDATED  
-----

TSUNAMI ADVISORY IN EFFECT FOR...

- \* THE COASTAL AREAS OF CALIFORNIA FROM RINCON POINT CALIFORNIA/LOCATED 15 MILES SE OF SANTA BARBARA/ TO THE OREGON-CALIFORNIA BORDER
- \* THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

CANCELLATIONS  
-----

- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF OREGON FROM THE OREGON-CALIFORNIA BORDER TO THE OREGON-WASHINGTON BORDER
- \* FOR OTHER US AND CANDIAN PACIFIC COASTS IN NORTH AMERICA - THIS IS FOR INFORMATION ONLY.

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

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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.

SIGNIFICANT TSUNAMI ACTIVITY IS EXPECTED TO CONTINUE FOR UP TO 3 MORE HOURS FOR AREAS STILL IN A LEVEL OF ALERT.

### ADDITIONAL OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT
SAN DIEGO CA	0214 UTC 3-28	1.74 FT
MIDWAY IS	2304 UTC 3-27	1.44 FT

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NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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

### PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 9.1
- \* ORIGIN TIME 1050 AKDT MAR 27 2014  
1150 PDT MAR 27 2014  
1850 UTC MAR 27 2014
- \* COORDINATES 55.2 NORTH 156.7 WEST
- \* DEPTH 11 MILES
- \* LOCATION 100 MILES SE OF CHIGNIK ALASKA  
485 MILES SW OF ANCHORAGE ALASKA

### NEXT UPDATE AND ADDITIONAL INFORMATION

-----

- \* THIS MESSAGE WILL BE UPDATED IN 60 MINUTES.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION ON THIS EVENT AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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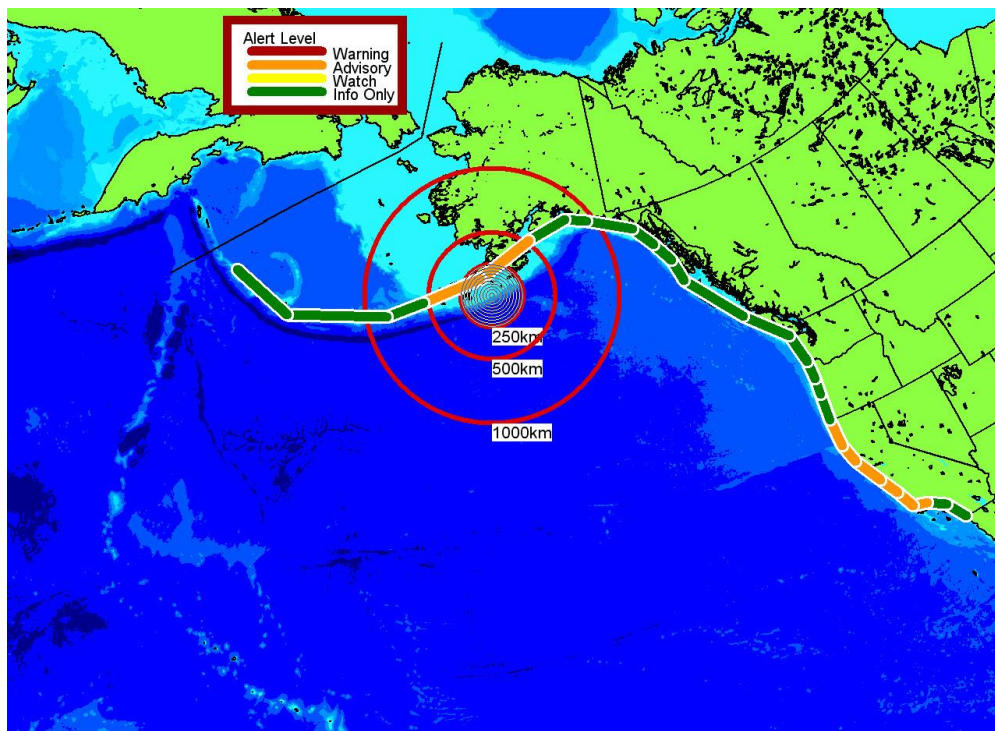


Figure D10: Warning/Advisory areas after Bulletin 49.

