

Exercise PACIFEX19 Participant Handbook

A Pacific Tsunami Warning Exercise
March 20, 2019

US National Tsunami Hazard Mitigation Program
Warning Coordination Subcommittee



NOTE: The contents of this handbook are patterned after the Exercise Pacific Wave 08 manual published by the Intergovernmental Oceanographic Commission. Citation: *Exercise Pacific Wave 08. A Pacific-wide Tsunami Warning and Communication Exercise, 28-30 October 2008*. IOC Technical Series No. 82. Paris, UNESCO, 2008, and the PACIFEX13 handbooks.

PACIFEX19

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PACIFEX19

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 (NOAA)'s National Centers for Environmental Information (NCEI) 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: Mariana Convergent Plate Margin

This exercise is driven by tsunami warning messages from the NTCW in response to a hypothetical earthquake located on the northern Mariana Trench, with an epicenter between the Volcano Islands, Japan and Commonwealth of the Northern Mariana Islands (CNMI), United States. 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.

Geology

At the Mariana Trench, the downgoing Pacific Plate subducts beneath the overriding Philippine Sea Plate. The depth of the trench itself varies along its length. The Mariana Trench is known for housing the deepest known location in the ocean, Challenger Deep. However, in places where large seamounts on the Pacific Plate reach the subduction zone, the trench is shallower. Collision involving subducting seamounts also causes uplift of the edge of the Philippine Sea Plate.

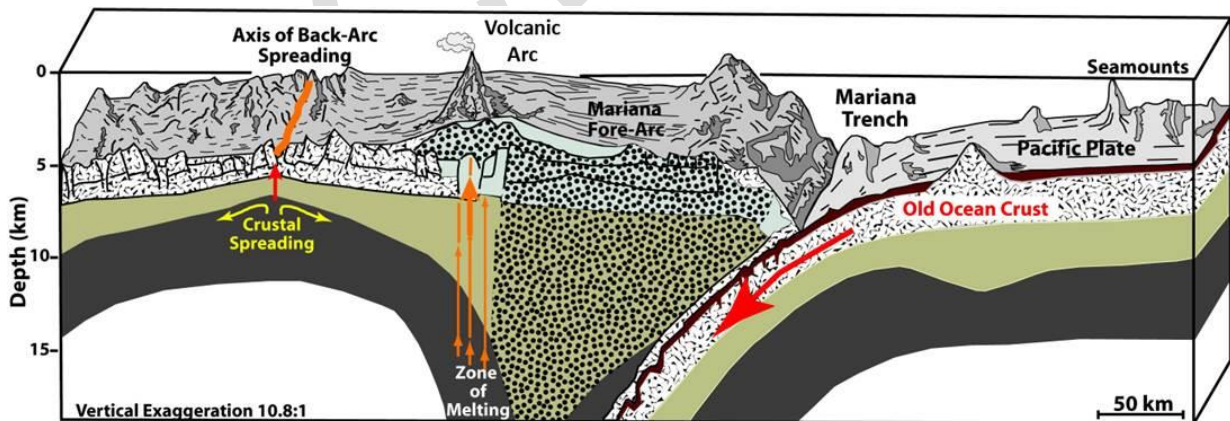


Figure 1: Cross-section of the Mariana subduction zone, showing the relationship between the Trench, Forearc, Volcanic Arc, and Back-Arc. *Image adapted from Hussong and Fryer, 1981.* [Download larger version \(jpg, 380 KB\).](#)

In the Mariana system, the trench is curved in map view (white dashed line on Figure 2) related to regional plate tectonics. Over its history, as the Pacific Plate has subducted, it has been “rolling back” toward the east: the trench has migrated eastward with time. The Mariana Trench, however, is “pinned” on both its north and south ends by the jamming up of subduction through collision with large raised features. This is why the Mariana arc is concave to the west.

The Forearc

The forearc region, between the trench and the volcanic arc (Figure 2), preserves the history of subduction and the three episodes in which the island arc system was torn apart as the Pacific Plate rolled back. These tectonics left the forearc heavily deformed, with faults up to 18 km deep crossing most of it.

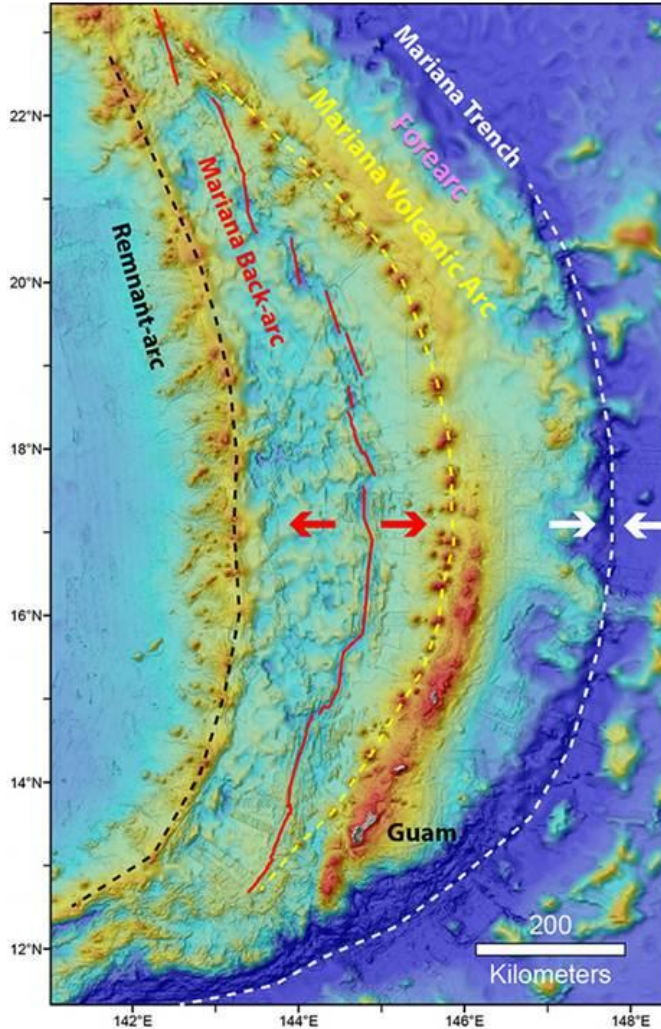


Figure 2: Map showing the locations of the Mariana Trench (white dashed line), forearc area, volcanic arc (yellow dashed line), back-arc spreading center (red lines) and remnant arc (black dashed line). *Image adapted from Bill Chadwick.*

Active subduction continues to affect the forearc. Following big subduction zone quakes, smaller aftershocks on preexisting forearc faults grind fault rocks. Fluids released from the Pacific Plate at depth rise along the faults, reacting with the pulverized rock. The resulting serpentinite mud rises to the seafloor in the forearc, erupting to form mud volcanoes as tall as 2 km. Sector collapses and debris flows are possible from these structures.

Closer to the volcanic arc are the larger islands of Guam, Rota, Tinian, and Saipan. They are all uplifted portions of the Mariana forearc, mostly marine reefs, sediments, and old volcanic deposits that have behaved buoyantly as the surrounding seafloor has slipped away along faults.

The Volcanic Arc

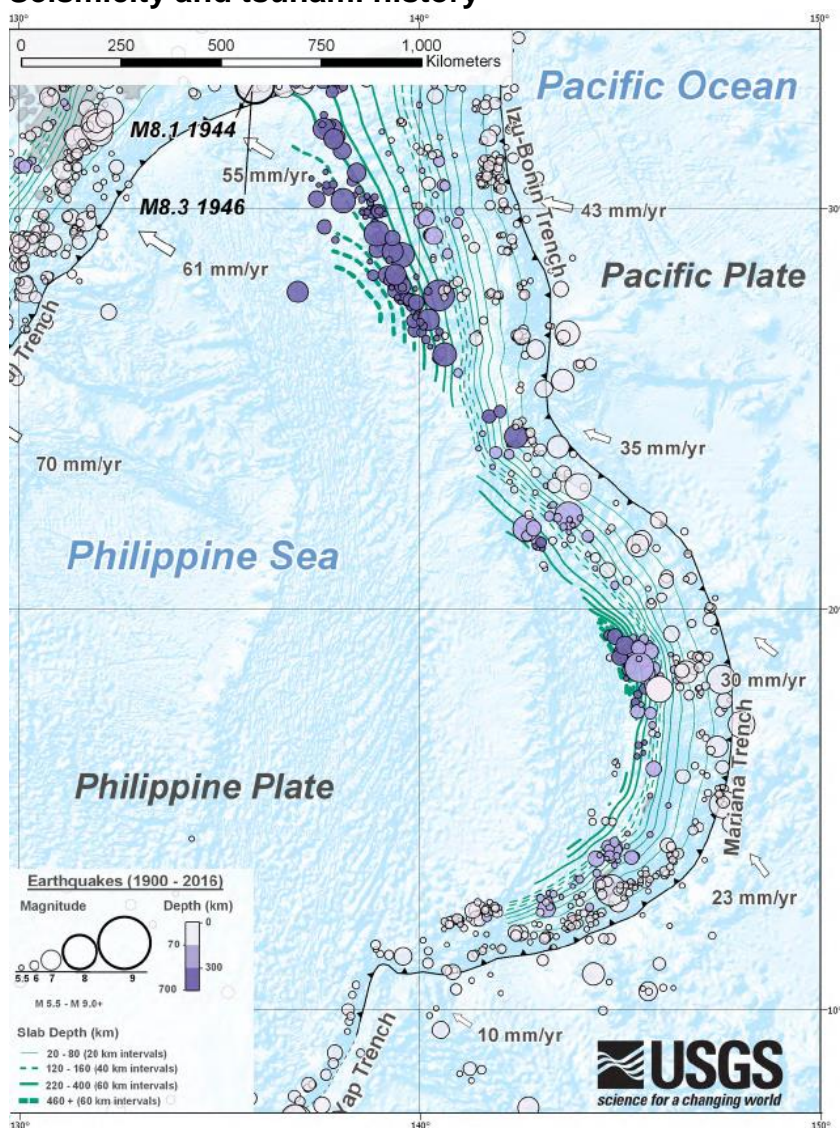
The Mariana volcanic arc is a chain of volcanoes about 200 km west of and parallel to the trench (yellow dashed line on Figure 2). It is fed by fluids from the subducting plate melting the mantle at depths of 70 to 100 km .

The active volcanoes of the Mariana Arc are mostly seamounts (underwater volcanoes), with summits that are only a few hundred meters below the ocean's surface. Only nine are tall enough to form islands. The volcanoes of CNMI are monitored by the Alaska Volcano Observatory.

The Back-arc

The strong plate rollback forces in this arc system put the overriding plate under tension. The volcanic arc is the weakest point, so that is where the region has typically started to break up. Each time the arc has broken up, the crust and upper mantle faulted, stretched thinner, and began to subside. At that point, an ocean basin began forming between the active volcanic front on the east and what eventually became an inactive remnant arc on the west. Over a few million years, volcanism on the newly-forming ocean basin floor became organized into a series of seafloor spreading center segments (Figure 2).

Seismicity and tsunami history



Oblique subduction at the Mariana convergent boundary ranges from ~10 mm/yr in the south to 35 mm/yr in the north (Figure 3). Earthquake activity associated with the subducting Pacific Plate extends to depths of more than 600 km. Since the year 1900, the Marianas region has had over 140 quakes of at least magnitude 6.0, and 21 quakes of at least M 7.0. Of these, the largest was a M 7.8 quake in 1993 with an epicenter near Guam. That earthquake injured 71 people, inflicted about \$250 million in damage on Guam, and generated a regional tsunami. The quake also caused liquefaction in coastal areas of Guam as well as landslides and rockslides. Though maximum tsunami runups were above a meter at several places on Guam, above 0.3 m

Figure 3 : Map of Mariana region showing relative plate velocities, depth contours of subducting plate, and historic earthquakes above M 5.5. *Image adapted from USGS.*

at multiple locations in Japan, and measurable in Hawaii, that tsunami was non-destructive.

Other historical earthquake and tsunami events in the Marianas have fewer details available and are prone to more uncertainty. There are reports of a tsunami in the Marianas in the late 1700s that caused severe damage in a couple cities, and several fatalities. There are records of a violent earthquake in 1809 that caused “extraordinary movement at sea” as well as landslides. Similar occurrences are reported in 1825 and 1834. Quakes estimated at M 7.5 caused great damage and local tsunamis in 1849 and 1892. There were also large quakes in 1902 (USGS M 7.5) and/or 1903 (NCEI). Several sources indicate that a destructive earthquake as large as M 8.0 occurred in the Northern Marianas in 1909, but this is not confirmed by USGS.

The Marianas subduction zone does not have a known history of many great ($M > 8.0$) megathrust earthquakes. One hypothesis is that there is weak coupling between the two plates at their interface, reducing the build up of stress and making very large earthquakes unlikely. Alternatively, the recurrence interval for such great earthquakes may exceed what we have so far been able to historically observe.

Contributing articles to this summary:

Chadwick, B. and P. Fryer, The Geology of the Mariana Convergent Plate Region, <https://oceanexplorer.noaa.gov/oceanos/explorations/ex1605/background/geology/welcome.html>

Smoczyk, G.M., Hayes, G.P., Hamburger, M.W., Benz, H.M., Villaseñor, Antonio, and Furlong, K.P., 2013, Seismicity of the Earth 1900–2012 Philippine Sea Plate and vicinity: U.S. Geological Survey Open-File Report 2010–1083-M, scale 1:10,000,000, <https://dx.doi.org/10.3133/ofr20101083m>.

Tsunami Warning System

To help communities respond to tsunami hazards, NOAA operates a tsunami warning system for U.S. and Canadian coasts through its National Tsunami Warning Center (NTWC) in Palmer, Alaska and Pacific Tsunami Warning Center (PTWC) on Ford Island, Hawaii. These Centers provide tsunami warning, advisory, watch, and information messages approximately five minutes after an earthquake’s occurrence for earthquakes potentially impacting their Areas of Responsibility. NTWC has primary warning responsibility for Canada and all U.S. states except Hawaii. PTWC has primary warning responsibility for Hawaii and the U.S. territories in the Pacific and Caribbean. They also are the primary international forecast center for the Pacific and Caribbean, issuing threat messages to the international community in those areas. Primary recipients of Tsunami Warning Center (TWC) messages include National Weather Service (NWS) coastal Weather Forecast Offices (WFOs), state/territory warning points, national Coast Guards, Canada’s Provincial Emergency Program, national tsunami warning focal points, and military organizations. These agencies transmit the message to people potentially impacted by a tsunami.

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

2. Exercise Concept

2.1 Purpose

The purpose of this exercise is to improve the effectiveness of the tsunami warning system along the U.S. and Canadian Pacific coasts. The exercise provides an opportunity for emergency management organizations along these coasts to 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 PACIFEX19.

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 04:00:00 UTC March 20, 2019
- Latitude 22.7°N
- Longitude 144.4°E
- Magnitude 8.8 – Mw
- Depth 20 km

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 04:00 UTC on March 20, 2019. 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 the full event duration. 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 8.8 earthquake with epicenter at 22.7°N, 144.4°E occurring on March 20, 2019 at 04:00 UTC. The initial TIS is being disseminated at 0404 UTC.

Date (UTC)	Time (UTC)	NTWC Message		
		#	Type	Dummy
03/20/2019	0400		***Earthquake Occurs***	
03/20/2019	0404	01	TIS	Yes
03/20/2019	0501	02	Watch	No
03/20/2019	0531	03	Watch/Warn	No
03/20/2019	0601	04	Watch/Warn	No
03/20/2019	0632	05	Watch/Warn	No
03/20/2019	0703	06	Watch/Warn/Adv	No
03/20/2019	0733	07	Watch/Warn/Adv	No
03/20/2019	0801	08	Watch/Warn/Adv	No
03/20/2019	0830	09	Watch/Warn/Adv	No
03/20/2019	0900	10	Watch/Warn/Adv	No
03/20/2019	0931	11	Watch/Warn/Adv	No
03/20/2019	1001	12	Warn/Adv	No
03/20/2019	1031	13	Warn/Adv	No
03/20/2019	1100	14	Warn/Adv	No
03/20/2019	1130	15	Warn/Adv	No
03/20/2019	1204	16	Warn/Adv	No
03/20/2019	1230	17	Warn/Adv	No
03/20/2019	1302	18	Warn/Adv	No
03/20/2019	1330	19	Warn/Adv	No
03/20/2019	1401	20	Warn/Adv	No
03/20/2019	1430	21	Warn/Adv	No
03/20/2019	1500	22	Warn/Adv	No
03/20/2019	1531	23	Warn/Adv	No
03/20/2019	1601	24	Warn/Adv	No
03/20/2019	1631	25	Warn/Adv	No
03/20/2019	1700	26	Warn/Adv	No
03/20/2019	various	27-49	Warn/Adv	No
03/21/2019	0530	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 WEAK53 PAAQ and AWIPS ID TIBAK1.*

TWC Message Types:

Warn Tsunami Warning
 Adv Tsunami Advisory
 Watch 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	WEAK53 PAAQ	TIBAK1	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 “**PACIFEX19**” 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:

<u>Person</u>	<u>Telephone #</u>	<u>Email</u>
Kevin Miller CA EMA, Tsunami PM	510-286-0817	kevin.miller@calema.ca.gov
Althea Turner OR OEM Tsunami PM	503-378-2911	Althea.Rizzo@state.or.us
Maximilian Dixon WA EMD Tsunami PM	253-512-7084	Maximilian.dixon@mil.wa.gov
Robert.White BC Tsunami PM	250-952-5834	Robert.White@gov.bc.ca
Kevin Richards HI CD Tsunami PM	808-733-4301	krichards@scd.hawaii.gov
Dan Bellanger AK DHS&EM Tsunami PM	907-428-7015	dan.belanger@alaska.gov
James Waddell NTWC Rep.	907-745-4212	james.waddell@noaa.gov
James Gridley NTWC Director	907-745-4212	James.Gridley@noaa.gov
Charles McCreery PTWC Director	808-725-6380	Charles.mccreery@noaa.gov

3.6 Media Arrangements

One advantage in conducting exercises is that it provides a venue to promote awareness of the exercise topic. Many residents along the Pacific 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. a contains a sample press release which can be adapted as necessary.

NOAA will issue a press release several days before the exercise describing the exercise and its purpose.

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

Tsunami models were computed using the Alaska Tsunami Forecast Model (ATFM), to generate expected impacts throughout the region.

The earthquake hypocenter parameters used for this exercise are:

- Origin Time 04:00:00 UTC March 20, 2019
- Latitude 22.7°N
- Longitude 144.4°E
- Magnitude 8.8 – Mw
- Depth 20 km

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

Tsunami Travel Times

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

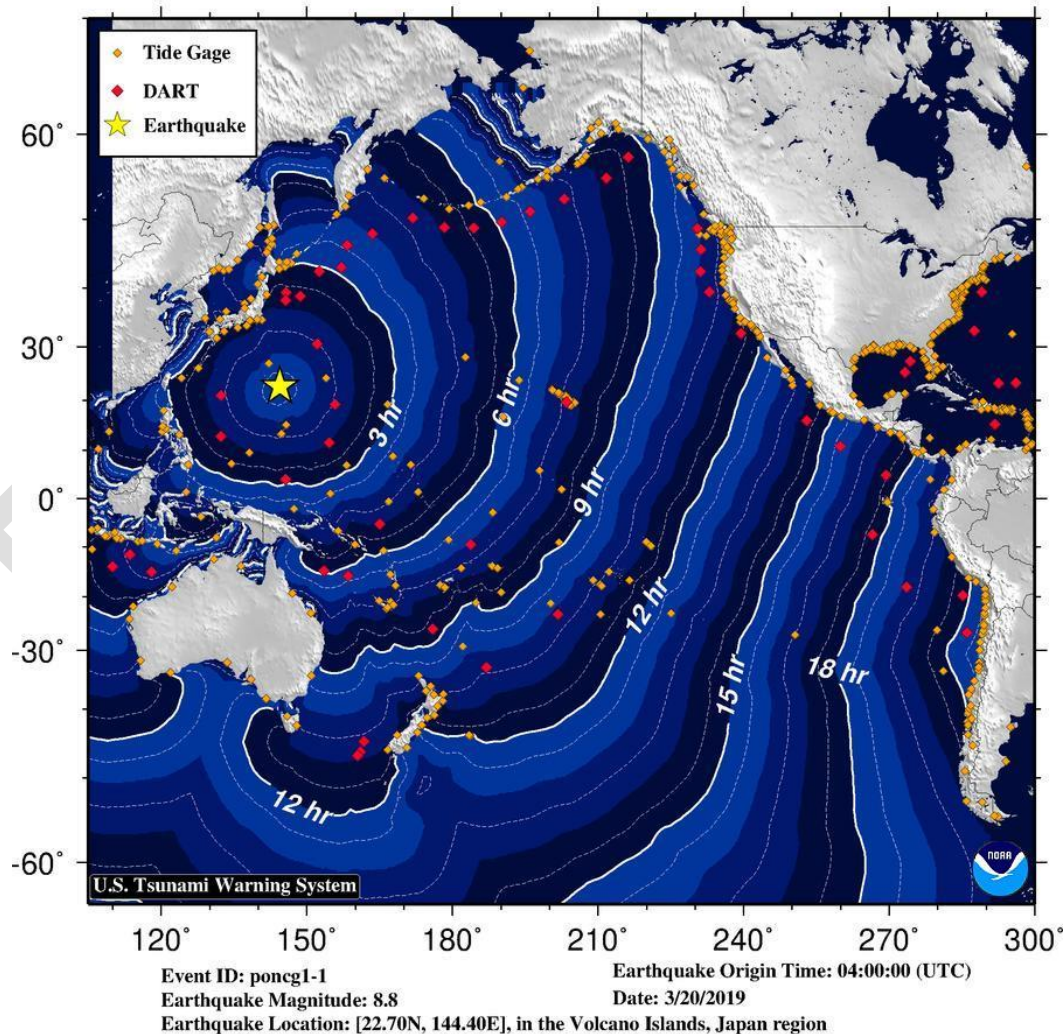


Figure B1: Tsunami travel time map for the PACIFEX19 exercise.

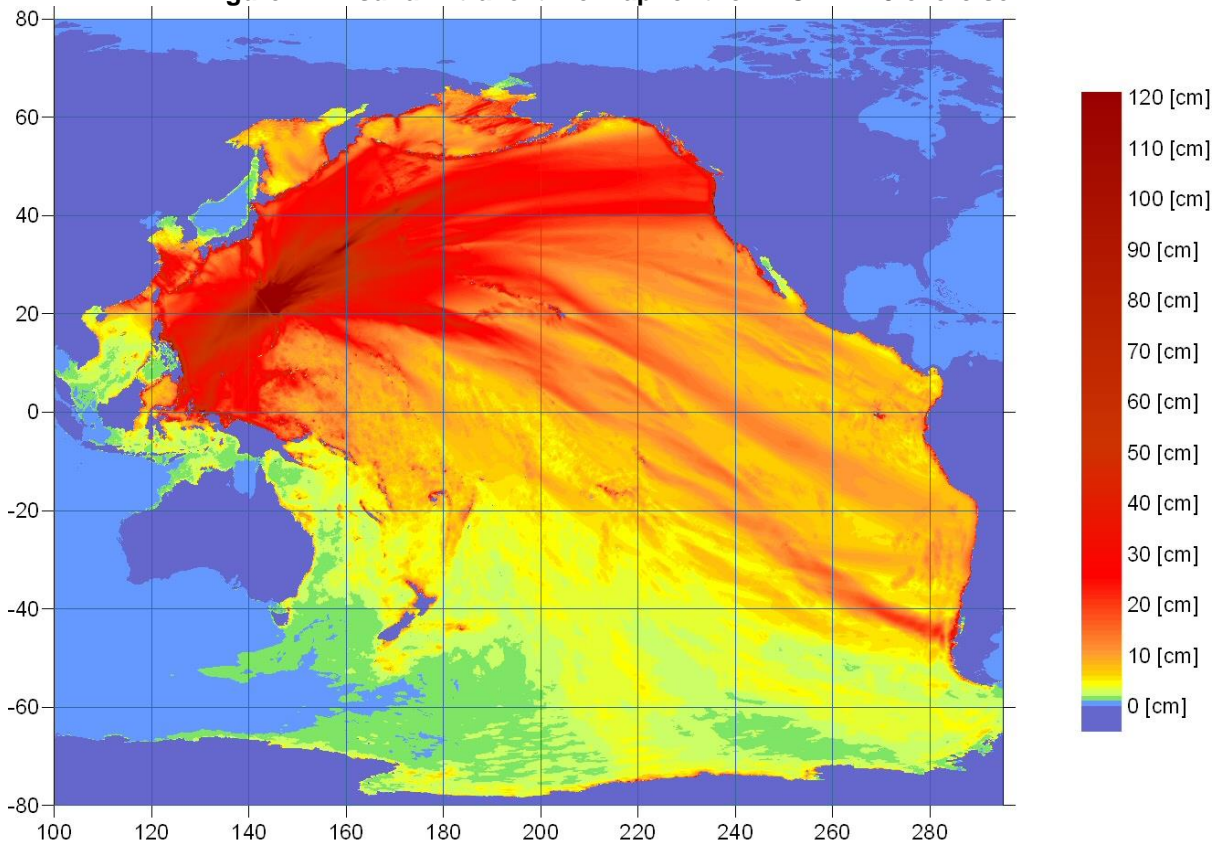
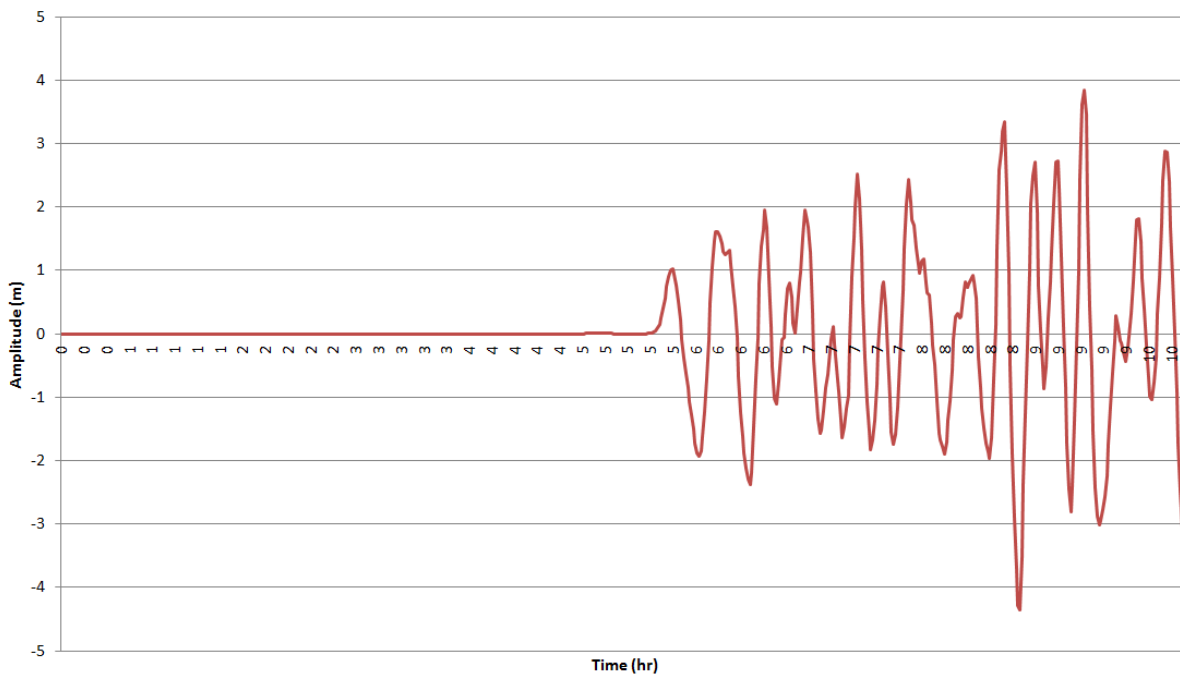


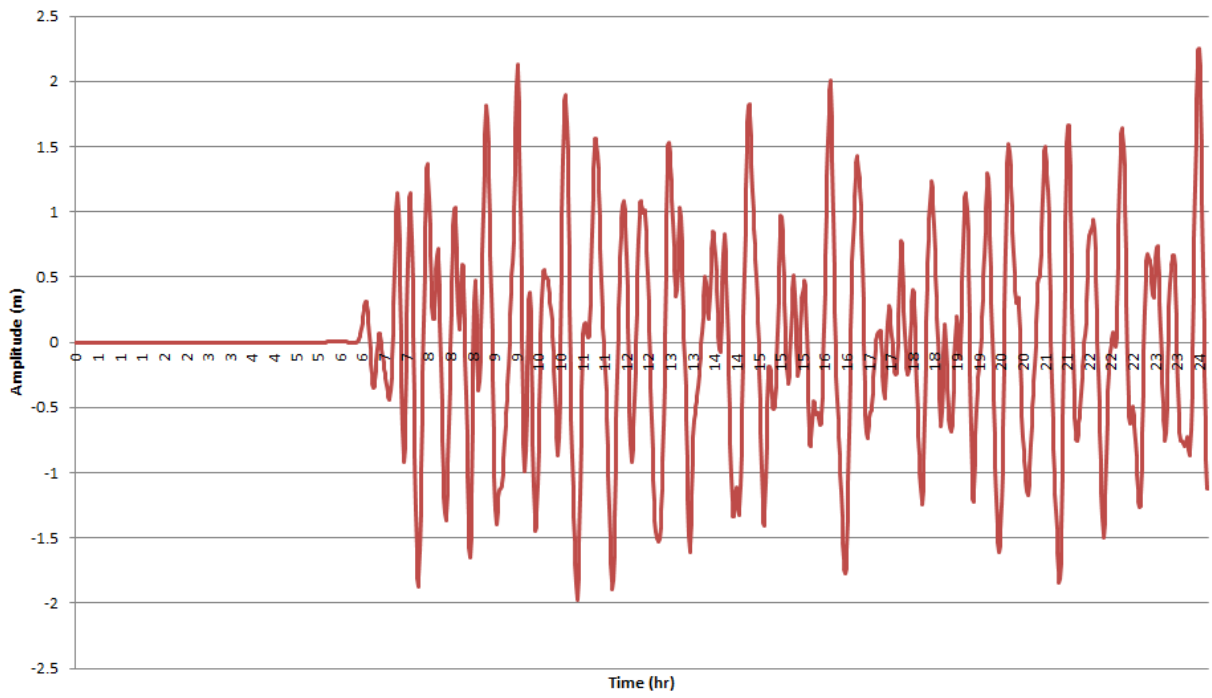
Figure B2. ATFM Maximum tsunami amplitude map for Pacifex19.

