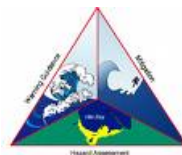


Exercise PACIFEX 17 Participant Handbook

A Pacific Tsunami Warning Exercise
March 29, 2017

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 PACIFEX16 handbooks.

Exercise

Table of Contents

1. Background.....	4
2. Exercise Concept.....	5
2.1 Purpose.....	5
2.2 Objectives.....	6
2.3 Type of Exercise.....	6
3. Exercise Outline.....	8
3.1 General.....	8
3.2 Master Schedule (Exercise Script).....	10
3.3 Actions in Case of a Real Event.....	11
3.4 Procedure for False Alarm.....	11
3.5 Resources.....	11
3.6 Media Arrangements.....	12
Appendix A: Example Tabletop Exercise.....	13
Appendix B: Scenario Description.....	15
Appendix C: TWC Dummy Messages.....	28
Appendix D: TWC Exercise Messages.....	30
Appendix E: Sample Press Release for Local Media.....	101

Exercise

1. Background

This tsunami exercise is being conducted to assist tsunami preparedness efforts along the U.S. and Canadian Pacific coasts. Historical tsunami records from the National Oceanic and Atmospheric Administration's (NOAA) National 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

The Pacifex17 exercise simulates a tsunami generated by a magnitude 8.5 subduction zone earthquake located 207 miles west-northwest of Vancouver at 52.0°N 127.5°W (Figure 1).

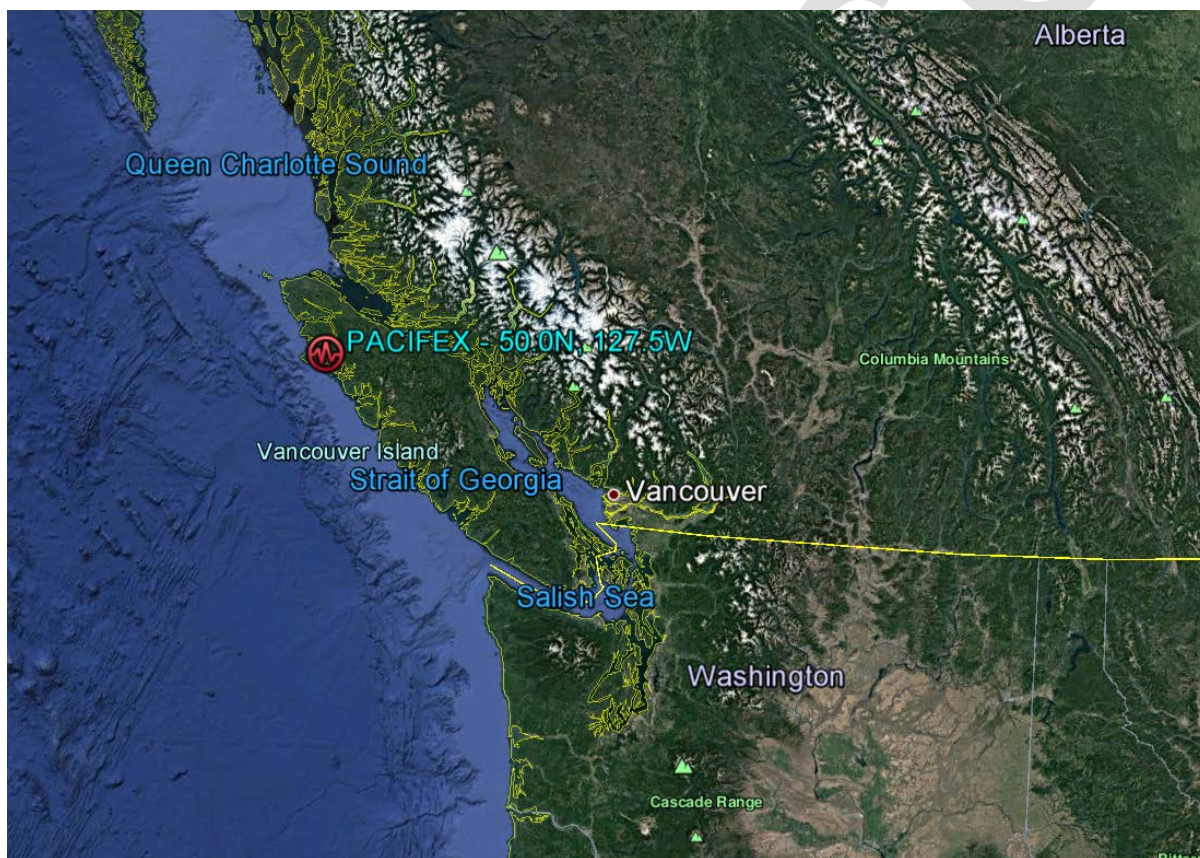


Figure 1: Location of event.

The following information on the tectonics of the source region were obtained at <http://earthquake.usgs.gov/research/structure/crust/cascadia/index.php>.

The subduction of the Juan de Fuca plate beneath North America changes markedly along the length of the subduction zone, notably in the angle of subduction, distribution of earthquakes, volcanism, geologic and seismic structure of the upper plate, and regional horizontal stress. To investigate these characteristics, USGS conducted detailed density modeling experiments of the crust and mantle along two transects across the Cascadia subduction zone. One crosses Vancouver Island and

the Canadian margin, and the other crosses the margin of central Oregon. Both density models were constructed independently to a depth of approximately 50 km. USGS gathered all possible geologic, geophysical, and borehole data to constrain the density calculations. The final densities for the Oregon and Vancouver lithosphere models were obtained from gravity inversions (Figure 2).

Its results confirm that the subducting slab of the Cascadia subduction zone dips significantly steeper beneath Oregon than beneath Vancouver Island, lending support to the idea that the Juan de Fuca plate is segmented from north to south. In addition, the USGS gravity models indicate that the mantle wedge beneath western Oregon (i.e., below the western Cascades) is lighter than the mantle beneath the Canadian continental crust. This low density agrees with the low mantle velocities observed in the mantle and the present day extensional regime of the Pacific Northwest. USGS found that a substantial part of the coastal gravity maxima for both lines is caused by increasing density with depth in the subducting plate.

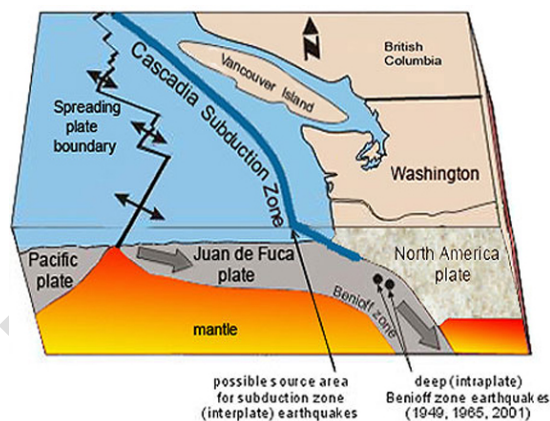


Figure 2: Northern Cascadia tectonic regime

Tsunami Warning System

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

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

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

2. Exercise Concept

2.1 Purpose

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

exercise their operational lines of communications, review their tsunami response procedures, and promote tsunami preparedness. Regular exercising of response plans is critical to maintain readiness for an emergency. This is particularly true for tsunamis which are infrequent, but high impact events. Every coastal U.S. and Canadian Pacific emergency management organization (EMO) is encouraged to participate.

2.2 Objectives

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

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

2.3 Type of Exercise

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

Exercises stimulate the development, training, testing, and evaluation of Disaster Plans and Standard Operating Procedures. Exercise participants may use their own past multi-hazard drills (e.g. flood, hurricane, tsunami, earthquake, etc.) as a framework to conduct Pacifex17.

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

1. **Orientation Exercise (Seminar):** An Orientation Exercise lays the groundwork for a comprehensive exercise program. It is a planned event, developed to bring together individuals and officials with a role or interest in multi-hazard response planning, problem solving, development of standard operational procedures (SOPs), and resource integration and coordination. An Orientation Exercise will have a specific goal and written objectives and result in an agreed upon Plan of Action.
2. **Drill:** The Drill is a planned activity that tests, develops, and/or maintains skills in a single or limited emergency response procedure. Drills generally involve

operational response of single departments or agencies. Drills can involve internal notifications and/or field activities.

3. **Tabletop Exercise:** The Tabletop Exercise is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal, in a conference room environment, and is designed to elicit constructive discussion from the participants. Participants will examine and attempt to resolve problems, based on plans and procedures, if they exist. Individuals are encouraged to discuss decisions in depth with emphasis on slow-paced problem solving, rather than rapid, real time decision-making. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative (see Appendix A for a Sample Tabletop Exercise Outline).
4. **Functional Exercise:** A Functional Exercise is a planned activity designed to test and evaluate organizational capacities. It is also utilized to evaluate the capability of a community's emergency management system by testing the Emergency Operations Plan (EOP). It is based on a simulation of a realistic emergency situation that includes a description of the situation (narrative) with communications between players and simulators. The Functional Exercise gives the players (decision-makers) a fully simulated experience of being in a major disaster event. It should take place at the appropriate coordination location (i.e. emergency operations center, emergency command center, command post, master control center, etc.) and activate all the appropriate members designated by the plan. Both internal and external agencies (government, private sector, and volunteer agencies) should be involved. It requires players, controllers, simulators, and evaluators. Message traffic will be simulated and inserted by the control team for player response/actions, under real time constraints. It may or may not include public evacuations. A Functional Exercise should have specific goals, objectives, and a scenario narrative.
5. **Full-scale Exercise:** A Full-scale Exercise is the culmination of a progressive exercise program that has grown with the capacity of the community to conduct exercises. A Full-Scale exercise is a planned activity in a "challenging" environment that encompasses a majority of the emergency management functions. This type of exercise involves the actual mobilization and deployment of the appropriate personnel and resources needed to demonstrate operational capabilities. EOCs and other command centers are required to be activated. A Full-scale Exercise is the largest, costliest, and most complex exercise type. It may or may not include public evacuations.

Example Time Frames for Different Exercise Types

Style	Planning Period	Duration	Comments
Orientation Exercise	2 weeks	Hours	Individual or mixed groups
Drill	2 months	1 day	Individual technical groups generally

Tabletop Exercise	1 month	1-3 days	Single or multiple agency
Functional Exercise	>3 months	1-5 days	Multiple Agency participation
Full-scale Exercise	>6 months	1 day/ week	Multiple Agency participation

3. Exercise Outline

3.1 General

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

- Origin Time 17:00:00 UTC March 29, 2017
- Latitude 50.0°N
- Longitude 127.5°W
- Magnitude 8.5 – Mw
- Depth 15 km

Expected impact for this event is determined from tsunami forecast models. Appendix B provides model results.

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

U.S. Tsunami Warning Centers domestic alert definitions:

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

Tsunami Advisory - A tsunami advisory is issued due to the threat of a potential tsunami which may produce strong currents or waves dangerous to those in or near the water. Coastal regions historically prone to damage due to strong currents induced by tsunamis are at the greatest risk. The threat may continue for several hours after the arrival of the initial wave, but significant widespread inundation is not expected for areas under an advisory. Appropriate actions to be taken by local

officials may include closing beaches, evacuating harbors and marinas, and the repositioning of ships to deep waters when there is time to safely do so. Advisories are normally updated to continue the advisory, expand/contract affected areas, upgrade to a warning, or cancel the advisory.

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

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

The TWCs will not issue live messages over broadcast dissemination channels other than to issue initial dummy messages to start the exercise at 1702 UTC on March 29, 2017. 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 message timeline and can be used by EMOs to drive the exercise timing. The messages (Appendix D) cover a 7-hour period, though in an actual event they would likely continue longer. World Meteorological Organization (WMO) and Advanced Weather Interactive Processing System (AWIPS) headers used in the dummy messages are listed in Table 2.

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

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

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

3.2 Master Schedule (Exercise Script)

Table 1: Scenario Timeline

Tsunami generated by a magnitude 8.5 earthquake with epicenter at 50.0°N, 127.5°W occurring on March 29, 2017 at 1700 UTC. The initial alert is disseminated at 1702 UTC.

Date (UTC)	Time (UTC)	NTWC Message		
		#	Type	Dummy
03/29/2017	1700			
03/29/2017	1702	01	Warn/ Adv	Yes
03/29/2017	1731	02	Warn/ Adv	No
03/29/2017	1801	03	Warn/ Adv	No
03/29/2017	1831	04	Warn/ Adv	No
03/29/2017	1902	05	Warn/ Adv	No
03/29/2017	2002	06	Warn/ Adv	No
03/29/2017	2102	07	Warn/ Adv	No
03/29/2017	2201	08	Adv	No
03/29/2017	2301	09	Adv	No
03/30/2017	0003	10	Can	No

The initial dummy messages will be disseminated over all standard TWC broadcast channels as listed in Table 2. These are being issued to test communications with EMOs and Tsunami Warning Focal Points, and to start the exercise.

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

TWC Message Types:

- Warn Tsunami Warning
- Adv Tsunami Advisory
- Wat Tsunami Watch
- TIS Tsunami Information Statement
- Can Cancellation
- Threat PTWC International Message - Alert
- No Threat PTWC International Message - No Alert

Dummy:

- Yes Dummy Issued
- No Dummy Not Issued

Table 2: Product Types

Product Types Issued for Dummy Messages with Transmission Methods

Center	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	Fax	Email
NTWC	WEPA41 PAAQ	TSUWCA	Yes	Yes	Yes	Yes	No	No
NTWC	WEAK51 PAAQ	TSUAK1	Yes	Yes	Yes	Yes	Yes	Yes
NTWC	WEAK61 PAAQ	TSUSPN	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 “**Pacifex17**” and “**Exercise.**”

3.4 Procedure for False Alarm

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

3.5 Resources

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

Questions on the exercise can be addressed to:

Person	Telephone #	Email
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
Paul Whitmore NTWC Director	907-745-4212	paul.whitmore@noaa.gov
James Waddell NTWC Rep.	907-745-4212	james.waddell@noaa.gov
Charles McCreery PTWC Director	808-725-6380	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 coasts may not realize that a tsunami warning system exists for their region, let alone the proper response. Communities may wish to invite their local media to the exercise to promote local awareness of the tsunami hazard. Appendix E contains a sample press release which can be adapted as necessary.

Exercise

Appendix A. Example Tabletop Exercise

Tabletop Exercise Development Steps

Source: California Office of Emergency Services

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

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

1. Vulnerability Analysis: Problem Statement

An example for a hurricane might be:

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

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

An example for a hurricane might be:

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

3. Scope:

- Exercise Activities**
- Agencies Involved**
- Hazard Type**
- Geographic Impact Area**

An example might be:

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

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

4. Goals and Objectives:

Criteria for good objectives: Think SMART

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

An example might be:

Comprehensive Exercise Program (CEP) Objectives

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

5. Narrative:

The Narrative should describe the following:

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

6. Evaluation:

The Evaluation should describe the following:

- Objectives Based
- Train Evaluation Teams
- Develop Evaluation Forms

7. After Action Report (AAR): The AAR should be compiled using the evaluation reports.

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

Appendix B. Scenario Description

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

The earthquake hypocenter parameters used for this exercise are:

- Origin Time 17:00:00 UTC March 29, 2017
- Latitude 50.0°N
- Longitude 127.5°W
- Magnitude 8.5 – Mw
- Depth 15 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.

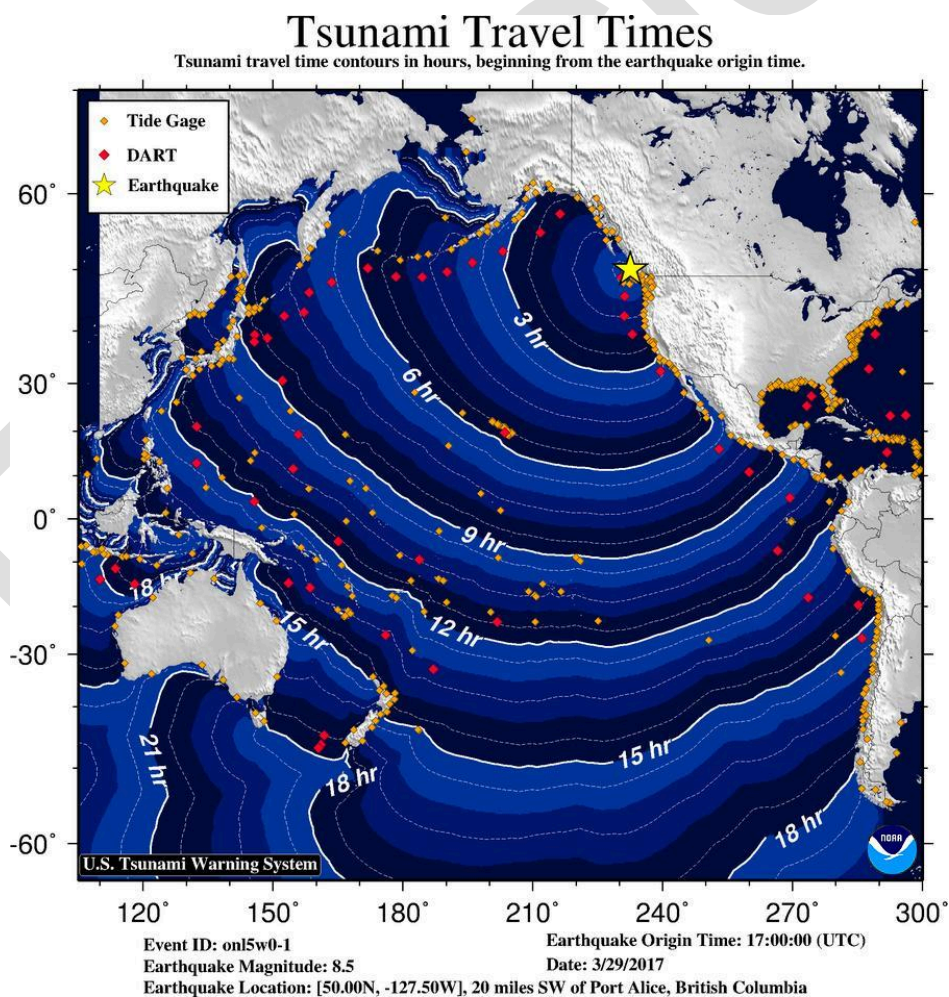


Figure B1. Tsunami travel time map for Pacifex17.