**NTWC Bulletin #50**

WEAK51 PAAQ 291900  
TSUAK1

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 50  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
1100 AM AKDT SAT MAR 29 2014

...THE TSUNAMI ADVISORY IS CANCELLED...

CANCELLATIONS

- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF CALIFORNIA FROM RINCON POINT CALIFORNIA/LOCATED 15 MILES SE OF SANTA BARBARA/ TO THE OREGON-CALIFORNIA BORDER
- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF ALASKA FROM KENNEDY ENTRANCE ALASKA/LOCATED 40 MILES SW OF HOMER/ TO UNIMAK PASS ALASKA/LOCATED 80 MILES NE OF DUTCH HARBOR/

IMPACTS - UPDATED

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\* 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

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
SAND POINT AK	1945 UTC 3-27	11.60 FT
KING COVE AK	2023 UTC 3-27	4.33 FT
CHIGNIK AK	2026 UTC 3-27	21.82 FT
NIKOLSKI AK	2054 UTC 3-27	1.61 FT
UNALASKA AK	2056 UTC 3-27	1.44 FT
KODIAK AK	2100 UTC 3-27	4.50 FT
SEWARD AK	2110 UTC 3-27	4.11 FT
ADAK AK	2145 UTC 3-27	1.03 FT
ELFIN COVE AK	2133 UTC 3-27	1.32 FT
YAKUTAT AK	2132 UTC 3-27	2.44 FT
PORT ALEXANDER AK	2114 UTC 3-27	1.41 FT
CORDOVA AK	2235 UTC 3-27	1.82 FT
SHEMYA AK	2245 UTC 3-27	0.34 FT
SITKA AK	2222 UTC 3-27	3.74 FT
CRAIG AK	2255 UTC 3-27	3.88 FT
LANGARA BC	2300 UTC 3-27	1.60 FT
TOFINO BC	2334 UTC 3-27	2.41 FT
NEAH BAY WA	2234 UTC 3-27	2.02 FT
LAPUSH WA	2241 UTC 3-27	3.15 FT
WESTPORT WA	2302 UTC 3-27	2.11 FT
PORT ANGELES WA	2354 UTC 3-27	1.38 FT
GARIBALDI OR	2259 UTC 3-27	1.05 FT
NEWPORT OR	2309 UTC 3-27	2.46 FT
CHARLESTON OR	2333 UTC 3-27	2.74 FT
PORT ORFORD OR	2355 UTC 3-27	6.76 FT
CRESCENT CITY CA	0100 UTC 3-28	7.11 FT
ARENA COVE CA	2313 UTC 3-27	5.58 FT
EUREKA CA	0006 UTC 3-28	4.23 FT
POINT REYES CA	0142 UTC 3-28	3.38 FT
SAN FRANCISCO	0155 UTC 3-28	3.71 FT
ALAMEDA CA	0141 UTC 3-28	1.84 FT
MONTEREY CA	2338 UTC 3-27	3.97 FT
PORT SAN LUIS CA	0108 UTC 3-28	11.82 FT
SANTA BARBARA CA	0145 UTC 3-28	3.32 FT
SANTA MONICA CA	0157 UTC 3-28	4.12 FT
SAN PEDRO CA	0230 UTC 3-28	3.11 FT
LA JOLLA CA	0222 UTC 3-28	3.5 FT

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SAN DIEGO CA	0214	UTC	3-28	1.74	FT
MIDWAY IS	2304	UTC	3-27	1.44	FT
NAWILIWILI HI	2323	UTC	3-27	2.20	FT
HALEIWA HI	2338	UTC	3-27	4.99	FT
HONOLULU HI	2338	UTC	3-27	2.23	FT
KAHULUI HI	2341	UTC	3-27	7.15	FT
KAWAIHAE HI	0014	UTC	3-28	2.89	FT
WAKE ISLAND	0052	UTC	3-28	0.33	FT
GUAM	0321	UTC	3-28	0.30	FT
PAGO PAGO AM SAMOA	0433	UTC	3-28	0.46	FT

