United Nations
Educational, Scientific and
Cultural Organization

Intergovernmental Oceanographic Commission

Technical Series **82**

EXERCISE PACIFIC WAVE 08
A Pacific-wide Tsunami Warning and Communication Exercise

28–30 October 2008

UNESCO

Intergovernmental Oceanographic Commission
technical series

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A Pacific-wide Tsunami Warning and Communication Exercise

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Prepared by the Intergovernmental Coordination Group
for the Pacific Tsunami Warning and Mitigation System

UNESCO 2008

For bibliographic purposes, this document should be cited as follows:

Commission océanographique intergouvernementale. *Exercise Pacific Wave 08. A Pacific-wide Tsunami Warning and Communication Exercise Pacific, 28–30 October 2008*. IOC Technical Series No. 82. Paris, UNESCO, 2008. (English)

Printed in 2008
by the United Nations Educational, Scientific and Cultural Organization

7, place de Fontenoy, 75352 Paris 07 SP

Printed in France

(IOC/2008/TS/82)

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1. BACKGROUND

Most of the world's earthquakes and tsunamis occur in the Pacific Ocean and its marginal seas. On average, the Pacific is struck by a locally damaging tsunami every year or two, and by a major Pacific-wide tsunami a few times each century. In 1960 a magnitude 9.5 earthquake occurred off the coast of Chile. It generated a mostly un-warned tsunami that caused damage and casualties across the entire Pacific basin – even as far away as Japan. Following that event, UNESCO's Intergovernmental Oceanographic Commission (IOC) formed the International Coordination Group for the Tsunami Warning System in the Pacific (ICG/ITSU) to promote the exchange seismic and sea level data for rapid tsunami detection and analysis, to provide warnings for such events and to coordinate mitigation efforts among its Member States. At its Twenty-Second Session held during September 2007 in Guayaquil, Ecuador, the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS, the former ICG/ITSU) recommended that a Pacific-wide tsunami exercise be carried out in 2008 with results compiled and written before the next meeting of the ICG in February 2009.

The terrible impact of the 26 December 2004 Indonesia earthquake and Indian Ocean tsunami tragically demonstrated what can happen without an effective tsunami warning system. Tsunamis may not occur often, but when they do they can affect coasts, sometimes across an entire ocean, within minutes to hours. An efficient and effective warning system is needed that is ready to react 24 hours a day to any potential tsunami threat and that can then act quickly from end-to-end to alert those at risk along coasts and motivate them take immediate and appropriate steps to save their lives. A Pacific-wide tsunami exercise is an effective tool for evaluating the readiness of the PTWS and to identify changes that can improve its effectiveness. There not been a major Pacific tsunami in more than 40 years, but another will occur and the PTWS must be prepared.

The first Pacific-wide exercise, "Exercise Pacific Wave 06" (EPW06), was carried out in May of 2006. A summary of EPW06 can be accessed at:

http://www.ioc-tsunami.org/index.php?option=com_content&task=view&id=270&Itemid=972

This second exercise follows up on the first and helps establish such exercises as part of the routine work of maintaining the PTWS. Information documents for EPW08 will be posted to:

http://www.ioc-tsunami.org/index.php?option=com_content&task=view&id=271&Itemid=973

2. CONCEPT OF THE EXERCISE

2.1 PURPOSE

The purpose of the exercise is to evaluate and improve the effectiveness of the PTWS, its operational Tsunami Warning Centers, and its Member States in responding to a destructive tsunami. The exercise provides an opportunity for Pacific countries to exercise their operational lines of communications, review their tsunami warning and emergency response procedures, and to promote emergency preparedness. Regular Exercises are important for maintaining staff readiness for the real event. This is especially true for tsunamis, which are infrequent but when they occur, require rapid response. The pre-exercise planning and post-exercise evaluation process is as helpful as the actual exercise, because it brings together all stakeholders to closely cooperate and coordinate their actions. Every Pacific country is encouraged to participate.

2.2 OBJECTIVES

From the scenario, each country should develop their own specific objectives for the exercise. The following are the overarching objectives of the exercise.

The intention is to practice the following:

1. Validate the international Tsunami Warning [or Advisory] Centers' dissemination process of issuing Tsunami Watch and Warning Bulletins to Pacific countries.
2. Validate the process of countries receiving and confirming Tsunami Bulletins through their designated focal points.
3. Validate dissemination of warning messages to relevant agencies within a country.
4. Validate the organizational decision making process about public warnings and evacuations.

And to:

5. Identify the methods that would be used to notify and instruct the public.
6. Assess the elapsed time until the public would be notified and instructed.

2.3 TYPE OF EXERCISE

The exercise should be carried out in a readiness style that aims to involve communication and decision making at Government levels, without disrupting or alarming the general public. Individual countries, however, may at their discretion elect to extend the exercise down to the level of actually notifying the public.

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, typhoon, earthquake, etc.) as a framework to conduct Exercise Pacific Wave 08.

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

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, organizations, or facilities, but may be a subset of full-scale exercises. Drills can involve internal notifications and/or filed activities. Limited evacuation may or may not be conducted, such as within a school, pilot hotel, or village.

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 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 Procredures (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, and resolution is generally agreed upon, and then summarized by a group leader. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative. See Appendix V for a summary on Tabletop Exercises.

4. **Functional Exercise:** A Functional Exercise is a planned activity designed to test and evaluate individual capacities, multiple activities within a function, or interdependent groups of functions among various agencies. 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. warning and emergency operations centers, command center or post, master control center, etc.) and activate all the appropriate members designated by the plan. For a tsunami exercise, organizations should test their SOPs using real time simulation tsunami bulletins. 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 teamfor 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 tsunami warning and emergency management functions, and involves multiple layers of government (national, provincial, local). This type of exercise involves the actual mobilization and deployment of the appropriate personnel and resources needed to demonstrate operational capabilities. EOCs and other local command centers are required to be activated. It tests all aspects of emergency response, and should demonstrates interagency cooperation. 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	1 day	Individual or mixed groups
Drill	2 days	1 day	Individual technical groups generally
Tabletop Exercise	2 weeks	1-3 days	Single or multiple agency
Functional Exercise	1-2 months	1-5 days	Multiple Agency participation
Full-scale Exercise	2-6 months	1 day/week	Multiple Agency (National and International)

3. SPECIFICS OF CONDUCTING THE EXERCISE

3.1 GENERAL IDEA

For this exercise, following the recommendation from ICG/PTWS-XXII, there will be a single exercise scenario played out in real time. The scenario will be a major earthquake off the northeast coast of Japan that generates a destructive teletsunami affecting countries from Japan to Chile over the course of about 24 hours. Centers that will issue bulletins for this exercise will be the Pacific Tsunami Warning Center (PTWC) in Hawaii, the West Coast and Alaska Tsunami Warning Center (WC/ATWC) in Alaska, and the Northwest Pacific Tsunami Advisory Center (NWPTAC) in Japan. The timeline for issuance of bulletins is given in Table 1. WMO product identifiers for the bulletins are given in Table 2.

Participant countries may elect to exercise in their own timelines in order to achieve their particular objectives. For example, a particular country's exercise control may choose to feed the PTWC 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. All bulletins, provided in advance in Appendices I-V, will facilitate this approach.

Coverage. While an actual major tsunami generated off the northeast coast of Japan would likely only affect a subset of PTWS countries, all Member States are encouraged to participate and estimated tsunami arrival times to all PTWS countries are included in PTWC bulletins. In addition, countries are welcome to modify estimated arrival times or estimated wave amplitudes to suit their preference – for example, to have the tsunami arrive sooner and with a larger amplitude. Countries in the Pacific that are not Member States of the ICG/PTWS are also encouraged to participate and are covered by the scenario.

Messages. The initial bulletin will be issued by the NWPTAC because the earthquake is located in the immediate vicinity of Japan. Initial bulletins from PTWC and WC/ATWC will follow, initially using the earthquake parameters from the NWPTAC. To avoid any possible misinterpretation, bulletins issued by the warning centers will be in a "dummy" exercise message format (Appendix I) that will refer participants to a specific scenario bulletin number in this exercise manual (in Appendices II – IV). Dummy messages will be issued for each simulated real message at the beginning of the exercise, but later PTWC and WC/ATWC dummy messages will be issued only once every four hours until the simulated tsunami has crossed the entire Pacific and the exercise concludes. The schedule of bulletins is given in Table 1.

3.2 SPECIAL IDEAS

The Scenario. The simulated tsunami will be generated by a magnitude 9.2 earthquake off the northeast coast of Japan at 40ºN, 143ºE that occurs on October 29, 2008 at 0000UTC. An earthquake of this size would be likely to generate a tsunami with widespread destructive effects. Bulletins will be issued for approximately 24 hours until the tsunami is simulated to have crossed the entire Pacific.

3.3 MASTER SCHEDULE AND TIMINGS (EXERCISE SCRIPT)

Table 1: Scenario Timeline
Tsunami from magnitude 9.2 earthquake with epicenter at 40ºN, 143ºE occurring on October 29, 2008 at 0000UTC.

Date (UTC)	Time (UTC)	NWPTAC Message			PTWC Message			WC/ATWC Message		
		#	Type	Dummy	#	Type	Dummy	#	Type	Dummy
10/29	0005	01	TAB	Yes						
10/29	0010				01	RWW	Yes	01	WWA	Yes
10/29	0040				02	RWW	Yes	02	WWA	Yes
10/29	0050	02	TAB	Yes						
10/29	0110							03	WWA	Yes
10/29	0140				03	PWW	Yes	04	WWA	Yes
10/29	0145	03	TAB	Yes						
10/29	0210							05	WWA	No
10/29	0240				04	PWW	Yes	06	WWA	Yes
10/29	0245	04	TAB	Yes						
10/29	0310							07	WWA	No
10/29	0340				05	PWW	Yes	08	WWA	Yes
10/29	0345	05	TAB	Yes						
10/29	0410							09	WWA	No
10/29	0440				06	PWW	No	10	WWA	No
10/29	0445	06	TAB	Yes						
10/29	0510							11	WWA	No
10/29	0540				07	PWW	No	12	WWA	No
10/29	0610							13	WWA	No
10/29	0640				08	PWW	No	14	WWA	No
10/29	0710							15	WWA	No
10/29	0740				09	PWW	Yes	16	WWA	Yes
10/29	0745	07	TAB	Yes						
10/29	0810							17	WWA	No
10/29	0840				10	PWW	No	18	WWA	No
10/29	0910							19	WWA	No
10/29	0940				11	PWW	No	20	WWA	No
10/29	0945	08	TAB	Yes						
10/29	1010							21	WWA	No
10/29	1040				12	PWW	No	22	WWA	No
10/29	1110							23	WWA	No
10/29	1140				13	PWW	Yes	24	WWA	Yes
10/29	1145	09	TAB	Yes						
10/29	1210							25	WWA	No
10/29	1240				14	PWW	No	26	WWA	No
10/29	1310							27	WWA	No
10/29	1340				15	PWW	No	28	WWA	No
10/29	1410							29	WWA	No
10/29	1440				16	PWW	No	30	WWA	No
10/29	1510							31	WWA	No
10/29	1540				17	PWW	Yes	32	WWA	Yes
10/29	1610							33	WWA	No
10/29	1640				18	PWW	No	34	WWA	No
10/29	1710							35	WWA	No
10/29	1740				19	PWW	No	36	WWA	No
10/29	1810							37	WWA	No
10/29	1840				20	PWW	No	38	WWA	No
10/29	1910							39	WWA	No
10/29	1940				21	PWW	Yes	40	WWA	Yes

Date (UTC)	Time (UTC)	NWPTAC Message			PTWC Message			WC/ATWC Message		
		#	Type	Dummy	#	Type	Dummy	#	Type	Dummy
10/29	2010							41	WWA	No
10/29	2040				22	PWW	No	42	WWA	No
10/29	2110							43	WWA	No
10/29	2140				23	PWW	No	44	WWA	No
10/29	2210							45	WWA	No
10/29	2240				24	PWW	No	46	WWA	No
10/29	2310							47	WWA	No
10/29	2340				25	FPW	Yes	48	Can	Yes

NWPTAC Bulletin Type:
TAB NWPTAC Advisory

PTWC Bulletin Types:
RWW Regional Warning Watch
PWW Pacific-Wide Warning
FPW Final Pacific-Wide Warning

WC/ATWC Bulletin Types:
WWA Warning Watch Advisory
Can WWA Cancellation

Dummy:
Yes Dummy Issued
No Dummy Not Issued

Table 2: Product Types
Product Types Issued for Dummy Exercise Bulletins

Center	WMO Product ID	AFTN	EMWIN	Fax	Email
NWPTAC	WEPA40 RJTD	No	No	Yes	Yes
PTWC	WEPA40 PHEB	Yes	Yes	Yes	Yes
WC/ATWC	WEPA41 PAAQ	Yes	Yes	Yes	Yes
	WEAK51 PAAQ	Yes	Yes	Yes	Yes

3.4 ACTIONS IN CASE OF A REAL EVENT

All documentation and correspondence relating to this exercise is to be clearly identified as **Exercise Pacific Wave 08** and **For Exercise Purposes Only**. In the case of a real event occurring during the exercise, PTWC, NWPTAC, and/or WC/ATWC will issue their normal message products for the event. Such messages will be given full priority and a decision will be made by each Center whether to continue or cease their participation in the exercise. Smaller earthquakes that only trigger a Tsunami Information Bulletin will not disrupt the exercise.

3.5 RESOURCING

Although participating countries 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.

3.6 MEDIA ARRANGEMENTS

The UNESCO Bureau of Public Information will issue an international Media Advisory in late September or early October to alert the press of the 28-30 October "Exercise Pacific Wave 08." About one week before the exercise, UNESCO will issue a second press release with more details on the exercise.

Appendix VI contains a sample press release that can be customized by Member States. The UNESCO EPW06 press releases are also included.

ICG/PTWS Member States should consider issuing one or two exercise press releases to their respective country's media in conjunction with UNESCO releases. Member States' press releases will give adequate alert to their country's population and give their local media time to conduct interviews and documentaries with participating exercise organizations in advance of the exercise.

A second Member State press release, one week before the exercise, would provide a more detailed description of exercise activities to take place within that country.

4 POST EVALUATION

4.1 EVALUATION AND DEBRIEFING

All participating countries are asked to provide brief feedback on the exercise by 28 November 2008, or within four weeks of the exercise. This feedback will greatly assist in the evaluation of Exercise Pacific Wave 08 and assist in the development of subsequent exercises.

4.2 EVALUATION INSTRUMENTS

The goal of exercise evaluation is to validate strengths and identify opportunities for improvement within the participating organisations. This is to be accomplished by collating supporting data; analysing the data to compare effectiveness against requirements; and determining what changes need to be made by participating organisations as well as the PTWS as a collective to support effective tsunami warning and decision making.

Evaluation of this exercise will focus on the adequacy of plans, policies, procedures, assessment capabilities, communication, resources and inter-agency/inter-jurisdictional relationships that support effective tsunami warning and decision-making at all levels of government. Participants that choose to include additional objectives, for example by exercising public warning and/or response plans, can expand the evaluation instrument accordingly. The evaluation of such additional objectives will be for the use of the particular participant only and is not required for the integrated PTWS report.

The evaluation instrument aims to inform and facilitate individual participant country evaluations as well as the integrated EPW08 Report.

Official Exercise Evaluation Forms addressing the respective focus areas and objectives are included in Appendix VII. All participant countries are required to complete the official Exercise Evaluation Forms and return only those forms back to the Exercise Task Team by 28 November 2008, or within four weeks after the exercise.

It is suggested that a formal exercise debrief inclusive of all participants in the respective countries will be required to facilitate a collective and official evaluation. The method applied to collect the data required for consideration in the debrief is to be decided upon by the individual participant countries. It is recommended that independent and objective exercise evaluators/observers be appointed at all exercise points to support the collection of such data. Evaluators/observers are to be guided by the exercise objectives and the information required in the Exercise Evaluation Forms. A useful guide to debriefing is one used by New Zealand Civil Defence and Emergency Management. It can be found at:

http://www.civildefence.govt.nz/memwebsite.nsf/Files/Information_Series/$file/DeBriefing%20Info%20Book.pdf

In completing evaluation forms, participating organisations must have the ability to note areas for improvement and actions that they plan to take without concern that the information carries political or operational risks. Thus, all official Exercise Evaluation Forms are designated as “For Official Use Only” and will be restricted for use by the exercise Task Team for the sole purpose of compilation of the integrated EPW08 Report. Some participant countries may however decide to share their individual evaluation outcomes with the public. While the EPW08 Report will be submitted to the IOC, the decision to share the information contained in it with the public will be made by the ICG of the PTWS.

APPENDIX I. SAMPLE DUMMY EXERCISE MESSAGES

PTWC Sample Dummy Exercise Message

```
TEST...TSUNAMI EXERCISE MESSAGE NUMBER 001...TEST
PACIFIC TSUNAMI WARNING CENTER
0010 UTC 29 OCT 2008

TO:  PARTICIPANTS OF PACIFIC WAVE 08 TSUNAMI EXERCISE.
     ALL OTHERS PLEASE IGNORE.

SUBJECT:  EXERCISE PACIFIC WAVE 08
          REFER TO PTWC BULLETIN 1 IN EXERCISE MANUAL

THIS MESSAGE IS ONE OF A SERIES OF MESSAGES THAT ARE BEING ISSUED
AS PART OF THE PACIFIC WAVE 08 TSUNAMI EXERCISE.  THE EXERCISE IS
TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE
EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE PACIFIC WAVE 08
EXERCISE MANUAL FOR THE CORRESPONDING PTWC BULLETIN 1.

THIS IS ONLY AN EXERCISE.
```

WC/ATWC Sample Dummy Exercise Message

```
TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
410 PM PDT TUE OCT 28 2008

...PACIFIC WAVE 08 TSUNAMI EXERCISE MESSAGE. REFER TO WC/ATWC BULLETIN 1 IN THE
EXERCISE MANUAL. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS ONE OF A SERIES OF MESSAGES THAT ARE BEING ISSUED
AS PART OF THE PACIFIC WAVE 08 TSUNAMI EXERCISE.  THE EXERCISE IS
TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE
EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE PACIFIC WAVE 08
EXERCISE MANUAL FOR THE CORRESPONDING WC/ATWC BULLETIN 1.

THIS IS ONLY AN EXERCISE.
```

NWPTAC Sample Dummy Exercise Message

```
TSUNAMI EXERCISE MESSAGE NUMBER 001
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0005Z 29 OCT 2008

TO:  PARTICIPANTS OF PACIFIC WAVE 08 TSUNAMI EXERCISE.
     ALL OTHERS PLEASE IGNORE.

SUBJECT:  EXERCISE PACIFIC WAVE 08
          REFER TO NWPTAC BULLETIN 1 IN EXERCISE MANUAL

THIS MESSAGE IS ONE OF A SERIES OF MESSAGES THAT ARE BEING ISSUED
AS PART OF THE PACIFIC WAVE 08 TSUNAMI EXERCISE.  THE EXERCISE IS
TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE
EVENT OF AN ACTUAL TSUNAMI.
```

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE PACIFIC WAVE 08
EXERCISE MANUAL FOR THE CORRESPONDING NWPTAC BULLETIN 1

THIS IS ONLY AN EXERCISE.

APPENDIX II. PTWC REFERENCE MESSAGES

The following messages, created for the Pacific Wave 08 tsunami exercise, are representative of what might be issued by the Pacific Tsunami Warning Center during an actual large tsunami event originating in the northwest Pacific off of Japan.

PTWC BULLETIN 1.

```
TSUNAMI BULLETIN NUMBER 001
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0010Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A TSUNAMI WARNING AND WATCH ARE IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

 JAPAN / RUSSIA / MARCUS IS.

A TSUNAMI WATCH IS IN EFFECT FOR

 N. MARIANAS / GUAM / WAKE IS. / CHINESE TAIPEI / TAIWAN / YAP /
 PHILIPPINES / MARSHALL IS. / CHUUK / MIDWAY IS. / POHNPEI /
 BELAU / KOSRAE / INDONESIA / PAPUA NEW GUINEA / HAWAII

FOR ALL OTHER AREAS COVERED BY THIS BULLETIN... IT IS FOR
INFORMATION ONLY AT THIS TIME.

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

 ORIGIN TIME -  0000Z 29 OCT 2008
 COORDINATES -  40.0 NORTH  143.0 EAST
 DEPTH       -   33 KM
 LOCATION    -  OFF EAST COAST OF HONSHU  JAPAN
 MAGNITUDE   -  8.5

EVALUATION

 IT IS NOT KNOWN THAT A TSUNAMI WAS GENERATED. THIS WARNING IS
 BASED ONLY ON THE EARTHQUAKE EVALUATION. AN EARTHQUAKE OF THIS
 SIZE HAS THE POTENTIAL TO GENERATE A DESTRUCTIVE TSUNAMI THAT CAN
 STRIKE COASTLINES NEAR THE EPICENTER WITHIN MINUTES AND MORE
 DISTANT COASTLINES WITHIN HOURS. AUTHORITIES SHOULD TAKE
 APPROPRIATE ACTION IN RESPONSE TO THIS POSSIBILITY. THIS CENTER
 WILL MONITOR SEA LEVEL DATA FROM GAUGES NEAR THE EARTHQUAKE TO
 DETERMINE IF A TSUNAMI WAS GENERATED AND ESTIMATE THE SEVERITY OF
 THE THREAT.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

 LOCATION         FORECAST POINT     COORDINATES     ARRIVAL TIME
 -------------------------------    ------------    ------------
 JAPAN            HACHINOHE          40.5N 141.7E    0033Z 29 OCT
```

	KUSHIRO	42.9N 144.3E	0043Z 29 OCT
	KATSUURA	35.0N 140.3E	0102Z 29 OCT
	SHIMIZU	32.8N 133.0E	0225Z 29 OCT
	OKINAWA	26.2N 127.8E	0319Z 29 OCT
RUSSIA	URUP IS	46.1N 150.5E	0118Z 29 OCT
	PETROPAVLOVSK K	53.2N 159.6E	0226Z 29 OCT
	SEVERO KURILSK	50.8N 156.1E	0229Z 29 OCT
	UST KAMCHATSK	56.1N 162.6E	0248Z 29 OCT
	MEDNNY IS	54.7N 167.4E	0249Z 29 OCT
MARCUS IS.	MARCUS IS.	24.3N 154.0E	0225Z 29 OCT
N. MARIANAS	SAIPAN	15.3N 145.8E	0326Z 29 OCT
GUAM	GUAM	13.4N 144.7E	0342Z 29 OCT
WAKE IS.	WAKE IS.	19.3N 166.6E	0350Z 29 OCT
CHINESE TAIPEI	HUALIEN	24.0N 121.7E	0403Z 29 OCT
	TAITUNG	22.7N 121.2E	0407Z 29 OCT
	CHILUNG	25.2N 121.8E	0430Z 29 OCT
	KAOHSIUNG	22.5N 120.3E	0442Z 29 OCT
TAIWAN	HUALIEN	24.0N 121.6E	0404Z 29 OCT
YAP	YAP IS.	9.5N 138.1E	0417Z 29 OCT
PHILIPPINES	PALANAN	17.1N 122.6E	0425Z 29 OCT
	LAOAG	18.2N 120.5E	0445Z 29 OCT
	SAN FERNANDO	16.7N 120.2E	0504Z 29 OCT
	LEGASPI	13.2N 123.8E	0507Z 29 OCT
	DAVAO	6.8N 125.7E	0521Z 29 OCT
	ZAMBOANGA	6.9N 122.1E	0605Z 29 OCT
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0428Z 29 OCT
	KWAJALEIN	8.7N 167.7E	0511Z 29 OCT
	MAJURO	7.1N 171.4E	0540Z 29 OCT
CHUUK	CHUUK IS.	7.4N 151.8E	0432Z 29 OCT
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	0443Z 29 OCT
POHNPEI	POHNPEI IS.	7.0N 158.2E	0444Z 29 OCT
BELAU	MALAKAL	7.3N 134.5E	0446Z 29 OCT
KOSRAE	KOSRAE IS.	5.5N 163.0E	0511Z 29 OCT
INDONESIA	GEME	4.6N 126.8E	0519Z 29 OCT
	BEREBERE	2.5N 128.7E	0529Z 29 OCT
	WARSA	0.6S 135.8E	0545Z 29 OCT
	MANOKWARI	0.8S 134.2E	0552Z 29 OCT
	PATANI	0.4N 128.8E	0554Z 29 OCT
	MANADO	1.6N 124.9E	0601Z 29 OCT
	SORONG	0.8S 131.1E	0604Z 29 OCT
	JAYAPURA	2.4S 140.8E	0607Z 29 OCT
PAPUA NEW GUINE	KAVIENG	2.5S 150.7E	0556Z 29 OCT
	MANUS IS.	2.0S 147.5E	0556Z 29 OCT
	VANIMO	2.6S 141.3E	0607Z 29 OCT

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THE TSUNAMI WARNING AND WATCH WILL REMAIN IN EFFECT UNTIL
FURTHER NOTICE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES
FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH
CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 2.

TSUNAMI BULLETIN NUMBER 002
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0040Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A TSUNAMI WARNING AND WATCH ARE IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS

A TSUNAMI WATCH IS IN EFFECT FOR

GUAM / WAKE IS. / CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. / CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA / PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI / HAWAII

FOR ALL OTHER AREAS COVERED BY THIS BULLETIN... IT IS FOR INFORMATION ONLY AT THIS TIME.

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS
NOTE THE INCREASE IN MAGNITUDE.

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
OFUNATO HONSHU	39.0N	141.8E	0031Z	8.0M /26.2FT	23MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS INDICATE A TSUNAMI WAS GENERATED. IT MAY HAVE BEEN DESTRUCTIVE ALONG COASTS NEAR THE EARTHQUAKE EPICENTER AND COULD ALSO BE A THREAT TO MORE DISTANT COASTS. AUTHORITIES SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THIS POSSIBILITY. THIS CENTER WILL CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND SEVERITY OF THE THREAT.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
JAPAN	HACHINOHE	40.5N 141.7E	0033Z 29 OCT

	KUSHIRO	42.9N 144.3E	0043Z 29 OCT
	KATSUURA	35.0N 140.3E	0102Z 29 OCT
	SHIMIZU	32.8N 133.0E	0225Z 29 OCT
	OKINAWA	26.2N 127.8E	0319Z 29 OCT
RUSSIA	URUP IS	46.1N 150.5E	0118Z 29 OCT
	PETROPAVLOVSK K	53.2N 159.6E	0226Z 29 OCT
	SEVERO KURILSK	50.8N 156.1E	0229Z 29 OCT
	UST KAMCHATSK	56.1N 162.6E	0248Z 29 OCT
	MEDNNY IS	54.7N 167.4E	0249Z 29 OCT
MARCUS IS.	MARCUS IS.	24.3N 154.0E	0225Z 29 OCT
N. MARIANAS	SAIPAN	15.3N 145.8E	0326Z 29 OCT
GUAM	GUAM	13.4N 144.7E	0342Z 29 OCT
WAKE IS.	WAKE IS.	19.3N 166.6E	0350Z 29 OCT
CHINESE TAIPEI	HUALIEN	24.0N 121.7E	0403Z 29 OCT
	TAITUNG	22.7N 121.2E	0407Z 29 OCT
	CHILUNG	25.2N 121.8E	0430Z 29 OCT
	KAOHSIUNG	22.5N 120.3E	0442Z 29 OCT
	HOMEL	24.2N 120.4E	0615Z 29 OCT
TAIWAN	HUALIEN	24.0N 121.6E	0404Z 29 OCT
YAP	YAP IS.	9.5N 138.1E	0417Z 29 OCT
PHILIPPINES	PALANAN	17.1N 122.6E	0425Z 29 OCT
	LAOAG	18.2N 120.5E	0445Z 29 OCT
	SAN FERNANDO	16.7N 120.2E	0504Z 29 OCT
	LEGASPI	13.2N 123.8E	0507Z 29 OCT
	DAVAO	6.8N 125.7E	0521Z 29 OCT
	ZAMBOANGA	6.9N 122.1E	0605Z 29 OCT
	MANILA	14.7N 120.8E	0621Z 29 OCT
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0428Z 29 OCT
	KWAJALEIN	8.7N 167.7E	0511Z 29 OCT
	MAJURO	7.1N 171.4E	0540Z 29 OCT
CHUUK	CHUUK IS.	7.4N 151.8E	0432Z 29 OCT
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	0443Z 29 OCT
POHNPEI	POHNPEI IS.	7.0N 158.2E	0444Z 29 OCT
BELAU	MALAKAL	7.3N 134.5E	0446Z 29 OCT
KOSRAE	KOSRAE IS.	5.5N 163.0E	0511Z 29 OCT
INDONESIA	GEME	4.6N 126.8E	0519Z 29 OCT
	BEREBERE	2.5N 128.7E	0529Z 29 OCT
	WARSA	0.6S 135.8E	0545Z 29 OCT
	MANOKWARI	0.8S 134.2E	0552Z 29 OCT
	PATANI	0.4N 128.8E	0554Z 29 OCT
	MANADO	1.6N 124.9E	0601Z 29 OCT
	SORONG	0.8S 131.1E	0604Z 29 OCT
	JAYAPURA	2.4S 140.8E	0607Z 29 OCT
PAPUA NEW GUINE	KAVIENG	2.5S 150.7E	0556Z 29 OCT
	MANUS IS.	2.0S 147.5E	0556Z 29 OCT
	VANIMO	2.6S 141.3E	0607Z 29 OCT
	RABAUL	4.2S 152.3E	0614Z 29 OCT
	WEWAK	3.5S 143.6E	0618Z 29 OCT
	KIETA	6.1S 155.6E	0637Z 29 OCT
	AMUN	6.0S 154.7E	0639Z 29 OCT
NAURU	NAURU	0.5S 166.9E	0615Z 29 OCT
JOHNSTON IS.	JOHNSTON IS.	16.7N 169.5W	0619Z 29 OCT
KIRIBATI	TARAWA IS.	1.5N 173.0E	0628Z 29 OCT

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THE TSUNAMI WARNING AND WATCH WILL REMAIN IN EFFECT UNTIL
FURTHER NOTICE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES
FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH
CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 3.