Pacifex19 Marigrams

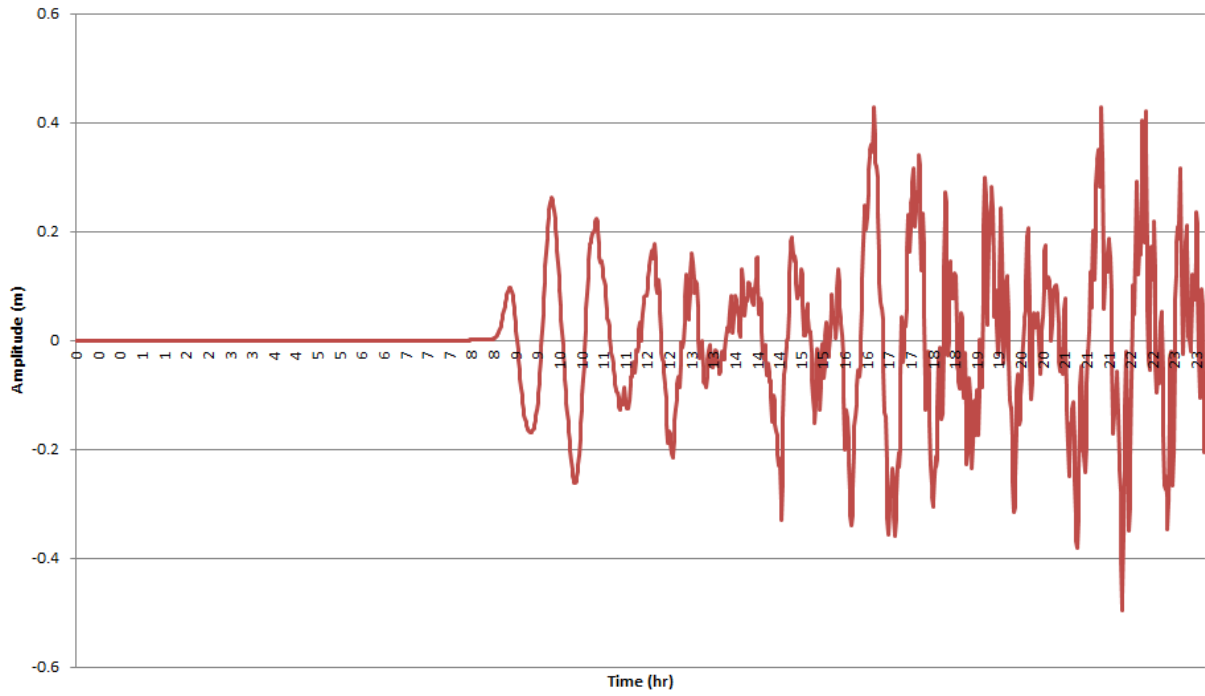
Attu



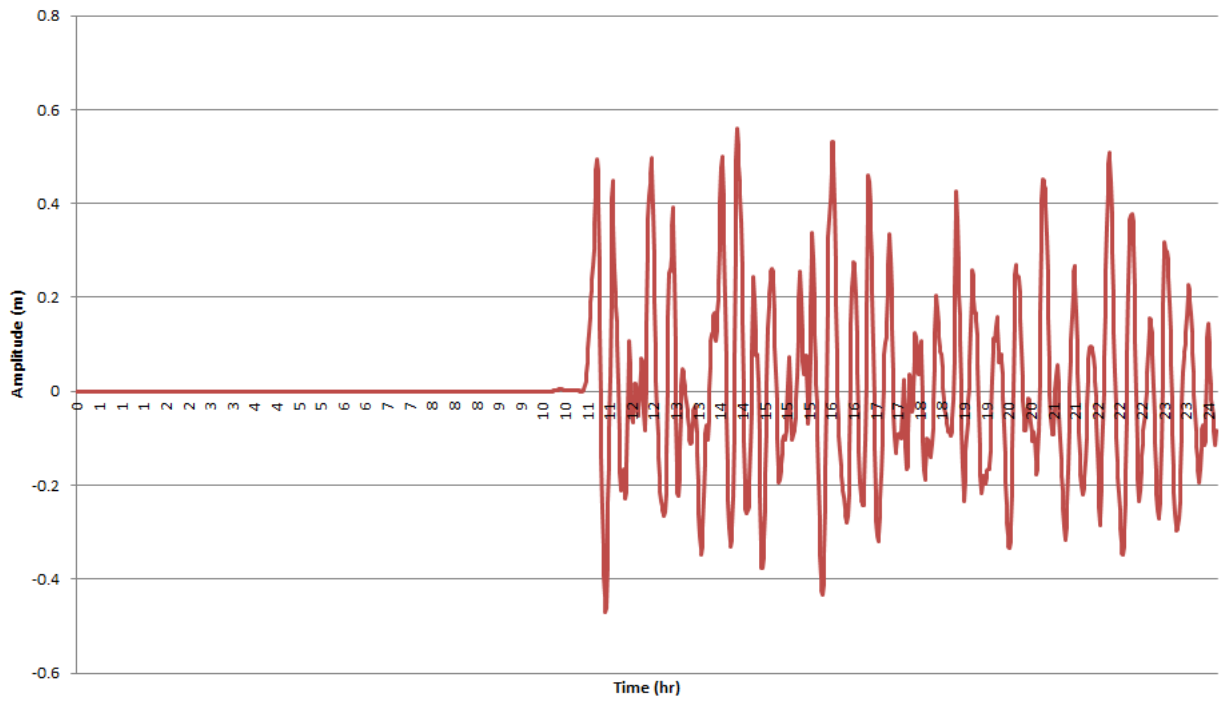
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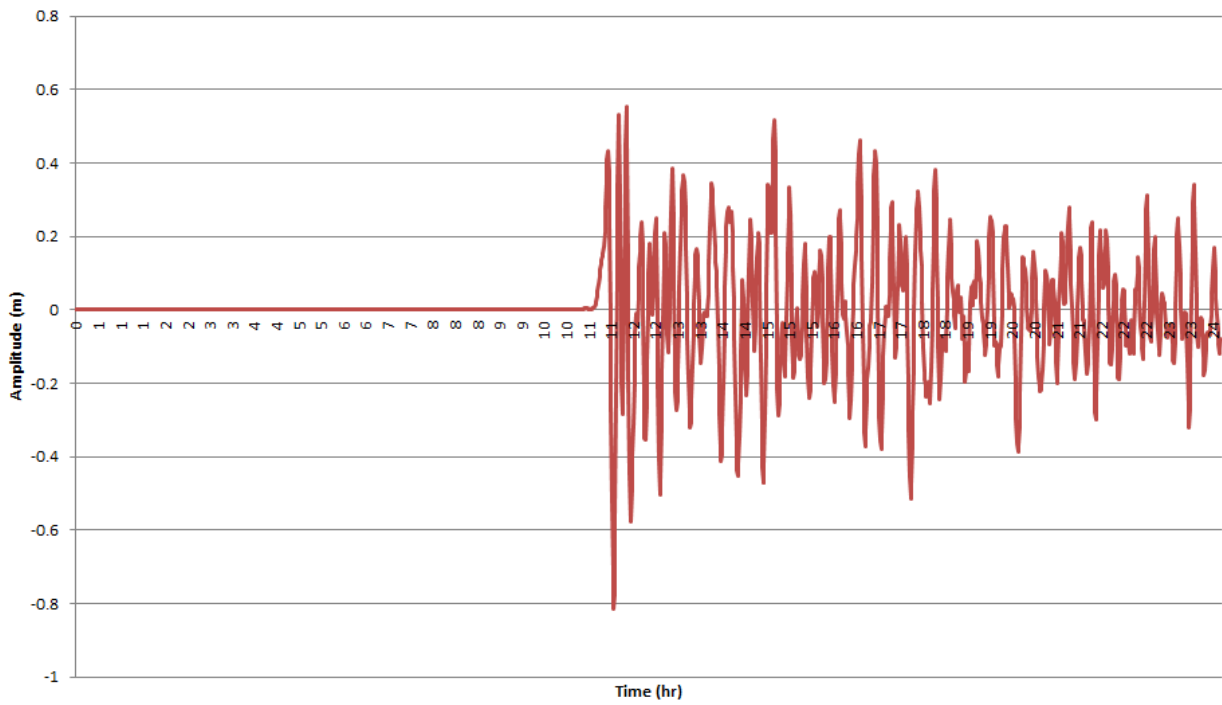
Kodiak



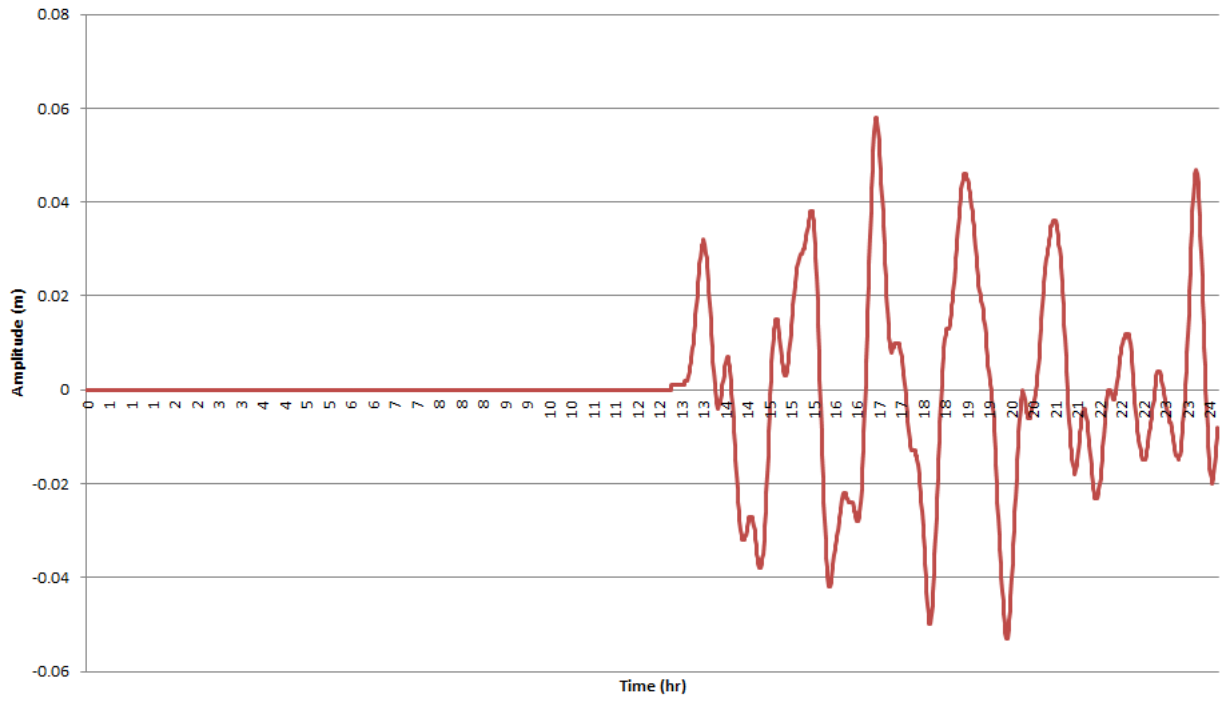
Tofino



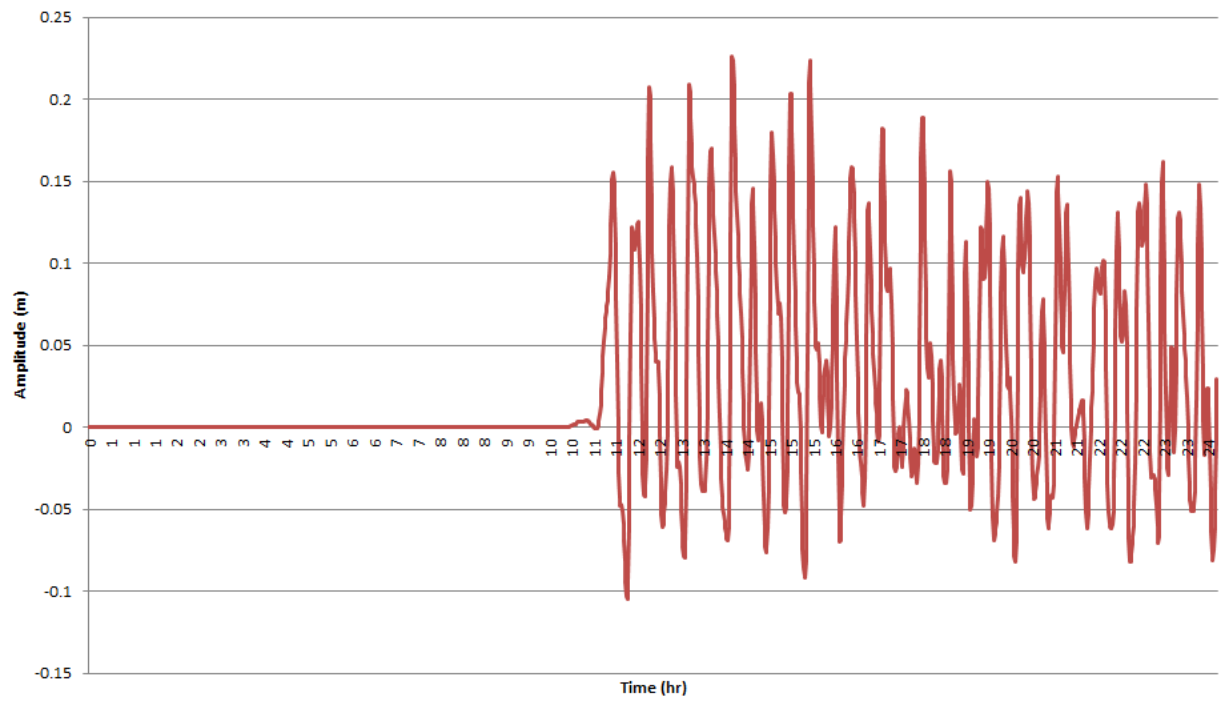
Neah Bay



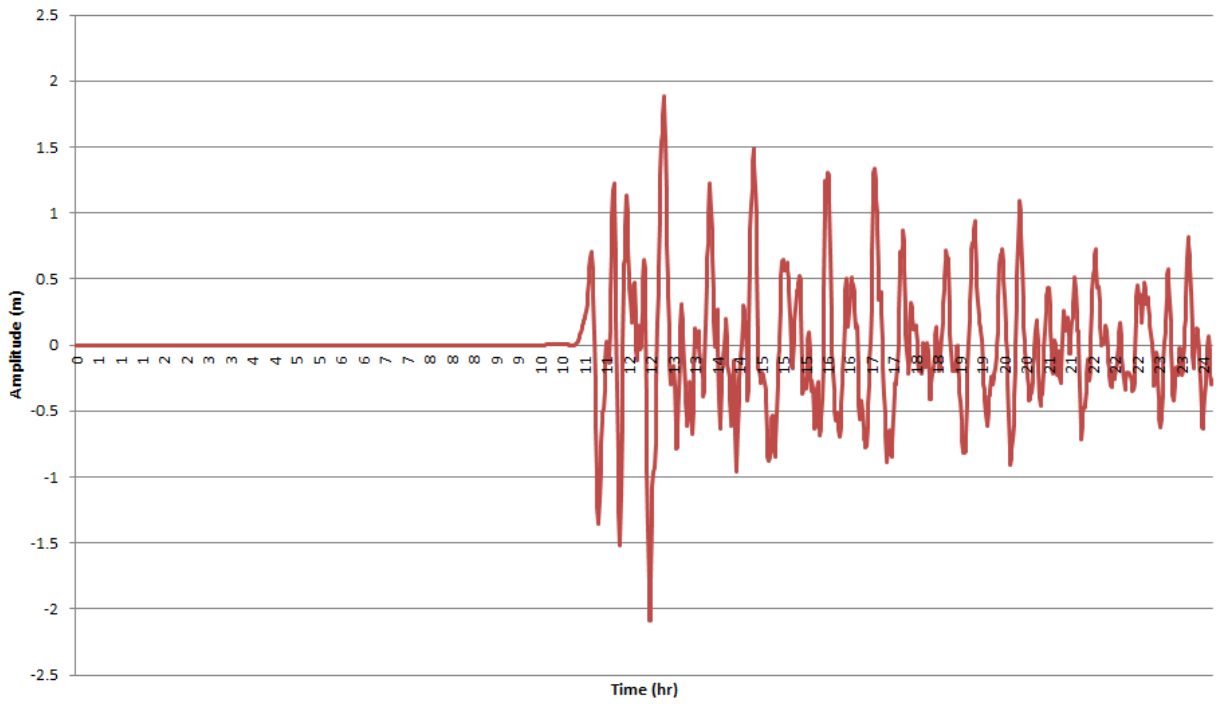
Seattle



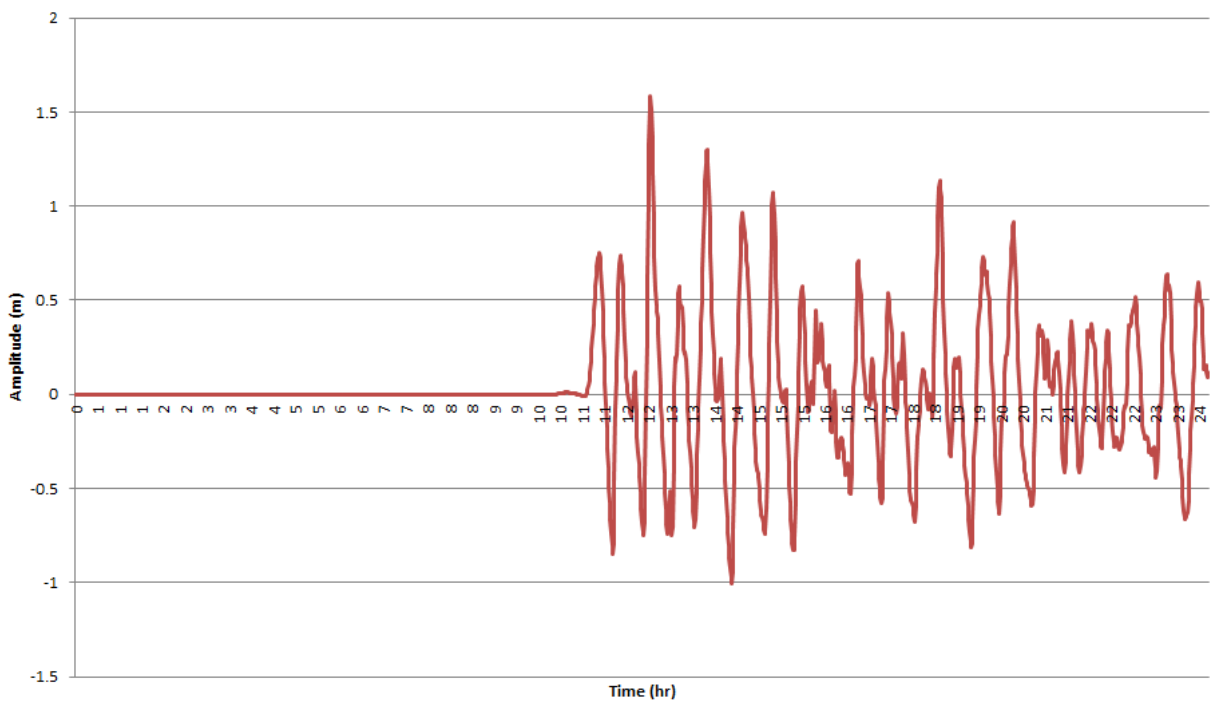
Charleston



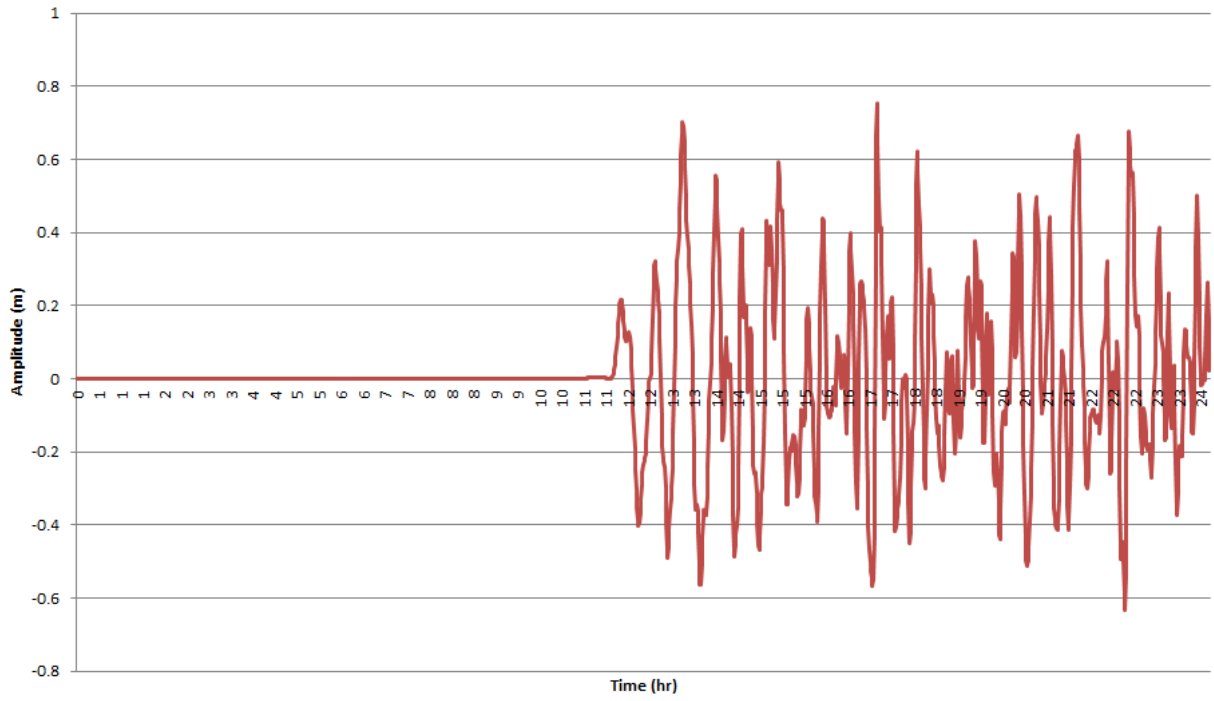
Port Orford



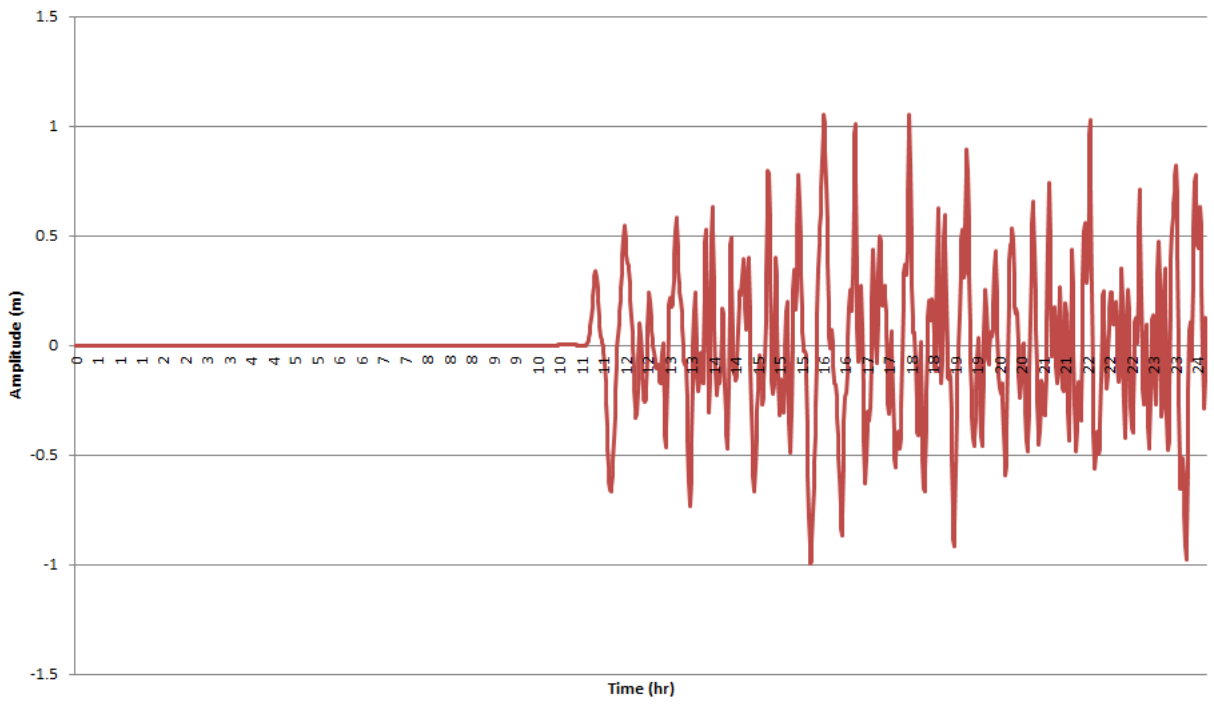
Crescent City



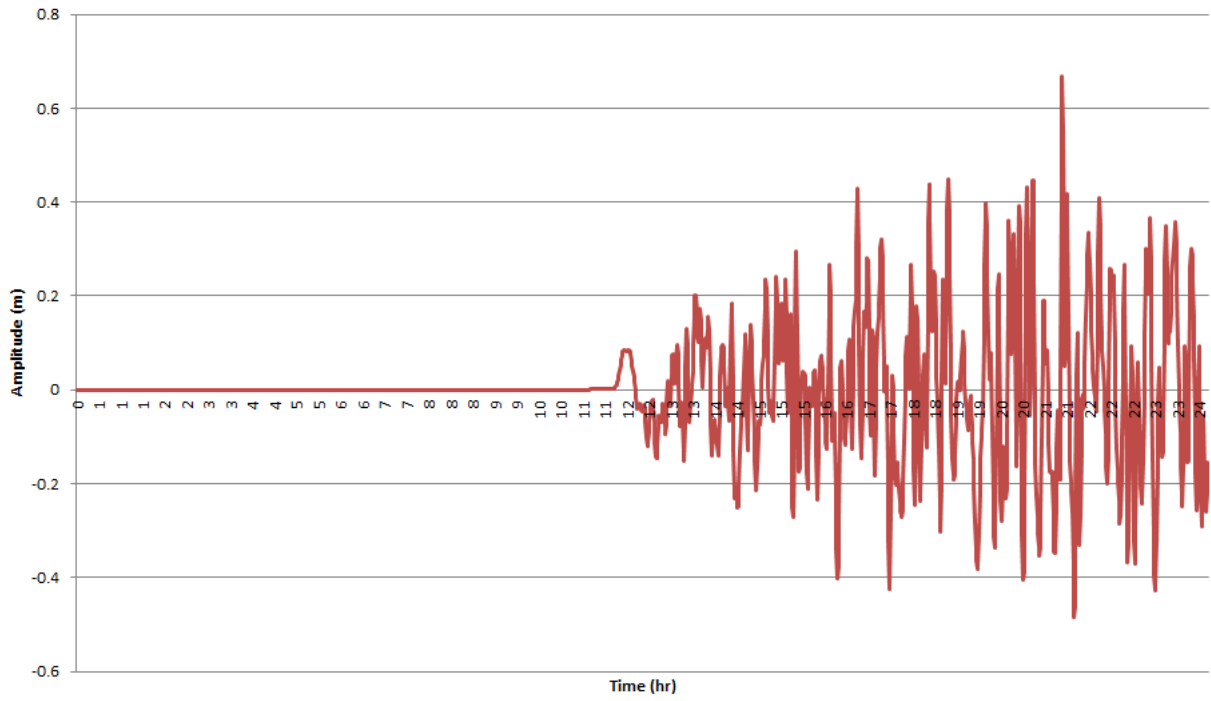
San Francisco



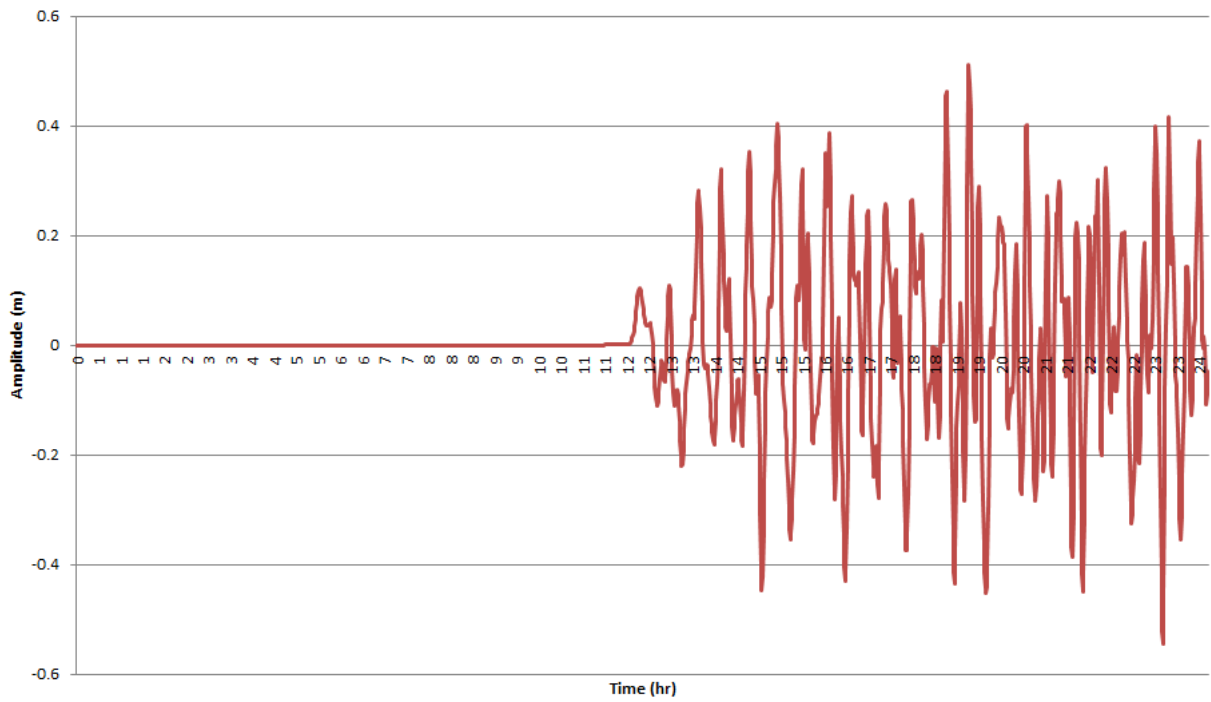
Monterey



Santa Barbara



Los Angeles



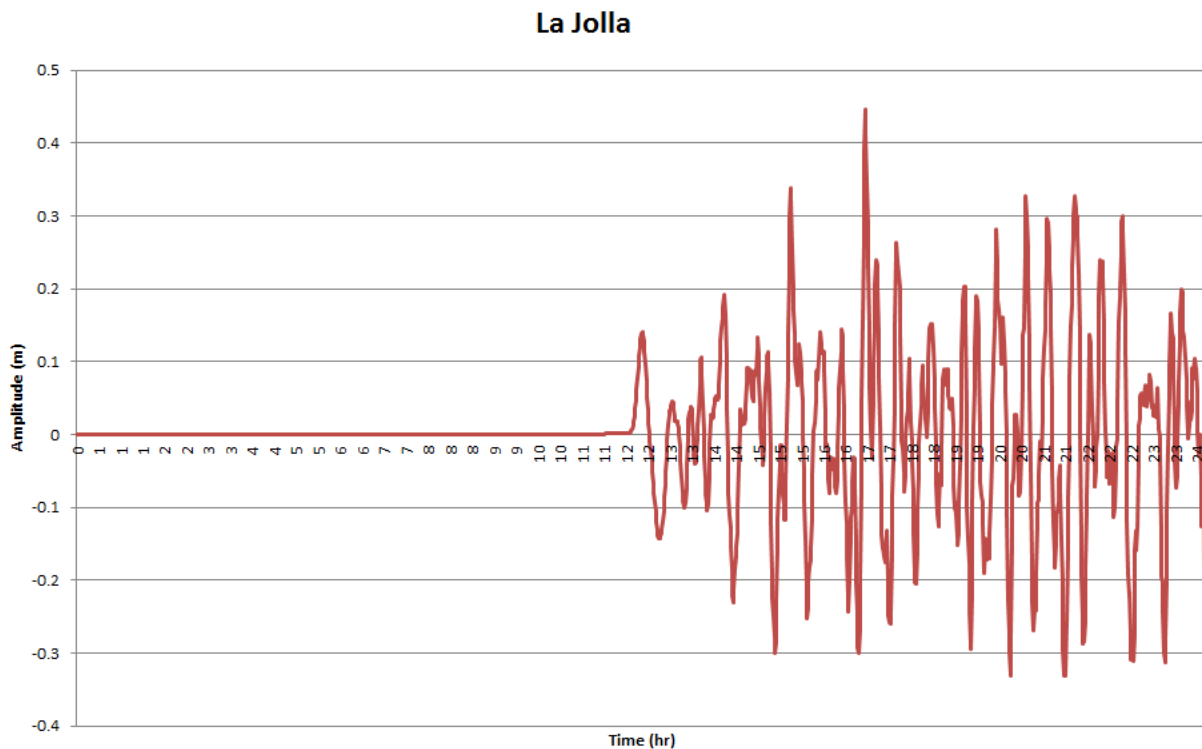


Figure B3. Tsunami time series for selected west coast sites.

