

# Exercise

# LANTEX 09

## Participant Handbook

A northwest-Atlantic tsunami warning exercise:  
April 2, 2009

National Tsunami Hazard Mitigation Program  
Warning Coordination Subcommittee



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

Exercise

## Table of Contents

1. Background .....	1
2. Exercise Concept .....	2
2.1 Purpose.....	2
2.2 Objectives .....	2
2.3 Type of Exercise .....	3
3. Exercise Outline .....	4
3.1 General .....	4
3.2 Master Schedule (Exercise Script) .....	6
Table 1: Scenario Timeline .....	6
Table 2: Product Types .....	6
3.3 Actions in Case of a Real Event .....	7
3.4 Resources.....	7
3.5 Media Arrangements .....	7
4. Post-Exercise Evaluation .....	7
Appendix A. Example Tabletop Exercise .....	9
Appendix B. Scenario Description .....	9
Appendix C. WCATWC Dummy Message .....	14
Appendix D. WCATWC Exercise Messages .....	15
Appendix E. Web-based Products.....	61
Appendix F. Sample Press Release for Local Media .....	67
Appendix G. Post-Exercise Evaluation.....	69

Exercise

## 1. Background

This tsunami exercise is being conducted to assist tsunami preparedness efforts along the U.S. and Canadian east coasts, the Gulf of Mexico coast, and in Puerto Rico and the Virgin Islands. Historical tsunami records from sources such as the National Oceanic and Atmospheric Administration's (NOAA) National Geophysical Data Center (NGDC) show that approximately 85% of the world's oceanic tsunamis occur in the Pacific Basin. While the historic occurrence of destructive tsunamis along the US and Canadian Atlantic coasts suggests these events are rare, there are a few areas in the Atlantic basin where earthquakes occur that have the potential to develop destructive tsunamis that may impact the US/Canadian coast. These areas include the coasts of Puerto Rico, the US Virgin Islands, the region east of the Azores Islands, and portions of the continental slope off the US and Canadian coast due to sub-sea landslides.

Lessons learned from the destructive Indian Ocean tsunami include that even areas rarely impacted by tsunamis can suffer tremendous damage and casualties if the people that live and/or travel in these areas are not prepared.

Statistics from the NGDC tsunami database show that the U.S. Virgin Islands were struck by a tsunami up to 8m high in 1867 which killed 30 people. Over 140 people were killed in western Puerto Rico by a 6m tsunami in 1918. The Caribbean is a region of complex plate tectonic boundaries which provide the mechanism for earthquakes to trigger large tsunamis.

Another area in the Atlantic Ocean capable of producing large earthquakes is the region between Portugal and the Azores Islands. In 1755 an earthquake located in this region estimated at over magnitude 8, generated a tsunami up to 30m in Portugal. The tsunami was recorded widely around the Atlantic producing damage at several locations including Canada and the Caribbean.

Closer to the Canadian Atlantic shore, a magnitude 7.2 earthquake in 1929 triggered a large, sub-sea landslide which triggered a tsunami. This tsunami reached 7m amplitude in Newfoundland and killed 22 people. Recent studies of the continental slope along the U.S. east coast show that this type of tsunami has likely occurred several times within the past 10,000 years.

NOAA operates a tsunami warning system for U.S. Atlantic and Gulf of Mexico coasts, eastern Canada, Puerto Rico, and the Virgin Islands through its West Coast/Alaska Tsunami Warning Center (WCATWC) in Palmer, Alaska. This center provides tsunami warning, watch, advisory, and information messages to these coasts approximately five minutes after an earthquake's occurrence. Primary recipients of WCATWC Atlantic messages include National Weather Service (NWS) coastal Weather Forecast Offices (WFO), state/territory warning points/emergency operation centers, the U.S. Coast Guard, the Canadian Atlantic Storm Prediction Center, and the U.S. military. These agencies transmit the message to people potentially impacted by a tsunami. NOAA's Pacific Tsunami Warning Center (PTWC) in Ewa Beach, Hawaii provides a similar service internationally in the Caribbean Sea.

The Puerto Rico Seismic Network (PRSN) of the University of Puerto Rico at Mayagüez also provides earthquake and tsunami information and warning service to Puerto Rico and the Virgin Islands in coordination with the WCATWC.

NOAA and the National Tsunami Hazard Mitigation Program (NTHMP) are providing the framework for this exercise as a means for emergency responders along the Atlantic coast and PR/VI to test and update tsunami response plans. High levels of vulnerability along the Atlantic coast as well as the Indian Ocean analogy should provide a strong incentive for local jurisdictions to prepare for a tsunami.

This exercise will provide simulated tsunami warning messages from the WCATWC triggered by a hypothetical earthquake north of Puerto Rico. Exercises like this will ensure that the U.S./Canadian Atlantic and Caribbean coasts are ready to respond in the unlikely case of a dangerous tsunami. Recent exercises in the Pacific Basin have proven effective in strengthening preparedness levels of emergency management organizations.

## **2. Exercise Concept**

### **2.1 Purpose**

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

### **2.2 Objectives**

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

- Ensure message transmission from WCATWC through primary contacts to coastal EMOs and test coordination with PRSN.
- Test tsunami response plans for those Atlantic and PR/VI coastal EMOs that have developed plans, and provide a catalyst for EMOs that have not developed one.
- Coastal EMOs review, discuss, and evaluate the various communication alternatives for receiving and disseminating tsunami messages.

- Coastal EMOs review, discuss, and evaluate potential response actions and challenges.
- Identify processes to issue local all-clear notices.

## 2.3 Type of Exercise

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

Exercises stimulate the development, training, testing, and evaluation of Disaster Plans and Standard Operating Procedures. Exercise participants may use their own past multi-hazard drills (e.g. flood, hurricane, earthquake, etc.) as a framework to conduct LANTEX 09.

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

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

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

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

### Example Time Frames for Different Exercise Types

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

## 3. Exercise Outline

### 3.1 General



The scenario will start with a major earthquake (magnitude 8.6) off the northern coast of Puerto Rico (19.0N 65.0W) that generates a destructive tsunami in Puerto Rico and the Virgin Islands (tsunami amplitudes over 5 m), a moderate, though damaging, tsunami along the U.S. and Canadian Atlantic coast (tsunami amplitudes 0.1 to 2.0 m), and a minor, non-damaging tsunami in the Gulf of Mexico (tsunami amplitudes less than 0.3 m). The earthquake occurs at 1300UTC on April 2, 2009. The tsunami in Puerto Rico/Virgin Islands will inundate to the maximum expected extent. The tsunami along the U.S. and Canadian Atlantic coast will not inundate large amounts of land, but will consist of dangerous currents which produce significant amounts of damage to boats, harbors, and docks as well as make swimming dangerous. The tsunami in the Gulf of Mexico will not produce damage. This is a realistic scenario for a major Puerto Rico earthquake which is discussed in greater detail in Appendix B.

WCATWC will not issue live messages during the exercise other than to issue an initial “dummy” message over standard communication routes to start the exercise at 1305UTC on April 2, 2009. The content of the dummy message is given in Appendix C. The dummy message will indicate that exercise participants should refer to the first message provided in this handbook. From then on, participants should follow the schedule in Table 1 to look at new messages. Table 1 is the timeline for when messages would be issued by WCATWC if this were a real event and should be used by EMOs to drive the exercise timing. The warning messages (as shown in Appendix D) cover a 12-hour period, though in an actual event they would likely continue longer. World Meteorological Organization (WMO) and Advanced Weather Interactive Processing System (AWIPS) headers used in the dummy message are listed in Table 2.

During real events, the WCATWC issues two official products each time a message is issued. The first, and the ones provided in Appendix D, are known as the standard message. This message is a segmented message which includes encoded NWS zones and their level of threat in the lower section of the message. The segmentation is used for automated processing systems which parse NWS products. The standard product also lists expected arrival times. The second product is known as the public message. This message has no segmentation and is written in a non-tabular, easier-to-read format. The products contain the same basic information. EMOs generally use the standard product for warning response as it has more complete information. WCATWC also issues additional graphical and web-based products to its web site. Examples of these are shown in Appendix E.

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

While an actual tsunami generated off the north coast of Puerto Rico is not expected to greatly impact the Gulf of Mexico coast, EMOs are encouraged to participate to ensure response plans are in order. Estimated tsunami arrival times to several U.S. and Canadian Atlantic locations are included in the WCATWC messages (Appendix E contains a list of arrival times to more Atlantic locations which would be available over the web during an event as well as a travel time map). In addition, EMOs are welcome to modify estimated arrival times and/or wave amplitudes to suit their exercise – for example, to have the tsunami arrive sooner and with larger amplitude. Other exercise injects, such as tsunami damage reports, are also encouraged.

### 3.2 Master Schedule (Exercise Script)

**Table 1: Scenario Timeline**

Tsunami generated by a magnitude 8.6 earthquake with epicenter at 19°N, 65°W occurring on April 2, 2009 at 1300UTC.

Date (UTC)	Time (UTC)	WCATWC Message		
		#	Type	Dummy
04/02/2009	1300	Earthquake occurs		
04/02/2009	1305	01	WWA	Yes
04/02/2009	1335	02	WWA	No
04/02/2009	1405	03	WWA	No
04/02/2009	1435	04	WWA	No
04/02/2009	1535	05	WWA	No
04/02/2009	1635	06	WWA	No
04/02/2009	1735	07	WWA	No
04/02/2009	1835	08	WWA	No
04/02/2009	1935	09	WWA	No
04/02/2009	2035	10	WWA	No
04/02/2009	2135	11	WWA	No
04/02/2009	2235	12	WWA	No
04/02/2009	2335	13	WWA	No
04/03/2009	0035	14	WWA	No
04/03/2009	0135	15	Can	No

**WCATWC Message 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 Message with Transmission Methods

Center	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	Fax	Email
WCATWC	WEXX20 PAAQ	TSUAT1	Yes	Yes	Yes	Yes	Yes

NWWS NOAA Weather Wire Service

GTS Global Telecommunications System

EMWIN Emergency Manager's Weather Information Network

### 3.3 Actions in Case of a Real Event

In the case of a real event occurring during the exercise, WCATWC will issue its normal message products for the event. Such messages will be given full priority and a decision will be made by the Center whether to issue the dummy message and to continue providing telephone support for the exercise. Smaller earthquakes that only trigger a Tsunami Information Statement will not disrupt the exercise. All documentation and correspondence relating to this exercise is to be clearly identified as **LANTEX 09** and **Exercise**.

### 3.4 Resources

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

Questions on the exercise can be addressed to:

Melinda Bailey	NWS Southern Region	817-978-1100x107	<a href="mailto:melinda.bailey@noaa.gov">melinda.bailey@noaa.gov</a>
Bill Knight	WCATWC TWSO	907-745-4212	<a href="mailto:william.knight@noaa.gov">william.knight@noaa.gov</a>
Don Miller	NWS Eastern Region	631-244-0122	<a href="mailto:donald.j.miller@noaa.gov">donald.j.miller@noaa.gov</a>
Christa von Hillebrandt	PRSN Director	787-833-8433	<a href="mailto:christa@midas.uprm.edu">christa@midas.uprm.edu</a>
Robert Ward	NTHMP Eastern Rep.		<a href="mailto:rward@mema.state.md.us">rward@mema.state.md.us</a>
Paul Whitmore	WCATWC Director	907-745-4212	<a href="mailto:paul.whitmore@noaa.gov">paul.whitmore@noaa.gov</a>
Charles Williams	NTHMP GoM Rep.	205-280-2222	<a href="mailto:charles.williams@ema.alabama.gov">charles.williams@ema.alabama.gov</a>

### 3.5 Media Arrangements

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

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

## 4 Post-Exercise Evaluation

All participating agencies are requested to provide brief feedback on the exercise. This feedback will assist the NTHMP and NOAA in the evaluation of LANTEX 09 and the development of subsequent exercises, and help response agencies document lessons learned.

