Intergovernmental Oceanographic Commission
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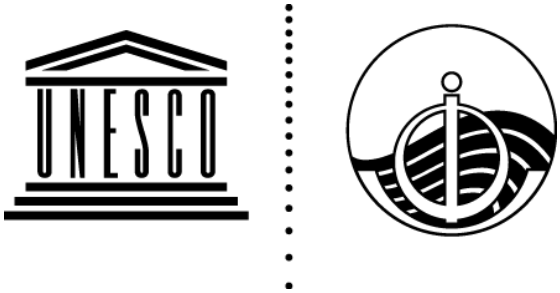
141



EXERCISE CARIBE WAVE 19

A Caribbean and Adjacent Region Tsunami Warning Exercise

14 March 2019

Volume 1 Participant Handbook

UNESCO

Intergovernmental Oceanographic Commission
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UNESCO 2018

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NOTE: The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Intergovernmental Oceanographic Commission (IOC) pattern the contents of this handbook after the CARIBE WAVE 2011, 2013, 2014, 2015, 2016, 2017 and 2018 Exercises. Each of these exercises has a handbook published as IOC Technical Series. These CARIBE WAVE exercises followed the Pacific Wave exercises which commenced in 2008 with manual published by the Intergovernmental Oceanographic Commission (Exercise Pacific Wave 08: A Pacific-wide Tsunami Warning and Communication Exercise, 28-30 October 2008, IOC Technical Series, 82, Paris, UNESCO 2008). The UNESCO How to Plan, Conduct and Evaluate Tsunami Wave Exercises, IOC Manuals and Guides, 58 rev., Paris, UNESCO 2013 (English and Spanish) is another important reference.

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Report prepared by: The Intergovernmental Coordination Group for the Tsunami and the other Coastal Hazard Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)

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ANNEXES

Summary

The Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS) of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) will be conducting a tsunami exercise on 14 March 2019. This exercise will be coordinated together with the U.S. National Oceanic and Atmospheric Administration (NOAA) and the Caribbean regional emergency management stakeholders (CEPREDENAC [Coordination Centre for the Prevention of Natural Disasters in Central America], CDEMA [Caribbean Disaster Emergency Management Agency], and EMIZA [Etat-Major Interministériel de la Zone de Défense et de Sécurité Antilles]). The purpose of this exercise is to advance tsunami preparedness efforts in the Caribbean and Adjacent Regions.

Two exercise scenarios have been planned. The first scenario described in this handbook simulates a tsunami generated by a flank collapse of the Kick 'em Jenny submarine volcano which occurs after a M 6.0 earthquake is detected at the volcano. The second scenario is a tsunami generated by a magnitude 8.5 earthquake located along the Northern Panama Deformed Belt (NPDB).

The Pacific Tsunami Warning Center (PTWC), the CARIBE-EWS Tsunami Service Provider, will issue the initial dummy message for the two scenarios on 14 March 2019 at 1400 UTC, and will disseminate it over all its standard broadcast channels. The dummy message is issued to test communications between the PTWC and the officially designated Tsunami Warning Focal Points (TWFPs) and National Tsunami Warning Centres (NTWCs), and to start the exercise. As of 1405 UTC, the PTWC will send by email the simulated tsunami products to officially designated TWFPs and NTWCs. Each country and territory will choose one scenario and decide if and how to disseminate messages within its area of responsibility.

The manual includes the tsunami and earthquake scenarios information, timelines, PTWC dummy message and simulated exercise messages. High levels of vulnerability and risk to life and livelihoods from tsunamis along the coasts of the Caribbean and Adjacent Regions should provide a strong incentive for countries and local jurisdictions to prepare for a tsunami and participate in this exercise.

This is the first time that a volcano scenario is used and is an opportunity to evaluate the type of products PTWC could issue for such an event as well as the corresponding national and local standard operation procedures for such an event.

1. BACKGROUND

1.1 EXERCISE JUSTIFICATION AND FRAMEWORK

This tsunami exercise is being conducted to assist tsunami preparedness efforts throughout the Caribbean and adjacent regions. Recent tsunamis, such as those in the Indian Ocean (2004, 2018), Samoa (2009), Haiti (2010), Chile (2010, 2014, 2015), Japan (2011), and Honduras and Sulawesi (2018), attest to the importance of proper planning for tsunami response.