Maximum Observed DART Values during Exercise

DART Buoy	Lat	Long	Max Ht (m)	Max Ht (ft)
D46419	48.76N	129.59W	0.21	0.69
D46402	51.07N	164.00W	0.24	0.79
D46403	52.64N	156.93W	0.18	0.59
D46404	45.86N	128.78W	0.17	0.56
D46407	42.59N	128.90W	0.20	0.66
D46408	49.63N	169.85W	0.28	0.92
D46409	55.30N	148.50W	0.09	0.30
D46410	57.63N	143.99W	0.05	0.16
D46411	39.33N	127.01W	0.12	0.39
D46412	32.46N	120.56W	0.06	0.20
D46413	48.67N	174.59W	0.25	0.82
D21401	42.62N	152.58E	0.36	1.18
D21413	30.52N	152.18E	1.00	3.28
D21414	48.94N	178.28E	0.19	0.62
D21415	50.18N	171.85E	0.24	0.79
D21418	38.69N	148.77E	0.35	1.15
D21419	44.45N	155.74E	0.35	1.15
D51406	8.49S	125.01W	0.05	0.16
D51407	19.63N	156.53W	0.12	0.39
D51425	9.49S	176.25W	0.05	0.16
D51426	22.99S	168.10W	0.03	0.10
D52401	19.29N	155.76E	0.18	0.59
D52402	11.57N	154.59E	0.07	0.23
D52403	4.03N	145.60E	0.12	0.39
D52404	20.78N	132.35E	0.28	0.92
D53404	20.94N	132.31E	0.28	0.92
D52405	12.88N	132.32E	0.72	2.36

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D52406	5.33S	165.08E	0.11	0.36
D54401	33.01S	172.99W	0.03	0.10
D55012	15.80S	158.50E	0.03	0.10
D55013	46.66S	161.00E	0.01	0.03
D55015	46.92S	160.56E	0.01	0.03
D56001	13.96S	110.00E	0.00	0.00
D56003	15.02S	117.99E	0.00	0.00

PACIFEX19

Appendix C. TWC Dummy Message

NTWC

WEAK51 PAAQ 200404
TSUAK1

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
904 PM PDT TUE MAR 19 2019

...PACIFEX19 TSUNAMI EXERCISE MESSAGE. REFER TO NTWC TIS 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX19 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 TSUNAMI.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

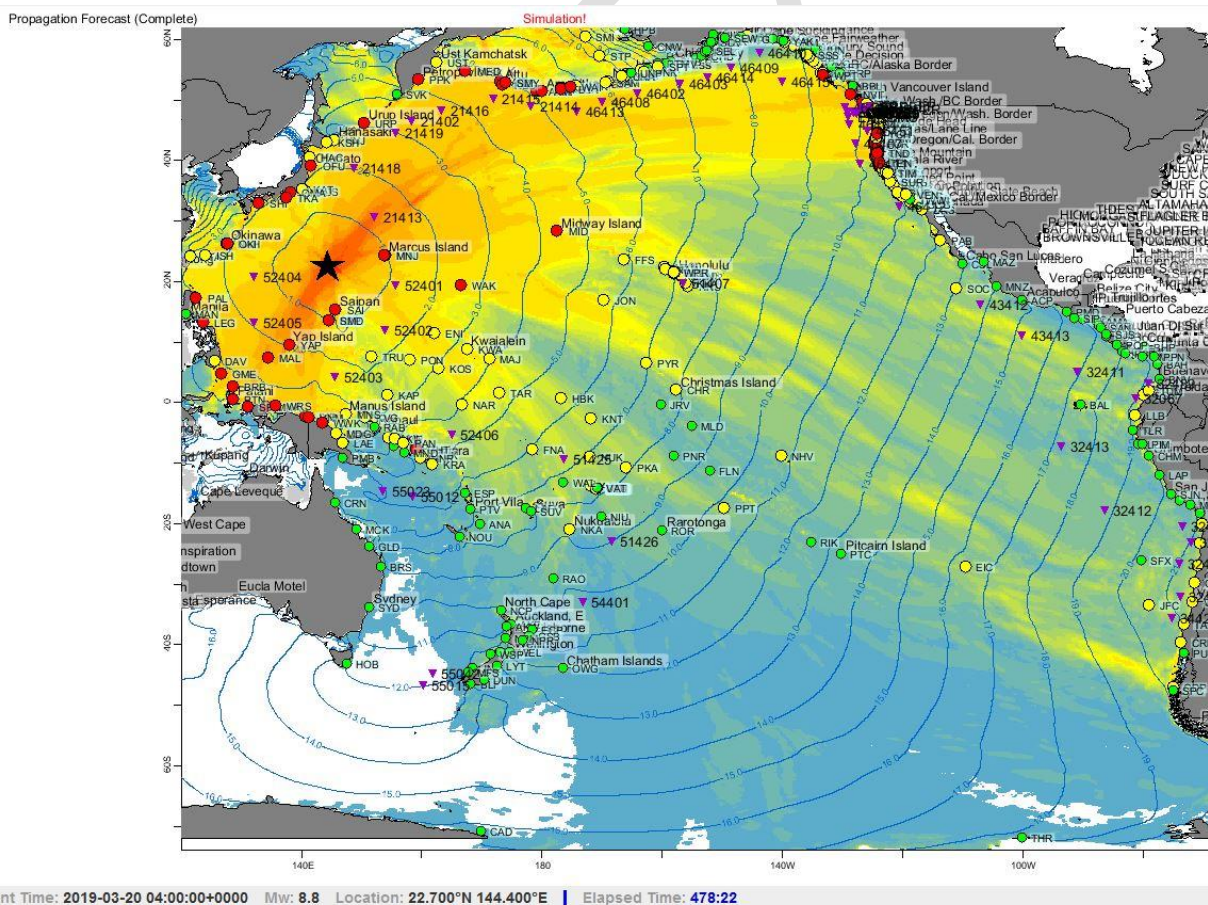


Figure C1. SIFT's propagation forecast map.

Appendix D. TWC Exercise Messages

The following messages, created for the PACIFEX19 tsunami exercise, are representative of the official standard products issued by the NTWC during a large magnitude 8.8 earthquake and tsunami originating in the Volcano Islands, Japan region at 22.7°N, 144.4°E. During a real event, the TWC would also issue graphical and html-based products to their web sites and via RSS.

NTWC TIS #1

WEAK53 PAAQ 200404
TIBAK1

Tsunami Information Statement Number 1
NWS National Tsunami Warning Center Palmer AK
904 PM PDT Tue Mar 19 2019

...THIS IS A TSUNAMI INFORMATION STATEMENT FOR ALASKA, BRITISH
COLUMBIA, WASHINGTON, OREGON AND CALIFORNIA...

EVALUATION

- * Earthquakes of this size are known to generate tsunamis potentially dangerous to coasts outside the source region.
- * The U.S. National Tsunami Warning Center is analyzing the event to determine the level of danger.
- * More information will be issued as it becomes available.
- * This earthquake has the potential to generate a destructive tsunami in the source region.

PRELIMINARY EARTHQUAKE PARAMETERS

- * The following parameters are based on a rapid preliminary assessment of the earthquake and changes may occur.
- * Magnitude 8.1
- * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
- * Coordinates 22.7 North 144.4 East
- * Depth 12 miles
- * Location in the Volcano Islands, Japan region

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal regions outside California, Oregon, Washington, British Columbia, and Alaska should refer to the Pacific Tsunami

PACIFEX19 Handbook

Warning Center messages at tsunami.gov.

* Messages will be issued hourly to keep you informed of the progress of this event.

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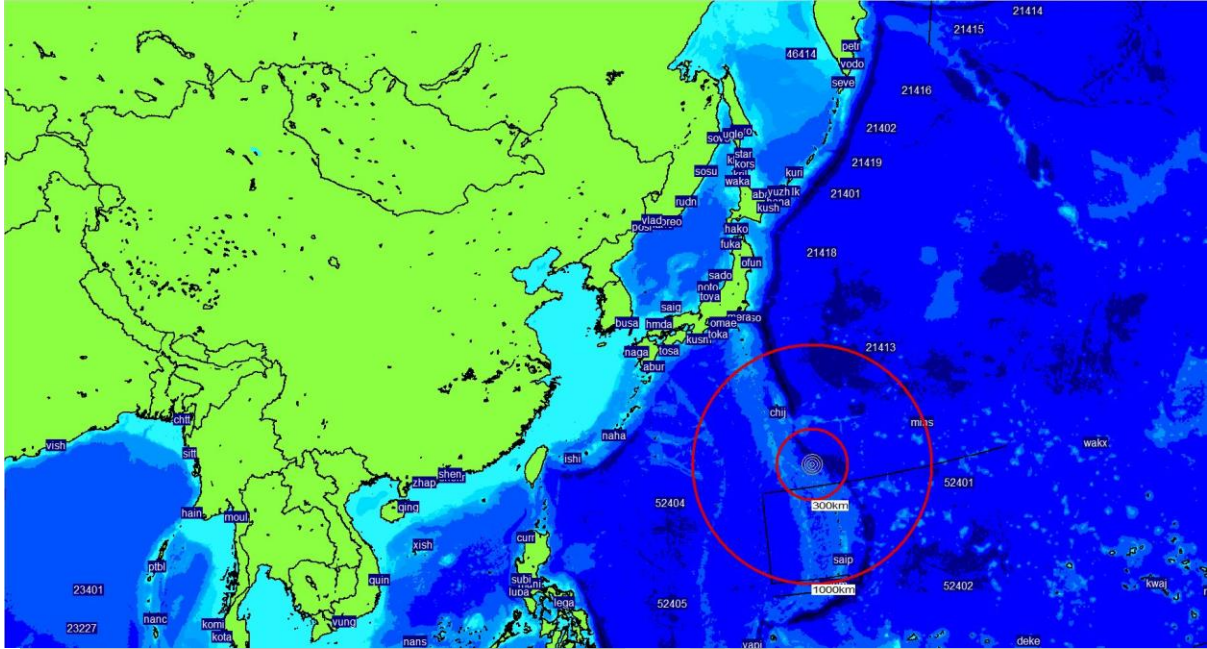


Figure D1: Smallscale map showing event location in the region.

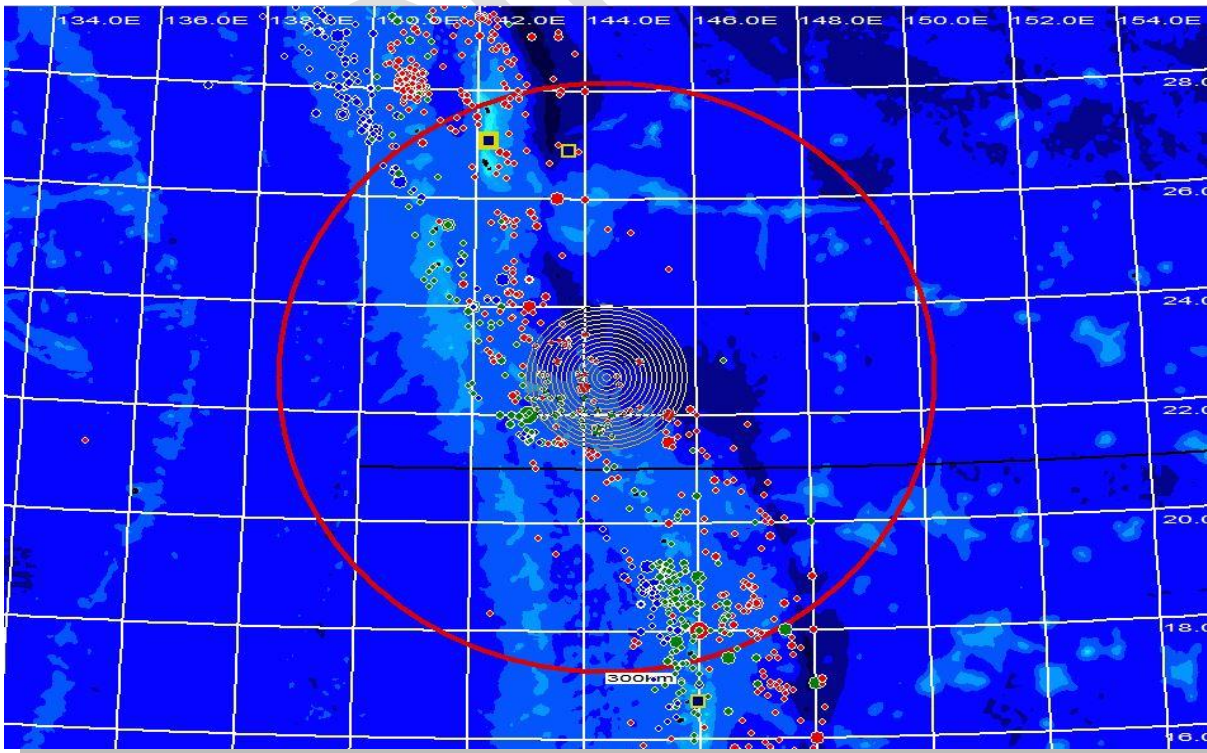


Figure D2: Largescale map showing event location.

NTWC Bulletin #2

WEAK51 PAAQ 200501
TSUAK1

BULLETIN

Public Tsunami Message Number 2
NWS National Tsunami Warning Center Palmer AK
1001 PM PDT Tue Mar 19 2019

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

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

PRELIMINARY EARTHQUAKE PARAMETERS

-
- * The following parameters are based on a rapid preliminary assessment of the earthquake and changes may occur.
 - * Magnitude 8.8
 - * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
 - * Coordinates 22.7 North 144.4 East
 - * Depth 12 miles
 - * Location in the Volcano Islands, Japan region

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FORECASTS OF TSUNAMI ACTIVITY

* Tsunami activity is forecasted to start at the following locations at the specified times.

SITE	FORECAST START OF TSUNAMI
* Alaska	
Shemya	0105 AKDT Mar 20
Adak	0155 AKDT Mar 20
Unalaska	0300 AKDT Mar 20
Saint Paul	0325 AKDT Mar 20
Sand Point	0340 AKDT Mar 20
Cold Bay	0410 AKDT Mar 20
Kodiak	0430 AKDT Mar 20
Seward	0455 AKDT Mar 20
Elfin Cove	0500 AKDT Mar 20
Sitka	0505 AKDT Mar 20
Yakutat	0505 AKDT Mar 20
Valdez	0515 AKDT Mar 20
Cordova	0525 AKDT Mar 20
Homer	0550 AKDT Mar 20
Craig	0610 AKDT Mar 20
* British Columbia	
Langara	0515 AKDT Mar 20
Tofino	0635 AKDT Mar 20
* California	
Horse Mountain	0730 PDT Mar 20
Fort Bragg	0730 PDT Mar 20
Crescent City	0745 PDT Mar 20
Monterey	0750 PDT Mar 20
Port San Luis	0805 PDT Mar 20
San Francisco	0815 PDT Mar 20
Santa Barbara	0820 PDT Mar 20
Los Angeles Harb	0835 PDT Mar 20
Newport Beach	0840 PDT Mar 20
Oceanside	0845 PDT Mar 20
La Jolla	0845 PDT Mar 20
* Oregon	
Port Orford	0730 PDT Mar 20
Charleston	0740 PDT Mar 20
Brookings	0745 PDT Mar 20
Newport	0750 PDT Mar 20
Seaside	0755 PDT Mar 20
* Washington	
Neah Bay	0745 PDT Mar 20
Long Beach	0745 PDT Mar 20
Moclips	0750 PDT Mar 20
Westport	0755 PDT Mar 20
Port Angeles	0820 PDT Mar 20

PACIFEX19 Handbook

NWS National Tsunami Warning Center Palmer AK
1031 PM PDT Tue Mar 19 2019

UPDATES

- * A tsunami has been confirmed and some impacts are expected
- * Updated observations
- * Revised alert areas

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

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

Tsunami Warning in Effect for;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

PRELIMINARY EARTHQUAKE PARAMETERS

- * The following parameters are based on a rapid preliminary assessment of the earthquake and changes may occur.

PACIFEX19 Handbook

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

FORECASTS OF TSUNAMI ACTIVITY

* Tsunami activity is forecasted to start at the following locations at the specified times.

SITE	FORECAST START OF TSUNAMI
----	-----
* Alaska	
Shemya	0105 AKDT Mar 20
Adak	0155 AKDT Mar 20
Unalaska	0300 AKDT Mar 20
Saint Paul	0325 AKDT Mar 20
Sand Point	0340 AKDT Mar 20
Cold Bay	0410 AKDT Mar 20
Kodiak	0430 AKDT Mar 20
Seward	0455 AKDT Mar 20
Elfin Cove	0500 AKDT Mar 20
Sitka	0505 AKDT Mar 20
Yakutat	0505 AKDT Mar 20
Valdez	0515 AKDT Mar 20
Cordova	0525 AKDT Mar 20
Homer	0550 AKDT Mar 20
Craig	0610 AKDT Mar 20
* British Columbia	
Langara	0515 AKDT Mar 20
Tofino	0635 AKDT Mar 20
* California	
Horse Mountain	0730 PDT Mar 20
Fort Bragg	0730 PDT Mar 20
Crescent City	0745 PDT Mar 20
Monterey	0750 PDT Mar 20
Port San Luis	0805 PDT Mar 20
San Francisco	0815 PDT Mar 20
Santa Barbara	0820 PDT Mar 20
Los Angeles Harb	0835 PDT Mar 20
Newport Beach	0840 PDT Mar 20
Oceanside	0845 PDT Mar 20
La Jolla	0845 PDT Mar 20
* Oregon	
Port Orford	0730 PDT Mar 20
Charleston	0740 PDT Mar 20
Brookings	0745 PDT Mar 20

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Newport	0750	PDT Mar 20
Seaside	0755	PDT Mar 20

* Washington

Neah Bay	0745	PDT Mar 20
Long Beach	0745	PDT Mar 20
Moclips	0750	PDT Mar 20
Westport	0755	PDT Mar 20
Port Angeles	0820	PDT Mar 20
Port Townsend	0850	PDT Mar 20

OBSERVATIONS OF TSUNAMI ACTIVITY

- * No tsunami observations are available to report.

RECOMMENDED ACTIONS - UPDATED

Actions to protect human life and property will vary within tsunami warning areas.

If you are in a tsunami warning area;

- * Evacuate inland or to higher ground above and beyond designated tsunami hazard zones or move to an upper floor of a multi-story building depending on your situation.
- * Move out of the water, off the beach, and away from harbors, marinas, breakwaters, bays and inlets.
- * Be alert to and follow instructions from your local emergency officials because they may have more detailed or specific information for your location.
- * If you feel a strong earthquake or extended ground rolling take immediate protective actions such as moving inland and/or uphill preferably by foot.
- * Boat operators,
 - * Where time and conditions permit, move your boat out to sea to a depth of at least 180 feet.
 - * If at sea avoid entering shallow water, harbors, marinas, bays, and inlets to avoid floating and submerged debris and strong currents.
- * Do not go to the shore to observe the tsunami.
- * Do not return to the coast until local emergency officials indicate it is safe to do so.

If you are in a tsunami watch area;

- * Prepare to take action and stay alert for further information.

PACIFEX19 Handbook

IMPACTS

Impacts will vary at different locations in the warning areas.

If you are in a tsunami warning area;

- * A tsunami with damaging waves and powerful currents is possible.
- * Repeated coastal flooding is possible as waves arrive onshore, move inland, and drain back into the ocean.
- * Strong and unusual waves, currents and inland flooding can drown or injure people and weaken or destroy structures on land and in water.
- * Water filled with floating or submerged debris that can injure or kill people and weaken or destroy buildings and bridges is possible.
- * Strong and unusual currents and waves in harbors, marinas, bays, and inlets may be especially destructive.
- * Some impacts may continue for many hours to days after arrival of the first wave.
- * The first wave may not be the largest so later waves may be larger.
- * Each wave may last 5 to 45 minutes as a wave encroaches and recedes.
- * Coasts facing all directions are threatened because the waves can wrap around islands and headlands and into bays.
- * Strong shaking or rolling of the ground indicates an earthquake has occurred and a tsunami may be imminent.
- * A rapidly receding or receded shoreline, unusual waves and sounds, and strong currents are signs of a tsunami.
- * The tsunami may appear as water moving rapidly out to sea, a gentle rising tide like flood with no breaking wave, as a series of breaking waves, or a frothy wall of water.

ADDITIONAL INFORMATION AND NEXT UPDATE

-
- * Refer to the internet site tsunami.gov for more information.
 - * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
 - * This message will be updated within 60 minutes.

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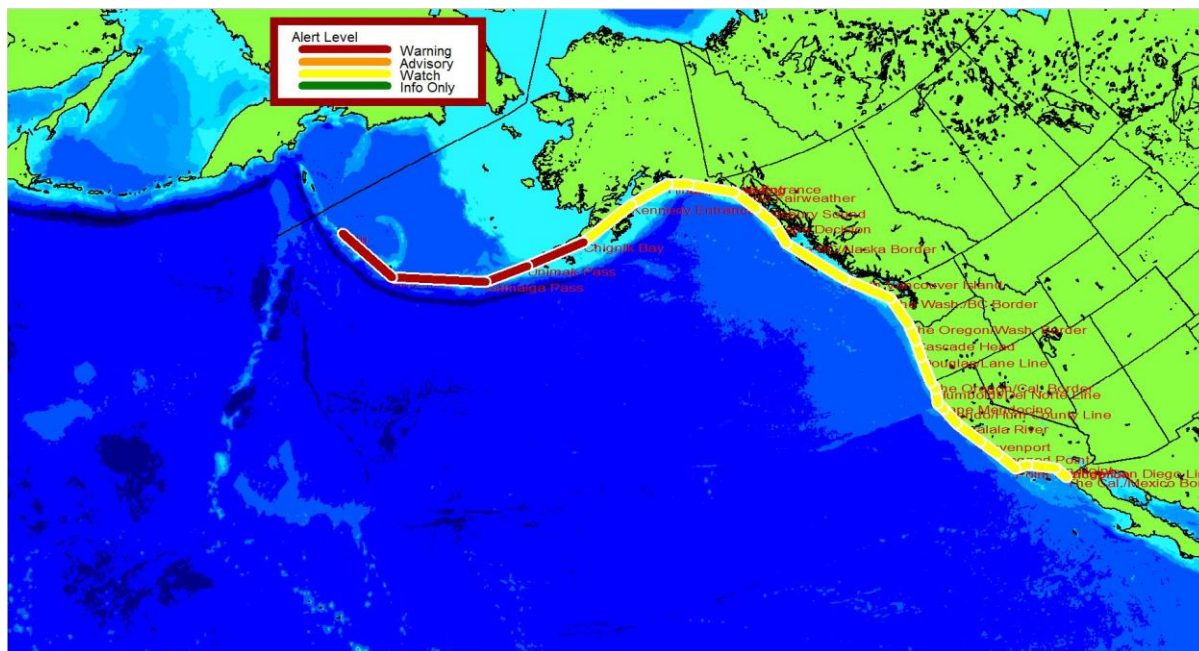


Figure D4: Watch/Warning areas after Bulletin 2.

NTWC Conference Call #1

NOAK78 PAAQ 200535
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

- * 2300 PDT MAR 19 2019
- * 2200 AKDT MAR 19 2019
- * 0600 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

\$\$

NTWC Bulletin #4

WEAK51 PAAQ 200601
TSUAK1

BULLETIN

Public Tsunami Message Number 4
NWS National Tsunami Warning Center Palmer AK
1101 PM PDT Tue Mar 19 2019

UPDATES

- * Updated observations

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

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

Tsunami Warning in Effect for;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

PACIFEX19 Handbook

FORECASTS OF TSUNAMI ACTIVITY

* Tsunami activity is forecasted to start at the following locations at the specified times.

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* Alaska	
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Kodiak	0430 AKDT Mar 20
Seward	0455 AKDT Mar 20
Elfin Cove	0500 AKDT Mar 20
Sitka	0505 AKDT Mar 20
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Homer	0550 AKDT Mar 20
Craig	0610 AKDT Mar 20
* British Columbia	
Langara	0515 AKDT Mar 20
Tofino	0635 AKDT Mar 20
* California	
Horse Mountain	0730 PDT Mar 20
Fort Bragg	0730 PDT Mar 20
Crescent City	0745 PDT Mar 20
Monterey	0750 PDT Mar 20
Port San Luis	0805 PDT Mar 20
San Francisco	0815 PDT Mar 20
Santa Barbara	0820 PDT Mar 20
Los Angeles Harb	0835 PDT Mar 20
Newport Beach	0840 PDT Mar 20
Oceanside	0845 PDT Mar 20
La Jolla	0845 PDT Mar 20
* Oregon	
Port Orford	0730 PDT Mar 20
Charleston	0740 PDT Mar 20
Brookings	0745 PDT Mar 20
Newport	0750 PDT Mar 20
Seaside	0755 PDT Mar 20
* Washington	
Neah Bay	0745 PDT Mar 20
Long Beach	0745 PDT Mar 20
Moclips	0750 PDT Mar 20
Westport	0755 PDT Mar 20
Port Angeles	0820 PDT Mar 20
Port Townsend	0850 PDT Mar 20

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OBSERVATIONS OF TSUNAMI ACTIVITY

- * No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.8
- * Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
- * Coordinates 22.7 North 144.4 East
- * Depth 12 miles
- * Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

Actions to protect human life and property will vary within tsunami warning areas.

If you are in a tsunami warning area;

- * Evacuate inland or to higher ground above and beyond designated tsunami hazard zones or move to an upper floor of a multi-story building depending on your situation.
- * Move out of the water, off the beach, and away from harbors, marinas, breakwaters, bays and inlets.
- * Be alert to and follow instructions from your local emergency officials because they may have more detailed or specific information for your location.
- * If you feel a strong earthquake or extended ground rolling take immediate protective actions such as moving inland and/or uphill preferably by foot.
- * Boat operators,
 - * Where time and conditions permit, move your boat out to sea to a depth of at least 180 feet.
 - * If at sea avoid entering shallow water, harbors, marinas, bays, and inlets to avoid floating and submerged debris and strong currents.
- * Do not go to the shore to observe the tsunami.
- * Do not return to the coast until local emergency officials indicate it is safe to do so.

If you are in a tsunami watch area;

- * Prepare to take action and stay alert for further information.

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IMPACTS

Impacts will vary at different locations in the warning areas.

If you are in a tsunami warning area;

- * A tsunami with damaging waves and powerful currents is possible.
- * Repeated coastal flooding is possible as waves arrive onshore, move inland, and drain back into the ocean.
- * Strong and unusual waves, currents and inland flooding can drown or injure people and weaken or destroy structures on land and in water.
- * Water filled with floating or submerged debris that can injure or kill people and weaken or destroy buildings and bridges is possible.
- * Strong and unusual currents and waves in harbors, marinas, bays, and inlets may be especially destructive.
- * Some impacts may continue for many hours to days after arrival of the first wave.
- * The first wave may not be the largest so later waves may be larger.
- * Each wave may last 5 to 45 minutes as a wave encroaches and recedes.
- * Coasts facing all directions are threatened because the waves can wrap around islands and headlands and into bays.
- * Strong shaking or rolling of the ground indicates an earthquake has occurred and a tsunami may be imminent.
- * A rapidly receding or receded shoreline, unusual waves and sounds, and strong currents are signs of a tsunami.
- * The tsunami may appear as water moving rapidly out to sea, a gentle rising tide like flood with no breaking wave, as a series of breaking waves, or a frothy wall of water.

ADDITIONAL INFORMATION AND NEXT UPDATE

-
- * Refer to the internet site tsunami.gov for more information.
 - * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

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* This message will be updated within 30 minutes.

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NTWC Bulletin #5

WEAK51 PAAQ 200632

TSUAK1

BULLETIN

Public Tsunami Message Number 5

NWS National Tsunami Warning Center Palmer AK

1132 PM PDT Tue Mar 19 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from

PACIFEX19 Handbook

Cape Fairweather, Alaska (80 miles SE of Yakutat) to
Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	4.4- 8.2 ft
Adak	0155 AKDT Mar 20	36 hrs	3.0- 5.6 ft
Unalaska	0300 AKDT Mar 20	30 hrs	2.5- 4.6 ft
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.3 ft
Sand Point	0340 AKDT Mar 20	30 hrs	2.6- 4.8 ft
Cold Bay	0410 AKDT Mar 20	9 hrs	0.8- 1.5 ft
Kodiak	0430 AKDT Mar 20		
Seward	0455 AKDT Mar 20		
Elfin Cove	0500 AKDT Mar 20		
Sitka	0505 AKDT Mar 20		
Yakutat	0505 AKDT Mar 20		
Valdez	0515 AKDT Mar 20		
Cordova	0525 AKDT Mar 20		
Homer	0550 AKDT Mar 20		
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		
Tofino	0635 AKDT Mar 20		
* California			
Horse Mountain	0730 PDT Mar 20		
Fort Bragg	0730 PDT Mar 20		
Crescent City	0745 PDT Mar 20		
Monterey	0750 PDT Mar 20		
Port San Luis	0805 PDT Mar 20		
San Francisco	0815 PDT Mar 20		
Santa Barbara	0820 PDT Mar 20		
Los Angeles Harb	0835 PDT Mar 20		
Newport Beach	0840 PDT Mar 20		
Oceanside	0845 PDT Mar 20		
La Jolla	0845 PDT Mar 20		
* Oregon			

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Port Orford	0730	PDT Mar 20
Charleston	0740	PDT Mar 20
Brookings	0745	PDT Mar 20
Newport	0750	PDT Mar 20
Seaside	0755	PDT Mar 20

* Washington

Neah Bay	0745	PDT Mar 20
Long Beach	0745	PDT Mar 20
Moclips	0750	PDT Mar 20
Westport	0755	PDT Mar 20
Port Angeles	0820	PDT Mar 20
Port Townsend	0850	PDT Mar 20

OBSERVATIONS OF TSUNAMI ACTIVITY

* No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

Actions to protect human life and property will vary within tsunami warning areas.

If you are in a tsunami warning area;

- * Evacuate inland or to higher ground above and beyond designated tsunami hazard zones or move to an upper floor of a multi-story building depending on your situation.
- * Move out of the water, off the beach, and away from harbors, marinas, breakwaters, bays and inlets.
- * Be alert to and follow instructions from your local emergency officials because they may have more detailed or specific information for your location.
- * If you feel a strong earthquake or extended ground rolling take immediate protective actions such as moving inland and/or uphill preferably by foot.
- * Boat operators,
 - * Where time and conditions permit, move your boat out to sea to a depth of at least 180 feet.