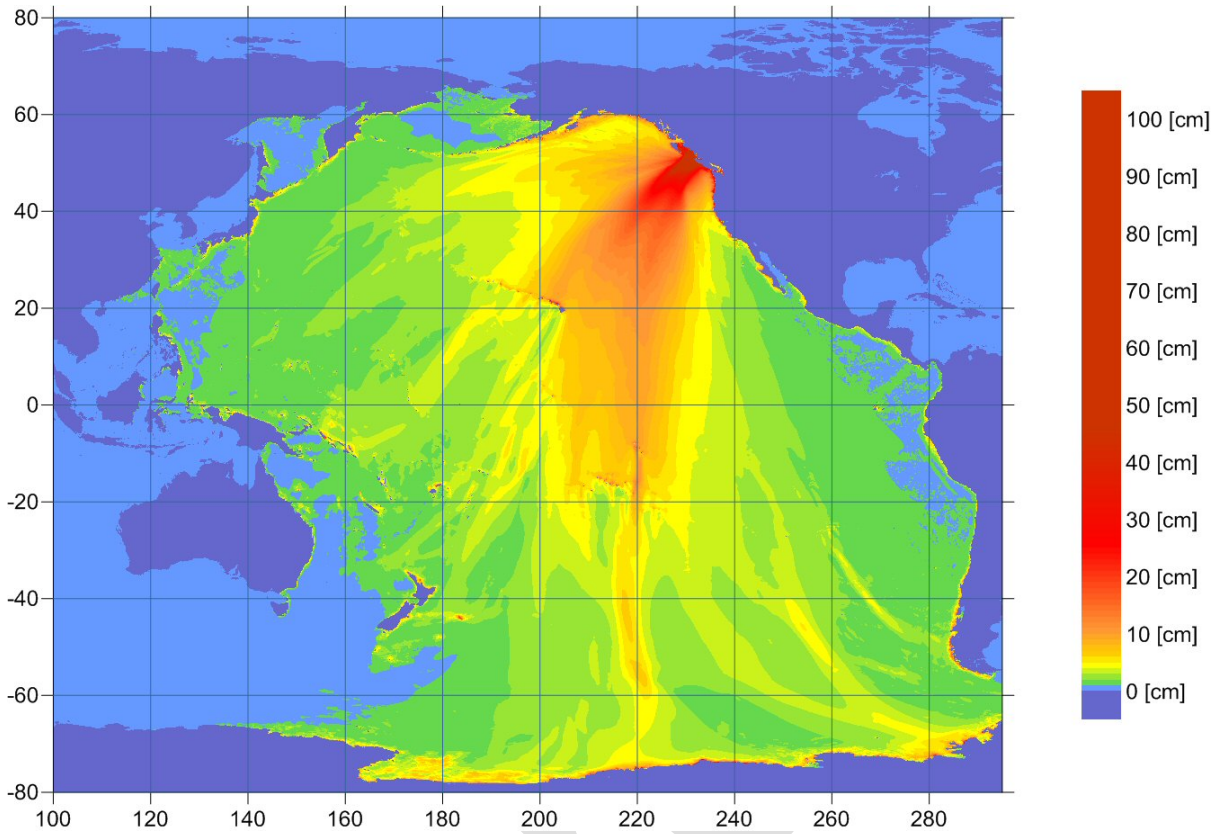


Figure B2. ATFM Maximum tsunami amplitude map for Pacifex17.

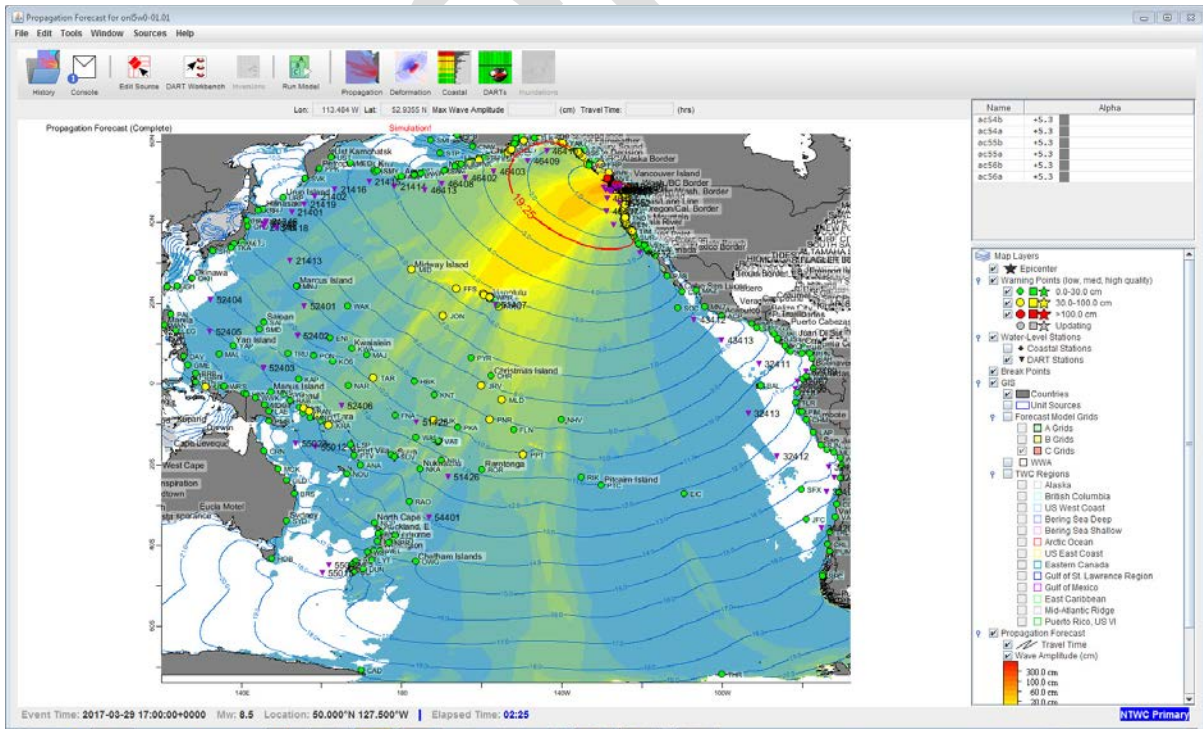


Figure B3. SIFT Maximum tsunami amplitude map for Pacifex17.

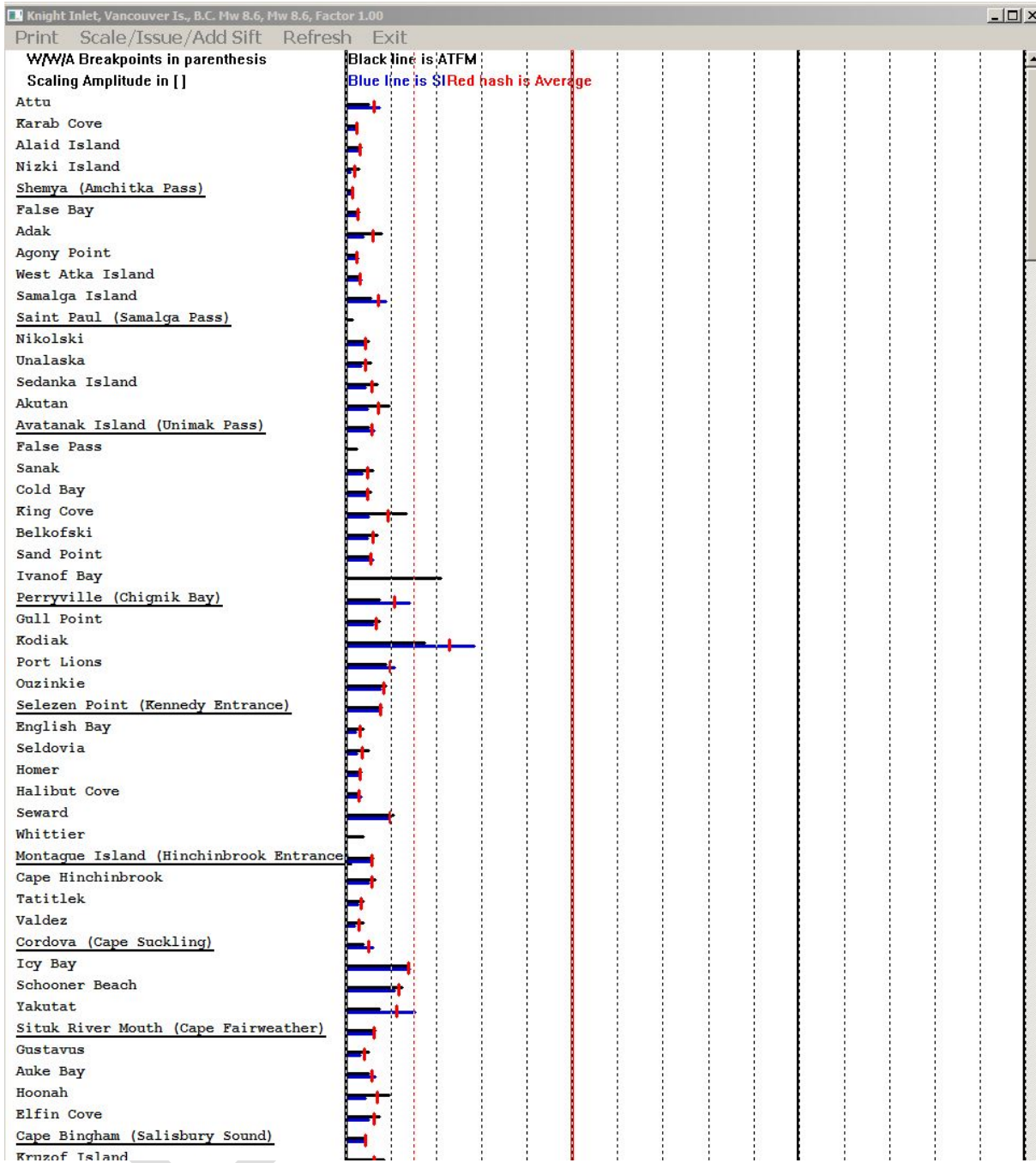


Figure B4. Bar chart showing expected coastal amplitudes from Attu, Alaska, to Salisbury Sound, Alaska. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

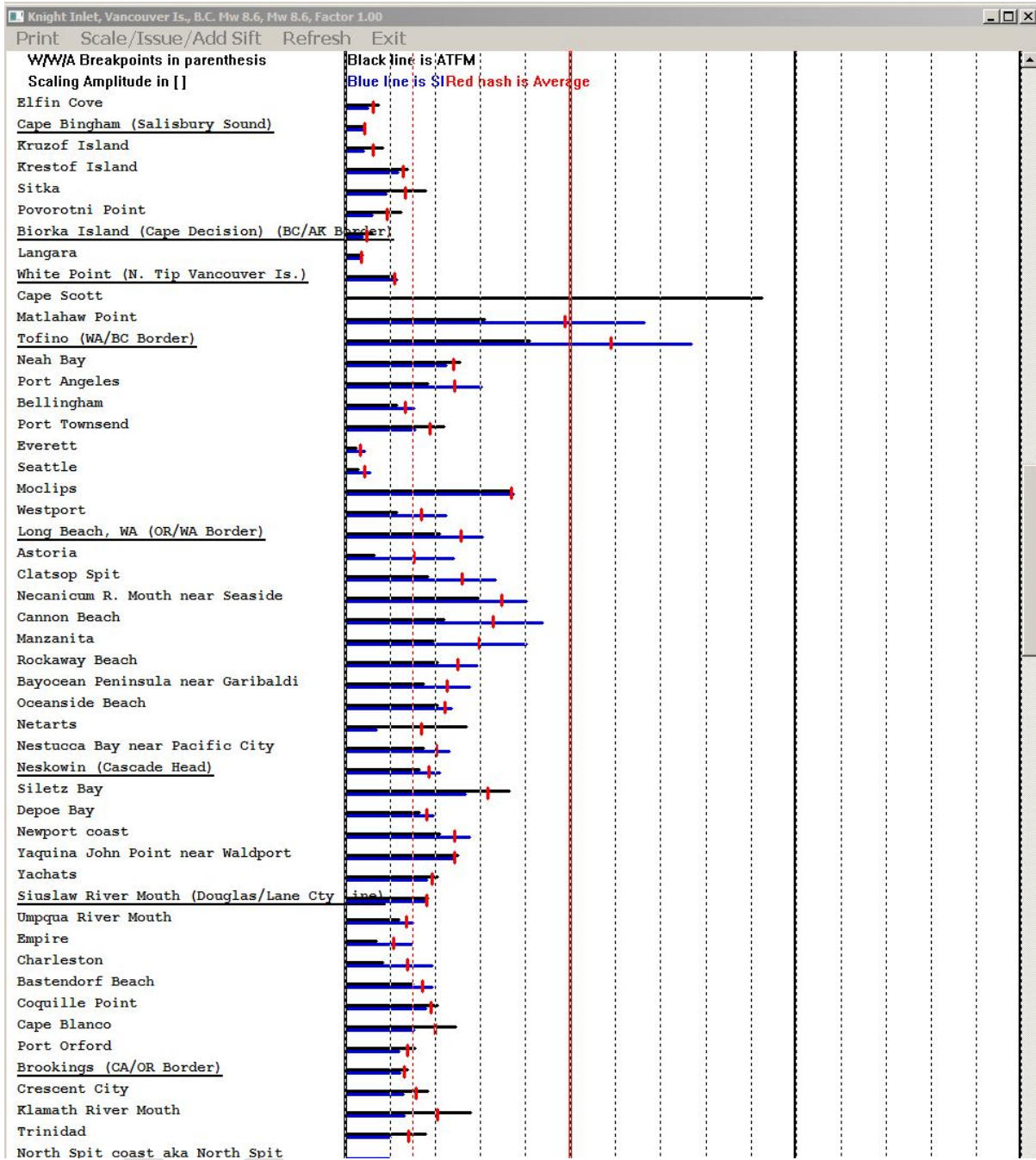


Figure B5. Bar chart showing expected coastal amplitudes from Salisbury Sound, Alaska to Trinidad, California. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

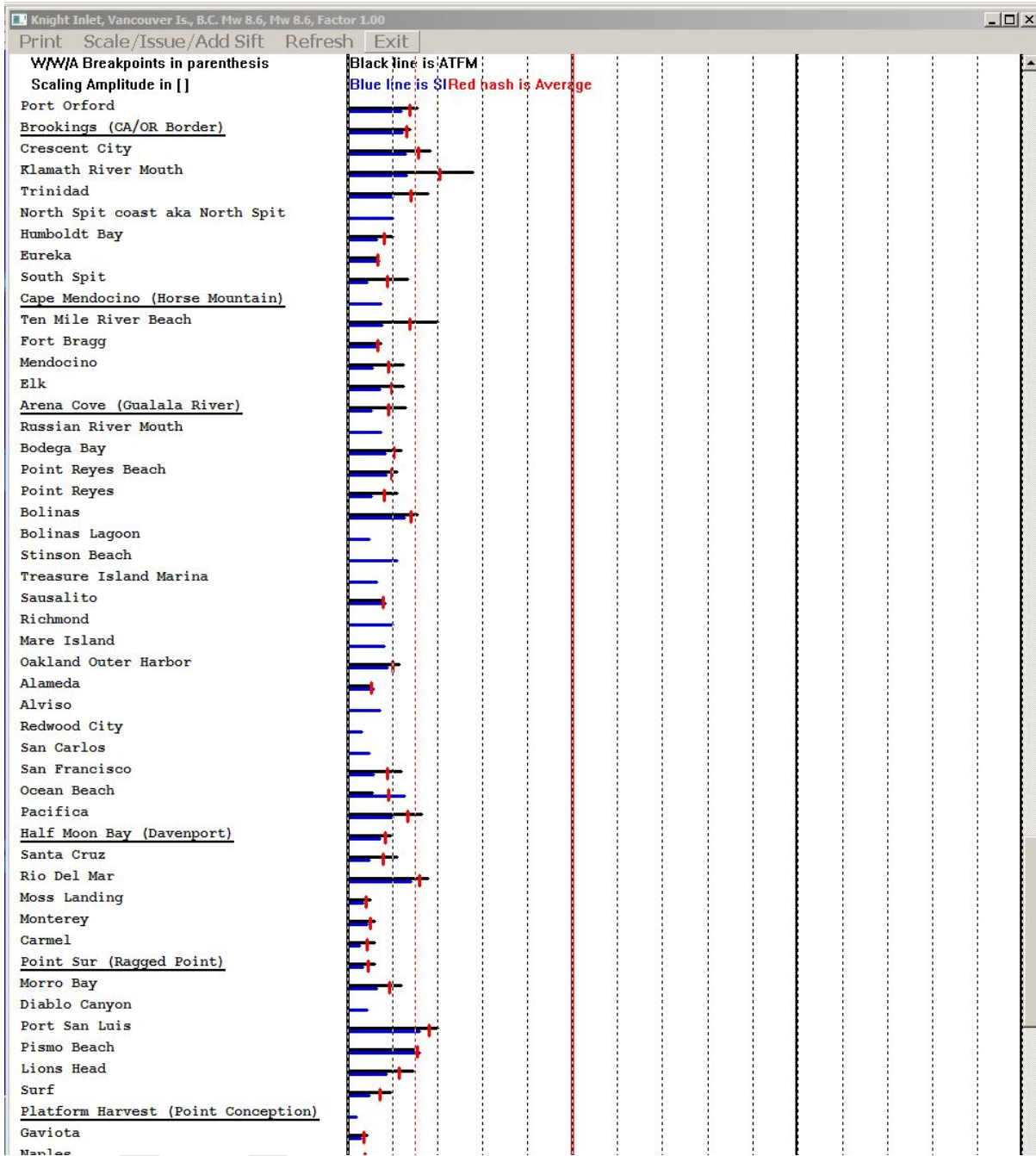


Figure B6. Bar chart showing expected coastal amplitudes from Trinidad, California to Point Conception, California. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