TSUNAMI BULLETIN NUMBER 003
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0140Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. /
CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. /
CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA /
PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI /
SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU /
CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU /
JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA /
COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA /
MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN /
GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA /
ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA /
CAMBODIA / PERU / THAILAND

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
OFUNATO HONSHU	39.0N	141.8E	0031Z	8.0M /26.2FT	23MIN
HANASAKI HOKKAIDO	43.3N	145.6E	0054Z	10.0M /32.8FT	21MIN
OMAEZAKI HONSHU	34.7N	138.3E	0133Z	1.0M / 3.3FT	23MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED
WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE
APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL
CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND
SEVERITY OF THE THREAT.

A TSUNAMI IS A SERIES OF WAVES AND THE FIRST WAVE MAY NOT BE THE
LARGEST. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND CAN VARY
SIGNIFICANTLY ALONG A COAST DUE TO LOCAL EFFECTS. THE TIME FROM
ONE TSUNAMI WAVE TO THE NEXT CAN BE FIVE MINUTES TO AN HOUR, AND

THE THREAT CAN CONTINUE FOR MANY HOURS AS MULTIPLE WAVES ARRIVE.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
JAPAN	HACHINOHE	40.5N 141.7E	0033Z 29 OCT
	KUSHIRO	42.9N 144.3E	0043Z 29 OCT
	KATSUURA	35.0N 140.3E	0102Z 29 OCT
	SHIMIZU	32.8N 133.0E	0225Z 29 OCT
	OKINAWA	26.2N 127.8E	0319Z 29 OCT
RUSSIA	URUP IS	46.1N 150.5E	0118Z 29 OCT
	PETROPAVLOVSK K	53.2N 159.6E	0226Z 29 OCT
	SEVERO KURILSK	50.8N 156.1E	0229Z 29 OCT
	UST KAMCHATSK	56.1N 162.6E	0248Z 29 OCT
	MEDNNY IS	54.7N 167.4E	0249Z 29 OCT
MARCUS IS.	MARCUS IS.	24.3N 154.0E	0225Z 29 OCT
N. MARIANAS	SAIPAN	15.3N 145.8E	0326Z 29 OCT
GUAM	GUAM	13.4N 144.7E	0342Z 29 OCT
WAKE IS.	WAKE IS.	19.3N 166.6E	0350Z 29 OCT
CHINESE TAIPEI	HUALIEN	24.0N 121.7E	0403Z 29 OCT
	TAITUNG	22.7N 121.2E	0407Z 29 OCT
	CHILUNG	25.2N 121.8E	0430Z 29 OCT
	KAOHSIUNG	22.5N 120.3E	0442Z 29 OCT
	HOMEL	24.2N 120.4E	0615Z 29 OCT
TAIWAN	HUALIEN	24.0N 121.6E	0404Z 29 OCT
YAP	YAP IS.	9.5N 138.1E	0417Z 29 OCT
PHILIPPINES	PALANAN	17.1N 122.6E	0425Z 29 OCT
	LAOAG	18.2N 120.5E	0445Z 29 OCT
	SAN FERNANDO	16.7N 120.2E	0504Z 29 OCT
	LEGASPI	13.2N 123.8E	0507Z 29 OCT
	DAVAO	6.8N 125.7E	0521Z 29 OCT
	ZAMBOANGA	6.9N 122.1E	0605Z 29 OCT
	MANILA	14.7N 120.8E	0621Z 29 OCT
	ILOILO	10.7N 122.5E	0641Z 29 OCT
	PUERTO PRINCESA	9.8N 118.8E	0700Z 29 OCT
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0428Z 29 OCT
	KWAJALEIN	8.7N 167.7E	0511Z 29 OCT
	MAJURO	7.1N 171.4E	0540Z 29 OCT
CHUUK	CHUUK IS.	7.4N 151.8E	0432Z 29 OCT
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	0443Z 29 OCT
POHNPEI	POHNPEI IS.	7.0N 158.2E	0444Z 29 OCT
BELAU	MALAKAL	7.3N 134.5E	0446Z 29 OCT
KOSRAE	KOSRAE IS.	5.5N 163.0E	0511Z 29 OCT
INDONESIA	GEME	4.6N 126.8E	0519Z 29 OCT
	BEREBERE	2.5N 128.7E	0529Z 29 OCT
	WARSA	0.6S 135.8E	0545Z 29 OCT
	MANOKWARI	0.8S 134.2E	0552Z 29 OCT
	PATANI	0.4N 128.8E	0554Z 29 OCT
	MANADO	1.6N 124.9E	0601Z 29 OCT
	SORONG	0.8S 131.1E	0604Z 29 OCT
	JAYAPURA	2.4S 140.8E	0607Z 29 OCT
	TARAKAN	3.3N 117.6E	0713Z 29 OCT
	SINGKAWANG	1.0N 108.8E	1330Z 29 OCT
	PANGKALPINANG	2.0S 106.2E	1802Z 29 OCT
PAPUA NEW GUINE	KAVIENG	2.5S 150.7E	0556Z 29 OCT
	MANUS IS.	2.0S 147.5E	0556Z 29 OCT
	VANIMO	2.6S 141.3E	0607Z 29 OCT

	RABAUL	4.2S 152.3E	0614Z 29 OCT
	WEWAK	3.5S 143.6E	0618Z 29 OCT
	KIETA	6.1S 155.6E	0637Z 29 OCT
	AMUN	6.0S 154.7E	0639Z 29 OCT
	MADANG	5.2S 145.8E	0643Z 29 OCT
	LAE	6.8S 147.0E	0721Z 29 OCT
	PORT MORESBY	9.3S 146.9E	0844Z 29 OCT
NAURU	NAURU	0.5S 166.9E	0615Z 29 OCT
JOHNSTON IS.	JOHNSTON IS.	16.7N 169.5W	0619Z 29 OCT
KIRIBATI	TARAWA IS.	1.5N 173.0E	0628Z 29 OCT
	KANTON IS.	2.8S 171.7W	0753Z 29 OCT
	CHRISTMAS IS.	2.0N 157.5W	0903Z 29 OCT
	MALDEN IS.	3.9S 154.9W	0941Z 29 OCT
	FLINT IS.	11.4S 151.8W	1036Z 29 OCT
SOLOMON IS.	FALAMAE	7.4S 155.6E	0646Z 29 OCT
	PANGGOE	6.9S 157.2E	0652Z 29 OCT
	MUNDA	8.4S 157.2E	0705Z 29 OCT
	GHATERE	7.8S 159.2E	0718Z 29 OCT
	AUKI	8.8S 160.6E	0739Z 29 OCT
	KIRAKIRA	10.4S 161.9E	0741Z 29 OCT
	HONIARA	9.3S 160.0E	0742Z 29 OCT
VIETNAM	QUI NHON	13.7N 109.3E	0647Z 29 OCT
	VINH	18.7N 105.8E	0906Z 29 OCT
	BAC LIEU	9.2N 105.8E	1135Z 29 OCT
HOWLAND-BAKER	HOWLAND IS.	0.6N 176.6W	0707Z 29 OCT
HAWAII	NAWILIWILI	22.0N 159.4W	0710Z 29 OCT
	HONOLULU	21.2N 157.8W	0728Z 29 OCT
	HILO	19.8N 155.0W	0745Z 29 OCT
TUVALU	FUNAFUTI IS.	7.9S 178.5E	0753Z 29 OCT
CHINA	HONG KONG	22.3N 114.3E	0753Z 29 OCT
MALAYSIA	SANDAKAN	5.9N 118.1E	0755Z 29 OCT
	BINTULU	3.2N 113.0E	0910Z 29 OCT
	K TERENGGANU	5.3N 103.2E	1427Z 29 OCT
PALMYRA IS.	PALMYRA IS.	6.3N 162.4W	0800Z 29 OCT
BRUNEI	MUARA	5.0N 115.1E	0817Z 29 OCT
VANUATU	ESPERITU SANTO	15.1S 167.3E	0832Z 29 OCT
	ANATOM IS.	20.2S 169.9E	0924Z 29 OCT
TOKELAU	NUKUNONU IS.	9.2S 171.8W	0832Z 29 OCT
JARVIS IS.	JARVIS IS.	0.4S 160.1W	0849Z 29 OCT
WALLIS-FUTUNA	WALLIS IS.	13.2S 176.2W	0850Z 29 OCT
SAMOA	APIA	13.8S 171.7W	0909Z 29 OCT
AMERICAN SAMOA	PAGO PAGO	14.3S 170.7W	0915Z 29 OCT
COOK ISLANDS	PUKAPUKA IS.	10.8S 165.9W	0915Z 29 OCT
	PENRYN IS.	8.9S 157.8W	0947Z 29 OCT
	RAROTONGA	21.2S 159.8W	1049Z 29 OCT
AUSTRALIA	CAIRNS	16.7S 145.8E	0932Z 29 OCT
	BRISBANE	27.2S 153.3E	1039Z 29 OCT
	SYDNEY	33.9S 151.4E	1120Z 29 OCT
	MACKAY	21.1S 149.3E	1133Z 29 OCT
	GLADSTONE	23.8S 151.4E	1200Z 29 OCT
	HOBART	43.3S 147.6E	1253Z 29 OCT
NIUE	NIUE IS.	19.0S 170.0W	0949Z 29 OCT
FIJI	SUVA	18.1S 178.4E	0952Z 29 OCT
NEW CALEDONIA	NOUMEA	22.3S 166.5E	0955Z 29 OCT
TONGA	NUKUALOFA	21.0S 175.2W	1016Z 29 OCT
MEXICO	ENSENADA	31.8N 116.8W	1049Z 29 OCT
	PUNTA ABREOJOS	26.7N 113.6W	1132Z 29 OCT
	CABO SAN LUCAS	22.8N 110.0W	1213Z 29 OCT
	SOCORRO	18.8N 111.0W	1222Z 29 OCT
	MAZATLAN	23.2N 106.4W	1259Z 29 OCT
	MANZANILLO	19.0N 104.3W	1322Z 29 OCT
	ACAPULCO	16.8N 100.0W	1402Z 29 OCT
	PUERTO MADERO	14.7N 92.5W	1531Z 29 OCT
KERMADEC IS	RAOUL IS.	29.2S 177.9W	1105Z 29 OCT
FR. POLYNESIA	PAPEETE	17.5S 149.6W	1128Z 29 OCT
	HIVA OA	10.0S 139.0W	1205Z 29 OCT
	RIKITEA	23.1S 135.0W	1336Z 29 OCT
NEW ZEALAND	NORTH CAPE	34.4S 173.3E	1139Z 29 OCT
	EAST CAPE	37.7S 178.7E	1210Z 29 OCT
	GISBORNE	38.7S 178.2E	1222Z 29 OCT

	AUCKLAND(W)	37.1S	174.2E	1238Z 29 OCT
	MILFORD SOUND	44.5S	167.7E	1254Z 29 OCT
	NAPIER	39.5S	177.0E	1259Z 29 OCT
	NEW PLYMOUTH	39.1S	174.1E	1311Z 29 OCT
	AUCKLAND(E)	36.7S	175.0E	1329Z 29 OCT
	WELLINGTON	41.2S	174.7E	1330Z 29 OCT
	WESTPORT	41.7S	171.5E	1345Z 29 OCT
	BLUFF	46.6S	168.3E	1401Z 29 OCT
	LYTTELTON	43.5S	172.8E	1409Z 29 OCT
	NELSON	41.2S	173.3E	1427Z 29 OCT
	DUNEDIN	45.8S	170.7E	1444Z 29 OCT
PITCAIRN	PITCAIRN IS.	25.1S	130.1W	1422Z 29 OCT
GUATEMALA	SIPICATE	13.9N	91.2W	1543Z 29 OCT
EL SALVADOR	ACAJUTLA	13.5N	89.8W	1557Z 29 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1615Z 29 OCT
COSTA RICA	CABO SAN ELENA	10.9N	86.0W	1616Z 29 OCT
	PUERTO QUEPOS	9.4N	84.2W	1640Z 29 OCT
	CABO MATAPALO	8.4N	83.3W	1644Z 29 OCT
NICARAGUA	CORINTO	12.5N	87.2W	1624Z 29 OCT
	PUERTO SANDINO	12.2N	86.8W	1626Z 29 OCT
	SAN JUAN DL SUR	11.2N	85.9W	1634Z 29 OCT
ANTARCTICA	CAPE ADARE	71.0S	170.0E	1649Z 29 OCT
	THURSTON IS.	71.8S	100.0W	1934Z 29 OCT
HONDURAS	AMAPALA	13.2N	87.6W	1650Z 29 OCT
PANAMA	PUNTA BURICA	8.0N	82.8W	1652Z 29 OCT
	PUNTA MALA	7.5N	79.8W	1744Z 29 OCT
	PUERTO PINA	7.3N	78.2W	1750Z 29 OCT
	BALBOA HTS.	8.8N	79.7W	1915Z 29 OCT
ECUADOR	BALTRA IS.	0.5S	90.2W	1712Z 29 OCT
	ESMERELDAS	1.2N	79.8W	1810Z 29 OCT
	LA LIBERTAD	2.2S	81.2W	1832Z 29 OCT
CHILE	EASTER IS.	27.1S	109.4W	1712Z 29 OCT
	IQUIQUE	20.2S	70.1W	2052Z 29 OCT
	ARICA	18.5S	70.3W	2053Z 29 OCT
	ANTOFAGASTA	23.5S	70.5W	2104Z 29 OCT
	CALDERA	27.0S	70.8W	2120Z 29 OCT
	COQUIMBO	29.8S	71.3W	2129Z 29 OCT
	GOLFO DE PENAS	47.1S	74.9W	2136Z 29 OCT
	VALPARAISO	33.0S	71.6W	2142Z 29 OCT
	TALCAHUANO	36.7S	73.1W	2204Z 29 OCT
	CORRAL	39.8S	73.5W	2212Z 29 OCT
	PUERTO WILLIAMS	54.8S	68.2W	2258Z 29 OCT
	PUNTA ARENAS	53.8S	71.7W	2312Z 29 OCT
	PUERTO MONTT	41.5S	72.8W	0030Z 30 OCT
COLOMBIA	BAHIA SOLANO	6.3N	77.5W	1756Z 29 OCT
	TUMACO	1.8N	78.9W	1818Z 29 OCT
	BUENAVENTURA	3.8N	77.2W	1830Z 29 OCT
CAMBODIA	SIHANOUKVILLE	10.7N	103.5E	1826Z 29 OCT
PERU	TALARA	4.6S	81.5W	1840Z 29 OCT
	LA PUNTA	12.1S	77.2W	1948Z 29 OCT
	CHIMBOTE	9.0S	78.8W	1949Z 29 OCT
	PIMENTAL	6.9S	80.0W	1950Z 29 OCT
	SAN JUAN	15.3S	75.2W	2003Z 29 OCT
	MOLLENDO	17.2S	72.0W	2033Z 29 OCT
THAILAND	NK SI THAMMARAT	8.7N	100.0E	1845Z 29 OCT
	PRA KHIRI KHAN	11.7N	99.8E	2033Z 29 OCT

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES
FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH
CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 4.

TSUNAMI BULLETIN NUMBER 004
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0240Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. /
CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. /
CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA /
PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI /
SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU /
CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU /
JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA /
COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA /
MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN /
GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA /
ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA /
CAMBODIA / PERU / THAILAND

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
OFUNATO HONSHU	39.0N	141.8E	0031Z	8.0M /26.2FT	23MIN
HANASAKI HOKKAIDO	43.3N	145.6E	0054Z	10.0M /32.8FT	21MIN
OMAEZAKI HONSHU	34.7N	138.3E	0133Z	1.0M / 3.3FT	23MIN
TOSASHIMIZU SHIKOKU	32.8N	133.0E	0226Z	0.8M / 2.6FT	18MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED
WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE
APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL
CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND
SEVERITY OF THE THREAT.

A TSUNAMI IS A SERIES OF WAVES AND THE FIRST WAVE MAY NOT BE THE
LARGEST. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND CAN VARY
SIGNIFICANTLY ALONG A COAST DUE TO LOCAL EFFECTS. THE TIME FROM

ONE TSUNAMI WAVE TO THE NEXT CAN BE FIVE MINUTES TO AN HOUR, AND THE THREAT CAN CONTINUE FOR MANY HOURS AS MULTIPLE WAVES ARRIVE.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
JAPAN	HACHINOHE	40.5N 141.7E	0033Z 29 OCT
	KUSHIRO	42.9N 144.3E	0043Z 29 OCT
	KATSUURA	35.0N 140.3E	0102Z 29 OCT
	SHIMIZU	32.8N 133.0E	0225Z 29 OCT
	OKINAWA	26.2N 127.8E	0319Z 29 OCT
RUSSIA	URUP IS	46.1N 150.5E	0118Z 29 OCT
	PETROPAVLOVSK K	53.2N 159.6E	0226Z 29 OCT
	SEVERO KURILSK	50.8N 156.1E	0229Z 29 OCT
	UST KAMCHATSK	56.1N 162.6E	0248Z 29 OCT
	MEDNNY IS	54.7N 167.4E	0249Z 29 OCT
MARCUS IS.	MARCUS IS.	24.3N 154.0E	0225Z 29 OCT
N. MARIANAS	SAIPAN	15.3N 145.8E	0326Z 29 OCT
GUAM	GUAM	13.4N 144.7E	0342Z 29 OCT
WAKE IS.	WAKE IS.	19.3N 166.6E	0350Z 29 OCT
CHINESE TAIPEI	HUALIEN	24.0N 121.7E	0403Z 29 OCT
	TAITUNG	22.7N 121.2E	0407Z 29 OCT
	CHILUNG	25.2N 121.8E	0430Z 29 OCT
	KAOHSIUNG	22.5N 120.3E	0442Z 29 OCT
	HOMEL	24.2N 120.4E	0615Z 29 OCT
TAIWAN	HUALIEN	24.0N 121.6E	0404Z 29 OCT
YAP	YAP IS.	9.5N 138.1E	0417Z 29 OCT
PHILIPPINES	PALANAN	17.1N 122.6E	0425Z 29 OCT
	LAOAG	18.2N 120.5E	0445Z 29 OCT
	SAN FERNANDO	16.7N 120.2E	0504Z 29 OCT
	LEGASPI	13.2N 123.8E	0507Z 29 OCT
	DAVAO	6.8N 125.7E	0521Z 29 OCT
	ZAMBOANGA	6.9N 122.1E	0605Z 29 OCT
	MANILA	14.7N 120.8E	0621Z 29 OCT
	ILOILO	10.7N 122.5E	0641Z 29 OCT
	PUERTO PRINCESA	9.8N 118.8E	0700Z 29 OCT
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0428Z 29 OCT
	KWAJALEIN	8.7N 167.7E	0511Z 29 OCT
	MAJURO	7.1N 171.4E	0540Z 29 OCT
CHUUK	CHUUK IS.	7.4N 151.8E	0432Z 29 OCT
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	0443Z 29 OCT
POHNPEI	POHNPEI IS.	7.0N 158.2E	0444Z 29 OCT
BELAU	MALAKAL	7.3N 134.5E	0446Z 29 OCT
KOSRAE	KOSRAE IS.	5.5N 163.0E	0511Z 29 OCT
INDONESIA	GEME	4.6N 126.8E	0519Z 29 OCT
	BEREBERE	2.5N 128.7E	0529Z 29 OCT
	WARSA	0.6S 135.8E	0545Z 29 OCT
	MANOKWARI	0.8S 134.2E	0552Z 29 OCT
	PATANI	0.4N 128.8E	0554Z 29 OCT
	MANADO	1.6N 124.9E	0601Z 29 OCT
	SORONG	0.8S 131.1E	0604Z 29 OCT
	JAYAPURA	2.4S 140.8E	0607Z 29 OCT
	TARAKAN	3.3N 117.6E	0713Z 29 OCT
	SINGKAWANG	1.0N 108.8E	1330Z 29 OCT
	PANGKALPINANG	2.0S 106.2E	1802Z 29 OCT
PAPUA NEW GUINE	KAVIENG	2.5S 150.7E	0556Z 29 OCT
	MANUS IS.	2.0S 147.5E	0556Z 29 OCT

	VANIMO	2.6S 141.3E	0607Z 29 OCT
	RABAUL	4.2S 152.3E	0614Z 29 OCT
	WEWAK	3.5S 143.6E	0618Z 29 OCT
	KIETA	6.1S 155.6E	0637Z 29 OCT
	AMUN	6.0S 154.7E	0639Z 29 OCT
	MADANG	5.2S 145.8E	0643Z 29 OCT
	LAE	6.8S 147.0E	0721Z 29 OCT
	PORT MORESBY	9.3S 146.9E	0844Z 29 OCT
NAURU	NAURU	0.5S 166.9E	0615Z 29 OCT
JOHNSTON IS.	JOHNSTON IS.	16.7N 169.5W	0619Z 29 OCT
KIRIBATI	TARAWA IS.	1.5N 173.0E	0628Z 29 OCT
	KANTON IS.	2.8S 171.7W	0753Z 29 OCT
	CHRISTMAS IS.	2.0N 157.5W	0903Z 29 OCT
	MALDEN IS.	3.9S 154.9W	0941Z 29 OCT
	FLINT IS.	11.4S 151.8W	1036Z 29 OCT
SOLOMON IS.	FALAMAE	7.4S 155.6E	0646Z 29 OCT
	PANGGOE	6.9S 157.2E	0652Z 29 OCT
	MUNDA	8.4S 157.2E	0705Z 29 OCT
	GHATERE	7.8S 159.2E	0718Z 29 OCT
	AUKI	8.8S 160.6E	0739Z 29 OCT
	KIRAKIRA	10.4S 161.9E	0741Z 29 OCT
	HONIARA	9.3S 160.0E	0742Z 29 OCT
VIETNAM	QUI NHON	13.7N 109.3E	0647Z 29 OCT
	VINH	18.7N 105.8E	0906Z 29 OCT
	BAC LIEU	9.2N 105.8E	1135Z 29 OCT
HOWLAND-BAKER	HOWLAND IS.	0.6N 176.6W	0707Z 29 OCT
HAWAII	NAWILIWILI	22.0N 159.4W	0710Z 29 OCT
	HONOLULU	21.2N 157.8W	0728Z 29 OCT
	HILO	19.8N 155.0W	0745Z 29 OCT
TUVALU	FUNAFUTI IS.	7.9S 178.5E	0753Z 29 OCT
CHINA	HONG KONG	22.3N 114.3E	0753Z 29 OCT
MALAYSIA	SANDAKAN	5.9N 118.1E	0755Z 29 OCT
	BINTULU	3.2N 113.0E	0910Z 29 OCT
	K TERENGGANU	5.3N 103.2E	1427Z 29 OCT
PALMYRA IS.	PALMYRA IS.	6.3N 162.4W	0800Z 29 OCT
BRUNEI	MUARA	5.0N 115.1E	0817Z 29 OCT
VANUATU	ESPERITU SANTO	15.1S 167.3E	0832Z 29 OCT
	ANATOM IS.	20.2S 169.9E	0924Z 29 OCT
TOKELAU	NUKUNONU IS.	9.2S 171.8W	0832Z 29 OCT
JARVIS IS.	JARVIS IS.	0.4S 160.1W	0849Z 29 OCT
WALLIS-FUTUNA	WALLIS IS.	13.2S 176.2W	0850Z 29 OCT
SAMOA	APIA	13.8S 171.7W	0909Z 29 OCT
AMERICAN SAMOA	PAGO PAGO	14.3S 170.7W	0915Z 29 OCT
COOK ISLANDS	PUKAPUKA IS.	10.8S 165.9W	0915Z 29 OCT
	PENRYN IS.	8.9S 157.8W	0947Z 29 OCT
	RAROTONGA	21.2S 159.8W	1049Z 29 OCT
AUSTRALIA	CAIRNS	16.7S 145.8E	0932Z 29 OCT
	BRISBANE	27.2S 153.3E	1039Z 29 OCT
	SYDNEY	33.9S 151.4E	1120Z 29 OCT
	MACKAY	21.1S 149.3E	1133Z 29 OCT
	GLADSTONE	23.8S 151.4E	1200Z 29 OCT
	HOBART	43.3S 147.6E	1253Z 29 OCT
NIUE	NIUE IS.	19.0S 170.0W	0949Z 29 OCT
FIJI	SUVA	18.1S 178.4E	0952Z 29 OCT
NEW CALEDONIA	NOUMEA	22.3S 166.5E	0955Z 29 OCT
TONGA	NUKUALOFA	21.0S 175.2W	1016Z 29 OCT
MEXICO	ENSENADA	31.8N 116.8W	1049Z 29 OCT
	PUNTA ABREOJOS	26.7N 113.6W	1132Z 29 OCT
	CABO SAN LUCAS	22.8N 110.0W	1213Z 29 OCT
	SOCORRO	18.8N 111.0W	1222Z 29 OCT
	MAZATLAN	23.2N 106.4W	1259Z 29 OCT
	MANZANILLO	19.0N 104.3W	1322Z 29 OCT
	ACAPULCO	16.8N 100.0W	1402Z 29 OCT
	PUERTO MADERO	14.7N 92.5W	1531Z 29 OCT
KERMADEC IS	RAOUL IS.	29.2S 177.9W	1105Z 29 OCT
FR. POLYNESIA	PAPEETE	17.5S 149.6W	1128Z 29 OCT
	HIVA OA	10.0S 139.0W	1205Z 29 OCT
	RIKITEA	23.1S 135.0W	1336Z 29 OCT
NEW ZEALAND	NORTH CAPE	34.4S 173.3E	1139Z 29 OCT
	EAST CAPE	37.7S 178.7E	1210Z 29 OCT

	GISBORNE	38.7S	178.2E	1222Z 29 OCT
	AUCKLAND(W)	37.1S	174.2E	1238Z 29 OCT
	MILFORD SOUND	44.5S	167.7E	1254Z 29 OCT
	NAPIER	39.5S	177.0E	1259Z 29 OCT
	NEW PLYMOUTH	39.1S	174.1E	1311Z 29 OCT
	AUCKLAND(E)	36.7S	175.0E	1329Z 29 OCT
	WELLINGTON	41.2S	174.7E	1330Z 29 OCT
	WESTPORT	41.7S	171.5E	1345Z 29 OCT
	BLUFF	46.6S	168.3E	1401Z 29 OCT
	LYTTELTON	43.5S	172.8E	1409Z 29 OCT
	NELSON	41.2S	173.3E	1427Z 29 OCT
	DUNEDIN	45.8S	170.7E	1444Z 29 OCT
PITCAIRN	PITCAIRN IS.	25.1S	130.1W	1422Z 29 OCT
GUATEMALA	SIPICATE	13.9N	91.2W	1543Z 29 OCT
EL SALVADOR	ACAJUTLA	13.5N	89.8W	1557Z 29 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1615Z 29 OCT
COSTA RICA	CABO SAN ELENA	10.9N	86.0W	1616Z 29 OCT
	PUERTO QUEPOS	9.4N	84.2W	1640Z 29 OCT
	CABO MATAPALO	8.4N	83.3W	1644Z 29 OCT
NICARAGUA	CORINTO	12.5N	87.2W	1624Z 29 OCT
	PUERTO SANDINO	12.2N	86.8W	1626Z 29 OCT
	SAN JUAN DL SUR	11.2N	85.9W	1634Z 29 OCT
ANTARCTICA	CAPE ADARE	71.0S	170.0E	1649Z 29 OCT
	THURSTON IS.	71.8S	100.0W	1934Z 29 OCT
HONDURAS	AMAPALA	13.2N	87.6W	1650Z 29 OCT
PANAMA	PUNTA BURICA	8.0N	82.8W	1652Z 29 OCT
	PUNTA MALA	7.5N	79.8W	1744Z 29 OCT
	PUERTO PINA	7.3N	78.2W	1750Z 29 OCT
	BALBOA HTS.	8.8N	79.7W	1915Z 29 OCT
ECUADOR	BALTRA IS.	0.5S	90.2W	1712Z 29 OCT
	ESMERELDAS	1.2N	79.8W	1810Z 29 OCT
	LA LIBERTAD	2.2S	81.2W	1832Z 29 OCT
CHILE	EASTER IS.	27.1S	109.4W	1712Z 29 OCT
	IQUIQUE	20.2S	70.1W	2052Z 29 OCT
	ARICA	18.5S	70.3W	2053Z 29 OCT
	ANTOFAGASTA	23.5S	70.5W	2104Z 29 OCT
	CALDERA	27.0S	70.8W	2120Z 29 OCT
	COQUIMBO	29.8S	71.3W	2129Z 29 OCT
	GOLFO DE PENAS	47.1S	74.9W	2136Z 29 OCT
	VALPARAISO	33.0S	71.6W	2142Z 29 OCT
	TALCAHUANO	36.7S	73.1W	2204Z 29 OCT
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	PUERTO WILLIAMS	54.8S	68.2W	2258Z 29 OCT
	PUNTA ARENAS	53.8S	71.7W	2312Z 29 OCT
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COLOMBIA	BAHIA SOLANO	6.3N	77.5W	1756Z 29 OCT
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	BUENAVENTURA	3.8N	77.2W	1830Z 29 OCT
CAMBODIA	SIHANOUKVILLE	10.7N	103.5E	1826Z 29 OCT
PERU	TALARA	4.6S	81.5W	1840Z 29 OCT
	LA PUNTA	12.1S	77.2W	1948Z 29 OCT
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	PIMENTAL	6.9S	80.0W	1950Z 29 OCT
	SAN JUAN	15.3S	75.2W	2003Z 29 OCT
	MOLLENDO	17.2S	72.0W	2033Z 29 OCT
THAILAND	NK SI THAMMARAT	8.7N	100.0E	1845Z 29 OCT
	PRA KHIRI KHAN	11.7N	99.8E	2033Z 29 OCT

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THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

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FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH
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MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 5.