Exercise Evaluation Forms are included in Appendix G. Forms should be filled out by May 1, 2009 and returned to:

WCATWC Director  
NOAA/West Coast/Alaska Tsunami Warning Center  
910 South Felton Street  
Palmer, Alaska 99645

FAX: 907-745-6071

Or scanned and emailed to [paul.whitmore@noaa.gov](mailto:paul.whitmore@noaa.gov).

Exercise Evaluation Forms are designated as "For Official Use Only" and will not be further distributed by NOAA or the NTHMP.

Exercise

## Appendix A. Example Table Top Exercise

### Tabletop Exercise Development Steps

Source: California Office of Emergency Services

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

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

*An example for a hurricane might be:*

*The State of Louisiana has realized and recognizes the need for a more efficient and effective evacuation system, and is responding with this Comprehensive Exercise Plan. These events will include seminars, workshops, 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.

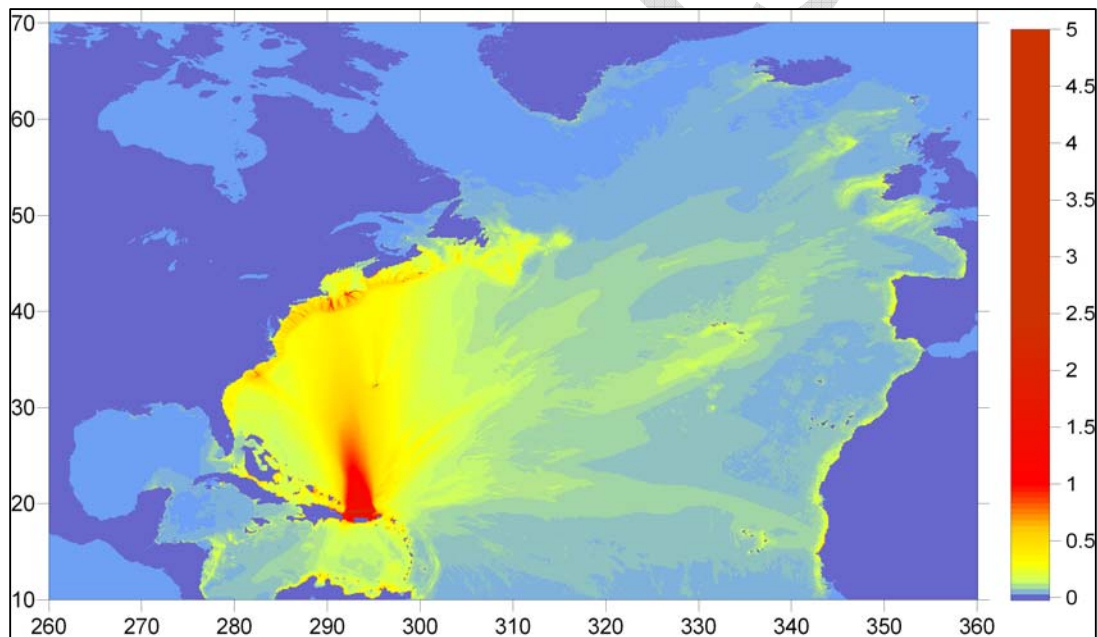
## Appendix B. Scenario Description

The WCATWC tsunami forecast model was used to simulate the tsunami generated by a magnitude 8.6 earthquake north of Puerto Rico with epicenter at 19.0N and 65.0W. Other fault parameters are:

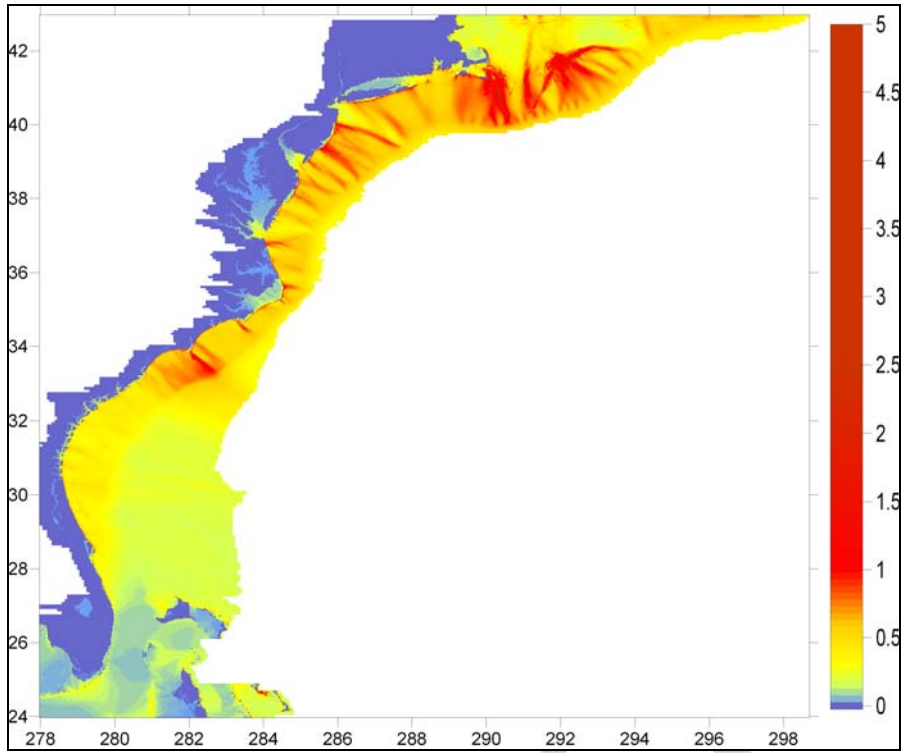
Length: 347km  
 Width: 90km  
 Depth: 5km  
 Strike: 85°  
 Dip: 20°  
 Moment:  $8.9 \times 10^{28}$  dyne-cm

The model was computed using a 4 minute resolution grid in the open ocean and additional 15 second resolution grids along the U.S./Canadian Atlantic coasts, Bermuda, and the Puerto Rico/Virgin Islands region.

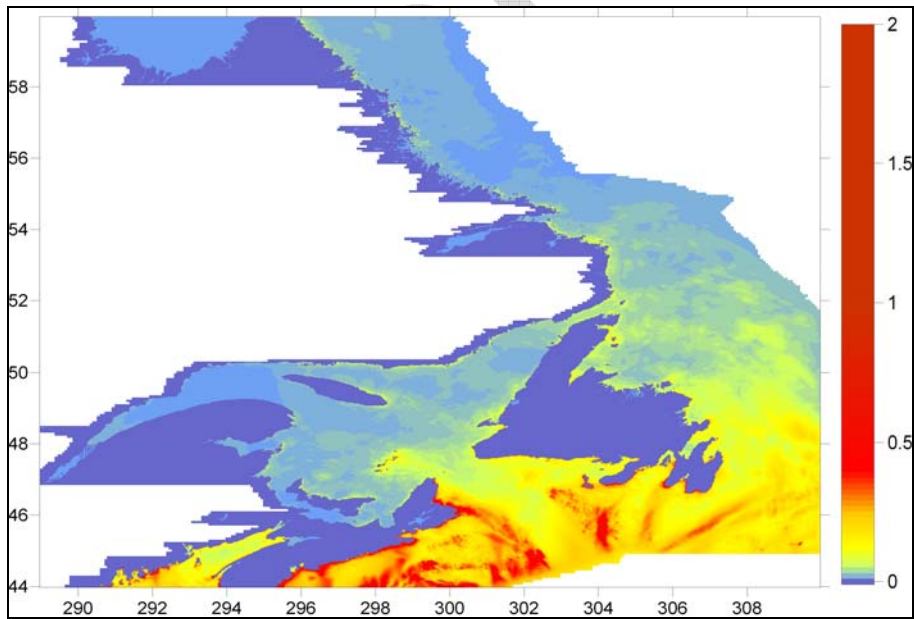
The following figure displays the maximum modeled tsunami amplitude throughout the northern Atlantic. Note the lack of tsunami propagation into the Gulf of Mexico.



The following three figures show the maximum modeled tsunami amplitude in the finer grids near the U.S. Atlantic coast, the Canadian coast, and around Puerto Rico and the Virgin Islands.

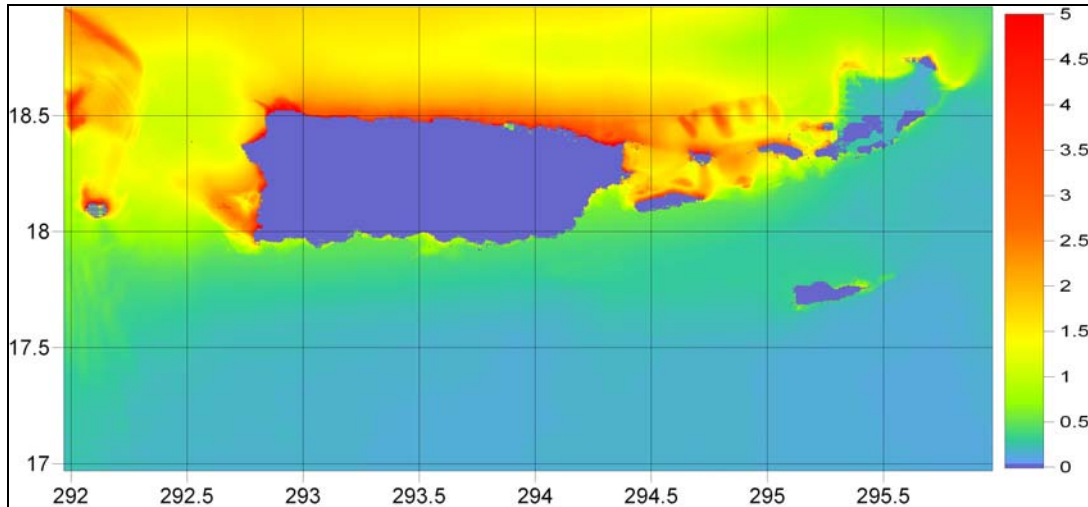


Maximum modeled tsunami amplitudes in the 15 second grid used offshore U.S. Atlantic coast.



Maximum modeled tsunami amplitudes in the 15 second grid used offshore Canadian coast (note change in scale from above figure).





Maximum modeled tsunami amplitudes in the 15 second grid used near Puerto Rico and the Virgin Islands (note change in scale from above figure).

The following table provides maximum modeled amplitudes at several points throughout the exercise area.