PACIFEX 17 Handbook

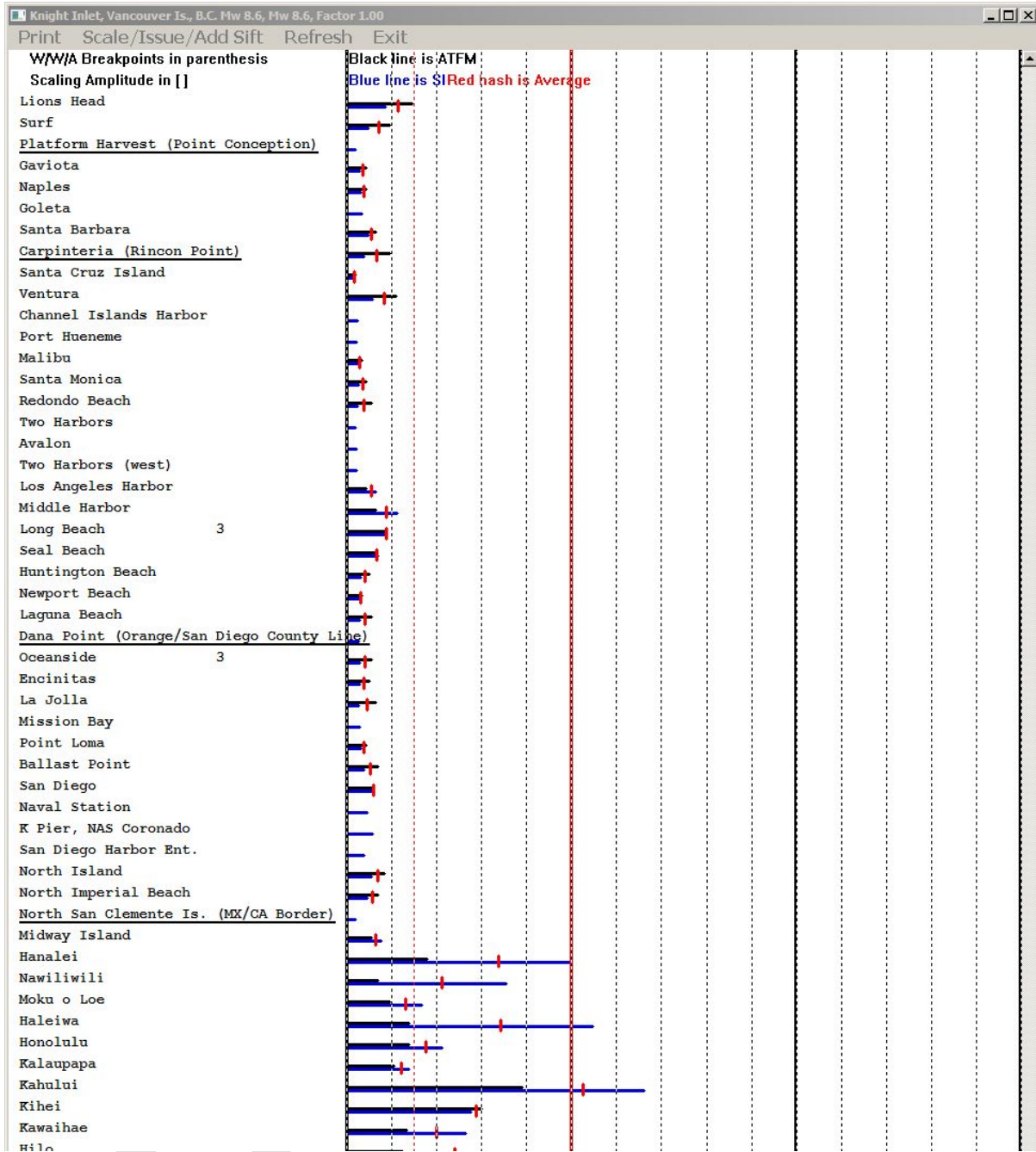


Figure B7. Bar chart showing expected coastal amplitudes from Point Conception, California to Kawaihae, HI. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

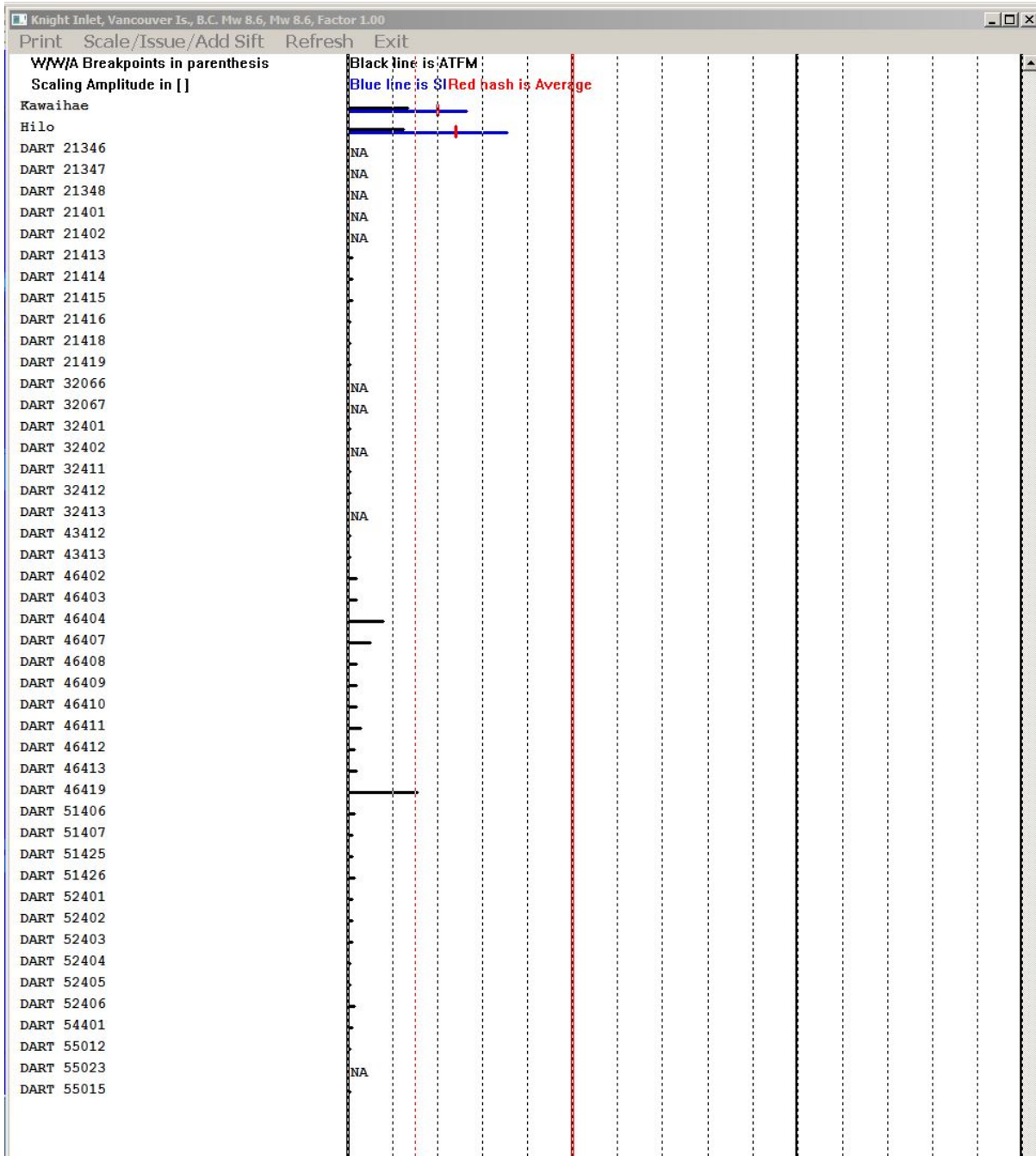


Figure B8. Bar chart showing expected coastal amplitudes from Kawaihae, HI to various DART buoy responses to this event. The black line is the ATFM forecast; blue line is the SIFT forecast; red hash is the average of the two.

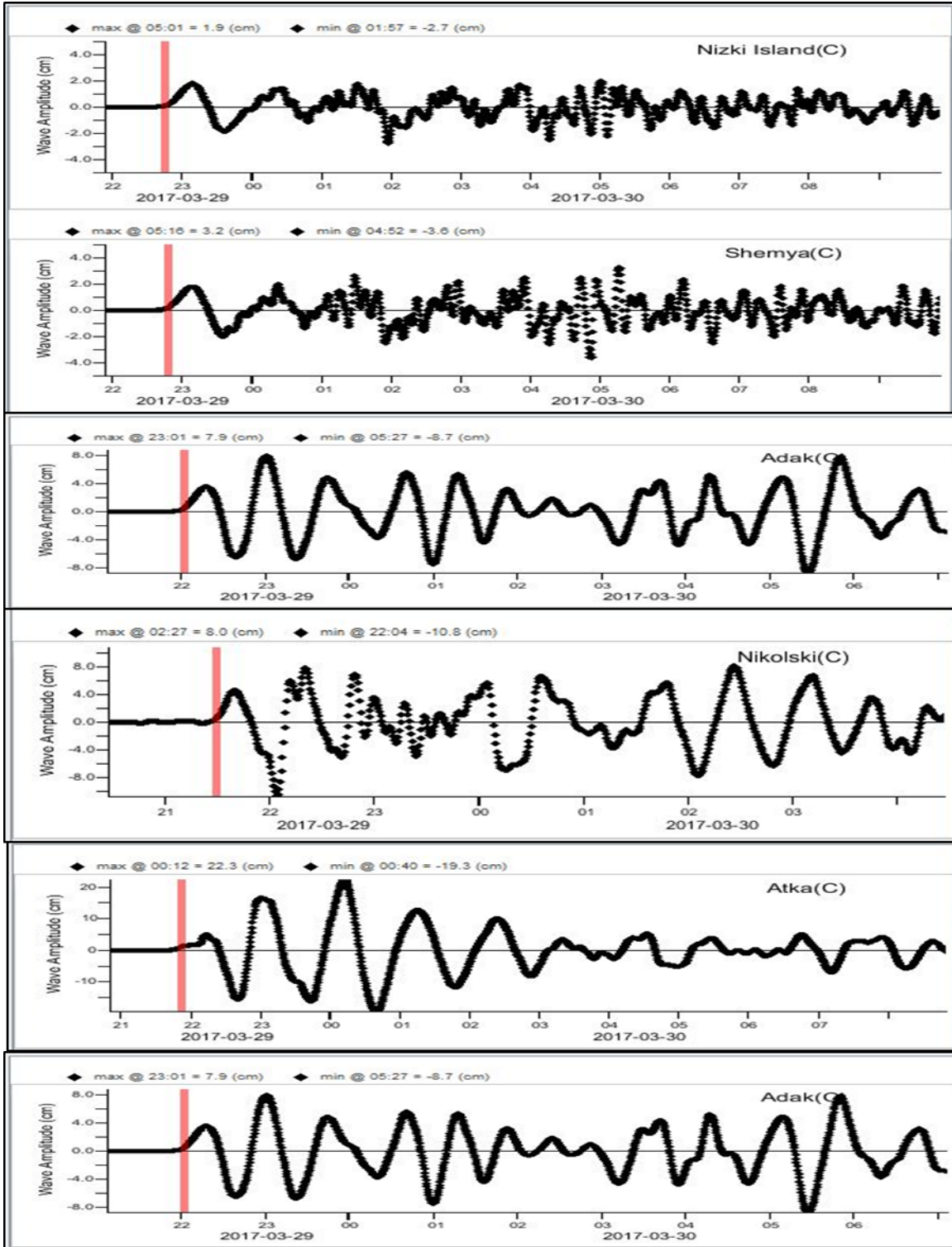


Figure B9. Tsunami time series for selected sites in the Aleutian Islands based on the SIFT forecast.

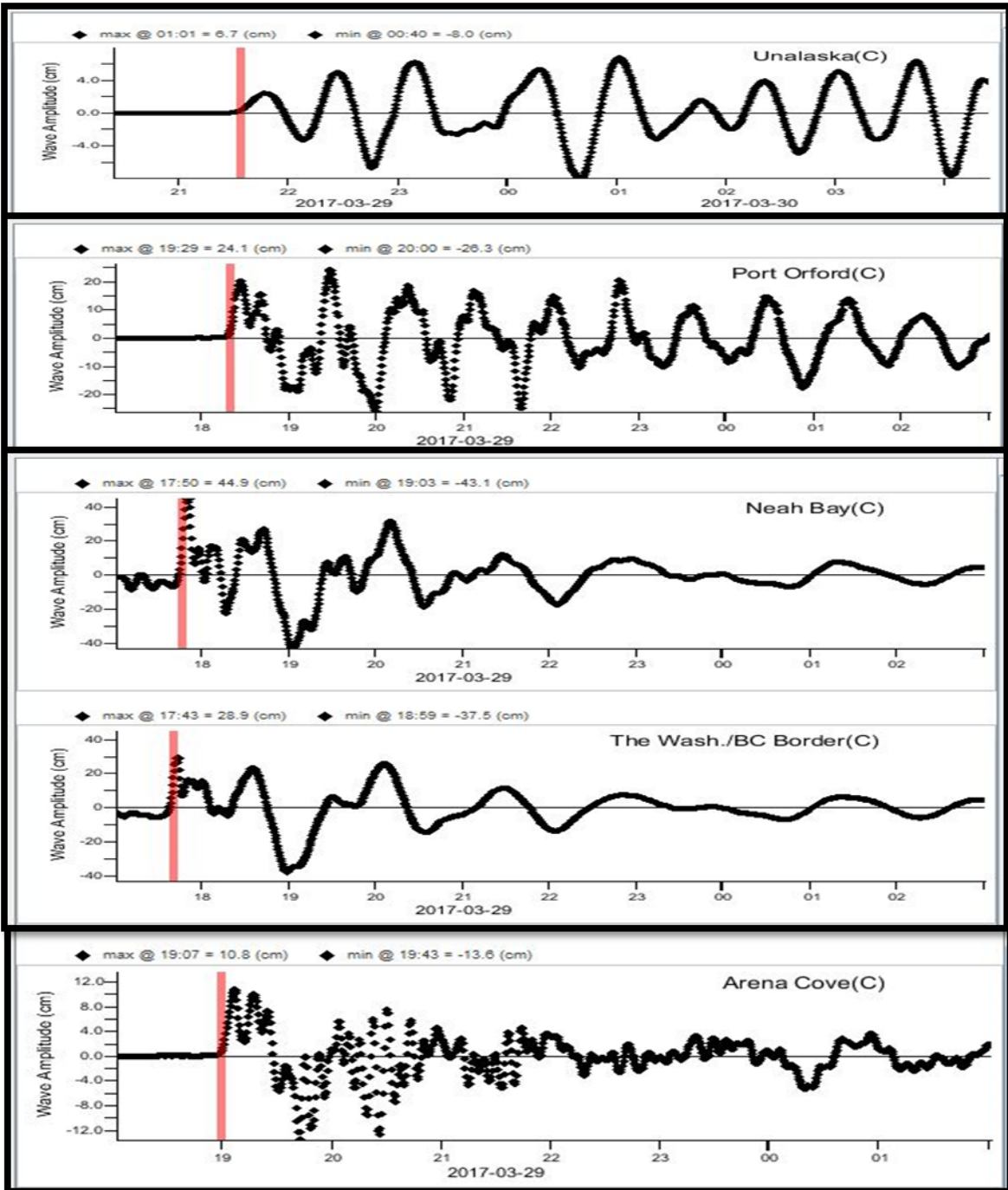


Figure B10. Tsunami time series for selected sites in the Aleutian Islands and Pacific Northwest coast based on the SIFT forecast.