TSUNAMI BULLETIN NUMBER 005
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0340Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. /
CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. /
CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA /
PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI /
SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU /
CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU /
JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA /
COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA /
MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN /
GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA /
ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA /
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ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
OFUNATO HONSHU	39.0N	141.8E	0031Z	8.0M /26.2FT	23MIN
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OMAEZAKI HONSHU	34.7N	138.3E	0133Z	1.0M / 3.3FT	23MIN
TOSASHIMIZU SHIKOKU	32.8N	133.0E	0226Z	0.8M / 2.6FT	18MIN
UST-KAMCHATSK RU	56.0N	163.0E	0243Z	4.0M /13.1FT	19MIN
SEVERO KURILSK RU	50.7N	156.1E	0245Z	6.0M /19.7FT	20MIN
SHEMYA AK	52.7N	174.1E	0321Z	1.7M / 5.7FT	24MIN
SAIPAN US	15.2N	145.7E	0327Z	7.0M /23.0FT	17MIN
NAHA OKINAWA	26.3N	127.7E	0329Z	0.5M / 1.6FT	22MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED
WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE
APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL
CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND

SEVERITY OF THE THREAT.

A TSUNAMI IS A SERIES OF WAVES AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND CAN VARY SIGNIFICANTLY ALONG A COAST DUE TO LOCAL EFFECTS. THE TIME FROM ONE TSUNAMI WAVE TO THE NEXT CAN BE FIVE MINUTES TO AN HOUR, AND THE THREAT CAN CONTINUE FOR MANY HOURS AS MULTIPLE WAVES ARRIVE.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT. THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 9.

TSUNAMI BULLETIN NUMBER 009
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0740Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA... WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. / CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. / CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA / PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI / SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU / CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU / JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA / COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA / MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN / GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA / ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA / CAMBODIA / PERU / THAILAND

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
UST-KAMCHATSK RU	56.0N	163.0E	0243Z	4.0M /13.1FT	19MIN
SEVERO KURILSK RU	50.7N	156.1E	0245Z	6.0M /19.7FT	20MIN
SHEMYA AK	52.7N	174.1E	0321Z	1.7M / 5.7FT	24MIN
SAIPAN US	15.2N	145.7E	0327Z	7.0M /23.0FT	17MIN
NAHA OKINAWA	26.3N	127.7E	0329Z	0.5M / 1.6FT	22MIN
GUAM US	13.4N	144.7E	0342Z	1.3M / 4.4FT	26MIN
WAKE US	19.3N	166.6E	0350Z	1.4M / 4.7FT	22MIN
ISHIGAKIJIMA JP	24.3N	124.0E	0356Z	0.3M / 1.0FT	21MIN
ADAK AK	51.8N	176.8W	0408Z	0.7M / 2.4FT	23MIN
YAP FM	9.5N	138.1E	0417Z	3.0M / 9.8FT	17MIN
MIDWAY	28.2N	177.4W	0443Z	1.4M / 4.7FT	19MIN
POHNPEI FM	7.0N	158.2E	0444Z	3.0M / 9.8FT	19MIN
MALAKAL KOROR PW	7.3N	134.5E	0447Z	0.5M / 1.6FT	20MIN
NIKOLSKI AK	53.0N	169.0W	0448Z	1.2M / 3.9FT	21MIN
LEGASPI PH	13.2N	123.8E	0507Z	4.5M /14.8FT	20MIN
KWAJALEIN MH	8.7N	167.7E	0511Z	1.4M / 4.7FT	23MIN
DUTCH HBR UNALASKA	54.0N	166.5W	0523Z	0.8M / 2.5FT	20MIN
SUBIC BAY PH	14.7N	120.2E	0526Z	0.2M / 0.7FT	18MIN
AKUTAN AK	54.1N	165.8W	0526Z	0.5M / 1.5FT	25MIN
DAVAO PH	7.1N	125.6E	0526Z	1.5M / 4.9FT	17MIN
KAPINGAMARANGI FM	1.1N	154.8E	0531Z	1.0M / 3.3FT	19MIN
MAJURO MH	7.1N	171.4E	0540Z	1.4M / 4.7FT	20MIN
MANUS PG	2.0S	147.4E	0557Z	4.0M /13.1FT	22MIN
RABAUL PG	4.2S	152.3E	0614Z	0.2M / 0.8FT	23MIN
NAURU	0.5S	166.9E	0615Z	1.5M / 4.8FT	22MIN
KING COVE AK	55.1N	162.3W	0618Z	0.4M / 1.3FT	18MIN
SAND POINT AK	55.3N	160.5W	0619Z	0.4M / 1.4FT	24MIN
JOHNSTON US	16.7N	169.5W	0619Z	1.4M / 4.7FT	25MIN
MANILA PH	14.7N	120.8E	0621Z	0.1M / 0.3FT	21MIN
TARAWA KIRIBATI	1.4N	172.9E	0627Z	2.4M / 7.8FT	23MIN
QUI NHON VN	13.8N	109.3E	0646Z	0.2M / 0.7FT	20MIN
KODIAK AK	57.7N	152.3W	0649Z	0.4M / 1.2FT	20MIN
HANALEI KAUAI	22.3N	159.5W	0703Z	2.3M / 7.5FT	22MIN
NAWILIWILI KAUAI	22.0N	159.4W	0710Z	1.1M / 3.7FT	18MIN
HALEIWA OAHU	21.6N	158.1W	0716Z	1.8M / 5.8FT	17MIN
MOKUOLOE OAHU	21.4N	157.8W	0721Z	1.0M / 3.4FT	17MIN
KALAUPAPA MOLOKAI	21.3N	157.0W	0723Z	0.9M / 2.9FT	22MIN
SEWARD AK	60.0N	149.3W	0725Z	0.2M / 0.7FT	24MIN
HONOLULU OAHU	21.2N	157.8W	0728Z	1.1M / 3.5FT	21MIN
YAKUTAT AK	59.5N	139.8W	0729Z	0.6M / 2.1FT	23MIN
KAHULUI MAUI	21.0N	156.5W	0734Z	5.0M /16.3FT	22MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND SEVERITY OF THE THREAT.

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FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS

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PTWC BULLETIN 13.

TSUNAMI BULLETIN NUMBER 009
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1140Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA... WASHINGTON...OREGON AND CALIFORNIA.

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A TSUNAMI WARNING IS IN EFFECT FOR

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ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
HONIARA SB	9.3S	160.0E	0744Z	3.5M /11.5FT	18MIN
LANGARA POINT BC	54.2N	133.1W	0745Z	0.4M / 1.3FT	21MIN
HILO HAWAII	19.8N	155.0W	0745Z	2.1M / 6.9FT	23MIN
VALDEZ AK	61.0N	146.8W	0748Z	0.1M / 0.4FT	22MIN

KANTON KI	2.8S	171.7W	0752Z	0.8M / 2.5FT	20MIN
SITKA AK	57.1N	135.3W	0757Z	1.5M / 4.9FT	26MIN
FUNAFUTI TV	8.5S	179.2E	0759Z	1.6M / 5.2FT	20MIN
SELDOVIA AK	59.4N	151.7W	0800Z	0.1M / 0.3FT	19MIN
JUNEAU AK	58.3N	134.5W	0903Z	0.2M / 0.6FT	22MIN
CHRISTMAS KI	2.0N	157.5W	0903Z	3.0M / 9.7FT	25MIN
TOFINO BC	49.2N	125.9W	0905Z	1.0M / 3.2FT	28MIN
APIA UPOLU WS	13.8S	171.7W	0909Z	0.7M / 2.4FT	21MIN
CHARLESTON OR	43.3N	124.5W	0915Z	0.5M / 1.5FT	23MIN
PAGO PAGO AS	14.3S	170.7W	0915Z	0.5M / 1.5FT	26MIN
NEAH BAY WA	48.4N	124.6W	0915Z	0.6M / 2.0FT	16MIN
PORT ORFORD OR	42.7N	124.5W	0917Z	2.9M / 9.4FT	24MIN
WESTPORT WA	46.9N	124.1W	0922Z	0.8M / 2.6FT	23MIN
ASTORIA OR	46.2N	123.8W	0929Z	0.4M / 1.4FT	21MIN
CRESCENT CITY CA	41.7N	124.2W	0929Z	3.0M / 9.8FT	25MIN
VUNG TAU VN	10.3N	107.3E	0931Z	0.1M / 0.3FT	24MIN
ARENA COVE CA	38.9N	123.7W	0931Z	1.1M / 3.7FT	20MIN
PENRHYN CK	9.0S	158.1W	0947Z	2.2M / 7.1FT	19MIN
NIUE	19.1S	169.9W	0949Z	0.3M / 1.1FT	22MIN
MONTEREY HARBOR CA	36.6N	121.9W	0949Z	0.7M / 2.3FT	23MIN
KINGS WHARF SUVA FJ	18.1S	178.4E	0952Z	0.4M / 1.3FT	26MIN
PORT ANGELES WA	48.1N	123.4W	0959Z	0.3M / 1.1FT	23MIN
PORT SAN LUIS CA	35.2N	120.8W	1006Z	0.9M / 2.9FT	21MIN
NUKUALOFA TO	21.1S	175.2W	1015Z	0.8M / 2.7FT	23MIN
SANTA BARBARA CA	34.4N	119.7W	1025Z	0.5M / 1.5FT	20MIN
LOS ANGELES CA	33.7N	118.3W	1037Z	0.4M / 1.2FT	19MIN
FT POINT SAN FRAN	37.8N	122.3W	1037Z	0.7M / 2.2FT	22MIN
SANTA MONICA CA	34.0N	118.5W	1040Z	0.9M / 2.9FT	18MIN
SAN DIEGO CA	32.7N	117.3W	1045Z	0.4M / 1.5FT	25MIN
LA JOLLA CA	32.9N	117.3W	1047Z	0.8M / 2.6FT	22MIN
RAROTONGA CK	21.2S	159.8W	1049Z	1.3M / 4.2FT	24MIN
PAPEETE TAHITI	17.5S	149.6W	1128Z	0.9M / 3.0FT	23MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
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AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
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EVALUATION

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THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.
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PTWC BULLETIN 17.

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TSUNAMI BULLETIN NUMBER 017
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1540Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

 JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. /
 CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. /
 CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA /
 PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI /
 SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU /
 CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU /
 JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA /
 COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA /
 MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN /
 GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA /
 ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA /
 CAMBODIA / PERU / THAILAND

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 ORIGIN TIME -  0000Z 29 OCT 2008
 COORDINATES -  40.0 NORTH  143.0 EAST
 DEPTH       -   33 KM
 LOCATION    -  OFF EAST COAST OF HONSHU  JAPAN
 MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

 GAUGE LOCATION        LAT   LON    TIME        AMPL         PER
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 HIVA OA MARQUESAS     9.8S 139.0W  1205Z   1.8M / 5.9FT    23MIN
 GISBORNE NZ          38.7S 178.2E  1222Z   0.2M / 0.7FT    20MIN
 SOCORRO MX           18.7N 110.0W  1231Z   1.0M / 3.2FT    22MIN
 CABO SAN LUCAS MX    23.8N 109.7W  1237Z   0.5M / 1.5FT    18MIN
 NAPIER NZ            39.5S 176.9E  1259Z   0.2M / 0.5FT    20MIN
 MANZANILLO MX        19.1N 104.3W  1322Z   0.3M / 0.9FT    19MIN
 WELLINGTON NZ        41.2S 174.7E  1330Z   0.4M / 1.2FT    23MIN
 RIKITEA PF           23.1S 135.0W  1336Z   1.4M / 4.7FT    21MIN
 ACAPULCO MX          16.8N 100.0W  1402Z   0.2M / 0.7FT    25MIN

 LAT  - LATITUDE (N-NORTH, S-SOUTH)
 LON  - LONGITUDE (E-EAST, W-WEST)
 TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
 AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
        IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
        VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
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EVALUATION

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PTWC BULLETIN 21.

TSUNAMI BULLETIN NUMBER 021
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1940Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA... WASHINGTON...OREGON AND CALIFORNIA.

... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. / CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. / CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA / PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI / SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU / CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU / JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA / COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA / MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN / GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA / ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA / CAMBODIA / PERU / THAILAND

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AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
ACAJUTLA SV	13.6N	89.8W	1557Z	0.2M / 0.6FT	27MIN
CORINTO NI	12.5N	87.2W	1623Z	0.2M / 0.8FT	20MIN
BALTRA GALAPAGS EC	0.3S	90.3W	1708Z	1.3M / 4.3FT	19MIN
EASTER CL	27.2S	109.4W	1713Z	1.8M / 5.9FT	23MIN
LA LIBERTAD EC	2.2S	80.9W	1844Z	1.0M / 3.2FT	21MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND SEVERITY OF THE THREAT.

A TSUNAMI IS A SERIES OF WAVES AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND CAN VARY SIGNIFICANTLY ALONG A COAST DUE TO LOCAL EFFECTS. THE TIME FROM ONE TSUNAMI WAVE TO THE NEXT CAN BE FIVE MINUTES TO AN HOUR, AND THE THREAT CAN CONTINUE FOR MANY HOURS AS MULTIPLE WAVES ARRIVE.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
JAPAN	HACHINOHE	40.5N 141.7E	0033Z 29 OCT
	KUSHIRO	42.9N 144.3E	0043Z 29 OCT
	KATSUURA	35.0N 140.3E	0102Z 29 OCT
	SHIMIZU	32.8N 133.0E	0225Z 29 OCT
	OKINAWA	26.2N 127.8E	0319Z 29 OCT
RUSSIA	URUP IS	46.1N 150.5E	0118Z 29 OCT
	PETROPAVLOVSK K	53.2N 159.6E	0226Z 29 OCT
	SEVERO KURILSK	50.8N 156.1E	0229Z 29 OCT
	UST KAMCHATSK	56.1N 162.6E	0248Z 29 OCT
	MEDNNY IS	54.7N 167.4E	0249Z 29 OCT
MARCUS IS.	MARCUS IS.	24.3N 154.0E	0225Z 29 OCT
N. MARIANAS	SAIPAN	15.3N 145.8E	0326Z 29 OCT
GUAM	GUAM	13.4N 144.7E	0342Z 29 OCT
WAKE IS.	WAKE IS.	19.3N 166.6E	0350Z 29 OCT
CHINESE TAIPEI	HUALIEN	24.0N 121.7E	0403Z 29 OCT

	TAITUNG	22.7N 121.2E	0407Z 29 OCT
	CHILUNG	25.2N 121.8E	0430Z 29 OCT
	KAOHSIUNG	22.5N 120.3E	0442Z 29 OCT
	HOMEL	24.2N 120.4E	0615Z 29 OCT
TAIWAN	HUALIEN	24.0N 121.6E	0404Z 29 OCT
YAP	YAP IS.	9.5N 138.1E	0417Z 29 OCT
PHILIPPINES	PALANAN	17.1N 122.6E	0425Z 29 OCT
	LAOAG	18.2N 120.5E	0445Z 29 OCT
	SAN FERNANDO	16.7N 120.2E	0504Z 29 OCT
	LEGASPI	13.2N 123.8E	0507Z 29 OCT
	DAVAO	6.8N 125.7E	0521Z 29 OCT
	ZAMBOANGA	6.9N 122.1E	0605Z 29 OCT
	MANILA	14.7N 120.8E	0621Z 29 OCT
	ILOILO	10.7N 122.5E	0641Z 29 OCT
	PUERTO PRINCESA	9.8N 118.8E	0700Z 29 OCT
MARSHALL IS.	ENIWETOK	11.4N 162.3E	0428Z 29 OCT
	KWAJALEIN	8.7N 167.7E	0511Z 29 OCT
	MAJURO	7.1N 171.4E	0540Z 29 OCT
CHUUK	CHUUK IS.	7.4N 151.8E	0432Z 29 OCT
MIDWAY IS.	MIDWAY IS.	28.2N 177.4W	0443Z 29 OCT
POHNPEI	POHNPEI IS.	7.0N 158.2E	0444Z 29 OCT
BELAU	MALAKAL	7.3N 134.5E	0446Z 29 OCT
KOSRAE	KOSRAE IS.	5.5N 163.0E	0511Z 29 OCT
INDONESIA	GEME	4.6N 126.8E	0519Z 29 OCT
	BEREBERE	2.5N 128.7E	0529Z 29 OCT
	WARSA	0.6S 135.8E	0545Z 29 OCT
	MANOKWARI	0.8S 134.2E	0552Z 29 OCT
	PATANI	0.4N 128.8E	0554Z 29 OCT
	MANADO	1.6N 124.9E	0601Z 29 OCT
	SORONG	0.8S 131.1E	0604Z 29 OCT
	JAYAPURA	2.4S 140.8E	0607Z 29 OCT
	TARAKAN	3.3N 117.6E	0713Z 29 OCT
	SINGKAWANG	1.0N 108.8E	1330Z 29 OCT
	PANGKALPINANG	2.0S 106.2E	1802Z 29 OCT
PAPUA NEW GUINE	KAVIENG	2.5S 150.7E	0556Z 29 OCT
	MANUS IS.	2.0S 147.5E	0556Z 29 OCT
	VANIMO	2.6S 141.3E	0607Z 29 OCT
	RABAUL	4.2S 152.3E	0614Z 29 OCT
	WEWAK	3.5S 143.6E	0618Z 29 OCT
	KIETA	6.1S 155.6E	0637Z 29 OCT
	AMUN	6.0S 154.7E	0639Z 29 OCT
	MADANG	5.2S 145.8E	0643Z 29 OCT
	LAE	6.8S 147.0E	0721Z 29 OCT
	PORT MORESBY	9.3S 146.9E	0844Z 29 OCT
NAURU	NAURU	0.5S 166.9E	0615Z 29 OCT
JOHNSTON IS.	JOHNSTON IS.	16.7N 169.5W	0619Z 29 OCT
KIRIBATI	TARAWA IS.	1.5N 173.0E	0628Z 29 OCT
	KANTON IS.	2.8S 171.7W	0753Z 29 OCT
	CHRISTMAS IS.	2.0N 157.5W	0903Z 29 OCT
	MALDEN IS.	3.9S 154.9W	0941Z 29 OCT
	FLINT IS.	11.4S 151.8W	1036Z 29 OCT
SOLOMON IS.	FALAMAE	7.4S 155.6E	0646Z 29 OCT
	PANGGOE	6.9S 157.2E	0652Z 29 OCT
	MUNDA	8.4S 157.2E	0705Z 29 OCT
	GHATERE	7.8S 159.2E	0718Z 29 OCT
	AUKI	8.8S 160.6E	0739Z 29 OCT
	KIRAKIRA	10.4S 161.9E	0741Z 29 OCT
	HONIARA	9.3S 160.0E	0742Z 29 OCT
VIETNAM	QUI NHON	13.7N 109.3E	0647Z 29 OCT
	VINH	18.7N 105.8E	0906Z 29 OCT
	BAC LIEU	9.2N 105.8E	1135Z 29 OCT
HOWLAND-BAKER	HOWLAND IS.	0.6N 176.6W	0707Z 29 OCT
HAWAII	NAWILIWILI	22.0N 159.4W	0710Z 29 OCT
	HONOLULU	21.2N 157.8W	0728Z 29 OCT
	HILO	19.8N 155.0W	0745Z 29 OCT
TUVALU	FUNAFUTI IS.	7.9S 178.5E	0753Z 29 OCT
CHINA	HONG KONG	22.3N 114.3E	0753Z 29 OCT
MALAYSIA	SANDAKAN	5.9N 118.1E	0755Z 29 OCT
	BINTULU	3.2N 113.0E	0910Z 29 OCT
	K TERENGGANU	5.3N 103.2E	1427Z 29 OCT

PALMYRA IS.	PALMYRA IS.	6.3N 162.4W	0800Z 29 OCT
BRUNEI	MUARA	5.0N 115.1E	0817Z 29 OCT
VANUATU	ESPERITU SANTO	15.1S 167.3E	0832Z 29 OCT
	ANATOM IS.	20.2S 169.9E	0924Z 29 OCT
TOKELAU	NUKUNONU IS.	9.2S 171.8W	0832Z 29 OCT
JARVIS IS.	JARVIS IS.	0.4S 160.1W	0849Z 29 OCT
WALLIS-FUTUNA	WALLIS IS.	13.2S 176.2W	0850Z 29 OCT
SAMOA	APIA	13.8S 171.7W	0909Z 29 OCT
AMERICAN SAMOA	PAGO PAGO	14.3S 170.7W	0915Z 29 OCT
COOK ISLANDS	PUKAPUKA IS.	10.8S 165.9W	0915Z 29 OCT
	PENRYN IS.	8.9S 157.8W	0947Z 29 OCT
	RAROTONGA	21.2S 159.8W	1049Z 29 OCT
AUSTRALIA	CAIRNS	16.7S 145.8E	0932Z 29 OCT
	BRISBANE	27.2S 153.3E	1039Z 29 OCT
	SYDNEY	33.9S 151.4E	1120Z 29 OCT
	MACKAY	21.1S 149.3E	1133Z 29 OCT
	GLADSTONE	23.8S 151.4E	1200Z 29 OCT
	HOBART	43.3S 147.6E	1253Z 29 OCT
NIUE	NIUE IS.	19.0S 170.0W	0949Z 29 OCT
FIJI	SUVA	18.1S 178.4E	0952Z 29 OCT
NEW CALEDONIA	NOUMEA	22.3S 166.5E	0955Z 29 OCT
TONGA	NUKUALOFA	21.0S 175.2W	1016Z 29 OCT
MEXICO	ENSENADA	31.8N 116.8W	1049Z 29 OCT
	PUNTA ABREOJOS	26.7N 113.6W	1132Z 29 OCT
	CABO SAN LUCAS	22.8N 110.0W	1213Z 29 OCT
	SOCORRO	18.8N 111.0W	1222Z 29 OCT
	MAZATLAN	23.2N 106.4W	1259Z 29 OCT
	MANZANILLO	19.0N 104.3W	1322Z 29 OCT
	ACAPULCO	16.8N 100.0W	1402Z 29 OCT
	PUERTO MADERO	14.7N 92.5W	1531Z 29 OCT
KERMADEC IS	RAOUL IS.	29.2S 177.9W	1105Z 29 OCT
FR. POLYNESIA	PAPEETE	17.5S 149.6W	1128Z 29 OCT
	HIVA OA	10.0S 139.0W	1205Z 29 OCT
	RIKITEA	23.1S 135.0W	1336Z 29 OCT
NEW ZEALAND	NORTH CAPE	34.4S 173.3E	1139Z 29 OCT
	EAST CAPE	37.7S 178.7E	1210Z 29 OCT
	GISBORNE	38.7S 178.2E	1222Z 29 OCT
	AUCKLAND(W)	37.1S 174.2E	1238Z 29 OCT
	MILFORD SOUND	44.5S 167.7E	1254Z 29 OCT
	NAPIER	39.5S 177.0E	1259Z 29 OCT
	NEW PLYMOUTH	39.1S 174.1E	1311Z 29 OCT
	AUCKLAND(E)	36.7S 175.0E	1329Z 29 OCT
	WELLINGTON	41.2S 174.7E	1330Z 29 OCT
	WESTPORT	41.7S 171.5E	1345Z 29 OCT
	BLUFF	46.6S 168.3E	1401Z 29 OCT
	LYTTELTON	43.5S 172.8E	1409Z 29 OCT
	NELSON	41.2S 173.3E	1427Z 29 OCT
	DUNEDIN	45.8S 170.7E	1444Z 29 OCT
PITCAIRN	PITCAIRN IS.	25.1S 130.1W	1422Z 29 OCT
GUATEMALA	SIPICATE	13.9N 91.2W	1543Z 29 OCT
EL SALVADOR	ACAJUTLA	13.5N 89.8W	1557Z 29 OCT
SINGAPORE	SINGAPORE	1.2N 103.8E	1615Z 29 OCT
COSTA RICA	CABO SAN ELENA	10.9N 86.0W	1616Z 29 OCT
	PUERTO QUEPOS	9.4N 84.2W	1640Z 29 OCT
	CABO MATAPALO	8.4N 83.3W	1644Z 29 OCT
NICARAGUA	CORINTO	12.5N 87.2W	1624Z 29 OCT
	PUERTO SANDINO	12.2N 86.8W	1626Z 29 OCT
	SAN JUAN DL SUR	11.2N 85.9W	1634Z 29 OCT
ANTARCTICA	CAPE ADARE	71.0S 170.0E	1649Z 29 OCT
	THURSTON IS.	71.8S 100.0W	1934Z 29 OCT
HONDURAS	AMAPALA	13.2N 87.6W	1650Z 29 OCT
PANAMA	PUNTA BURICA	8.0N 82.8W	1652Z 29 OCT
	PUNTA MALA	7.5N 79.8W	1744Z 29 OCT
	PUERTO PINA	7.3N 78.2W	1750Z 29 OCT
	BALBOA HTS.	8.8N 79.7W	1915Z 29 OCT
ECUADOR	BALTRA IS.	0.5S 90.2W	1712Z 29 OCT
	ESMERELDAS	1.2N 79.8W	1810Z 29 OCT
	LA LIBERTAD	2.2S 81.2W	1832Z 29 OCT
CHILE	EASTER IS.	27.1S 109.4W	1712Z 29 OCT
	IQUIQUE	20.2S 70.1W	2052Z 29 OCT

	ARICA	18.5S	70.3W	2053Z 29 OCT
	ANTOFAGASTA	23.5S	70.5W	2104Z 29 OCT
	CALDERA	27.0S	70.8W	2120Z 29 OCT
	COQUIMBO	29.8S	71.3W	2129Z 29 OCT
	GOLFO DE PENAS	47.1S	74.9W	2136Z 29 OCT
	VALPARAISO	33.0S	71.6W	2142Z 29 OCT
	TALCAHUANO	36.7S	73.1W	2204Z 29 OCT
	CORRAL	39.8S	73.5W	2212Z 29 OCT
	PUERTO WILLIAMS	54.8S	68.2W	2258Z 29 OCT
	PUNTA ARENAS	53.8S	71.7W	2312Z 29 OCT
	PUERTO MONTT	41.5S	72.8W	0030Z 30 OCT
COLOMBIA	BAHIA SOLANO	6.3N	77.5W	1756Z 29 OCT
	TUMACO	1.8N	78.9W	1818Z 29 OCT
	BUENAVENTURA	3.8N	77.2W	1830Z 29 OCT
CAMBODIA	SIHANOUKVILLE	10.7N	103.5E	1826Z 29 OCT
PERU	TALARA	4.6S	81.5W	1840Z 29 OCT
	LA PUNTA	12.1S	77.2W	1948Z 29 OCT
	CHIMBOTE	9.0S	78.8W	1949Z 29 OCT
	PIMENTAL	6.9S	80.0W	1950Z 29 OCT
	SAN JUAN	15.3S	75.2W	2003Z 29 OCT
	MOLLENDO	17.2S	72.0W	2033Z 29 OCT
THAILAND	NK SI THAMMARAT	8.7N	100.0E	1845Z 29 OCT
	PRA KHIRI KHAN	11.7N	99.8E	2033Z 29 OCT

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES
FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH
CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS
FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

PTWC BULLETIN 25.

TSUNAMI BULLETIN NUMBER 025
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 2340Z 29 OCT 2008

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

... FINAL TSUNAMI WARNING MESSAGE ...

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC
OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA...
WASHINGTON...OREGON AND CALIFORNIA.