Location	Amplitude (m)	Location	Amplitude (m)
Key West, FL	0.17	Vaca Key, FL	0.23
Trident Pier, FL	1.05	St. Simons Is., GA	0.37
Charleston, SC	0.26	Springmaid Pier, SC	1.32
Sunset Beach, NC	1.12	Oregon Inlet, NC	0.82
Wrightsville, NC	1.34	Beaufort, NC	0.85
Duck, NC	1.30	Ocean City, MD	1.32
Lewes, DE	0.52	Marcus Hook, PA	0.05
Atlantic City, NJ	1.94	Cape May, NJ	0.39
Kings Point, NY	0.13	Montauk, NY	0.38
Bridgeport, CT	0.12	Boston, MA	0.14
Nantucket Is., MA	0.36	Cutler, ME	0.53
Bar Harbor, ME	0.46	Eastport, ME	0.12
Bermuda	1.10	Grand Manan Is., NB	0.57
Scatarie Is., NS	0.49	St. Lawrence, NL	0.45
Bonavista, NL	0.33	St. Pierre, Miquelon	0.83
Lanse au Clair, NF	0.06	Hebron, NF	0.02
Aguadilla, PR	7.43	Charlotte Amalie, VI	3.49
Mayaguez, PR	4.50	North of San Juan, PR	3.78
Culebra, PR	3.53	Mona Island, PR	1.63
DART 41420	0.98	DART 41421	0.32
DART 41424	0.29	DART 44401	0.10
DART 44402	0.36	DART42407	0.11

## Appendix C. WCATWC Dummy Message

WEXX20 PAAQ 021305  
TSUAT1

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
905 AM EDT TUE APR 2 2009

...LANTEX 09 TSUNAMI EXERCISE MESSAGE. REFER TO WCATWC MESSAGE 1 IN THE  
EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START OFF THE LANTEX 09 NORTHWEST ATLANTIC  
TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE TRANSMITTED  
FROM THE WEST COAST/ALASKA TSUNAMI WARNING CENTER. EXERCISE PARTICIPANTS  
SHOULD REFER TO THE SCENARIO TIMELINE IN THE HANDBOOK FOR FUTURE  
MESSAGES. THE HANDBOOK IS AVAILABLE AT THE WEB SITE WCATWC.ARH.NOAA.GOV.  
THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC  
SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

Exercise

## Appendix D. WCATWC Exercise Messages

The following messages, created for the LANTEX 09 tsunami exercise, are representative of the official standard products issued by the West Coast and Alaska Tsunami Warning Center during a large earthquake and tsunami originating north of Puerto Rico. During a real event, the center would also issue graphical and html-based products to its web site and via RSS.

### WCATWC Message #1

WEXX20 PAAQ 021305  
TSUAT1

BULLETIN  
TEST...TSUNAMI MESSAGE NUMBER 1...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
905 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE  
VIRGIN ISLANDS...

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

#### 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 WARNING COASTAL AREAS SHOULD MOVE INLAND TO  
HIGHER GROUND.

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

#### PRELIMINARY EARTHQUAKE PARAMETERS

MAGNITUDE - 8.6  
TIME - 0900 EDT APR 02 2009  
          0900 AST APR 02 2009  
          1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
          65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
          80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 30 MINUTES OR SOONER IF  
THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-

VIZ001-002-021405-  
COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
905 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE  
VIRGIN ISLANDS...

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.

SAN JUAN-PR 0917 AST APR 2 MAYAGUEZ-PR 0936 AST APR 2  
CHRISTIANSTED-VI 0928 AST APR 2 CHARLOT AMALI-VI 0941 AST APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #2**

WEXX20 PAAQ 021335  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 2...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
935 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE  
VIRGIN ISLANDS...

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

## 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.

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
CHARLOTTE AMALIE	US VI	18.3N	64.9W	1315UTC	0.77M/2.5FT
CULEBRA ISLAND	PR	18.3N	65.3W	1317UTC	0.93M/3.0FT
LAMESHUR BAY	ST JOHNS	18.3N	64.7W	1322UTC	1.05M/3.5FT

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 - 8.6  
TIME - 0900 EDT APR 02 2009  
          0900 AST APR 02 2009  
          1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
          65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
          80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 30 MINUTES OR SOONER IF  
THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
VIZ001-002-021435-

COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
935 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE  
VIRGIN ISLANDS...

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.

SAN JUAN-PR 0917 AST APR 2 MAYAGUEZ-PR 0936 AST APR 2  
CHRISTIANSTED-VI 0928 AST APR 2 CHARLOT AMALI-VI 0941 AST APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #3**

WEXX20 PAAQ 021405  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 3...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
1005 AM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
CHARLOTTE AMALIE US VI	18.3N	64.9W	1350UTC	2.06M/6.8FT
CULEBRA ISAND PR	18.3N	65.3W	1345UTC	1.98M/6.5FT
LAMESHUR BAY ST JOHNS	18.3N	64.7W	1347UTC	1.82M/6.0FT
FAJARDO PR	18.3N	65.6W	1352UTC	1.43M/4.7FT
SAN JUAN PR	18.5N	66.1W	1356UTC	1.06M/3.5FT
CHRISTIANSTED HARBOR U	17.8N	64.7W	1359UTC	1.20M/3.9FT

DEEP OCEAN PRESSURE SENSOR DATA INDICATE A TSUNAMI HAS BEEN GENERATED AND WILL EXTEND OUTSIDE THE SOURCE REGION.

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 - 8.6  
TIME - 0900 EDT APR 02 2009  
0900 AST APR 02 2009

1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
           65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
           80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
 ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
 AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 30 MINUTES OR SOONER IF  
 THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
 UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
 WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-021505-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 1005 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE  
 VIRGIN ISLANDS...

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.

SAN JUAN-PR 0917 AST APR 2 MAYAGUEZ-PR 0936 AST APR 2  
 CHRISTIANSTED-VI 0928 AST APR 2 CHARLOT AMALI-VI 0941 AST APR 2  
 FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-021505-  
 COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 1005 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA  
 - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT  
 - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE -  
 NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH  
 SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-051-021505-  
COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA  
1005 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL	1208	EDT APR 2	SAVANNAH-GA	1418	EDT APR 2
MELBOURNE-FL	1323	EDT APR 2	CHARLESTON-SC	1416	EDT APR 2
JACKSONVILL B-FL	1357	EDT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021505-  
COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR  
1005 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL	1733	NDT APR 2	BATTLE HARBOR-NL	1756	NDT APR 2
--------------	------	-----------	------------------	------	-----------

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

**WCATWC Message #4**

WEXX20 PAAQ 021435  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 4...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
1035 AM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
CHARLOTTE AMALIE US VI	18.3N	64.9W	1430UTC	2.34M/7.7FT
CULEBRA ISLAND PR	18.3N	65.3W	1420UTC	2.35M/7.7FT
LAMESHUR BAY ST JOHNS	18.3N	64.7W	1425UTC	2.26M/7.4FT
FAJARDO PR	18.3N	65.6W	1415UTC	2.37M/7.8FT
SAN JUAN PR	18.5N	66.1W	1410UTC	2.00M/6.6FT
CHRISTIANSTED HARBOR U	17.8N	64.7W	1400UTC	2.10M/6.9FT
ARECIBO PR	18.5N	66.7W	1422UTC	2.75M/9.0FT
MAYAGUEZ PR	18.2N	67.2W	1423UTC	1.61M/5.3FT
YABUCOA PR	18.1N	65.8W	1420UTC	1.11M/3.6FT

REPORTS INDICATE SEVERE TSUNAMI DAMAGE TO WATER FRONT REGIONS ON THE NORTH COAST OF PUERTO RICO AND TO THE BRITISH AND US VIRGIN IS. DEEP OCEAN PRESSURE SENSOR DATA INDICATE A TSUNAMI HAS BEEN GENERATED AND WILL EXTEND OUTSIDE THE SOURCE REGION. TSUNAMI AMPLITUDES ARE EXPECTED TO REACH 1 METER IN SOME REGIONS UNDER ADVISORY. TSUNAMIS OF THIS AMPLITUDE ARE ACCOMPANIED BY STRONG CURRENTS CAPABLE OF INFLECTING DAMAGE TO COASTAL STRUCTURES. TSUNAMI AMPLITUDES ARE EXPECTED TO REACH 1 TO 3 METERS AT SOME REGIONS IN THE US/CANADIAN TSUNAMI WARNING.

TSUNAMI AMPLITUDES ARE EXPECTED BELOW 25CM IN THE GULF OF MEXICO AND NOT EXPECTED TO PRODUCE ANY DAMAGE.

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 - 8.6  
TIME - 0900 EDT APR 02 2009  
          0900 AST APR 02 2009  
          1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
          65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
          80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-VIZ001-002-021535-  
COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
1035 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...

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.

SAN JUAN-PR 0917 AST APR 2 MAYAGUEZ-PR 0936 AST APR 2  
CHRISTIANSTED-VI 0928 AST APR 2 CHARLOT AMALI-VI 0941 AST APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

AMZ250-252-254-256-130-135-150-152-154-156-158-  
ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
350-353-355-230>237-250-254-255-150-050>052-081-  
SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
030-021535-

COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 1035 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA  
 - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT  
 - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE -  
 NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH  
 SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-  
 330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-  
 147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-  
 051-021535-  
 COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH  
 CAROLINA  
 1035 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO  
 FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL	1208	EDT APR 2	SAVANNAH-GA	1418	EDT APR 2
MELBOURNE-FL	1323	EDT APR 2	CHARLESTON-SC	1416	EDT APR 2
JACKSONVILL B-FL	1357	EDT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021535-  
 COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
 LABRADOR  
 1035 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
 CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #5**

WEXX20 PAAQ 021535  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 5...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
1135 AM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
CHARLOTTE AMALIE US VI	18.3N	64.9W	1430UTC	2.34M/7.7FT
CULEBRA ISLAND PR	18.3N	65.3W	1420UTC	2.35M/7.7FT
LAMESHUR BAY ST JOHNS	18.3N	64.7W	1425UTC	2.26M/7.4FT
FAJARDO PR	18.3N	65.6W	1415UTC	2.37M/7.8FT
SAN JUAN PR	18.5N	66.1W	1410UTC	2.00M/6.6FT
CHRISTIANSTED HARBOR U	17.8N	64.7W	1400UTC	2.10M/6.9FT
ARECIBO PR	18.5N	66.7W	1422UTC	2.75M/9.0FT
MAYAGUEZ PR	18.2N	67.2W	1423UTC	1.61M/5.3FT
YABUCOA PR	18.1N	65.8W	1420UTC	1.11M/3.6FT
BERMUDA UK	32.4N	64.7W	1520UTC	1.32M/4.3FT

THE TSUNAMI AMPLITUDES LISTED HERE ARE NOT THE HIGHEST IN PUERTO RICO. REPORTS INDICATE LARGER WAVES PRODUCING INUNDATION OF 1KM IN SOME LOCATIONS. THE TSUNAMI IS STILL INFLECTING DAMAGE IN PUERTO RICO AND THE VIRGIN ISLANDS AND IS EXPECTED TO CONTINUE FOR SEVERAL MORE HOURS.

TSUNAMI AMPLITUDES ARE EXPECTED TO REACH 1 METER IN SOME REGIONS UNDER ADVISORY. TSUNAMIS OF THIS AMPLITUDE ARE ACCOMPANIED BY STRONG CURRENTS CAPABLE OF INFLECTING DAMAGE TO COASTAL

STRUCTURES. TSUNAMI AMPLITUDES ARE EXPECTED TO REACH 1 TO 3 METERS AT SOME REGIONS IN THE US/CANADIAN TSUNAMI WARNING. TSUNAMI AMPLITUDES ARE EXPECTED BELOW 25CM IN THE GULF OF MEXICO AND NOT EXPECTED TO PRODUCE ANY DAMAGE.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
           65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
           80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-021635-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 1135 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE WCATWC.ARH.NOAA.GOV

\$\$

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-

030-021635-  
 COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 1135 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA  
 - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT  
 - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE -  
 NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH  
 SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-  
 330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-  
 147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-  
 051-021635-  
 COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH  
 CAROLINA  
 1135 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO  
 FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL	1208	EDT APR 2	SAVANNAH-GA	1418	EDT APR 2
MELBOURNE-FL	1323	EDT APR 2	CHARLESTON-SC	1416	EDT APR 2
JACKSONVILL B-FL	1357	EDT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021635-  
 COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
 LABRADOR  
 1135 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
 CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #6**

WEXX20 PAAQ 021635  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 6...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
1235 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
BERMUDA UK	32.4N	64.7W	1610UTC	1.85M/6.1FT

THE TSUNAMI CONTINUES TO PRODUCE DAMAGING WAVES IN PUERTO RICO AND THE VIRGIN ISLANDS. DO NOT RETURN TO THE COAST UNTIL LOCAL OFFICIALS DECLARE IT SAFE TO DO SO. THE TSUNAMI IS EXPECTED TO BE DANGEROUS IN PUERTO RICO AND THE VIRGIN ISLANDS FOR SEVERAL MORE HOURS. REPORTS INDICATE THAT THE TSUNAMI HAS ALSO PRODUCED DAMAGE IN BERMUDA. TSUNAMI AMPLITUDES ARE EXPECTED TO REACH 1 METER IN SOME REGIONS UNDER ADVISORY AND CAN INFLICT DAMAGE TO COASTAL STRUCTURES DUE TO STRONG CURRENTS. AMPLITUDES ARE EXPECTED TO BE IN THE RANGE OF 1 TO 3 METERS IN SOME REGIONS IN THE US/CANADIAN WARNING.