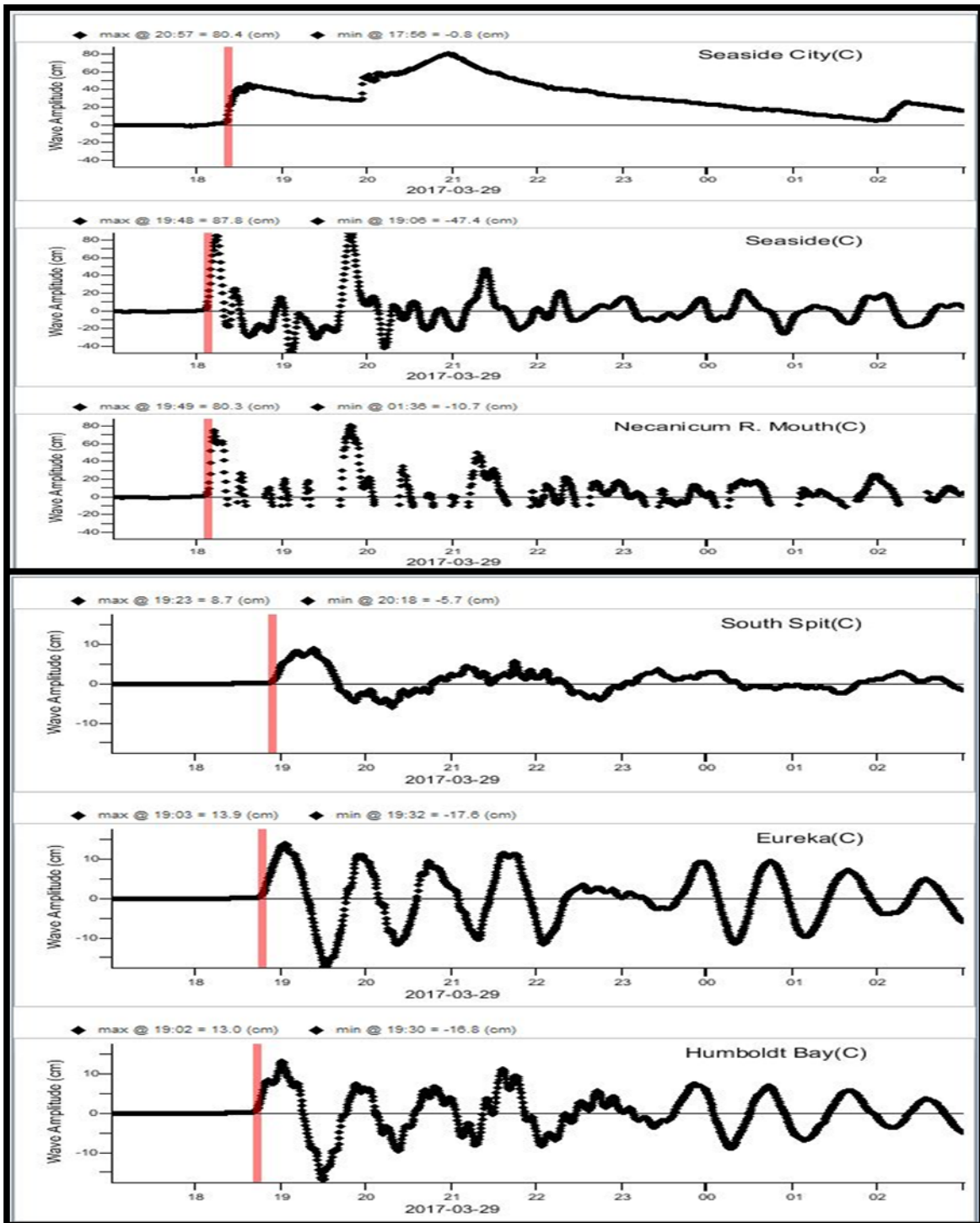


Figure B11. Tsunami time series for selected sites in the Pacific Northwest based on the SIFT forecast.

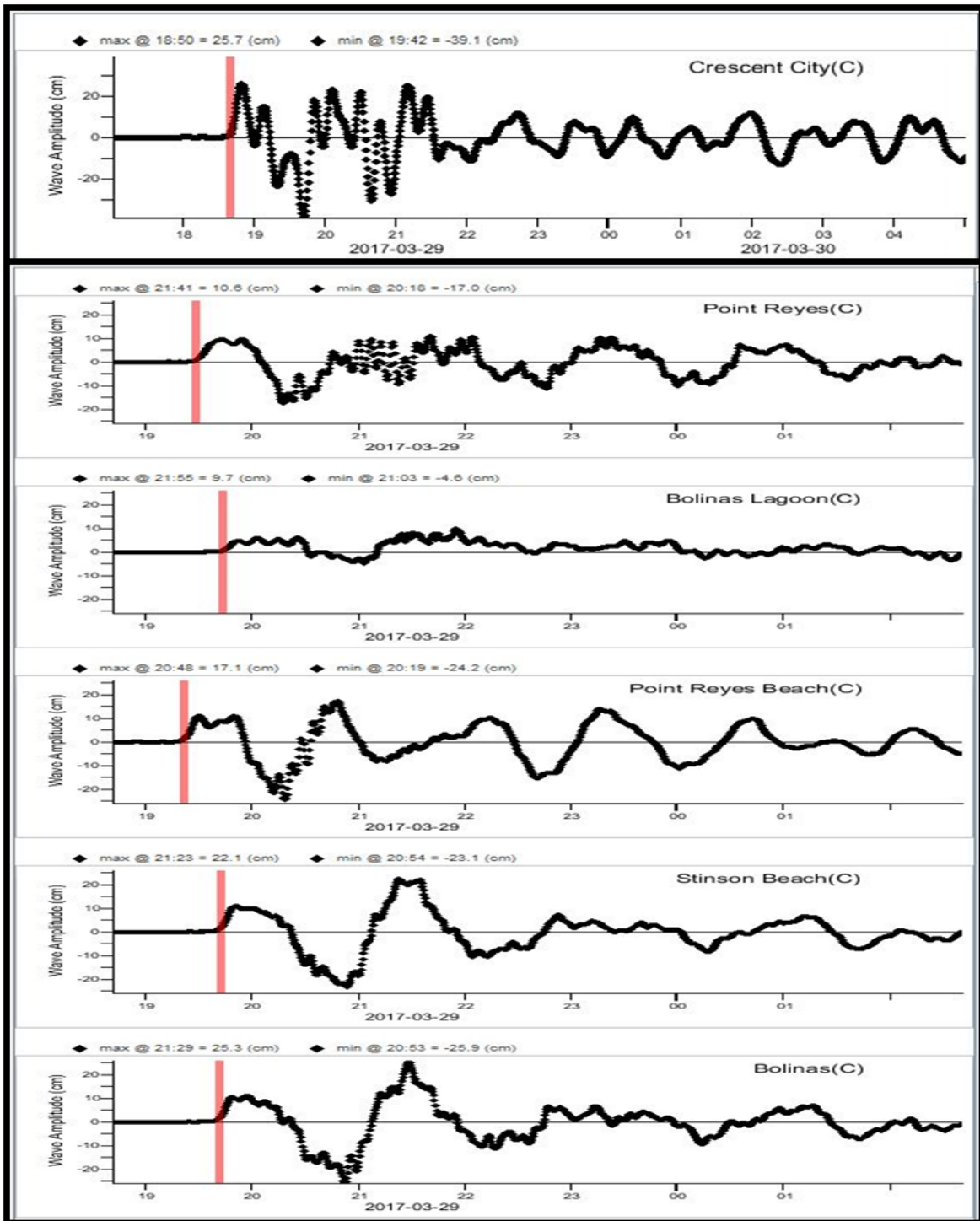


Figure B12. Tsunami time series for selected sites in California based on the SIFT forecast.

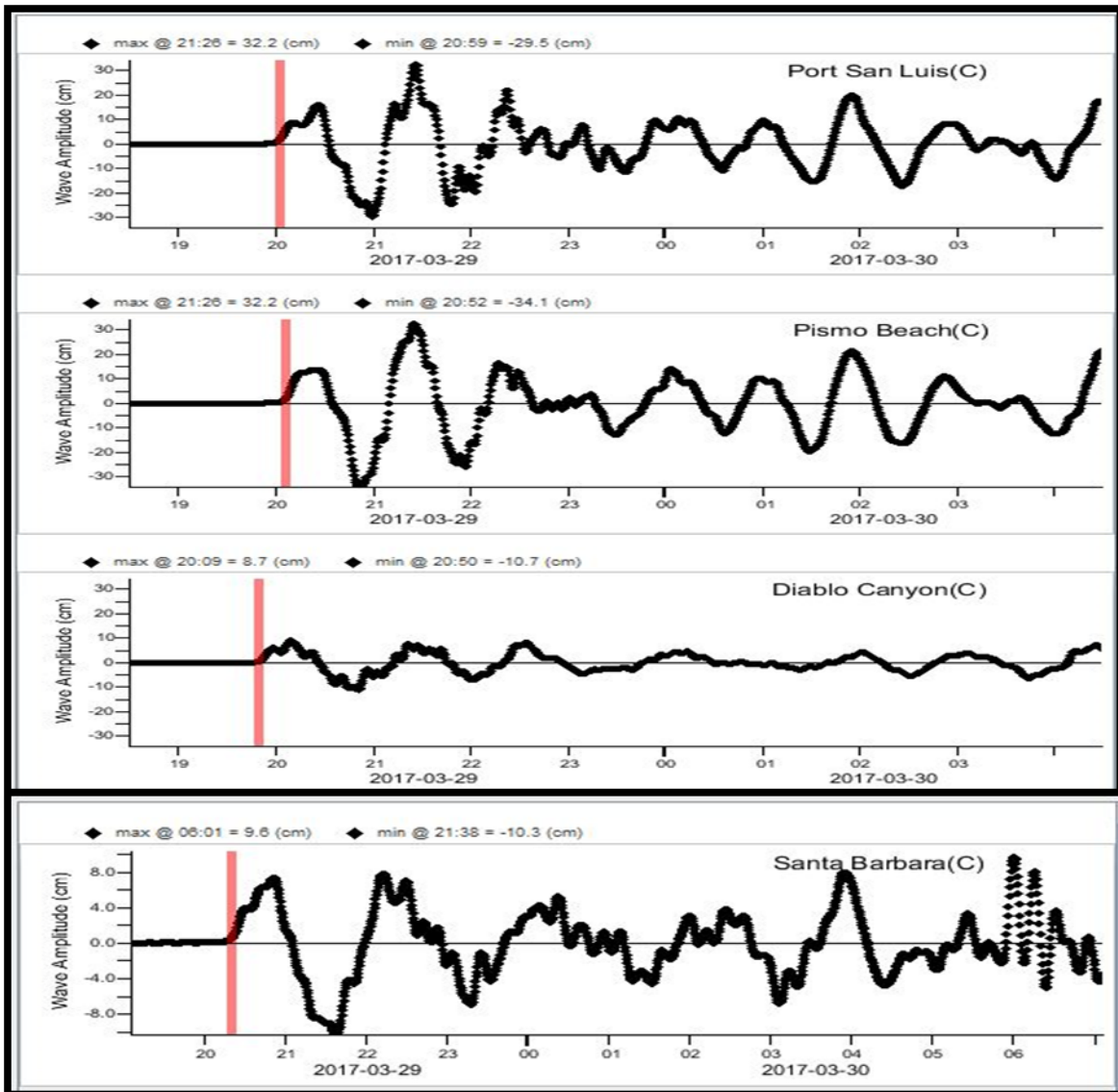


Figure B13. Tsunami time series for selected sites in California based on the SIFT forecast.

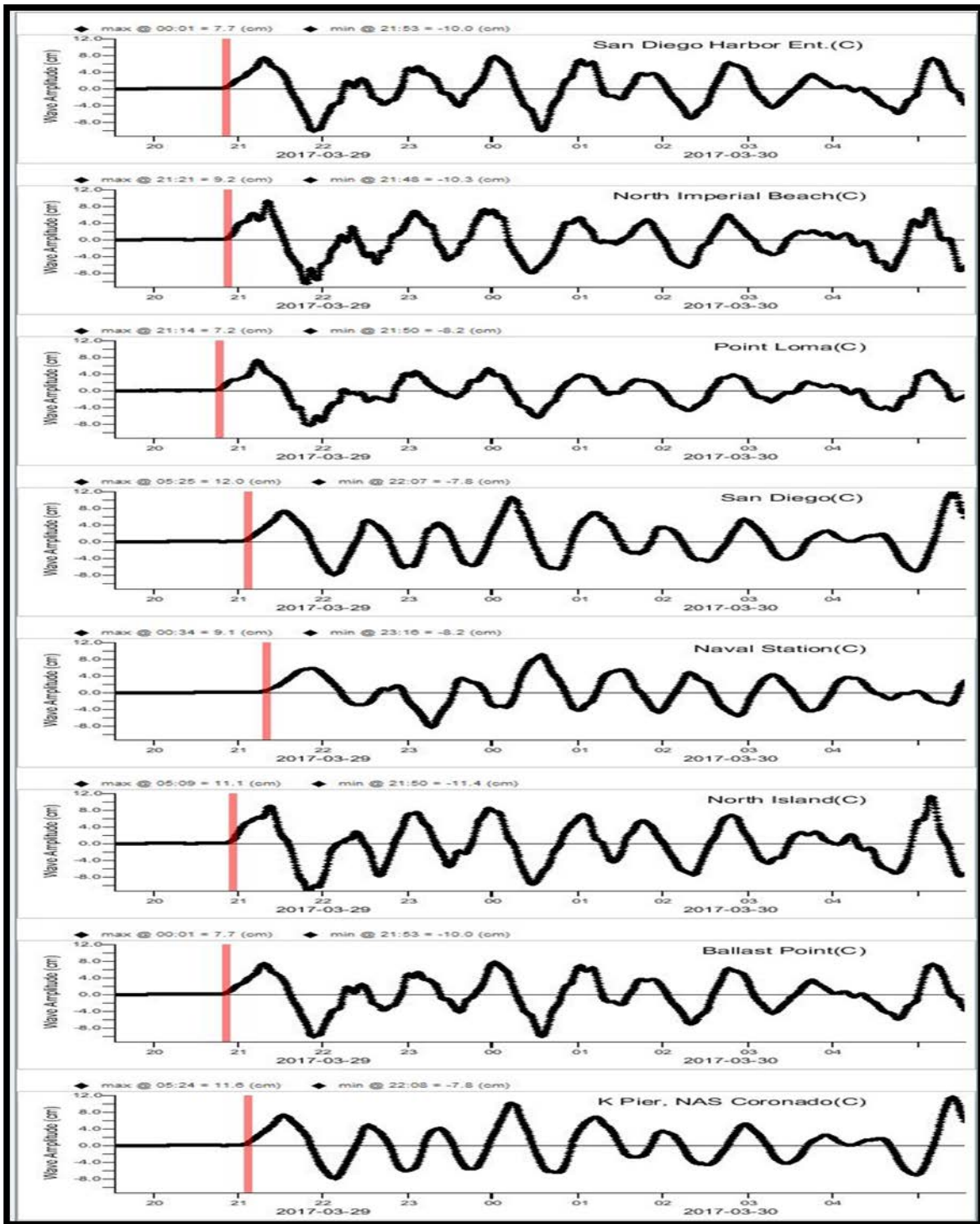


Figure B14. Tsunami time series for selected sites in California based on the SIFT forecast.

Appendix C. TWC Dummy Messages

NTWC

WEPA41 PAAQ 291702
TSUWCA

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
1002 AM PDT WED MAR 29 2017

...PACIFEX 17 TSUNAMI EXERCISE MESSAGE. REFER TO NTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 17 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

WEAK51 PAAQ 291702
TSUAK1

TEST...PUBLIC TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
1002 AM PDT WED MAR 29 2017

...PACIFEX 17 TSUNAMI EXERCISE MESSAGE. REFER TO NTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE PACIFEX 17 PACIFIC TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL TSUNAMI WARNING CENTER. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

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WEAK61 PAAQ 291702
TSUSPN

TEST...MENSAJE DE EJERCICIO DE TSUNAMI NUMERO 1...TEST
NWS CENTRO NACIONAL DE ALERTA DE TSUNAMI PALMER AK
1002 AM PDT WED MAR 29 2017

...MENSAJE PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI PACIFEX 17. REFERIRSE AL MENSAJE 1 DE NTWC EN EL MANUAL PARA EL EJERCICIO. ESTO ES UN EJERCICIO SOLAMENTE...

ESTE MENSAJE ESTA SIENDO USADO PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI PACIFEX 17. ESTE SERA EL UNICO MENSAJE QUE SERA EMITIDO DESDE EL CENTRO NACIONAL DE ALERTA DE TSUNAMI. EL MANUAL ESTA DISPONIBLE EN LA PAGINA

PACIFEX 17 Handbook

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

ESTE ES SOLO UN EJERCICIO.

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Exercise

Appendix D. TWC Exercise Messages

The following messages, created for the Pacifex17 tsunami exercise, are representative of the public messages issued by the U.S. NTWC during a magnitude 8.5 earthquake and tsunami originating at 50.0°N, 127.5°W. During a real event, the NTWC would also issue graphical and html-based products to tsunami.gov and via RSS.

NTWC Bulletin #1

WEAK51 PAAQ 291702
TSUAK1

BULLETIN

Public Tsunami Message Number 1
NWS National Tsunami Warning Center Palmer AK
1002 AM PDT Wed Mar 29 2017

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

...A TSUNAMI ADVISORY IS NOW 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

Tsunami Advisory in Effect for;

- * 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)

PACIFEX 17 Handbook

For other US and Canadian Pacific coasts in North America, the level of tsunami danger is being evaluated. Further information will be provided in supplementary messages.