Historical tsunami records from sources such as the NOAA National Centers for Environmental Information (NCEI) show that from 1530 to 2018 tsunamis from earthquake, landslide, and volcanic sources have all impacted the region (Figure 1). According to NCEI, in the past 500 years, over 105 tsunamis have been observed (7–10% world's oceanic tsunamis) and approximately 4,500 people have lost their lives from tsunamis in the Caribbean and adjacent regions. Since the most recent devastating tsunami of 1946, there has been an explosive population growth and influx of tourists along the Caribbean and Western Atlantic coasts increasing the tsunami vulnerability of the region (von Hillebrandt-Andrade, 2013).

In addition to tsunamis, the region also has a long history of destructive earthquakes. Historical records show that major earthquakes have struck the Caribbean region once about every 50 years during the past five centuries. Within the region, there are multiple fault segments and submarine features that could be the source of earthquake and landslide generated tsunamis (Figure 2). No fewer than four major plates (North America, South America, Nazca, and Cocos) border the perimeter of the Caribbean plate. Subduction occurs along the Eastern and Northeastern Atlantic margins of the Caribbean plate. While the Northern and Southern Caribbean plate boundaries are characterized by a predominant strike-slip displacement, the Eastern and Western boundaries mark locations where oceanic crust subducts beneath Caribbean plate lithosphere (Benz et al, 2011). In addition to the local and regional sources, the region is also threatened by teletsunamis/transatlantic tsunamis, like the 1755 from Lisbon. Six confirmed volcano tsunami source events and two landslides generated from volcanos have affected the Caribbean and adjacent regions (International Tsunami Information Center [ITIC] and National Centers for Environmental Information [NCEI], 2018).

Nearly 160 million people live in the Caribbean, Central America and Northern South America. The question is not if another major tsunami will happen, but when it happens, will the region be prepared for the impact? The risk of tsunamis in the Caribbean is real and should be taken seriously.

Tsunami services for the Caribbean and adjacent regions within the UNESCO/IOC CARIBE-EWS framework are currently provided by the PTWC in Hawaii. The 1 March 2016 enhanced tsunami products for CARIBE-EWS were implemented. The PTWC issues tsunami products approximately two to ten minutes after an earthquake's occurrence. The PTWC international products include tsunami information and threat messages (no longer watch messages). Primary recipients of the PTWC messages include TWFPs and NTWCs. These agencies are responsible to determine and issue the corresponding alerts within their area of responsibility according to established protocols.