TSUNAMI AMPLITUDES ARE EXPECTED BELOW 25CM IN THE GULF OF MEXICO AND NOT EXPECTED TO PRODUCE ANY DAMAGE.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
             65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
             80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-021735-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 1235 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE WCATWC.ARH.NOAA.GOV

\$\$

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-021735-  
 COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND  
 1235 AM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH

SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT	APR 2	SCATARIE IS-NS	1522	ADT	APR 2
ATLANTIC CITY-NJ	1348	EDT	APR 2	PORTLAND-ME	1516	EDT	APR 2
MONTAUK-NY	1338	EDT	APR 2	BOSTON-MA	1535	EDT	APR 2
VIRGINIA BCH-VA	1342	EDT	APR 2	GRAND MANAN-NB	1543	ADT	APR 2
MYRTLE BCH-SC	1406	EDT	APR 2	ST LAWRENCE-NL	1553	NDT	APR 2
NANTUCKET IS-MA	1414	EDT	APR 2	MANHATTAN-NY	1504	EDT	APR 2
LOCKEPORT-NS	1429	ADT	APR 2				

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-  
330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-  
147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-  
051-021735-

COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH  
CAROLINA

1235 AM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO  
FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL	1208	EDT	APR 2	SAVANNAH-GA	1418	EDT	APR 2
MELBOURNE-FL	1323	EDT	APR 2	CHARLESTON-SC	1416	EDT	APR 2
JACKSONVILL B-FL	1357	EDT	APR 2				

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021735-

COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
LABRADOR

1235 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL	1733	NDT	APR 2	BATTLE HARBOR-NL	1756	NDT	APR 2
--------------	------	-----	-------	------------------	------	-----	-------

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #7**

WEXX20 PAAQ 021735  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 7...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
135 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
BERMUDA UK	32.4N	64.7W	1610UTC	1.85M/6.1FT
VACA KEY FL	24.7N	81.1W	1720UTC	0.05M/0.2FT
BEAUFORT NC	34.7N	76.7W	1715UTC	0.37M/1.2FT
OREGON INLET NC	35.8N	75.5W	1722UTC	0.14M/0.4FT
TRIDENT PIER FL	28.4N	80.6W	1727UTC	0.17M/0.6FT

THE TSUNAMI WARNING HAS BEEN DOWNGRADED TO AN ADVISORY FOR PUERTO RICO AND THE VIRGIN ISLANDS. LARGE INUNDATING WAVES ARE NO LONGER EXPECTED BUT STRONG CURRENTS ARE EXPECTED FOR THE NEXT SEVERAL HOURS. DO NOT RETURN TO THE COAST AND INUNDATED AREAS UNTIL INSTRUCTED FROM LOCAL OFFICIALS THAT IT IS SAFE TO RETURN. THE TSUNAMI IS STILL EXPECTED TO BE DANGEROUS IN PUERTO RICO AND THE VIRGIN ISLANDS FOR SEVERAL MORE HOURS. THE TSUNAMI HAS STARTED IMPACT ALONG THE FLORIDA AND NORTH CAROLINA COAST. WAVE HEIGHTS LISTED ABOVE ARE EXPECTED TO INCREASE.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
           65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
           80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-021835-  
 COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 135 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-  
 330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-  
 147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-  
 051-021835-  
 COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH  
 CAROLINA  
 135 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO  
 FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL	1208	EDT APR 2	SAVANNAH-GA	1418	EDT APR 2
MELBOURNE-FL	1323	EDT APR 2	CHARLESTON-SC	1416	EDT APR 2
JACKSONVILL B-FL	1357	EDT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-021835-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 135 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE  
 VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021835-  
 COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
 LABRADOR  
 135 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
 CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL	1733	NDT APR 2	BATTLE HARBOR-NL	1756	NDT APR 2
--------------	------	-----------	------------------	------	-----------



FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #8**

WEXX20 PAAQ 021835  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 8...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
235 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THIS MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN THE AREAS LISTED ABOVE...

## 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
BERMUDA UK	32.4N	64.7W	1610UTC	1.85M/6.1FT
VACA KEY FL	24.7N	81.1W	1800UTC	0.23M/0.8FT
BEAUFORT NC	34.7N	76.7W	1810UTC	0.85M/2.8FT
OREGON INLET NC	35.8N	75.5W	1805UTC	0.15M/0.5FT
TRIDENT PIER FL	28.4N	80.6W	1755UTC	0.73M/2.4FT
ATLANTIC CITY NJ	39.4N	74.4W	1820UTC	0.50M/1.6FT
MONTAUK NY	41.0N	72.0W	1828UTC	0.44M/1.4FT

MODERATE SIZE TSUNAMIS AND STRONG CURRENTS CONTINUE IN PUERTO RICO AND THE VIRGIN ISLANDS. THE TSUNAMI AMPLITUDES HAVE RISEN IN SOME EAST COAST REGIONS TO THE LEVEL WHICH ARE NORMALLY ACCOMPANIED BY STRONG CURRENTS. NO DAMAGE HAS BEEN REPORTED ALONG THE EAST COAST THOUGH TSUNAMI AMPLITUDES ARE STILL INCREASING.

TSUNAMI AMPLITUDES IN THE GULF OF MEXICO ARE EXPECTED TO BE BELOW 25CM AND NOT DANGEROUS. THE TSUNAMI IS NOW MAKING FIRST LANDFALL IN CANADA ALONG THE NOVA SCOTIA COAST. NO REPORTS HAVE BEEN RECEIVED FROM CANADA TO THIS POINT.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
           65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
           80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
 ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
 AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF  
 THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
 UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
 WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-021935-

COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 235 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA  
 - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT  
 - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE -  
 NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH  
 SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE

WCATWC.ARH.NOAA.GOV

\$\$

GMZ032-075-052>054-AMZ630-650-651-550-552-555-450-452-454-330-350-352-354-FLZ174-076>078168-172-173-047-054-059-064-141-147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-051-021935-  
COASTAL AREAS FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA  
235 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF FLORIDA - GEORGIA - SOUTH CAROLINA FROM FLAMINGO FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MIAMI-FL 1208 EDT APR 2 SAVANNAH-GA 1418 EDT APR 2  
MELBOURNE-FL 1323 EDT APR 2 CHARLESTON-SC 1416 EDT APR 2  
JACKSONVILL B-FL 1357 EDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-VIZ001-002-021935-  
COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
235 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-021935-  
COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR  
235 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #9**

WEXX20 PAAQ 021935  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 9...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
335 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF FLORIDA - GEORGIA AND SOUTH CAROLINA FROM JUPITER INLET FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED FOR THE COASTAL AREAS FROM FLAMINGO FLORIDA TO JUPITER INLET FLORIDA...

## 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
BEAUFORT NC	34.7N	76.7W	1810UTC	0.85M/2.8FT
OREGON INLET NC	35.8N	75.5W	1805UTC	0.82M/2.7FT
TRIDENT PIER FL	28.4N	80.6W	1755UTC	0.93M/3.1FT
ATLANTIC CITY NJ	39.4N	74.4W	1900UTC	1.00M/3.3FT
MONTAUK NY	41.0N	72.0W	1828UTC	0.44M/1.4FT
BAR HARBOR ME	44.4N	68.2W	1905UTC	0.76M/2.5FT
CAPE MAY NJ	39.0N	75.0W	1910UTC	0.55M/1.8FT
FERNANDINA BEACH FL	30.7N	81.5W	1855UTC	0.45M/1.5FT
KIPTOPEKE VA	37.2N	76.0W	1830UTC	0.59M/1.9FT
LEWES DE	38.8N	75.1W	1920UTC	0.77M/2.5FT

MODERATE SIZE TSUNAMIS AND STRONG CURRENTS CONTINUE IN PUERTO RICO AND THE VIRGIN ISLANDS. THE TSUNAMI HAS INFLICTED DAMAGE TO HARBORS AND MARINAS ALONG THE EAST COAST. STRONG CURRENTS HAVE DAMAGED DOCKS AND MOORINGS. IT IS UNSAFE TO BE IN OR NEAR THE WATER AT THIS TIME. INITIAL REPORTS FROM EASTERN CANADA INDICATE THAT DAMAGING WAVES HAVE IMPACTED THE NOVA SCOTIA AND NEWFOUNDLAND COAST. TIDE GAGES HAVE RECORDED WAVE AMPLITUDES GREATER THAN 1 METER. TSUNAMI RECORDINGS IN

THE GULF OF MEXICO ARE LESS THAN 15CM AND NOT EXPECTED TO GET MUCH LARGER. THE ADVISORY IS CANCELLED FOR SOUTH FLORIDA.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
             65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
             80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-022035-

COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND  
 335 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2

MYRTLE BCH-SC 1406 EDT APR 2 ST LAWRENCE-NL 1553 NDT APR 2  
 NANTUCKET IS-MA 1414 EDT APR 2 MANHATTAN-NY 1504 EDT APR 2  
 LOCKEPORT-NS 1429 ADT APR 2  
 FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ550-552-555-450-452-454-330-350-352-354-FLZ047-054-059-064-  
 141-147-024-025-033-038-GAZ154-166-117-119-139-141-SCZ048>050-  
 051-022035-  
 COASTAL AREAS FROM JUPITER INLET FLORIDA TO SOUTH SANTEE RIVER  
 SOUTH CAROLINA  
 335 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 FLORIDA - GEORGIA - SOUTH CAROLINA FROM JUPITER INLET  
 FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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.

MELBOURNE-FL 1323 EDT APR 2 CHARLESTON-SC 1416 EDT APR 2  
 JACKSONVILL B-FL 1357 EDT APR 2 SAVANNAH-GA 1418 EDT APR 2  
 FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-022035-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 335 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE  
 VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-022035-  
 COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
 LABRADOR  
 335 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
 CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #10**

WEXX20 PAAQ 022035  
TSUAT1

BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 10...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
435 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED FOR THE COASTAL AREAS FROM JUPITER INLET FLORIDA TO SOUTH SANTEE RIVER SOUTH CAROLINA...