PACIFEX19 Handbook

- * If at sea avoid entering shallow water, harbors, marinas, bays, and inlets to avoid floating and submerged debris and strong currents.
- * Do not go to the shore to observe the tsunami.
- * Do not return to the coast until local emergency officials indicate it is safe to do so.

If you are in a tsunami watch area;

- * Prepare to take action and stay alert for further information.

IMPACTS

Impacts will vary at different locations in the warning areas.

If you are in a tsunami warning area;

- * A tsunami with damaging waves and powerful currents is possible.
- * Repeated coastal flooding is possible as waves arrive onshore, move inland, and drain back into the ocean.
- * Strong and unusual waves, currents and inland flooding can drown or injure people and weaken or destroy structures on land and in water.
- * Water filled with floating or submerged debris that can injure or kill people and weaken or destroy buildings and bridges is possible.
- * Strong and unusual currents and waves in harbors, marinas, bays, and inlets may be especially destructive.
- * Some impacts may continue for many hours to days after arrival of the first wave.
- * The first wave may not be the largest so later waves may be larger.
- * Each wave may last 5 to 45 minutes as a wave encroaches and recedes.
- * Coasts facing all directions are threatened because the waves can wrap around islands and headlands and into bays.
- * Strong shaking or rolling of the ground indicates an earthquake has occurred and a tsunami may be imminent.
- * A rapidly receding or receded shoreline, unusual waves and sounds, and strong currents are signs of a tsunami.

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- * The tsunami may appear as water moving rapidly out to sea, a gentle rising tide like flood with no breaking wave, as a series of breaking waves, or a frothy wall of water.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #6

WEAK51 PAAQ 200703
TSUAK1

BULLETIN

Public Tsunami Message Number 6
NWS National Tsunami Warning Center Palmer AK
1203 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations
- * Revised alert areas

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida

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Gwaii

- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	4.4- 8.2 ft
Adak	0155 AKDT Mar 20	36 hrs	3.0- 5.6 ft
Unalaska	0300 AKDT Mar 20	30 hrs	2.5- 4.6 ft
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.3 ft
Sand Point	0340 AKDT Mar 20	30 hrs	2.6- 4.8 ft
Cold Bay	0410 AKDT Mar 20	9 hrs	0.8- 1.5 ft
Kodiak	0430 AKDT Mar 20	9 hrs	0.9- 1.7 ft
Seward	0455 AKDT Mar 20	15 hrs	1.1- 2.0 ft

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Elfin Cove	0500	AKDT	Mar 20	15 hrs	1.1- 2.1 ft
Sitka	0505	AKDT	Mar 20	40 hrs	3.3- 6.1 ft
Yakutat	0505	AKDT	Mar 20	9 hrs	0.8- 1.5 ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20	9 hrs	0.8- 1.5 ft
Tofino	0635	AKDT	Mar 20	36 hrs	2.8- 5.2 ft

* California

Horse Mountain	0730	PDT	Mar 20		
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.4- 2.6 ft
Crescent City	0745	PDT	Mar 20	48 hrs	11.0-20.5 ft
Monterey	0750	PDT	Mar 20	24 hrs	2.0- 3.7 ft
Port San Luis	0805	PDT	Mar 20	40 hrs	3.3- 6.1 ft
San Francisco	0815	PDT	Mar 20	24 hrs	2.2- 4.2 ft
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	6.1-11.4 ft
Charleston	0740	PDT	Mar 20	24 hrs	1.9- 3.6 ft
Brookings	0745	PDT	Mar 20	48 hrs	5.3- 9.9 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	20 hrs	1.6- 3.1 ft
Long Beach	0745	PDT	Mar 20	30 hrs	2.7- 5.0 ft
Moclips	0750	PDT	Mar 20	36 hrs	3.2- 5.9 ft
Westport	0755	PDT	Mar 20	15 hrs	1.1- 2.0 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.8- 3.4 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY

* No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8

* Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019

* Coordinates 22.7 North 144.4 East

* Depth 12 miles

* Location in the Volcano Islands, Japan region

PACIFEX19 Handbook

RECOMMENDED ACTIONS - UPDATED

Actions to protect human life and property will vary within tsunami warning areas and within tsunami advisory areas.

If you are in a tsunami warning area;

- * Evacuate inland or to higher ground above and beyond designated tsunami hazard zones or move to an upper floor of a multi-story building depending on your situation.

If you are in a tsunami warning or advisory area;

- * Move out of the water, off the beach, and away from harbors, marinas, breakwaters, bays and inlets.
- * Be alert to and follow instructions from your local emergency officials because they may have more detailed or specific information for your location.
- * If you feel a strong earthquake or extended ground rolling take immediate protective actions such as moving inland and/or uphill preferably by foot.
- * Boat operators,
 - * Where time and conditions permit, move your boat out to sea to a depth of at least 180 feet.
 - * If at sea avoid entering shallow water, harbors, marinas, bays, and inlets to avoid floating and submerged debris and strong currents.
- * Do not go to the shore to observe the tsunami.
- * Do not return to the coast until local emergency officials indicate it is safe to do so.

If you are in a tsunami watch area;

- * Prepare to take action and stay alert for further information.

IMPACTS

Impacts will vary at different locations in the warning and in the advisory areas.

If you are in a tsunami warning area;

- * A tsunami with damaging waves and powerful currents is possible.
- * Repeated coastal flooding is possible as waves arrive onshore, move inland, and drain back into the ocean.
- * Strong and unusual waves, currents and inland flooding

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can drown or injure people and weaken or destroy structures on land and in water.

- * Water filled with floating or submerged debris that can injure or kill people and weaken or destroy buildings and bridges is possible.
- * Strong and unusual currents and waves in harbors, marinas, bays, and inlets may be especially destructive.

If you are in a tsunami advisory area;

- * A tsunami with strong waves and currents is possible.
- * Waves and currents can drown or injure people who are in the water.
- * Currents at beaches and in harbors, marinas, bays, and inlets may be especially dangerous.

If you are in a tsunami warning or advisory area;

- * Some impacts may continue for many hours to days after arrival of the first wave.
- * The first wave may not be the largest so later waves may be larger.
- * Each wave may last 5 to 45 minutes as a wave encroaches and recedes.
- * Coasts facing all directions are threatened because the waves can wrap around islands and headlands and into bays.
- * Strong shaking or rolling of the ground indicates an earthquake has occurred and a tsunami may be imminent.
- * A rapidly receding or receded shoreline, unusual waves and sounds, and strong currents are signs of a tsunami.
- * The tsunami may appear as water moving rapidly out to sea, a gentle rising tide like flood with no breaking wave, as a series of breaking waves, or a frothy wall of water.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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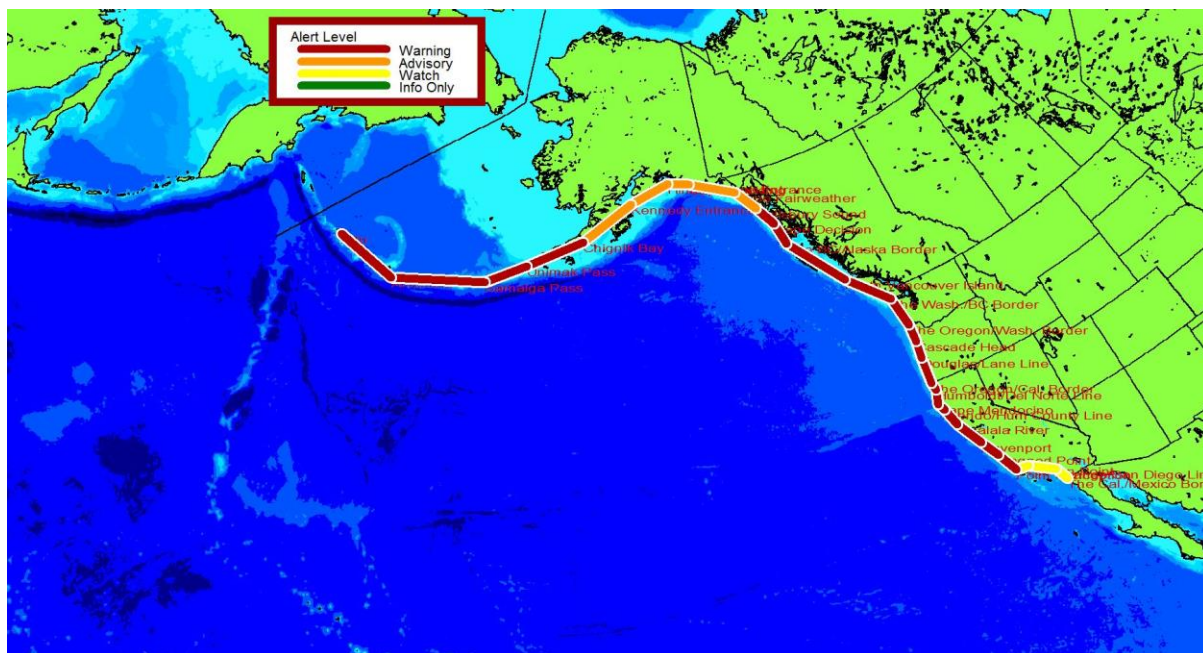


Figure D5: Warning/Advisory areas after Bulletin 5.

NTWC Bulletin #7

WEAK51 PAAQ 200733
TSUAK1

BULLETIN

Public Tsunami Message Number 7
NWS National Tsunami Warning Center Palmer AK
1233 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan

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de Fuca Strait coast

- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.2-11.5 ft
Adak	0155 AKDT Mar 20	30 hrs	2.3- 4.3 ft
Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 ft

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Saint Paul	0325	AKDT	Mar 20	24 hrs	2.3- 4.2 ft
Sand Point	0340	AKDT	Mar 20	20 hrs	1.6- 2.9 ft
Cold Bay	0410	AKDT	Mar 20		less than 1ft
Kodiak	0430	AKDT	Mar 20	9 hrs	0.7- 1.3 ft
Seward	0455	AKDT	Mar 20		less than 1ft
Elfin Cove	0500	AKDT	Mar 20		less than 1ft
Sitka	0505	AKDT	Mar 20	24 hrs	1.9- 3.6 ft
Yakutat	0505	AKDT	Mar 20	9 hrs	0.7- 1.3 ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		less than 1ft
Tofino	0635	AKDT	Mar 20	24 hrs	2.1- 3.9 ft

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.6- 3.0 ft
Crescent City	0745	PDT	Mar 20	48 hrs	8.4-15.7 ft
Monterey	0750	PDT	Mar 20	15 hrs	1.3- 2.5 ft
Port San Luis	0805	PDT	Mar 20	40 hrs	3.5- 6.5 ft
San Francisco	0815	PDT	Mar 20	20 hrs	1.5- 2.8 ft
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.6-10.3 ft
Charleston	0740	PDT	Mar 20	24 hrs	2.2- 4.1 ft
Brookings	0745	PDT	Mar 20	48 hrs	4.2- 7.9 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Long Beach	0745	PDT	Mar 20	36 hrs	3.0- 5.5 ft
Moclips	0750	PDT	Mar 20	30 hrs	2.3- 4.3 ft
Westport	0755	PDT	Mar 20	15 hrs	1.0- 1.8 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.8- 3.3 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY

 * No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

 * Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019

PACIFEX19 Handbook

* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 5 for recommended actions.

IMPACTS

* See message number 5 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Conference Call #2

NOAK78 PAAQ 200736
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

- * 0100 PDT MAR 20 2019
- * 0000 AKDT MAR 20 2019
- * 0800 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Bulletin #8

PACIFEX19 Handbook

WEAK51 PAAQ 200801
TSUAK1

BULLETIN

Public Tsunami Message Number 8
NWS National Tsunami Warning Center Palmer AK
101 AM PDT Wed Mar 20 2019

UPDATES

- * There are no updates in this message

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)

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- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
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Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 ft
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Sand Point	0340 AKDT Mar 20	20 hrs	1.6- 2.9 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20	9 hrs	0.7- 1.3 ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.6 ft
Yakutat	0505 AKDT Mar 20	9 hrs	0.7- 1.3 ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	24 hrs	2.1- 3.9 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	20 hrs	1.6- 3.0 ft
Crescent City	0745 PDT Mar 20	48 hrs	8.4-15.7 ft
Monterey	0750 PDT Mar 20	15 hrs	1.3- 2.5 ft
Port San Luis	0805 PDT Mar 20	40 hrs	3.5- 6.5 ft
San Francisco	0815 PDT Mar 20	20 hrs	1.5- 2.8 ft

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Santa Barbara	0820	PDT Mar 20
Los Angeles Harb	0835	PDT Mar 20
Newport Beach	0840	PDT Mar 20
Oceanside	0845	PDT Mar 20
La Jolla	0845	PDT Mar 20

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	5.6-10.3 ft
Charleston	0740	PDT Mar 20	24 hrs	2.2- 4.1 ft
Brookings	0745	PDT Mar 20	48 hrs	4.2- 7.9 ft
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.3- 2.4 ft
Long Beach	0745	PDT Mar 20	36 hrs	3.0- 5.5 ft
Moclips	0750	PDT Mar 20	30 hrs	2.3- 4.3 ft
Westport	0755	PDT Mar 20	15 hrs	1.0- 1.8 ft
Port Angeles	0820	PDT Mar 20	20 hrs	1.8- 3.3 ft
Port Townsend	0850	PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY

* No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 5 for recommended actions.

IMPACTS

* See message number 5 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.

* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

* This message will be updated within 30 minutes.

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NTWC Bulletin #9

WEAK51 PAAQ 200830
TSUAK1

BULLETIN

Public Tsunami Message Number 9
NWS National Tsunami Warning Center Palmer AK
130 AM PDT Wed Mar 20 2019

UPDATES

* There are no updates in this message

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

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- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.2-11.5 ft
Adak	0155 AKDT Mar 20	30 hrs	2.3- 4.3 ft
Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 ft
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.2 ft
Sand Point	0340 AKDT Mar 20	20 hrs	1.6- 2.9 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20	9 hrs	0.7- 1.3 ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.6 ft
Yakutat	0505 AKDT Mar 20	9 hrs	0.7- 1.3 ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	24 hrs	2.1- 3.9 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	20 hrs	1.6- 3.0 ft

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Crescent City	0745	PDT	Mar 20	48 hrs	8.4-15.7 ft
Monterey	0750	PDT	Mar 20	15 hrs	1.3- 2.5 ft
Port San Luis	0805	PDT	Mar 20	40 hrs	3.5- 6.5 ft
San Francisco	0815	PDT	Mar 20	20 hrs	1.5- 2.8 ft
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.6-10.3 ft
Charleston	0740	PDT	Mar 20	24 hrs	2.2- 4.1 ft
Brookings	0745	PDT	Mar 20	48 hrs	4.2- 7.9 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Long Beach	0745	PDT	Mar 20	36 hrs	3.0- 5.5 ft
Moclips	0750	PDT	Mar 20	30 hrs	2.3- 4.3 ft
Westport	0755	PDT	Mar 20	15 hrs	1.0- 1.8 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.8- 3.3 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY

* No tsunami observations are available to report.

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 5 for recommended actions.

IMPACTS

* See message number 5 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.

* Pacific coastal residents outside California, Oregon,

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Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

* This message will be updated within 30 minutes.

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NTWC Bulletin #10

WEAK51 PAAQ 200900
TSUAK1

BULLETIN

Public Tsunami Message Number 10
NWS National Tsunami Warning Center Palmer AK
200 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

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Tsunami Advisory in Effect for;

- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	5.3- 9.8 ft
Adak	0155 AKDT Mar 20	20 hrs	1.7- 3.2 ft
Unalaska	0300 AKDT Mar 20	15 hrs	1.1- 2.0 ft
Saint Paul	0325 AKDT Mar 20	15 hrs	1.4- 2.5 ft
Sand Point	0340 AKDT Mar 20	15 hrs	1.1- 2.0 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.4 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	20 hrs	1.5- 2.9 ft

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* California

Horse Mountain	0730	PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT Mar 20	15 hrs	1.3- 2.5 ft
Crescent City	0745	PDT Mar 20	48 hrs	6.2-11.6 ft
Monterey	0750	PDT Mar 20	15 hrs	0.9- 1.7 ft
Port San Luis	0805	PDT Mar 20	36 hrs	2.9- 5.3 ft
San Francisco	0815	PDT Mar 20	15 hrs	1.1- 2.0 ft
Santa Barbara	0820	PDT Mar 20		
Los Angeles Harb	0835	PDT Mar 20		
Newport Beach	0840	PDT Mar 20		
Oceanside	0845	PDT Mar 20		
La Jolla	0845	PDT Mar 20		

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	4.4- 8.1 ft
Charleston	0740	PDT Mar 20	24 hrs	1.8- 3.4 ft
Brookings	0745	PDT Mar 20	36 hrs	3.2- 5.9 ft
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.0- 1.8 ft
Long Beach	0745	PDT Mar 20	30 hrs	2.4- 4.5 ft
Moclips	0750	PDT Mar 20	20 hrs	1.7- 3.2 ft
Westport	0755	PDT Mar 20	9 hrs	0.8- 1.4 ft
Port Angeles	0820	PDT Mar 20	20 hrs	1.4- 2.6 ft
Port Townsend	0850	PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Midway Island UM	0136 PDT Mar 20	0.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8

* Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019

* Coordinates 22.7 North 144.4 East

* Depth 12 miles

* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 5 for recommended actions.

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IMPACTS

- * See message number 5 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #11

WEAK51 PAAQ 200931
TSUAK1

BULLETIN

Public Tsunami Message Number 11
NWS National Tsunami Warning Center Palmer AK
231 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations

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

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii

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- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

Tsunami Watch in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	5.1- 9.4 ft
Adak	0155 AKDT Mar 20	20 hrs	1.6- 3.0 ft
Unalaska	0300 AKDT Mar 20	15 hrs	1.0- 1.8 ft
Saint Paul	0325 AKDT Mar 20	15 hrs	1.1- 2.1 ft
Sand Point	0340 AKDT Mar 20	15 hrs	0.9- 1.7 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft

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Sitka	0505	AKDT	Mar 20	15 hrs	1.1- 2.1 ft
Yakutat	0505	AKDT	Mar 20		less than 1ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		less than 1ft
Tofino	0635	AKDT	Mar 20	20 hrs	1.4- 2.6 ft

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Crescent City	0745	PDT	Mar 20	48 hrs	5.7-10.6 ft
Monterey	0750	PDT	Mar 20	9 hrs	0.8- 1.6 ft
Port San Luis	0805	PDT	Mar 20	30 hrs	2.7- 5.0 ft
San Francisco	0815	PDT	Mar 20	15 hrs	1.0- 1.8 ft
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	4.0- 7.5 ft
Charleston	0740	PDT	Mar 20	20 hrs	1.7- 3.2 ft
Brookings	0745	PDT	Mar 20	36 hrs	2.9- 5.4 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	9 hrs	0.9- 1.7 ft
Long Beach	0745	PDT	Mar 20	30 hrs	2.3- 4.3 ft
Moclips	0750	PDT	Mar 20	20 hrs	1.5- 2.9 ft
Westport	0755	PDT	Mar 20		less than 1ft
Port Angeles	0820	PDT	Mar 20	15 hrs	1.3- 2.5 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0226 PDT Mar 20	2.6ft
Attu Alaska	0226 PDT Mar 20	3.3ft
Midway Island UM	0136 PDT Mar 20	0.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019

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2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 5 for recommended actions.

IMPACTS

* See message number 5 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.

* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

* This message will be updated within 30 minutes.

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NTWC Conference Call #3

NOAK78 PAAQ 200936
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

* Pacific coastal Weather Forecast Offices
* West Coast state warning points
* U.S. Coast Guard District Offices
* Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

* 0300 PDT MAR 20 2019
* 0200 AKDT MAR 20 2019
* 1000 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Bulletin #12

WEAK51 PAAQ 201001
TSUAK1

BULLETIN

Public Tsunami Message Number 12
NWS National Tsunami Warning Center Palmer AK
301 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations
- * Revised alert areas

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury

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Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.0-11.1 ft
Adak	0155 AKDT Mar 20	24 hrs	2.2- 4.1 ft
Unalaska	0300 AKDT Mar 20	20 hrs	1.5- 2.7 ft
Saint Paul	0325 AKDT Mar 20	24 hrs	2.1- 3.8 ft
Sand Point	0340 AKDT Mar 20	20 hrs	1.4- 2.7 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	20 hrs	1.8- 3.3 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	24 hrs	2.0- 3.6 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	20 hrs	1.5- 2.9 ft
Crescent City	0745 PDT Mar 20	48 hrs	7.9-14.7 ft
Monterey	0750 PDT Mar 20	15 hrs	1.2- 2.3 ft
Port San Luis	0805 PDT Mar 20	40 hrs	3.3- 6.2 ft
San Francisco	0815 PDT Mar 20	20 hrs	1.4- 2.6 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.4- 2.5 ft
Los Angeles Harb	0835 PDT Mar 20	15 hrs	0.9- 1.7 ft
Newport Beach	0840 PDT Mar 20		less than 1ft

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Oceanside	0845	PDT Mar 20	9 hrs	0.8- 1.5 ft
La Jolla	0845	PDT Mar 20	15 hrs	0.9- 1.7 ft

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	5.3- 9.8 ft
Charleston	0740	PDT Mar 20	24 hrs	2.1- 3.9 ft
Brookings	0745	PDT Mar 20	48 hrs	4.0- 7.4 ft
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.2- 2.3 ft
Long Beach	0745	PDT Mar 20	36 hrs	2.9- 5.3 ft
Moclips	0750	PDT Mar 20	24 hrs	2.2- 4.0 ft
Westport	0755	PDT Mar 20	9 hrs	0.9- 1.7 ft
Port Angeles	0820	PDT Mar 20	20 hrs	1.7- 3.1 ft
Port Townsend	0850	PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0253 PDT Mar 20	7.2ft
Attu Alaska	0249 PDT Mar 20	5.3ft
Midway Island UM	0136 PDT Mar 20	0.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.8
- * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
- * Coordinates 22.7 North 144.4 East
- * Depth 12 miles
- * Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS - UPDATED

Actions to protect human life and property will vary within tsunami warning areas and within tsunami advisory areas.

If you are in a tsunami warning area;

- * Evacuate inland or to higher ground above and beyond designated tsunami hazard zones or move to an upper floor of a multi-story building depending on your situation.

If you are in a tsunami warning or advisory area;

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- * Move out of the water, off the beach, and away from harbors, marinas, breakwaters, bays and inlets.
- * Be alert to and follow instructions from your local emergency officials because they may have more detailed or specific information for your location.
- * If you feel a strong earthquake or extended ground rolling take immediate protective actions such as moving inland and/or uphill preferably by foot.
- * Boat operators,
 - * Where time and conditions permit, move your boat out to sea to a depth of at least 180 feet.
 - * If at sea avoid entering shallow water, harbors, marinas, bays, and inlets to avoid floating and submerged debris and strong currents.
- * Do not go to the shore to observe the tsunami.
- * Do not return to the coast until local emergency officials indicate it is safe to do so.

IMPACTS

Impacts will vary at different locations in the warning and in the advisory areas.

If you are in a tsunami warning area;

- * A tsunami with damaging waves and powerful currents is possible.
- * Repeated coastal flooding is possible as waves arrive onshore, move inland, and drain back into the ocean.
- * Strong and unusual waves, currents and inland flooding can drown or injure people and weaken or destroy structures on land and in water.
- * Water filled with floating or submerged debris that can injure or kill people and weaken or destroy buildings and bridges is possible.
- * Strong and unusual currents and waves in harbors, marinas, bays, and inlets may be especially destructive.

If you are in a tsunami advisory area;

- * A tsunami with strong waves and currents is possible.
- * Waves and currents can drown or injure people who are in the water.
- * Currents at beaches and in harbors, marinas,

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bays, and inlets may be especially dangerous.

If you are in a tsunami warning or advisory area;

- * Some impacts may continue for many hours to days after arrival of the first wave.
- * The first wave may not be the largest so later waves may be larger.
- * Each wave may last 5 to 45 minutes as a wave encroaches and recedes.
- * Coasts facing all directions are threatened because the waves can wrap around islands and headlands and into bays.
- * Strong shaking or rolling of the ground indicates an earthquake has occurred and a tsunami may be imminent.
- * A rapidly receding or receded shoreline, unusual waves and sounds, and strong currents are signs of a tsunami.
- * The tsunami may appear as water moving rapidly out to sea, a gentle rising tide like flood with no breaking wave, as a series of breaking waves, or a frothy wall of water.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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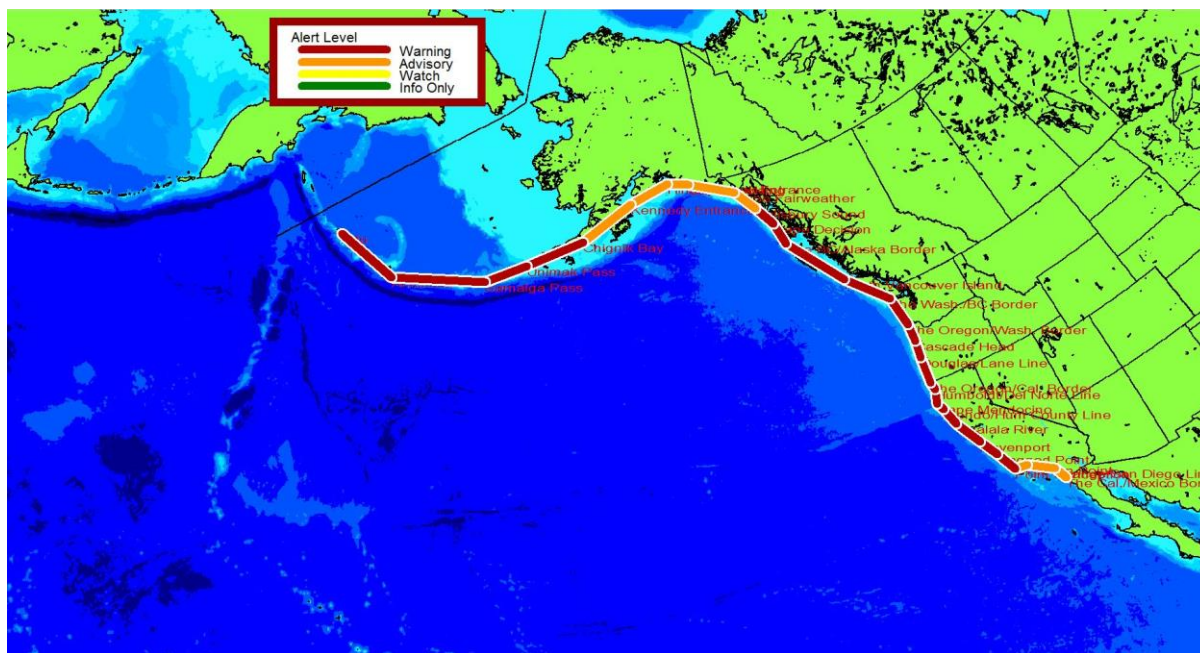


Figure D6: Watch/Warning/Advisory areas after Bulletin 11.

NTWC Bulletin #13

WEAK51 PAAQ 201031
TSUAK1

BULLETIN

Public Tsunami Message Number 13
NWS National Tsunami Warning Center Palmer AK
331 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer

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west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii

- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Adak	0155 AKDT Mar 20	30 hrs	2.6- 4.9 ft
Unalaska	0300 AKDT Mar 20	20 hrs	1.8- 3.4 ft
Saint Paul	0325 AKDT Mar 20	30 hrs	2.7- 5.0 ft
Sand Point	0340 AKDT Mar 20	20 hrs	1.8- 3.3 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20	9 hrs	0.8- 1.5 ft
Seward	0455 AKDT Mar 20	9 hrs	0.7- 1.4 ft
Elfin Cove	0500 AKDT Mar 20	9 hrs	0.8- 1.4 ft
Sitka	0505 AKDT Mar 20	24 hrs	2.2- 4.2 ft

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Yakutat	0505	AKDT	Mar 20	9 hrs	0.8- 1.4 ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20	9 hrs	0.7- 1.3 ft
Tofino	0635	AKDT	Mar 20	30 hrs	2.4- 4.4 ft

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.7- 3.2 ft
Crescent City	0745	PDT	Mar 20	48 hrs	9.4-17.5 ft
Monterey	0750	PDT	Mar 20	20 hrs	1.5- 2.8 ft
Port San Luis	0805	PDT	Mar 20	40 hrs	3.8- 7.1 ft
San Francisco	0815	PDT	Mar 20	20 hrs	1.7- 3.2 ft
Santa Barbara	0820	PDT	Mar 20	20 hrs	1.6- 3.1 ft
Los Angeles Harb	0835	PDT	Mar 20	15 hrs	1.1- 2.0 ft
Newport Beach	0840	PDT	Mar 20		less than 1ft
Oceanside	0845	PDT	Mar 20	15 hrs	1.0- 1.9 ft
La Jolla	0845	PDT	Mar 20	15 hrs	1.1- 2.1 ft

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	6.1-11.4 ft
Charleston	0740	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Brookings	0745	PDT	Mar 20	48 hrs	4.7- 8.8 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	20 hrs	1.5- 2.7 ft
Long Beach	0745	PDT	Mar 20	40 hrs	3.2- 6.0 ft
Moclips	0750	PDT	Mar 20	30 hrs	2.6- 4.9 ft
Westport	0755	PDT	Mar 20	15 hrs	1.1- 2.0 ft
Port Angeles	0820	PDT	Mar 20	24 hrs	1.9- 3.6 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0315 PDT Mar 20	6.4ft
Adak Alaska	0312 PDT Mar 20	1.0ft
Midway Island UM	0329 PDT Mar 20	1.4ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019

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2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #14

WEAK51 PAAQ 201100
TSUAK1

BULLETIN

Public Tsunami Message Number 14
NWS National Tsunami Warning Center Palmer AK
400 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast

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- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
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* Alaska			
Unalaska	0300 AKDT Mar 20	20 hrs	1.5- 2.8 ft
Saint Paul	0325 AKDT Mar 20	24 hrs	2.2- 4.0 ft
Sand Point	0340 AKDT Mar 20	20 hrs	1.5- 2.8 ft

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Cold Bay	0410	AKDT	Mar 20		less than 1ft
Kodiak	0430	AKDT	Mar 20		less than 1ft
Seward	0455	AKDT	Mar 20		less than 1ft
Elfin Cove	0500	AKDT	Mar 20		less than 1ft
Sitka	0505	AKDT	Mar 20	24 hrs	1.9- 3.4 ft
Yakutat	0505	AKDT	Mar 20		less than 1ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		less than 1ft
Tofino	0635	AKDT	Mar 20	24 hrs	2.0- 3.8 ft

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.6- 2.9 ft
Crescent City	0745	PDT	Mar 20	48 hrs	8.1-15.1 ft
Monterey	0750	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Port San Luis	0805	PDT	Mar 20	40 hrs	3.4- 6.4 ft
San Francisco	0815	PDT	Mar 20	20 hrs	1.5- 2.7 ft
Santa Barbara	0820	PDT	Mar 20	20 hrs	1.4- 2.6 ft
Los Angeles Harb	0835	PDT	Mar 20	15 hrs	0.9- 1.8 ft
Newport Beach	0840	PDT	Mar 20		less than 1ft
Oceanside	0845	PDT	Mar 20	9 hrs	0.8- 1.6 ft
La Jolla	0845	PDT	Mar 20	15 hrs	1.0- 1.8 ft

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.4-10.0 ft
Charleston	0740	PDT	Mar 20	24 hrs	2.2- 4.0 ft
Brookings	0745	PDT	Mar 20	48 hrs	4.1- 7.6 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Long Beach	0745	PDT	Mar 20	36 hrs	2.9- 5.4 ft
Moclips	0750	PDT	Mar 20	24 hrs	2.2- 4.2 ft
Westport	0755	PDT	Mar 20	15 hrs	0.9- 1.7 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.7- 3.2 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0315 PDT Mar 20	6.4ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0354 PDT Mar 20	0.3ft
Midway Island UM	0329 PDT Mar 20	1.4ft

PACIFEX19 Handbook

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.

* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

* This message will be updated within 30 minutes.

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NTWC Bulletin #15

WEAK51 PAAQ 201130
TSUAK1

BULLETIN

Public Tsunami Message Number 15
NWS National Tsunami Warning Center Palmer AK
430 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

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- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
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PACIFEX19 Handbook

* Alaska					
Unalaska	0300	AKDT	Mar 20	9 hrs	0.8- 1.6 ft
Saint Paul	0325	AKDT	Mar 20	9 hrs	0.9- 1.6 ft
Sand Point	0340	AKDT	Mar 20	9 hrs	0.8- 1.4 ft
Cold Bay	0410	AKDT	Mar 20		less than 1ft
Kodiak	0430	AKDT	Mar 20		less than 1ft
Seward	0455	AKDT	Mar 20		less than 1ft
Elfin Cove	0500	AKDT	Mar 20		less than 1ft
Sitka	0505	AKDT	Mar 20	15 hrs	0.9- 1.7 ft
Yakutat	0505	AKDT	Mar 20		less than 1ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		
* British Columbia					
Langara	0515	AKDT	Mar 20		less than 1ft
Tofino	0635	AKDT	Mar 20	15 hrs	1.2- 2.3 ft
* California					
Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.2- 2.2 ft
Crescent City	0745	PDT	Mar 20	48 hrs	5.1- 9.4 ft
Monterey	0750	PDT	Mar 20	9 hrs	0.7- 1.4 ft
Port San Luis	0805	PDT	Mar 20	30 hrs	2.5- 4.7 ft
San Francisco	0815	PDT	Mar 20	9 hrs	0.8- 1.6 ft
Santa Barbara	0820	PDT	Mar 20	9 hrs	0.9- 1.6 ft
Los Angeles Harb	0835	PDT	Mar 20		less than 1ft
Newport Beach	0840	PDT	Mar 20		less than 1ft
Oceanside	0845	PDT	Mar 20		less than 1ft
La Jolla	0845	PDT	Mar 20		less than 1ft
* Oregon					
Port Orford	0730	PDT	Mar 20	40 hrs	3.7- 6.9 ft
Charleston	0740	PDT	Mar 20	20 hrs	1.6- 3.0 ft
Brookings	0745	PDT	Mar 20	30 hrs	2.6- 4.9 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		
* Washington					
Neah Bay	0745	PDT	Mar 20	9 hrs	0.8- 1.5 ft
Long Beach	0745	PDT	Mar 20	24 hrs	2.2- 4.0 ft
Moclips	0750	PDT	Mar 20	15 hrs	1.4- 2.5 ft
Westport	0755	PDT	Mar 20		less than 1ft
Port Angeles	0820	PDT	Mar 20	15 hrs	1.2- 2.3 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
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PACIFEX19 Handbook

Shemya Alaska	0319	PDT Mar 20	14.9ft
Attu Alaska	0404	PDT Mar 20	8.3ft
Adak Alaska	0352	PDT Mar 20	3.7ft
Nikolski Alaska	0354	PDT Mar 20	0.3ft
Midway Island UM	0329	PDT Mar 20	1.4ft
Nawiliwili Hawaii	0420	PDT Mar 20	0.6ft
Honolulu Hawaii	0417	PDT Mar 20	0.3ft
Haleiwa Hawaii	0419	PDT Mar 20	0.5ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.
* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
* This message will be updated within 30 minutes.

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NTWC Conference Call #4

NOAK78 PAAQ 201136
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

* Pacific coastal Weather Forecast Offices
* West Coast state warning points
* U.S. Coast Guard District Offices
* Emergency Management British Columbia

PACIFEX19 Handbook

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

-
- * 0500 PDT MAR 20 2019
 - * 0400 AKDT MAR 20 2019
 - * 1200 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Bulletin #16

WEAK51 PAAQ 201204
TSUAK1

BULLETIN

Public Tsunami Message Number 16
NWS National Tsunami Warning Center Palmer AK
504 AM PDT Wed Mar 20 2019

UPDATES

-
- * Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska

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- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Saint Paul	0325 AKDT Mar 20	20 hrs	1.5- 2.7 ft
Sand Point	0340 AKDT Mar 20	15 hrs	1.1- 2.0 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	15 hrs	1.4- 2.5 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	20 hrs	1.6- 3.0 ft

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* California

Horse Mountain	0730	PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT Mar 20	15 hrs	1.4- 2.5 ft
Crescent City	0745	PDT Mar 20	48 hrs	6.5-12.0 ft
Monterey	0750	PDT Mar 20	15 hrs	1.0- 1.8 ft
Port San Luis	0805	PDT Mar 20	36 hrs	2.9- 5.4 ft
San Francisco	0815	PDT Mar 20	15 hrs	1.1- 2.1 ft
Santa Barbara	0820	PDT Mar 20	15 hrs	1.1- 2.1 ft
Los Angeles Harb	0835	PDT Mar 20	9 hrs	0.8- 1.5 ft
Newport Beach	0840	PDT Mar 20		less than 1ft
Oceanside	0845	PDT Mar 20		less than 1ft
La Jolla	0845	PDT Mar 20	9 hrs	0.7- 1.4 ft

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	4.5- 8.3 ft
Charleston	0740	PDT Mar 20	24 hrs	1.9- 3.5 ft
Brookings	0745	PDT Mar 20	40 hrs	3.3- 6.1 ft
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.0- 1.9 ft
Long Beach	0745	PDT Mar 20	30 hrs	2.5- 4.6 ft
Moclips	0750	PDT Mar 20	20 hrs	1.8- 3.3 ft
Westport	0755	PDT Mar 20	9 hrs	0.8- 1.4 ft
Port Angeles	0820	PDT Mar 20	20 hrs	1.5- 2.7 ft
Port Townsend	0850	PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0404 PDT Mar 20	8.3ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0446 PDT Mar 20	0.7ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0451 PDT Mar 20	1.0ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0420 PDT Mar 20	0.6ft
Honolulu Hawaii	0437 PDT Mar 20	0.5ft
Haleiwa Hawaii	0419 PDT Mar 20	0.5ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0451 PDT Mar 20	1.4ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019

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0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #17

WEAK51 PAAQ 201230
TSUAK1

BULLETIN
Public Tsunami Message Number 17
NWS National Tsunami Warning Center Palmer AK
530 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast

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- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Sand Point	0340 AKDT Mar 20	15 hrs	1.2- 2.3 ft
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft

PACIFEX19 Handbook

Seward	0455	AKDT	Mar 20		less than 1ft
Elfin Cove	0500	AKDT	Mar 20		less than 1ft
Sitka	0505	AKDT	Mar 20	20 hrs	1.5- 2.9 ft
Yakutat	0505	AKDT	Mar 20		less than 1ft
Valdez	0515	AKDT	Mar 20		less than 1ft
Cordova	0525	AKDT	Mar 20		less than 1ft
Homer	0550	AKDT	Mar 20		less than 1ft
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		less than 1ft
Tofino	0635	AKDT	Mar 20	20 hrs	1.8- 3.3 ft

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.4- 2.7 ft
Crescent City	0745	PDT	Mar 20	48 hrs	7.1-13.1 ft
Monterey	0750	PDT	Mar 20	15 hrs	1.1- 2.0 ft
Port San Luis	0805	PDT	Mar 20	36 hrs	3.1- 5.8 ft
San Francisco	0815	PDT	Mar 20	15 hrs	1.3- 2.3 ft
Santa Barbara	0820	PDT	Mar 20	15 hrs	1.2- 2.3 ft
Los Angeles Harb	0835	PDT	Mar 20	9 hrs	0.9- 1.6 ft
Newport Beach	0840	PDT	Mar 20		less than 1ft
Oceanside	0845	PDT	Mar 20	9 hrs	0.7- 1.3 ft
La Jolla	0845	PDT	Mar 20	9 hrs	0.8- 1.5 ft

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	4.8- 8.9 ft
Charleston	0740	PDT	Mar 20	24 hrs	2.0- 3.7 ft
Brookings	0745	PDT	Mar 20	40 hrs	3.6- 6.6 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.1- 2.1 ft
Long Beach	0745	PDT	Mar 20	30 hrs	2.7- 4.9 ft
Moclips	0750	PDT	Mar 20	24 hrs	1.9- 3.6 ft
Westport	0755	PDT	Mar 20	9 hrs	0.8- 1.5 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.6- 2.9 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0522 PDT Mar 20	11.0ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
Sand Point Alaska	0524 PDT Mar 20	0.9ft
Midway Island UM	0436 PDT Mar 20	1.8ft

PACIFEX19 Handbook

Nawiliwili Hawaii	0420	PDT Mar 20	0.6ft
Honolulu Hawaii	0521	PDT Mar 20	0.7ft
Haleiwa Hawaii	0504	PDT Mar 20	1.4ft
Kawaihae Hawaii	0459	PDT Mar 20	1.2ft
Kahului Hawaii	0517	PDT Mar 20	4.8ft
Hilo Hawaii	0503	PDT Mar 20	0.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.
* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
* This message will be updated within 30 minutes.

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NTWC Bulletin #18

WEAK51 PAAQ 201302
TSUAK1

BULLETIN

Public Tsunami Message Number 18
NWS National Tsunami Warning Center Palmer AK
602 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

PACIFEX19 Handbook

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.

PACIFEX19 Handbook

* Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE -----	FORECAST START OF TSUNAMI -----	FORECAST TSUNAMI DURATION -----	FORECAST MAX TSUNAMI HEIGHT -----
* Alaska			
Cold Bay	0410 AKDT Mar 20		less than 1ft
Kodiak	0430 AKDT Mar 20		less than 1ft
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.4 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	20 hrs	1.6- 2.9 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	15 hrs	1.3- 2.5 ft
Crescent City	0745 PDT Mar 20	48 hrs	6.3-11.7 ft
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.8 ft
Port San Luis	0805 PDT Mar 20	36 hrs	2.9- 5.3 ft
San Francisco	0815 PDT Mar 20	15 hrs	1.1- 2.0 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.1- 2.0 ft
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.5 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft
La Jolla	0845 PDT Mar 20	9 hrs	0.7- 1.3 ft
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.4- 8.2 ft
Charleston	0740 PDT Mar 20	24 hrs	1.9- 3.4 ft
Brookings	0745 PDT Mar 20	36 hrs	3.2- 6.0 ft
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.0- 1.8 ft
Long Beach	0745 PDT Mar 20	30 hrs	2.5- 4.6 ft
Moclips	0750 PDT Mar 20	20 hrs	1.7- 3.2 ft
Westport	0755 PDT Mar 20	9 hrs	0.8- 1.4 ft
Port Angeles	0820 PDT Mar 20	20 hrs	1.4- 2.7 ft
Port Townsend	0850 PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

PACIFEX19 Handbook

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0522 PDT Mar 20	11.0ft
Adak Alaska	0545 PDT Mar 20	5.9ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
Sand Point Alaska	0524 PDT Mar 20	0.9ft
Alameda California	0557 PDT Mar 20	0.2ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0537 PDT Mar 20	1.0ft
Honolulu Hawaii	0521 PDT Mar 20	0.7ft
Haleiwa Hawaii	0539 PDT Mar 20	4.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0517 PDT Mar 20	4.8ft
Hilo Hawaii	0555 PDT Mar 20	3.4ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.
* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
* This message will be updated within 30 minutes.

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NTWC Bulletin #19

WEAK51 PAAQ 201330

PACIFEX19 Handbook

TSUAK1

BULLETIN

Public Tsunami Message Number 19

NWS National Tsunami Warning Center Palmer AK

630 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to

PACIFEX19 Handbook

Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Seward	0455 AKDT Mar 20		less than 1ft
Elfin Cove	0500 AKDT Mar 20		less than 1ft
Sitka	0505 AKDT Mar 20	20 hrs	1.8- 3.4 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	24 hrs	2.0- 3.7 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	20 hrs	1.6- 2.9 ft
Crescent City	0745 PDT Mar 20	48 hrs	8.0-14.9 ft
Monterey	0750 PDT Mar 20	15 hrs	1.3- 2.3 ft
Port San Luis	0805 PDT Mar 20	40 hrs	3.4- 6.3 ft
San Francisco	0815 PDT Mar 20	20 hrs	1.4- 2.7 ft
Santa Barbara	0820 PDT Mar 20	20 hrs	1.4- 2.6 ft
Los Angeles Harb	0835 PDT Mar 20	15 hrs	0.9- 1.7 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20	9 hrs	0.8- 1.5 ft
La Jolla	0845 PDT Mar 20	15 hrs	0.9- 1.8 ft
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	5.3- 9.9 ft
Charleston	0740 PDT Mar 20	24 hrs	2.1- 4.0 ft
Brookings	0745 PDT Mar 20	48 hrs	4.0- 7.5 ft
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.2- 2.3 ft

PACIFEX19 Handbook

Long Beach	0745	PDT Mar 20	36 hrs	2.9- 5.4 ft
Moclips	0750	PDT Mar 20	24 hrs	2.2- 4.1 ft
Westport	0755	PDT Mar 20	15 hrs	0.9- 1.7 ft
Port Angeles	0820	PDT Mar 20	20 hrs	1.7- 3.2 ft
Port Townsend	0850	PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0619 PDT Mar 20	0.3ft
Alameda California	0557 PDT Mar 20	0.2ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0610 PDT Mar 20	0.9ft
Haleiwa Hawaii	0539 PDT Mar 20	4.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0517 PDT Mar 20	4.8ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

PACIFEX19 Handbook

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Conference Call #5

NOAK78 PAAQ 201336
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

- * 0700 PDT MAR 20 2019
- * 0600 AKDT MAR 20 2019
- * 1400 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Bulletin #20

WEAK51 PAAQ 201401
TSUAK1

BULLETIN

Public Tsunami Message Number 20
NWS National Tsunami Warning Center Palmer AK
701 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations

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

PACIFEX19 Handbook

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.

PACIFEX19 Handbook

* Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE -----	FORECAST START OF TSUNAMI -----	FORECAST TSUNAMI DURATION -----	FORECAST MAX TSUNAMI HEIGHT -----
* Alaska			
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.5 ft
Yakutat	0505 AKDT Mar 20		less than 1ft
Valdez	0515 AKDT Mar 20		less than 1ft
Cordova	0525 AKDT Mar 20		less than 1ft
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		less than 1ft
Tofino	0635 AKDT Mar 20	20 hrs	1.6- 2.9 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	15 hrs	1.4- 2.5 ft
Crescent City	0745 PDT Mar 20	48 hrs	6.4-11.9 ft
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.8 ft
Port San Luis	0805 PDT Mar 20	36 hrs	2.9- 5.4 ft
San Francisco	0815 PDT Mar 20	15 hrs	1.1- 2.1 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.1- 2.0 ft
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.5 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft
La Jolla	0845 PDT Mar 20	9 hrs	0.7- 1.3 ft
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.4- 8.2 ft
Charleston	0740 PDT Mar 20	24 hrs	1.9- 3.5 ft
Brookings	0745 PDT Mar 20	40 hrs	3.2- 6.0 ft
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.0- 1.9 ft
Long Beach	0745 PDT Mar 20	30 hrs	2.5- 4.6 ft
Moclips	0750 PDT Mar 20	20 hrs	1.7- 3.2 ft
Westport	0755 PDT Mar 20	9 hrs	0.8- 1.4 ft
Port Angeles	0820 PDT Mar 20	20 hrs	1.4- 2.7 ft
Port Townsend	0850 PDT Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE -----	TIME OF MEASUREMENT -----	OBSERVED MAX TSUNAMI HEIGHT -----
Shemya Alaska	0507 PDT Mar 20	18.0ft

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Attu Alaska	0604	PDT Mar 20	12.6ft
Adak Alaska	0624	PDT Mar 20	7.0ft
Nikolski Alaska	0519	PDT Mar 20	0.9ft
Akutan Alaska	0607	PDT Mar 20	1.1ft
Saint Paul Alaska	0515	PDT Mar 20	1.8ft
King Cove Alaska	0623	PDT Mar 20	0.2ft
Sand Point Alaska	0614	PDT Mar 20	1.0ft
Kodiak Alaska	0619	PDT Mar 20	0.3ft
Seward Alaska	0638	PDT Mar 20	0.4ft
Elfin Cove Alaska	0637	PDT Mar 20	0.5ft
Sitka Alaska	0645	PDT Mar 20	0.9ft
Yakutat Alaska	0642	PDT Mar 20	0.3ft
Alameda California	0635	PDT Mar 20	0.3ft
Midway Island UM	0436	PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0649	PDT Mar 20	1.0ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0459	PDT Mar 20	1.2ft
Kahului Hawaii	0517	PDT Mar 20	4.8ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.

* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.

* This message will be updated within 30 minutes.

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NTWC Bulletin #21

PACIFEX19 Handbook

WEAK51 PAAQ 201430
TSUAK1

BULLETIN

Public Tsunami Message Number 21
NWS National Tsunami Warning Center Palmer AK
730 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from

PACIFEX19 Handbook

Cape Fairweather, Alaska (80 miles SE of Yakutat) to
Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Homer	0550 AKDT Mar 20		less than 1ft
Craig	0610 AKDT Mar 20		
* British Columbia			
Tofino	0635 AKDT Mar 20	20 hrs	1.7- 3.1 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	20 hrs	1.4- 2.6 ft
Crescent City	0745 PDT Mar 20	48 hrs	6.8-12.6 ft
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.9 ft
Port San Luis	0805 PDT Mar 20	36 hrs	3.0- 5.6 ft
San Francisco	0815 PDT Mar 20	15 hrs	1.2- 2.2 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.2- 2.2 ft
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.5 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft
La Jolla	0845 PDT Mar 20	9 hrs	0.8- 1.4 ft
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.7- 8.6 ft
Charleston	0740 PDT Mar 20	24 hrs	1.9- 3.6 ft
Brookings	0745 PDT Mar 20	40 hrs	3.4- 6.4 ft
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.1- 2.0 ft
Long Beach	0745 PDT Mar 20	30 hrs	2.6- 4.8 ft
Moclips	0750 PDT Mar 20	24 hrs	1.9- 3.5 ft
Westport	0755 PDT Mar 20	9 hrs	0.8- 1.5 ft
Port Angeles	0820 PDT Mar 20	20 hrs	1.5- 2.8 ft
Port Townsend	0850 PDT Mar 20		less than 1ft

PACIFEX19 Handbook

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0637 PDT Mar 20	0.5ft
Sitka Alaska	0645 PDT Mar 20	0.9ft
Yakutat Alaska	0642 PDT Mar 20	0.3ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0726 PDT Mar 20	0.1ft
Winter Harbour BC	0727 PDT Mar 20	2.7ft
Alameda California	0635 PDT Mar 20	0.3ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0649 PDT Mar 20	1.0ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

PACIFEX19 Handbook

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #22

WEAK51 PAAQ 201500
TSUAK1

BULLETIN

Public Tsunami Message Number 22
NWS National Tsunami Warning Center Palmer AK
800 AM PDT Wed Mar 20 2019

UPDATES

- * Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)

PACIFEX19 Handbook

- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* Alaska			
Craig	0610 AKDT Mar 20		
* British Columbia			
Tofino	0635 AKDT Mar 20	20 hrs	1.5- 2.8 ft
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 ft
Fort Bragg	0730 PDT Mar 20	15 hrs	1.3- 2.5 ft
Crescent City	0745 PDT Mar 20	48 hrs	6.2-11.5 ft
Monterey	0750 PDT Mar 20	15 hrs	0.9- 1.7 ft
Port San Luis	0805 PDT Mar 20	36 hrs	2.8- 5.3 ft
San Francisco	0815 PDT Mar 20	15 hrs	1.1- 2.0 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.1- 2.0 ft
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.4 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft
La Jolla	0845 PDT Mar 20		less than 1ft
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.3- 8.0 ft

PACIFEX19 Handbook

Charleston	0740	PDT	Mar 20	20 hrs	1.8- 3.4 ft
Brookings	0745	PDT	Mar 20	36 hrs	3.2- 5.9 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.0- 1.8 ft
Long Beach	0745	PDT	Mar 20	30 hrs	2.4- 4.5 ft
Moclips	0750	PDT	Mar 20	20 hrs	1.7- 3.1 ft
Westport	0755	PDT	Mar 20	9 hrs	0.7- 1.4 ft
Port Angeles	0820	PDT	Mar 20	20 hrs	1.4- 2.6 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0637 PDT Mar 20	0.5ft
Sitka Alaska	0645 PDT Mar 20	0.9ft
Yakutat Alaska	0642 PDT Mar 20	0.3ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0726 PDT Mar 20	0.1ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0755 PDT Mar 20	2.3ft
Arena Cove California	0746 PDT Mar 20	1.0ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0758 PDT Mar 20	1.0ft
Alameda California	0635 PDT Mar 20	0.3ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0649 PDT Mar 20	1.0ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019

PACIFEX19 Handbook

2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #23

WEAK51 PAAQ 201531
TSUAK1

BULLETIN
Public Tsunami Message Number 23
NWS National Tsunami Warning Center Palmer AK
831 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast

PACIFEX19 Handbook

- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
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* British Columbia
Tofino 0635 AKDT Mar 20 15 hrs 1.4- 2.6 ft

- * California

PACIFEX19 Handbook

Crescent City	0745	PDT	Mar 20	48 hrs	5.6-10.4 ft
Monterey	0750	PDT	Mar 20	9 hrs	0.8- 1.5 ft
Port San Luis	0805	PDT	Mar 20	30 hrs	2.7- 4.9 ft
San Francisco	0815	PDT	Mar 20	15 hrs	0.9- 1.8 ft
Santa Barbara	0820	PDT	Mar 20	15 hrs	1.0- 1.8 ft
Los Angeles Harb	0835	PDT	Mar 20	9 hrs	0.7- 1.3 ft
Newport Beach	0840	PDT	Mar 20		less than 1ft
Oceanside	0845	PDT	Mar 20		less than 1ft
La Jolla	0845	PDT	Mar 20		less than 1ft

* Oregon

Charleston	0740	PDT	Mar 20	20 hrs	1.7- 3.2 ft
Brookings	0745	PDT	Mar 20	36 hrs	2.9- 5.3 ft
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	9 hrs	0.9- 1.6 ft
Long Beach	0745	PDT	Mar 20	24 hrs	2.3- 4.2 ft
Moclips	0750	PDT	Mar 20	20 hrs	1.5- 2.8 ft
Westport	0755	PDT	Mar 20		less than 1ft
Port Angeles	0820	PDT	Mar 20	15 hrs	1.3- 2.4 ft
Port Townsend	0850	PDT	Mar 20		less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0825 PDT Mar 20	0.8ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0726 PDT Mar 20	0.1ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0824 PDT Mar 20	4.0ft
Arena Cove California	0746 PDT Mar 20	1.0ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0828 PDT Mar 20	1.6ft
Charleston Oregon	0811 PDT Mar 20	0.5ft
Point Reyes California	0814 PDT Mar 20	0.8ft
Neah Bay Washington	0811 PDT Mar 20	1.4ft
Crescent City CA	0808 PDT Mar 20	2.5ft

PACIFEX19 Handbook

Monterey California	0804	PDT Mar 20	1.1ft
Westport Washington	0824	PDT Mar 20	1.1ft
Bolinas Lagoon CA	0820	PDT Mar 20	0.9ft
Port San Luis CA	0826	PDT Mar 20	1.0ft
Alameda California	0635	PDT Mar 20	0.3ft
Midway Island UM	0806	PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0806	PDT Mar 20	1.3ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site tsunami.gov for more information.
* Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
* This message will be updated within 30 minutes.

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NTWC Conference Call #6

NOAK78 PAAQ 201536
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

PACIFEX19 Handbook

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

-
- * 0900 PDT MAR 20 2019
 - * 0800 AKDT MAR 20 2019
 - * 1600 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Bulletin #24

WEAK51 PAAQ 201601
TSUAK1

BULLETIN

Public Tsunami Message Number 24
NWS National Tsunami Warning Center Palmer AK
901 AM PDT Wed Mar 20 2019

UPDATES

-
- * Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii

PACIFEX19 Handbook

- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
----	-----	-----	-----
* California			
Port San Luis	0805 PDT Mar 20	30 hrs	2.7- 4.9 ft
San Francisco	0815 PDT Mar 20	15 hrs	1.0- 1.8 ft
Santa Barbara	0820 PDT Mar 20	15 hrs	1.0- 1.8 ft
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.7- 1.3 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft
La Jolla	0845 PDT Mar 20		less than 1ft
* Washington			
Port Angeles	0820 PDT Mar 20	15 hrs	1.3- 2.4 ft
Port Townsend	0850 PDT Mar 20		less than 1ft

PACIFEX19 Handbook

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0825 PDT Mar 20	0.8ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0824 PDT Mar 20	4.0ft
Arena Cove California	0832 PDT Mar 20	1.6ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0808 PDT Mar 20	2.5ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0820 PDT Mar 20	0.9ft
Port San Luis CA	0826 PDT Mar 20	1.0ft
San Francisco CA	0833 PDT Mar 20	0.7ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Santa Monica California	0859 PDT Mar 20	0.6ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Midway Island UM	0806 PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0806 PDT Mar 20	1.3ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0805 PDT Mar 20	1.4ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019

PACIFEX19 Handbook

2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #25

WEAK51 PAAQ 201631
TSUAK1

BULLETIN

Public Tsunami Message Number 25
NWS National Tsunami Warning Center Palmer AK
931 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast

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- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

FORECASTS OF TSUNAMI ACTIVITY

- * A tsunami has been generated. The first waves are forecasted to arrive at the following locations and specified times.
- * Forecast tsunami duration is the approximate length of time which the tsunami may produce dangerous currents and waves.
- * Forecast max tsunami height is the highest expected water level above the tide.
- * Forecasts are not provided for sites which have been impacted more than an hour prior to the time of this message.

SITE	FORECAST START OF TSUNAMI	FORECAST TSUNAMI DURATION	FORECAST MAX TSUNAMI HEIGHT
-----	-----	-----	-----
* California			
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.4 ft
Newport Beach	0840 PDT Mar 20		less than 1ft
Oceanside	0845 PDT Mar 20		less than 1ft

PACIFEX19 Handbook

La Jolla 0845 PDT Mar 20 less than 1ft

* Washington

Port Townsend 0850 PDT Mar 20 less than 1ft

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

* Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT

Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0920 PDT Mar 20	1.0ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0927 PDT Mar 20	6.2ft
Arena Cove California	0928 PDT Mar 20	3.3ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0913 PDT Mar 20	5.2ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0820 PDT Mar 20	0.9ft
Port San Luis CA	0925 PDT Mar 20	3.1ft
San Francisco CA	0917 PDT Mar 20	1.0ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Ventura California	0900 PDT Mar 20	0.9ft
Santa Monica California	0859 PDT Mar 20	0.6ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Laguna Beach California	0902 PDT Mar 20	0.4ft
La Jolla California	0903 PDT Mar 20	0.5ft
Midway Island UM	0806 PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0806 PDT Mar 20	1.3ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0805 PDT Mar 20	1.4ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft

PACIFEX19 Handbook

Hilo Hawaii

0623 PDT Mar 20

3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
* Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletin #26

WEAK51 PAAQ 201700
TSUAK1

BULLETIN

Public Tsunami Message Number 26
NWS National Tsunami Warning Center Palmer AK
1000 AM PDT Wed Mar 20 2019

UPDATES

* Updated observations

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

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

PACIFEX19 Handbook

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

- * Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0933 PDT Mar 20	0.4ft

PACIFEX19 Handbook

Sand Point Alaska	0614	PDT Mar 20	1.0ft
Kodiak Alaska	0709	PDT Mar 20	0.9ft
Seward Alaska	0934	PDT Mar 20	0.6ft
Elfin Cove Alaska	0808	PDT Mar 20	0.6ft
Sitka Alaska	0804	PDT Mar 20	1.9ft
Yakutat Alaska	0920	PDT Mar 20	1.0ft
Valdez Alaska	0713	PDT Mar 20	0.1ft
Cordova Alaska	0933	PDT Mar 20	0.1ft
Seldovia Alaska	0838	PDT Mar 20	0.3ft
Winter Harbour BC	0749	PDT Mar 20	5.0ft
Port Orford Oregon	0927	PDT Mar 20	6.2ft
Arena Cove California	0928	PDT Mar 20	3.3ft
Tofino British Columbia	0759	PDT Mar 20	1.6ft
Humboldt Bay California	0848	PDT Mar 20	3.1ft
Charleston Oregon	0857	PDT Mar 20	0.7ft
Point Reyes California	0900	PDT Mar 20	1.1ft
Neah Bay Washington	0834	PDT Mar 20	1.8ft
Crescent City CA	0913	PDT Mar 20	5.2ft
Monterey California	0841	PDT Mar 20	1.8ft
Westport Washington	0824	PDT Mar 20	1.1ft
Bolinas Lagoon CA	0936	PDT Mar 20	2.3ft
Port San Luis CA	0925	PDT Mar 20	3.1ft
San Francisco CA	0952	PDT Mar 20	2.3ft
Port Angeles Washington	0849	PDT Mar 20	0.6ft
Santa Barbara CA	0837	PDT Mar 20	0.3ft
Alameda California	0635	PDT Mar 20	0.3ft
Ventura California	0942	PDT Mar 20	1.7ft
Santa Monica California	0940	PDT Mar 20	1.2ft
Los Angeles Harbor CA	0857	PDT Mar 20	0.3ft
Laguna Beach California	0902	PDT Mar 20	0.4ft
La Jolla California	0903	PDT Mar 20	0.5ft
San Diego Harbor Ent. CA	0949	PDT Mar 20	0.2ft
Port Townsend WA	0931	PDT Mar 20	0.3ft
Midway Island UM	0806	PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0806	PDT Mar 20	1.3ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.8
- * Origin Time 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
- * Coordinates 22.7 North 144.4 East
- * Depth 12 miles
- * Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

- * See message number 11 for recommended actions.

PACIFEX19 Handbook

IMPACTS

- * See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Bulletins #27 - #49

At this point, the wavefront has moved south beyond the California-Mexico border and bulletins issued are of similar nature to bulletin #26.

NTWC Bulletin #50

WEAK51 PAAQ 210530
TSUAK1

BULLETIN

Public Tsunami Message Number 50
NWS National Tsunami Warning Center Palmer AK
1030 PM PDT Wed Mar 20 2019

...THE TSUNAMI WARNING AND ADVISORY ARE CANCELLED...