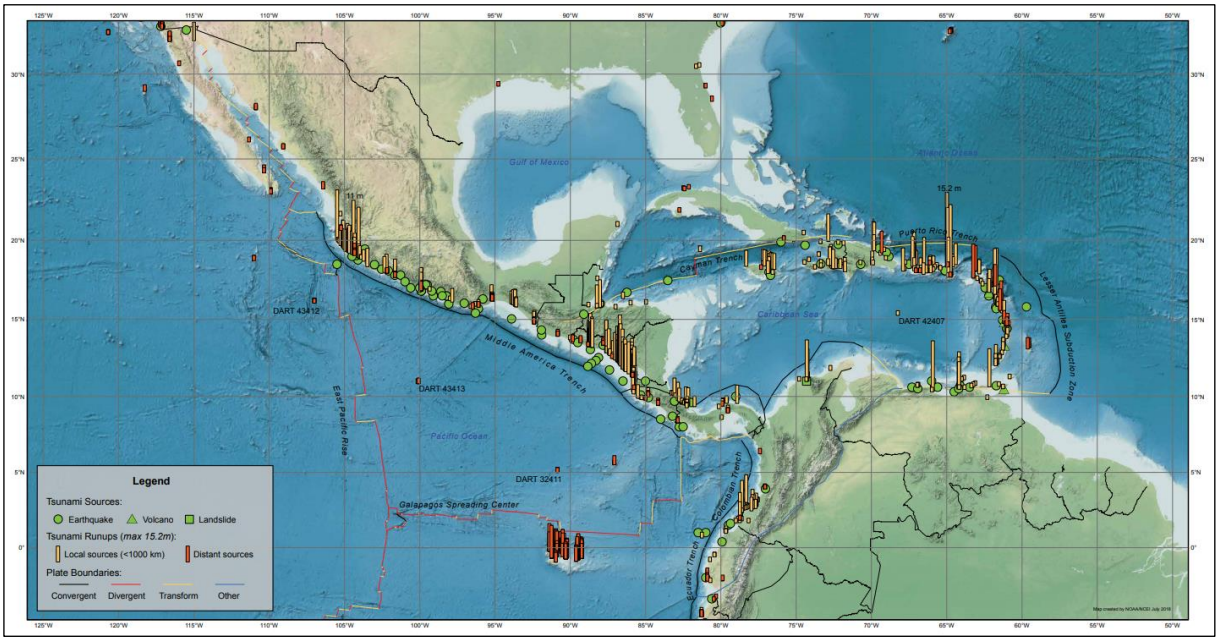

Figure 1. Map of historical tsunami (1530 to 2018) in the Caribbean, Central America, Mexico and adjacent regions (National Centers for Environmental Information, https://www.ngdc.noaa.gov/hazard/data/publications/CCAMAR-english.pdf).

1.2 EXERCISE EARTHQUAKE AND TSUNAMI SCENARIOS

The exercise Caribe Wave 19 will provide simulated tsunami threat messages issued from the PTWC based on two hypothetical scenarios: A flank collapse of the Kick 'em Jenny submarine volcano which occurs after a M 6.0 earthquake is detected at the volcano, and a tsunami generated by a magnitude 8.5 earthquake located along the Northern Panama Deformed Belt (Figure 3). Below is a brief tectonic description of the Caribbean Plate that serves as a backdrop for the selection, justification and description of the proposed scenarios for the exercise.

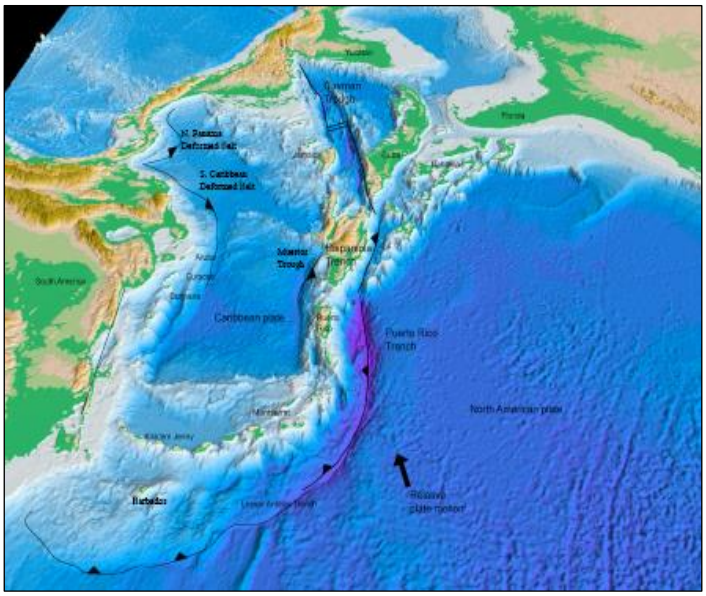

Figure 2. Major Tectonic features in the Caribbean (ten Brink et al., 2008).

1.2.1 General Caribbean Tectonics

Extensive diversity and complexity of tectonic regimes characterizes the perimeter of the Caribbean plate, involving no fewer than four major plates (North America, South America, Nazca, and Cocos). Northern and southern boundaries of the Caribbean are mostly characterized by strike-slip motion, whereas subduction zones occur at both eastern and western boundaries. Intermediate and deep earthquakes, Wadati-Benioff zones, ocean trenches, and arcs of volcanoes clearly indicate subduction of oceanic lithosphere along the Central American and Atlantic ocean margins of the Caribbean plate. Along the northeastern Caribbean plate boundary zone, from the Island of Hispaniola to the Island of Barbuda, relative motion between the North America plate and the Caribbean plate becomes increasingly complex and is partially accommodated by nearly arc-parallel subduction of the North America plate beneath the Caribbean plate (Feuillet et al, 2002). Moving east and south to the northern Lesser Antilles where the plate motion vector of the Caribbean plate relative to the North and South America plates is less oblique, resulting in active island-arc tectonics. The North and South America plates subducts towards the west beneath the Caribbean plate along the Lesser Antilles Trench at rates of approximately 20 mm/yr. (DeMets et al. 2010). As a result of this subduction, there exist both intermediate focus earthquakes within the subducted plates and a chain of active volcanoes along the island arc, data that has been used to divide the arc into a northern and southern arc. Along the southern Lesser Antilles trench, the accretionary prism is anomalously thick and wide, raising the earthquake and tsunami potential. Farther west, the Southern Caribbean Deformed Belt (SCDB) has been developed due to the southward-verging under-thrusting of Caribbean lithosphere beneath the northern coast of South America (DeMets et al. 2010). The following two sub-sections describe the Caribe Wave 19 scenarios and present a justification on their tsunamigenic potential regardless of their probability of occurrence.