PRELIMINARY EARTHQUAKE PARAMETERS

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

* Magnitude 8.5
* Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
* Coordinates 50.0 North 127.5 West
* Depth 9 miles
* Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

FORECASTS OF TSUNAMI ACTIVITY

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

SITE	FORECAST START OF TSUNAMI
* British Columbia	
Tofino	1010 PDT Mar 29
Langara	1110 PDT Mar 29
* Washington	
Neah Bay	1050 PDT Mar 29
Long Beach	1105 PDT Mar 29
Moclips	1105 PDT Mar 29
Westport	1110 PDT Mar 29
Port Angeles	1110 PDT Mar 29
Port Townsend	1135 PDT Mar 29
* Oregon	
Seaside	1115 PDT Mar 29
Charleston	1125 PDT Mar 29
Port Orford	1125 PDT Mar 29
Newport	1125 PDT Mar 29
Brookings	1140 PDT Mar 29
* California	
Crescent City	1145 PDT Mar 29
Fort Bragg	1200 PDT Mar 29
Monterey	1235 PDT Mar 29
San Francisco	1255 PDT Mar 29
Port San Luis	1300 PDT Mar 29

PACIFEX 17 Handbook

* Alaska	
Sitka	1055 AKDT Mar 29
Elfin Cove	1105 AKDT Mar 29
Craig	1125 AKDT Mar 29
Yakutat	1155 AKDT Mar 29
Kodiak	1230 AKDT Mar 29
Seward	1230 AKDT Mar 29
Valdez	1245 AKDT Mar 29
Cordova	1250 AKDT Mar 29
Sand Point	1310 AKDT Mar 29
Homer	1335 AKDT Mar 29
Cold Bay	1350 AKDT Mar 29

OBSERVATIONS OF TSUNAMI ACTIVITY

- * No tsunami observations are available to report.

RECOMMENDED ACTIONS

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.

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

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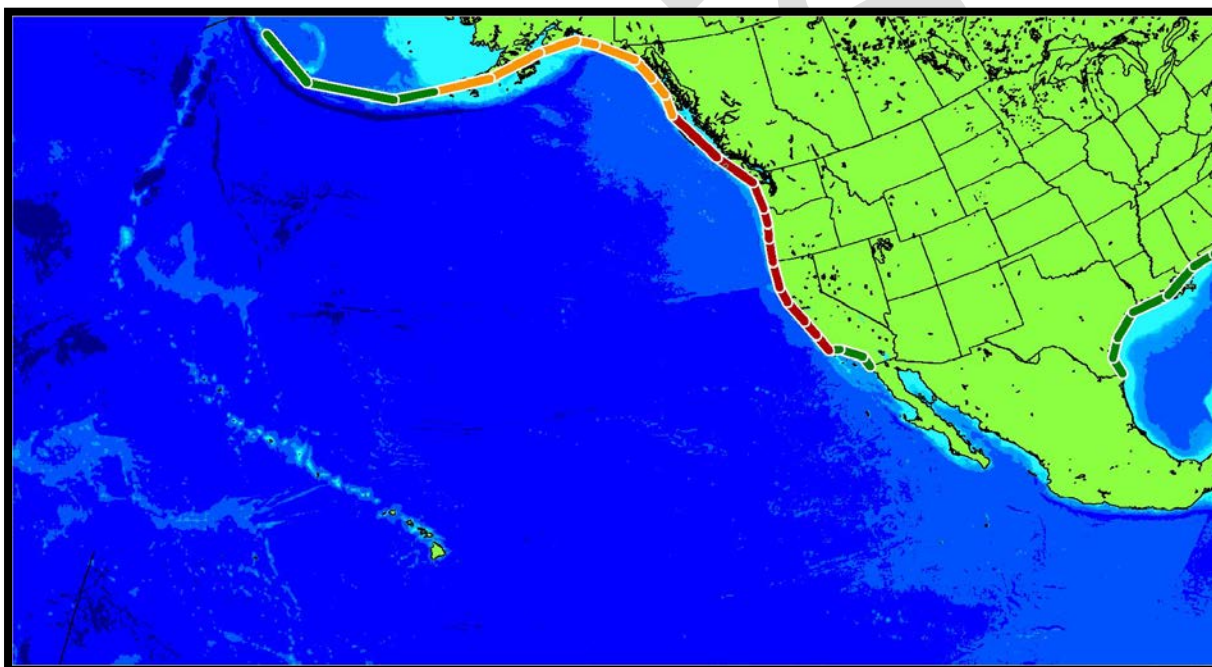


Figure D1: Watch/Warning/Advisory areas for NTWC Bulletin 1 (red is warning, orange is advisory, and green is information only)

NTWC Bulletin #2

WEAK51 PAAQ 291731
TSUAK1

BULLETIN

Public Tsunami Message Number 2
NWS National Tsunami Warning Center Palmer AK
1031 AM PDT Wed Mar 29 2017

UPDATES

PACIFEX 17 Handbook

-
- * A tsunami has been confirmed and some impacts are expected
 - * 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

Tsunami Advisory in Effect for;

- * 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)

For other US and Canadian Pacific coasts in North America, the level of tsunami danger is being evaluated. Further information will be provided in supplementary messages.

PRELIMINARY EARTHQUAKE PARAMETERS

- * The following parameters are based on a rapid preliminary assessment and changes may occur.
- * Magnitude 8.5
- * Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordinates 50.0 North 127.5 West

PACIFEX 17 Handbook

* Depth 9 miles
 * Location 20 miles SW of Port Alice, British Columbia
 290 miles NW of Seattle, Washington

FORECASTS OF TSUNAMI ACTIVITY

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

SITE	FORECAST START OF TSUNAMI
-----	-----
* British Columbia	
Tofino	1010 PDT Mar 29
Langara	1110 PDT Mar 29
* Washington	
Neah Bay	1050 PDT Mar 29
Long Beach	1105 PDT Mar 29
Moclips	1105 PDT Mar 29
Westport	1110 PDT Mar 29
Port Angeles	1110 PDT Mar 29
Port Townsend	1135 PDT Mar 29
* Oregon	
Seaside	1115 PDT Mar 29
Charleston	1125 PDT Mar 29
Port Orford	1125 PDT Mar 29
Newport	1125 PDT Mar 29
Brookings	1140 PDT Mar 29
* California	
Crescent City	1145 PDT Mar 29
Fort Bragg	1200 PDT Mar 29
Monterey	1235 PDT Mar 29
San Francisco	1255 PDT Mar 29
Port San Luis	1300 PDT Mar 29
* Alaska	
Sitka	1055 AKDT Mar 29
Elfin Cove	1105 AKDT Mar 29
Craig	1125 AKDT Mar 29
Yakutat	1155 AKDT Mar 29
Kodiak	1230 AKDT Mar 29
Seward	1230 AKDT Mar 29
Valdez	1245 AKDT Mar 29
Cordova	1250 AKDT Mar 29
Sand Point	1310 AKDT Mar 29
Homer	1335 AKDT Mar 29
Cold Bay	1350 AKDT Mar 29

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

PACIFEX 17 Handbook

-
- * 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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft

RECOMMENDED ACTIONS

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.

IMPACTS

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

If you are in a tsunami warning area;

PACIFEX 17 Handbook

- * 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, 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

PACIFEX 17 Handbook

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

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NTWC Bulletin #3

WEAK51 PAAQ 291801
TSUAK1

BULLETIN
Public Tsunami Message Number 3
NWS National Tsunami Warning Center Palmer AK
1101 AM PDT Wed Mar 29 2017

UPDATES

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

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

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

Tsunami Warning in Effect for;

- * OREGON, The coast from Douglas/Lane Line, Oregon (10 miles SW of Florence) to The Oregon/Wash. Border
- * 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

Tsunami Advisory 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

PACIFEX 17 Handbook

Douglas/Lane Line, Oregon (10 miles SW of Florence)

- * 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)

For other US and Canadian Pacific coasts in North America, the level of tsunami danger is being evaluated. Further information will be provided in supplementary messages.

FORECASTS OF TSUNAMI ACTIVITY

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

SITE	FORECAST START OF TSUNAMI
* British Columbia	
Tofino	1010 PDT Mar 29
Langara	1110 PDT Mar 29
* Washington	
Neah Bay	1050 PDT Mar 29
Long Beach	1105 PDT Mar 29
Moclips	1105 PDT Mar 29
Westport	1110 PDT Mar 29
Port Angeles	1110 PDT Mar 29
Port Townsend	1135 PDT Mar 29
* Oregon	
Seaside	1115 PDT Mar 29
Charleston	1125 PDT Mar 29
Port Orford	1125 PDT Mar 29
Newport	1125 PDT Mar 29
Brookings	1140 PDT Mar 29
* California	
Crescent City	1145 PDT Mar 29
Fort Bragg	1200 PDT Mar 29
Monterey	1235 PDT Mar 29
San Francisco	1255 PDT Mar 29
Port San Luis	1300 PDT Mar 29
* Alaska	
Sitka	1055 AKDT Mar 29
Elfin Cove	1105 AKDT Mar 29
Craig	1125 AKDT Mar 29

PACIFEX 17 Handbook

Yakutat	1155	AKDT	Mar	29
Kodiak	1230	AKDT	Mar	29
Seward	1230	AKDT	Mar	29
Valdez	1245	AKDT	Mar	29
Cordova	1250	AKDT	Mar	29
Sand Point	1310	AKDT	Mar	29
Homer	1335	AKDT	Mar	29
Cold Bay	1350	AKDT	Mar	29

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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Port Angeles Washington	1058 PDT Mar 29	1.5ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.5
* Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
* Coordinates 50.0 North 127.5 West
* Depth 9 miles
* Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

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

PACIFEX 17 Handbook

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, bays, and inlets may be especially dangerous.

IF YOU ARE IN A TSUNAMI WARNING OR ADVISORY AREA...

PACIFEX 17 Handbook

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

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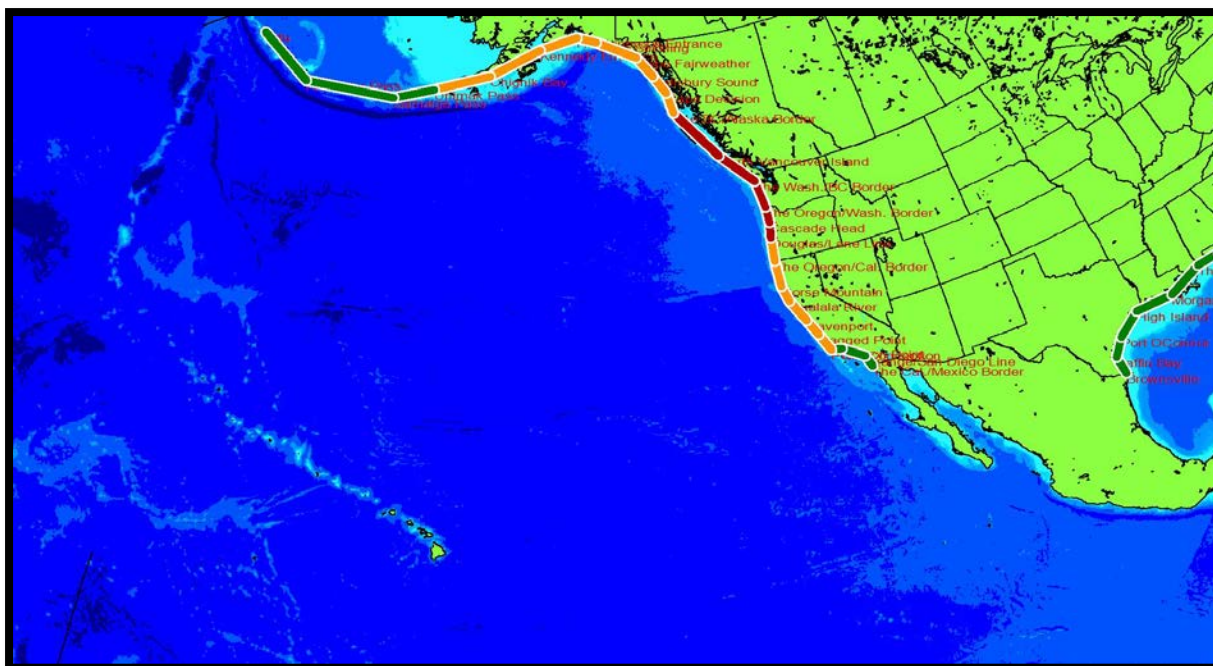


Figure D2: Revised Warning/Advisory areas for Bulletin 3 (red is warning, orange is advisory, and green is information only).

NTWC Bulletin #4

WEAK51 PAAQ 291831
 TSUAK1

BULLETIN
 Public Tsunami Message Number 4
 NWS National Tsunami Warning Center Palmer AK
 1131 AM PDT Wed Mar 29 2017

UPDATES

 * Updated observations

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

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

Tsunami Warning in Effect for;

- * OREGON, The coast from Douglas/Lane Line, Oregon (10 miles SW of Florence) 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

PACIFEX 17 Handbook

- * 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

Tsunami Advisory 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 Douglas/Lane Line, Oregon (10 miles SW of Florence)
- * 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)

For other US and Canadian Pacific coasts in North America, the level of tsunami danger is being evaluated. Further information will be provided in supplementary messages.

FORECASTS OF TSUNAMI ACTIVITY

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

SITE	FORECAST START OF TSUNAMI	
----	-----	
* British Columbia		
Langara	1110	PDT Mar 29
* Washington		
Neah Bay	1050	PDT Mar 29
Long Beach	1105	PDT Mar 29
Moclips	1105	PDT Mar 29
Westport	1110	PDT Mar 29
Port Angeles	1110	PDT Mar 29
Port Townsend	1135	PDT Mar 29
* Oregon		
Seaside	1115	PDT Mar 29
Charleston	1125	PDT Mar 29
Port Orford	1125	PDT Mar 29
Newport	1125	PDT Mar 29
Brookings	1140	PDT Mar 29

PACIFEX 17 Handbook

* California

Crescent City	1145	PDT Mar 29
Fort Bragg	1200	PDT Mar 29
Monterey	1235	PDT Mar 29
San Francisco	1255	PDT Mar 29
Port San Luis	1300	PDT Mar 29

* Alaska

Sitka	1055	AKDT Mar 29
Elfin Cove	1105	AKDT Mar 29
Craig	1125	AKDT Mar 29
Yakutat	1155	AKDT Mar 29
Kodiak	1230	AKDT Mar 29
Seward	1230	AKDT Mar 29
Valdez	1245	AKDT Mar 29
Cordova	1250	AKDT Mar 29
Sand Point	1310	AKDT Mar 29
Homer	1335	AKDT Mar 29
Cold Bay	1350	AKDT Mar 29

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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1058 PDT Mar 29	1.5ft
Port Orford Oregon	1125 PDT Mar 29	0.7ft
Newport Oregon	1122 PDT Mar 29	1.8ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.5

* Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017

* Coordinates 50.0 North 127.5 West

* Depth 9 miles

* Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

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.

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.

PACIFEX 17 Handbook

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

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NTWC Bulletin #5

WEAK51 PAAQ 291902

PACIFEX 17 Handbook

TSUAK1

BULLETIN

Public Tsunami Message Number 5

NWS National Tsunami Warning Center Palmer AK

1202 PM PDT Wed Mar 29 2017

UPDATES

- * Updated observations
- * Revised alert areas

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

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

Tsunami Warning in Effect for;

- * 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 and the outer west coast of Vancouver Island

Tsunami Advisory 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 Douglas/Lane Line, Oregon (10 miles SW of Florence)
- * OREGON, The coast from Douglas/Lane Line, Oregon (10 miles SW of Florence) to The Oregon/Wash. Border
- * BRITISH COLUMBIA, 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)

For other US and Canadian Pacific coasts in North America, there is no tsunami threat.

PACIFEX 17 Handbook

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
----	-----	-----	-----
* British Columbia			
Langara	1110 PDT Mar 29		less than 1ft
* Washington			
Long Beach	1105 PDT Mar 29	15 hrs	1.2- 2.2 ft
Moclips	1105 PDT Mar 29	20 hrs	1.7- 3.1 ft
Westport	1110 PDT Mar 29	9 hrs	0.8- 1.4 ft
Port Angeles	1110 PDT Mar 29	15 hrs	1.1- 2.1 ft
Port Townsend	1135 PDT Mar 29	9 hrs	0.9- 1.6 ft
* Oregon			
Seaside	1115 PDT Mar 29		
Charleston	1125 PDT Mar 29		less than 1ft
Port Orford	1125 PDT Mar 29		less than 1ft
Newport	1125 PDT Mar 29		
Brookings	1140 PDT Mar 29		less than 1ft
* California			
Crescent City	1145 PDT Mar 29	9 hrs	0.7- 1.3 ft
Fort Bragg	1200 PDT Mar 29		less than 1ft
Monterey	1235 PDT Mar 29		less than 1ft
San Francisco	1255 PDT Mar 29		less than 1ft
Port San Luis	1300 PDT Mar 29	9 hrs	0.8- 1.5 ft
* Alaska			
Sitka	1055 AKDT Mar 29		less than 1ft
Elfin Cove	1105 AKDT Mar 29		less than 1ft
Craig	1125 AKDT Mar 29		
Yakutat	1155 AKDT Mar 29		less than 1ft
Kodiak	1230 AKDT Mar 29	15 hrs	1.1- 2.0 ft
Seward	1230 AKDT Mar 29		less than 1ft
Valdez	1245 AKDT Mar 29		less than 1ft
Cordova	1250 AKDT Mar 29		less than 1ft
Sand Point	1310 AKDT Mar 29		less than 1ft
Homer	1335 AKDT Mar 29		less than 1ft
Cold Bay	1350 AKDT Mar 29		less than 1ft

PACIFEX 17 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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1058 PDT Mar 29	1.5ft
Port Orford Oregon	1125 PDT Mar 29	0.7ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Crescent City CA	1148 PDT Mar 29	0.9ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.5
* Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
* Coordinates 50.0 North 127.5 West
* Depth 9 miles
* Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

* See message number 4 for recommended actions.