THIS IS THE FINAL TSUNAMI WARNING FROM THE PACIFIC TSUNAMI
WARNING CENTER FOR

JAPAN / RUSSIA / MARCUS IS. / N. MARIANAS / GUAM / WAKE IS. /
CHINESE TAIPEI / TAIWAN / YAP / PHILIPPINES / MARSHALL IS. /
CHUUK / MIDWAY IS. / POHNPEI / BELAU / KOSRAE / INDONESIA /
PAPUA NEW GUINEA / NAURU / JOHNSTON IS. / KIRIBATI /
SOLOMON IS. / VIETNAM / HOWLAND-BAKER / HAWAII / TUVALU /
CHINA / MALAYSIA / PALMYRA IS. / BRUNEI / VANUATU / TOKELAU /
JARVIS IS. / WALLIS-FUTUNA / SAMOA / AMERICAN SAMOA /
COOK ISLANDS / AUSTRALIA / NIUE / FIJI / NEW CALEDONIA / TONGA /
MEXICO / KERMADEC IS / FR. POLYNESIA / NEW ZEALAND / PITCAIRN /
GUATEMALA / EL SALVADOR / SINGAPORE / COSTA RICA / NICARAGUA /
ANTARCTICA / HONDURAS / PANAMA / ECUADOR / CHILE / COLOMBIA /
CAMBODIA / PERU / THAILAND

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0000Z 29 OCT 2008
COORDINATES - 40.0 NORTH 143.0 EAST
DEPTH - 33 KM
LOCATION - OFF EAST COAST OF HONSHU JAPAN
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
CALLAO LA-PUNTA PE	12.1S	77.2W	1951Z	0.3M / 0.8FT	24MIN
IQUIQUE CL	20.2S	70.2W	2052Z	0.4M / 1.3FT	22MIN
ARICA CL	18.5S	70.3W	2053Z	0.4M / 1.4FT	22MIN
ANTOFAGASTA CL	23.7S	70.5W	2104Z	0.5M / 1.5FT	20MIN
CALDERA CL	27.1S	70.8W	2120Z	0.8M / 2.8FT	26MIN
COQUIMBO CL	29.8S	71.3W	2129Z	0.9M / 2.9FT	23MIN
VALPARAISO CL	33.0S	71.6W	2142Z	0.8M / 2.7FT	22MIN
TALCAHUANO CL	36.7S	73.1W	2204Z	0.9M / 2.9FT	30MIN
CORRAL CL	39.9S	73.4W	2213Z	1.2M / 3.8FT	23MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

A WIDESPREAD DESTRUCTIVE TSUNAMI HAS OCCURRED, AND TSUNAMI WAVES HAVE NOW CROSSED THE ENTIRE PACIFIC. FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES. DUE TO LOCAL EFFECTS SOME AREAS MAY CONTINUE TO EXPERIENCE SMALL SEA LEVEL CHANGES FOR AN EXTENDED PERIOD LASTING HOURS OR EVEN DAYS.

THIS WILL BE THE FINAL BULLETIN ISSUED FOR THIS EVENT BY THE PACIFIC TSUNAMI WARNING CENTER UNLESS ADDITIONAL INFORMATION BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ALSO ISSUE TSUNAMI MESSAGES FOR THIS EVENT TO COUNTRIES IN THE NORTHWEST PACIFIC AND SOUTH CHINA SEA REGION. IN CASE OF CONFLICTING INFORMATION... THE MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.

APPENDIX III. WC/ATWC REFERENCE MESSAGES

The following messages, created for the Pacific Wave 08 tsunami exercise, are representative of what would be issued by the West Coast and Alaska Tsunami Warning Center during an actual large tsunami event originating in the northwest Pacific off of Japan.

WC/ATWC BULLETIN 1.

Public Format:

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WEAK51 PAAQ 290005
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 1
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
505 PM PDT TUE OCT 28 2008

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM SAND POINT ALASKA TO ATTU ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
   PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
   ABOVE...

A TSUNAMI WATCH MEANS... ALL COASTAL RESIDENTS IN THE WATCH AREA
SHOULD PREPARE FOR POSSIBLE EVACUATION. A TSUNAMI WATCH IS ISSUED
TO AREAS WHICH WILL NOT BE IMMEDIATELY IMPACTED BY THE TSUNAMI.
WATCH AREAS WILL EITHER BE UPGRADED TO WARNING OR ADVISORY STATUS
OR CANCELED.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 8.5 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE MAY HAVE GENERATED A TSUNAMI. IF A TSUNAMI
HAS BEEN GENERATED THE WAVES WILL FIRST REACH
SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 290005
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 1
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
505 PM PDT TUE OCT 28 2008

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
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   ALASKA FROM SAND POINT ALASKA TO ATTU ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
   PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
   ABOVE...

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME.  WATCH AREAS MAY BE UPGRADED
TO WARNING OR ADVISORY STATUS  - OR CANCELED - BASED ON NEW
INFORMATION OR ANALYSIS. PERSONS IN A WATCH AREA SHOULD CLOSELY
FOLLOW SUBSEQUENT TSUNAMI MESSAGES.

RECOMMENDED ACTIONS
 IT IS NOT KNOWN - REPEAT NOT KNOWN - IF A TSUNAMI EXISTS BUT A
 TSUNAMI MAY HAVE BEEN GENERATED.  PERSONS IN LOW-LYING COASTAL
 AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM THEIR LOCAL EMERGENCY
 OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY EMERGENCY RESPONSE
 AGENCIES.
 - PERSONS IN TSUNAMI WATCH AREAS SHOULD STAY ALERT FOR
   SUPPLEMENTAL INFORMATION.

THIS MESSAGE IS BASED MAINLY ON EARTHQUAKE DATA. AS MORE
INFORMATION BECOMES AVAILABLE THE ALERT AREAS WILL BE REFINED.

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 8.5
 TIME      - 1600 AKDT OCT 28 2008
             1700  PDT OCT 28 2008
             0000  UTC OCT 29 2008
 LOCATION  - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PKZ155-170-171-172-175-176-AKZ181-185-187-191-290105-
COASTAL AREAS FROM SAND POINT ALASKA TO ATTU ALASKA
505 PM PDT TUE OCT 28 2008

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM SAND POINT ALASKA TO ATTU ALASKA...

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WATCH ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  SAND PT.-AK      2212 AKDT OCT 28
ADAK-AK          2026 AKDT OCT 28  COLD BAY-AK      2245 AKDT OCT 28
DUTCH HARBOR-AK  2136 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 2.

Public Format:

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WEAK51 PAAQ 290040
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 2
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
540 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...
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...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
ALASKA FROM KODIAK ALASKA TO ADAK ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
ABOVE...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS. DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI WATCH MEANS... ALL COASTAL RESIDENTS IN THE WATCH AREA SHOULD PREPARE FOR POSSIBLE EVACUATION. A TSUNAMI WATCH IS ISSUED TO AREAS WHICH WILL NOT BE IMMEDIATELY IMPACTED BY THE TSUNAMI. WATCH AREAS WILL EITHER BE UPGRADED TO WARNING OR ADVISORY STATUS OR CANCELED.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
REVISED MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE TO REGIONS IN A WARNING OR ADVISORY. THE WAVES WILL FIRST REACH SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
OFUNATO JAPAN	39.0N	141.8E	0031UTC	8.0M/26.2FT

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE PRECEDED BY A RECEDING WATER LEVEL. MARINERS IN WATER DEEPER THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

WEPA41 PAAQ 290040
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 2
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
540 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM KODIAK ALASKA TO ADAK ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
   PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
   ABOVE...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED. WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME. WATCH AREAS MAY BE UPGRADED
TO WARNING OR ADVISORY STATUS - OR CANCELED - BASED ON NEW
INFORMATION OR ANALYSIS. PERSONS IN A WATCH AREA SHOULD CLOSELY
FOLLOW SUBSEQUENT TSUNAMI MESSAGES.

RECOMMENDED ACTIONS
 A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
 WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
   HIGHER GROUND.

 - PERSONS IN TSUNAMI WATCH AREAS SHOULD STAY ALERT FOR
   SUPPLEMENTAL INFORMATION.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
OFUNATO JAPAN	39.0N	141.8E	0031UTC	8.0M/26.2FT

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2 - REVISED
 TIME   - 1600 AKDT OCT 28 2008
             1700 PDT OCT 28 2008
             0000 UTC OCT 29 2008
 LOCATION - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH   - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PKZ175-176-AKZ191-290140-
COASTAL AREAS BETWEEN AND INCLUDING ADAK ALASKA TO ATTU
ALASKA
540 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED

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SITES IN THE WARNING ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  ADAK-AK          2026 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ136>138-132-150-155-170-171-172-AKZ171-181-185-187-290140-
COASTAL AREAS FROM KODIAK ALASKA TO ADAK ALASKA
540 PM PDT TUE OCT 28 2008

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM KODIAK ALASKA TO ADAK ALASKA...

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WATCH ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  COLD BAY-AK      2245 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  KODIAK-AK        2306 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 3.

Public Format:

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WEAK51 PAAQ 290110
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 3
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
610 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM SEWARD ALASKA TO ADAK ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
   PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
   ABOVE...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI WATCH MEANS... ALL COASTAL RESIDENTS IN THE WATCH AREA
SHOULD PREPARE FOR POSSIBLE EVACUATION. A TSUNAMI WATCH IS ISSUED
TO AREAS WHICH WILL NOT BE IMMEDIATELY IMPACTED BY THE TSUNAMI.
WATCH AREAS WILL EITHER BE UPGRADED TO WARNING OR ADVISORY STATUS
OR CANCELED.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY. THE WAVES WILL FIRST REACH
SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
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ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
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 OFUNATO  JAPAN            39.0N  141.8E  0030UTC     9.0M/26.2FT
 HANASAKI  JAPAN           43.3N  145.6E  0054UTC     10.0M/32.8FT

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 290110
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 3
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
610 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM SEWARD ALASKA TO ADAK ALASKA...

...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN
   PACIFIC COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED
   ABOVE...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME.  WATCH AREAS MAY BE UPGRADED
TO WARNING OR ADVISORY STATUS  - OR CANCELED - BASED ON NEW
INFORMATION OR ANALYSIS. PERSONS IN A WATCH AREA SHOULD CLOSELY
FOLLOW SUBSEQUENT TSUNAMI MESSAGES.

RECOMMENDED ACTIONS
 A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
 WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
   HIGHER GROUND.
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 - PERSONS IN TSUNAMI WATCH AREAS SHOULD STAY ALERT FOR
   SUPPLEMENTAL INFORMATION.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
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 OFUNATO  JAPAN            39.0N  141.8E  0030UTC     9.0M/26.2FT
 HANASAKI  JAPAN           43.3N  145.6E  0054UTC     10.0M/32.8FT

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME      - 1600 AKDT OCT 28 2008
             1700  PDT OCT 28 2008
             0000  UTC OCT 29 2008
 LOCATION  - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PKZ175-176-AKZ191-290210-
COASTAL AREAS BETWEEN AND INCLUDING ADAK ALASKA TO ATTU
ALASKA
610 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM ADAK ALASKA TO ATTU ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  ADAK-AK          2026 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ130-140-141-136>138-132-150-155-170-171-172-AKZ125-121-
145-171-181-185-187-290210-
COASTAL AREAS FROM SEWARD ALASKA TO ADAK ALASKA
610 PM PDT TUE OCT 28 2008

...A TSUNAMI WATCH IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM SEWARD ALASKA TO ADAK ALASKA...

TSUNAMI WATCHES ARE AN ADVANCE ALERT TO AREAS THAT COULD BE
IMPACTED BY A TSUNAMI AT A LATER TIME. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WATCH ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  KODIAK-AK        2306 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  SEWARD-AK        2331 AKDT OCT 28
COLD BAY-AK      2245 AKDT OCT 28  HOMER-AK         0024 AKDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 4.

Public Format:

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WEAK51 PAAQ 290140
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 4
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
640 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY. THE WAVES WILL FIRST REACH
SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
 ------------------------  -----  ------  -------     -----------
 OFUNATO  JAPAN            39.0N  141.8E  0031UTC     8.0M/26.2FT
 HANASAKI  JAPAN           43.3N  145.6E  0054UTC     10.0M/32.8FT
 OMAEZAKI  JAPAN           34.6N  138.2E  0133UTC     1.0M/3.3FT

 DEEP OCEAN PRESSURE SENSOR READINGS ALONG WITH TSUNAMI FORECAST
 MODELS INDICATE A HIGH PROBABILITY OF DAMAGING WAVES ALONG THE U.S.
 WEST COAST... CANADA... AND ALASKA.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
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OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 290140
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 4
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
640 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE
WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.  CURRENTS MAY BE
HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY
CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
 A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
 WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
   HIGHER GROUND.

 - PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
   WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
 ------------------------  -----  ------  -------     -----------
 OFUNATO  JAPAN            39.0N  141.8E  0031UTC     8.0M/26.2FT
 HANASAKI  JAPAN           43.3N  145.6E  0054UTC     10.0M/32.8FT
 OMAEZAKI  JAPAN           34.6N  138.2E  0133UTC     1.0M/3.3FT

 DEEP OCEAN PRESSURE SENSOR READINGS ALONG WITH TSUNAMI FORECAST
 MODELS INDICATE A HIGH PROBABILITY OF DAMAGING WAVES ALONG THE U.S.
 WEST COAST... CANADA... AND ALASKA.

TIME - TIME OF MEASUREMENT
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AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME      - 1600 AKDT OCT 28 2008
             1700  PDT OCT 28 2008
             0000  UTC OCT 29 2008
 LOCATION  - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-CAZ039>046-087-034-035-515-
006-506-508-509-514-505-002-001-ORZ022-002-021-001-WAZ503-
506>511-001-514>517-021-AKZ023-024-026>029-018>022-025-290240-
COASTAL AREAS BETWEEN AND INCLUDING THE CALIFORNIA-MEXICO
BORDER TO YAKUTAT ALASKA
640 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SITKA-AK         2341 AKDT OCT 28  CHARLESTON-OR    0231  PDT OCT 29
YAKUTAT-AK       2341 AKDT OCT 28  CRESCENT CITY-CA 0238  PDT OCT 29
LANGARA-BC       0051  PDT OCT 29  SEASIDE-OR       0239  PDT OCT 29
KETCHIKAN-AK     0048 AKDT OCT 29  WESTPORT-WA      0241  PDT OCT 29
JUNEAU-AK        0051 AKDT OCT 29  SAN FRANCISCO-CA 0324  PDT OCT 29
TOFINO-BC        0214  PDT OCT 29  SANTA BARBARA-CA 0333  PDT OCT 29
NEAH BAY-WA      0226  PDT OCT 29  LA JOLLA-CA      0356  PDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ170-171-172-175-176-AKZ185-187-191-290240-
COASTAL AREAS BETWEEN AND INCLUDING ATTU ALASKA TO DUTCH HARBOR
ALASKA
640 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  DUTCH HARBOR-AK  2136 AKDT OCT 28
ADAK-AK          2026 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ051-052-053-125>129-121-120-130-140-141-136>138-132-150-
155-AKZ017-135-131-125-121-145-171-181-290240-
COASTAL AREAS FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA
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640 PM PDT TUE OCT 28 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE ADVISORY ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  SEWARD-AK        2331 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  VALDEZ-AK        2351 AKDT OCT 28
COLD BAY-AK      2245 AKDT OCT 28  CORDOVA-AK       0001 AKDT OCT 29
KODIAK-AK        2306 AKDT OCT 28  HOMER-AK         0024 AKDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 6.

Public Format:

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WEAK51 PAAQ 290240
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 6
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
740 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY. THE WAVES WILL FIRST REACH
SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
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WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
OFUNATO JAPAN	39.0N	141.8E	0031UTC	8.0M/26.2FT
HANASAKI JAPAN	43.3N	145.6E	0054UTC	10.0M/32.8FT
OMAEZAKI JAPAN	34.6N	138.2E	0133UTC	1.0M/3.3FT
TOSA-SHIMIZU JAPAN	32.8N	133.0E	0226UTC	0.8M/2.6FT

LARGE LOCAL TSUNAMIS HAVE BEEN REPORTED IN JAPAN WHICH HAVE CAUSED SEVERE DAMAGE AND CASUALTIES.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE PRECEDED BY A RECEDING WATER LEVEL. MARINERS IN WATER DEEPER THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

WEPA41 PAAQ 290240
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 6
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
740 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD INUNDATION IS IMMINENT OR EXPECTED. WARNINGS INDICATE THAT WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS IMMINENT OR EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY. CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS

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 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
   HIGHER GROUND.

 - PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
   WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
 ------------------------  -----  ------  -------     -----------
 OFUNATO  JAPAN            39.0N  141.8E  0031UTC     8.0M/26.2FT
 HANASAKI  JAPAN           43.3N  145.6E  0054UTC    10.0M/32.8FT
 OMAEZAKI  JAPAN           34.6N  138.2E  0133UTC      1.0M/3.3FT
 TOSA-SHIMIZU  JAPAN       32.8N  133.0E  0226UTC      0.8M/2.6FT

 LARGE LOCAL TSUNAMIS HAVE BEEN REPORTED IN JAPAN WHICH HAVE
 CAUSED SEVERE DAMAGE AND CASUALTIES.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME      - 1600 AKDT OCT 28 2008
             1700  PDT OCT 28 2008
             0000  UTC OCT 29 2008
 LOCATION  - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

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THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-CAZ039>046-087-034-035-515-
006-506-508-509-514-505-002-001-ORZ022-002-021-001-WAZ503-
506>511-001-514>517-021-AKZ023-024-026>029-018>022-025-290340-
COASTAL AREAS BETWEEN AND INCLUDING THE CALIFORNIA-MEXICO
BORDER TO YAKUTAT ALASKA
740 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SITKA-AK          2341 AKDT OCT 28  CHARLESTON-OR    0231  PDT OCT 29
YAKUTAT-AK        2341 AKDT OCT 28  CRESCENT CITY-CA 0238  PDT OCT 29
LANGARA-BC        0051  PDT OCT 29  SEASIDE-OR       0239  PDT OCT 29
KETCHIKAN-AK      0048 AKDT OCT 29  WESTPORT-WA      0241  PDT OCT 29
JUNEAU-AK         0051 AKDT OCT 29  SAN FRANCISCO-CA 0324  PDT OCT 29
TOFINO-BC         0214  PDT OCT 29  SANTA BARBARA-CA 0333  PDT OCT 29
NEAH BAY-WA       0226  PDT OCT 29  LA JOLLA-CA      0356  PDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ170-171-172-175-176-AKZ185-187-191-290340-
COASTAL AREAS BETWEEN AND INCLUDING DUTCH HARBOR ALASKA TO
ATTU ALASKA
740 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  DUTCH HARBOR-AK  2136 AKDT OCT 28
ADAK-AK          2026 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ051-052-053-125>129-121-120-130-140-141-136>138-132-150-
155-AKZ017-135-131-125-121-145-171-181-290340-
COASTAL AREAS FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA
740 PM PDT TUE OCT 28 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE ADVISORY ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  SEWARD-AK        2331 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  VALDEZ-AK        2351 AKDT OCT 28
COLD BAY-AK      2245 AKDT OCT 28  CORDOVA-AK       0001 AKDT OCT 29
KODIAK-AK        2306 AKDT OCT 28  HOMER-AK         0024 AKDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 8.

Public Format:

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WEAK51 PAAQ 290340
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 8
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
840 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
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SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED. SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY. THE WAVES WILL FIRST REACH
SHEMYA ALASKA AT 728 PM AKDT ON OCTOBER 28.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
OFUNATO JAPAN	39.0N	141.8E	0031UTC	8.0M/26.2FT
HANASAKI JAPAN	43.3N	145.6E	0054UTC	10.0M/32.8FT
OMAEZAKI JAPAN	34.6N	138.2E	0133UTC	1.0M/3.3FT
TOSA-SHIMIZU JAPAN	32.8N	133.0E	0226UTC	0.8M/2.6FT
UST-KAMCHATSK RUSSIA	56.0N	163.0E	0243UTC	4.0M/13.1FT
SEVERO KURILSK RUSSIA	50.7N	156.1E	0245UTC	6.0M/19.7FT
SHEMYA ALASKA	52.7N	174.1E	0321UTC	1.7M/5.7FT
SAIPAN USA	15.2N	145.7E	0327UTC	7.0M/23.0FT
NAHA OKINAWA JAPAN	26.3N	127.7E	0329UTC	0.5M/1.6FT

LARGE LOCAL TSUNAMIS HAVE BEEN REPORTED IN JAPAN WHICH HAVE
CAUSED SEVERE DAMAGE AND CASUALTIES.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL. MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

WEPA41 PAAQ 290340
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 8
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
840 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED. WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE
WATER IS IMMINENT OR EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY. CURRENTS MAY BE
HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY
CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
EMERGENCY RESPONSE AGENCIES.
- PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
HIGHER GROUND.

- PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
OFUNATO JAPAN	39.0N	141.8E	0031UTC	8.0M/26.2FT
HANASAKI JAPAN	43.3N	145.6E	0054UTC	10.0M/32.8FT
OMAEZAKI JAPAN	34.6N	138.2E	0133UTC	1.0M/3.3FT
TOSA-SHIMIZU JAPAN	32.8N	133.0E	0226UTC	0.8M/2.6FT
UST-KAMCHATSK RUSSIA	56.0N	163.0E	0243UTC	4.0M/13.1FT
SEVERO KURILSK RUSSIA	50.7N	156.1E	0245UTC	6.0M/19.7FT
SHEMYA ALASKA	52.7N	174.1E	0321UTC	1.7M/5.7FT
SAIPAN USA	15.2N	145.7E	0327UTC	7.0M/23.0FT
NAHA OKINAWA JAPAN	26.3N	127.7E	0329UTC	0.5M/1.6FT

LARGE LOCAL TSUNAMIS HAVE BEEN REPORTED IN JAPAN WHICH HAVE
CAUSED SEVERE DAMAGE AND CASUALTIES.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
MAGNITUDE - 9.2
TIME - 1600 AKDT OCT 28 2008
1700 PDT OCT 28 2008
0000 UTC OCT 29 2008
LOCATION - 40.0 NORTH 143.0 EAST
- OFF EAST COAST OF HONSHU JAPAN
DEPTH - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

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PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-CAZ039>046-087-034-035-515-
006-506-508-509-514-505-002-001-ORZ022-002-021-001-WAZ503-
506>511-001-514>517-021-AKZ023-024-026>029-018>022-025-290440-
COASTAL AREAS BETWEEN AND INCLUDING THE CALIFORNIA-MEXICO
BORDER TO YAKUTAT ALASKA
840 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SITKA-AK         2341 AKDT OCT 28  CHARLESTON-OR    0231  PDT OCT 29
YAKUTAT-AK       2341 AKDT OCT 28  CRESCENT CITY-CA 0238  PDT OCT 29
LANGARA-BC       0051  PDT OCT 29  SEASIDE-OR       0239  PDT OCT 29
KETCHIKAN-AK     0048 AKDT OCT 29  WESTPORT-WA      0241  PDT OCT 29
JUNEAU-AK        0051 AKDT OCT 29  SAN FRANCISCO-CA 0324  PDT OCT 29
TOFINO-BC        0214  PDT OCT 29  SANTA BARBARA-CA 0333  PDT OCT 29
NEAH BAY-WA      0226  PDT OCT 29  LA JOLLA-CA      0356  PDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ170-171-172-175-176-AKZ185-187-191-290440-
COASTAL AREAS BETWEEN AND INCLUDING DUTCH HARBOR ALASKA TO
ATTU ALASKA
840 PM PDT TUE OCT 28 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SHEMYA-AK        1928 AKDT OCT 28  DUTCH HARBOR-AK  2136 AKDT OCT 28
ADAK-AK          2026 AKDT OCT 28
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ051-052-053-125>129-121-120-130-140-141-136>138-132-150-
155-AKZ017-135-131-125-121-145-171-181-290440-
COASTAL AREAS FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA
840 PM PDT TUE OCT 28 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE ADVISORY ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  SEWARD-AK        2331 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  VALDEZ-AK        2351 AKDT OCT 28
COLD BAY-AK      2245 AKDT OCT 28  CORDOVA-AK       0001 AKDT OCT 29
KODIAK-AK        2306 AKDT OCT 28  HOMER-AK         0024 AKDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 16.

Public Format:

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WEAK51 PAAQ 290740
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 16
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
1240 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                    LAT    LON     TIME        AMPL
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 UST-KAMCHATSK  RUSSIA     56.0N  163.0E  0243UTC     4.0M/13.1FT
 SEVERO KURILSK  RUSSIA    50.7N  156.1E  0245UTC     6.0M/19.7FT
 SHEMYA  ALASKA            52.7N  174.1E  0321UTC     1.7M/5.7FT
 SAIPAN  USA               15.2N  145.7E  0327UTC     7.0M/23.0FT
 NAHA  OKINAWA  JAPAN      26.3N  127.7E  0329UTC     0.5M/1.6FT
 GUAM USA                  13.4N  144.7E  0342UTC     1.3M/4.4FT
 WAKE USA                  19.3N  166.6E  0350UTC     1.4M/4.7FT
 ISHIGAKIJIMA JAPAN        24.3N  124.0E  0356UTC     0.3M/1.0FT
 ADAK ALASKA               51.8N  176.8W  0408UTC     0.7M/2.4FT
 MIDWAY IS USA             28.2N  177.4W  0443UTC     1.4M/4.7FT
 POHNPEI MICRONESIA         7.0N  158.2E  0444UTC     3.0M/9.8FT
 NIKOLSKI ALASKA           53.0N  169.0W  0448UTC     1.2M/3.9FT
 LEGASPI PHILIPPINES       13.2N  123.8E  0507UTC     4.5M/14.8FT
 DUTCH HARBOR ALASKA       54.0N  166.5W  0523UTC     0.8M/2.5FT
 AKUTAN ALASKA             54.1N  165.8W  0526UTC     0.5M/1.5FT
 MANUS PAPUA NEW GUINEA     2.0S  147.4E  0557UTC     4.0M/13.1FT
 KING COVE ALASKA          55.1N  162.3W  0618UTC     0.4M/1.3FT
 SAND POINT ALASKA          5.3N  160.5W  0619UTC     0.4M/1.4FT
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 JOHNSTON IS USA           16.7N  169.5W  0619UTC     1.4M/4.7FT
 KODIAK ALASKA             57.7N  152.3W  0649UTC     0.4M/1.2FT
 HANALEI KAUAI HAWAII      22.3N  159.5W  0703UTC     2.3M/7.5FT
 NAWILIWILI KAUAI HAWAII   22.0N  159.4W  0710UTC     1.1M/3.7FT
 HALEIWA OAHU HAWAII       21.6N  158.1W  0716UTC     1.8M/5.8FT
 MOKUOLOE OAHU HAWAII      21.4N  157.8W  0721UTC     1.0M/3.4FT
 KALAUPAPA MOLOKAI HAWAII  21.3N  157.0W  0723UTC     0.9M/2.9FT
 SEWARD ALASKA             60.0N  149.3W  0725UTC     0.2M/0.7FT
 HONOLULU OAHU HAWAII      21.2N  157.8W  0728UTC     1.1M/3.5FT
 YAKUTAT ALASKA            59.5N  139.8W  0729UTC     0.6M/2.1FT
 KAHULUI MAUI HAWAII       21.0N  156.5W  0734UTC     5.0M/16.3FT

 DAMAGING CURRENTS ASSOCIATED WITH THIS TSUNAMI HAVE BEEN
 REPORTED AT SEVERAL HARBORS IN ALASKA - SUCH AS SEWARD...
 KODIAK... AND DUTCH HARBOR.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 290740
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 16
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
1240 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE
WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.  CURRENTS MAY BE
HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY
CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
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A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY EMERGENCY RESPONSE AGENCIES.
- PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO HIGHER GROUND.

- PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
UST-KAMCHATSK RUSSIA	56.0N	163.0E	0243UTC	4.0M/13.1FT
SEVERO KURILSK RUSSIA	50.7N	156.1E	0245UTC	6.0M/19.7FT
SHEMYA ALASKA	52.7N	174.1E	0321UTC	1.7M/5.7FT
SAIPAN USA	15.2N	145.7E	0327UTC	7.0M/23.0FT
NAHA OKINAWA JAPAN	26.3N	127.7E	0329UTC	0.5M/1.6FT
GUAM USA	13.4N	144.7E	0342UTC	1.3M/4.4FT
WAKE USA	19.3N	166.6E	0350UTC	1.4M/4.7FT
ISHIGAKIJIMA JAPAN	24.3N	124.0E	0356UTC	0.3M/1.0FT
ADAK ALASKA	51.8N	176.8W	0408UTC	0.7M/2.4FT
MIDWAY IS USA	28.2N	177.4W	0443UTC	1.4M/4.7FT
POHNPEI MICRONESIA	7.0N	158.2E	0444UTC	3.0M/9.8FT
NIKOLSKI ALASKA	53.0N	169.0W	0448UTC	1.2M/3.9FT
LEGASPI PHILIPPINES	13.2N	123.8E	0507UTC	4.5M/14.8FT
DUTCH HARBOR ALASKA	54.0N	166.5W	0523UTC	0.8M/2.5FT
AKUTAN ALASKA	54.1N	165.8W	0526UTC	0.5M/1.5FT
MANUS PAPUA NEW GUINEA	2.0S	147.4E	0557UTC	4.0M/13.1FT
KING COVE ALASKA	55.1N	162.3W	0618UTC	0.4M/1.3FT
SAND POINT ALASKA	5.3N	160.5W	0619UTC	0.4M/1.4FT
JOHNSTON IS USA	16.7N	169.5W	0619UTC	1.4M/4.7FT
KODIAK ALASKA	57.7N	152.3W	0649UTC	0.4M/1.2FT
HANALEI KAUAI HAWAII	22.3N	159.5W	0703UTC	2.3M/7.5FT
NAWILIWILI KAUAI HAWAII	22.0N	159.4W	0710UTC	1.1M/3.7FT
HALEIWA OAHU HAWAII	21.6N	158.1W	0716UTC	1.8M/5.8FT
MOKUOLOE OAHU HAWAII	21.4N	157.8W	0721UTC	1.0M/3.4FT
KALAUPAPA MOLOKAI HAWAII	21.3N	157.0W	0723UTC	0.9M/2.9FT
SEWARD ALASKA	60.0N	149.3W	0725UTC	0.2M/0.7FT
HONOLULU OAHU HAWAII	21.2N	157.8W	0728UTC	1.1M/3.5FT
YAKUTAT ALASKA	59.5N	139.8W	0729UTC	0.6M/2.1FT
KAHULUI MAUI HAWAII	21.0N	156.5W	0734UTC	5.0M/16.3FT

DAMAGING CURRENTS ASSOCIATED WITH THIS TSUNAMI HAVE BEEN REPORTED AT SEVERAL HARBORS IN ALASKA - SUCH AS SEWARD... KODIAK... AND DUTCH HARBOR.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
MAGNITUDE - 9.2
TIME - 1600 AKDT OCT 28 2008
1700 PDT OCT 28 2008
0000 UTC OCT 29 2008
LOCATION - 40.0 NORTH 143.0 EAST
- OFF EAST COAST OF HONSHU JAPAN
DEPTH - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-CAZ039>046-087-034-035-515-
006-506-508-509-514-505-002-001-ORZ022-002-021-001-WAZ503-

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506>511-001-514>517-021-AKZ023-024-026>029-018>022-025-290840-
COASTAL AREAS BETWEEN AND INCLUDING THE CALIFORNIA-MEXICO
BORDER TO YAKUTAT ALASKA
1240 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
   COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
   YAKUTAT ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE WARNING ARE PROVIDED BELOW.

SITKA-AK         2341 AKDT OCT 28  CHARLESTON-OR    0231  PDT OCT 29
YAKUTAT-AK       2341 AKDT OCT 28  CRESCENT CITY-CA 0238  PDT OCT 29
LANGARA-BC       0051  PDT OCT 29  SEASIDE-OR       0239  PDT OCT 29
KETCHIKAN-AK     0048 AKDT OCT 29  WESTPORT-WA      0241  PDT OCT 29
JUNEAU-AK        0051 AKDT OCT 29  SAN FRANCISCO-CA 0324  PDT OCT 29
TOFINO-BC        0214  PDT OCT 29  SANTA BARBARA-CA 0333  PDT OCT 29
NEAH BAY-WA      0226  PDT OCT 29  LA JOLLA-CA      0356  PDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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PKZ170-171-172-175-176-AKZ185-187-191-290840-
COASTAL AREAS BETWEEN AND INCLUDING DUTCH HARBOR ALASKA TO
ATTU ALASKA
1240 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF ALASKA FROM DUTCH HARBOR ALASKA TO ATTU
   ALASKA...

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME.

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PKZ051-052-053-125>129-121-120-130-140-141-136>138-132-150-
155-AKZ017-135-131-125-121-145-171-181-290840-
COASTAL AREAS FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA
1240 AM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO DUTCH HARBOR ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME. ESTIMATED TIMES OF INITIAL WAVE ARRIVAL FOR SELECTED
SITES IN THE ADVISORY ARE PROVIDED BELOW.

DUTCH HARBOR-AK  2136 AKDT OCT 28  SEWARD-AK        2331 AKDT OCT 28
SAND PT.-AK      2212 AKDT OCT 28  VALDEZ-AK        2351 AKDT OCT 28
COLD BAY-AK      2245 AKDT OCT 28  CORDOVA-AK       0001 AKDT OCT 29
KODIAK-AK        2306 AKDT OCT 28  HOMER-AK         0024 AKDT OCT 29
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE
WCATWC.ARH.NOAA.GOV

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WC/ATWC BULLETIN 24.

Public Format:

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WEAK51 PAAQ 291140
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 24
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NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
440 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
COLUMBIA AND ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO
YAKUTAT ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
ALASKA FROM YAKUTAT ALASKA TO ATTU ALASKA...

THE PREVIOUS WARNING FOR THE REGION FROM DUTCH HARBOR ALASKA
TO ATTU ALASKA HAS BEEN DOWNGRADED TO AN ADVISORY DUE TO
LOWER LEVELS OF TSUNAMI ACTIVITY.

A TSUNAMI WARNING MEANS... ALL COASTAL RESIDENTS IN THE WARNING
AREA WHO ARE NEAR THE BEACH OR IN LOW-LYING REGIONS SHOULD MOVE
IMMEDIATELY INLAND TO HIGHER GROUND AND AWAY FROM ALL HARBORS AND
INLETS INCLUDING THOSE SHELTERED DIRECTLY FROM THE SEA. THOSE
FEELING THE EARTH SHAKE... SEEING UNUSUAL WAVE ACTION... OR THE
WATER LEVEL RISING OR RECEDING MAY HAVE ONLY A FEW MINUTES BEFORE
THE TSUNAMI ARRIVAL AND SHOULD MOVE IMMEDIATELY. HOMES AND
SMALL BUILDINGS ARE NOT DESIGNED TO WITHSTAND TSUNAMI IMPACTS.
DO NOT STAY IN THESE STRUCTURES.

ALL RESIDENTS WITHIN THE WARNED AREA SHOULD BE ALERT FOR
INSTRUCTIONS BROADCAST FROM THEIR LOCAL CIVIL AUTHORITIES.
A TSUNAMI HAS BEEN RECORDED.

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED. SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
LANGARA POINT CANADA	54.2N	133.1W	0745UTC	0.4M/1.3FT
HILO HAWAII USA	19.8N	155.0W	0745UTC	2.1M/6.9FT
VALDEZ ALASKA	61.0N	146.8W	0748UTC	0.1M/0.4FT
SITKA ALASKA	57.1N	135.3W	0757UTC	1.5M/4.9FT
SELDOVIA ALASKA	59.4N	151.7W	0800UTC	0.1M/0.3FT
JUNEAU ALASKA	58.3N	134.5W	0903UTC	0.2M/0.6FT
TOFINO CANADA	49.2N	125.9W	0905UTC	1.0M/3.2FT
CHARLESTON OREGON	43.3N	124.5W	0915UTC	0.5M/1.5FT
NEAH BAY WASHINGTON	48.4N	124.6W	0915UTC	0.6M/2.0FT
PORT ORFORD OREGON	42.7N	124.5W	0917UTC	2.9M/9.4FT
WESTPORT WASHINGTON	46.9N	124.1W	0922UTC	0.8M/2.6FT
ASTORIA OREGON	46.2N	123.8W	0929UTC	0.4M/1.4FT
CRESCENT CITY CALIFORNIA	41.7N	124.2W	0929UTC	3.0M/9.8FT
ARENA COVE CALIFORNIA	38.9N	123.7W	0931UTC	1.1M/3.7FT
MONTEREY HARBOR CALIFORNI	36.6N	121.9W	0949UTC	0.7M/2.3FT
PORT ANGELES WASHINGTON	48.1N	123.4W	0959UTC	0.3M/1.1FT
PORT SAN LUIS CALIFORNIA	35.2N	120.8W	1006UTC	0.9M/2.9FT
SANTA BARBARA CALIFORNIA	34.4N	119.7W	1025UTC	0.5M/1.5FT
LOS ANGELES CALIFORNIA	33.7N	118.3W	1037UTC	0.4M/1.2FT
SAN FRANCISCO CALIFORNIA	37.8N	122.3W	1037UTC	0.7M/2.2FT
SANTA MONICA CALIFORNIA	34.0N	118.5W	1040UTC	0.9M/2.9FT
SAN DIEGO CALIFORNIA	32.7N	117.3W	1045UTC	0.4M/1.5FT
LA JOLLA CALIFORNIA	32.9N	117.3W	1047UTC	0.8M/2.6FT

INUNDATING WAVES ARE REPORTED IN NORTHERN CALIFORNIA AND IN OREGON.
SEVERE DAMAGE IS EXPECTED IN AREAS SUBJECT TO TSUNAMI INUNDATION.
TSUNAMI EFFECTS IN ALASKA ARE SUBSIDING THOUGH STRONG CURRENTS ARE
ONGOING IN SEVERAL REGIONS.

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TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 291140
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 24
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
440 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
   COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
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   YAKUTAT ALASKA...

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   ALASKA FROM YAKUTAT ALASKA TO ATTU ALASKA...

THE PREVIOUS WARNING FOR THE REGION FROM DUTCH HARBOR ALASKA
TO ATTU ALASKA HAS BEEN DOWNGRADED TO AN ADVISORY DUE TO
LOWER LEVELS OF TSUNAMI ACTIVITY.

TSUNAMI WARNINGS MEAN THAT A TSUNAMI WITH SIGNIFICANT WIDESPREAD
INUNDATION IS IMMINENT OR EXPECTED.  WARNINGS INDICATE THAT
WIDESPREAD DANGEROUS COASTAL FLOODING ACCOMPANIED BY POWERFUL
CURRENTS IS POSSIBLE AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE
WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.  CURRENTS MAY BE
HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY
CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
 A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
 WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI WARNING COASTAL AREAS SHOULD MOVE INLAND TO
   HIGHER GROUND.

 - PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
   WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES
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LOCATION	LAT	LON	TIME	AMPL
LANGARA POINT CANADA	54.2N	133.1W	0745UTC	0.4M/1.3FT
HILO HAWAII USA	19.8N	155.0W	0745UTC	2.1M/6.9FT
VALDEZ ALASKA	61.0N	146.8W	0748UTC	0.1M/0.4FT
SITKA ALASKA	57.1N	135.3W	0757UTC	1.5M/4.9FT
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WESTPORT WASHINGTON	46.9N	124.1W	0922UTC	0.8M/2.6FT
ASTORIA OREGON	46.2N	123.8W	0929UTC	0.4M/1.4FT
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PORT SAN LUIS CALIFORNIA	35.2N	120.8W	1006UTC	0.9M/2.9FT
SANTA BARBARA CALIFORNIA	34.4N	119.7W	1025UTC	0.5M/1.5FT
LOS ANGELES CALIFORNIA	33.7N	118.3W	1037UTC	0.4M/1.2FT
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INUNDATING WAVES ARE REPORTED IN NORTHERN CALIFORNIA AND IN OREGON.
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ONGOING IN SEVERAL REGIONS.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
MAGNITUDE - 9.2
TIME - 1600 AKDT OCT 28 2008
1700 PDT OCT 28 2008
0000 UTC OCT 29 2008
LOCATION - 40.0 NORTH 143.0 EAST
- OFF EAST COAST OF HONSHU JAPAN
DEPTH - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
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UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
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PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
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506>511-001-514>517-021-AKZ023-024-026>029-018>022-025-291240-
COASTAL AREAS BETWEEN AND INCLUDING THE CALIFORNIA-MEXICO
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440 AM PDT WED OCT 29 2008

...A TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE
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PKZ051-052-053-125>129-121-120-130-140-141-136>138-132-150-
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185-187-191-291240-
COASTAL AREAS FROM YAKUTAT ALASKA TO ATTU ALASKA

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TIME.

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WC/ATWC BULLETIN 32.

Public Format:

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WEAK51 PAAQ 291540
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 32
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
840 AM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
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THE PREVIOUS WARNING FOR THE REGION FROM YAKUTAT ALASKA
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STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
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WCATWC.ARH.NOAA.GOV.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

 LOCATION                   LAT    LON     TIME        AMPL
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 SOCORRO MEXICO            18.7N 110.0W   1231UTC      1.0M/3.2FT
 CABO SAN LUCAS MEXICO     23.8N 109.7W   1237UTC      0.5M/1.5FT
 MANzANILLO MEXICO         19.1N 104.3W   1322UTC      0.3M/0.9FT
 ACAPULCO MEXICO           16.8N 100.0W   1402UTC      0.2M/0.7FT

 WIDESPREAD FLOODING HAS BEEN REPORTED IN SEVERAL AREAS OF
 NORTHERN CALIFORNIA AND OREGON.  STRONG SURGES AND CURRENTS
 HAVE CAUSED SEVERE DAMAGE TO HARBORS AND MARINAS THROUGHOUT
 THE US WEST COAST.  AT PRESENT WAVE ACTIVITY IS DECLINING.  NO
 FURTHER INUNDATING WAVES ARE EXPECTED THOUGH STRONG CURRENTS
 ARE EXPECTED TO CONTINUE FOR SEVERAL HOURS.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
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THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

WEPA41 PAAQ 291540
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 32
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
840 AM PDT WED OCT 29 2008

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RECOMMENDED ACTIONS
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 - PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
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THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

A TSUNAMI HAS BEEN OBSERVED AT THE FOLLOWING SITES

LOCATION	LAT	LON	TIME	AMPL
SOCORRO MEXICO	18.7N	110.0W	1231UTC	1.0M/3.2FT
CABO SAN LUCAS MEXICO	23.8N	109.7W	1237UTC	0.5M/1.5FT
MANzANILLO MEXICO	19.1N	104.3W	1322UTC	0.3M/0.9FT
ACAPULCO MEXICO	16.8N	100.0W	1402UTC	0.2M/0.7FT

 WIDESPREAD FLOODING HAS BEEN REPORTED IN SEVERAL AREAS OF
 NORTHERN CALIFORNIA AND OREGON CAUSING SEVERE DAMAGE. STRONG
 SURGES AND CURRENTS HAVE CAUSED DAMAGE TO HARBORS AND MARINAS
 THROUGHOUT THE US WEST COAST. AT PRESENT WAVE ACTIVITY IS
 DECLINING. NO FURTHER INUNDATING WAVES ARE EXPECTED THOUGH
 STRONG CURRENTS ARE EXPECTED TO CONTINUE FOR SEVERAL HOURS.

TIME - TIME OF MEASUREMENT
AMPL - TSUNAMI AMPLITUDES ARE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME   - 1600 AKDT OCT 28 2008
             1700 PDT OCT 28 2008
             0000 UTC OCT 29 2008
 LOCATION - 40.0 NORTH 143.0 EAST

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           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-051-052-053-125>129-121-120-
130-140-141-136>138-132-150-155-170-171-172-175-176-CAZ039>046-
087-034-035-515-006-506-508-509-514-505-002-001-ORZ022-002-
021-001-WAZ503-506>511-001-514>517-021-AKZ023-024-026>029-
018>022-025-017-135-131-125-121-145-171-181-185-187-191-291640-
COASTAL AREAS FROM THE CALIFORNIA-MEXICO BORDER TO ATTU
ALASKA
840 AM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO ATTU ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME.

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WC/ATWC BULLETIN 40.

Public Format:

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WEAK51 PAAQ 291940
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 40
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
1240 PM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO ATTU ALASKA...

A TSUNAMI ADVISORY MEANS THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
THE WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD
INUNDATION IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.
CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL
STRUCTURES AND MAY CONTINUE FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.
THIS EARTHQUAKE HAS GENERATED A TSUNAMI WHICH COULD CAUSE DAMAGE
TO REGIONS IN A WARNING OR ADVISORY.
ESTIMATED TSUNAMI ARRIVAL TIMES AND MAPS ALONG WITH SAFETY RULES
AND OTHER INFORMATION CAN BE FOUND ON THE WEB SITE
WCATWC.ARH.NOAA.GOV.

 TSUNAMI ACTIVITY CONTINUES TO DECLINE IN AMPLITUDE THOUGH
 SEVERAL AREAS ALONG THE U.S. WEST COAST... CANADA... AND ALASKA
 ARE STILL AT RISK OF DANGEROUS WAVES AND CURRENTS.  THE
 POSSIBILITY OF TSUNAMI DANGER WILL CONTINUE FOR SEVERAL HOURS.

TSUNAMIS CAN BE DANGEROUS WAVES THAT ARE NOT SURVIVABLE. WAVE
HEIGHTS ARE AMPLIFIED BY IRREGULAR SHORELINE AND ARE DIFFICULT TO
FORECAST. TSUNAMIS OFTEN APPEAR AS A STRONG SURGE AND MAY BE
PRECEDED BY A RECEDING WATER LEVEL.  MARINERS IN WATER DEEPER
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THAN 600 FEET SHOULD NOT BE AFFECTED BY A TSUNAMI. WAVE HEIGHTS
WILL INCREASE RAPIDLY AS WATER SHALLOWS. TSUNAMIS ARE A SERIES OF
OCEAN WAVES WHICH CAN BE DANGEROUS FOR SEVERAL HOURS AFTER THE
INITIAL WAVE ARRIVAL. DO NOT RETURN TO EVACUATED AREAS UNTIL AN
ALL CLEAR IS GIVEN BY LOCAL CIVIL AUTHORITIES.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC OUTSIDE
CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA AND ALASKA.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN
IN EFFECT UNTIL FURTHER NOTICE. FOR FURTHER INFORMATION STAY TUNED
TO NOAA WEATHER RADIO... YOUR LOCAL TV OR RADIO STATIONS... OR SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV.

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Standard Format:

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WEPA41 PAAQ 291940
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 40
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
1240 PM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO ATTU ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE
WATER IS IMMINENT OR EXPECTED.  SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS UNDER AN ADVISORY.  CURRENTS MAY BE
HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY
CONTINUE FOR SEVERAL HOURS AFTER THE INITIAL WAVE ARRIVAL.

RECOMMENDED ACTIONS
 A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE DAMAGE TO THE
 WARNING AND/OR ADVISORY REGIONS LISTED IN THE HEADLINE. PERSONS
 IN LOW-LYING COASTAL AREAS SHOULD BE ALERT TO INSTRUCTIONS FROM
 THEIR LOCAL EMERGENCY OFFICIALS. EVACUATIONS ARE ONLY ORDERED BY
 EMERGENCY RESPONSE AGENCIES.
 - PERSONS IN TSUNAMI ADVISORY AREAS SHOULD MOVE OUT OF THE
   WATER... OFF THE BEACH AND OUT OF HARBORS AND MARINAS.

THIS MESSAGE IS BASED ON EARTHQUAKE DATA... OBSERVED TSUNAMI
AMPLITUDES... HISTORICAL INFORMATION AND FORECAST MODELS.

 TSUNAMI ACTIVITY CONTINUES TO DECLINE IN AMPLITUDE THOUGH
 SEVERAL AREAS ALONG THE U.S. WEST COAST... CANADA... AND ALASKA
 ARE STILL AT RISK OF DANGEROUS WAVES AND CURRENTS.  THE
 POSSIBILITY OF TSUNAMI DANGER WILL CONTINUE FOR SEVERAL HOURS.

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME      - 1600 AKDT OCT 28 2008
             1700  PDT OCT 28 2008
             0000  UTC OCT 29 2008
 LOCATION  - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH     - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE MESSAGES FOR HAWAII AND OTHER AREAS OF THE PACIFIC
OUTSIDE THE STATES AND PROVINCES LISTED ABOVE.

MESSAGES WILL BE ISSUED EVERY 30 MINUTES OR MORE FREQUENTLY IF
THE SITUATION WARRANTS. THE TSUNAMI ALERT WILL REMAIN IN EFFECT
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-051-052-053-125>129-121-120-
130-140-141-136>138-132-150-155-170-171-172-175-176-CAZ039>046-
087-034-035-515-006-506-508-509-514-505-002-001-ORZ022-002-
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021-001-WAZ503-506>511-001-514>517-021-AKZ023-024-026>029-
018>022-025-017-135-131-125-121-145-171-181-185-187-191-292040-
COASTAL AREAS FROM THE CALIFORNIA-MEXICO BORDER TO ATTU
ALASKA
1240 PM PDT WED OCT 29 2008

...A TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA FROM THE CALIFORNIA-MEXICO BORDER TO ATTU ALASKA...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR
WATER IS IMMINENT OF EXPECTED. SIGNIFICANT WIDESPREAD INUNDATION
IS NOT EXPECTED FOR AREAS IN AN ADVISORY. TSUNAMIS ARE A SERIES OF
WAVES POTENTIALLY DANGEROUS SEVERAL HOURS AFTER INITIAL ARRIVAL
TIME.

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WC/ATWC BULLETIN 48.

Public Format:

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WEAK51 PAAQ 292340
TSUAK1

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 48
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
440 PM PDT WED OCT 29 2008

...THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA...

DAMAGING TSUNAMIS ARE NO LONGER EXPECTED ALONG THE COASTS OF
THE U.S. WEST COAST STATES - ALASKA AND BRITISH COLUMBIA. AS
LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI IMPACT THE
ALL CLEAR DETERMINATIONS MUST BE MADE BY LOCAL AUTHORITIES.

 TSUNAMI AMPLITUDES HAVE DROPPED BELOW DANGEROUS LEVELS AT MOST
 LOCATIONS ALONG THE U.S. WEST COAST... CANADA... AND ALASKA.
 SEA LEVEL CONDITIONS ARE VARYING GREATLY FROM LOCATION TO
 LOCATION ALONG THE COAST. DECISIONS RELATING TO REOCCUPATION
 OF COASTAL ZONES MUST BE MADE BY LOCAL AUTHORITIES.

AT 500 PM PACIFIC DAYLIGHT TIME ON OCTOBER 28 AN EARTHQUAKE WITH
PRELIMINARY MAGNITUDE 9.2 OCCURRED
OFF THE EAST COAST OF HONSHU JAPAN.

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL
ISSUE A FINAL TSUNAMI MESSAGE FOR HAWAII AND OTHER AREAS OF THE
PACIFIC OUTSIDE CALIFORNIA/ OREGON/ WASHINGTON/ BRITISH COLUMBIA
AND ALASKA. THIS WILL BE THE LAST WEST COAST/ALASKA TSUNAMI
WARNING CENTER MESSAGE ISSUED FOR THIS EVENT.

TO REPEAT - NO TSUNAMI WARNING... WATCH OR ADVISORY IS IN EFFECT
FOR THE U.S. WEST COAST STATES - ALASKA AND BRITISH COLUMBIA. SEE
THE WEB SITE WCATWC.ARH.NOAA.GOV FOR BASIC TSUNAMI INFORMATION...
SAFETY RULES AND TSUNAMI TRAVEL TIMES.

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Standard Format:

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WEPA41 PAAQ 292340
TSUWCA

BULLETIN
TSUNAMI MESSAGE NUMBER 48
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK
440 PM PDT WED OCT 29 2008

...THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA...
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EVALUATION
 DAMAGING TSUNAMIS ARE NO LONGER EXPECTED ALONG THE COASTS OF
 THE U.S. WEST COAST STATES - ALASKA AND BRITISH COLUMBIA. AS
 LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE
 ACTION THE ALL CLEAR DETERMINATIONS MUST BE MADE BY LOCAL
 AUTHORITIES.

 TSUNAMI AMPLITUDES HAVE DROPPED BELOW DANGEROUS LEVELS AT MOST
 LOCATIONS ALONG THE U.S. WEST COAST... CANADA... AND ALASKA.
 SEA LEVEL CONDITIONS ARE VARYING GREATLY FROM LOCATION TO
 LOCATION ALONG THE COAST. DECISIONS RELATING TO REOCCUPATION
 OF COASTAL ZONES MUST BE MADE BY LOCAL AUTHORITIES.

PRELIMINARY EARTHQUAKE PARAMETERS
 MAGNITUDE - 9.2
 TIME   - 1600 AKDT OCT 28 2008
             1700 PDT OCT 28 2008
             0000 UTC OCT 29 2008
 LOCATION - 40.0 NORTH 143.0 EAST
           - OFF EAST COAST OF HONSHU JAPAN
 DEPTH   - 21 MILES/33 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE
A FINAL MESSAGE.

THIS WILL BE THE LAST WEST COAST/ALASKA TSUNAMI WARNING
CENTER MESSAGE ISSUED FOR THIS EVENT.
THIS INFORMATION IS ALSO POSTED AT WCATWC.ARH.NOAA.GOV.

PZZ750-655-650-673-670-565-535-530-545-560-455-540-450-356-
353-350-255-250-210-110-156-153-150-130>135-170-PKZ310-041-
031>036-042-043-011>013-021-022-051-052-053-125>129-121-120-
130-140-141-136>138-132-150-155-170-171-172-175-176-CAZ039>046-
087-034-035-515-006-506-508-509-514-505-002-001-ORZ022-002-
021-001-WAZ503-506>511-001-514>517-021-AKZ023-024-026>029-
018>022-025-017-135-131-125-121-145-171-181-185-187-191-300140-
COASTAL AREAS OF CALIFORNIA - OREGON - WASHINGTON - BRITISH
COLUMBIA AND ALASKA.
440 PM PDT WED OCT 29 2008

...THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTS OF
   CALIFORNIA - OREGON - WASHINGTON - BRITISH COLUMBIA AND
   ALASKA...

REPEAT - THE TSUNAMI ADVISORY IS CANCELED.

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APPENDIX IV. NWPTAC REFERENCE MESSAGES

The following messages, created for the Pacific Wave 08 tsunami exercise, are representative of what would be issued by the Northwest Pacific Tsunami Advisory Center during an actual large tsunami event originating in the northwest Pacific off of Japan.

NWPTAC BULLETIN 1.

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WEPA40 RJTD 290005

TSUNAMI BULLETIN NUMBER 001
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0005Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:8.5(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
EAST COASTS OF PHILIPPINES
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
NORTH COASTS OF SOLOMON ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 UST_KAMCHATSK         56.1N 162.6E 0330Z 29 OCT  1M
 PETROPAVLOVSK_K       53.2N 159.6E 0251Z 29 OCT  0.5M
KURIL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SEVERO_KURILSK        50.8N 156.1E 0217Z 29 OCT  1M
 URUP_IS.              46.1N 150.5E 0055Z 29 OCT  1M
EAST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PALANAN               17.2N 122.6E 0501Z 29 OCT  0.5M
 LEGASPI               13.2N 123.8E 0519Z 29 OCT  0.5M
 LAOANG                12.6N 125.0E 0512Z 29 OCT  1M
 MADRID                09.2N 126.0E 0523Z 29 OCT  1M
NORTH COASTS OF IRIAN JAYA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PATANI                00.4N 128.8E 0643Z 29 OCT  0.5M
 SORONG                00.8S 131.1E 0645Z 29 OCT  0.5M
 MANOKWARI             00.8S 134.2E 0633Z 29 OCT  1M
 WARSA                 00.6S 135.8E 0627Z 29 OCT  1M
 JAYAPURA              02.4S 140.8E 0644Z 29 OCT  1M
NORTH COASTS OF PAPUA NEW GUINEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 VANIMO                02.6S 141.3E 0642Z 29 OCT  1M
 WEWAK                 03.5S 143.7E 0702Z 29 OCT  1M
 MADANG                05.2S 145.8E 0747Z 29 OCT  1M
 MANUS_IS.             02.0S 147.5E 0616Z 29 OCT  0.5M
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 RABAUL               04.2S 152.3E 0718Z 29 OCT  0.5M
 KAVIENG              02.5S 150.7E 0621Z 29 OCT  1M
 KIMBE                05.6S 150.2E 0725Z 29 OCT  1M
 KIETA                06.1S 155.6E 0733Z 29 OCT  2M
MARIANA ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 GUAM                 13.4N 144.7E 0400Z 29 OCT  1M
 SAIPAN               15.3N 145.8E 0336Z 29 OCT  2M
PALAU
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL              07.3N 134.5E 0508Z 29 OCT  0.5M
MICRONESIA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.              09.5N 138.1E 0442Z 29 OCT  0.5M
 CHUUK_IS.            07.4N 151.8E 0437Z 29 OCT  2M
 POHNPEI_IS.          07.0N 158.2E 0446Z 29 OCT  1M
 KOSRAE_IS.           05.5N 163.0E 0523Z 29 OCT  1M
MARSHALL ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK             11.4N 162.3E 0413Z 29 OCT  2M
NORTH COASTS OF SOLOMON ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE              06.9S 157.2E 0732Z 29 OCT  1M
 AUKI                 08.8S 160.6E 0815Z 29 OCT  1M
 KIRAKIRA             10.4S 161.9E 0831Z 29 OCT  1M
SOLOMON SEA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 HONIARA              09.3S 160.0E 0844Z 29 OCT  1M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 2.