1.2.2 Kick ‘em Jenny volcano Scenario

Kick ‘em Jenny Volcano is an underwater volcano located approximately 8 km north of Grenada (12.30ºN, 61.74ºW), and within the seismically active region of the Lesser Antilles island arc (Lindsay, 2005). Most Lesser Antilles volcanic islands began as submarine volcanoes as a result of the collision between the America plate subducting beneath the Caribbean plate. In the case of the southern Lesser Antilles arc, South America and Caribbean plates strike east-west across Trinidad and eastern Venezuela at a relative rate of approximately 20 millimeters per year accommodated through major transform faults (Latchman et al., 2017). As the South America plate descends into the mantle and beneath the Caribbean plate, once it approaches its melting point, the molten rock, magma, rises through the overlying material, which eventually penetrates the surface of the Caribbean plate and leads to eruptions that form volcanoes. This is how the Kick ‘em Jenny volcano was formed. This submarine volcano is about 200 m below the surface of the sea, with an elevation of 1300 m above the seafloor and 300 m wide at its summit (Latchman et al., 2017). Previous investigations have revealed that it lies within a collapse scar created from a past flank instability episode (Dondin et al., 2017). Since its subaerial eruption in 1939, it has erupted at least 14 times, making it the most frequently active volcano in the eastern Caribbean (Latchman et al., 2017). According to the U.S. National Oceanic and Atmospheric Administration (NOAA), Kick ‘em-Jenny dome has been destroyed during eruptions, but since 1960, the craters depth has been maintained at approximately 180 m below the surface of the sea. One of its eruptions occurred the 23 July 2015. More than 400 events were recorded during this period, being M 3.7 the greatest one. The most recent magmatic eruption occurred the 29 April 2017; an advisory notice was issued by the Grenada National Disaster Management Agency (NaDMA) upon reports from the Seismic Research Centre (SRC) on increased seismicity with a high-amplitude signal that lasted 25 seconds. During this period, the largest magnitude recorded was of 3.3. Subsequent eruptive activity consisted of one event that lasted 14 minutes, followed by about an hour of tremor (Latchman et al, 2017). More

recently, during the period from 20 February to 20 March and October 2018, the SRC reported periods of increased seismic activity at the volcano. Given the tsunami potential this underwater volcano can generate by entering a violent eruption phase, it has deemed relevant as an exercise scenario.

1.2.3 Panama Scenario

The Northern Panama Deformed Belt (NPDB) is an arcuate-shaped thrust belt located offshore north of Panama that is capable of producing tsunamigenic earthquakes. The NPDB is conformed by a submarine fold and thrust belt that extends offshore with an arcuate shape from the Gulf of Urabá in the Panama-Colombia border up to the shore northwest of Puerto Limón in Costa Rica (Camacho & Víquez, 1992). One of the largest events produced in this geological feature occurred on 7 September 1882, where approximately 100 people were drowned in a tsunami that submerged the islands of the San Blas Archipelago and the northern coast of Panama (ten Brink et al., 2008). The offshore earthquake had an estimated magnitude of M 8 and was located 10ºN, 78ºW (Mendoza and Nishenko, 1989). The maximum reported wave height was 3 meters according to the NOAA National Centers for Environmental Information (2018). Another known event occurred the 22 April 1991, where an M_w 7.6 earthquake was located 10.10N, 82.77W offshore Costa Rica at a depth of 15 km (Plafker and Ward, 1992). A tsunami was generated after the earthquake with a wave height of 3 m and affected the coast of Central America from north of Limón, Costa Rica to Panama. Oscillations of 7 cm were observed on tide gauges as far as Puerto Rico and St. Croix (Lander et al., 2002; NOAA National Centers for Environmental Information, 2018).