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
ATLANTIC CITY NJ	39.4N	74.4W	1900UTC	1.81M/5.9FT
MONTAUK NY	41.0N	72.0W	1940UTC	0.60M/2.0FT
BAR HARBOR ME	44.4N	68.2W	2000UTC	0.76M/2.5FT
CAPE MAY NJ	39.0N	75.0W	1910UTC	0.55M/1.8FT
KIPTOPEKE VA	37.2N	76.0W	1830UTC	0.59M/1.9FT
LEWES DE	38.8N	75.1W	1920UTC	0.77M/2.5FT
OCEAN CITY MD	38.3N	75.1W	2010UTC	1.08M/3.5FT
PORTLAND ME	43.7N	70.2W	2015UTC	0.62M/2.0FT
SANDY HOOK NJ	40.5N	74.0W	2020UTC	0.90M/3.0FT

MODERATE SIZE TSUNAMIS AND STRONG CURRENTS CONTINUE IN PUERTO RICO AND THE VIRGIN ISLANDS. DAMAGING WAVES CONTINUE ALONG THE NORTHERN U.S. ATLANTIC COAST. SEVERAL AREAS HAVE REPORTED DAMAGE TO BOATS, HARBORS, AND WATERFRONTS DUE TO STRONG CURRENTS. IT CONTINUES TO BE UNSAFE TO BE IN OR NEAR THE WATER IN AREAS IN A WARNING OR ADVISORY. THE SOUTHEAST COAST OF NOVA SCOTIA AND SOUTHERN COAST OF NEWFOUNDLAND ARE EXPERIENCING FLOODING WAVES IN SOME REGIONS. TIDE GAGES REPORT TSUNAMIS OVER 1 METER IN AMPLITUDE. TSUNAMI OBSERVATIONS CONTINUE TO INDICATE NO DANGER IN THE GULF OF MEXICO. THE /ADVISORY IS CANCELLED FOR U.S. COASTAL REGIONS SOUTH OF SOUTH CAROLINA.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
           65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
           80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
 ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
 AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF  
 THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
 UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
 WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

AMZ250-252-254-256-130-135-150-152-154-156-158-  
 ANZ631>633-656-658-650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 SCZ034-046-NCZ097-100-101-045>047-080-081-094-095-098-103-104-  
 015>017-030>032-102-VAZ084-086-091-094-095-098-099-100-MDZ025-  
 DEZ002>004-NJZ005-006-011>014-021-023>026-NYZ071>081-CTZ009>012-  
 RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
 030-022135-

COASTAL AREAS BETWEEN AND INCLUDING SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO LA MANCHE NEWFOUNDLAND  
 435 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA  
 - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT  
 - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE -  
 NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM SOUTH  
 SANTEE RIVER SOUTH CAROLINA TO LA MANCHE NEWFOUNDLAND...

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.

CAPE HATTERAS-NC	1208	EDT APR 2	SCATARIE IS-NS	1522	ADT APR 2
ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
VIRGINIA BCH-VA	1342	EDT APR 2	GRAND MANAN-NB	1543	ADT APR 2
MYRTLE BCH-SC	1406	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2			

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE

WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
 VIZ001-002-022135-  
 COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
 435 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE  
 VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ250-252-254-256-130-135-150-152-154-156-158-ANZ631>633-  
 656-658-650-652-654-430-431-450>455-330-335-338-350-353-355-  
 230>237-250-254-255-150-050>052-081-SCZ034-046-NCZ097-100-  
 101-045>047-080-081-094-095-098-103-104-015>017-030>032-102-  
 VAZ084-086-091-094-095-098-099-100-MDZ025-DEZ002>004-NJZ005-  
 006-011>014-021-023>026-NYZ071>081-CTZ009>012-RIZ002-005>007-  
 MAZ007-019>024-016-NHZ014-MEZ022>028-029-030-022135-  
 COASTAL AREAS FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO  
 CHARLESVILLE NOVA SCOTIA  
 435 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND -  
 DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE  
 ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW  
 BRUNSWICK AND NOVA SCOTIA FROM SOUTH SANTEE RIVER SOUTH  
 CAROLINA TO CHARLESVILLE NOVA SCOTIA...

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.

CAPE HATTERAS-NC	1208	EDT	APR 2	NANTUCKET IS-MA	1414	EDT	APR 2
LOCKEPORT-NS	1429	ADT	APR 2	GRAND MANAN-NB	1543	ADT	APR 2
MONTAUK-NY	1338	EDT	APR 2	MANHATTAN-NY	1504	EDT	APR 2
VIRGINIA BCH-VA	1342	EDT	APR 2	PORTLAND-ME	1516	EDT	APR 2
ATLANTIC CITY-NJ	1348	EDT	APR 2	BOSTON-MA	1535	EDT	APR 2
MYRTLE BCH-SC	1406	EDT	APR 2				

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-022135-  
 COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
 LABRADOR  
 435 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO

CAPE CHIDLEY LABRADOR...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR WATER IS IMMINENT OR 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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #11**

WEXX20 PAAQ 022135  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 11...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
535 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM NEW POINT COMFORT VIRGINIA TO LA MANCHE NEWFOUNDLAND...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED FOR THE COASTAL AREAS FROM SOUTH SANTEE RIVER SOUTH CAROLINA TO NEW POINT COMFORT VIRGINIA...

## 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
ATLANTIC CITY NJ	39.4N	74.4W	1900UTC	1.81M/5.9FT
MONTAUK NY	41.0N	72.0W	1940UTC	0.60M/2.0FT
BAR HARBOR ME	44.4N	68.2W	2000UTC	0.76M/2.5FT
CAPE MAY NJ	39.0N	75.0W	1910UTC	0.55M/1.8FT
KIPTOPEKE VA	37.2N	76.0W	1830UTC	0.59M/1.9FT
LEWES DE	38.8N	75.1W	1920UTC	0.77M/2.5FT
OCEAN CITY MD	38.3N	75.1W	2010UTC	1.28M/4.2FT
PORTLAND ME	43.7N	70.2W	2015UTC	0.62M/2.0FT
SANDY HOOK NJ	40.5N	74.0W	2020UTC	0.90M/3.0FT

MODERATE SIZE TSUNAMIS AND STRONG CURRENTS CONTINUE IN PUERTO RICO AND THE VIRGIN ISLANDS. TSUNAMI AMPLITUDE IS BEGINNING TO DECREASE IN MOST AREAS OF THE NORTHERN U.S. ATLANTIC COAST. SEVERAL AREAS HAVE REPORTED DAMAGE TO BOATS, HARBORS, AND WATERFRONTS DUE TO STRONG CURRENTS. STAY OUT OF EVACUATED AREAS UNTIL LOCAL OFFICIALS REPORT IT IS SAFE TO RETURN. THE SOUTHEAST COAST OF NOVA SCOTIA AND SOUTHERN COAST OF NEWFOUNDLAND CONTINUE TO EXPERIENCE FLOODING WAVES IN SOME REGIONS. TIDE GAGES REPORT WAVES OVER 1 METER IN AMPLITUDE. TSUNAMI OBSERVATIONS CONTINUE TO INDICATE NO DANGER IN THE GULF OF MEXICO. THE WARNING/ADVISORY IS CANCELLED FOR U.S. COASTAL REGIONS SOUTH OF VIRGINIA.

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 - 8.6  
 TIME - 0900 EDT APR 02 2009  
           0900 AST APR 02 2009  
           1300 UTC APR 02 2009  
 LOCATION - 19.0 NORTH 65.0 WEST  
             65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
             80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
 DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
 ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
 AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF  
 THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
 UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
 WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

ANZ650-652-654-430-431-450>455-330-335-338-  
 350-353-355-230>237-250-254-255-150-050>052-081-  
 VAZ099-100-MDZ025-DEZ002>004-NJZ005-006-011>014-021-023>026-  
 NYZ071>081-CTZ009>012-RIZ002-005>007-MAZ007-019>024-016-NHZ014-  
 MEZ022>028-029-  
 030-022235-

COASTAL AREAS BETWEEN AND INCLUDING NEW POINT COMFORT  
 VIRGINIA TO LA MANCHE NEWFOUNDLAND  
 535 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE  
 COASTAL AREAS OF VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY  
 - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW  
 HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND  
 NEWFOUNDLAND FROM NEW POINT COMFORT VIRGINIA TO LA MANCHE  
 NEWFOUNDLAND...

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.

ATLANTIC CITY-NJ	1348	EDT APR 2	PORTLAND-ME	1516	EDT APR 2
MONTAUK-NY	1338	EDT APR 2	BOSTON-MA	1535	EDT APR 2
NANTUCKET IS-MA	1414	EDT APR 2	MANHATTAN-NY	1504	EDT APR 2
LOCKEPORT-NS	1429	ADT APR 2	ST LAWRENCE-NL	1553	NDT APR 2
GRAND MANAN-NB	1543	ADT APR 2	SCATARIE IS-NS	1522	ADT APR 2

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
VIZ001-002-022235-  
COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
535 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE  
VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-022235-  
COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
LABRADOR  
535 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
CAPE CHIDLEY LABRADOR...

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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$



**WCATWC Message #12**

WEXX20 PAAQ 022235  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 12...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
635 PM AST THU APR 2 2009

- ...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM WATCH HILL RHODE ISLAND TO LA MANCHE NEWFOUNDLAND
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...
- ...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY LABRADOR...
- ...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED FOR THE COASTAL AREAS FROM NEW POINT COMFORT VIRGINIA TO WATCH HILL RHODE ISLAND...

## 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.

MODERATE SIZE TSUNAMIS AND STRONG CURRENTS CONTINUE IN PUERTO RICO AND THE VIRGIN ISLANDS. TSUNAMI AMPLITUDE IS CONTINUES TO DECREASE IN MOST AREAS OF THE NORTHERN U.S. ATLANTIC COAST. SEVERAL AREAS HAVE REPORTED DAMAGE TO BOATS, HARBORS, AND WATERFRONTS DUE TO STRONG CURRENTS. STAY OUT OF EVACUATED AREAS UNTIL LOCAL OFFICIALS REPORT IT IS SAFE TO RETURN. TSUNAMI AMPLITUDES ARE STARTING TO DECREASE IN SOUTHERN NOVA SCOTIA AND NEWFOUNDLAND. WAVES ALONG THE LABRADOR COAST ARE REPORTED TO BE LESS THAN 50CM AND NOT CAUSING ANY DAMAGE. TSUNAMI OBSERVATIONS CONTINUE TO INDICATE NO DANGER IN THE GULF OF MEXICO. THE WARNING/ADVISORY IS CANCELLED FOR U.S. COASTAL REGIONS SOUTH OF RHODE ISLAND.

## PRELIMINARY EARTHQUAKE PARAMETERS

MAGNITUDE - 8.6  
TIME - 0900 EDT APR 02 2009  
          0900 AST APR 02 2009  
          1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
          65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
          80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

ANZ230>237-250-254-255-150-050>052-081-  
RIZ002-005>007-MAZ007-019>024-016-NHZ014-MEZ022>028-029-  
030-022335-  
COASTAL AREAS BETWEEN AND INCLUDING WATCH HILL RHODE ISLAND  
VIRGINIA TO LA MANCHE NEWFOUNDLAND  
635 PM AST THU APR 2 2009

...A TEST TSUNAMI WARNING IS IN EFFECT WHICH INCLUDES THE COASTAL AREAS OF RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA AND NEWFOUNDLAND FROM WATCH HILL RHODE ISLAND TO LA MANCHE NEWFOUNDLAND...

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.

LOCKEPORT-NS	1429	ADT APR 2	BOSTON-MA	1535	EDT APR 2
SCATARIE IS-NS	1522	ADT APR 2	GRAND MANAN-NB	1543	ADT APR 2
PORTLAND-ME	1516	EDT APR 2	ST LAWRENCE-NL	1553	NDT APR 2

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

AMZ712-715-725-735-742-745-PRZ001>003-005-007-008-010-011-  
VIZ001-002-022335-  
COASTAL AREAS OF PUERTO RICO AND THE VIRGIN ISLANDS.  
635 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR PUERTO RICO AND THE VIRGIN ISLANDS...