- * The Tsunami Advisory is canceled for the coastal areas of California
- * The Tsunami Warning is canceled for the coastal areas of California, Oregon, Washington, British Columbia and Southeast Alaska
- * The Tsunami Advisory is canceled for the coastal areas of Southeast Alaska and South Alaska and the Alaska Peninsula
- * The Tsunami Warning is canceled for the coastal areas of South Alaska and the Alaska Peninsula and Aleutian Islands

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

- * Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
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PACIFEX19 Handbook

Shemya Alaska	0507	PDT Mar 20	18.0ft
Attu Alaska	0604	PDT Mar 20	12.6ft
Adak Alaska	0624	PDT Mar 20	7.0ft
Nikolski Alaska	0519	PDT Mar 20	0.9ft
Akutan Alaska	0607	PDT Mar 20	1.1ft
Saint Paul Alaska	0515	PDT Mar 20	1.8ft
King Cove Alaska	0933	PDT Mar 20	0.4ft
Sand Point Alaska	0614	PDT Mar 20	1.0ft
Kodiak Alaska	0709	PDT Mar 20	0.9ft
Seward Alaska	0934	PDT Mar 20	0.6ft
Elfin Cove Alaska	0808	PDT Mar 20	0.6ft
Sitka Alaska	0804	PDT Mar 20	1.9ft
Yakutat Alaska	0920	PDT Mar 20	1.0ft
Valdez Alaska	0713	PDT Mar 20	0.1ft
Cordova Alaska	0933	PDT Mar 20	0.1ft
Seldovia Alaska	0838	PDT Mar 20	0.3ft
Winter Harbour BC	0749	PDT Mar 20	5.0ft
Port Orford Oregon	0927	PDT Mar 20	6.2ft
Arena Cove California	0928	PDT Mar 20	3.3ft
Tofino British Columbia	0759	PDT Mar 20	1.6ft
Humboldt Bay California	0848	PDT Mar 20	3.1ft
Charleston Oregon	0857	PDT Mar 20	0.7ft
Point Reyes California	0900	PDT Mar 20	1.1ft
Neah Bay Washington	0834	PDT Mar 20	1.8ft
Crescent City CA	0913	PDT Mar 20	5.2ft
Monterey California	0841	PDT Mar 20	1.8ft
Westport Washington	0824	PDT Mar 20	1.1ft
Bolinas Lagoon CA	0936	PDT Mar 20	2.3ft
Port San Luis CA	0925	PDT Mar 20	3.1ft
San Francisco CA	0952	PDT Mar 20	2.3ft
Port Angeles Washington	0849	PDT Mar 20	0.6ft
Santa Barbara CA	0837	PDT Mar 20	0.3ft
Alameda California	0635	PDT Mar 20	0.3ft
Ventura California	0942	PDT Mar 20	1.7ft
Santa Monica California	0940	PDT Mar 20	1.2ft
Los Angeles Harbor CA	0857	PDT Mar 20	0.3ft
Laguna Beach California	0902	PDT Mar 20	0.4ft
La Jolla California	0903	PDT Mar 20	0.5ft
San Diego Harbor Ent. CA	0949	PDT Mar 20	0.2ft
Port Townsend WA	0931	PDT Mar 20	0.3ft
Midway Island UM	0806	PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0806	PDT Mar 20	1.3ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

RECOMMENDED ACTIONS - UPDATED

* Do not re-occupy hazard zones until local emergency officials indicate it is safe to do so.

IMPACTS - UPDATED

PACIFEX19 Handbook

- * A tsunami was generated by this event, but no longer poses a threat.
- * Some areas may continue to see small sea level changes.
- * The determination to re-occupy hazard zones must be made by local officials.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal regions outside California, Oregon, Washington, British Columbia, and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This will be the final U.S. National Tsunami Warning Center message issued for this event.

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NTWC Spanish TIS #1

WEAK63 PAAQ 200404
TIBSPN

Boletin Informativo de Tsunami Numero 1
NWS Centro Nacional de Alerta de Tsunami Palmer AK
904 PM PDT Tue Mar 19 2019

...ESTE ES UN MENSAJE INFORMATIVO DE TSUNAMI PARA ALASKA,
COLUMBIA BRITANICA, WASHINGTON, OREGON Y CALIFORNIA...

EVALUACION

- * Se conoce que terremotos de este tamaño pueden generar tsunamis potencialmente peligrosos para costas fuera del lugar de origen.
- * El Centro Nacional de Alerta de Tsunamis esta analizando el evento para determinar el nivel de peligrosidad.
- * Informacion adicional sera emitida cuando este disponible.
- * Este terremoto tiene el potencial de generar un tsunami destructivo en el lugar de origen.

PARAMETROS PRELIMINARES DEL TERREMOTO

- * LOS SIGUIENTES PARAMETROS ESTAN BASADOS EN UNA EVALUACION PRELIMINAR RAPIDA Y PUEDEN VARIAR.
- * Magnitud 8.1
- * Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019

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- * Coordenadas 22.7 Norte 144.4 Este
- * Profundidad 12 millas
- * Localizacion en las Islas de los Volcanes, region de Japon

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Se emitiran mensajes cada hora para informar sobre la evolucion del evento.

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NTWC Spanish Bulletin #2

WEAK61 PAAQ 200501
TSUSPN

BULLETIN

Mensaje de Tsunami numero 2
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1001 PM PDT Tue Mar 19 2019

...UNA VIGILANCIA DE TSUNAMI ESTA AHORA EN EFECTO...

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas

PACIFEX19 Handbook

desde Cape Fairweather, Alaska (80 miles SE of Yakutat)
hasta Unimak Pass, Alaska (80 miles NE of Unalaska)

- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

PARAMETROS PRELIMINARES DEL TERREMOTO

- * LOS SIGUIENTES PARAMETROS ESTAN BASADOS EN UNA EVALUACION PRELIMINAR RAPIDA Y PUEDEN VARIAR.

- * Magnitud 8.8
- * Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
- * Coordenadas 22.7 Norte 144.4 Este
- * Profundidad 12 millas
- * Localizacion en las Islas de los Volcanes, region de Japon

PRONOSTICOS DEL TSUNAMI

- * Se pronostica que la actividad del tsunami comience en los siguientes puntos a las horas indicadas.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI
-----	-----
* Alaska	
Shemya	0105 AKDT Mar 20
Adak	0155 AKDT Mar 20
Unalaska	0300 AKDT Mar 20
Saint Paul	0325 AKDT Mar 20
Sand Point	0340 AKDT Mar 20
Cold Bay	0410 AKDT Mar 20
Kodiak	0430 AKDT Mar 20
Seward	0455 AKDT Mar 20
Elfin Cove	0500 AKDT Mar 20
Sitka	0505 AKDT Mar 20
Yakutat	0505 AKDT Mar 20
Valdez	0515 AKDT Mar 20
Cordova	0525 AKDT Mar 20
Homer	0550 AKDT Mar 20
Craig	0610 AKDT Mar 20
* British Columbia	
Langara	0515 AKDT Mar 20
Tofino	0635 AKDT Mar 20
* California	
Horse Mountain	0730 PDT Mar 20
Fort Bragg	0730 PDT Mar 20
Crescent City	0745 PDT Mar 20
Monterey	0750 PDT Mar 20

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Port San Luis	0805	PDT Mar 20
San Francisco	0815	PDT Mar 20
Santa Barbara	0820	PDT Mar 20
Los Angeles Harb	0835	PDT Mar 20
Newport Beach	0840	PDT Mar 20
Oceanside	0845	PDT Mar 20
La Jolla	0845	PDT Mar 20

* Oregon

Port Orford	0730	PDT Mar 20
Charleston	0740	PDT Mar 20
Brookings	0745	PDT Mar 20
Newport	0750	PDT Mar 20
Seaside	0755	PDT Mar 20

* Washington

Neah Bay	0745	PDT Mar 20
Long Beach	0745	PDT Mar 20
Moclips	0750	PDT Mar 20
Westport	0755	PDT Mar 20
Port Angeles	0820	PDT Mar 20
Port Townsend	0850	PDT Mar 20

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

ACCIONES RECOMENDADAS

Si usted esta en un area de vigilancia;

* Preparese para tomar accion y este alerta para mas informacion.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.

* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 60 minutos.

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NTWC Spanish Bulletin #3

WEAK61 PAAQ 200531

TSUSPN

BULLETIN

PACIFEX19 Handbook

Mensaje de Tsunami numero 3
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1031 PM PDT Tue Mar 19 2019

ACTUALIZACIONES

- * Un tsunami ha sido confirmado y se esperan algunas impactos
- * Nuevas observaciones
- * Modifica las regiones bajo alerta

...UN AVISO DE TSUNAMI ESTA AHORA EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PARAMETROS PRELIMINARES DEL TERREMOTO

PACIFEX19 Handbook

* LOS SIGUIENTES PARAMETROS ESTAN BASADOS EN UNA EVALUACION PRELIMINAR RAPIDA Y PUEDEN VARIAR.

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

PRONOSTICOS DEL TSUNAMI

* Se pronostica que la actividad del tsunami comience en los siguientes puntos a las horas indicadas.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI
-----	-----
* Alaska	
Shemya	0105 AKDT Mar 20
Adak	0155 AKDT Mar 20
Unalaska	0300 AKDT Mar 20
Saint Paul	0325 AKDT Mar 20
Sand Point	0340 AKDT Mar 20
Cold Bay	0410 AKDT Mar 20
Kodiak	0430 AKDT Mar 20
Seward	0455 AKDT Mar 20
Elfin Cove	0500 AKDT Mar 20
Sitka	0505 AKDT Mar 20
Yakutat	0505 AKDT Mar 20
Valdez	0515 AKDT Mar 20
Cordova	0525 AKDT Mar 20
Homer	0550 AKDT Mar 20
Craig	0610 AKDT Mar 20
* British Columbia	
Langara	0515 AKDT Mar 20
Tofino	0635 AKDT Mar 20
* California	
Horse Mountain	0730 PDT Mar 20
Fort Bragg	0730 PDT Mar 20
Crescent City	0745 PDT Mar 20
Monterey	0750 PDT Mar 20
Port San Luis	0805 PDT Mar 20
San Francisco	0815 PDT Mar 20
Santa Barbara	0820 PDT Mar 20
Los Angeles Harb	0835 PDT Mar 20
Newport Beach	0840 PDT Mar 20
Oceanside	0845 PDT Mar 20
La Jolla	0845 PDT Mar 20
* Oregon	
Port Orford	0730 PDT Mar 20

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Charleston	0740	PDT Mar 20
Brookings	0745	PDT Mar 20
Newport	0750	PDT Mar 20
Seaside	0755	PDT Mar 20

* Washington

Neah Bay	0745	PDT Mar 20
Long Beach	0745	PDT Mar 20
Moclips	0750	PDT Mar 20
Westport	0755	PDT Mar 20
Port Angeles	0820	PDT Mar 20
Port Townsend	0850	PDT Mar 20

OBSERVACIONES DEL TSUNAMI

- * No hay observaciones del tsunami disponibles para reportar.

ACCIONES RECOMENDADAS - ACTUALIZADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las areas de aviso de tsunami.

Si usted esta en un area de aviso;

- * Desaloje tierra adentro o a un lugar alto fuera de la zona de inundacion por tsunami o muevase a un piso alto de un edificio multipiso segun sea su situacion.
- * Salgase del agua, de la playa y alejese de puertos, marinas, bahias, ensenadas y rompeolas.
- * Este alerta y siga las instrucciones de los oficiales locales de manejo de emergencia ya que ellos pueden tener informacion mas detallada o especifica para su ubicacion.
- * Si siente un terremoto fuerte y/o prolongado tome inmediatamente acciones de seguridad como moverse tierra adentro y/o hacia un lugar alto preferiblemente a pie.
- * Operadores de botes,
 - * Cuando el tiempo y las condiciones lo permitan mueva su bote mar adentro a una profundidad de al menos 180 pies.
 - * Si esta navegando evite entrar a aguas someras/llanas, puertos, marinas, bahias, y ensenadas para evitar corrientes fuertes y objetos flotantes o sumergidos.
- * No vaya a la costa para observar el tsunami.
- * No regrese a la costa hasta que los oficiales locales de manejo de emergencia local indiquen que es seguro hacerlo.

Si usted esta en un area de vigilancia;

- * Preparese para tomar accion y este alerta para mas

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informacion.

IMPACTOS

Los impactos pueden variar en diferentes lugares dentro de las areas de aviso.

Si usted esta en un area de aviso;

- * Es posible un tsunami con olas destructivas y corrientes fuertes.
- * Posibles inundaciones costeras repetidas cuando las olas lleguen a la costa, se mueven tierra adentro, y retroceden al oceano.
- * Olas fuertes e inusuales, corrientes e inundaciones pueden ahogar o herir personas y debilitar o destruir estructuras en tierra y dentro del agua.
- * Agua con objetos flotantes o sumergidos pueden herir o causar la muerte a personas o destruir edificios y puentes.
- * Corrientes y olas fuertes e inusuales en puertos, marinas, bahias, y ensenadas pueden ser especialmente destructivas.
- * Algunos impactos pueden continuar por muchas horas hasta dias luego de la llegada de la primera ola.
- * La primera ola puede no ser la mas grande las olas posteriores si.
- * Cada ola puede durar de 5 a 45 minutos entre su embate y retroceso.
- * Costas con frente en todas las direcciones pueden estar en peligro porque las olas pueden dar la vuelta a islas y entrar a bahias.
- * Movimiento fuerte y/o prolongado del suelo indica que un terremoto ha ocurrido un tsunami puede haber sido generado y su llegada inminente.
- * Un rapido retroceso de la linea de costa, olas y sonidos inusuales, y fuertes corrientes son senales de un tsunami.
- * El tsunami puede aparecer como agua moviendose rapidamente hacia mar adentro, una marea suave que se eleva rapidamente sin olas rompientes, como una serie de olas rompientes, o una pared de agua espumosa.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.

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* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 60 minutos.

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NTWC Conference Call #1

NOAK78 PAAQ 200535
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

-
- * Pacific coastal Weather Forecast Offices
 - * West Coast state warning points
 - * U.S. Coast Guard District Offices
 - * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

-
- * 2300 PDT MAR 19 2019
 - * 2200 AKDT MAR 19 2019
 - * 0600 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #4

WEAK61 PAAQ 200601
TSUSPN

BULLETIN

Mensaje de Tsunami numero 4
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1101 PM PDT Tue Mar 19 2019

ACTUALIZACIONES

-
- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

PACIFEX19 Handbook

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se pronostica que la actividad del tsunami comience en los siguientes puntos a loas horas indicadas.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI
-----	-----
* Alaska	
Shemya	0105 AKDT Mar 20
Adak	0155 AKDT Mar 20
Unalaska	0300 AKDT Mar 20
Saint Paul	0325 AKDT Mar 20
Sand Point	0340 AKDT Mar 20

PACIFEX19 Handbook

Cold Bay	0410	AKDT	Mar	20
Kodiak	0430	AKDT	Mar	20
Seward	0455	AKDT	Mar	20
Elfin Cove	0500	AKDT	Mar	20
Sitka	0505	AKDT	Mar	20
Yakutat	0505	AKDT	Mar	20
Valdez	0515	AKDT	Mar	20
Cordova	0525	AKDT	Mar	20
Homer	0550	AKDT	Mar	20
Craig	0610	AKDT	Mar	20

* British Columbia

Langara	0515	AKDT	Mar	20
Tofino	0635	AKDT	Mar	20

* California

Horse Mountain	0730	PDT	Mar	20
Fort Bragg	0730	PDT	Mar	20
Crescent City	0745	PDT	Mar	20
Monterey	0750	PDT	Mar	20
Port San Luis	0805	PDT	Mar	20
San Francisco	0815	PDT	Mar	20
Santa Barbara	0820	PDT	Mar	20
Los Angeles Harb	0835	PDT	Mar	20
Newport Beach	0840	PDT	Mar	20
Oceanside	0845	PDT	Mar	20
La Jolla	0845	PDT	Mar	20

* Oregon

Port Orford	0730	PDT	Mar	20
Charleston	0740	PDT	Mar	20
Brookings	0745	PDT	Mar	20
Newport	0750	PDT	Mar	20
Seaside	0755	PDT	Mar	20

* Washington

Neah Bay	0745	PDT	Mar	20
Long Beach	0745	PDT	Mar	20
Moclips	0750	PDT	Mar	20
Westport	0755	PDT	Mar	20
Port Angeles	0820	PDT	Mar	20
Port Townsend	0850	PDT	Mar	20

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud	8.8
* Tiempo de Origen	2000 AKDT Mar 19 2019
	2100 PDT Mar 19 2019
	0400 UTC Mar 20 2019
* Coordenadas	22.7 Norte 144.4 Este
* Profundidad	12 millas

PACIFEX19 Handbook

- * Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las areas de aviso de tsunami.

Si usted esta en un area de aviso;

- * Desaloje tierra adentro o a un lugar alto fuera de la zona de inundacion por tsunami o muevase a un piso alto de un edificio multipiso segun sea su situacion.
- * Salgase del agua, de la playa y alejese de puertos, marinas, bahias, ensenadas y rompeolas.
- * Este alerta y siga las instrucciones de los oficiales locales de manejo de emergencia ya que ellos pueden tener informacion mas detallada o especifica para su ubicacion.
- * Si siente un terremoto fuerte y/o prolongado tome inmediatamente acciones de seguridad como moverse tierra adentro y/o hacia un lugar alto preferiblemente a pie.
- * Operadores de botes,
 - * Cuando el tiempo y las condiciones lo permitan mueva su bote mar adentro a una profundidad de al menos 180 pies.
 - * Si esta navegando evite entrar a aguas someras/llanas, puertos, marinas, bahias, y ensenadas para evitar corrientes fuertes y objetos flotantes o sumergidos.
- * No vaya a la costa para observar el tsunami.
- * No regrese a la costa hasta que los oficiales locales de manejo de emergencia local indiquen que es seguro hacerlo.

Si usted esta en un area de vigilancia;

- * Preparese para tomar accion y este alerta para mas informacion.

IMPACTOS

Los impactos pueden variar en diferentes lugares dentro de las areas de aviso.

Si usted esta en un area de aviso;

- * Es posible un tsunami con olas destructivas y corrientes fuertes.
- * Posibles inundaciones costeras repetidas cuando las olas lleguen a la costa, se mueven tierra adentro, y retroceden al oceano.

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- * Olas fuertes e inusuales, corrientes e inundaciones pueden ahogar o herir personas y debilitar o destruir estructuras en tierra y dentro del agua.
- * Agua con objetos flotantes o sumergidos pueden herir o causar la muerte a personas o destruir edificios y puentes.
- * Corrientes y olas fuertes e inusuales en puertos, marinas, bahías, y ensenadas pueden ser especialmente destructivas.
- * Algunos impactos pueden continuar por muchas horas hasta días luego de la llegada de la primera ola.
- * La primera ola puede no ser la más grande las olas posteriores si.
- * Cada ola puede durar de 5 a 45 minutos entre su embate y retroceso.
- * Costas con frente en todas las direcciones pueden estar en peligro porque las olas pueden dar la vuelta a islas y entrar a bahías.
- * Movimiento fuerte y/o prolongado del suelo indica que un terremoto ha ocurrido un tsunami puede haber sido generado y su llegada inminente.
- * Un rápido retroceso de la línea de costa, olas y sonidos inusuales, y fuertes corrientes son señales de un tsunami.
- * El tsunami puede aparecer como agua moviéndose rápidamente hacia mar adentro, una marea suave que se eleva rápidamente sin olas rompientes, como una serie de olas rompientes, o una pared de agua espumosa.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a información adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacífico fuera de California, Oregon, Washington, Columbia Británica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacífico en tsunami.gov.
- * Este mensaje será actualizado en 30 minutos.

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NTWC Spanish Bulletin #5

WEAK61 PAAQ 200632
TSUSPN

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BULLETIN

Mensaje de Tsunami numero 5
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1132 PM PDT Tue Mar 19 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas

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indicadas.

- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	4.4- 8.2 pie
Adak	0155 AKDT Mar 20	36 hrs	3.0- 5.6 pie
Unalaska	0300 AKDT Mar 20	30 hrs	2.5- 4.6 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.3 pie
Sand Point	0340 AKDT Mar 20	30 hrs	2.6- 4.8 pie
Cold Bay	0410 AKDT Mar 20	9 hrs	0.8- 1.5 pie
Kodiak	0430 AKDT Mar 20		
Seward	0455 AKDT Mar 20		
Elfin Cove	0500 AKDT Mar 20		
Sitka	0505 AKDT Mar 20		
Yakutat	0505 AKDT Mar 20		
Valdez	0515 AKDT Mar 20		
Cordova	0525 AKDT Mar 20		
Homer	0550 AKDT Mar 20		
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		
Tofino	0635 AKDT Mar 20		
* California			
Horse Mountain	0730 PDT Mar 20		
Fort Bragg	0730 PDT Mar 20		
Crescent City	0745 PDT Mar 20		
Monterey	0750 PDT Mar 20		
Port San Luis	0805 PDT Mar 20		
San Francisco	0815 PDT Mar 20		
Santa Barbara	0820 PDT Mar 20		
Los Angeles Harb	0835 PDT Mar 20		
Newport Beach	0840 PDT Mar 20		
Oceanside	0845 PDT Mar 20		
La Jolla	0845 PDT Mar 20		
* Oregon			
Port Orford	0730 PDT Mar 20		
Charleston	0740 PDT Mar 20		
Brookings	0745 PDT Mar 20		
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		

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* Washington
Neah Bay 0745 PDT Mar 20
Long Beach 0745 PDT Mar 20
Moclips 0750 PDT Mar 20
Westport 0755 PDT Mar 20
Port Angeles 0820 PDT Mar 20
Port Townsend 0850 PDT Mar 20

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las areas de aviso de tsunami.

Si usted esta en un area de aviso;

- * Desaloje tierra adentro o a un lugar alto fuera de la zona de inundacion por tsunami o muevase a un piso alto de un edificio multipiso segun sea su situacion.
- * Salgase del agua, de la playa y alejese de puertos, marinas, bahias, ensenadas y rompeolas.
- * Este alerta y siga las instrucciones de los oficiales locales de manejo de emergencia ya que ellos pueden tener informacion mas detallada o especifica para su ubicacion.
- * Si siente un terremoto fuerte y/o prolongado tome inmediatamente acciones de seguridad como moverse tierra adentro y/o hacia un lugar alto preferiblemente a pie.
- * Operadores de botes,
 - * Cuando el tiempo y las condiciones lo permitan mueva su bote mar adentro a una profundidad de al menos 180 pies.
 - * Si esta navegando evite entrar a aguas someras/llanas, puertos, marinas, bahias, y ensenadas para evitar corrientes fuertes y objetos flotantes o sumergidos.
- * No vaya a la costa para observar el tsunami.

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- * No regrese a la costa hasta que los oficiales locales de manejo de emergencia local indiquen que es seguro hacerlo.

Si usted esta en un area de vigilancia;

- * Preparese para tomar accion y este alerta para mas informacion.

IMPACTOS

Los impactos pueden variar en diferentes lugares dentro de las areas de aviso.

Si usted esta en un area de aviso;

- * Es posible un tsunami con olas destructivas y corrientes fuertes.
- * Posibles inundaciones costeras repetidas cuando las olas lleguen a la costa, se mueven tierra adentro, y retroceden al oceano.
- * Olas fuertes e inusuales, corrientes e inundaciones pueden ahogar o herir personas y debilitar o destruir estructuras en tierra y dentro del agua.
- * Agua con objetos flotantes o sumergidos pueden herir o causar la muerte a personas o destruir edificios y puentes.
- * Corrientes y olas fuertes e inusuales en puertos, marinas, bahias, y ensenadas pueden ser especialmente destructivas.
- * Algunos impactos pueden continuar por muchas horas hasta dias luego de la llegada de la primera ola.
- * La primera ola puede no ser la mas grande las olas posteriores si.
- * Cada ola puede durar de 5 a 45 minutos entre su embate y retroceso.
- * Costas con frente en todas las direcciones pueden estar en peligro porque las olas pueden dar la vuelta a islas y entrar a bahias.
- * Movimiento fuerte y/o prolongado del suelo indica que un terremoto ha ocurrido un tsunami puede haber sido generado y su llegada inminente.
- * Un rapido retroceso de la linea de costa, olas y sonidos inusuales, y fuertes corrientes son senales de un tsunami.
- * El tsunami puede aparecer como agua moviendose rapidamente hacia mar adentro, una marea suave que se eleva rapidamente sin olas rompientes, como una serie de olas rompientes,

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o una pared de agua espumosa.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #6

WEAK61 PAAQ 200703

TSUSPN

BULLETIN

Mensaje de Tsunami numero 6

NWS Centro Nacional de Alerta de Tsunami Palmer AK

1203 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones
- * Modifica las regiones bajo alerta

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...UNA ADVERTENCIA DE TSUNAMI ESTA AHORA EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de

PACIFEX19 Handbook

Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii

- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	4.4- 8.2 pie
Adak	0155 AKDT Mar 20	36 hrs	3.0- 5.6 pie
Unalaska	0300 AKDT Mar 20	30 hrs	2.5- 4.6 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.3 pie

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Sand Point	0340	AKDT	Mar 20	30 hrs	2.6- 4.8 pie
Cold Bay	0410	AKDT	Mar 20	9 hrs	0.8- 1.5 pie
Kodiak	0430	AKDT	Mar 20	9 hrs	0.9- 1.7 pie
Seward	0455	AKDT	Mar 20	15 hrs	1.1- 2.0 pie
Elfin Cove	0500	AKDT	Mar 20	15 hrs	1.1- 2.1 pie
Sitka	0505	AKDT	Mar 20	40 hrs	3.3- 6.1 pie
Yakutat	0505	AKDT	Mar 20	9 hrs	0.8- 1.5 pie
Valdez	0515	AKDT	Mar 20		menos de 1pie
Cordova	0525	AKDT	Mar 20		menos de 1pie
Homer	0550	AKDT	Mar 20		menos de 1pie
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20	9 hrs	0.8- 1.5 pie
Tofino	0635	AKDT	Mar 20	36 hrs	2.8- 5.2 pie

* California

Horse Mountain	0730	PDT	Mar 20		
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.4- 2.6 pie
Crescent City	0745	PDT	Mar 20	48 hrs	11.0-20.5 pie
Monterey	0750	PDT	Mar 20	24 hrs	2.0- 3.7 pie
Port San Luis	0805	PDT	Mar 20	40 hrs	3.3- 6.1 pie
San Francisco	0815	PDT	Mar 20	24 hrs	2.2- 4.2 pie
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	6.1-11.4 pie
Charleston	0740	PDT	Mar 20	24 hrs	1.9- 3.6 pie
Brookings	0745	PDT	Mar 20	48 hrs	5.3- 9.9 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	20 hrs	1.6- 3.1 pie
Long Beach	0745	PDT	Mar 20	30 hrs	2.7- 5.0 pie
Moclips	0750	PDT	Mar 20	36 hrs	3.2- 5.9 pie
Westport	0755	PDT	Mar 20	15 hrs	1.1- 2.0 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.8- 3.4 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI

 * No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

 * Magnitud 8.8
 * Tiempo de Origen 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
 * Coordenadas 22.7 Norte 144.4 Este

PACIFEX19 Handbook

- * Profundidad 12 millas
- * Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS - ACTUALIZADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las areas de aviso y las areas de advertencia de tsunami.

Si usted esta en un area de aviso;

- * Desaloje tierra adentro o a un lugar alto fuera de la zona de inundacion por tsunami o muevase a un piso alto de un edificio multipiso segun sea su situacion.

Si usted esta en un area de aviso o advertencia;

- * Salgase del agua, de la playa y alejese de puertos, marinas, bahias, ensenadas y rompeolas.
- * Este alerta y siga las instrucciones de los oficiales locales de manejo de emergencia ya que ellos pueden tener informacion mas detallada o especifica para su ubicacion.
- * Si siente un terremoto fuerte y/o prolongado tome inmediatamente acciones de seguridad como moverse tierra adentro y/o hacia un lugar alto preferiblemente a pie.
- * Operadores de botes,
 - * Cuando el tiempo y las condiciones lo permitan mueva su bote mar adentro a una profundidad de al menos 180 pies.
 - * Si esta navegando evite entrar a aguas someras/llanas, puertos, marinas, bahias, y ensenadas para evitar corrientes fuertes y objetos flotantes o sumergidos.
- * No vaya a la costa para observar el tsunami.
- * No regrese a la costa hasta que los oficiales locales de manejo de emergencia local indiquen que es seguro hacerlo.

Si usted esta en un area de vigilancia;

- * Preparese para tomar accion y este alerta para mas informacion.

IMPACTOS

Los impactos pueden variar en diferentes lugares dentro de las areas de aviso y las areas de advertencia.

Si usted esta en un area de aviso;

- * Es posible un tsunami con olas destructivas y corrientes fuertes.

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- * Posibles inundaciones costeras repetidas cuando las olas lleguen a la costa, se mueven tierra adentro, y retroceden al oceano.
- * Olas fuertes e inusuales, corrientes e inundaciones pueden ahogar o herir personas y debilitar o destruir estructuras en tierra y dentro del agua.
- * Agua con objetos flotantes o sumergidos pueden herir o causar la muerte a personas o destruir edificios y puentes.
- * Corrientes y olas fuertes e inusuales en puertos, marinas, bahias, y ensenadas pueden ser especialmente destructivas.

Si usted esta en un area de advertencia;

- * Un tsunami con olas y corrientes fuertes puede ser posible.
- * Olas y corrientes pueden ahogar o herir personas que se encuentran en el agua.
- * Corrientes en playas y puertos, marinas, bahias, y ensenadas pueden ser especialmente peligrosas.

Si usted esta en un area de aviso o advertencia;

- * Algunos impactos pueden continuar por muchas horas hasta dias luego de la llegada de la primera ola.
- * La primera ola puede no ser la mas grande las olas posteriores si.
- * Cada ola puede durar de 5 a 45 minutos entre su embate y retroceso.
- * Costas con frente en todas las direcciones pueden estar en peligro porque las olas pueden dar la vuelta a islas y entrar a bahias.
- * Movimiento fuerte y/o prolongado del suelo indica que un terremoto ha ocurrido un tsunami puede haber sido generado y su llegada inminente.
- * Un rapido retroceso de la linea de costa, olas y sonidos inusuales, y fuertes corrientes son senales de un tsunami.
- * El tsunami puede aparecer como agua moviendose rapidamente hacia mar adentro, una marea suave que se eleva rapidamente sin olas rompientes, como una serie de olas rompientes, o una pared de agua espumosa.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.

PACIFEX19 Handbook

* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensanjes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #7

WEAK61 PAAQ 200733

TSUSPN

BULLETIN

Mensaje de Tsunami numero 7

NWS Centro Nacional de Alerta de Tsunami Palmer AK

1233 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80

PACIFEX19 Handbook

miles NE of Unalaska)

- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.2-11.5 pie
Adak	0155 AKDT Mar 20	30 hrs	2.3- 4.3 pie
Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.2 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.6- 2.9 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.6 pie
Yakutat	0505 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie

PACIFEX19 Handbook

Homer 0550 AKDT Mar 20 menos de 1pie
Craig 0610 AKDT Mar 20

* British Columbia

Langara 0515 AKDT Mar 20 menos de 1pie
Tofino 0635 AKDT Mar 20 24 hrs 2.1- 3.9 pie

* California

Horse Mountain 0730 PDT Mar 20 30 hrs 2.4- 4.4 pie
Fort Bragg 0730 PDT Mar 20 20 hrs 1.6- 3.0 pie
Crescent City 0745 PDT Mar 20 48 hrs 8.4-15.7 pie
Monterey 0750 PDT Mar 20 15 hrs 1.3- 2.5 pie
Port San Luis 0805 PDT Mar 20 40 hrs 3.5- 6.5 pie
San Francisco 0815 PDT Mar 20 20 hrs 1.5- 2.8 pie
Santa Barbara 0820 PDT Mar 20
Los Angeles Harb 0835 PDT Mar 20
Newport Beach 0840 PDT Mar 20
Oceanside 0845 PDT Mar 20
La Jolla 0845 PDT Mar 20

* Oregon

Port Orford 0730 PDT Mar 20 48 hrs 5.6-10.3 pie
Charleston 0740 PDT Mar 20 24 hrs 2.2- 4.1 pie
Brookings 0745 PDT Mar 20 48 hrs 4.2- 7.9 pie
Newport 0750 PDT Mar 20
Seaside 0755 PDT Mar 20

* Washington

Neah Bay 0745 PDT Mar 20 15 hrs 1.3- 2.4 pie
Long Beach 0745 PDT Mar 20 36 hrs 3.0- 5.5 pie
Moclips 0750 PDT Mar 20 30 hrs 2.3- 4.3 pie
Westport 0755 PDT Mar 20 15 hrs 1.0- 1.8 pie
Port Angeles 0820 PDT Mar 20 20 hrs 1.8- 3.3 pie
Port Townsend 0850 PDT Mar 20 menos de 1pie

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 5 para acciones recomendadas.