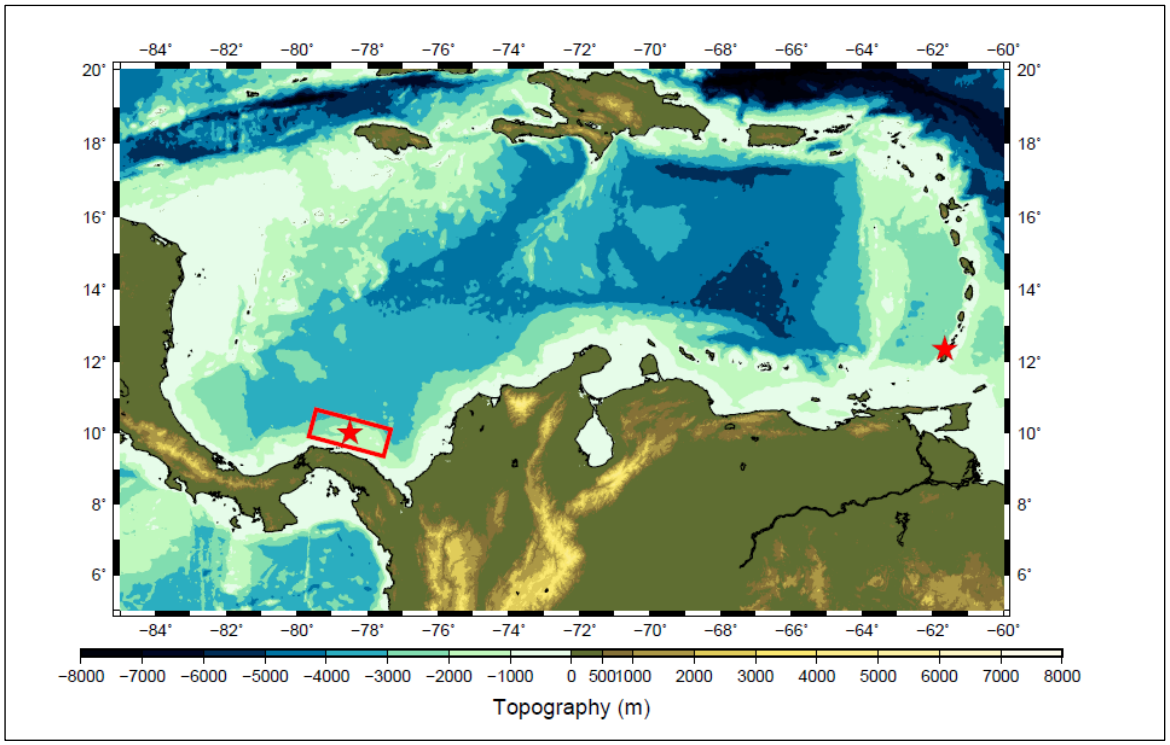

Figure 3. Map of the Caribe Wave 19 scenarios. Stars indicate epicentral locations and the red boxes indicate the map view of the ruptured fault segments. The figure is underlain by etopo1 model of Amante and Eakins (2009). This figure was generated using “The Generic Mapping Tool” (GMT) (Wessel et al., 2013).

1.2.4 Earthquake impact

In addition to knowing the potential impact from the tsunami, it is also important to consider the potential earthquake impact. This is especially important for those in the near field. In

consideration of this, the United States Geological Survey (USGS) provided for Caribe Wave 19 the scenario outputs of their ShakeMap and the Prompt Assessment of Global Earthquakes for Response (PAGER) products. These results provide emergency responders, government, aid agencies and the media the scope of the potential earthquake related disaster. ShakeMap illustrates the ground shaking levels close to the earthquake source depending on a set of parameters such as distance to the source, rock and soil behavior, and seismic wave propagation through the crust (http://earthquake.usgs.gov/research/shakemap/). PAGER is based on the earthquake shaking (via ShakeMap) and analyses the population exposed to each level of shaking intensity with models of economic and fatality losses based on past earthquakes in each country or region of the world (http://earthquake.usgs.gov/research/pager/). For Caribe Wave 19 scenarios, USGS estimated that significant casualties and damage are likely from the earthquakes themselves, which would require regional or national level response. According to the PAGER results, the countries that are going to receive the greatest impact from the earthquakes are Panama and Colombia for the Panama scenario. The greatest shaking impact from the M 6.0 associated with Kick 'em Jenny will be in Grenada. Complete information about the PAGER output for the exercise scenario is available in the Annex IV of this handbook.