IMPACTS

* See message number 4 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

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

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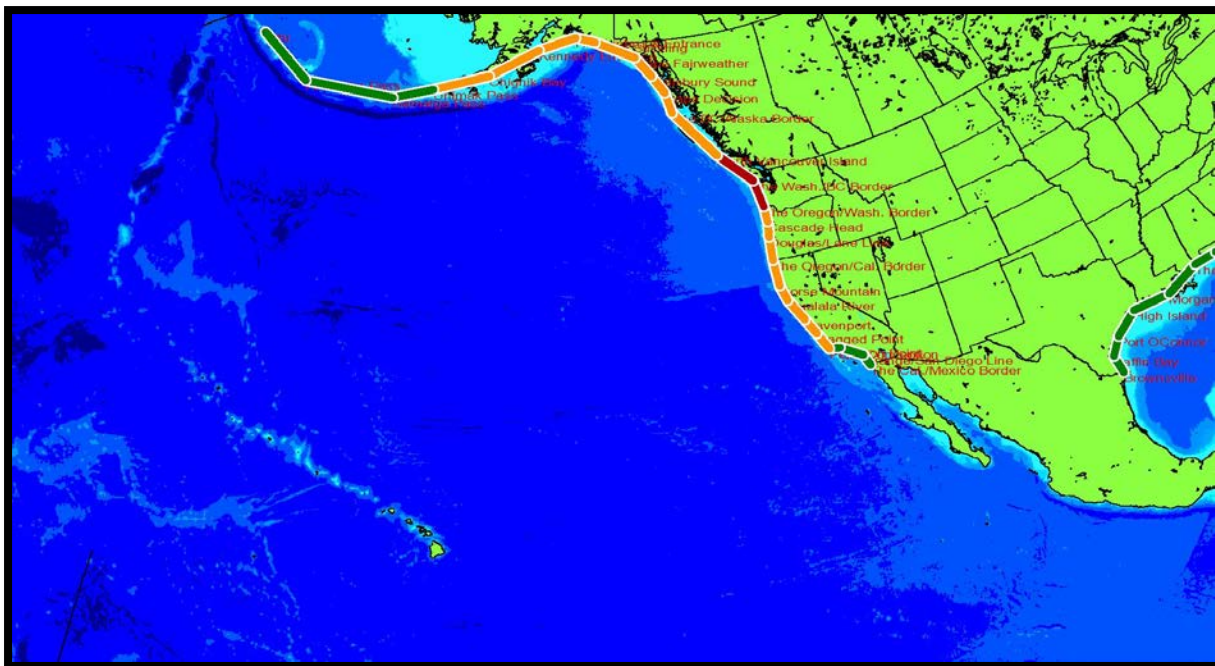


Figure D3: Revised Warning/Advisory areas for Bulletin 5 (red is warning, orange is advisory, and green is information only).

NTWC Bulletin #6

WEAK51 PAAQ 292002
TSUAK1

BULLETIN
Public Tsunami Message Number 6
NWS National Tsunami Warning Center Palmer AK
102 PM PDT Wed Mar 29 2017

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * 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 and the outer west coast of Vancouver Island

Tsunami Advisory in Effect for;

PACIFEX 17 Handbook

- * 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
- * BRITISH COLUMBIA, 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)

For other US and Canadian Pacific coasts in North America, there is no tsunami threat.

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			
Monterey	1235 PDT Mar 29		less than 1ft
San Francisco	1255 PDT Mar 29		less than 1ft
Port San Luis	1300 PDT Mar 29	9 hrs	0.8- 1.5 ft
* Alaska			
Elfin Cove	1105 AKDT Mar 29		less than 1ft
Craig	1125 AKDT Mar 29		
Yakutat	1155 AKDT Mar 29		less than 1ft
Kodiak	1230 AKDT Mar 29	15 hrs	1.1- 2.0 ft
Seward	1230 AKDT Mar 29		less than 1ft
Valdez	1245 AKDT Mar 29		less than 1ft
Cordova	1250 AKDT Mar 29		less than 1ft
Sand Point	1310 AKDT Mar 29		less than 1ft

PACIFEX 17 Handbook

Homer 1335 AKDT Mar 29 less than 1ft
Cold Bay 1350 AKDT Mar 29 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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1228 PDT Mar 29	0.3ft
Craig Alaska	1226 PDT Mar 29	0.7ft
Monterey California	1244 PDT Mar 29	0.3ft

PRELIMINARY EARTHQUAKE PARAMETERS

* Magnitude 8.5
* Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
* Coordinates 50.0 North 127.5 West
* Depth 9 miles
* Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

* See message number 4 for recommended actions.

IMPACTS

* See message number 4 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

* Refer to the internet site ntwc.arh.noaa.gov for more

information.

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

* This message will be updated within 60 minutes.

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NTWC Bulletin #7

WEAK51 PAAQ 292102
TSUAK1

BULLETIN

Public Tsunami Message Number 7

NWS National Tsunami Warning Center Palmer AK

202 PM PDT Wed Mar 29 2017

UPDATES

* Updated observations

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

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

Tsunami Warning in Effect for;

- * 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 and the outer west coast of Vancouver Island

Tsunami Advisory 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
- * BRITISH COLUMBIA, 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

PACIFEX 17 Handbook

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)

For other US and Canadian Pacific coasts in North America, there is no tsunami threat.

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			
Kodiak	1230 AKDT Mar 29	15 hrs	1.1- 2.0 ft
Seward	1230 AKDT Mar 29		less than 1ft
Valdez	1245 AKDT Mar 29		less than 1ft
Cordova	1250 AKDT Mar 29		less than 1ft
Sand Point	1310 AKDT Mar 29		less than 1ft
Homer	1335 AKDT Mar 29		less than 1ft
Cold Bay	1350 AKDT Mar 29		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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft

PACIFEX 17 Handbook

Newport Oregon	1122	PDT Mar 29	1.8ft
Port Alexander Alaska	1201	PDT Mar 29	0.3ft
Crescent City CA	1148	PDT Mar 29	0.9ft
Sitka Alaska	1220	PDT Mar 29	0.5ft
Eureka California	1202	PDT Mar 29	0.5ft
Arena Cove California	1206	PDT Mar 29	0.4ft
Elfin Cove Alaska	1349	PDT Mar 29	0.4ft
Craig Alaska	1342	PDT Mar 29	0.9ft
Monterey California	1244	PDT Mar 29	0.3ft
San Francisco CA	1313	PDT Mar 29	0.4ft
Yakutat Alaska	1322	PDT Mar 29	0.5ft
Port San Luis CA	1328	PDT Mar 29	0.6ft
Santa Barbara CA	1350	PDT Mar 29	0.3ft
Kodiak Alaska	1400	PDT Mar 29	0.7ft
Seward Alaska	1349	PDT Mar 29	0.6ft
Santa Monica California	1353	PDT Mar 29	0.2ft

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.5
- * Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordinates 50.0 North 127.5 West
- * Depth 9 miles
- * Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

- * See message number 4 for recommended actions.

IMPACTS

- * See message number 4 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

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

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NTWC Bulletin #8

PACIFEX 17 Handbook

WEAK51 PAAQ 292201
TSUAK1

BULLETIN

Public Tsunami Message Number 8
NWS National Tsunami Warning Center Palmer AK
301 PM PDT Wed Mar 29 2017

UPDATES

- * Updated observations
- * Revised alert areas

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

Tsunami Advisory 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
- * 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 and the outer west coast of Vancouver Island
- * BRITISH COLUMBIA, 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)

For other US and Canadian Pacific coasts in North America, there is no tsunami threat.

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

PACIFEX 17 Handbook

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	1310 AKDT Mar 29		less than 1ft
Homer	1335 AKDT Mar 29		less than 1ft
Cold Bay	1350 AKDT Mar 29		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
-----	-----	-----
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1349 PDT Mar 29	0.4ft
Craig Alaska	1342 PDT Mar 29	0.9ft
Monterey California	1244 PDT Mar 29	0.3ft
San Francisco CA	1431 PDT Mar 29	0.4ft
Yakutat Alaska	1322 PDT Mar 29	0.5ft
Port San Luis CA	1426 PDT Mar 29	1.0ft
Santa Barbara CA	1350 PDT Mar 29	0.3ft
Kodiak Alaska	1400 PDT Mar 29	0.7ft
Seward Alaska	1349 PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418 PDT Mar 29	0.2ft
Santa Monica California	1353 PDT Mar 29	0.2ft
Cordova Alaska	1438 PDT Mar 29	0.3ft
San Diego California	1433 PDT Mar 29	0.3ft
King Cove Alaska	1443 PDT Mar 29	0.3ft
Chignik Bay Alaska	1446 PDT Mar 29	0.7ft

PACIFEX 17 Handbook

Nikolski	Alaska	1438	PDT Mar 29	0.2ft
Unalaska	Alaska	1448	PDT Mar 29	0.1ft

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.5
- * Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordinates 50.0 North 127.5 West
- * Depth 9 miles
- * Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

- * See message number 4 for recommended actions.

IMPACTS

- * See message number 4 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

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

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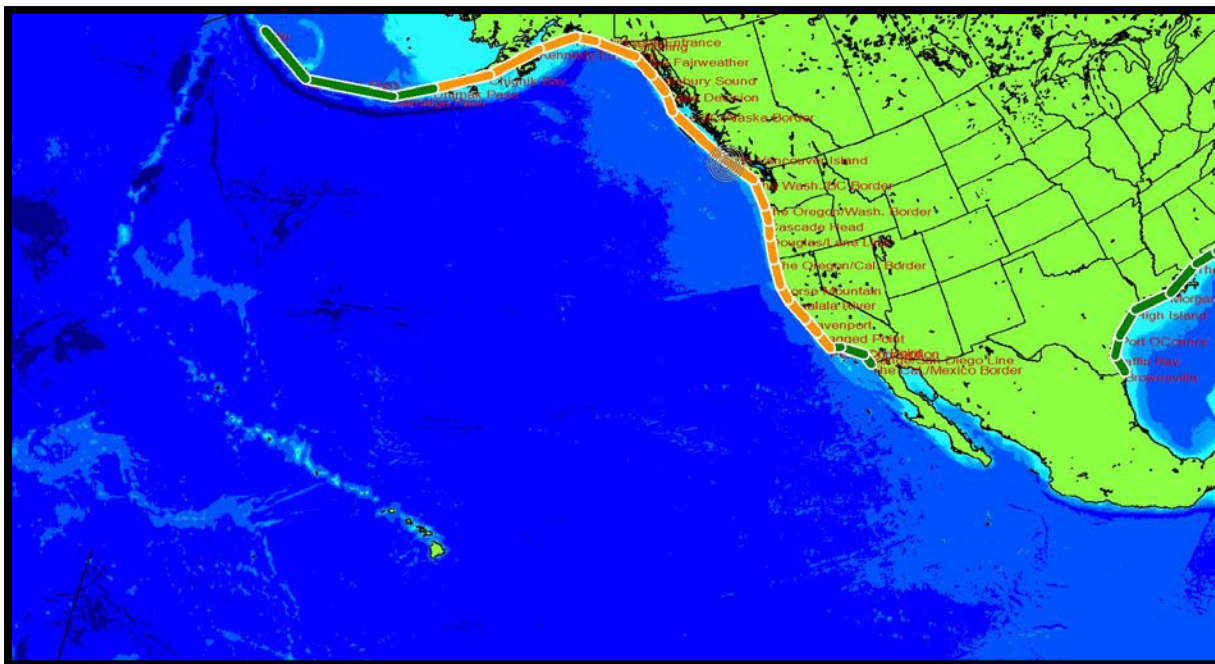


Figure D4: Cancellation of Warning areas for Bulletin 8 (orange is advisory and green is information only).

NTWC Bulletin #9

WEAK51 PAAQ 292301
TSUAK1

BULLETIN
Public Tsunami Message Number 9
NWS National Tsunami Warning Center Palmer AK
401 PM PDT Wed Mar 29 2017

UPDATES

* Updated observations

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

Tsunami Advisory 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

PACIFEX 17 Handbook

- * 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)

For other US and Canadian Pacific coasts in North America, there is no tsunami threat.

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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1349 PDT Mar 29	0.4ft
Craig Alaska	1342 PDT Mar 29	0.9ft
Monterey California	1244 PDT Mar 29	0.3ft
San Francisco CA	1431 PDT Mar 29	0.4ft
Yakutat Alaska	1553 PDT Mar 29	0.9ft
Port San Luis CA	1426 PDT Mar 29	1.0ft
Santa Barbara CA	1350 PDT Mar 29	0.3ft
Kodiak Alaska	1400 PDT Mar 29	0.7ft
Seward Alaska	1349 PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418 PDT Mar 29	0.2ft
Santa Monica California	1353 PDT Mar 29	0.2ft
Cordova Alaska	1438 PDT Mar 29	0.3ft
San Diego California	1433 PDT Mar 29	0.3ft
King Cove Alaska	1443 PDT Mar 29	0.3ft
Chignik Bay Alaska	1544 PDT Mar 29	1.1ft
Nikolski Alaska	1519 PDT Mar 29	0.3ft

PACIFEX 17 Handbook

Atka Alaska	1513	PDT Mar 29	0.2ft
Unalaska Alaska	1528	PDT Mar 29	0.2ft
Adak Alaska	1600	PDT Mar 29	0.3ft
HILO HAWAII	1538	PDT Mar 29	2.5ft
NAWILIWILI HAWAII	1547	PDT Mar 29	2.3ft
KAWAIHAE HAWAII	1542	PDT Mar 29	0.6ft
KAHULUI HAWAII	1540	PDT Mar 29	3.3ft

PRELIMINARY EARTHQUAKE PARAMETERS

- * Magnitude 8.5
- * Origin Time 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordinates 50.0 North 127.5 West
- * Depth 9 miles
- * Location 20 miles SW of Port Alice, British Columbia
290 miles NW of Seattle, Washington

RECOMMENDED ACTIONS

- * See message number 4 for recommended actions.

IMPACTS

- * See message number 4 for possible impacts.

ADDITIONAL INFORMATION AND NEXT UPDATE

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

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NTWC Bulletin #10

WEAK51 PAAQ 300003
TSUAK1

BULLETIN

Public Tsunami Message Number 10
NWS National Tsunami Warning Center Palmer AK
503 PM PDT Wed Mar 29 2017

PACIFEX 17 Handbook

...THE TSUNAMI ADVISORY IS CANCELLED...

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

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
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1349 PDT Mar 29	0.4ft
Craig Alaska	1342 PDT Mar 29	0.9ft
Monterey California	1244 PDT Mar 29	0.3ft
San Francisco CA	1431 PDT Mar 29	0.4ft
Yakutat Alaska	1553 PDT Mar 29	0.9ft
Port San Luis CA	1426 PDT Mar 29	1.0ft
Santa Barbara CA	1350 PDT Mar 29	0.3ft
Kodiak Alaska	1400 PDT Mar 29	0.7ft
Seward Alaska	1349 PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418 PDT Mar 29	0.3ft
Santa Monica California	1353 PDT Mar 29	0.2ft
Cordova Alaska	1438 PDT Mar 29	0.3ft
San Diego California	1433 PDT Mar 29	0.3ft
King Cove Alaska	1443 PDT Mar 29	0.3ft
Chignik Bay Alaska	1544 PDT Mar 29	1.1ft
Nikolski Alaska	1519 PDT Mar 29	0.3ft
Atka Alaska	1603 PDT Mar 29	0.6ft
Unalaska Alaska	1611 PDT Mar 29	0.2ft
Adak Alaska	1600 PDT Mar 29	0.3ft
HILO HAWAII	1538 PDT Mar 29	2.5ft
NAWILIWILI HAWAII	1547 PDT Mar 29	2.3ft
KAWAIHAE HAWAII	1607 PDT Mar 29	1.7ft
KAHULUI HAWAII	1601 PDT Mar 29	4.3ft
MIDWAY IS. HAWAII	1659 PDT Mar 29	0.5ft

RECOMMENDED ACTIONS - UPDATED

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

IMPACTS - UPDATED

- * 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 ptwc.weather.gov.
- * This will be the final U.S. National Tsunami Warning Center message issued for this event.

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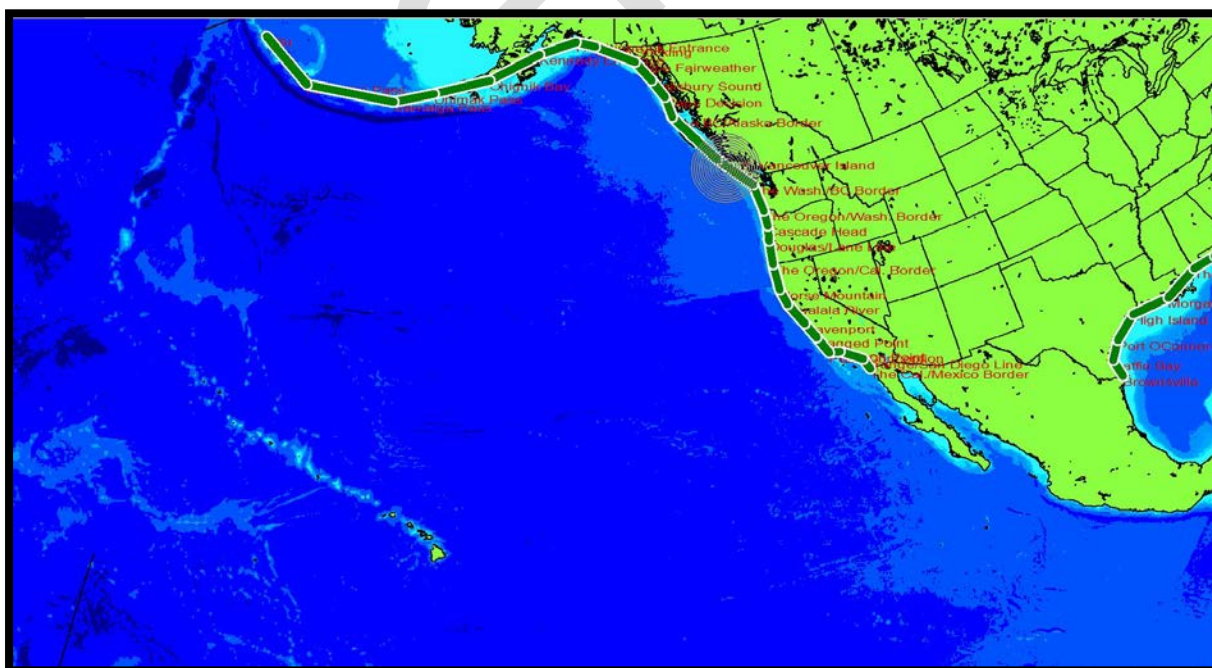


Figure D5: Cancellation of Advisory areas for Bulletin 10 (green is information only).