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WEPA40 RJTD 290050

TSUNAMI BULLETIN NUMBER 002
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0050Z 29 OCT 2008

HYPOCENTRAL PARAMETERS (REVISION)
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
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SOUTH COASTS OF KOREAN PENINSULA (ADDITION)
EAST COASTS OF TAIWAN (ADDITION)
COASTS OF SOUTH CHINA SEA (ADDITION)
WEST COASTS OF PHILIPPINES (ADDITION)
EAST COASTS OF PHILIPPINES
CELEBES SEA (ADDITION)
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE

EAST COASTS OF KAMCHATKA PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
UST_KAMCHATSK	56.1N 162.6E	0330Z 29 OCT	6M (REVISION)
PETROPAVLOVSK_K	53.2N 159.6E	0251Z 29 OCT	3M (REVISION)

KURIL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SEVERO_KURILSK	50.8N 156.1E	0217Z 29 OCT	6M (REVISION)
URUP_IS.	46.1N 150.5E	0055Z 29 OCT	8M (REVISION)

SOUTH COASTS OF KOREAN PENINSULA (ADDITION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BUSAN	35.2N 129.1E	0430Z 29 OCT	0.5M (ADDITION)
NOHWA	34.2N 126.5E	0640Z 29 OCT	0.5M (ADDITION)
SEOGWIPO	33.2N 126.5E	0550Z 29 OCT	1M (ADDITIOIN)

EAST COASTS OF TAIWAN (ADDITION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HUALIEN	24.0N 121.6E	0521Z 29 OCT	1M (ADDITION)

COASTS OF SOUTH CHINA SEA (ADDITION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HONG_KONG	22.3N 114.2E	0852Z 29 OCT	1M (ADDITION)

WEST COASTS OF PHILIPPINES (ADDITION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
LAOAG	18.2N 120.6E	0518Z 29 OCT	1M (ADDITION)
SAN_FERNANDO	16.6N 120.3E	0539Z 29 OCT	1M (ADDITION)

EAST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BASCO	20.4N 122.0E	0430Z 29 OCT	2M (ADDITION)
PALANAN	17.2N 122.6E	0501Z 29 OCT	3M (REVISION)
LEGASPI	13.2N 123.8E	0519Z 29 OCT	4M (REVISION)
LAOANG	12.6N 125.0E	0512Z 29 OCT	6M (REVISION)
MADRID	09.2N 126.0E	0523Z 29 OCT	4M (REVISION)
DAVAO	06.9N 125.7E	0612Z 29 OCT	2M (ADDITION)

CELEBES SEA (ADDITION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M (ADDITION)
MANADO	01.6N 124.9E	0646Z 29 OCT	2M (ADDITION)

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M (ADDITION)
PATANI	00.4N 128.8E	0643Z 29 OCT	3M (REVISION)
SORONG	00.8S 131.1E	0645Z 29 OCT	3M (REVISION)
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M (REVISION)
WARSA	00.6S 135.8E	0627Z 29 OCT	6M (REVISION)
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M (REVISION)

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M (REVISION)
WEWAK	03.5S 143.7E	0702Z 29 OCT	4M (REVISION)
MADANG	05.2S 145.8E	0747Z 29 OCT	4M (REVISION)
MANUS_IS.	02.0S 147.5E	0616Z 29 OCT	3M (REVISION)
KIMBE	05.6S 150.2E	0725Z 29 OCT	6M (REVISION)
RABAUL	04.2S 152.3E	0718Z 29 OCT	3M (REVISION)
KAVIENG	02.5S 150.7E	0621Z 29 OCT	4M (REVISION)
KIETA	06.1S 155.6E	0733Z 29 OCT	OVER10M (REVISION)

NORTH COASTS OF SOLOMON ISLANDS

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 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE               06.9S 157.2E 0732Z 29 OCT  8M (REVISION)
 AUKI                  08.8S 160.6E 0815Z 29 OCT  4M (REVISION)
 KIRAKIRA              10.4S 161.9E 0831Z 29 OCT  6M (REVISION)
MARIANA ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SAIPAN                15.3N 145.8E 0336Z 29 OCT  OVER10M (REVISION)
 GUAM                  13.4N 144.7E 0400Z 29 OCT  6M (REVISION)
PALAU
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL               07.3N 134.5E 0508Z 29 OCT  3M (REVISION)
MICRONESIA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.               09.5N 138.1E 0442Z 29 OCT  3M (REVISION)
 CHUUK_IS.             07.4N 151.8E 0437Z 29 OCT  OVER10M (REVISION)
 POHNPEI_IS.           07.0N 158.2E 0446Z 29 OCT  8M (REVISION)
 KOSRAE_IS.            05.5N 163.0E 0523Z 29 OCT  6M (REVISION)
MARSHALL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK              11.4N 162.3E 0413Z 29 OCT  OVER10M (REVISION)
SOLOMON SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                 08.4S 157.2E 0958Z 29 OCT  1M (ADDITION)
 HONIARA               09.3S 160.0E 0844Z 29 OCT  6M (REVISION)

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI
 LOCATION                      COORDINATES ARRIVAL TIME  AMPL
 HACHINOHE                     40.5N 141.5E
                      MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                      43.3N 145.6E
                      MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 OFUNATO                       39.0N 141.8E
                      MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 3.

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WEPA40 RJTD 290145

TSUNAMI BULLETIN NUMBER 003
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0145Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
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MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
UST_KAMCHATSK	56.1N 162.6E	0330Z 29 OCT	6M
PETROPAVLOVSK_K	53.2N 159.6E	0251Z 29 OCT	3M

KURIL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SEVERO_KURILSK	50.8N 156.1E	0217Z 29 OCT	6M
URUP_IS.	46.1N 150.5E	0055Z 29 OCT	8M

SOUTH COASTS OF KOREAN PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BUSAN	35.2N 129.1E	0430Z 29 OCT	0.5M
NOHWA	34.2N 126.5E	0640Z 29 OCT	0.5M
SEOGWIPO	33.2N 126.5E	0550Z 29 OCT	1M

EAST COASTS OF TAIWAN

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HUALIEN	24.0N 121.6E	0521Z 29 OCT	1M

COASTS OF SOUTH CHINA SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HONG_KONG	22.3N 114.2E	0852Z 29 OCT	1M

WEST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
LAOAG	18.2N 120.6E	0518Z 29 OCT	1M
SAN_FERNANDO	16.6N 120.3E	0539Z 29 OCT	1M

EAST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BASCO	20.4N 122.0E	0430Z 29 OCT	2M
PALANAN	17.2N 122.6E	0501Z 29 OCT	3M
LEGASPI	13.2N 123.8E	0519Z 29 OCT	4M
LAOANG	12.6N 125.0E	0512Z 29 OCT	6M
MADRID	09.2N 126.0E	0523Z 29 OCT	4M
DAVAO	06.9N 125.7E	0612Z 29 OCT	2M

CELEBES SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M
MANADO	01.6N 124.9E	0646Z 29 OCT	2M

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M
PATANI	00.4N 128.8E	0643Z 29 OCT	3M
SORONG	00.8S 131.1E	0645Z 29 OCT	3M
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M
WARSA	00.6S 135.8E	0627Z 29 OCT	6M
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M

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 WEWAK                03.5S 143.7E 0702Z 29 OCT  4M
 MADANG               05.2S 145.8E 0747Z 29 OCT  4M
 MANUS_IS.            02.0S 147.5E 0616Z 29 OCT  3M
 KIMBE                05.6S 150.2E 0725Z 29 OCT  6M
 RABAUL               04.2S 152.3E 0718Z 29 OCT  3M
 KAVIENG              02.5S 150.7E 0621Z 29 OCT  4M
 KIETA                06.1S 155.6E 0733Z 29 OCT  OVER10M
NORTH COASTS OF SOLOMON ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE              06.9S 157.2E 0732Z 29 OCT  8M
 AUKI                 08.8S 160.6E 0815Z 29 OCT  4M
 KIRAKIRA             10.4S 161.9E 0831Z 29 OCT  6M
MARIANA ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 SAIPAN               15.3N 145.8E 0336Z 29 OCT  OVER10M
 GUAM                 13.4N 144.7E 0400Z 29 OCT  6M
PALAU
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL              07.3N 134.5E 0508Z 29 OCT  3M
MICRONESIA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.              09.5N 138.1E 0442Z 29 OCT  3M
 CHUUK_IS.            07.4N 151.8E 0437Z 29 OCT  OVER10M
 POHNPEI_IS.          07.0N 158.2E 0446Z 29 OCT  8M
 KOSRAE_IS.           05.5N 163.0E 0523Z 29 OCT  6M
MARSHALL ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK             11.4N 162.3E 0413Z 29 OCT  OVER10M
SOLOMON SEA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                08.4S 157.2E 0958Z 29 OCT  1M
 HONIARA              09.3S 160.0E 0844Z 29 OCT  6M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)
 LOCATION                    COORDINATES ARRIVAL TIME  AMPL
 CHOSHI                      35.7N 140.9E
                     MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                   40.5N 141.5E
                     MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                    43.3N 145.6E
                     MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 OFUNATO                     39.0N 141.8E
                     MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                    34.6N 138.2E
                     MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 4.

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WEPA40 RJTD 290245

TSUNAMI BULLETIN NUMBER 004
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0245Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 UST_KAMCHATSK         56.1N 162.6E 0330Z 29 OCT  6M
 PETROPAVLOVSK_K       53.2N 159.6E 0251Z 29 OCT  3M
KURIL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SEVERO_KURILSK        50.8N 156.1E 0217Z 29 OCT  6M
 URUP_IS.              46.1N 150.5E 0055Z 29 OCT  8M
SOUTH COASTS OF KOREAN PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BUSAN                 35.2N 129.1E 0430Z 29 OCT  0.5M
 NOHWA                 34.2N 126.5E 0640Z 29 OCT  0.5M
 SEOGWIPO              33.2N 126.5E 0550Z 29 OCT  1M
EAST COASTS OF TAIWAN
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HUALIEN               24.0N 121.6E 0521Z 29 OCT  1M
COASTS OF SOUTH CHINA SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HONG_KONG             22.3N 114.2E 0852Z 29 OCT  1M
WEST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 LAOAG                 18.2N 120.6E 0518Z 29 OCT  1M
 SAN_FERNANDO          16.6N 120.3E 0539Z 29 OCT  1M
EAST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BASCO                 20.4N 122.0E 0430Z 29 OCT  2M
 PALANAN               17.2N 122.6E 0501Z 29 OCT  3M
 LEGASPI               13.2N 123.8E 0519Z 29 OCT  4M
 LAOANG                12.6N 125.0E 0512Z 29 OCT  6M
 MADRID                09.2N 126.0E 0523Z 29 OCT  4M
 DAVAO                 06.9N 125.7E 0612Z 29 OCT  2M
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CELEBES SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M
MANADO	01.6N 124.9E	0646Z 29 OCT	2M

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M
PATANI	00.4N 128.8E	0643Z 29 OCT	3M
SORONG	00.8S 131.1E	0645Z 29 OCT	3M
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M
WARSA	00.6S 135.8E	0627Z 29 OCT	6M
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M
WEWAK	03.5S 143.7E	0702Z 29 OCT	4M
MADANG	05.2S 145.8E	0747Z 29 OCT	4M
MANUS_IS.	02.0S 147.5E	0616Z 29 OCT	3M
KIMBE	05.6S 150.2E	0725Z 29 OCT	6M
RABAUL	04.2S 152.3E	0718Z 29 OCT	3M
KAVIENG	02.5S 150.7E	0621Z 29 OCT	4M
KIETA	06.1S 155.6E	0733Z 29 OCT	OVER10M

NORTH COASTS OF SOLOMON ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
PANGGOE	06.9S 157.2E	0732Z 29 OCT	8M
AUKI	08.8S 160.6E	0815Z 29 OCT	4M
KIRAKIRA	10.4S 161.9E	0831Z 29 OCT	6M

MARIANA ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SAIPAN	15.3N 145.8E	0336Z 29 OCT	OVER10M
GUAM	13.4N 144.7E	0400Z 29 OCT	6M

PALAU

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
MALAKAL	07.3N 134.5E	0508Z 29 OCT	3M

MICRONESIA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
YAP_IS.	09.5N 138.1E	0442Z 29 OCT	3M
CHUUK_IS.	07.4N 151.8E	0437Z 29 OCT	OVER10M
POHNPEI_IS.	07.0N 158.2E	0446Z 29 OCT	8M
KOSRAE_IS.	05.5N 163.0E	0523Z 29 OCT	6M

MARSHALL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
ENIWETOK	11.4N 162.3E	0413Z 29 OCT	OVER10M

SOLOMON SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
MUNDA	08.4S 157.2E	0958Z 29 OCT	1M
HONIARA	09.3S 160.0E	0844Z 29 OCT	6M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
CHOSHI	35.7N 140.9E		
	MAXIMUM TSUNAMI WAVE	0035Z 29 OCT	2.0M
HACHINOHE	40.5N 141.5E		
	MAXIMUM TSUNAMI WAVE	0005Z 29 OCT	10.0M
HANASAKI	43.3N 145.6E		
	MAXIMUM TSUNAMI WAVE	0030Z 29 OCT	10.0M
MINAMITORISHIMA	24.3N 154.0E		

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                        MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 OFUNATO                         39.0N 141.8E
                        MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                        34.6N 138.2E
                        MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                     32.8N 133.0E
                        MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 5.

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WEPA40 RJTD 290345

TSUNAMI BULLETIN NUMBER 005
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0345Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 UST_KAMCHATSK         56.1N 162.6E (ALREADY ARRIVED)
 PETROPAVLOVSK_K       53.2N 159.6E 0251Z 29 OCT  3M
KURIL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SEVERO_KURILSK        50.8N 156.1E (ALREADY ARRIVED)
 URUP_IS.              46.1N 150.5E 0055Z 29 OCT  8M
SOUTH COASTS OF KOREAN PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BUSAN                 35.2N 129.1E 0430Z 29 OCT  0.5M
 NOHWA                 34.2N 126.5E 0640Z 29 OCT  0.5M
 SEOGWIPO              33.2N 126.5E 0550Z 29 OCT  1M
EAST COASTS OF TAIWAN
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
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 HUALIEN               24.0N 121.6E 0521Z 29 OCT  1M
COASTS OF SOUTH CHINA SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HONG_KONG             22.3N 114.2E 0852Z 29 OCT  1M
WEST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 LAOAG                 18.2N 120.6E 0518Z 29 OCT  1M
 SAN_FERNANDO          16.6N 120.3E 0539Z 29 OCT  1M
EAST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BASCO                 20.4N 122.0E 0430Z 29 OCT  2M
 PALANAN               17.2N 122.6E 0501Z 29 OCT  3M
 LEGASPI               13.2N 123.8E 0519Z 29 OCT  4M
 LAOANG                12.6N 125.0E 0512Z 29 OCT  6M
 MADRID                09.2N 126.0E 0523Z 29 OCT  4M
 DAVAO                 06.9N 125.7E 0612Z 29 OCT  2M
CELEBES SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 TOLITOLI              01.1N 120.8E 0826Z 29 OCT  1M
 MANADO                01.6N 124.9E 0646Z 29 OCT  2M
NORTH COASTS OF IRIAN JAYA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BEREBERE              02.5N 128.7E 0705Z 29 OCT  2M
 PATANI                00.4N 128.8E 0643Z 29 OCT  3M
 SORONG                00.8S 131.1E 0645Z 29 OCT  3M
 MANOKWARI             00.8S 134.2E 0633Z 29 OCT  4M
 WARSA                 00.6S 135.8E 0627Z 29 OCT  6M
 JAYAPURA              02.4S 140.8E 0644Z 29 OCT  8M
NORTH COASTS OF PAPUA NEW GUINEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 VANIMO                02.6S 141.3E 0642Z 29 OCT  6M
 WEWAK                 03.5S 143.7E 0702Z 29 OCT  4M
 MADANG                05.2S 145.8E 0747Z 29 OCT  4M
 MANUS_IS.             02.0S 147.5E 0616Z 29 OCT  3M
 KIMBE                 05.6S 150.2E 0725Z 29 OCT  6M
 RABAUL                04.2S 152.3E 0718Z 29 OCT  3M
 KAVIENG               02.5S 150.7E 0621Z 29 OCT  4M
 KIETA                 06.1S 155.6E 0733Z 29 OCT  OVER10M
NORTH COASTS OF SOLOMON ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE               06.9S 157.2E 0732Z 29 OCT  8M
 AUKI                  08.8S 160.6E 0815Z 29 OCT  4M
 KIRAKIRA              10.4S 161.9E 0831Z 29 OCT  6M
MARIANA ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SAIPAN                15.3N 145.8E (ALREADY ARRIVED)
 GUAM                  13.4N 144.7E 0400Z 29 OCT  6M
PALAU
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL               07.3N 134.5E 0508Z 29 OCT  3M
MICRONESIA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.               09.5N 138.1E 0442Z 29 OCT  3M
 CHUUK_IS.             07.4N 151.8E 0437Z 29 OCT  OVER10M
 POHNPEI_IS.           07.0N 158.2E 0446Z 29 OCT  8M
 KOSRAE_IS.            05.5N 163.0E 0523Z 29 OCT  6M
MARSHALL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK              11.4N 162.3E 0413Z 29 OCT  OVER10M
SOLOMON SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                 08.4S 157.2E 0958Z 29 OCT  1M
 HONIARA               09.3S 160.0E 0844Z 29 OCT  6M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY
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FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)
 LOCATION                      COORDINATES ARRIVAL TIME  AMPL
 SAIPAN                        15.2N 145.8E
                       MAXIMUM TSUNAMI WAVE 0315Z 29 OCT  7.0M
 SEVERO KURILSK                50.7N 156.1E
                       MAXIMUM TSUNAMI WAVE 0235Z 29 OCT  6.0M
 UST KAMCHATSK                 56.2N 162.5E
                       MAXIMUM TSUNAMI WAVE 0255Z 29 OCT  2.0M
 CHOSHI                        35.7N 140.9E
                       MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                     40.5N 141.5E
                       MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                      43.3N 145.6E
                       MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 MINAMITORISHIMA               24.3N 154.0E
                       MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 NAHA                          26.2N 127.7E
                       MAXIMUM TSUNAMI WAVE 0320Z 29 OCT  0.5M
 OFUNATO                       39.0N 141.8E
                       MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                      34.6N 138.2E
                       MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                   32.8N 133.0E
                       MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 6.

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WEPA40 RJTD 290445

TSUNAMI BULLETIN NUMBER 006
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0445Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
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NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE

EAST COASTS OF KAMCHATKA PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
UST_KAMCHATSK	56.1N 162.6E	(ALREADY ARRIVED)	
PETROPAVLOVSK_K	53.2N 159.6E	0251Z 29 OCT	3M

KURIL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SEVERO_KURILSK	50.8N 156.1E	(ALREADY ARRIVED)	
URUP_IS.	46.1N 150.5E	0055Z 29 OCT	8M

SOUTH COASTS OF KOREAN PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BUSAN	35.2N 129.1E	0430Z 29 OCT	0.5M
NOHWA	34.2N 126.5E	0640Z 29 OCT	0.5M
SEOGWIPO	33.2N 126.5E	0550Z 29 OCT	1M

EAST COASTS OF TAIWAN

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HUALIEN	24.0N 121.6E	0521Z 29 OCT	1M

COASTS OF SOUTH CHINA SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HONG_KONG	22.3N 114.2E	0852Z 29 OCT	1M

WEST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
LAOAG	18.2N 120.6E	0518Z 29 OCT	1M
SAN_FERNANDO	16.6N 120.3E	0539Z 29 OCT	1M

EAST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BASCO	20.4N 122.0E	0430Z 29 OCT	2M
PALANAN	17.2N 122.6E	0501Z 29 OCT	3M
LEGASPI	13.2N 123.8E	0519Z 29 OCT	4M
LAOANG	12.6N 125.0E	0512Z 29 OCT	6M
MADRID	09.2N 126.0E	0523Z 29 OCT	4M
DAVAO	06.9N 125.7E	0612Z 29 OCT	2M

CELEBES SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M
MANADO	01.6N 124.9E	0646Z 29 OCT	2M

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M
PATANI	00.4N 128.8E	0643Z 29 OCT	3M
SORONG	00.8S 131.1E	0645Z 29 OCT	3M
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M
WARSA	00.6S 135.8E	0627Z 29 OCT	6M
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M
WEWAK	03.5S 143.7E	0702Z 29 OCT	4M
MADANG	05.2S 145.8E	0747Z 29 OCT	4M
MANUS_IS.	02.0S 147.5E	0616Z 29 OCT	3M
KIMBE	05.6S 150.2E	0725Z 29 OCT	6M
RABAUL	04.2S 152.3E	0718Z 29 OCT	3M
KAVIENG	02.5S 150.7E	0621Z 29 OCT	4M
KIETA	06.1S 155.6E	0733Z 29 OCT	OVER10M

NORTH COASTS OF SOLOMON ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
PANGGOE	06.9S 157.2E	0732Z 29 OCT	8M
AUKI	08.8S 160.6E	0815Z 29 OCT	4M
KIRAKIRA	10.4S 161.9E	0831Z 29 OCT	6M

MARIANA ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SAIPAN	15.3N 145.8E	(ALREADY ARRIVED)	

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 GUAM                 13.4N 144.7E 0400Z 29 OCT  6M
PALAU
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL              07.3N 134.5E (ALREADY ARRIVED)
MICRONESIA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.              09.5N 138.1E (ALREADY ARRIVED)
 CHUUK_IS.            07.4N 151.8E 0437Z 29 OCT  OVER10M
 POHNPEI_IS.          07.0N 158.2E (ALREADY ARRIVED)
 KOSRAE_IS.           05.5N 163.0E 0523Z 29 OCT  6M
MARSHALL ISLANDS
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK             11.4N 162.3E 0413Z 29 OCT  OVER10M
SOLOMON SEA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                08.4S 157.2E 0958Z 29 OCT  1M
 HONIARA              09.3S 160.0E 0844Z 29 OCT  6M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)
 LOCATION                    COORDINATES ARRIVAL TIME  AMPL
 MALAKAL                     07.3N 134.5E
                      MAXIMUM TSUNAMI WAVE 0440Z 29 OCT  0.5M
 POHNPEI                     07.0N 158.2E
                      MAXIMUM TSUNAMI WAVE 0430Z 29 OCT  3.0M
 SAIPAN                      15.2N 145.8E
                      MAXIMUM TSUNAMI WAVE 0315Z 29 OCT  7.0M
 SEVERO KURILSK              50.7N 156.1E
                      MAXIMUM TSUNAMI WAVE 0235Z 29 OCT  6.0M
 UST KAMCHATSK               56.2N 162.5E
                      MAXIMUM TSUNAMI WAVE 0255Z 29 OCT  4.0M
 YAP                         09.5N 138.1E
                      MAXIMUM TSUNAMI WAVE 0420Z 29 OCT  3.0M
 CHOSHI                      35.7N 140.9E
                      MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                   40.5N 141.5E
                      MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                    43.3N 145.6E
                      MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 ISHIGAKIJIMA                24.2N 124.1E
                      MAXIMUM TSUNAMI WAVE 0350Z 29 OCT  0.3M
 MINAMITORISHIMA             24.3N 154.0E
                      MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 NAHA                        26.2N 127.7E
                      MAXIMUM TSUNAMI WAVE 0320Z 29 OCT  0.5M
 OFUNATO                     39.0N 141.8E
                      MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                    34.6N 138.2E
                      MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                 32.8N 133.0E
                      MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 7.

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WEPA40 RJTD 290745

TSUNAMI BULLETIN NUMBER 007
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0745Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 UST_KAMCHATSK         56.1N 162.6E (ALREADY ARRIVED)
 PETROPAVLOVSK_K       53.2N 159.6E 0251Z 29 OCT  3M
KURIL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SEVERO_KURILSK        50.8N 156.1E (ALREADY ARRIVED)
 URUP_IS.              46.1N 150.5E 0055Z 29 OCT  8M
SOUTH COASTS OF KOREAN PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BUSAN                 35.2N 129.1E 0430Z 29 OCT  0.5M
 NOHWA                 34.2N 126.5E 0640Z 29 OCT  0.5M
 SEOGWIPO              33.2N 126.5E 0550Z 29 OCT  1M
EAST COASTS OF TAIWAN
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HUALIEN               24.0N 121.6E 0521Z 29 OCT  1M
COASTS OF SOUTH CHINA SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HONG_KONG             22.3N 114.2E 0852Z 29 OCT  1M
WEST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 LAOAG                 18.2N 120.6E 0518Z 29 OCT  1M
 SAN_FERNANDO          16.6N 120.3E 0539Z 29 OCT  1M
EAST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BASCO                 20.4N 122.0E 0430Z 29 OCT  2M
 PALANAN               17.2N 122.6E 0501Z 29 OCT  3M
 LEGASPI               13.2N 123.8E (ALREADY ARRIVED)
 LAOANG                12.6N 125.0E 0512Z 29 OCT  6M
 MADRID                09.2N 126.0E 0523Z 29 OCT  4M
 DAVAO                 06.9N 125.7E (ALREADY ARRIVED)
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CELEBES SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M
MANADO	01.6N 124.9E	0646Z 29 OCT	2M

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M
PATANI	00.4N 128.8E	0643Z 29 OCT	3M
SORONG	00.8S 131.1E	0645Z 29 OCT	3M
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M
WARSA	00.6S 135.8E	0627Z 29 OCT	6M
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M
WEWAK	03.5S 143.7E	0702Z 29 OCT	4M
MADANG	05.2S 145.8E	0747Z 29 OCT	4M
MANUS_IS.	02.0S 147.5E	(ALREADY ARRIVED)	
KIMBE	05.6S 150.2E	0725Z 29 OCT	6M
RABAUL	04.2S 152.3E	0718Z 29 OCT	3M
KAVIENG	02.5S 150.7E	0621Z 29 OCT	4M
KIETA	06.1S 155.6E	0733Z 29 OCT	OVER10M

NORTH COASTS OF SOLOMON ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
PANGGOE	06.9S 157.2E	0732Z 29 OCT	8M
AUKI	08.8S 160.6E	0815Z 29 OCT	4M
KIRAKIRA	10.4S 161.9E	0831Z 29 OCT	6M

MARIANA ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SAIPAN	15.3N 145.8E	(ALREADY ARRIVED)	
GUAM	13.4N 144.7E	0400Z 29 OCT	6M

PALAU

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
MALAKAL	07.3N 134.5E	(ALREADY ARRIVED)	

MICRONESIA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
YAP_IS.	09.5N 138.1E	(ALREADY ARRIVED)	
CHUUK_IS.	07.4N 151.8E	0437Z 29 OCT	OVER10M
POHNPEI_IS.	07.0N 158.2E	(ALREADY ARRIVED)	
KOSRAE_IS.	05.5N 163.0E	0523Z 29 OCT	6M

MARSHALL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
ENIWETOK	11.4N 162.3E	0413Z 29 OCT	OVER10M

SOLOMON SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
MUNDA	08.4S 157.2E	0958Z 29 OCT	1M
HONIARA	09.3S 160.0E	0844Z 29 OCT	6M

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
DAVAO	07.1N 125.7E		
	MAXIMUM TSUNAMI WAVE	0520Z 29 OCT	1.5M
KAPINGAMARANGI	01.1N 154.8E		
	MAXIMUM TSUNAMI WAVE	0525Z 29 OCT	1.0M
LEGASPI	13.2N 123.8E		
	MAXIMUM TSUNAMI WAVE	0530Z 29 OCT	4.5M
MALAKAL	07.3N 134.5E		

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                        MAXIMUM TSUNAMI WAVE 0440Z 29 OCT  0.5M
 MANILA                          14.6N 121.0E
                        MAXIMUM TSUNAMI WAVE 0705Z 29 OCT  0.1M
 MANUS                           02.0S 147.4E
                        MAXIMUM TSUNAMI WAVE 0540Z 29 OCT  4.0M
 POHNPEI                         07.0N 158.2E
                        MAXIMUM TSUNAMI WAVE 0430Z 29 OCT  3.0M
 QUARRY BAY                      22.3N 114.2E
                        MAXIMUM TSUNAMI WAVE 0740Z 29 OCT  0.1M
 QUI NHON                        13.8N 109.3E
                        MAXIMUM TSUNAMI WAVE 0655Z 29 OCT  0.1M
 SAIPAN                          15.2N 145.8E
                        MAXIMUM TSUNAMI WAVE 0315Z 29 OCT  7.0M
 SEVERO KURILSK                  50.7N 156.1E
                        MAXIMUM TSUNAMI WAVE 0235Z 29 OCT  6.0M
 SUBIC BAY                       14.8N 120.3E
                        MAXIMUM TSUNAMI WAVE 0550Z 29 OCT  0.1M
 UST KAMCHATSK                   56.2N 162.5E
                        MAXIMUM TSUNAMI WAVE 0255Z 29 OCT  4.0M
 YAP                             09.5N 138.1E
                        MAXIMUM TSUNAMI WAVE 0420Z 29 OCT  3.0M
 CHOSHI                          35.7N 140.9E
                        MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                       40.5N 141.5E
                        MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                        43.3N 145.6E
                        MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 ISHIGAKIJIMA                    24.2N 124.1E
                        MAXIMUM TSUNAMI WAVE 0350Z 29 OCT  0.3M
 MINAMITORISHIMA                 24.3N 154.0E
                        MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 NAHA                            26.2N 127.7E
                        MAXIMUM TSUNAMI WAVE 0320Z 29 OCT  0.5M
 OFUNATO                         39.0N 141.8E
                        MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                        34.6N 138.2E
                        MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                     32.8N 133.0E
                        MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 8.