2. EXERCISE CONCEPT

2.1 PURPOSE

The purpose of the exercise is to improve Tsunami Warning System effectiveness in the Caribbean and adjacent regions. The exercise provides an opportunity for emergency management organizations throughout the region 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 the Caribbean and adjacent regions, where tsunamis are infrequent but can be of very high impact. Every emergency management organization (EMO) are encouraged to participate.

2.2 OBJECTIVES

Each organization can develop its objectives for the exercise depending on its level of involvement in the scenario. The following are the exercise's overarching objectives to exercise and evaluate operations of the CARIBE-EWS Tsunami Warning System.

1. **Exercise and evaluate communications between Regional Tsunami Service Provider and Members States/Territories.**

   A. Validate the **issuance** of tsunami products from the PTWC.

   B. Validate the **receipt** of tsunami products by CARIBE-EWS Tsunami Warning Focal Points (TWFPs) and/or National Tsunami Warning Centres (NTWCs).

2. **To evaluate the tsunami procedures and programmes within Members States/Territories.**

   A. Validate **readiness** to respond to a tsunami.

   B. Validate the **operational readiness** of the TWFPs/NTWCs and/or the National Disaster Management Office (NDMO).

   C. Improve **operational readiness**. Before the exercise, ensure appropriate tools and response plan(s) have been developed, including public education materials.

D. Validate that the dissemination of warnings and information/advice by TWFPs and NTWCs, to relevant in-country agencies and the public is accurate and timely.

E. Evaluate the status of the implementation of the pilot CARIBE-EWS Tsunami Ready recognition program.

3. To evaluate volcanic products

A. Evaluate proposed PTWC CARIBE-EWS products for volcanic events.

B. Evaluate input from Seismic Research Centre.

C. Evaluate Member States and Territories response plans for tsunamis from volcanoes.

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 alarming the general public. Offices of Emergency Management (OEM) are, however, encouraged to exercise down to the level of testing local notification systems such as the Emergency Alert System (EAS), sirens, or loudspeakers.

Exercises stimulate the development, training, testing, and evaluation of Disaster Plans and Standard Operating Procedures (SOP). Most countries in the region have participated in SOP workshops in 2013, 2014, 2015 and 2017, and should use the materials and expertise acquired to help guide exercise preparation and conduct. Annex I gives an overview of SOPs. Exercise participants may use their own past multi-hazard drills (e.g. flood, hurricane, tsunami, earthquake, etc.) as a framework to conduct Caribe Wave 19.

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 programme. It is a planned event, developed to bring together individuals and officials with a role or interest in multi-hazard response planning, problem solving, development of standard operational procedures (SOPs), and resource integration and coordination. An Orientation Exercise will have a specific goal and written objectives and result in an agreed upon Plan of Action.

2. **Drill:** The Drill is a planned activity that tests, develops, and/or maintains skills in a single or limited emergency response procedure. Drills generally involve operational response of single departments or agencies. Drills can involve internal notifications and/or field activities.

3. **Tabletop Exercise:** The Tabletop Exercise is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal, in a conference room environment, and is designed to elicit constructive discussion from the participants. Participants will examine and attempt to resolve problems, based on plans and procedures, if they exist. Individuals are encouraged to discuss decisions in depth with emphasis on slow-paced problem solving, rather than rapid, real time decision-making. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative (see Annex II 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 centre, emergency command centre, command post, master control centre, etc.) and involve all the appropriate members designated by the plan. Both internal and external agencies (government, private sector, and volunteer agencies) should be involved. It requires players, controllers, simulators, and evaluators. Message traffic will be simulated and inserted by the control team for player response/actions, under real time constraints. It may or may not include public evacuations. A Functional Exercise should have specific goals, objectives, and a scenario narrative.

5. **Full-scale Exercise:** A Full-scale Exercise is the culmination of a progressive exercise program that has grown with the capacity of the community to conduct exercises. A Full-Scale Exercise is a planned activity in a "challenging" environment that encompasses a majority of the emergency management functions. This type of exercise involves the actual mobilization and deployment of the appropriate personnel and resources needed to demonstrate operational capabilities. EOCs and other command centres 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.

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

Table 1. Example Time Frames for Different Exercise Types

Another good resource for exercise planning and conduct is the document entitled *Methodological guidelines: How to prepare, conduct and evaluate a community-based tsunami response* exercise (Annex II). This guide is recommended for Member States as it provides methodology and tools to conduct and evaluate a community-based tsunami evacuation exercise.