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IMPACTOS

- * Ver mensaje numero 5 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Conference Call #2

NOAK78 PAAQ 200736

ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

- * 0100 PDT MAR 20 2019
- * 0000 AKDT MAR 20 2019
- * 0800 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #8

WEAK61 PAAQ 200801

TSUSPN

BULLETIN

Mensaje de Tsunami numero 8

NWS Centro Nacional de Alerta de Tsunami Palmer AK

PACIFEX19 Handbook

101 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* No hay actualizaciones en este mensaje

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

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* CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
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* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.2-11.5 pie
Adak	0155 AKDT Mar 20	30 hrs	2.3- 4.3 pie
Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.2 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.6- 2.9 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.6 pie
Yakutat	0505 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	24 hrs	2.1- 3.9 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	20 hrs	1.6- 3.0 pie
Crescent City	0745 PDT Mar 20	48 hrs	8.4-15.7 pie
Monterey	0750 PDT Mar 20	15 hrs	1.3- 2.5 pie
Port San Luis	0805 PDT Mar 20	40 hrs	3.5- 6.5 pie
San Francisco	0815 PDT Mar 20	20 hrs	1.5- 2.8 pie
Santa Barbara	0820 PDT Mar 20		
Los Angeles Harb	0835 PDT Mar 20		
Newport Beach	0840 PDT Mar 20		
Oceanside	0845 PDT Mar 20		

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La Jolla 0845 PDT Mar 20

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	5.6-10.3 pie
Charleston	0740	PDT Mar 20	24 hrs	2.2- 4.1 pie
Brookings	0745	PDT Mar 20	48 hrs	4.2- 7.9 pie
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.3- 2.4 pie
Long Beach	0745	PDT Mar 20	36 hrs	3.0- 5.5 pie
Moclips	0750	PDT Mar 20	30 hrs	2.3- 4.3 pie
Westport	0755	PDT Mar 20	15 hrs	1.0- 1.8 pie
Port Angeles	0820	PDT Mar 20	20 hrs	1.8- 3.3 pie
Port Townsend	0850	PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud	8.8
* Tiempo de Origen	2000 AKDT Mar 19 2019
	2100 PDT Mar 19 2019
	0400 UTC Mar 20 2019
* Coordenadas	22.7 Norte 144.4 Este
* Profundidad	12 millas
* Localizacion	en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 5 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 5 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #9

WEAK61 PAAQ 200830
TSUSPN

BULLETIN

Mensaje de Tsunami numero 9
NWS Centro Nacional de Alerta de Tsunami Palmer AK
130 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* No hay actualizaciones en este mensaje

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

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- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.2-11.5 pie
Adak	0155 AKDT Mar 20	30 hrs	2.3- 4.3 pie
Unalaska	0300 AKDT Mar 20	20 hrs	1.6- 3.0 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.3- 4.2 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.6- 2.9 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.6 pie
Yakutat	0505 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	24 hrs	2.1- 3.9 pie
* California			

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Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.6- 3.0 pie
Crescent City	0745	PDT	Mar 20	48 hrs	8.4-15.7 pie
Monterey	0750	PDT	Mar 20	15 hrs	1.3- 2.5 pie
Port San Luis	0805	PDT	Mar 20	40 hrs	3.5- 6.5 pie
San Francisco	0815	PDT	Mar 20	20 hrs	1.5- 2.8 pie
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.6-10.3 pie
Charleston	0740	PDT	Mar 20	24 hrs	2.2- 4.1 pie
Brookings	0745	PDT	Mar 20	48 hrs	4.2- 7.9 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.3- 2.4 pie
Long Beach	0745	PDT	Mar 20	36 hrs	3.0- 5.5 pie
Moclips	0750	PDT	Mar 20	30 hrs	2.3- 4.3 pie
Westport	0755	PDT	Mar 20	15 hrs	1.0- 1.8 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.8- 3.3 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI

* No hay observaciones del tsunami disponibles para reportar.

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 5 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 5 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de

PACIFEX19 Handbook

internet tsunami.gov.

* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensanjes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #10

WEAK61 PAAQ 200900

TSUSPN

BULLETIN

Mensaje de Tsunami numero 10

NWS Centro Nacional de Alerta de Tsunami Palmer AK

200 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas

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desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)

- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	5.3- 9.8 pie
Adak	0155 AKDT Mar 20	20 hrs	1.7- 3.2 pie
Unalaska	0300 AKDT Mar 20	15 hrs	1.1- 2.0 pie
Saint Paul	0325 AKDT Mar 20	15 hrs	1.4- 2.5 pie
Sand Point	0340 AKDT Mar 20	15 hrs	1.1- 2.0 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.4 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie

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Cordova	0525	AKDT	Mar 20		menos de 1pie
Homer	0550	AKDT	Mar 20		menos de 1pie
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		menos de 1pie
Tofino	0635	AKDT	Mar 20	20 hrs	1.5- 2.9 pie

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.3- 2.5 pie
Crescent City	0745	PDT	Mar 20	48 hrs	6.2-11.6 pie
Monterey	0750	PDT	Mar 20	15 hrs	0.9- 1.7 pie
Port San Luis	0805	PDT	Mar 20	36 hrs	2.9- 5.3 pie
San Francisco	0815	PDT	Mar 20	15 hrs	1.1- 2.0 pie
Santa Barbara	0820	PDT	Mar 20		
Los Angeles Harb	0835	PDT	Mar 20		
Newport Beach	0840	PDT	Mar 20		
Oceanside	0845	PDT	Mar 20		
La Jolla	0845	PDT	Mar 20		

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	4.4- 8.1 pie
Charleston	0740	PDT	Mar 20	24 hrs	1.8- 3.4 pie
Brookings	0745	PDT	Mar 20	36 hrs	3.2- 5.9 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.0- 1.8 pie
Long Beach	0745	PDT	Mar 20	30 hrs	2.4- 4.5 pie
Moclips	0750	PDT	Mar 20	20 hrs	1.7- 3.2 pie
Westport	0755	PDT	Mar 20	9 hrs	0.8- 1.4 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.4- 2.6 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Midway Island UM	0136 PDT Mar 20	0.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
 * Tiempo de Origen 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019
 * Coordenadas 22.7 Norte 144.4 Este
 * Profundidad 12 millas

PACIFEX19 Handbook

* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 5 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 5 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.

* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #11

WEAK61 PAAQ 200931

TSUSPN

BULLETIN

Mensaje de Tsunami numero 11

NWS Centro Nacional de Alerta de Tsunami Palmer AK

231 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

...LA VIGILANCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

* CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco

* OREGON, Areas costeras desde The Oregon/Cal. Border hasta

PACIFEX19 Handbook

The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia

- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

Vigilancia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LLEGADA	PRONOSTICO	ALTURA MAX
PRONOSTICADA	DE DURACION	PRONOSTICADA

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LUGAR -----	DEL TSUNAMI -----	DEL TSUNAMI -----	DEL TSUNAMI -----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	5.1- 9.4 pie
Adak	0155 AKDT Mar 20	20 hrs	1.6- 3.0 pie
Unalaska	0300 AKDT Mar 20	15 hrs	1.0- 1.8 pie
Saint Paul	0325 AKDT Mar 20	15 hrs	1.1- 2.1 pie
Sand Point	0340 AKDT Mar 20	15 hrs	0.9- 1.7 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	15 hrs	1.1- 2.1 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	20 hrs	1.4- 2.6 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	15 hrs	1.3- 2.4 pie
Crescent City	0745 PDT Mar 20	48 hrs	5.7-10.6 pie
Monterey	0750 PDT Mar 20	9 hrs	0.8- 1.6 pie
Port San Luis	0805 PDT Mar 20	30 hrs	2.7- 5.0 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.0- 1.8 pie
Santa Barbara	0820 PDT Mar 20		
Los Angeles Harb	0835 PDT Mar 20		
Newport Beach	0840 PDT Mar 20		
Oceanside	0845 PDT Mar 20		
La Jolla	0845 PDT Mar 20		
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.0- 7.5 pie
Charleston	0740 PDT Mar 20	20 hrs	1.7- 3.2 pie
Brookings	0745 PDT Mar 20	36 hrs	2.9- 5.4 pie
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	9 hrs	0.9- 1.7 pie
Long Beach	0745 PDT Mar 20	30 hrs	2.3- 4.3 pie
Moclips	0750 PDT Mar 20	20 hrs	1.5- 2.9 pie
Westport	0755 PDT Mar 20		menos de 1pie
Port Angeles	0820 PDT Mar 20	15 hrs	1.3- 2.5 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

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LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0226 PDT Mar 20	2.6ft
Attu Alaska	0226 PDT Mar 20	3.3ft
Midway Island UM	0136 PDT Mar 20	0.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 5 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 5 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Conference Call #3

NOAK78 PAAQ 200936
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices

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* Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

-
- * 0300 PDT MAR 20 2019
 - * 0200 AKDT MAR 20 2019
 - * 1000 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #12

WEAK61 PAAQ 201001
TSUSPN

BULLETIN

Mensaje de Tsunami numero 12
NWS Centro Nacional de Alerta de Tsunami Palmer AK
301 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

-
- * Nuevas observaciones
 - * Modifica las regiones bajo alerta

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii

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- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Shemya	0105 AKDT Mar 20	48 hrs	6.0-11.1 pie
Adak	0155 AKDT Mar 20	24 hrs	2.2- 4.1 pie
Unalaska	0300 AKDT Mar 20	20 hrs	1.5- 2.7 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.1- 3.8 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.4- 2.7 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	20 hrs	1.8- 3.3 pie

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Yakutat	0505	AKDT	Mar 20		menos de 1pie
Valdez	0515	AKDT	Mar 20		menos de 1pie
Cordova	0525	AKDT	Mar 20		menos de 1pie
Homer	0550	AKDT	Mar 20		menos de 1pie
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		menos de 1pie
Tofino	0635	AKDT	Mar 20	24 hrs	2.0- 3.6 pie

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.5- 2.9 pie
Crescent City	0745	PDT	Mar 20	48 hrs	7.9-14.7 pie
Monterey	0750	PDT	Mar 20	15 hrs	1.2- 2.3 pie
Port San Luis	0805	PDT	Mar 20	40 hrs	3.3- 6.2 pie
San Francisco	0815	PDT	Mar 20	20 hrs	1.4- 2.6 pie
Santa Barbara	0820	PDT	Mar 20	15 hrs	1.4- 2.5 pie
Los Angeles Harb	0835	PDT	Mar 20	15 hrs	0.9- 1.7 pie
Newport Beach	0840	PDT	Mar 20		menos de 1pie
Oceanside	0845	PDT	Mar 20	9 hrs	0.8- 1.5 pie
La Jolla	0845	PDT	Mar 20	15 hrs	0.9- 1.7 pie

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.3- 9.8 pie
Charleston	0740	PDT	Mar 20	24 hrs	2.1- 3.9 pie
Brookings	0745	PDT	Mar 20	48 hrs	4.0- 7.4 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.2- 2.3 pie
Long Beach	0745	PDT	Mar 20	36 hrs	2.9- 5.3 pie
Moclips	0750	PDT	Mar 20	24 hrs	2.2- 4.0 pie
Westport	0755	PDT	Mar 20	9 hrs	0.9- 1.7 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.7- 3.1 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0253 PDT Mar 20	7.2ft
Attu Alaska	0249 PDT Mar 20	5.3ft
Midway Island UM	0136 PDT Mar 20	0.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
 * Tiempo de Origen 2000 AKDT Mar 19 2019

PACIFEX19 Handbook

	2100 PDT Mar 19 2019
	0400 UTC Mar 20 2019
* Coordenadas	22.7 Norte 144.4 Este
* Profundidad	12 millas
* Localizacion	en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS - ACTUALIZADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las areas de aviso y las areas de advertencia de tsunami.

Si usted esta en un area de aviso;

- * Desaloje tierra adentro o a un lugar alto fuera de la zona de inundacion por tsunami o muevase a un piso alto de un edificio multipiso segun sea su situacion.

Si usted esta en un area de aviso o advertencia;

- * Salgase del agua, de la playa y alejese de puertos, marinas, bahias, ensenadas y rompeolas.
- * Este alerta y siga las instrucciones de los oficiales locales de manejo de emergencia ya que ellos pueden tener informacion mas detallada o especifica para su ubicacion.
- * Si siente un terremoto fuerte y/o prolongado tome inmediatamente acciones de seguridad como moverse tierra adentro y/o hacia un lugar alto preferiblemente a pie.
- * Operadores de botes,
 - * Cuando el tiempo y las condiciones lo permitan mueva su bote mar adentro a una profundidad de al menos 180 pies.
 - * Si esta navegando evite entrar a aguas someras/llanas, puertos, marinas, bahias, y ensenadas para evitar corrientes fuertes y objetos flotantes o sumergidos.
- * No vaya a la costa para observar el tsunami.
- * No regrese a la costa hasta que los oficiales locales de manejo de emergencia local indiquen que es seguro hacerlo.

IMPACTOS

Los impactos pueden variar en diferentes lugares dentro de las areas de aviso y las areas de advertencia.

Si usted esta en un area de aviso;

- * Es posible un tsunami con olas destructivas y corrientes fuertes.
- * Posibles inundaciones costeras repetidas cuando las olas

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lleguen a la costa, se mueven tierra adentro, y retroceden al oceano.

- * Olas fuertes e inusuales, corrientes e inundaciones pueden ahogar o herir personas y debilitar o destruir estructuras en tierra y dentro del agua.
- * Agua con objetos flotantes o sumergidos pueden herir o causar la muerte a personas o destruir edificios y puentes.
- * Corrientes y olas fuertes e inusuales en puertos, marinas, bahias, y ensenadas pueden ser especialmente destructivas.

Si usted esta en un area de advertencia;

- * Un tsunami con olas y corrientes fuertes puede ser posible.
- * Olas y corrientes pueden ahogar o herir personas que se encuentran en el agua.
- * Corrientes en playas y puertos, marinas, bahias, y ensenadas pueden ser especialmente peligrosas.

Si usted esta en un area de aviso o advertencia;

- * Algunos impactos pueden continuar por muchas horas hasta dias luego de la llegada de la primera ola.
- * La primera ola puede no ser la mas grande las olas posteriores si.
- * Cada ola puede durar de 5 a 45 minutos entre su embate y retroceso.
- * Costas con frente en todas las direcciones pueden estar en peligro porque las olas pueden dar la vuelta a islas y entrar a bahias.
- * Movimiento fuerte y/o prolongado del suelo indica que un terremoto ha ocurrido un tsunami puede haber sido generado y su llegada inminente.
- * Un rapido retroceso de la linea de costa, olas y sonidos inusuales, y fuertes corrientes son senales de un tsunami.
- * El tsunami puede aparecer como agua moviendose rapidamente hacia mar adentro, una marea suave que se eleva rapidamente sin olas rompientes, como una serie de olas rompientes, o una pared de agua espumosa.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon,

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Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #13

WEAK61 PAAQ 201031
TSUSPN

BULLETIN

Mensaje de Tsunami numero 13
NWS Centro Nacional de Alerta de Tsunami Palmer AK
331 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

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Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Adak	0155 AKDT Mar 20	30 hrs	2.6- 4.9 pie
Unalaska	0300 AKDT Mar 20	20 hrs	1.8- 3.4 pie
Saint Paul	0325 AKDT Mar 20	30 hrs	2.7- 5.0 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.8- 3.3 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20	9 hrs	0.8- 1.5 pie
Seward	0455 AKDT Mar 20	9 hrs	0.7- 1.4 pie
Elfin Cove	0500 AKDT Mar 20	9 hrs	0.8- 1.4 pie
Sitka	0505 AKDT Mar 20	24 hrs	2.2- 4.2 pie
Yakutat	0505 AKDT Mar 20	9 hrs	0.8- 1.4 pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20	9 hrs	0.7- 1.3 pie
Tofino	0635 AKDT Mar 20	30 hrs	2.4- 4.4 pie
* California			

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Horse Mountain	0730	PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT Mar 20	20 hrs	1.7- 3.2 pie
Crescent City	0745	PDT Mar 20	48 hrs	9.4-17.5 pie
Monterey	0750	PDT Mar 20	20 hrs	1.5- 2.8 pie
Port San Luis	0805	PDT Mar 20	40 hrs	3.8- 7.1 pie
San Francisco	0815	PDT Mar 20	20 hrs	1.7- 3.2 pie
Santa Barbara	0820	PDT Mar 20	20 hrs	1.6- 3.1 pie
Los Angeles Harb	0835	PDT Mar 20	15 hrs	1.1- 2.0 pie
Newport Beach	0840	PDT Mar 20		menos de 1pie
Oceanside	0845	PDT Mar 20	15 hrs	1.0- 1.9 pie
La Jolla	0845	PDT Mar 20	15 hrs	1.1- 2.1 pie

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	6.1-11.4 pie
Charleston	0740	PDT Mar 20	30 hrs	2.4- 4.4 pie
Brookings	0745	PDT Mar 20	48 hrs	4.7- 8.8 pie
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	20 hrs	1.5- 2.7 pie
Long Beach	0745	PDT Mar 20	40 hrs	3.2- 6.0 pie
Moclips	0750	PDT Mar 20	30 hrs	2.6- 4.9 pie
Westport	0755	PDT Mar 20	15 hrs	1.1- 2.0 pie
Port Angeles	0820	PDT Mar 20	24 hrs	1.9- 3.6 pie
Port Townsend	0850	PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0315 PDT Mar 20	6.4ft
Adak Alaska	0312 PDT Mar 20	1.0ft
Midway Island UM	0329 PDT Mar 20	1.4ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8

* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019

* Coordenadas 22.7 Norte 144.4 Este

* Profundidad 12 millas

* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

PACIFEX19 Handbook

IMPACTOS

- * Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #14

WEAK61 PAAQ 201100
TSUSPN

BULLETIN

Mensaje de Tsunami numero 14
NWS Centro Nacional de Alerta de Tsunami Palmer AK
400 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver...

PACIFEX19 Handbook

la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii

- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Unalaska	0300 AKDT Mar 20	20 hrs	1.5- 2.8 pie
Saint Paul	0325 AKDT Mar 20	24 hrs	2.2- 4.0 pie
Sand Point	0340 AKDT Mar 20	20 hrs	1.5- 2.8 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	24 hrs	1.9- 3.4 pie

PACIFEX19 Handbook

Yakutat	0505	AKDT	Mar 20		menos de 1pie
Valdez	0515	AKDT	Mar 20		menos de 1pie
Cordova	0525	AKDT	Mar 20		menos de 1pie
Homer	0550	AKDT	Mar 20		menos de 1pie
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		menos de 1pie
Tofino	0635	AKDT	Mar 20	24 hrs	2.0- 3.8 pie

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar 20	20 hrs	1.6- 2.9 pie
Crescent City	0745	PDT	Mar 20	48 hrs	8.1-15.1 pie
Monterey	0750	PDT	Mar 20	15 hrs	1.3- 2.4 pie
Port San Luis	0805	PDT	Mar 20	40 hrs	3.4- 6.4 pie
San Francisco	0815	PDT	Mar 20	20 hrs	1.5- 2.7 pie
Santa Barbara	0820	PDT	Mar 20	20 hrs	1.4- 2.6 pie
Los Angeles Harb	0835	PDT	Mar 20	15 hrs	0.9- 1.8 pie
Newport Beach	0840	PDT	Mar 20		menos de 1pie
Oceanside	0845	PDT	Mar 20	9 hrs	0.8- 1.6 pie
La Jolla	0845	PDT	Mar 20	15 hrs	1.0- 1.8 pie

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	5.4-10.0 pie
Charleston	0740	PDT	Mar 20	24 hrs	2.2- 4.0 pie
Brookings	0745	PDT	Mar 20	48 hrs	4.1- 7.6 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.3- 2.4 pie
Long Beach	0745	PDT	Mar 20	36 hrs	2.9- 5.4 pie
Moclips	0750	PDT	Mar 20	24 hrs	2.2- 4.2 pie
Westport	0755	PDT	Mar 20	15 hrs	0.9- 1.7 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.7- 3.2 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0315 PDT Mar 20	6.4ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0354 PDT Mar 20	0.3ft
Midway Island UM	0329 PDT Mar 20	1.4ft

PARAMETROS PRELIMINARES DEL TERREMOTO

PACIFEX19 Handbook

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #15

WEAK61 PAAQ 201130
TSUSPN

BULLETIN
Mensaje de Tsunami numero 15
NWS Centro Nacional de Alerta de Tsunami Palmer AK
430 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

* CALIFORNIA, Areas costeras desde Point Conception,

PACIFEX19 Handbook

California hasta The Oregon/Cal. Border incluso la bahia de San Francisco

- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LLEGADA

PRONOSTICO ALTURA MAX

PACIFEX19 Handbook

LUGAR -----	PRONOSTICADA DEL TSUNAMI -----	DE DURACION DEL TSUNAMI -----	PRONOSTICADA DEL TSUNAMI -----
* Alaska			
Unalaska	0300 AKDT Mar 20	9 hrs	0.8- 1.6 pie
Saint Paul	0325 AKDT Mar 20	9 hrs	0.9- 1.6 pie
Sand Point	0340 AKDT Mar 20	9 hrs	0.8- 1.4 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	15 hrs	0.9- 1.7 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	15 hrs	1.2- 2.3 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	15 hrs	1.2- 2.2 pie
Crescent City	0745 PDT Mar 20	48 hrs	5.1- 9.4 pie
Monterey	0750 PDT Mar 20	9 hrs	0.7- 1.4 pie
Port San Luis	0805 PDT Mar 20	30 hrs	2.5- 4.7 pie
San Francisco	0815 PDT Mar 20	9 hrs	0.8- 1.6 pie
Santa Barbara	0820 PDT Mar 20	9 hrs	0.9- 1.6 pie
Los Angeles Harb	0835 PDT Mar 20		menos de 1pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20		menos de 1pie
La Jolla	0845 PDT Mar 20		menos de 1pie
* Oregon			
Port Orford	0730 PDT Mar 20	40 hrs	3.7- 6.9 pie
Charleston	0740 PDT Mar 20	20 hrs	1.6- 3.0 pie
Brookings	0745 PDT Mar 20	30 hrs	2.6- 4.9 pie
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	9 hrs	0.8- 1.5 pie
Long Beach	0745 PDT Mar 20	24 hrs	2.2- 4.0 pie
Moclips	0750 PDT Mar 20	15 hrs	1.4- 2.5 pie
Westport	0755 PDT Mar 20		menos de 1pie
Port Angeles	0820 PDT Mar 20	15 hrs	1.2- 2.3 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

PACIFEX19 Handbook

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0404 PDT Mar 20	8.3ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0354 PDT Mar 20	0.3ft
Midway Island UM	0329 PDT Mar 20	1.4ft
Nawiliwili Hawaii	0420 PDT Mar 20	0.6ft
Honolulu Hawaii	0417 PDT Mar 20	0.3ft
Haleiwa Hawaii	0419 PDT Mar 20	0.5ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Conference Call #4

NOAK78 PAAQ 201136
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

PACIFEX19 Handbook

-
- * Pacific coastal Weather Forecast Offices
 - * West Coast state warning points
 - * U.S. Coast Guard District Offices
 - * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

- * 0500 PDT MAR 20 2019
- * 0400 AKDT MAR 20 2019
- * 1200 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #16

WEAK61 PAAQ 201204
TSUSPN

BULLETIN

Mensaje de Tsunami numero 16
NWS Centro Nacional de Alerta de Tsunami Palmer AK
504 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver...

PACIFEX19 Handbook

la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii

- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Saint Paul	0325 AKDT Mar 20	20 hrs	1.5- 2.7 pie
Sand Point	0340 AKDT Mar 20	15 hrs	1.1- 2.0 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	15 hrs	1.4- 2.5 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie

PACIFEX19 Handbook

Valdez	0515	AKDT	Mar 20		menos de 1pie
Cordova	0525	AKDT	Mar 20		menos de 1pie
Homer	0550	AKDT	Mar 20		menos de 1pie
Craig	0610	AKDT	Mar 20		

* British Columbia

Langara	0515	AKDT	Mar 20		menos de 1pie
Tofino	0635	AKDT	Mar 20	20 hrs	1.6- 3.0 pie

* California

Horse Mountain	0730	PDT	Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar 20	15 hrs	1.4- 2.5 pie
Crescent City	0745	PDT	Mar 20	48 hrs	6.5-12.0 pie
Monterey	0750	PDT	Mar 20	15 hrs	1.0- 1.8 pie
Port San Luis	0805	PDT	Mar 20	36 hrs	2.9- 5.4 pie
San Francisco	0815	PDT	Mar 20	15 hrs	1.1- 2.1 pie
Santa Barbara	0820	PDT	Mar 20	15 hrs	1.1- 2.1 pie
Los Angeles Harb	0835	PDT	Mar 20	9 hrs	0.8- 1.5 pie
Newport Beach	0840	PDT	Mar 20		menos de 1pie
Oceanside	0845	PDT	Mar 20		menos de 1pie
La Jolla	0845	PDT	Mar 20	9 hrs	0.7- 1.4 pie

* Oregon

Port Orford	0730	PDT	Mar 20	48 hrs	4.5- 8.3 pie
Charleston	0740	PDT	Mar 20	24 hrs	1.9- 3.5 pie
Brookings	0745	PDT	Mar 20	40 hrs	3.3- 6.1 pie
Newport	0750	PDT	Mar 20		
Seaside	0755	PDT	Mar 20		

* Washington

Neah Bay	0745	PDT	Mar 20	15 hrs	1.0- 1.9 pie
Long Beach	0745	PDT	Mar 20	30 hrs	2.5- 4.6 pie
Moclips	0750	PDT	Mar 20	20 hrs	1.8- 3.3 pie
Westport	0755	PDT	Mar 20	9 hrs	0.8- 1.4 pie
Port Angeles	0820	PDT	Mar 20	20 hrs	1.5- 2.7 pie
Port Townsend	0850	PDT	Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0319 PDT Mar 20	14.9ft
Attu Alaska	0404 PDT Mar 20	8.3ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0446 PDT Mar 20	0.7ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0451 PDT Mar 20	1.0ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0420 PDT Mar 20	0.6ft
Honolulu Hawaii	0437 PDT Mar 20	0.5ft
Haleiwa Hawaii	0419 PDT Mar 20	0.5ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft

PACIFEX19 Handbook

Kahului Hawaii

0451 PDT Mar 20

1.4ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordinadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensanjes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #17

WEAK61 PAAQ 201230
TSUSPN

BULLETIN

Mensaje de Tsunami numero 17
NWS Centro Nacional de Alerta de Tsunami Palmer AK
530 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

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...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas

PACIFEX19 Handbook

alto esperado sobre el nivel de la marea.

* No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Sand Point	0340 AKDT Mar 20	15 hrs	1.2- 2.3 pie
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	20 hrs	1.5- 2.9 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	20 hrs	1.8- 3.3 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	20 hrs	1.4- 2.7 pie
Crescent City	0745 PDT Mar 20	48 hrs	7.1-13.1 pie
Monterey	0750 PDT Mar 20	15 hrs	1.1- 2.0 pie
Port San Luis	0805 PDT Mar 20	36 hrs	3.1- 5.8 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.3- 2.3 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.2- 2.3 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.9- 1.6 pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20	9 hrs	0.7- 1.3 pie
La Jolla	0845 PDT Mar 20	9 hrs	0.8- 1.5 pie
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.8- 8.9 pie
Charleston	0740 PDT Mar 20	24 hrs	2.0- 3.7 pie
Brookings	0745 PDT Mar 20	40 hrs	3.6- 6.6 pie
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.1- 2.1 pie
Long Beach	0745 PDT Mar 20	30 hrs	2.7- 4.9 pie
Moclips	0750 PDT Mar 20	24 hrs	1.9- 3.6 pie
Westport	0755 PDT Mar 20	9 hrs	0.8- 1.5 pie
Port Angeles	0820 PDT Mar 20	20 hrs	1.6- 2.9 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

PACIFEX19 Handbook

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0522 PDT Mar 20	11.0ft
Adak Alaska	0352 PDT Mar 20	3.7ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
Sand Point Alaska	0524 PDT Mar 20	0.9ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0420 PDT Mar 20	0.6ft
Honolulu Hawaii	0521 PDT Mar 20	0.7ft
Haleiwa Hawaii	0504 PDT Mar 20	1.4ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0517 PDT Mar 20	4.8ft
Hilo Hawaii	0503 PDT Mar 20	0.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #18

WEAK61 PAAQ 201302
TSUSPN

BULLETIN

Mensaje de Tsunami numero 18
NWS Centro Nacional de Alerta de Tsunami Palmer AK
602 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California

PACIFEX19 Handbook

- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Cold Bay	0410 AKDT Mar 20		menos de 1pie
Kodiak	0430 AKDT Mar 20		menos de 1pie
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.4 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	20 hrs	1.6- 2.9 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	15 hrs	1.3- 2.5 pie
Crescent City	0745 PDT Mar 20	48 hrs	6.3-11.7 pie
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.8 pie
Port San Luis	0805 PDT Mar 20	36 hrs	2.9- 5.3 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.1- 2.0 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.1- 2.0 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.5 pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20		menos de 1pie
La Jolla	0845 PDT Mar 20	9 hrs	0.7- 1.3 pie

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* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	4.4- 8.2 pie
Charleston	0740	PDT Mar 20	24 hrs	1.9- 3.4 pie
Brookings	0745	PDT Mar 20	36 hrs	3.2- 6.0 pie
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.0- 1.8 pie
Long Beach	0745	PDT Mar 20	30 hrs	2.5- 4.6 pie
Moclips	0750	PDT Mar 20	20 hrs	1.7- 3.2 pie
Westport	0755	PDT Mar 20	9 hrs	0.8- 1.4 pie
Port Angeles	0820	PDT Mar 20	20 hrs	1.4- 2.7 pie
Port Townsend	0850	PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0522 PDT Mar 20	11.0ft
Adak Alaska	0545 PDT Mar 20	5.9ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0455 PDT Mar 20	0.9ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
Sand Point Alaska	0524 PDT Mar 20	0.9ft
Alameda California	0557 PDT Mar 20	0.2ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0537 PDT Mar 20	1.0ft
Honolulu Hawaii	0521 PDT Mar 20	0.7ft
Haleiwa Hawaii	0539 PDT Mar 20	4.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0517 PDT Mar 20	4.8ft
Hilo Hawaii	0555 PDT Mar 20	3.4ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8

* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019

* Coordenadas 22.7 Norte 144.4 Este

* Profundidad 12 millas

* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

PACIFEX19 Handbook

IMPACTOS

- * Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #19

WEAK61 PAAQ 201330
TSUSPN

BULLETIN

Mensaje de Tsunami numero 19
NWS Centro Nacional de Alerta de Tsunami Palmer AK
630 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver...