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WEPA40 RJTD 290945

TSUNAMI BULLETIN NUMBER 008
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 0945Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
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SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE

EAST COASTS OF KAMCHATKA PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
UST_KAMCHATSK	56.1N 162.6E	(ALREADY ARRIVED)	
PETROPAVLOVSK_K	53.2N 159.6E	0251Z 29 OCT	3M

KURIL ISLANDS

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
SEVERO_KURILSK	50.8N 156.1E	(ALREADY ARRIVED)	
URUP_IS.	46.1N 150.5E	0055Z 29 OCT	8M

SOUTH COASTS OF KOREAN PENINSULA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BUSAN	35.2N 129.1E	0430Z 29 OCT	0.5M
NOHWA	34.2N 126.5E	0640Z 29 OCT	0.5M
SEOGWIPO	33.2N 126.5E	0550Z 29 OCT	1M

EAST COASTS OF TAIWAN

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HUALIEN	24.0N 121.6E	0521Z 29 OCT	1M

COASTS OF SOUTH CHINA SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
HONG_KONG	22.3N 114.2E	0852Z 29 OCT	1M

WEST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
LAOAG	18.2N 120.6E	0518Z 29 OCT	1M
SAN_FERNANDO	16.6N 120.3E	0539Z 29 OCT	1M

EAST COASTS OF PHILIPPINES

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BASCO	20.4N 122.0E	0430Z 29 OCT	2M
PALANAN	17.2N 122.6E	0501Z 29 OCT	3M
LEGASPI	13.2N 123.8E	(ALREADY ARRIVED)	
LAOANG	12.6N 125.0E	0512Z 29 OCT	6M
MADRID	09.2N 126.0E	0523Z 29 OCT	4M
DAVAO	06.9N 125.7E	(ALREADY ARRIVED)	

CELEBES SEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
TOLITOLI	01.1N 120.8E	0826Z 29 OCT	1M
MANADO	01.6N 124.9E	0646Z 29 OCT	2M

NORTH COASTS OF IRIAN JAYA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
BEREBERE	02.5N 128.7E	0705Z 29 OCT	2M
PATANI	00.4N 128.8E	0643Z 29 OCT	3M
SORONG	00.8S 131.1E	0645Z 29 OCT	3M
MANOKWARI	00.8S 134.2E	0633Z 29 OCT	4M
WARSA	00.6S 135.8E	0627Z 29 OCT	6M
JAYAPURA	02.4S 140.8E	0644Z 29 OCT	8M

NORTH COASTS OF PAPUA NEW GUINEA

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
VANIMO	02.6S 141.3E	0642Z 29 OCT	6M
WEWAK	03.5S 143.7E	0702Z 29 OCT	4M
MADANG	05.2S 145.8E	0747Z 29 OCT	4M
MANUS_IS.	02.0S 147.5E	(ALREADY ARRIVED)	
KIMBE	05.6S 150.2E	0725Z 29 OCT	6M
RABAUL	04.2S 152.3E	0718Z 29 OCT	3M
KAVIENG	02.5S 150.7E	0621Z 29 OCT	4M
KIETA	06.1S 155.6E	0733Z 29 OCT	OVER10M

NORTH COASTS OF SOLOMON ISLANDS

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 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE               06.9S 157.2E 0732Z 29 OCT  8M
 AUKI                  08.8S 160.6E 0815Z 29 OCT  4M
 KIRAKIRA              10.4S 161.9E 0831Z 29 OCT  6M
MARIANA ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SAIPAN                15.3N 145.8E (ALREADY ARRIVED)
 GUAM                  13.4N 144.7E 0400Z 29 OCT  6M
PALAU
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL               07.3N 134.5E (ALREADY ARRIVED)
MICRONESIA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.               09.5N 138.1E (ALREADY ARRIVED)
 CHUUK_IS.             07.4N 151.8E 0437Z 29 OCT  OVER10M
 POHNPEI_IS.           07.0N 158.2E (ALREADY ARRIVED)
 KOSRAE_IS.            05.5N 163.0E 0523Z 29 OCT  6M
MARSHALL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 ENIWETOK              11.4N 162.3E 0413Z 29 OCT  OVER10M
SOLOMON SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                 08.4S 157.2E 0958Z 29 OCT  1M
 HONIARA               09.3S 160.0E (ALREADY ARRIVED)

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
TSUNAMIS MAY ARRIVE EARLIER THAN OUR ESTIMATION AT THE NEARBY
FORECAST POINTS
AUTHORITIES SHOULD BE AWARE OF THIS POSSIBILITY

FURTHERMORE THE EVALUATION OF TSUNAMIGENIC POTENTIAL AND ESTIMATED
ARRIVAL TIME OF TSUNAMIS MAY BE DIFFERENT FROM THOSE OF PTWC
DUE TO DIFFERENCES IN THE ESTIMATED EARTHQUAKE PARAMETERS
AUTHORITIES SHOULD USE THE EARLIEST ARRIVAL TIMES FOR
GREATEST SAFETY

MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)
 LOCATION                    COORDINATES ARRIVAL TIME  AMPL
 DAVAO                       07.1N 125.7E
                      MAXIMUM TSUNAMI WAVE 0520Z 29 OCT  1.5M
 HONIARA                     09.4S 160.0E
                      MAXIMUM TSUNAMI WAVE 0750Z 29 OCT  3.5M
 KAPINGAMARANGI              01.1N 154.8E
                      MAXIMUM TSUNAMI WAVE 0525Z 29 OCT  1.0M
 LEGASPI                     13.2N 123.8E
                      MAXIMUM TSUNAMI WAVE 0530Z 29 OCT  4.5M
 MALAKAL                     07.3N 134.5E
                      MAXIMUM TSUNAMI WAVE 0440Z 29 OCT  0.5M
 MANILA                      14.6N 121.0E
                      MAXIMUM TSUNAMI WAVE 0705Z 29 OCT  0.1M
 MANUS                       02.0S 147.4E
                      MAXIMUM TSUNAMI WAVE 0540Z 29 OCT  4.0M
 POHNPEI                     07.0N 158.2E
                      MAXIMUM TSUNAMI WAVE 0430Z 29 OCT  3.0M
 QUARRY BAY                  22.3N 114.2E
                      MAXIMUM TSUNAMI WAVE 0740Z 29 OCT  0.6M
 QUI NHON                    13.8N 109.3E
                      MAXIMUM TSUNAMI WAVE 0655Z 29 OCT  0.2M
 SAIPAN                      15.2N 145.8E
                      MAXIMUM TSUNAMI WAVE 0315Z 29 OCT  7.0M
 SEVERO KURILSK              50.7N 156.1E
                      MAXIMUM TSUNAMI WAVE 0235Z 29 OCT  6.0M
 SHEK PIK                    22.2N 113.9E
                      MAXIMUM TSUNAMI WAVE 0830Z 29 OCT  0.3M
 SUBIC BAY                   14.8N 120.3E
                      MAXIMUM TSUNAMI WAVE 0550Z 29 OCT  0.1M
 UST KAMCHATSK               56.2N 162.5E
                      MAXIMUM TSUNAMI WAVE 0255Z 29 OCT  4.0M
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 YAP                          09.5N 138.1E
                        MAXIMUM TSUNAMI WAVE 0420Z 29 OCT  3.0M
 CHOSHI                       35.7N 140.9E
                        MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                    40.5N 141.5E
                        MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                     43.3N 145.6E
                        MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 ISHIGAKIJIMA                 24.2N 124.1E
                        MAXIMUM TSUNAMI WAVE 0350Z 29 OCT  0.3M
 MINAMITORISHIMA              24.3N 154.0E
                        MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 NAHA                         26.2N 127.7E
                        MAXIMUM TSUNAMI WAVE 0320Z 29 OCT  0.5M
 OFUNATO                      39.0N 141.8E
                        MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                     34.6N 138.2E
                        MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                  32.8N 133.0E
                        MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
POTENTIAL OF TSUNAMI GENERATION BY RE-EVALUATION OF THE EARTHQUAKE
OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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NWPTAC BULLETIN 9.

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WEPA40 RJTD 291145

TSUNAMI BULLETIN NUMBER 009
   ISSUED BY NWPTAC(JMA)
   ISSUED AT 1145Z 29 OCT 2008

HYPOCENTRAL PARAMETERS
ORIGIN TIME:0000Z 29 OCT 2008
PRELIMINARY EPICENTER:LAT40.0NORTH LON143.0EAST
 OFF EAST COAST OF HONSHU, JAPAN
 JAPAN - KURIL ISLANDS - KAMCHATKA PENINSULA
MAG:9.2(MJMA)

EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE TSUNAMI

THIS BULLETIN IS FOR
EAST COASTS OF KAMCHATKA PENINSULA
KURIL ISLANDS
SOUTH COASTS OF KOREAN PENINSULA
EAST COASTS OF TAIWAN
COASTS OF SOUTH CHINA SEA
WEST COASTS OF PHILIPPINES
EAST COASTS OF PHILIPPINES
CELEBES SEA
NORTH COASTS OF IRIAN JAYA
NORTH COASTS OF PAPUA NEW GUINEA
NORTH COASTS OF SOLOMON ISLANDS
MARIANA ISLANDS
PALAU
MICRONESIA
MARSHALL ISLANDS
SOLOMON SEA

ESTIMATED TSUNAMI ARRIVAL TIME AND ESTIMATED TSUNAMI WAVE AMPLITUDE
EAST COASTS OF KAMCHATKA PENINSULA
 LOCATION             COORDINATES  ARRIVAL TIME  AMPL
 UST_KAMCHATSK        56.1N 162.6E (ALREADY ARRIVED)
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 PETROPAVLOVSK_K       53.2N 159.6E 0251Z 29 OCT  3M
KURIL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SEVERO_KURILSK        50.8N 156.1E (ALREADY ARRIVED)
 URUP_IS.              46.1N 150.5E 0055Z 29 OCT  8M
SOUTH COASTS OF KOREAN PENINSULA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BUSAN                 35.2N 129.1E 0430Z 29 OCT  0.5M
 NOHWA                 34.2N 126.5E 0640Z 29 OCT  0.5M
 SEOGWIPO              33.2N 126.5E 0550Z 29 OCT  1M
EAST COASTS OF TAIWAN
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HUALIEN               24.0N 121.6E 0521Z 29 OCT  1M
COASTS OF SOUTH CHINA SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 HONG_KONG             22.3N 114.2E 0852Z 29 OCT  1M
WEST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 LAOAG                 18.2N 120.6E 0518Z 29 OCT  1M
 SAN_FERNANDO          16.6N 120.3E 0539Z 29 OCT  1M
EAST COASTS OF PHILIPPINES
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BASCO                 20.4N 122.0E 0430Z 29 OCT  2M
 PALANAN               17.2N 122.6E 0501Z 29 OCT  3M
 LEGASPI               13.2N 123.8E (ALREADY ARRIVED)
 LAOANG                12.6N 125.0E 0512Z 29 OCT  6M
 MADRID                09.2N 126.0E 0523Z 29 OCT  4M
 DAVAO                 06.9N 125.7E (ALREADY ARRIVED)
CELEBES SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 TOLITOLI              01.1N 120.8E 0826Z 29 OCT  1M
 MANADO                01.6N 124.9E 0646Z 29 OCT  2M
NORTH COASTS OF IRIAN JAYA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 BEREBERE              02.5N 128.7E 0705Z 29 OCT  2M
 PATANI                00.4N 128.8E 0643Z 29 OCT  3M
 SORONG                00.8S 131.1E 0645Z 29 OCT  3M
 MANOKWARI             00.8S 134.2E 0633Z 29 OCT  4M
 WARSA                 00.6S 135.8E 0627Z 29 OCT  6M
 JAYAPURA              02.4S 140.8E 0644Z 29 OCT  8M
NORTH COASTS OF PAPUA NEW GUINEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 VANIMO                02.6S 141.3E 0642Z 29 OCT  6M
 WEWAK                 03.5S 143.7E 0702Z 29 OCT  4M
 MADANG                05.2S 145.8E 0747Z 29 OCT  4M
 MANUS_IS.             02.0S 147.5E (ALREADY ARRIVED)
 KIMBE                 05.6S 150.2E 0725Z 29 OCT  6M
 RABAUL                04.2S 152.3E 0718Z 29 OCT  3M
 KAVIENG               02.5S 150.7E 0621Z 29 OCT  4M
 KIETA                 06.1S 155.6E 0733Z 29 OCT  OVER10M
NORTH COASTS OF SOLOMON ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 PANGGOE               06.9S 157.2E 0732Z 29 OCT  8M
 AUKI                  08.8S 160.6E 0815Z 29 OCT  4M
 KIRAKIRA              10.4S 161.9E 0831Z 29 OCT  6M
MARIANA ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 SAIPAN                15.3N 145.8E (ALREADY ARRIVED)
 GUAM                  13.4N 144.7E 0400Z 29 OCT  6M
PALAU
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MALAKAL               07.3N 134.5E (ALREADY ARRIVED)
MICRONESIA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 YAP_IS.               09.5N 138.1E (ALREADY ARRIVED)
 CHUUK_IS.             07.4N 151.8E 0437Z 29 OCT  OVER10M
 POHNPEI_IS.           07.0N 158.2E (ALREADY ARRIVED)
 KOSRAE_IS.            05.5N 163.0E 0523Z 29 OCT  6M
MARSHALL ISLANDS
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
```

```
 ENIWETOK              11.4N 162.3E 0413Z 29 OCT  OVER10M
SOLOMON SEA
 LOCATION              COORDINATES  ARRIVAL TIME  AMPL
 MUNDA                 08.4S 157.2E 0958Z 29 OCT  1M
 HONIARA               09.3S 160.0E (ALREADY ARRIVED)