NTWC Spanish Bulletin #1

WEAK61 PAAQ 291702

PACIFEX 17 Handbook

TSUSPN

BULLETIN

Mensaje de Tsunami numero 1

NWS Centro Nacional de Alerta de Tsunami Palmer AK

1002 AM PDT Wed Mar 29 2017

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

...UNA ADVERTENCIA DE TSUNAMI ESTA AHORA 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

Advertencia de Tsunami en Efecto para;

- * 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, el nivel de amenaza de tsunami esta siendo evaluado. Se proveera informacion adicional en mensajes suplementarios.

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Los siguientes parametros se basan en un analisis preliminar rapido y pueden variar.

* Magnitud 8.5

PACIFEX 17 Handbook

* Tiempo de Origen 0900 AKDT Mar 29 2017
 1000 PDT Mar 29 2017
 1700 UTC Mar 29 2017

* Coordenadas 50.0 Norte 127.5 Oeste

* Profundidad 9 millas

* Localizacion 20 millas SW de Port Alice, British Columbia
 290 millas NW de Seattle, Washington

PRONOSTICOS DEL TSUNAMI

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

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI
-----	-----
* British Columbia	
Tofino	1010 PDT Mar 29
Langara	1110 PDT Mar 29
* Washington	
Neah Bay	1050 PDT Mar 29
Long Beach	1105 PDT Mar 29
Moclips	1105 PDT Mar 29
Westport	1110 PDT Mar 29
Port Angeles	1110 PDT Mar 29
Port Townsend	1135 PDT Mar 29
* Oregon	
Seaside	1115 PDT Mar 29
Charleston	1125 PDT Mar 29
Port Orford	1125 PDT Mar 29
Newport	1125 PDT Mar 29
Brookings	1140 PDT Mar 29
* California	
Crescent City	1145 PDT Mar 29
Fort Bragg	1200 PDT Mar 29
Monterey	1235 PDT Mar 29
San Francisco	1255 PDT Mar 29
Port San Luis	1300 PDT Mar 29
* Alaska	
Sitka	1055 AKDT Mar 29
Elfin Cove	1105 AKDT Mar 29
Craig	1125 AKDT Mar 29
Yakutat	1155 AKDT Mar 29
Kodiak	1230 AKDT Mar 29
Seward	1230 AKDT Mar 29
Valdez	1245 AKDT Mar 29
Cordova	1250 AKDT Mar 29
Sand Point	1310 AKDT Mar 29
Homer	1335 AKDT Mar 29

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Cold Bay

1350 AKDT Mar 29

OBSERVACIONES DEL TSUNAMI

- * No hay observaciones del tsunami disponibles para reportar.

ACCIONES RECOMENDADAS

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 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 ntwc.arh.noaa.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 ptwc.weather.gov.
 - * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #2

WEAK61 PAAQ 291731
TSUSPN

BULLETIN

Mensaje de Tsunami numero 2
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1031 AM PDT Wed Mar 29 2017

ACTUALIZACIONES

- * Un tsunami ha sido confirmado y se esperan algunas impactos
- * 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

PACIFEX 17 Handbook

Advertencia de Tsunami en Efecto para;

- * 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, el nivel de amenaza de tsunami esta siendo evaluado. Se proveera informacion adicional en mensajes suplementarios.

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Los siguientes parametros se basan en un analisis preliminar rapido y pueden variar.
- * Magnitud 8.5
- * Tiempo de Origen 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordenadas 50.0 Norte 127.5 Oeste
- * Profundidad 9 millas
- * Localizacion 20 millas SW de Port Alice, British Columbia
290 millas NW de Seattle, Washington

PRONOSTICOS DEL TSUNAMI

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

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI
* British Columbia	
Tofino	1010 PDT Mar 29
Langara	1110 PDT Mar 29
* Washington	
Neah Bay	1050 PDT Mar 29
Long Beach	1105 PDT Mar 29
Moclips	1105 PDT Mar 29
Westport	1110 PDT Mar 29
Port Angeles	1110 PDT Mar 29
Port Townsend	1135 PDT Mar 29
* Oregon	
Seaside	1115 PDT Mar 29

PACIFEX 17 Handbook

Charleston	1125	PDT	Mar 29
Port Orford	1125	PDT	Mar 29
Newport	1125	PDT	Mar 29
Brookings	1140	PDT	Mar 29

* California

Crescent City	1145	PDT	Mar 29
Fort Bragg	1200	PDT	Mar 29
Monterey	1235	PDT	Mar 29
San Francisco	1255	PDT	Mar 29
Port San Luis	1300	PDT	Mar 29

* Alaska

Sitka	1055	AKDT	Mar 29
Elfin Cove	1105	AKDT	Mar 29
Craig	1125	AKDT	Mar 29
Yakutat	1155	AKDT	Mar 29
Kodiak	1230	AKDT	Mar 29
Seward	1230	AKDT	Mar 29
Valdez	1245	AKDT	Mar 29
Cordova	1250	AKDT	Mar 29
Sand Point	1310	AKDT	Mar 29
Homer	1335	AKDT	Mar 29
Cold Bay	1350	AKDT	Mar 29

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.

OBSERVADA	HORA	ALTURA MAX
LUGAR	DE LA MEDICION	DEL TSUNAMI

Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft

ACCIONES RECOMENDADAS

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.

PACIFEX 17 Handbook

- * 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 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.

PACIFEX 17 Handbook

- * 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 ntwc.arh.noaa.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 ptwc.weather.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #3

WEAK61 PAAQ 291801
TSUSPN

BULLETIN

Mensaje de Tsunami numero 3
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1101 AM PDT Wed Mar 29 2017

PACIFEX 17 Handbook

ACTUALIZACIONES

- * Un tsunami ha sido confirmado y se esperan algunas impactos
- * 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;

- * OREGON, Areas costeras desde Douglas/Lane Line, Oregon (10 miles SW of Florence) hasta The Oregon/Wash. Border
- * 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

Advertencia 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 Douglas/Lane Line, Oregon (10 miles SW of Florence)
- * 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, el nivel de amenaza de tsunami esta siendo evaluado. Se proveera informacion adicional en mensajes suplementarios.

PRONOSTICOS DEL TSUNAMI

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

PACIFEX 17 Handbook

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI		
-----	-----		
* British Columbia			
Tofino	1010	PDT	Mar 29
Langara	1110	PDT	Mar 29
* Washington			
Neah Bay	1050	PDT	Mar 29
Long Beach	1105	PDT	Mar 29
Moclips	1105	PDT	Mar 29
Westport	1110	PDT	Mar 29
Port Angeles	1110	PDT	Mar 29
Port Townsend	1135	PDT	Mar 29
* Oregon			
Seaside	1115	PDT	Mar 29
Charleston	1125	PDT	Mar 29
Port Orford	1125	PDT	Mar 29
Newport	1125	PDT	Mar 29
Brookings	1140	PDT	Mar 29
* California			
Crescent City	1145	PDT	Mar 29
Fort Bragg	1200	PDT	Mar 29
Monterey	1235	PDT	Mar 29
San Francisco	1255	PDT	Mar 29
Port San Luis	1300	PDT	Mar 29
* Alaska			
Sitka	1055	AKDT	Mar 29
Elfin Cove	1105	AKDT	Mar 29
Craig	1125	AKDT	Mar 29
Yakutat	1155	AKDT	Mar 29
Kodiak	1230	AKDT	Mar 29
Seward	1230	AKDT	Mar 29
Valdez	1245	AKDT	Mar 29
Cordova	1250	AKDT	Mar 29
Sand Point	1310	AKDT	Mar 29
Homer	1335	AKDT	Mar 29
Cold Bay	1350	AKDT	Mar 29

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.

OBSERVADA	HORA	ALTURA MAX
LUGAR	DE LA MEDICION	DEL TSUNAMI
-----	-----	-----

PACIFEX 17 Handbook

Tofino British Columbia	1002	PDT Mar 29	5.1ft
Cape Scott BC	1010	PDT Mar 29	5.5ft
Neah Bay Washington	1050	PDT Mar 29	1.5ft
La Push Washington	1048	PDT Mar 29	2.6ft
Port Angeles Washington	1058	PDT Mar 29	1.5ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud	8.5
* Tiempo de Origen	0900 AKDT Mar 29 2017
	1000 PDT Mar 29 2017
	1700 UTC Mar 29 2017
* Coordenadas	50.0 Norte 127.5 Oeste
* Profundidad	9 millas
* Localizacion	20 millas SW de Port Alice, British Columbia
	290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

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 áreas de aviso y las áreas 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 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.

PACIFEX 17 Handbook

- * 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 ntwc.arh.noaa.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 ptwc.weather.gov.
- * Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #4

WEAK61 PAAQ 291831
TSUSPN

BULLETIN
Mensaje de Tsunami numero 4
NWS Centro Nacional de Alerta de Tsunami Palmer AK
1131 AM PDT Wed Mar 29 2017

ACTUALIZACIONES

- * Nuevas observaciones

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

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

Aviso de Tsunami en Efecto para;

- * OREGON, Areas costeras desde Douglas/Lane Line, Oregon (10 miles SW of Florence) 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

PACIFEX 17 Handbook

- * 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

Advertencia 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 Douglas/Lane Line, Oregon (10 miles SW of Florence)
- * 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, el nivel de amenaza de tsunami esta siendo evaluado. Se proveera informacion adicional en mensajes suplementarios.

PRONOSTICOS DEL TSUNAMI

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

LUGAR	LLEGADA PRONOSTICADA DEL TSUNAMI	
* British Columbia		
Langara	1110	PDT Mar 29
* Washington		
Neah Bay	1050	PDT Mar 29
Long Beach	1105	PDT Mar 29
Moclips	1105	PDT Mar 29
Westport	1110	PDT Mar 29
Port Angeles	1110	PDT Mar 29
Port Townsend	1135	PDT Mar 29
* Oregon		
Seaside	1115	PDT Mar 29
Charleston	1125	PDT Mar 29
Port Orford	1125	PDT Mar 29
Newport	1125	PDT Mar 29

PACIFEX 17 Handbook

Brookings 1140 PDT Mar 29

* California

Crescent City 1145 PDT Mar 29
 Fort Bragg 1200 PDT Mar 29
 Monterey 1235 PDT Mar 29
 San Francisco 1255 PDT Mar 29
 Port San Luis 1300 PDT Mar 29

* Alaska

Sitka 1055 AKDT Mar 29
 Elfin Cove 1105 AKDT Mar 29
 Craig 1125 AKDT Mar 29
 Yakutat 1155 AKDT Mar 29
 Kodiak 1230 AKDT Mar 29
 Seward 1230 AKDT Mar 29
 Valdez 1245 AKDT Mar 29
 Cordova 1250 AKDT Mar 29
 Sand Point 1310 AKDT Mar 29
 Homer 1335 AKDT Mar 29
 Cold Bay 1350 AKDT Mar 29

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.

OBSERVADA LUGAR	HORA		ALTURA MAX
	DE	LA MEDICION	DEL TSUNAMI
Tofino British Columbia	1002	PDT Mar 29	5.1ft
Cape Scott BC	1010	PDT Mar 29	5.5ft
Neah Bay Washington	1050	PDT Mar 29	1.5ft
La Push Washington	1048	PDT Mar 29	2.6ft
Westport Washington	1114	PDT Mar 29	1.5ft
Garibaldi Oregon	1116	PDT Mar 29	0.5ft
Port Angeles Washington	1058	PDT Mar 29	1.5ft
Port Orford Oregon	1125	PDT Mar 29	0.7ft
Newport Oregon	1122	PDT Mar 29	1.8ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.5
 * Tiempo de Origen 0900 AKDT Mar 29 2017
 1000 PDT Mar 29 2017
 1700 UTC Mar 29 2017
 * Coordenadas 50.0 Norte 127.5 Oeste
 * Profundidad 9 millas
 * Localizacion 20 millas SW de Port Alice, British Columbia
 290 millas NW de Seattle, Washington

PACIFEX 17 Handbook

ACCIONES RECOMENDADAS

Las acciones para proteger la vida y propiedad pueden variar dentro de las áreas de aviso y las áreas 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 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

PACIFEX 17 Handbook

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.

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, bahías, y ensenadas pueden ser especialmente peligrosas.

SI USTED ESTA EN UN AREA DE AVISO O ADVERTENCIA...

- * Algunos impactos pueden continuar por muchas horas hasta días 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 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 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 ntwc.arh.noaa.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 ptwc.weather.gov.

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #5

WEAK61 PAAQ 291902

TSUSPN

BULLETIN

Mensaje de Tsunami numero 5

NWS Centro Nacional de Alerta de Tsunami Palmer AK

1202 PM PDT Wed Mar 29 2017

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;

- * 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 y la costa de oeste exterior de Isla de Vancouver...

Advertencia 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 Douglas/Lane Line, Oregon (10 miles SW of Florence)
- * OREGON, Areas costeras desde Douglas/Lane Line, Oregon (10 miles SW of Florence) hasta The Oregon/Wash. Border
- * BRITISH COLUMBIA, la costa central y Isla de Vancouver de nordeste... 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)

PACIFEX 17 Handbook

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, no existe amenaza de tsunami.

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			
Langara	1110 PDT Mar 29		menos de 1pie
* Washington			
Long Beach	1105 PDT Mar 29	15 hrs	1.2- 2.2 pie
Moclips	1105 PDT Mar 29	20 hrs	1.7- 3.1 pie
Westport	1110 PDT Mar 29	9 hrs	0.8- 1.4 pie
Port Angeles	1110 PDT Mar 29	15 hrs	1.1- 2.1 pie
Port Townsend	1135 PDT Mar 29	9 hrs	0.9- 1.6 pie
* Oregon			
Seaside	1115 PDT Mar 29		
Charleston	1125 PDT Mar 29		menos de 1pie
Port Orford	1125 PDT Mar 29		menos de 1pie
Newport	1125 PDT Mar 29		
Brookings	1140 PDT Mar 29		menos de 1pie
* California			
Crescent City	1145 PDT Mar 29	9 hrs	0.7- 1.3 pie
Fort Bragg	1200 PDT Mar 29		menos de 1pie
Monterey	1235 PDT Mar 29		menos de 1pie
San Francisco	1255 PDT Mar 29		menos de 1pie
Port San Luis	1300 PDT Mar 29	9 hrs	0.8- 1.5 pie

- * Alaska

PACIFEX 17 Handbook

Sitka	1055	AKDT	Mar 29		menos de 1pie
Elfin Cove	1105	AKDT	Mar 29		menos de 1pie
Craig	1125	AKDT	Mar 29		
Yakutat	1155	AKDT	Mar 29		menos de 1pie
Kodiak	1230	AKDT	Mar 29	15 hrs	1.1- 2.0 pie
Seward	1230	AKDT	Mar 29		menos de 1pie
Valdez	1245	AKDT	Mar 29		menos de 1pie
Cordova	1250	AKDT	Mar 29		menos de 1pie
Sand Point	1310	AKDT	Mar 29		menos de 1pie
Homer	1335	AKDT	Mar 29		menos de 1pie
Cold Bay	1350	AKDT	Mar 29		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.

OBSERVADA LUGAR	HORA		ALTURA MAX
	DE LA MEDICION		DEL TSUNAMI
Tofino British Columbia	1002	PDT Mar 29	5.1ft
Cape Scott BC	1010	PDT Mar 29	5.5ft
Neah Bay Washington	1050	PDT Mar 29	1.5ft
La Push Washington	1048	PDT Mar 29	2.6ft
Westport Washington	1114	PDT Mar 29	1.5ft
Garibaldi Oregon	1116	PDT Mar 29	0.5ft
Port Angeles Washington	1058	PDT Mar 29	1.5ft
Port Orford Oregon	1125	PDT Mar 29	0.7ft
Newport Oregon	1122	PDT Mar 29	1.8ft
Crescent City CA	1148	PDT Mar 29	0.9ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.5

* Tiempo de Origen 0900 AKDT Mar 29 2017
 1000 PDT Mar 29 2017
 1700 UTC Mar 29 2017

* Coordenadas 50.0 Norte 127.5 Oeste

* Profundidad 9 millas

* Localizacion 20 millas SW de Port Alice, British Columbia
 290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

* Ver mensaje numero 4 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 4 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet ntwc.arh.noaa.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 ptwc.weather.gov.
- * Este mensaje sera actualizado en 60 minutos.

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NTWC Spanish Bulletin #6

WEAK61 PAAQ 292002
TSUSPN

BULLETIN

Mensaje de Tsunami numero 6
NWS Centro Nacional de Alerta de Tsunami Palmer AK
102 PM PDT Wed Mar 29 2017

ACTUALIZACIONES

- * Nuevas observaciones

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

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

Aviso de Tsunami en Efecto para;

- * 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 y la costa de oeste exterior de Isla de Vancouver...