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.

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

ANZ081-022335-  
COASTAL AREAS FROM LA MANCHE NEWFOUNDLAND TO CAPE CHIDLEY  
LABRADOR

635 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEWFOUNDLAND AND LABRADOR FROM LA MANCHE NEWFOUNDLAND TO  
CAPE CHIDLEY LABRADOR...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING  
STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR  
WATER IS IMMINENT OR 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.

BONAVISTA-NL 1733 NDT APR 2 BATTLE HARBOR-NL 1756 NDT APR 2  
FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #13**

WEXX20 PAAQ 022335  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 13...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
735 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR  
FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY LABRADOR...

...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED  
FOR PUERTO RICO AND THE VIRGIN ISLANDS...

...THE TEST TSUNAMI WARNING/WATCH/ADVISORY STATUS IS CANCELED  
FOR THE COASTAL AREAS FROM WATCH HILL RHODE ISLAND TO  
THE U.S.-CANADA BORDER...

## 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 AMPLITUDES HAVE DROPPED BELOW DANGER THRESHOLDS FOR MOST  
OF THE PUERTO RICO AND VIRGIN ISLAND REGIONS. TSUNAMI AMPLITUDES  
HAVE ALSO DECREASED TO BELOW DANGER THRESHOLDS FOR MOST AREAS IN  
THE U.S. ATLANTIC COAST. THE TSUNAMI WARNING/ADVISORY IS CANCELLED  
IN THESE ZONES. LOCAL EMERGENCY OFFICIALS WILL PROVIDE THE ALL  
CLEAR FOR THESE REGIONS BASED ON LOCAL OBSERVATIONS. THE TSUNAMI  
WARNING HAS BEEN DOWNGRADED TO AND ADVISORY FOR NOVA SCOTIA AND  
NEWFOUNDLAND DUE TO THE DECREASE IN WAVE AMPLITUDES TO BELOW 1  
METER. DANGER DUE TO STRONG CURRENTS STILL EXISTS IN REGIONS  
UNDER ADVISORY.

## PRELIMINARY EARTHQUAKE PARAMETERS

MAGNITUDE - 8.6  
TIME - 0900 EDT APR 02 2009  
0900 AST APR 02 2009  
1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF  
THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

ANZ081-030035-  
 COASTAL AREAS FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY  
 LABRADOR  
 735 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
 NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR  
 FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY LABRADOR...

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.

LOCKEPORT-NS	1429	ADT	APR 2	GRAND MANAN-NB	1543	ADT	APR 2
SCATARIE IS-NS	1522	ADT	APR 2	BONAVISTA-NL	1733	NDT	APR 2
ST LAWRENCE-NL	1553	NDT	APR 2	BATTLE HARBOR-NL	1756	NDT	APR 2

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
 WCATWC.ARH.NOAA.GOV

\$\$

**WCATWC Message #14**

WEXX20 PAAQ 030035  
TSUAT1

## BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 14...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
835 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR  
FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY LABRADOR...

...THIS TEST MESSAGE IS INFORMATION ONLY FOR U.S. AND CANADIAN  
ATLANTIC AND GULF OF MEXICO COASTAL REGIONS NOT INCLUDED IN  
THE AREAS LISTED ABOVE...

## 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 DANGER CONTINUES ALONG THE EASTERN COAST OF CANADA DUE TO  
THE ONGOING TSUNAMI WHICH IS STILL PRODUCING DANGEROUS CURRENTS  
ALONG COASTAL REGIONS. NO INUNDATING WAVES ARE EXPECTED AT THIS  
POINT. RESIDENTS SHOULD STAY AWAY FROM EVACUATED AREAS UNTIL AN  
ALL CLEAR IS DECLARED BY LOCAL OFFICIALS.

## PRELIMINARY EARTHQUAKE PARAMETERS

MAGNITUDE - 8.6

TIME - 0900 EDT APR 02 2009  
0900 AST APR 02 2009  
1300 UTC APR 02 2009

LOCATION - 19.0 NORTH 65.0 WEST  
65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
80 MILES/129 KM NE OF SAN JUAN PUERTO RICO

DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
AND THE VIRGIN ISLANDS.

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.

THIS MESSAGE WILL BE UPDATED IN 60 MINUTES OR SOONER IF  
THE SITUATION WARRANTS. THE TSUNAMI MESSAGE WILL REMAIN IN EFFECT  
UNTIL FURTHER NOTICE. REFER TO THE INTERNET SITE  
WCATWC.ARH.NOAA.GOV FOR MORE INFORMATION.

ANZ081-030135-

COASTAL AREAS FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY  
LABRADOR  
835 PM AST THU APR 2 2009

...A TEST TSUNAMI ADVISORY IS IN EFFECT FOR THE COASTAL AREAS OF  
NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR

FROM THE U.S.-CANADA BORDER TO CAPE CHIDLEY LABRADOR...

TSUNAMI ADVISORIES MEAN THAT A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR WATER IS IMMINENT OR 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.

LOCKEPORT-NS	1429	ADT	APR 2	GRAND MANAN-NB	1543	ADT	APR 2
SCATARIE IS-NS	1522	ADT	APR 2	BONAVISTA-NL	1733	NDT	APR 2
ST LAWRENCE-NL	1553	NDT	APR 2	BATTLE HARBOR-NL	1756	NDT	APR 2

FOR ARRIVAL TIMES AT ADDITIONAL LOCATIONS SEE  
WCATWC.ARH.NOAA.GOV

\$\$

Exercise

**WCATWC Message #15**

WEXX20 PAAQ 030135  
TSUAT1

BULLETIN

TEST...TSUNAMI MESSAGE NUMBER 15...TEST  
NWS WEST COAST/ALASKA TSUNAMI WARNING CENTER PALMER AK  
935 PM AST THU APR 2 2009

...THE TEST TSUNAMI ADVISORY IS CANCELED FOR THE COASTS OF NEW  
BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR...

EVALUATION

DAMAGING TSUNAMIS ARE NO LONGER EXPECTED ALONG THE ATLANTIC  
COASTS OF THE U.S. AND CANADA. 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. AND CANADIAN ATLANTIC COAST. SEA  
LEVEL CONDITIONS STILL VARY GREATLY FROM LOCATION TO LOCATION  
ALONG THE COAST. DECISIONS RELATING TO REOCCUPATION OF COASTAL  
ZONES MUST BE MADE BY LOCAL AUTHORITIES.

THIS TSUNAMI HAS PRODUCED A LARGE AMOUNT OF DAMAGE IN PUERTO  
RICO AND THE U.S. VIRGIN ISLANDS AS WELL AS ALONG THE U.S. AND  
CANADIAN ATLANTIC COASTS. THE TSUNAMI IS STILL BEING RECORDED  
BY GAGES ALONG THE COAST THOUGH THE AMPLITUDE IS BELOW DANGER  
LEVELS IN LOCATIONS WHERE IT CAN BE MEASURED.

PRELIMINARY EARTHQUAKE PARAMETERS

MAGNITUDE - 8.6  
TIME - 0900 EDT APR 02 2009  
          0900 AST APR 02 2009  
          1300 UTC APR 02 2009  
LOCATION - 19.0 NORTH 65.0 WEST  
          65 MILES/105 KM NE OF FAJARDO PUERTO RICO  
          80 MILES/129 KM NE OF SAN JUAN PUERTO RICO  
DEPTH - 12 MILES/20 KM

THE PACIFIC TSUNAMI WARNING CENTER IN EWA BEACH HAWAII WILL  
ISSUE MESSAGES FOR AREAS IN THE CARIBBEAN OUTSIDE PUERTO RICO  
AND THE VIRGIN ISLANDS.

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.

ANZ081-030235-  
COASTAL AREAS OF NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND  
AND LABRADOR.  
935 PM AST THU APR 2 2009

...THE TEST TSUNAMI ADVISORY IS CANCELED FOR THE COASTS OF NEW  
BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR...

REPEAT - THE TSUNAMI ADVISORY IS CANCELED.

\$\$



## Appendix E. Web-based Products

Graphical and web-based products are posted to the WCATWC web site during an event. This Appendix contains examples of several. The first is the html-based text message with embedded links.

**To:** U.S. and Canadian Atlantic, and Gulf of Mexico coastal regions  
**From:** [NOAA/NWS/West Coast and Alaska Tsunami Warning Center](#)  
**Subject:** Test...[Tsunami Warning](#) #1 issued 12/11/2008 at 2:17AM AST...Test

A Test [Tsunami Warning](#) is in effect for Puerto Rico and the Virgin Islands.

This message is information only for U.S. and Canadian Atlantic and Gulf of Mexico coastal regions not included in the areas listed above.

\* A Tsunami Warning means that 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. This tsunami warning is based solely on earthquake information - the tsunami has not yet been confirmed.

At 9:00 AM Atlantic Standard Time on April 2, an [earthquake](#) with preliminary magnitude 8.6 [occurred 65 miles/105 Km northeast of Fajardo, Puerto Rico](#). (Refer to the [United States Geological Survey](#) for official earthquake parameters.) This earthquake may have generated a tsunami. If a tsunami has been generated, the waves will first reach San Juan, Puerto Rico at 9:17 AM AST on April 2. Estimated [tsunami arrival times](#) and [maps](#) along with [safety rules](#) and [other information](#) can be found on the [WCATWC](#) web site.

[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.

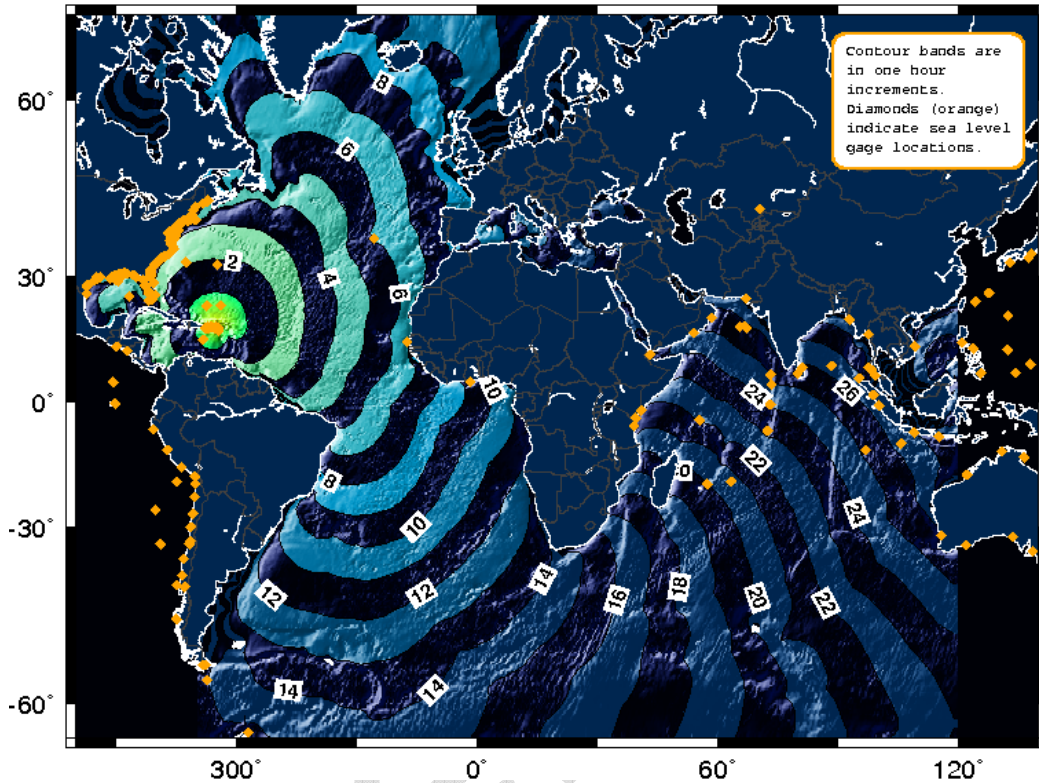
The [Pacific Tsunami Warning Center](#) in Ewa Beach, Hawaii will issue messages for areas in the Caribbean outside Puerto Rico and the Virgin Islands.