AMPL - AMPLITUDE IN METERS FROM MIDDLE TO CREST

HOWEVER AT SOME COASTS, PARTICULARLY THOSE NEAR THE EPICENTER, HIGHER
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MEASUREMENTS OR REPORTS ON TSUNAMI (REVISION)
 LOCATION                      COORDINATES ARRIVAL TIME  AMPL
 DAVAO                          07.1N 125.7E
                       MAXIMUM TSUNAMI WAVE 0520Z 29 OCT  1.5M
 HONIARA                        09.4S 160.0E
                       MAXIMUM TSUNAMI WAVE 0750Z 29 OCT  3.5M
 KAPINGAMARANGI                 01.1N 154.8E
                       MAXIMUM TSUNAMI WAVE 0525Z 29 OCT  1.0M
 LEGASPI                        13.2N 123.8E
                       MAXIMUM TSUNAMI WAVE 0530Z 29 OCT  4.5M
 MALAKAL                        07.3N 134.5E
                       MAXIMUM TSUNAMI WAVE 0440Z 29 OCT  0.5M
 MANILA                         14.6N 121.0E
                       MAXIMUM TSUNAMI WAVE 0705Z 29 OCT  0.1M
 MANUS                          02.0S 147.4E
                       MAXIMUM TSUNAMI WAVE 0540Z 29 OCT  4.0M
 POHNPEI                        07.0N 158.2E
                       MAXIMUM TSUNAMI WAVE 0430Z 29 OCT  3.0M
 QUARRY BAY                     22.3N 114.2E
                       MAXIMUM TSUNAMI WAVE 0740Z 29 OCT  0.6M
 QUI NHON                       13.8N 109.3E
                       MAXIMUM TSUNAMI WAVE 0655Z 29 OCT  0.2M
 SAIPAN                         15.2N 145.8E
                       MAXIMUM TSUNAMI WAVE 0315Z 29 OCT  7.0M
 SEVERO KURILSK                 50.7N 156.1E
                       MAXIMUM TSUNAMI WAVE 0235Z 29 OCT  6.0M
 SHEK PIK                       22.2N 113.9E
                       MAXIMUM TSUNAMI WAVE 0830Z 29 OCT  0.3M
 SUBIC BAY                      14.8N 120.3E
                       MAXIMUM TSUNAMI WAVE 0550Z 29 OCT  0.2M
 UST KAMCHATSK                  56.2N 162.5E
                       MAXIMUM TSUNAMI WAVE 0255Z 29 OCT  4.0M
 VUNG TAU                       10.3N 107.1E
                       MAXIMUM TSUNAMI WAVE 1050Z 29 OCT  0.1M
 YAP                            09.5N 138.1E
                       MAXIMUM TSUNAMI WAVE 0420Z 29 OCT  3.0M
 CHOSHI                         35.7N 140.9E
                       MAXIMUM TSUNAMI WAVE 0035Z 29 OCT  2.0M
 HACHINOHE                      40.5N 141.5E
                       MAXIMUM TSUNAMI WAVE 0005Z 29 OCT 10.0M
 HANASAKI                       43.3N 145.6E
                       MAXIMUM TSUNAMI WAVE 0030Z 29 OCT 10.0M
 ISHIGAKIJIMA                   24.2N 124.1E
                       MAXIMUM TSUNAMI WAVE 0350Z 29 OCT  0.3M
 MINAMITORISHIMA                24.3N 154.0E
                       MAXIMUM TSUNAMI WAVE 0210Z 29 OCT  1.0M
 NAHA                           26.2N 127.7E
                       MAXIMUM TSUNAMI WAVE 0320Z 29 OCT  0.5M
 OFUNATO                        39.0N 141.8E
                       MAXIMUM TSUNAMI WAVE 0005Z 29 OCT  8.0M
 OMAEZAKI                       34.6N 138.2E
```

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                        MAXIMUM TSUNAMI WAVE 0115Z 29 OCT  1.0M
 TOSASHIMIZU                     32.8N 133.0E
                        MAXIMUM TSUNAMI WAVE 0205Z 29 OCT  0.8M
MAXIMUM TSUNAMI WAVE -- HALF OF AMPLITUDE FROM THE TROUGH
TO THE CREST

THIS WILL BE THE FINAL BULLETIN UNLESS THERE ARE CHANGES ABOUT THE
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OR THERE ARE REPORTS ON TSUNAMI OBSERVATIONS
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APPENDIX V. SAMPLE GUIDANCE FOR TABLETOP EXERCISES

Tabletop Exercise Development Steps
Source: U. S. 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, and resolution is generally agreed upon, and then summarized by a group leader. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative.

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

1. Vulnerability Analysis: Problem Statement

An example for a hurricane might be:
Due to the recent Hurricane incidents that the Southeast region of the United States, an awareness of the threat risk involved in these disasters has become more apparent, therefore the need for evacuation system is vital. The state of Louisiana continues it 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, tabletop exercise, functional and full-scale exercises within a 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, 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
   - Provides necessary background information
   - Prepares 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.

Tabletop Exercise Example

Risk Reduction Strategies to Improve Tsunami Response Planning - A Tabletop Exercise for Thailand (3 hrs.)

(as conducted by the Pacific Disaster Center, May 2005)

A recent Tsunami scenario will be presented to generate discussion of direct and indirect impacts upon coastal communities. Participants will be encouraged to share challenges, successes, and lessons learned in responding to tsunamis, and to explore short- and long-term actions to improve warning processes. Facilitated discussions and group activities will focus on meeting informational needs and communicating disaster risk through the use of available tools, applications, and information resources, and how these may contribute to the development of effective early warning-risk management strategies.

Exercise Objectives

1. Increase understanding of the tsunami hazard and its impacts on coastal environment.
2. Exercise existing procedures and processes related to Early tsunami warnings
3. Identify critical decision points, resources, and informational needs, as well as Gaps.
4. Review of communicate protocol for warning.
5. Review procedures and protocols for issuing “All Clear”.

Exercise Outline

Setting the Stage

- Background on Tsunamis (general characteristics, associated hazards, warning)
- Tsunami video clip, narrative, images, maps
- Hazard Information and Warning Centers (PTWC, JMA, NEIC, USGS)

Risk Analysis #1

- Know your hazard(s) (Understanding risk, frequency, intensity, impacts, and vulnerabilities; regional maps; taking appropriate actions for planning and preparedness)
- Review Hazard Analysis Worksheet (4-13)

Exercise Introduction

- Divide into groups
- Introduction – Earthquake to Tsunami Generation to Tsunami Impacts

Exercise Phase 1

- Earthquake of magnitude 8.3 have occurred 75 miles (120 kilometers) off of coast of Sumatra.
- People in high raise buildings in Bangkok are experience and reporting buildings shaking, (additional information)
- USGS issues bulletin (review bulletin, maps, other related information)
- Group work, report out.

Break – 15 minutes

Exercise Phase 2 - Tsunami Watch Issued

- Warning Agencies (PTWC and JMA) have issued a Tsunami Watch for coastal areas within 3 - 6 hours arrival time of the Tsunami.
- What actions are taking (government agencies, media, and public)
- Group work, report out.

Exercise Phase 3 - Tsunami Warning Issued

- Warning Agencies (PTWC and JMA) have issued a Tsunami Watch for coastal areas within 3 hours arrival time of the Tsunami.
- What actions are taking (government agencies, media, and public)
- Group work, report out.

Exercise Phase 4 - Tsunami impact and Situation Assessment

- Resources for damage assessment
- Deployment of disaster relief
- Managing the information requests and requirements (government agencies, media, and public)
- Monitoring Aftershocks for potential tsunami generation
- Group work, report out.

Concluding Discussion

- **What are the gaps - critical decision points, information and resource needs?**
- **How do you communicate to impacted areas?**
- **Who issues the "All Clear" and how is it communicated?**
- **Outline strategies for filling the gaps**

Materials:

- Hazard Analysis Worksheet (4-13)
- Maps (Hazard, Base, and Tsunami Time)
- Large post-it paper
- Felt pens
- Laptop, projector, screen

APPENDIX VI. SAMPLE PRESS RELEASE

TEMPLATE FOR NEWS RELEASE

USE AGENCY MASTHEAD

Contact: (insert name)
(insert phone number)
(insert email address)

FOR IMMEDIATE RELEASE
(insert date)

PACIFIC-WIDE TSUNAMI DRILL SET FOR OCTOBER

(insert country name) will join over (insert number) other countries around the Pacific Rim as a participant in a mock tsunami scenario during 28 – 30 October 2008. The purpose of this Pacific-wide exercise is to increase preparedness, evaluate response capabilities in each country and improve coordination throughout the region.

"The 2004 Indian Ocean tsunami brought to the attention of the world 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 Pacific Tsunami Warning System and help identify operational strengths and weaknesses in each country."

The exercise, titled Exercise Pacific Wave 08 (EPW08), will simulate Pacific countries being put into a Tsunami Warning situation requiring government decision-making. It is the second such exercise with the first having been carried out in May 2006. The role-playing of the exercise will be taken to the step just prior to public notification.

The exercise can be divided into two stages. In the first stage, a destructive tsunami crossing the Pacific from an earthquake near Japan will be simulated by international notifications from Japan's Northwest Pacific Tsunami Advisory Center (NWPTAC), the U.S. Pacific Tsunami Warning Center (PTWC) and the U.S. West Coast and Alaska Tsunami Warning Center (WC/ATWC). Bulletins will be transmitted from these tsunami warning centers to focal points designated by each country that are responsible for that country's tsunami response.

In the second stage, conducted simultaneously in response to receipt of the international messages and any national tsunami detection, analysis, and forecasting capabilities, government officials will simulate decision-making and alerting procedures down to the last step before public notification. Notification of emergency management and response authorities for a single coastal community will be used as a measure of the end-to-end process of the entire country for purposes of this exercise. Due care will be taken to ensure the public is not inadvertently alarmed.

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

Should any actual tsunami threat occur during the time period of the exercise, 28-30 October 2008, the drill will be terminated.

Following the exercise, a review and evaluation will be conducted by all participants. “We see this exercise as an essential element in the routine maintenance of the Pacific Tsunami Warning and Mitigation System,” said (insert name of appropriate official). “Our goal is to ensure a timely and effective early warning of tsunamis, educate communities at risk about safety preparedness, and improve our overall coordination. We will evaluate what works well, where improvements are needed, make necessary changes, and continue to practice.”

The exercise is in the Work Plan of the Intergovernmental Coordination Group of the Pacific Tsunami Warning and Mitigation System (ICG/PTWS). ICG/PTWS is abody of the UNESCO’s Intergovernmental Oceanographic Commission.

###

On the Web

EPW08 Information:

http://www.ioc-tsunami.org/index.php?option=com_content&task=view&id=271&Itemid=973

Media Resources:

http://ioc3.unesco.org/itic/categories.php?category_no=150

Pacific Tsunami Warning System:

http://ioc3.unesco.org/ptws/

U.S. Pacific Tsunami Warning Center:

http://www.prh.noaa.gov/ptwc/

Japan Meteorological Agency’s Tsunami Warnings / Advisories

http://www.jma.go.jp/en/tsunami/

U.S. West Coast and Alaska Tsunami Warning Center:

http://wcatwc.arh.noaa.gov/

Insert country URLs

MODÈLE À UTILISER POUR RÉDIGER UN COMMUNIQUÉ

UTILISER L'EN-TETE DE L'AGENCE

Contact: (nom) **POUR COMMUNIQUATION IMMÉDIATE**
(numéro de téléphone) (indiquer la date)
(adresse électronique)

EXERCICE D'ALERTE AU TSUNAMI
DANS LE PACIFIQUE PREVU EN OCTOBRE

(Indiquer le nom du pays) rejoint quelques (indiquer un chiffre) pays qui bordent le Pacifique dans un exercice de simulation d'alerte au tsunami prévu du 28 au 30 octobre 2008. Cet exercice mené à l'échelle de tout le Pacifique vise à élever le niveau de préparation aux tsunamis, à évaluer les capacités de réaction de chaque pays participant et améliorer la coordination dans l'ensemble de la région.

« Le tsunami qui a frappé l'Océan Indien en 2004 a porté à l'attention du monde la nécessité de mieux se préparer à de tels risques » indique (indiquer ici le nom du responsable qui convient). « Cet exercice important testera les procédures actuellement en place dans le système d'alerte aux tsunamis dans le Pacifique et permettra d'identifier les forces et les faiblesses opérationnelles de chaque pays. »

Sous le nom de "Exercise Pacific Wave 08 (EPW08)", cet exercice placera les pays du Pacifique dans la situation simulée d'alerte à un tsunami et nécessitera une prise de décisions au niveau gouvernemental. Il s'agit du second exercice de ce genre après celui mené en mai 2006. Chacun jouera son rôle tout au long de la procédure jusqu'à l'étape qui précède la notification d'alerte au public.

L'exercice peut être divisé en deux phases. La première phase simulera la progression à travers le Pacifique d'un tsunami potentiellement destructeur généré par un tremblement de terre près des côtes du Japon au moyen de notifications internationales émises par le Centre consultatif sur les tsunamis dans le Pacifique Nord-Ouest au Japon (NWPTAC), le Centre américain d'alerte aux tsunamis dans le Pacifique (PTWC), et le Centre américain d'alerte aux tsunamis de la côte Ouest et de l'Alaska (WC/ATWC). Les bulletins d'alerte seront transmis de ces centres d'alertes aux tsunamis vers les points focaux nationaux désignés par chaque pays, lesquels sont responsables de la réponse de leur pays face à un évènement tsunami.

Dans une seconde phase, les autorités gouvernementales répondront aux messages d'alerte internationaux, aidées de leurs propres capacités nationales de détection, d'analyse et de projection, et simuleront des prises de décisions et des procédures d'alerte à tous les niveaux avant la notification au public. La notification des mesures de gestion d'urgence se fera à l'adresse d'une seule communauté côtière et servira d'instrument de mesure de la procédure de bout en bout établie par le pays pour les besoins de cet exercice. La plus grande attention sera apportée afin de ne pas alarmer le public par mégarde.

Insérer ici un paragraphe spécifique au pays. Il est possible d'identifier les agences qui participent à l'exercice et les plans particuliers. Il est possible aussi de décrire le programme d'alerte rapide existant, les exercices d'évacuation passés (si disponibles), les programmes d'atténuation des effets et d'éducation du public en cours, etc. Il est possible, enfin, de décrire la menace tsunami dans le pays et l'historique des dangers qui y sont liés (si les éléments sont disponibles).

Toute menace réelle de tsunami pendant la période de simulation, c'est-à-dire du 28 au 30 octobre 2008, mettrait immédiatement fin à l'exercice.

A l'issue de cet exercice tous les participants conduiront un examen et une évaluation. « Nous voyons cet exercice comme un élément essentiel dans la maintenance quotidienne du Système d'alerte aux tsunamis et de mitigation dans le Pacifique », relève (indiquer ici le nom du responsable qui convient). « Notre but est d'assurer une alerte rapide et efficace aux tsunamis, d'éduquer les communautés situées dans les zones à risque aux mesures de sauvegarde, et améliorer notre coordination de manière étendue. Nous évaluerons ce qui a bien fonctionné, là où les besoins d'amélioration ont été identifiés, nous ferons les changements nécessaires et nous continuerons à nous entraîner ».

L'exercice s'inscrit dans le plan de travail du Groupe intergouvernemental de coordination du Système d'alerte aux tsunamis et de mitigation dans le Pacifique (GIC/PTWS), un organe de la Commission océanographique intergouvernementale de l'UNESCO.

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Ressources Internet :

Information sur l'EPW08 : http://www.ioc-tsunami.org/index.php?option=com_content&task=view&id=271&Itemid=973

Média : http://ioc3.unesco.org/itic/categories.php?category_no=150

Le Système d'alerte aux tsunamis et de mitigation dans le Pacifique :
http://www.tsunamiwave.info/

Le Centre américain d'alerte aux tsunamis dans le Pacifique (PTWC) :
http://www.prh.noaa.gov/ptwc/

Alertes et avis tsunami de l'Office météorologique japonais :
http://www.jma.go.jp/en/tsunami/

Le Centre américain d'alerte aux tsunamis de la côte Ouest et de l'Alaska (WC/ATWC) :
http://wcatwc.arh.noaa.gov/

(Ajouter ici d'autres liens spécifiques au pays)

PLANTILLA PARA EMISIÓN DE NOTICIAS

USAR EL ENCABEZADO DE LA AGENCIA

Contacto: (señale nombre)
(señale número de teléfono)
(Señale correo electrónico)

PARA EMISIÓN INMEDIATA
(señale fecha)

PLANTILLA PARA SIMULACRO DE TSUNAMIS EN EL PACÍFICO A REALIZARSE EN OCTUBRE 2008

(Señale su país) se unirá con otros países (inserte el número de países) ubicados en la Cuenca del Pacífico como participante de un escenario de tsunami simulado entre el 28 y el 30 de octubre de 2008. Este ejercicio tiene como propósito mejorar el estado de preparación, evaluar las capacidades de respuesta de cada país y mejorar la coordinación de toda la región.

"El tsunami del océano Índico del año 2004 llamó la atención del mundo sobre la urgente necesidad de estar más preparados para tales eventos" afirmó (señale el nombre del funcionario apropiado). "Este importante ejercicio probará los procedimientos actuales del Sistema de Alerta del Tsunami del Pacífico y ayudará a identificar las fortalezas y debilidades operacionales de cada país".

El ejercicio, denominado Exercise Pacific Wave 08 (EPW08), pondrá a los países del Pacífico ante una situación simulada de Alerta de Tsunami, lo cual requerirá la adopción de decisiones gubernamentales. Éste constituye el segundo ejercicio después del que se realizó en mayo de 2006. Este ejercicio se conducirá justo hasta el paso previo a la notificación pública.

El ejercicio puede dividirse en dos etapas. En la primera etapa, se simulará un tsunami destructivo a lo largo del Pacífico producido por un terremoto cerca de Japón a través de las notificaciones internacionales emitidas por el Centro de Alerta de Tsunamis del Pacífico Noroccidental de Japón (NWPTAC), el Centro de Alerta de Tsunamis en el Pacífico (PTWC) y el Centro de Alerta de Tsunamis de Alaska y la costa oeste de Estados Unidos (WC/ATWC). Los boletines serán transmitidos desde estos centros de alerta de tsunami a los puntos focales designados por cada país, los cuales son los responsables de la respuesta de cada país ante un evento de tsunami.

En la segunda etapa, a la vez que se genera una respuesta a la recepción de los mensajes internacionales y teniendo en cuenta las capacidades nacionales de detección de tsunamis, u otras de análisis y predicción, los funcionarios gubernamentales simularán la adopción de decisiones y procedimientos de alerta hasta el momento anterior a que se genere la notificación pública. Para los propósitos de este ejercicio, se utilizará la notificación del manejo de la emergencia en una única comunidad costera y las autoridades encargadas de la respuesta en dicha comunidad, como medida del proceso completo para todo el país. Se debe tener especial cuidado en que la población no sea alarmada por equivocación.

Inserten un párrafo ajustado a cada país en particular. Pueden identificar las agencias participantes y los planes específicos. Se puede describir el programa de alerta temprana actual, los ejercicios de evacuación previos (si los hubiera), los programas de educación pública y mitigación en marcha, etc. Se pueden describir los riesgos de tsunami en la zona y la historia de los mismos, si los hubiere.

Si ocurriera alguna amenaza real de tsunami durante el transcurso del ejercicio, entre el 28 y 30 de octubre de 2008, éste se dará por terminado.

Después del ejercicio, se realizará una revisión y evaluación por parte de los participantes. “Consideramos que este ejercicio es un elemento esencial en el mantenimiento rutinario del Sistema de Alerta y Mitigación de Tsunamis del Pacífico” (agregar nombre del funcionario apropiado). “Nuestro propósito es asegurar una alerta oportuna y eficaz de tsunami, educar a las comunidades en riesgo sobre cómo estar preparadas de forma segura y mejorar nuestra coordinación en su totalidad. Evaluaremos lo que funciona bien, las mejoras que son requeridas, haremos los cambios necesarios y continuaremos practicando”.

El ejercicio está incluido en el Plan de Trabajo del Grupo de Coordinación Intergubernamental del Sistema de Alerta y Mitigación de Tsunamis del Pacífico (IGC/PTWS). El IGC/PTWS forma parte de la Comisión Oceanográfica Intergubernamental de la UNESCO.

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En el sitio Web:

Información del EPW08: http://www.ioc-tsunami.org/index.php?option=com_content&task=view&id=271&Itemid=973

Media Resources: http://ioc3.unesco.org/itic/categories.php?category_no=150

Pacific Tsunami Warning System: http://www.tsunamiwave.info/

U.S. Pacific Tsunami Warning Center: http://www.prh.noaa.gov/ptwc/

Japan Meteorological Agency’s Tsunami Warnings / Advisories: http://www.jma.go.jp/en/tsunami/

U.S. West Coast and Alaska Tsunami Warning Center: http://wcatwc.arh.noaa.gov/

(Agregue URLs del país)

Press Release from EPW06

Pacific tsunami warning system put to the test

Source: UNESCOPRESS Media Advisory No.2006-25
Editorial Contact: Sue Williams, Press Relations Section, tel. +33 (0)1 45 68 17 06 - s.williams@unesco.org

27-04-2006 10:30 am The first-ever region-wide test of the Pacific Tsunami Warning System will be carried out over 16 and 17 May. Sponsored by UNESCO's Intergovernmental Oceanographic Commission (IOC) which established the system over 40 years ago, the exercise aims to increase preparedness, evaluate response capabilities in each country and improve coordination throughout the region. The simulation will be carried out in two stages, beginning with a mock tsunami warning bulletin from the Pacific Tsunami Warning Centre in Hawaii on May 16. The bulletin will be transmitted to designated contact points and national emergency authorities responsible for tsunami response in each country. It will clearly indicate that it is a test as opposed to an actual warning.

In the second stage, which should be conducted on the same day or the following day, government officials will disseminate the message within the country to local emegency management and response authorites, simulating what would happen in a real situation. Notifying authorities of at least one single coastal community is set as a sufficient measure for testing the end-to-end process of the entire country for the purposes of this first exercise.

"To be effective, warning systems must maintain a high level of readiness," said UNESCO/IOC Executive Secretary Patricio Bernal. "This means emergency agencies should regularly practice their response procedures to ensure that vital communications links work seamlessly and that agencies and response personnel know the roles that they will need to play during an actual event.

UNESCO Director-General Koïchiro Matsuura has urged all countries in the region to take part in the exercise, known as Exercise Pacific Wave '06.

"We should not lose sight of the fact that more tsunamis occur in the Pacific than in any other ocean. It is therefore imperative that all nations in this region participate," Mr Matsuura said. "UNESCO is committed to helping countries to improve their warning capability. We are confident the results of this exercise will not only help to protect the public from future tsunamis, but will also serve as a testing model for other areas that could be impacted by these destructive waves.

There are 28 member countries in the UNESCO/IOC International Coordinating Group of the Pacific Tsunami Warning and Mitigation System. Exercise Pacific Wave '06 is the first drill in a series of regular exercises. A task team chaired by Australia and including representatives from the Pacific Tsunami Warning Centre, West Coast/Alaska Tsunami Warning Centre, Northwest Pacific Tsunami Advisory Centre, International Tsunami Information Centre, Australia, Chile, France, Fiji, New Zealand, Nicaragua, Russian Federation, Samoa and the USA, is coordinating the May 2006 exercise.

Media Advisory No.2006-28

Exercise Pacific Wave 06 seeks to consolidate tsunami warning system

Paris, 15 May – The first-ever region-wide drill for the Pacific Tsunami Warning and Mitigation System will be carried out over the next two days, 16 and 17 May. Sponsored by UNESCO's Intergovernmental Oceanographic Commission (IOC), the exercise, known as Pacific Wave 06, has taken on even greater importance following the major earthquake in the region earlier this month that highlighted the strengths and identified several weaknesses in the system.

"The earthquake on 4 May showed that we have greatly improved our capacity to get the initial information out quickly," said Patricio Bernal, Executive Secretary of the UNESCO-Intergovernmental Oceanographic Commission (IOC). "Information Bulletin 001 for this event was issued just 15 minutes after the earthquake. A few years ago this would have taken almost an hour."

"Likewise," he continued, "when data showed that the magnitude of the earthquake was not as high as first estimates indicated and as sea-level stations confirmed that it had not produced a destructive tsunami, the System was able to cancel the warning much faster, thus avoiding much wider warning and possibly unnecessary evacuations. This rapidity is due largely to the real time availability of seismic and sea-level data from stations in the Pacific Tsunami Warning and Mitigation System's Member States."

"However, the event also highlighted the need to improve the Information Bulletins. These internal bulletins are now available to people outside the System, and must be able to be understood by all – whether scientist, journalist or layperson. There is also clearly a need for better public education on the way the system works, how it operates. On 4 May, there was no official warning issued by any national authority, the only ones mandated to do so. The Pacific Wave 06 exercise, which will be the first of its kind, is a very important part of this awareness raising."

The simulation will be carried out in two stages, beginning with a mock tsunami warning bulletin from the Pacific Tsunami Warning Centre in Hawaii on 16 May (17 May in the South-West Pacific). The bulletin will be transmitted to designated contact points and national emergency authorities responsible for tsunami response in each country. It will clearly indicate that it is a test as opposed to an actual warning.

In the second stage, which should be conducted on the same day or even extended to the following day, government officials will disseminate the message within the country to local emergency management and response authorites, simulating the chain of events that would happen in a real situation. Notifying and coordinating actions with authorities of at least one single coastal community is set as a sufficient measure for testing the end-to-end process of the entire country for the purposes of this first exercise. Although communication drills are frequent in the System, this is the first time that the drill will extend to the "last mile", checking on the capability of national authorities to reach the people at risk.

"We should not lose sight of the fact that more tsunamis occur in the Pacific than in any other ocean. The recent earthquake in the region also served as a reminder of the vulnerability of small island states when natural disasters strike. It is therefore imperative that all nations in this region participate," said UNESCO Director-General Koïchiro Matsuura. "UNESCO is committed to helping countries to improve their warning capability. We are confident the results of this exercise will not only help to protect the public from future tsunamis, but will also serve as a testing model for other areas that could be impacted by these destructive waves.

There are 28 member countries in the UNESCO/IOC International Coordinating Group of the Pacific Tsunami Warning and Mitigation System (ICG/PTWS). Its secretariat is provided by the UNESCO-IOC International Tsunami Information Centre (ITIC), which also serves as the information and capacity building resource for the IOC's tsunami programme. A task team chaired by Australia and including representatives from the Pacific Tsunami Warning Centre, West Coast/Alaska Tsunami Warning Centre, Northwest Pacific Tsunami Advisory Centre, International Tsunami Information Centre, Australia, Chile, France, Fiji, New Zealand, Nicaragua, Russian Federation, Samoa and the USA, is coordinating the May 2006 exercise.

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More information from: http://ioc3.unesco.org/ptws, http://ioc3.unesco.org/itic/, http://www.tsunamiwave.info

Contact: Sue Williams
Press Relations Section, Bureau of Public Information
UNESCO
Tel: +33 1 45 68 17 06; s.williams@unesco.org

Mark Sullivan
Emergency Management Australia
Tel: +61 262 564 693; TSUNAMI@ema.gov.au

Delores Clark
NOAA Public Affairs Officer
Tel: +1 (808) 532-6411; fax: +1 808 532-5569, Delores.Clark@noaa.gov

APPENDIX VII. POST EXERCISE EVALUATION

EXERCISE OBJECTIVES

There are six core exercise objectives of the exercise:

1. Validate the Tsunami Warning Centers' dissemination standard operating procedures for issuing Tsunami Watch and Warning Bulletins to Pacific Basin countries.
2. Validate the standard operating procedures for countries to receive and confirm Tsunami Bulletins.
3. Validate dissemination standard operating procedures of warning messages to relevant Agencies within a country, provinces and local jurisdictions.
4. Validate the organizational decision making process about public warnings and evacuations.
5. Identify the modes that would be employed to notify and instruct the public.
6. Assess the elapsed time until public would be notified and instructed.

EXERCISE SUCCESS CRITERIA

The exercise will be a success when:

- The core objectives above were exercised, performance evaluated and reported upon.
- The dynamics between the Tsunami Warning Centers, national tsunami focal points and information dissemination points within countries at the onset of a local, regional or distant source tsunami event are illustrated and understood. Local / regional / distant tsunamis are generated within 100 / 1000 / beyond 1000 kilometers respectively of an earthquake source. The nature of a local, regional, or distant source tsunami event and related information available (warning stage) are illustrated and understood.
- Areas where aspects of warnings for a local, regional, or distant source tsunami event can be improved are identified, both for tsunami warning centres and individual countries.
- It supports the establishment or review of planning for response to tsunamis at national and regional/local levels.

EVALUATING PARTICIPANT PERFORMANCE

Evaluation is based on:

(a) Reporting on each of the core objectives described above.

(b) Specific measurable sub-objectives for some of the core objectives.

Participants must fill in all reports and score each sub-objective, fill in detail where requested and make any comments in the spaces provided on the attached forms.

Separate forms are designed and marked for:

- Tsunami Warning Centers - PTWC, WC/ATWC, NWPTAC (only Objective 1).
- National decision making/dissemination points within countries (Objectives 1-6).
- Individual response agencies and/or provinces/local jurisdictions within countries.

These are the recipients of warnings disseminated from the national decision making/dissemination points (Objectives 3-6).

- All participants within countries (Objectives 3-6).

Fill in only those forms that are relevant to your particular circumstances.

The score rating for sub-objectives is as follows:

Rating	Definition
1	Did not meet the objective (state why not)
2	Met some of the objective (state what part was not met)
3	Met the objective
4	Exceeded the objective (state how)

EVALUATION FORMS

The following pages contain the exercise evaluation forms to be filled out by the appropriate organizations after EPW08 and returned by 28 November 2008, or within four weeks to:

Exercise Pacific Wave 08 Post Evaluation Coordinator
(to be announced at a later time)

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making Points and National Focal Points

Participant Country:_____

Participant Agency/Authority:_____

Exercise Planning and Conduct

The exercise planning, conduct, format, and style were satisfactory.

Circle/Highlight score: 1 2 3 4

Notes for (1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
Tsunami Warning Centers- PTWC, WC/ATWC, NWPTAC

Tsunami Warning Center:_____

Objective 1: Validate the Tsunami Warning Centers' dissemination process of issuing Tsunami Watch and Warning Bulletins.

Tsunami Warning Center Report

First Bulletin Issued

1. **Time that first bulletin was issued to national focal points (use 24hr clock and UTC, e.g. 14:35 UTC):**
2. **Method(s) of delivery to national focal points (e.g. fax, email, SMS, other systems- specify):**
3. **Number of failed deliveries (as shown by delivery systems):**
4. **Reasons for failed deliveries:**
5. **Alternate action taken to reach national focal points where failures occurred:**
6. **Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 14:35 UTC):**
7. **Number of non-confirmations:**

Pacific Wide Warning Issued

1. **Time that Pacific wide warning was passed to national focal points (use 24hr clock and UTC, e.g. 14:35 UTC):**
2. **Method(s) of delivery to national focal points (e.g. fax, email, SMS, other systems- specify):**
3. **Number of failed deliveries (as shown by delivery systems):**
4. **Reasons for failed deliveries:**
5. **Alternate action taken to reach national focal points where failures occurred:**
6. **Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 14:35 UTC):**
7. **Number of non-confirmations:**

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 1: Validate the Tsunami Warning Centers' dissemination process of issuing Tsunami Watch and Warning Bulletins to Pacific basin Countries.

Objective 1 (a): Judged against the nature of this event, information issued by the relevant Tsunami Warning Center(s) was timely:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 1: Validate the Tsunami Warning Centers' dissemination process of issuing Tsunami Watch and Warning Bulletins to Pacific basin Countries.

Objective 1 (b): The method(s) used by the Tsunami Warning Center(s) to send bulletins to us were appropriate.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 2: Validate the process for countries to receive and confirm Tsunami Bulletins.

National Report: Receipt of Warning from Tsunami Warning Centers

National Focal Point

1. **Time of receipt of Warning by our national focal point from: (use 24hr clock and UTC, e.g. 14:35 UTC)**

   PTWC:
   WC/ATWC:
   NWPTAC:

2. **Method of receipt by national focal point (e.g. fax, email, SMS, phone):**

Confirmation

1. **Time of confirmation of receipt of warning back to Tsunami Warning Center(s): (use 24hr clock and UTC, e.g. 14:35 UTC)**

2. **Method of confirmation (phone/fax/email):**

National Decision-making & Dissemination Point (if different to the National Focal Point)

1. **Time of passing the information to the national decision-making & dissemination point (use 24hr clock and UTC, e.g. 14:35 UTC):**

2. **Method of passing the information to the national decision-making & dissemination point e.g. fax, email, SMS, radio, phone:**

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

National Report: Dissemination of Warning

Dissemination Points

1. The warning was disseminated to: (tick as appropriate)

Emergency Services	
Other national government agencies	
Science agencies/universities for assessment	
Local government: provincial/regional level	
Local government: city/district level	

Delivery

1. Time of sending of warning to the above (use 24hr clock and UTC, e.g. 14:35 UTC):

2. Method(s) of delivery to our agencies/provinces/local jurisdictions (e.g. fax, email, SMS, radio, group voice message by phone, individual phone calls):

3. Number of failed deliveries (as shown by delivery systems):

4. Reasons for failed deliveries:

5. Alternate action taken to reach recipients where failures occurred:

Confirmations

1. Method(s) of confirming receipt of message by our agencies/provinces/local jurisdictions (e.g. fax, email, SMS, radio, phone, automated):

2. Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 14:35 UTC):

3. Number of non-confirmations:

4. Reasons for non-confirmation:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 3 (a): Judged against the nature of this event, information issued by our national decision-making and dissemination point was timely:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 3 (b): The method of communication from our national decision-making and dissemination point to us was sufficient to support decision-making.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 4 (a): The method of communication between our national decision-making and dissemination point and individual response agencies and provinces/local jurisdictions was sufficient to support our national information requirements.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (b): Arrangements to assemble our management group relevant to decision-making on tsunami warning and response were in place before the exercise.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (c): Our management group relevant to decision-making on tsunami warning & response was assembled within ____ minutes (fill in) after receiving the first warning. This was timely to facilitate good decision-making.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (d): The quality of the information issued by our national decision-making and dissemination point was sufficient to support local level decision-making:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (e): The quality of the information received back from our response agencies and local level government were sufficient to support national level decision-making:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (f): Sufficient national information was available to support national level decision-making (PTWC, WC/ATWC, NWPTAC information, country-generated scientific assessments, national considerations etc).

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (g): Sufficient local information was available to support our assessment and decision-making (local hazard assessments, inundation areas identified, evacuation plans etc).

Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (h): We were able to make decisions about appropriate warnings and response

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (i): Decision-making was based on pre-existing plans for an event of this nature.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (j): The exercise contributed to the improvement or the development of planning related to public warnings and other response activities required for an event of this nature.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 5: Identify the modes that would be employed to notify and instruct the public.

Report

As part of our decision-making during this exercise we have determined to use the following means of public notification and instruction in a real event of this kind:

Method	Yes/No	Arrangements Exist (yes/no)
Public radio broadcasts		
TV announcements/teletext		
Public announcement systems		
Cell broadcast		
SMS (cell)		
Public call centre		
Website		
Telephone		
Sirens		
Door to door announcements		
Other (specify)		

EXERCISE PACIFIC WAVE 08 EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 6: Assess the elapsed time until the public would be notified and instructed.

Report

The following times applied to us:

Activity	Elapsed Time (e.g. 1hr 15mins)
Making a decision on public warning (From time of receipt of warning)	
Formulation/compilation of public notification (From time of decision)	
Activation of public notification systems (From time of notification formulated)	
Total Time	

IOC Technical Series

No.	Title	Languages
1	Manual on International Oceanographic Data Exchange. 1965	(out of stock)
2	Intergovernmental Oceanographic Commission (Five years of work). 1966	(out of stock)
3	Radio Communication Requirements of Oceanography. 1967	(out of stock)
4	Manual on International Oceanographic Data Exchange - Second revised edition. 1967	(out of stock)
5	Legal Problems Associated with Ocean Data Acquisition Systems (ODAS). 1969	(out of stock)
6	Perspectives in Oceanography, 1968	(out of stock)
7	Comprehensive Outline of the Scope of the Long-term and Expanded Programme of Oceanic Exploration and Research. 1970	(out of stock)
8	IGOSS (Integrated Global Ocean Station System) - General Plan Implementation Programme for Phase I. 1971	(out of stock)
9	Manual on International Oceanographic Data Exchange - Third Revised Edition. 1973	(out of stock)
10	Bruun Memorial Lectures, 1971	E, F, S, R
11	Bruun Memorial Lectures, 1973	(out of stock)
12	Oceanographic Products and Methods of Analysis and Prediction. 1977	E only
13	International Decade of Ocean Exploration (IDOE), 1971-1980. 1974	(out of stock)
14	A Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment and Baseline Study Guidelines. 1976	E, F, S, R
15	Bruun Memorial Lectures, 1975 - Co-operative Study of the Kuroshio and Adjacent Regions. 1976	(out of stock)
16	Integrated Ocean Global Station System (IGOSS) General Plan and Implementation Programme 1977-1982. 1977	E, F, S, R
17	Oceanographic Components of the Global Atmospheric Research Programme (GARP) . 1977	(out of stock)
18	Global Ocean Pollution: An Overview. 1977	(out of stock)
19	Bruun Memorial Lectures - The Importance and Application of Satellite and Remotely Sensed Data to Oceanography. 1977	(out of stock)
20	A Focus for Ocean Research: The Intergovernmental Oceanographic Commission - History, Functions, Achievements. 1979	(out of stock)
21	Bruun Memorial Lectures, 1979: Marine Environment and Ocean Resources. 1986	E, F, S, R
22	Scientific Report of the Interealibration Exercise of the IOC-WMO-UNEP Pilot Project on Monitoring Background Levels of Selected Pollutants in Open Ocean Waters. 1982	(out of stock)
23	Operational Sea-Level Stations. 1983	E, F, S, R
24	Time-Series of Ocean Measurements. Vol.1. 1983	E, F, S, R
25	A Framework for the Implementation of the Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment. 1984	(out of stock)
26	The Determination of Polychlorinated Biphenyls in Open-ocean Waters. 1984	E only
27	Ocean Observing System Development Programme. 1984	E, F, S, R
28	Bruun Memorial Lectures, 1982: Ocean Science for the Year 2000. 1984	E, F, S, R
29	Catalogue of Tide Gauges in the Pacific. 1985	E only
30	Time-Series of Ocean Measurements. Vol. 2. 1984	E only
31	Time-Series of Ocean Measurements. Vol. 3. 1986	E only
32	Summary of Radiometric Ages from the Pacific. 1987	E only
33	Time-Series of Ocean Measurements. Vol. 4. 1988	E only
34	Bruun Memorial Lectures, 1987: Recent Advances in Selected Areas of Ocean Sciences in the Regions of the Caribbean, Indian Ocean and the Western Pacific. 1988	Composite E, F, S

(continued)

No.	Title	Languages
35	Global Sea-Level Observing System (GLOSS) Implementation Plan. 1990	E only
36	Bruun Memorial Lectures 1989: Impact of New Technology on Marine Scientific Research. 1991	Composite E, F, S
37	Tsunami Glossary - A Glossary of Terms and Acronyms Used in the Tsunami Literature. 1991	E only
38	The Oceans and Climate: A Guide to Present Needs. 1991	E only
39	Bruun Memorial Lectures, 1991: Modelling and Prediction in Marine Science. 1992	E only
40	Oceanic Interdecadal Climate Variability. 1992	E only
41	Marine Debris: Solid Waste Management Action for the Wider Caribbean. 1994	E only
42	Calculation of New Depth Equations for Expendable Bathymerographs Using a Temperature-Error-Free Method (Application to Sippican/TSK T-7, T-6 and T-4 XBTS. 1994	E only
43	IGOSS Plan and Implementation Programme 1996-2003. 1996	E, F, S, R
44	Design and Implementation of some Harmful Algal Monitoring Systems. 1996	E only
45	Use of Standards and Reference Materials in the Measurement of Chlorinated Hydrocarbon Residues. 1996	E only
46	Equatorial Segment of the Mid-Atlantic Ridge. 1996	E only
47	Peace in the Oceans: Ocean Governance and the Agenda for Peace; the Proceedings of *Pacem in Maribus* XXIII, Costa Rica, 1995. 1997	E only
48	Neotectonics and fluid flow through seafloor sediments in the Eastern Mediterranean and Black Seas - Parts I and II. 1997	E only
49	Global Temperature Salinity Profile Programme: Overview and Future. 1998	E only
50	Global Sea-Level Observing System (GLOSS) Implementation Plan-1997. 1997	E only
51	L'état actuel de 1'exploitation des pêcheries maritimes au Cameroun et leur gestion intégrée dans la sous-région du Golfe de Guinée *(cancelled)*	F only
52	Cold water carbonate mounds and sediment transport on the Northeast Atlantic Margin. 1998	E only
53	The Baltic Floating University: Training Through Research in the Baltic, Barents and White Seas - 1997. 1998	E only
54	Geological Processes on the Northeast Atlantic Margin (8^{th} training-through-research cruise, June-August 1998). 1999	E only
55	Bruun Memorial Lectures, 1999: Ocean Predictability. 2000	E only
56	Multidisciplinary Study of Geological Processes on the North East Atlantic and Western Mediterranean Margins (9^{th} training-through-research cruise, June-July 1999). 2000	E only
57	Ad hoc Benthic Indicator Group - Results of Initial Planning Meeting, Paris, France, 6-9 December 1999. 2000	E only
58	Bruun Memorial Lectures, 2001: Operational Oceanography – a perspective from the private sector. 2001	E only
59	Monitoring and Management Strategies for Harmful Algal Blooms in Coastal Waters. 2001	E only
60	Interdisciplinary Approaches to Geoscience on the North East Atlantic Margin and Mid-Atlantic Ridge (10^{th} training-through-research cruise, July-August 2000). 2001	E only
61	Forecasting Ocean Science? Pros and Cons, Potsdam Lecture, 1999. 2002	E only
62	Geological Processes in the Mediterranean and Black Seas and North East Atlantic (11^{th} training-through-research cruise, July- September 2001). 2002	E only
63	Improved Global Bathymetry – Final Report of SCOR Working Group 107. 2002	E only
64	R. Revelle Memorial Lecture, 2006: Global Sea Levels, Past, Present and Future. 2007	E only

(continued)

No.	Title	Languages
65	Bruun Memorial Lectures, 2003: Gas Hydrates – a potential source of energy from the oceans. 2003	E only
66	Bruun Memorial Lectures, 2003: Energy from the Sea: the potential and realities of Ocean Thermal Energy Conversion (OTEC). 2003	E only
67	Interdisciplinary Geoscience Research on the North East Atlantic Margin, Mediterranean Sea and Mid-Atlantic Ridge (12th training-through-research cruise, June-August 2002). 2003	E only
68	Interdisciplinary Studies of North Atlantic and Labrador Sea Margin Architecture and Sedimentary Processes (13th training-through-research cruise, July-September 2003). 2004	E only
69	Biodiversity and Distribution of the Megafauna / Biodiversité et distribution de la mégafaune. 2006 Vol.1 The polymetallic nodule ecosystem of the Eastern Equatorial Pacific Ocean / Ecosystème de nodules polymétalliques de l'océan Pacifique Est équatorial Vol.2 Annotated photographic Atlas of the echinoderms of the Clarion-Clipperton fracture zone / Atlas photographique annoté des échinodermes de la zone de fractures de Clarion et de Clipperton	E F
70	Interdisciplinary geoscience studies of the Gulf of Cadiz and Western Mediterranean Basin (14th training-through-research cruise, July-September 2004). 2006	E only
71	Indian Ocean Tsunami Warning and Mitigation System, IOTWS. Implementation Plan, July-August 2006. 2006	E only
72	Deep-water Cold Seeps, Sedimentary Environments and Ecosystems of the Black and Tyrrhenian Seas and the Gulf of Cadiz (15th training-through-research cruise, June–August 2005). 2007	E only
73	Implementation Plan for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS), 2007–2011. 2007 *(electronic only)*	E only
74	Bruun Memorial Lectures, 2005: The Ecology and Oceanography of Harmful Algal Blooms – Multidisciplinary approaches to research and management. 2007	E only
75	National Ocean Policy. The Basic Texts from: Australia, Brazil, Canada, China, Colombia, Japan, Norway, Portugal, Russian Federation, United States of America. (Also Law of Sea Dossier 1). 2008	E only
76	Deep-water Depositional Systems and Cold Seeps of the Western Mediterranean, Gulf of Cadiz and Norwegian Continental margins (16th training-through-research cruise, May–July 2006). 2008	E only
77	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – 12 September 2007 Indian Ocean Tsunami Event. Post-Event Assessment of IOTWS Performance. 2007	E only
78	Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) – Implementation Plan 2008. 2008	E only
79	Filling Gaps in Large Marine Ecosystem Nitrogen Loadings Forecast for 64 LMEs – GEF/LME global project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. 2008	E only
80	Ecosystem Modeling Training and Application for GEF/LMEs. GEF/LME global project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems *(in preparation)*	E only
81	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – Implementation Plan for Regional Tsunami Watch Providers (RTWP). 2008	E only
82	Exercise Pacific Wave 08 – A Pacific-wide Tsunami Warning and Communication Exercise, 28–30 October 2008. 2008	E only