Advertencia 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

PACIFEX 17 Handbook

- * BRITISH COLUMBIA, la costa central y Isla de Vancouver de nordeste... 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, no existe amenaza de tsunami.

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			
Monterey	1235 PDT Mar 29		menos de 1pie
San Francisco	1255 PDT Mar 29		menos de 1pie
Port San Luis	1300 PDT Mar 29	9 hrs	0.8- 1.5 pie
* Alaska			
Elfin Cove	1105 AKDT Mar 29		menos de 1pie
Craig	1125 AKDT Mar 29		
Yakutat	1155 AKDT Mar 29		menos de 1pie
Kodiak	1230 AKDT Mar 29	15 hrs	1.1- 2.0 pie
Seward	1230 AKDT Mar 29		menos de 1pie
Valdez	1245 AKDT Mar 29		menos de 1pie
Cordova	1250 AKDT Mar 29		menos de 1pie
Sand Point	1310 AKDT Mar 29		menos de 1pie
Homer	1335 AKDT Mar 29		menos de 1pie
Cold Bay	1350 AKDT Mar 29		menos de 1pie

OBSERVACIONES DEL TSUNAMI - ACTUALIZADAS

PACIFEX 17 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.

OBSERVADA	HORA	ALTURA MAX
LUGAR	DE LA MEDICION	DEL TSUNAMI
-----	-----	-----
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1228 PDT Mar 29	0.3ft
Craig Alaska	1226 PDT Mar 29	0.7ft
Monterey California	1244 PDT Mar 29	0.3ft

PARAMETROS PRELIMINARES DEL TERREMOTO

* Magnitud 8.5
* Tiempo de Origen 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
* Coordenadas 50.0 Norte 127.5 Oeste
* Profundidad 9 millas
* Localizacion 20 millas SW de Port Alice, British Columbia
290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

* Ver mensaje numero 4 para acciones recomendadas.

IMPACTOS

* Ver mensaje numero 4 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

* Para acceder a informacion adicional consulte el sitio de internet ntwc.arh.noaa.gov.

* Regiones costeras del Pacifico fuera de California, Oregon,

PACIFEX 17 Handbook

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

* Este mensaje sera actualizado en 30 minutos.

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NTWC Spanish Bulletin #7

WEAK61 PAAQ 292102
TSUSPN

BULLETIN

Mensaje de Tsunami numero 7
NWS Centro Nacional de Alerta de Tsunami Palmer AK
202 PM PDT Wed Mar 29 2017

ACTUALIZACIONES

* Nuevas observaciones

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

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

Aviso de Tsunami en Efecto para;

- * 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 y la costa de oeste exterior de Isla de Vancouver...

Advertencia 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
- * BRITISH COLUMBIA, la costa central y Isla de Vancouver de nordeste... 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)

PACIFEX 17 Handbook

- * SOUTH ALASKA AND THE ALASKA PENINSULA, Costas Pacificas desde Cape Fairweather, Alaska (80 miles SE of Yakutat) hasta Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, no existe amenaza de tsunami.

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			
Kodiak	1230 AKDT Mar 29	15 hrs	1.1- 2.0 pie
Seward	1230 AKDT Mar 29		menos de 1pie
Valdez	1245 AKDT Mar 29		menos de 1pie
Cordova	1250 AKDT Mar 29		menos de 1pie
Sand Point	1310 AKDT Mar 29		menos de 1pie
Homer	1335 AKDT Mar 29		menos de 1pie
Cold Bay	1350 AKDT Mar 29		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.

OBSERVADA LUGAR	HORA DE LA MEDICION	ALTURA MAX DEL TSUNAMI
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft

PACIFEX 17 Handbook

Port Angeles Washington	1223	PDT Mar 29	2.0ft
Port Orford Oregon	1229	PDT Mar 29	0.8ft
Newport Oregon	1122	PDT Mar 29	1.8ft
Port Alexander Alaska	1201	PDT Mar 29	0.3ft
Crescent City CA	1148	PDT Mar 29	0.9ft
Sitka Alaska	1220	PDT Mar 29	0.5ft
Eureka California	1202	PDT Mar 29	0.5ft
Arena Cove California	1206	PDT Mar 29	0.4ft
Elfin Cove Alaska	1349	PDT Mar 29	0.4ft
Craig Alaska	1342	PDT Mar 29	0.9ft
Monterey California	1244	PDT Mar 29	0.3ft
San Francisco CA	1313	PDT Mar 29	0.4ft
Yakutat Alaska	1322	PDT Mar 29	0.5ft
Port San Luis CA	1328	PDT Mar 29	0.6ft
Santa Barbara CA	1350	PDT Mar 29	0.3ft
Kodiak Alaska	1400	PDT Mar 29	0.7ft
Seward Alaska	1349	PDT Mar 29	0.6ft
Santa Monica California	1353	PDT Mar 29	0.2ft

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Magnitud 8.5
- * Tiempo de Origen 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordenadas 50.0 Norte 127.5 Oeste
- * Profundidad 9 millas
- * Localizacion 20 millas SW de Port Alice, British Columbia
290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

- * Ver mensaje numero 4 para acciones recomendadas.

IMPACTOS

- * Ver mensaje numero 4 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

-
- * Para acceder a informacion adicional consulte el sitio de internet ntwc.arh.noaa.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 ptwc.weather.gov.
 - * Este mensaje sera actualizado en 60 minutos.

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NTWC Spanish Bulletin #8

WEAK61 PAAQ 292201
TSUSPN

BULLETIN

Mensaje de Tsunami numero 8
NWS Centro Nacional de Alerta de Tsunami Palmer AK
301 PM PDT Wed Mar 29 2017

ACTUALIZACIONES

- * Nuevas observaciones
- * Modifica las regiones bajo alerta

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

Advertencia 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
- * 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 y la costa de oeste exterior de Isla de Vancouver...
- * BRITISH COLUMBIA, la costa central y Isla de Vancouver de nordeste... 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, no existe amenaza de tsunami.

PRONOSTICOS DEL TSUNAMI

PACIFEX 17 Handbook

- * 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			
Sand Point	1310 AKDT Mar 29		menos de 1pie
Homer	1335 AKDT Mar 29		menos de 1pie
Cold Bay	1350 AKDT Mar 29		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.

OBSERVADA LUGAR	HORA DE LA MEDICION	ALTURA MAX DEL TSUNAMI
-----	-----	-----
Tofino British Columbia	1002 PDT Mar 29	5.1ft
Cape Scott BC	1010 PDT Mar 29	5.5ft
Neah Bay Washington	1050 PDT Mar 29	1.5ft
La Push Washington	1048 PDT Mar 29	2.6ft
Westport Washington	1114 PDT Mar 29	1.5ft
Garibaldi Oregon	1116 PDT Mar 29	0.5ft
Port Angeles Washington	1223 PDT Mar 29	2.0ft
Port Orford Oregon	1229 PDT Mar 29	0.8ft
Newport Oregon	1122 PDT Mar 29	1.8ft
Port Alexander Alaska	1201 PDT Mar 29	0.3ft
Crescent City CA	1148 PDT Mar 29	0.9ft
Sitka Alaska	1220 PDT Mar 29	0.5ft
Eureka California	1202 PDT Mar 29	0.5ft
Arena Cove California	1206 PDT Mar 29	0.4ft
Elfin Cove Alaska	1349 PDT Mar 29	0.4ft
Craig Alaska	1342 PDT Mar 29	0.9ft
Monterey California	1244 PDT Mar 29	0.3ft
San Francisco CA	1431 PDT Mar 29	0.4ft
Yakutat Alaska	1322 PDT Mar 29	0.5ft
Port San Luis CA	1426 PDT Mar 29	1.0ft
Santa Barbara CA	1350 PDT Mar 29	0.3ft

PACIFEX 17 Handbook

Kodiak Alaska	1400	PDT Mar 29	0.7ft
Seward Alaska	1349	PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418	PDT Mar 29	0.2ft
Santa Monica California	1353	PDT Mar 29	0.2ft
Cordova Alaska	1438	PDT Mar 29	0.3ft
San Diego California	1433	PDT Mar 29	0.3ft
King Cove Alaska	1443	PDT Mar 29	0.3ft
Chignik Bay Alaska	1446	PDT Mar 29	0.7ft
Nikolski Alaska	1438	PDT Mar 29	0.2ft
Unalaska Alaska	1448	PDT Mar 29	0.1ft

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Magnitud 8.5
- * Tiempo de Origen 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordenadas 50.0 Norte 127.5 Oeste
- * Profundidad 9 millas
- * Localizacion 20 millas SW de Port Alice, British Columbia
290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

- * Ver mensaje numero 4 para acciones recomendadas.

IMPACTOS

- * Ver mensaje numero 4 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet ntwc.arh.noaa.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 ptwc.weather.gov.
- * Este mensaje sera actualizado en 60 minutos.

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NTWC Spanish Bulletin #9

WEAK61 PAAQ 292301
TSUSPN

BULLETIN
Mensaje de Tsunami numero 9

PACIFEX 17 Handbook

NWS Centro Nacional de Alerta de Tsunami Palmer AK
401 PM PDT Wed Mar 29 2017

ACTUALIZACIONES

- * Nuevas observaciones

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

Advertencia 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 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 Unimak Pass, Alaska (80 miles NE of Unalaska)

Para otras costas del Pacifico de los Estados Unidos y Canada en Norte America, no existe amenaza de tsunami.

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.

OBSERVADA LUGAR	HORA		ALTURA MAX
	DE LA MEDICION		DEL TSUNAMI
Tofino British Columbia	1002	PDT Mar 29	5.1ft
Cape Scott BC	1010	PDT Mar 29	5.5ft

PACIFEX 17 Handbook

Neah Bay Washington	1050	PDT Mar 29	1.5ft
La Push Washington	1048	PDT Mar 29	2.6ft
Westport Washington	1114	PDT Mar 29	1.5ft
Garibaldi Oregon	1116	PDT Mar 29	0.5ft
Port Angeles Washington	1223	PDT Mar 29	2.0ft
Port Orford Oregon	1229	PDT Mar 29	0.8ft
Newport Oregon	1122	PDT Mar 29	1.8ft
Port Alexander Alaska	1201	PDT Mar 29	0.3ft
Crescent City CA	1148	PDT Mar 29	0.9ft
Sitka Alaska	1220	PDT Mar 29	0.5ft
Eureka California	1202	PDT Mar 29	0.5ft
Arena Cove California	1206	PDT Mar 29	0.4ft
Elfin Cove Alaska	1349	PDT Mar 29	0.4ft
Craig Alaska	1342	PDT Mar 29	0.9ft
Monterey California	1244	PDT Mar 29	0.3ft
San Francisco CA	1431	PDT Mar 29	0.4ft
Yakutat Alaska	1553	PDT Mar 29	0.9ft
Port San Luis CA	1426	PDT Mar 29	1.0ft
Santa Barbara CA	1350	PDT Mar 29	0.3ft
Kodiak Alaska	1400	PDT Mar 29	0.7ft
Seward Alaska	1349	PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418	PDT Mar 29	0.2ft
Santa Monica California	1353	PDT Mar 29	0.2ft
Cordova Alaska	1438	PDT Mar 29	0.3ft
San Diego California	1433	PDT Mar 29	0.3ft
King Cove Alaska	1443	PDT Mar 29	0.3ft
Chignik Bay Alaska	1544	PDT Mar 29	1.1ft
Nikolski Alaska	1519	PDT Mar 29	0.3ft
Atka Alaska	1513	PDT Mar 29	0.2ft
Unalaska Alaska	1528	PDT Mar 29	0.2ft
Adak Alaska	1600	PDT Mar 29	0.3ft
HILO HAWAII	1538	PDT Mar 29	2.5ft
NAWILIWILI HAWAII	1547	PDT Mar 29	2.3ft
KAWAIHAE HAWAII	1542	PDT Mar 29	0.6ft
KAHULUI HAWAII	1540	PDT Mar 29	3.3ft

PARAMETROS PRELIMINARES DEL TERREMOTO

- * Magnitud 8.5
- * Tiempo de Origen 0900 AKDT Mar 29 2017
1000 PDT Mar 29 2017
1700 UTC Mar 29 2017
- * Coordenadas 50.0 Norte 127.5 Oeste
- * Profundidad 9 millas
- * Localizacion 20 millas SW de Port Alice, British Columbia
290 millas NW de Seattle, Washington

ACCIONES RECOMENDADAS

- * Ver mensaje numero 4 para acciones recomendadas.

IMPACTOS

PACIFEX 17 Handbook

* Ver mensaje numero 4 para posibles impactos.

INFORMACION ADICIONAL Y PROXIMA ACTUALIZACION

- * Para acceder a informacion adicional consulte el sitio de internet ntwc.arh.noaa.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 ptwc.weather.gov.
- * Este mensaje sera actualizado en 60 minutos.

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NTWC Spanish Bulletin #10

WEAK61 PAAQ 300003
TSUSPN

BULLETIN

Mensaje de Tsunami numero 10
NWS Centro Nacional de Alerta de Tsunami Palmer AK
503 PM PDT Wed Mar 29 2017

...LA ADVERTENCIA DE TSUNAMI HA SIDO CANCELADA...

- * Advisory de Tsunami ha sido Cancelado para areas costeras de California, Oregon, Washington, British Columbia, Southeast Alaska y South Alaska and the Alaska Peninsula

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.

OBSERVADA LUGAR	HORA		ALTURA MAX
	DE LA MEDICION		DEL TSUNAMI
Tofino British Columbia	1002	PDT Mar 29	5.1ft
Cape Scott BC	1010	PDT Mar 29	5.5ft
Neah Bay Washington	1050	PDT Mar 29	1.5ft
La Push Washington	1048	PDT Mar 29	2.6ft
Westport Washington	1114	PDT Mar 29	1.5ft
Garibaldi Oregon	1116	PDT Mar 29	0.5ft
Port Angeles Washington	1223	PDT Mar 29	2.0ft
Port Orford Oregon	1229	PDT Mar 29	0.8ft
Newport Oregon	1122	PDT Mar 29	1.8ft
Port Alexander Alaska	1201	PDT Mar 29	0.3ft
Crescent City CA	1148	PDT Mar 29	0.9ft

PACIFEX 17 Handbook

Sitka Alaska	1220	PDT Mar 29	0.5ft
Eureka California	1202	PDT Mar 29	0.5ft
Arena Cove California	1206	PDT Mar 29	0.4ft
Elfin Cove Alaska	1349	PDT Mar 29	0.4ft
Craig Alaska	1342	PDT Mar 29	0.9ft
Monterey California	1244	PDT Mar 29	0.3ft
San Francisco CA	1431	PDT Mar 29	0.4ft
Yakutat Alaska	1553	PDT Mar 29	0.9ft
Port San Luis CA	1426	PDT Mar 29	1.0ft
Santa Barbara CA	1350	PDT Mar 29	0.3ft
Kodiak Alaska	1400	PDT Mar 29	0.7ft
Seward Alaska	1349	PDT Mar 29	0.6ft
Los Angeles Harbor CA	1418	PDT Mar 29	0.3ft
Santa Monica California	1353	PDT Mar 29	0.2ft
Cordova Alaska	1438	PDT Mar 29	0.3ft
San Diego California	1433	PDT Mar 29	0.3ft
King Cove Alaska	1443	PDT Mar 29	0.3ft
Chignik Bay Alaska	1544	PDT Mar 29	1.1ft
Nikolski Alaska	1519	PDT Mar 29	0.3ft
Atka Alaska	1603	PDT Mar 29	0.6ft
Unalaska Alaska	1611	PDT Mar 29	0.2ft
Adak Alaska	1600	PDT Mar 29	0.3ft
HILO HAWAII	1538	PDT Mar 29	2.5ft
NAWILIWILI HAWAII	1547	PDT Mar 29	2.3ft
KAWAIHAE HAWAII	1607	PDT Mar 29	1.7ft
KAHULUI HAWAII	1601	PDT Mar 29	4.3ft
MIDWAY IS. HAWAII	1659	PDT Mar 29	0.5ft

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 ptwc.weather.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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Exercise

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 29, 2017

(insert community/county/state name) will join other localities in the north Pacific as a participant in a tsunami response exercise on March 29, 2017. 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 Pacifex17, will simulate a widespread Tsunami Warning, Watch, and Advisory situation along U.S. and Canadian west coasts requiring implementation of local tsunami response plans. The exercise will *(insert “include” or “not include”)* public notification.

A major earthquake and tsunami will be simulated with a source 207 miles west northwest of Vancouver at 10:00 am Pacific Daylight Time *(or appropriate local time)* on March 29, 2017. Exercise participants will be provided with a handbook which describes the scenario and contains tsunami alert messages.

Insert paragraph tailored for specific community. Could identify participating agencies and specific plans. Could describe current early warning program, past tsunami exercises (if any), ongoing mitigation and public education programs, etc. Could describe tsunami threat, history of tsunami hazards, if any.

If any real tsunami threat occurs during the time period of the exercise, the exercise will be terminated.

The exercise is sponsored by the U.S. National Oceanic and Atmospheric Administration (NOAA) and by the U.S. National Tsunami Hazard Mitigation Program (NTHMP – a partnership of 28 states and territories and three federal agencies). For more information on the U.S. tsunami warning system, see www.tsunami.gov. For more information on the NTHMP, see nthmp.tsunami.gov.

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On the Web:

National Tsunami Warning Center

NOAA Tsunami Program

NTHMP:

Insert state/local emergency response URLs

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

<http://www.tsunami.gov>

<http://nthmp.tsunami.gov>

Exercise