This message will be updated in 30 minutes or sooner if the situation warrants. The tsunami message 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 [WCATWC](#) web site.

[Link to Standard Warning Message](#)  
[Link to Public Warning Message](#)  
[Link to XML/CAP Message](#)

[Link to Printable Message](#)

Tsunami Travel Time map example below:



Tsunami travel time list example below.

The following list gives estimated times of arrival for locations along the U.S. and Canadian Atlantic coast from a tsunami generated at the given source location. The list is ordered chronologically. Since tsunami speed is directly related to water depth, tsunami ETAs can be computed independent of tsunami amplitude. THE LISTING OF A TSUNAMI ARRIVAL TIME BELOW DOES NOT INDICATE A WAVE IS IMMINENT. The listed arrival time is the initial wave arrival. Tsunamis can be dangerous for many hours after arrival, and the initial wave is not necessarily the largest.

Source:  
 Lat: 19N  
 Lng: 65W  
 Mag: 8.6  
 O-time: 1300UTC  
 Date: APR 2

Estimated times of initial tsunami arrival:

San Juan, Puerto Rico	0917 AST APR 2	1317 UTC APR 2
Virgin Gorda, British Virgin Is.	0920 EDT APR 2	1320 UTC APR 2
Aguadilla, Puerto Rico	0925 AST APR 2	1325 UTC APR 2
Christiansted, U.S. Virgin Is	0928 AST APR 2	1328 UTC APR 2
Mona Island, Puerto Rico	0933 AST APR 2	1333 UTC APR 2
Lameshur Bay, U.S. Virgin Islands	0934 AST APR 2	1334 UTC APR 2
Vieques Is., Puerto Rico	0934 AST APR 2	1334 UTC APR 2

Limetree Bay, U.S. Virgin Is.	0935	AST	APR	2	1335	UTC	APR	2
DART 41421	0935	EDT	APR	2	1335	UTC	APR	2
Mayaguez, Puerto Rico	0936	AST	APR	2	1336	UTC	APR	2
Culebra, Puerto Rico	0939	AST	APR	2	1339	UTC	APR	2
DART 41420	0939	EDT	APR	2	1339	UTC	APR	2
Charlotte Amalie, U.S. Virgin Is	0941	AST	APR	2	1341	UTC	APR	2
Magueyes Island, Puerto Rico	0953	AST	APR	2	1353	UTC	APR	2
Samana Cay, Bahamas	1015	EDT	APR	2	1415	UTC	APR	2
Guantanamo Bay, Cuba	1029	EDT	APR	2	1429	UTC	APR	2
Bermuda	1057	EDT	APR	2	1457	UTC	APR	2
DART 41424	1102	EDT	APR	2	1502	UTC	APR	2
Settlement Point, Bahamas	1125	EDT	APR	2	1525	UTC	APR	2
Virginia Key, Florida	1153	EDT	APR	2	1553	UTC	APR	2
Jupiter Inlet, Florida	1155	EDT	APR	2	1555	UTC	APR	2
DART 44402	1156	EDT	APR	2	1556	UTC	APR	2
DART 44401	1159	EDT	APR	2	1559	UTC	APR	2
Ocean Reef, Florida	1205	EDT	APR	2	1605	UTC	APR	2
Miami, Florida	1208	EDT	APR	2	1608	UTC	APR	2
Cape Hatteras, North Carolina	1208	EDT	APR	2	1608	UTC	APR	2
Cancun, Mexico	1121	CDT	APR	2	1621	UTC	APR	2
Oregon Inlet, North Carolina	1232	EDT	APR	2	1632	UTC	APR	2
DART 42408	1241	EDT	APR	2	1641	UTC	APR	2
Key West, Florida	1251	EDT	APR	2	1651	UTC	APR	2
Beaufort, North Carolina	1254	EDT	APR	2	1654	UTC	APR	2
Vaca Key, Florida	1258	EDT	APR	2	1658	UTC	APR	2
Duck, North Carolina	1303	EDT	APR	2	1703	UTC	APR	2
Trident Pier, Florida	1304	EDT	APR	2	1704	UTC	APR	2
Currituck Beach Lighthouse, NC	1308	EDT	APR	2	1708	UTC	APR	2
Ocean City, Maryland	1321	EDT	APR	2	1721	UTC	APR	2
Melbourne, Florida	1323	EDT	APR	2	1723	UTC	APR	2
Lockeport, Nova Scotia	1429	ADT	APR	2	1729	UTC	APR	2
Wrightsville Beach, North Carolina	1330	EDT	APR	2	1730	UTC	APR	2
Surf City, North Carolina	1330	EDT	APR	2	1730	UTC	APR	2
Montauk Point, New York	1338	EDT	APR	2	1738	UTC	APR	2
South Santee River, South Carolina	1340	EDT	APR	2	1740	UTC	APR	2
Pilots Station East, Louisiana	1241	CDT	APR	2	1741	UTC	APR	2
Virginia Beach, Virginia	1342	EDT	APR	2	1742	UTC	APR	2
Flagler Beach, Florida	1348	EDT	APR	2	1748	UTC	APR	2
Fire Island Light, New York	1348	EDT	APR	2	1748	UTC	APR	2
Cape Henlopen, Delaware	1348	EDT	APR	2	1748	UTC	APR	2
Atlantic City, New Jersey	1348	EDT	APR	2	1748	UTC	APR	2
Watch Hill, Rhode Island	1350	EDT	APR	2	1750	UTC	APR	2
Lewes, Delaware	1351	EDT	APR	2	1751	UTC	APR	2
Jacksonville Beach, Florida	1357	EDT	APR	2	1757	UTC	APR	2
Chesapeake Bridge, Virginia	1401	EDT	APR	2	1801	UTC	APR	2
Newport, Rhode Island	1402	EDT	APR	2	1802	UTC	APR	2
Woods Hole, Massachusetts	1403	EDT	APR	2	1803	UTC	APR	2
Myrtle Beach, South Carolina	1406	EDT	APR	2	1806	UTC	APR	2
Springmaid Pier, South Carolina	1408	EDT	APR	2	1808	UTC	APR	2
Sandy Hook, New Jersey	1410	EDT	APR	2	1810	UTC	APR	2
Charlesville, Nova Scotia	1510	ADT	APR	2	1810	UTC	APR	2
New London, Connecticut	1412	EDT	APR	2	1812	UTC	APR	2
Nantucket Island, Massachusetts	1414	EDT	APR	2	1814	UTC	APR	2
Yarmouth, Nova Scotia	1515	ADT	APR	2	1815	UTC	APR	2
Chezzetcook, Nova Scotia	1515	ADT	APR	2	1815	UTC	APR	2
Charleston, South Carolina	1416	EDT	APR	2	1816	UTC	APR	2
Fernandina Beach, Florida	1417	EDT	APR	2	1817	UTC	APR	2
Halifax, Nova Scotia	1517	ADT	APR	2	1817	UTC	APR	2
Port Aux Basque, Newfoundland	1547	NDT	APR	2	1817	UTC	APR	2
Cape May, New Jersey	1418	EDT	APR	2	1818	UTC	APR	2
Savannah, Georgia	1418	EDT	APR	2	1818	UTC	APR	2
Cape Ray, Newfoundland	1551	NDT	APR	2	1821	UTC	APR	2
Flamingo, Florida	1422	EDT	APR	2	1822	UTC	APR	2
Scatarie Island, Nova Scotia	1522	ADT	APR	2	1822	UTC	APR	2
St Lawrence, Newfoundland	1553	NDT	APR	2	1823	UTC	APR	2
Kiptopeke, Virginia	1424	EDT	APR	2	1824	UTC	APR	2
Cutler NAS, Maine	1427	EDT	APR	2	1827	UTC	APR	2
Saint Pierre/Miquelon	1600	NDT	APR	2	1830	UTC	APR	2
Money Point, Virginia	1430	EDT	APR	2	1830	UTC	APR	2