PACIFEX19 Handbook

la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii

- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Seward	0455 AKDT Mar 20		menos de 1pie
Elfin Cove	0500 AKDT Mar 20		menos de 1pie
Sitka	0505 AKDT Mar 20	20 hrs	1.8- 3.4 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		

PACIFEX19 Handbook

* British Columbia

Langara	0515	AKDT	Mar	20		menos de 1pie
Tofino	0635	AKDT	Mar	20	24 hrs	2.0- 3.7 pie

* California

Horse Mountain	0730	PDT	Mar	20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730	PDT	Mar	20	20 hrs	1.6- 2.9 pie
Crescent City	0745	PDT	Mar	20	48 hrs	8.0-14.9 pie
Monterey	0750	PDT	Mar	20	15 hrs	1.3- 2.3 pie
Port San Luis	0805	PDT	Mar	20	40 hrs	3.4- 6.3 pie
San Francisco	0815	PDT	Mar	20	20 hrs	1.4- 2.7 pie
Santa Barbara	0820	PDT	Mar	20	20 hrs	1.4- 2.6 pie
Los Angeles Harb	0835	PDT	Mar	20	15 hrs	0.9- 1.7 pie
Newport Beach	0840	PDT	Mar	20		menos de 1pie
Oceanside	0845	PDT	Mar	20	9 hrs	0.8- 1.5 pie
La Jolla	0845	PDT	Mar	20	15 hrs	0.9- 1.8 pie

* Oregon

Port Orford	0730	PDT	Mar	20	48 hrs	5.3- 9.9 pie
Charleston	0740	PDT	Mar	20	24 hrs	2.1- 4.0 pie
Brookings	0745	PDT	Mar	20	48 hrs	4.0- 7.5 pie
Newport	0750	PDT	Mar	20		
Seaside	0755	PDT	Mar	20		

* Washington

Neah Bay	0745	PDT	Mar	20	15 hrs	1.2- 2.3 pie
Long Beach	0745	PDT	Mar	20	36 hrs	2.9- 5.4 pie
Moclips	0750	PDT	Mar	20	24 hrs	2.2- 4.1 pie
Westport	0755	PDT	Mar	20	15 hrs	0.9- 1.7 pie
Port Angeles	0820	PDT	Mar	20	20 hrs	1.7- 3.2 pie
Port Townsend	0850	PDT	Mar	20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0619 PDT Mar 20	0.3ft
Alameda California	0557 PDT Mar 20	0.2ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0610 PDT Mar 20	0.9ft
Haleiwa Hawaii	0539 PDT Mar 20	4.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft

PACIFEX19 Handbook

Kahului Hawaii	0517	PDT Mar 20	4.8ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensanjes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Conference Call #5

NOAK78 PAAQ 201336
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

- * Pacific coastal Weather Forecast Offices
- * West Coast state warning points
- * U.S. Coast Guard District Offices
- * Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

PACIFEX19 Handbook

THE TELECONFERENCE WILL BE HELD AT

-
- * 0700 PDT MAR 20 2019
 - * 0600 AKDT MAR 20 2019
 - * 1400 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #20

WEAK61 PAAQ 201401
TSUSPN

BULLETIN

Mensaje de Tsunami numero 20
NWS Centro Nacional de Alerta de Tsunami Palmer AK
701 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

-
- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80

PACIFEX19 Handbook

miles NE of Unalaska)

- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* Alaska			
Sitka	0505 AKDT Mar 20	15 hrs	1.3- 2.5 pie
Yakutat	0505 AKDT Mar 20		menos de 1pie
Valdez	0515 AKDT Mar 20		menos de 1pie
Cordova	0525 AKDT Mar 20		menos de 1pie
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Langara	0515 AKDT Mar 20		menos de 1pie
Tofino	0635 AKDT Mar 20	20 hrs	1.6- 2.9 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	15 hrs	1.4- 2.5 pie
Crescent City	0745 PDT Mar 20	48 hrs	6.4-11.9 pie
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.8 pie

PACIFEX19 Handbook

Port San Luis	0805	PDT Mar 20	36 hrs	2.9- 5.4 pie
San Francisco	0815	PDT Mar 20	15 hrs	1.1- 2.1 pie
Santa Barbara	0820	PDT Mar 20	15 hrs	1.1- 2.0 pie
Los Angeles Harb	0835	PDT Mar 20	9 hrs	0.8- 1.5 pie
Newport Beach	0840	PDT Mar 20		menos de 1pie
Oceanside	0845	PDT Mar 20		menos de 1pie
La Jolla	0845	PDT Mar 20	9 hrs	0.7- 1.3 pie

* Oregon

Port Orford	0730	PDT Mar 20	48 hrs	4.4- 8.2 pie
Charleston	0740	PDT Mar 20	24 hrs	1.9- 3.5 pie
Brookings	0745	PDT Mar 20	40 hrs	3.2- 6.0 pie
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	15 hrs	1.0- 1.9 pie
Long Beach	0745	PDT Mar 20	30 hrs	2.5- 4.6 pie
Moclips	0750	PDT Mar 20	20 hrs	1.7- 3.2 pie
Westport	0755	PDT Mar 20	9 hrs	0.8- 1.4 pie
Port Angeles	0820	PDT Mar 20	20 hrs	1.4- 2.7 pie
Port Townsend	0850	PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION		ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507	PDT Mar 20	18.0ft
Attu Alaska	0604	PDT Mar 20	12.6ft
Adak Alaska	0624	PDT Mar 20	7.0ft
Nikolski Alaska	0519	PDT Mar 20	0.9ft
Akutan Alaska	0607	PDT Mar 20	1.1ft
Saint Paul Alaska	0515	PDT Mar 20	1.8ft
King Cove Alaska	0623	PDT Mar 20	0.2ft
Sand Point Alaska	0614	PDT Mar 20	1.0ft
Kodiak Alaska	0619	PDT Mar 20	0.3ft
Seward Alaska	0638	PDT Mar 20	0.4ft
Elfin Cove Alaska	0637	PDT Mar 20	0.5ft
Sitka Alaska	0645	PDT Mar 20	0.9ft
Yakutat Alaska	0642	PDT Mar 20	0.3ft
Alameda California	0635	PDT Mar 20	0.3ft
Midway Island UM	0436	PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0649	PDT Mar 20	1.0ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0459	PDT Mar 20	1.2ft
Kahului Hawaii	0517	PDT Mar 20	4.8ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

PACIFEX19 Handbook

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensanjes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #21

WEAK61 PAAQ 201430
TSUSPN

BULLETIN
Mensaje de Tsunami numero 21
NWS Centro Nacional de Alerta de Tsunami Palmer AK
730 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

PACIFEX19 Handbook

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

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LUGAR -----	LLEGADA PRONOSTICADA DEL TSUNAMI -----	PRONOSTICO DE DURACION DEL TSUNAMI -----	ALTURA MAX PRONOSTICADA DEL TSUNAMI -----
* Alaska			
Homer	0550 AKDT Mar 20		menos de 1pie
Craig	0610 AKDT Mar 20		
* British Columbia			
Tofino	0635 AKDT Mar 20	20 hrs	1.7- 3.1 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	20 hrs	1.4- 2.6 pie
Crescent City	0745 PDT Mar 20	48 hrs	6.8-12.6 pie
Monterey	0750 PDT Mar 20	15 hrs	1.0- 1.9 pie
Port San Luis	0805 PDT Mar 20	36 hrs	3.0- 5.6 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.2- 2.2 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.2- 2.2 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.5 pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20		menos de 1pie
La Jolla	0845 PDT Mar 20	9 hrs	0.8- 1.4 pie
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.7- 8.6 pie
Charleston	0740 PDT Mar 20	24 hrs	1.9- 3.6 pie
Brookings	0745 PDT Mar 20	40 hrs	3.4- 6.4 pie
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.1- 2.0 pie
Long Beach	0745 PDT Mar 20	30 hrs	2.6- 4.8 pie
Moclips	0750 PDT Mar 20	24 hrs	1.9- 3.5 pie
Westport	0755 PDT Mar 20	9 hrs	0.8- 1.5 pie
Port Angeles	0820 PDT Mar 20	20 hrs	1.5- 2.8 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR -----	HORA DE LA MEDICION -----	ALTURA MAX OBSERVADA DEL TSUNAMI -----
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft

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Kodiak Alaska	0709	PDT Mar 20	0.9ft
Seward Alaska	0638	PDT Mar 20	0.4ft
Elfin Cove Alaska	0637	PDT Mar 20	0.5ft
Sitka Alaska	0645	PDT Mar 20	0.9ft
Yakutat Alaska	0642	PDT Mar 20	0.3ft
Valdez Alaska	0713	PDT Mar 20	0.1ft
Cordova Alaska	0730	PDT Mar 20	0.1ft
Seldovia Alaska	0726	PDT Mar 20	0.1ft
Winter Harbour BC	0727	PDT Mar 20	2.7ft
Alameda California	0635	PDT Mar 20	0.3ft
Midway Island UM	0436	PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0649	PDT Mar 20	1.0ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0459	PDT Mar 20	1.2ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Magnitud 8.8
- * Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
- * Coordenadas 22.7 Norte 144.4 Este
- * Profundidad 12 millas
- * Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

- * Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

- * Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #22

WEAK61 PAAQ 201500

PACIFEX19 Handbook

TSUSPN

BULLETIN

Mensaje de Tsunami numero 22

NWS Centro Nacional de Alerta de Tsunami Palmer AK

800 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas

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desde Cape Fairweather, Alaska (80 miles SE of Yakutat)
hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----
* Alaska			
Craig	0610 AKDT Mar 20		
* British Columbia			
Tofino	0635 AKDT Mar 20	20 hrs	1.5- 2.8 pie
* California			
Horse Mountain	0730 PDT Mar 20	30 hrs	2.4- 4.4 pie
Fort Bragg	0730 PDT Mar 20	15 hrs	1.3- 2.5 pie
Crescent City	0745 PDT Mar 20	48 hrs	6.2-11.5 pie
Monterey	0750 PDT Mar 20	15 hrs	0.9- 1.7 pie
Port San Luis	0805 PDT Mar 20	36 hrs	2.8- 5.3 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.1- 2.0 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.1- 2.0 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.8- 1.4 pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20		menos de 1pie
La Jolla	0845 PDT Mar 20		menos de 1pie
* Oregon			
Port Orford	0730 PDT Mar 20	48 hrs	4.3- 8.0 pie
Charleston	0740 PDT Mar 20	20 hrs	1.8- 3.4 pie
Brookings	0745 PDT Mar 20	36 hrs	3.2- 5.9 pie
Newport	0750 PDT Mar 20		
Seaside	0755 PDT Mar 20		
* Washington			
Neah Bay	0745 PDT Mar 20	15 hrs	1.0- 1.8 pie
Long Beach	0745 PDT Mar 20	30 hrs	2.4- 4.5 pie
Moclips	0750 PDT Mar 20	20 hrs	1.7- 3.1 pie
Westport	0755 PDT Mar 20	9 hrs	0.7- 1.4 pie
Port Angeles	0820 PDT Mar 20	20 hrs	1.4- 2.6 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

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OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0637 PDT Mar 20	0.5ft
Sitka Alaska	0645 PDT Mar 20	0.9ft
Yakutat Alaska	0642 PDT Mar 20	0.3ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0726 PDT Mar 20	0.1ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0755 PDT Mar 20	2.3ft
Arena Cove California	0746 PDT Mar 20	1.0ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0758 PDT Mar 20	1.0ft
Alameda California	0635 PDT Mar 20	0.3ft
Midway Island UM	0436 PDT Mar 20	1.8ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0649 PDT Mar 20	1.0ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0459 PDT Mar 20	1.2ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

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IMPACTOS

- * Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #23

WEAK61 PAAQ 201531
TSUSPN

BULLETIN

Mensaje de Tsunami numero 23
NWS Centro Nacional de Alerta de Tsunami Palmer AK
831 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

- * Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la

PACIFEX19 Handbook

costa del norte y Haida Gwaii

- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
-----	-----	-----	-----

* British Columbia			
Tofino	0635 AKDT Mar 20	15 hrs	1.4- 2.6 pie
* California			
Crescent City	0745 PDT Mar 20	48 hrs	5.6-10.4 pie
Monterey	0750 PDT Mar 20	9 hrs	0.8- 1.5 pie
Port San Luis	0805 PDT Mar 20	30 hrs	2.7- 4.9 pie
San Francisco	0815 PDT Mar 20	15 hrs	0.9- 1.8 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.0- 1.8 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.7- 1.3 pie

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Newport Beach	0840	PDT Mar 20	menos de 1pie
Oceanside	0845	PDT Mar 20	menos de 1pie
La Jolla	0845	PDT Mar 20	menos de 1pie

* Oregon

Charleston	0740	PDT Mar 20	20 hrs	1.7- 3.2 pie
Brookings	0745	PDT Mar 20	36 hrs	2.9- 5.3 pie
Newport	0750	PDT Mar 20		
Seaside	0755	PDT Mar 20		

* Washington

Neah Bay	0745	PDT Mar 20	9 hrs	0.9- 1.6 pie
Long Beach	0745	PDT Mar 20	24 hrs	2.3- 4.2 pie
Moclips	0750	PDT Mar 20	20 hrs	1.5- 2.8 pie
Westport	0755	PDT Mar 20		menos de 1pie
Port Angeles	0820	PDT Mar 20	15 hrs	1.3- 2.4 pie
Port Townsend	0850	PDT Mar 20		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA			ALTURA MAX OBSERVADA
-----	DE	LA	MEDICION	DEL TSUNAMI
-----	-----	-----	-----	-----
Shemya Alaska	0507	PDT	Mar 20	18.0ft
Attu Alaska	0604	PDT	Mar 20	12.6ft
Adak Alaska	0624	PDT	Mar 20	7.0ft
Nikolski Alaska	0519	PDT	Mar 20	0.9ft
Akutan Alaska	0607	PDT	Mar 20	1.1ft
Saint Paul Alaska	0515	PDT	Mar 20	1.8ft
King Cove Alaska	0623	PDT	Mar 20	0.2ft
Sand Point Alaska	0614	PDT	Mar 20	1.0ft
Kodiak Alaska	0709	PDT	Mar 20	0.9ft
Seward Alaska	0638	PDT	Mar 20	0.4ft
Elfin Cove Alaska	0808	PDT	Mar 20	0.6ft
Sitka Alaska	0804	PDT	Mar 20	1.9ft
Yakutat Alaska	0825	PDT	Mar 20	0.8ft
Valdez Alaska	0713	PDT	Mar 20	0.1ft
Cordova Alaska	0730	PDT	Mar 20	0.1ft
Seldovia Alaska	0726	PDT	Mar 20	0.1ft
Winter Harbour BC	0749	PDT	Mar 20	5.0ft
Port Orford Oregon	0824	PDT	Mar 20	4.0ft
Arena Cove California	0746	PDT	Mar 20	1.0ft
Tofino British Columbia	0759	PDT	Mar 20	1.6ft
Humboldt Bay California	0828	PDT	Mar 20	1.6ft
Charleston Oregon	0811	PDT	Mar 20	0.5ft
Point Reyes California	0814	PDT	Mar 20	0.8ft
Neah Bay Washington	0811	PDT	Mar 20	1.4ft
Crescent City CA	0808	PDT	Mar 20	2.5ft
Monterey California	0804	PDT	Mar 20	1.1ft
Westport Washington	0824	PDT	Mar 20	1.1ft
Bolinas Lagoon CA	0820	PDT	Mar 20	0.9ft
Port San Luis CA	0826	PDT	Mar 20	1.0ft
Alameda California	0635	PDT	Mar 20	0.3ft

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Midway Island UM	0806	PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0806	PDT Mar 20	1.3ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
* Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
* Este mensaje sera actualizado en 30 minutos.

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NTWC Conference Call #6

NOAK78 PAAQ 201536
ADAWCA

...TSUNAMI TELECONFERENCE IS SCHEDULED...

A TELECONFERENCE CONCERNING THE ONGOING TSUNAMI IS SCHEDULED FOR

* Pacific coastal Weather Forecast Offices
* West Coast state warning points
* U.S. Coast Guard District Offices

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* Emergency Management British Columbia

The teleconference will be led by the National Tsunami Warning Center.

THE TELECONFERENCE WILL BE HELD AT

* 0900 PDT MAR 20 2019
* 0800 AKDT MAR 20 2019
* 1600 UTC MAR 20 2019

CALL 1-877-708-6816 PASSCODE 2763065#

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NTWC Spanish Bulletin #24

WEAK61 PAAQ 201601
TSUSPN

BULLETIN

Mensaje de Tsunami numero 24
NWS Centro Nacional de Alerta de Tsunami Palmer AK
901 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco
- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The

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BC/Alaska Border hasta Salisbury Sound, Alaska

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
* California			
Port San Luis	0805 PDT Mar 20	30 hrs	2.7- 4.9 pie
San Francisco	0815 PDT Mar 20	15 hrs	1.0- 1.8 pie
Santa Barbara	0820 PDT Mar 20	15 hrs	1.0- 1.8 pie
Los Angeles Harb	0835 PDT Mar 20	9 hrs	0.7- 1.3 pie
Newport Beach	0840 PDT Mar 20		menos de 1pie
Oceanside	0845 PDT Mar 20		menos de 1pie
La Jolla	0845 PDT Mar 20		menos de 1pie
* Washington			
Port Angeles	0820 PDT Mar 20	15 hrs	1.3- 2.4 pie
Port Townsend	0850 PDT Mar 20		menos de 1pie

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OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0825 PDT Mar 20	0.8ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0824 PDT Mar 20	4.0ft
Arena Cove California	0832 PDT Mar 20	1.6ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0808 PDT Mar 20	2.5ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0820 PDT Mar 20	0.9ft
Port San Luis CA	0826 PDT Mar 20	1.0ft
San Francisco CA	0833 PDT Mar 20	0.7ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Santa Monica California	0859 PDT Mar 20	0.6ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Midway Island UM	0806 PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0806 PDT Mar 20	1.3ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0805 PDT Mar 20	1.4ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8

PACIFEX19 Handbook

* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #25

WEAK61 PAAQ 201631
TSUSPN

BULLETIN

Mensaje de Tsunami numero 25
NWS Centro Nacional de Alerta de Tsunami Palmer AK
931 AM PDT Wed Mar 20 2019

ACTUALIZACIONES

* Nuevas observaciones

...EL AVISO DE TSUNAMI PERMANECE EN EFECTO...

...LA ADVERTENCIA DE TSUNAMI PERMANECE EN EFECTO...

Aviso de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde Point Conception, California hasta The Oregon/Cal. Border incluso la bahia de San Francisco

PACIFEX19 Handbook

- * OREGON, Areas costeras desde The Oregon/Cal. Border hasta The Oregon/Wash. Border incluso la costa de el estuario de Rio de Colombia
- * WASHINGTON, la costa exterior de la frontera de Oregon/Washington a Slip Point, la costa de el estuario de Rio de Colombia, y la costa del estrecho de la Juan de Fuca
- * BRITISH COLUMBIA, La costa del Estrecho de la Juan de Fuca... la costa de oeste exterior de Isla de Vancouver... la costa central y Isla de Vancouver de nordeste ... y la costa del norte y Haida Gwaii
- * SOUTHEAST ALASKA, La costa interior y exterior desde The BC/Alaska Border hasta Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Chignik Bay, Alaska hasta Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) hasta Attu, Alaska incluso las Islas Pribilof

Advertencia de Tsunami en Efecto para;

- * CALIFORNIA, Areas costeras desde The Cal./Mexico Border hasta Point Conception, California
- * SOUTHEAST ALASKA, La costa interior y exterior desde Salisbury Sound, Alaska hasta Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Chignik Bay, Alaska

PRONOSTICOS DEL TSUNAMI

- * Se ha generado un tsunami. las primeras olas del tsunami estan pronosticadas para llegar a los siguientes puntos a las horas indicadas.
- * La duracion pronosticada del tsunami es el periodo aproximado de tiempo que se espera que el tsunami puede producir corrientes y olas peligrosas.
- * La altura maxima de ola pronosticada es el nivel de agua mas alto esperado sobre el nivel de la marea.
- * No se dan pronosticos para puntos que han sido impactados a mas de una hora antes de la emision de este mensaje.

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	PRONOSTICO DE DURACION DEL TSUNAMI	ALTURA MAX PRONOSTICADA DEL TSUNAMI
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PACIFEX19 Handbook

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* California
Los Angeles Harb 0835 PDT Mar 20 9 hrs 0.8- 1.4 pie
Newport Beach 0840 PDT Mar 20 menos de 1pie
Oceanside 0845 PDT Mar 20 menos de 1pie
La Jolla 0845 PDT Mar 20 menos de 1pie

* Washington
Port Townsend 0850 PDT Mar 20 menos de 1pie
    
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OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
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Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0623 PDT Mar 20	0.2ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0638 PDT Mar 20	0.4ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0920 PDT Mar 20	1.0ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0730 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0927 PDT Mar 20	6.2ft
Arena Cove California	0928 PDT Mar 20	3.3ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0913 PDT Mar 20	5.2ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0820 PDT Mar 20	0.9ft
Port San Luis CA	0925 PDT Mar 20	3.1ft
San Francisco CA	0917 PDT Mar 20	1.0ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Ventura California	0900 PDT Mar 20	0.9ft
Santa Monica California	0859 PDT Mar 20	0.6ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Laguna Beach California	0902 PDT Mar 20	0.4ft

PACIFEX19 Handbook

La Jolla California	0903	PDT Mar 20	0.5ft
Midway Island UM	0806	PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620	PDT Mar 20	2.6ft
Honolulu Hawaii	0806	PDT Mar 20	1.3ft
Haleiwa Hawaii	0640	PDT Mar 20	6.3ft
Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.8
* Tiempo de Origen 2000 AKDT Mar 19 2019
2100 PDT Mar 19 2019
0400 UTC Mar 20 2019
* Coordenadas 22.7 Norte 144.4 Este
* Profundidad 12 millas
* Localizacion en las Islas de los Volcanes, region de Japon

ACCIONES RECOMENDADAS

* Ver mensaje numero 11 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 11 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse a los mensajes del Centro de Alerta de Tsunami del Pacifico en tsunami.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #26

WEAK51 PAAQ 201700
TSUAK1

BULLETIN
Public Tsunami Message Number 26
NWS National Tsunami Warning Center Palmer AK
1000 AM PDT Wed Mar 20 2019

UPDATES

PACIFEX19 Handbook

* Updated observations

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

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

Tsunami Warning in Effect for;

- * CALIFORNIA, The coast from Point Conception, California to The Oregon/Cal. Border including San Francisco Bay
- * OREGON, The coast from The Oregon/Cal. Border to The Oregon/Wash. Border including the Columbia River estuary coast
- * WASHINGTON, Outer coast from the Oregon/Washington border to Slip Point, Columbia River estuary coast, and the Juan de Fuca Strait coast
- * BRITISH COLUMBIA, The Juan de Fuca Strait coast, the outer west coast of Vancouver Island, the central coast and northeast Vancouver Island, and the north coast and Haida Gwaii
- * SOUTHEAST ALASKA, The inner and outer coast from The BC/Alaska Border to Salisbury Sound, Alaska
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Chignik Bay, Alaska to Unimak Pass, Alaska (80 miles NE of Unalaska)
- * ALEUTIAN ISLANDS, Unimak Pass, Alaska (80 miles NE of Unalaska) to Attu, Alaska including the Pribilof Islands

Tsunami Advisory in Effect for;

- * CALIFORNIA, The coast from The Cal./Mexico Border to Point Conception, California
- * SOUTHEAST ALASKA, The inner and outer coast from Salisbury Sound, Alaska to Cape Fairweather, Alaska (80 miles SE of Yakutat)
- * SOUTH ALASKA AND THE ALASKA PENINSULA, Pacific coasts from Cape Fairweather, Alaska (80 miles SE of Yakutat) to Chignik Bay, Alaska

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

-
- * Observed max tsunami height is the highest recorded water level above the tide level up to the time of this message.

TIME

OBSERVED MAX

PACIFEX19 Handbook

SITE	OF MEASUREMENT	TSUNAMI HEIGHT
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0933 PDT Mar 20	0.4ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0934 PDT Mar 20	0.6ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0920 PDT Mar 20	1.0ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0933 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0927 PDT Mar 20	6.2ft
Arena Cove California	0928 PDT Mar 20	3.3ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0913 PDT Mar 20	5.2ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0936 PDT Mar 20	2.3ft
Port San Luis CA	0925 PDT Mar 20	3.1ft
San Francisco CA	0952 PDT Mar 20	2.3ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Ventura California	0942 PDT Mar 20	1.7ft
Santa Monica California	0940 PDT Mar 20	1.2ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Laguna Beach California	0902 PDT Mar 20	0.4ft
La Jolla California	0903 PDT Mar 20	0.5ft
San Diego Harbor Ent. CA	0949 PDT Mar 20	0.2ft
Port Townsend WA	0931 PDT Mar 20	0.3ft
Midway Island UM	0806 PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0806 PDT Mar 20	1.3ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft
Kawaihae Hawaii	0805 PDT Mar 20	1.4ft
Kahului Hawaii	0711 PDT Mar 20	7.0ft
Hilo Hawaii	0623 PDT Mar 20	3.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.8
 * Origin Time 2000 AKDT Mar 19 2019
 2100 PDT Mar 19 2019
 0400 UTC Mar 20 2019

PACIFEX19 Handbook

* Coordinates 22.7 North 144.4 East
* Depth 12 miles
* Location in the Volcano Islands, Japan region

RECOMMENDED ACTIONS

* See message number 11 for recommended actions.

IMPACTS

* See message number 11 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

- * Refer to the internet site tsunami.gov for more information.
- * Pacific coastal residents outside California, Oregon, Washington, British Columbia and Alaska should refer to the Pacific Tsunami Warning Center messages at tsunami.gov.
- * This message will be updated within 30 minutes.

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NTWC Spanish Bulletin #27 - #49

En este punto, el frente de onda se ha movido hacia el sur más allá de la frontera entre California y México y los boletines emitidos son de naturaleza similar al boletín #26.

NTWC Spanish Bulletin #50

WEAK61 PAAQ 210530
TSUSPN

BULLETIN

Mensaje de Tsunami numero 50
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1030 PM PDT Wed Mar 20 2019

...EL AVISO Y LA ADVERTENCIA DE TSUNAMI HAN SIDO CANCELADOS...

- * Advisory de Tsunami ha sido Cancelado para areas costeras de California
- * Warning de Tsunami ha sido Cancelado para areas costeras de California, Oregon, Washington, British Columbia y Southeast Alaska
- * Advisory de Tsunami ha sido Cancelado para areas costeras de Southeast Alaska y South Alaska and the Alaska Peninsula

PACIFEX19 Handbook

* Warning de Tsunami ha sido Cancelado para areas costeras de South Alaska and the Alaska Peninsula y Aleutian Islands

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

* La altura maxima observada del tsunami es el nivel de agua mas alto registrado sobre el nivel de la marea hasta la emision de este mensaje.

LUGAR	HORA DE LA MEDICION	ALTURA MAX OBSERVADA DEL TSUNAMI
Shemya Alaska	0507 PDT Mar 20	18.0ft
Attu Alaska	0604 PDT Mar 20	12.6ft
Adak Alaska	0624 PDT Mar 20	7.0ft
Nikolski Alaska	0519 PDT Mar 20	0.9ft
Akutan Alaska	0607 PDT Mar 20	1.1ft
Saint Paul Alaska	0515 PDT Mar 20	1.8ft
King Cove Alaska	0933 PDT Mar 20	0.4ft
Sand Point Alaska	0614 PDT Mar 20	1.0ft
Kodiak Alaska	0709 PDT Mar 20	0.9ft
Seward Alaska	0934 PDT Mar 20	0.6ft
Elfin Cove Alaska	0808 PDT Mar 20	0.6ft
Sitka Alaska	0804 PDT Mar 20	1.9ft
Yakutat Alaska	0920 PDT Mar 20	1.0ft
Valdez Alaska	0713 PDT Mar 20	0.1ft
Cordova Alaska	0933 PDT Mar 20	0.1ft
Seldovia Alaska	0838 PDT Mar 20	0.3ft
Winter Harbour BC	0749 PDT Mar 20	5.0ft
Port Orford Oregon	0927 PDT Mar 20	6.2ft
Arena Cove California	0928 PDT Mar 20	3.3ft
Tofino British Columbia	0759 PDT Mar 20	1.6ft
Humboldt Bay California	0848 PDT Mar 20	3.1ft
Charleston Oregon	0857 PDT Mar 20	0.7ft
Point Reyes California	0900 PDT Mar 20	1.1ft
Neah Bay Washington	0834 PDT Mar 20	1.8ft
Crescent City CA	0913 PDT Mar 20	5.2ft
Monterey California	0841 PDT Mar 20	1.8ft
Westport Washington	0824 PDT Mar 20	1.1ft
Bolinas Lagoon CA	0936 PDT Mar 20	2.3ft
Port San Luis CA	0925 PDT Mar 20	3.1ft
San Francisco CA	0952 PDT Mar 20	2.3ft
Port Angeles Washington	0849 PDT Mar 20	0.6ft
Santa Barbara CA	0837 PDT Mar 20	0.3ft
Alameda California	0635 PDT Mar 20	0.3ft
Ventura California	0942 PDT Mar 20	1.7ft
Santa Monica California	0940 PDT Mar 20	1.2ft
Los Angeles Harbor CA	0857 PDT Mar 20	0.3ft
Laguna Beach California	0902 PDT Mar 20	0.4ft
La Jolla California	0903 PDT Mar 20	0.5ft
San Diego Harbor Ent. CA	0949 PDT Mar 20	0.2ft
Port Townsend WA	0931 PDT Mar 20	0.3ft
Midway Island UM	0806 PDT Mar 20	2.3ft
Nawiliwili Hawaii	0620 PDT Mar 20	2.6ft
Honolulu Hawaii	0806 PDT Mar 20	1.3ft
Haleiwa Hawaii	0640 PDT Mar 20	6.3ft

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Kawaihae Hawaii	0805	PDT Mar 20	1.4ft
Kahului Hawaii	0711	PDT Mar 20	7.0ft
Hilo Hawaii	0623	PDT Mar 20	3.8ft

ACCIONES RECOMENDADAS - ACTUALIZADAS

- * No regresen a zonas desalojadas hasta que las autoridades locales de manejo de emergencia indiquen que es seguro hacerlo.

IMPACTOS - ACTUALIZADOS

- * Un tsunami fue generado durante este evento pero ya no representa un peligro.
- * Algunas areas podran seguir viendo pequenos cambios del nivel del mar.
- * La determinacion para volver a ocupar zonas de peligro debe ser hecha por autoridades locales.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet tsunami.gov.
- * Regiones costeras del Pacifico fuera de California, Oregon, Washington, Columbia Britanica y Alaska deben referirse A los mensanjes del Centro de Alerta de Tsunami del Pacifico [eb tsunami.gov](http://tsunami.gov).
- * Este sera el ultimo boletin proveniente del Centro Nacional de Alerta de Tsunami de los Estados Unidos para este evento.

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Appendix E. Sample Press Release for Local Media

TEMPLATE FOR NEWS RELEASE

USE AGENCY MASTHEAD

Contact: (insert name)
(insert phone number)
(insert email address)

FOR IMMEDIATE RELEASE
(insert date)

NORTH PACIFIC TSUNAMI EXERCISE TO BE CONDUCTED MARCH 20, 2019

(insert community/county/state name) will join other localities in the north Pacific as a participant in a tsunami response exercise on March 20, 2019. 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 PACIFEX19, 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 in the Volcano Islands, Japan region 03:00 am Pacific Daylight Time *(or appropriate local time)* on March 20, 2019. 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 more information on the U.S. tsunami warning system, see www.tsunami.gov. For more information on the NTHMP, see 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

PACIFEX19