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 LAST NATIONAL TSUNAMI WARNING CENTER BULLETIN ISSUED FOR THIS EVENT.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://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 FOR INFORMATION AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

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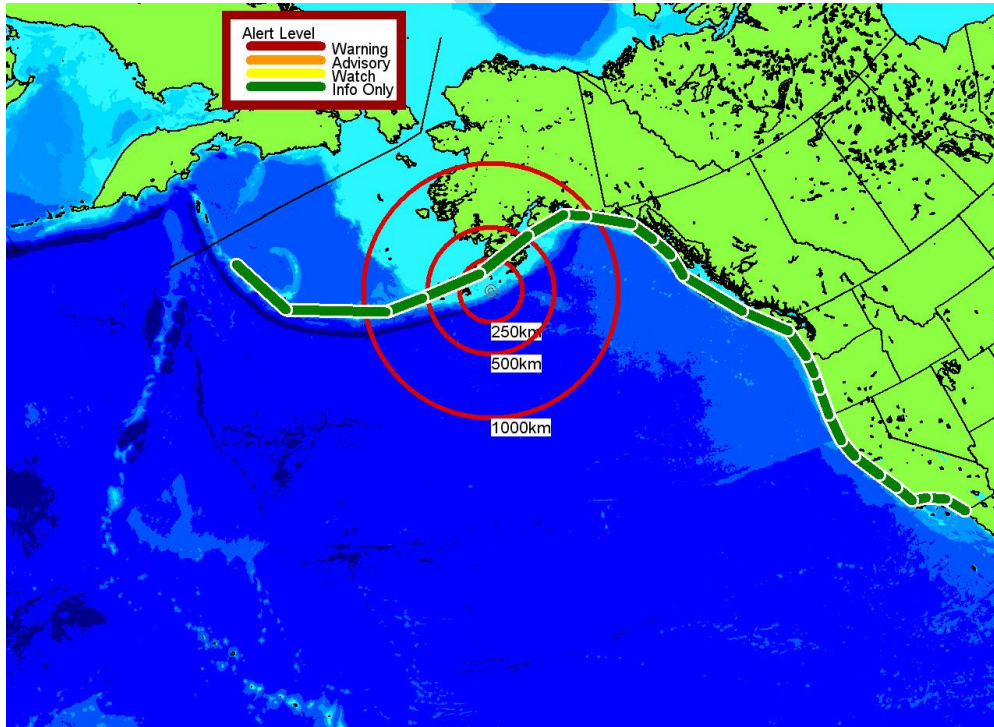


Figure D11: Warning/Advisory areas after Bulletin 50.

## 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 27, 2012**

*(insert community/county/state name)* will join other localities in the north Pacific as a participant in a tsunami response exercise on March 27, 2012. 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 PACIFEX 14, will simulate a widespread Tsunami Warning, Watch, and Advisory situation along U.S. and Canadian west coasts requiring implementation of local tsunami response plans. It is the fifth such exercise including all Pacific states, provinces, territories, and commonwealths. The exercise will *(insert "include" or "not include")* public notification.

The exercise will simulate a major earthquake and tsunami generated 100 miles southeast of Chignik, Alaska at 11:50 am Pacific Daylight Time *(or appropriate local time)* on March 27, 2012. Exercise participants will be provided with a handbook which describes the scenario and contains tsunami messages from the National Tsunami Warning Center (NTWC)

*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

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more information on the U.S. tsunami warning system, see [www.tsunami.gov](http://www.tsunami.gov). For more information on the NTHMP, see [nthmp.tsunami.gov](http://nthmp.tsunami.gov).

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On the Web:

National Tsunami Warning Center

<http://ntwc.arh.noaa.gov>

NOAA Tsunami Program

<http://www.tsunami.gov>

NTHMP:

<http://nthmp.tsunami.gov>

*Insert state/local emergency response URLs*

Exercise