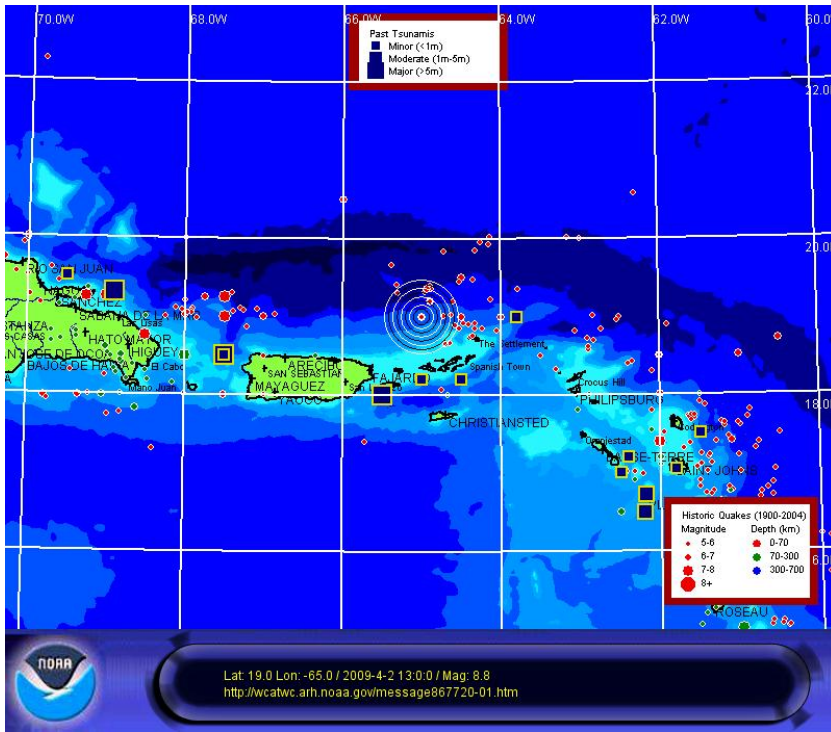
Quonset Point, Rhode Island	1433	EDT	APR	2	1833	UTC	APR	2
Altamaha Sound, Georgia	1434	EDT	APR	2	1834	UTC	APR	2
Meat Cove, Nova Scotia	1535	ADT	APR	2	1835	UTC	APR	2
Grand Isle, Louisiana	1335	CDT	APR	2	1835	UTC	APR	2
Windmill Point, Virginia	1441	EDT	APR	2	1841	UTC	APR	2
St. Simons Is., Georgia	1441	EDT	APR	2	1841	UTC	APR	2
Bar Harbor, Maine	1442	EDT	APR	2	1842	UTC	APR	2
Argentia, Newfoundland	1612	NDT	APR	2	1842	UTC	APR	2
Grand Manan Is., New Brunswick	1543	ADT	APR	2	1843	UTC	APR	2
Destin, Florida	1344	CDT	APR	2	1844	UTC	APR	2
the U.S.-Canada border	1446	EDT	APR	2	1846	UTC	APR	2
North Sydney, Nova Scotia	1550	ADT	APR	2	1850	UTC	APR	2
New Point Comfort, Virginia	1452	EDT	APR	2	1852	UTC	APR	2
Port Fourchon, Louisiana	1353	CDT	APR	2	1853	UTC	APR	2
Alvarado, Mexico	1357	CDT	APR	2	1857	UTC	APR	2
Fort Point, New Hampshire	1457	EDT	APR	2	1857	UTC	APR	2
Panama City, Florida	1358	CDT	APR	2	1858	UTC	APR	2
La Manche, Newfoundland	1628	NDT	APR	2	1858	UTC	APR	2
Stonington, Maine	1500	EDT	APR	2	1900	UTC	APR	2
Merrimack River, Massachusetts	1501	EDT	APR	2	1901	UTC	APR	2
Manhattan, New York	1504	EDT	APR	2	1904	UTC	APR	2
Saint John, New Brunswick	1606	ADT	APR	2	1906	UTC	APR	2
Ship John Shoal, New Jersey	1508	EDT	APR	2	1908	UTC	APR	2
Bergen Point, New Jersey	1508	EDT	APR	2	1908	UTC	APR	2
New Haven, Connecticut	1511	EDT	APR	2	1911	UTC	APR	2
Tampico, Mexico	1411	CDT	APR	2	1911	UTC	APR	2
Brownsville, Texas	1413	CDT	APR	2	1913	UTC	APR	2
Saint Johns, Newfoundland	1646	NDT	APR	2	1916	UTC	APR	2
Portland, Maine	1516	EDT	APR	2	1916	UTC	APR	2
Apalachicola, Florida	1422	CDT	APR	2	1922	UTC	APR	2
Yorktown, Virginia	1526	EDT	APR	2	1926	UTC	APR	2
Port Isabel, Texas	1427	CDT	APR	2	1927	UTC	APR	2
Bridgeport, Connecticut	1533	EDT	APR	2	1933	UTC	APR	2
Lewisetta, Virginia	1535	EDT	APR	2	1935	UTC	APR	2
Corpus Christi, Texas	1435	CDT	APR	2	1935	UTC	APR	2
Boston, Massachusetts	1535	EDT	APR	2	1935	UTC	APR	2
the Mississippi-Alabama border	1437	CDT	APR	2	1937	UTC	APR	2
Baffin Bay, Texas	1446	CDT	APR	2	1946	UTC	APR	2
Clearwater Beach, Florida	1547	EDT	APR	2	1947	UTC	APR	2
Providence, Rhode Island	1553	EDT	APR	2	1953	UTC	APR	2
Bonavista, Newfoundland	1733	NDT	APR	2	2003	UTC	APR	2
Harrington Harbour, Quebec	1710	ADT	APR	2	2010	UTC	APR	2
Port O'connor, Texas	1511	CDT	APR	2	2011	UTC	APR	2
Rock Port, Texas	1513	CDT	APR	2	2013	UTC	APR	2
Waveland, Mississippi	1514	CDT	APR	2	2014	UTC	APR	2
Freeport, Texas	1515	CDT	APR	2	2015	UTC	APR	2
Pointe Saint Pierre, Quebec	1716	ADT	APR	2	2016	UTC	APR	2
Battle Harbour, Labrador	1756	NDT	APR	2	2026	UTC	APR	2
Kings Point, New York	1629	EDT	APR	2	2029	UTC	APR	2
Naples, Florida	1637	EDT	APR	2	2037	UTC	APR	2
Holton Harbour, Newfoundland	1813	NDT	APR	2	2043	UTC	APR	2
Champton, Mexico	1545	CDT	APR	2	2045	UTC	APR	2
Port Manatee, Florida	1646	EDT	APR	2	2046	UTC	APR	2
Bonita Beach, Florida	1649	EDT	APR	2	2049	UTC	APR	2
Galveston, Texas	1550	CDT	APR	2	2050	UTC	APR	2
St. Petersburg, Florida	1652	EDT	APR	2	2052	UTC	APR	2
Fort Myers, Florida	1652	EDT	APR	2	2052	UTC	APR	2
Biloxi, Mississippi	1555	CDT	APR	2	2055	UTC	APR	2
Suwannee River, Florida	1658	EDT	APR	2	2058	UTC	APR	2
Eugene Is., Louisiana	1558	CDT	APR	2	2058	UTC	APR	2
Boat Harbour, Newfoundland	1830	NDT	APR	2	2100	UTC	APR	2
Morgan City, Louisiana	1610	CDT	APR	2	2110	UTC	APR	2
Wood Islands, Prince Edward Is.	1813	ADT	APR	2	2113	UTC	APR	2
Lanse au Clair, Newfoundland	1843	NDT	APR	2	2113	UTC	APR	2
Sept Iles, Quebec	1814	ADT	APR	2	2114	UTC	APR	2
Cape Chidley, Labrador	1722	AST	APR	2	2122	UTC	APR	2
Nuuk, Greenland	1731	EDT	APR	2	2131	UTC	APR	2
Sabine Pass, Texas	1635	CDT	APR	2	2135	UTC	APR	2
Cedar Key, Florida	1735	EDT	APR	2	2135	UTC	APR	2

High Island, Texas	1636 CDT APR 2	2136 UTC APR 2
Hebron, Newfoundland	1847 ADT APR 2	2147 UTC APR 2
Escuminac, New Brunswick	1851 ADT APR 2	2151 UTC APR 2
Charlottetown, Prince Edward Is.	1856 ADT APR 2	2156 UTC APR 2
Nain, Newfoundland	1900 ADT APR 2	2200 UTC APR 2
Belledune, New Brunswick	1900 ADT APR 2	2200 UTC APR 2
Brevoort Harbour, Nunavut	1801 EDT APR 2	2201 UTC APR 2
Cape Dyer, Nunavut	1811 EDT APR 2	2211 UTC APR 2
Shediac, New Brunswick	2009 ADT APR 2	2309 UTC APR 2
Clyde River, Nunavut	1934 EDT APR 2	2334 UTC APR 2
Thule AFB, Greenland	2042 EDT APR 2	0042 UTC APR 3
Dundas Harbor, Nunavut	2050 EDT APR 2	0050 UTC APR 3

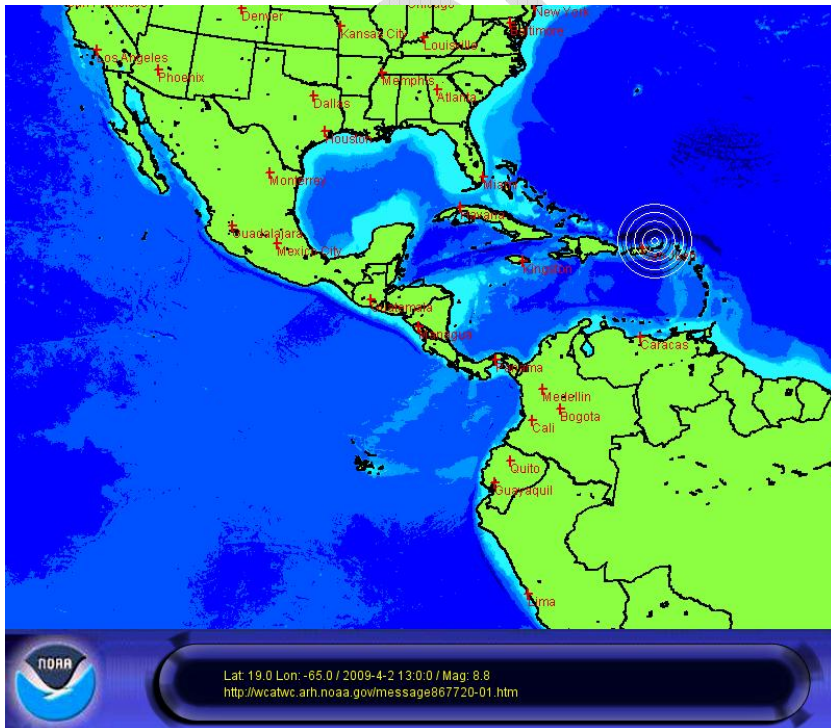
The following graphic is an example of a warning/advisory/watch map that would be issued with bulletin 5.



The following graphic is an example of a source zone map issued with bulletin 1.



The following graphic is an example of an overview map issued with bulletin 1.



## Appendix F. Sample Press Release for Local Media

TEMPLATE FOR NEWS RELEASE

USE AGENCY MASTHEAD

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

**FOR IMMEDIATE RELEASE**  
(insert date)

### **NORTHWEST ATLANTIC TSUNAMI EXERCISE TO BE CONDUCTED APRIL 2, 2009**

*(insert community/county/state name)* will join other localities in the northwest Atlantic as a participant in a tsunami response exercise on April 2, 2009. The purpose of this exercise is to evaluate local tsunami response plans, increase tsunami preparedness, and improve coordination throughout the region.

*(insert a promotional comment from a local official, such as "The 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 Tsunami Warning System and help identify operational strengths and weaknesses in each community." (Please modify for uniqueness.))*

The exercise, titled LANTEX 09, will simulate a widespread Tsunami Warning and Advisory situation along U.S. and Canadian coasts in the northwest Atlantic requiring implementation of local tsunami response plans. It is the first such exercise including all Atlantic states, provinces, territories, and commonwealths. The exercise will *(insert "include" or "not include")* public notification.

The exercise will simulate a major earthquake and tsunami generated north or Puerto Rico occurring at 9:00am Eastern Daylight Time *(or appropriate local time)* on April 2, 2009. Exercise participants will be provided with a handbook which describes the scenario and contains tsunami messages from the West Coast/Alaska Tsunami Warning Center (WCATWC). The WCATWC is responsible for providing tsunami warning messages to the Atlantic coasts of U.S. and Canada, the Gulf of Mexico coast, Puerto Rico, and the Virgin Islands.

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

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

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

###

On the Web:

West Coast/Alaska Tsunami Warning Center <http://wcatwc.arh.noaa.gov>  
Pacific Tsunami Warning Center <http://www.prh.noaa.gov/ptwc>  
NOAA Tsunami Program <http://www.tsunami.gov>  
<http://tsunami.noaa.gov>  
<http://nthmp.tsunami.gov>

NTHMP:

*Insert state/local emergency response URLs*



## Appendix G. Post-Exercise Evaluation

All participating agencies are requested to provide brief feedback on the exercise. This feedback will assist the NTHMP and NOAA in the evaluation of LANTEX 09 and the development of subsequent exercises.

Please fill out and return the form by May 1, 2009 to:

WCATWC Director  
NOAA/West Coast/Alaska Tsunami Warning Center  
910 South Felton Street  
Palmer, Alaska 99645

FAX: 907-745-6071

Or scanned and emailed to [paul.whitmore@noaa.gov](mailto:paul.whitmore@noaa.gov).

Exercise

LANTEX 09 Tsunami Response Exercise  
Evaluation Form  
For Official Use Only

Participant Location: \_\_\_\_\_

Participant Agency: \_\_\_\_\_

Agency Contact Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

**Please answer the following questions and provide any suggestions.**

Was the exercise format satisfactory?

Did you receive the “dummy” message from the WCATWC to start the exercise? If so, through what channel(s) and approximately what time was it received?

Was the content and intention of the tsunami messages clear?

Should any other content be added to the messages, or was any superfluous?

Did your agency have a tsunami response plan in place prior to the exercise?

If so, was the response plan adequate to address the event?

Were the emergency management actions during the event clearly laid out by the plan?

During a real event, how is the local population notified of any tsunami danger?

Was any feedback received from the public?

Are the potential tsunami danger zones known in your area?

Was the exercise helpful in validating the response plan or showing that it was not sufficient?