2.4 TIMELINE

The process of planning Caribe Wave 19 takes more than a year; from the decision of the Intergovernmental Coordination Group (ICG) to conduct the exercise and the choice of the scenario(s) until the final reports are prepared and distributed. Listed below are the actions to be taken before, during and after Caribe Wave 19.

Action	Due Date
Circular Letter issued by IOC to MS	August 2018
Handbook Draft Circulated among ICG/CARIBE-EWS TNC/TWFP and TT Caribe Wave 19	August 2018
Deadline for Comments	September 2018
Exercise Handbook Available Online	November 2018
First Webinar CW	15 January 2019 – English 16 January 2019 – Spanish 17 January 2019 – French
Second Webinar CW	12 February 2019 – English 13 February 2019 – Spanish 14 February 2019 – French
Countries Indicate Selected Scenario	28 February 2019
Exercise	14 Mars 2019
Exercise Evaluation Due	29 Mars 2019
Draft Final Caribe Wave 19 Report	5 April 2019

Table 2. Actions to be taken before, during and after CARIBE WAVE 19

3. PTWC PRODUCTS

The 1 March 2016, the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS) fully transitioned to the PTWC Enhanced Products. As of the second message, for earthquake generated tsunamis, these products are threat-based on tsunami wave forecasts, rather than on earthquake magnitude thresholds and travel time. Several levels of tsunami threat have been established, and forecast threat levels assigned to polygons representing segments of extended coastlines or to island groups. These improvements should greatly reduce the number of areas warned unnecessarily and provide some advance notice of potential local tsunamis. Details on the PTWC Enhanced Products for the CARIBE-EWS are provided in the *User's guide (for) the Pacific Tsunami Warning Center Enhanced Products for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS)* (IOC/2017/TS/135 REV.). For the Caribe Wave 19, threat messages and enhanced graphical products (for Panama scenario) of the chosen scenario by each Member State and Territory will be disseminated by email to officially designated TWFPs and NTWCs. These products have also been included in Annexes III and VI. It is up to each country and territory to decide if and how to disseminate messages within

its areas of responsibility.

The Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions at its Eleventh Session (ICG/CARIBE-EWS-XI/3) held from 5 to 7 April 2016 in Cartagena de Indias, Colombia, discussed about the volcanic unrest of Kick 'em Jenny during the week of 13 July 2015. The ICG also discussed about the potential of tsunami waves created by volcanic crises and the related response from warning centres, emergency management and public services, in particular with respect to the potential tsunami threat. In view of the complexity of the matter, Member States (MS) decided to create a dedicated Task Team (TT). MS further suggested that the ICG identify volcano observatories as the primary entities responsible for determining the potential of a volcano induced tsunami threat, and volcano observatories should work with the PTWC to determine the appropriate types of threat information products that volcano observatories would make available to emergency managers to convey this potential threat. In the case of Kick 'em Jenny, SRC is the corresponding volcano observatory responsible for monitoring and has been engaged for this exercise. The simulated messages prepared by the PTWC reflect these and more recent recommendations of the ICG/CARIBE-EWS. Through this exercise, Member States are encouraged to discuss potential tsunami generated from a volcanic eruption with their observatories, which are monitoring hazards in their states in order to better understand roles and responsibilities around potential volcanic events.

4. EXERCISE OUTLINE

4.1 GENERAL

Tsunami messages for this exercise are issued by the PTWC based on two hypothetical earthquakes with the following hypocentre parameters:

Kick 'em Jenny Earthquake Scenario:

Origin Time	14:00:00 UTC, 14March 2019
Latitude	12.342^{o}
Longitude	-61.658^{o}
Magnitude	6.0 – M_w
Depth	12.34 km

Panama Earthquake Scenario:

Origin Time	14:00:00 UTC, 14 March 2019
Latitude	10.00000^{o}N
Longitude	78.50000^{o}W
Magnitude	8.47 – M_w
Depth	25.1 km

Expected impacts for these events are determined from pre-computed tsunami forecast models for the Panama scenario, while Kick 'em Jenny messages are based on simulated communications with SRC and on modelling and studies conducted of this volcano. The models indicate significant tsunamis along many coasts in the Caribbean Sea. Annex III

provides the model results for the Panama scenario.

In the case of Panama scenario, the first simulated tsunami threat message issued by PTWC is based on the earthquake magnitude and location and the tsunami travel times. As of the second message is based on tsunami wave forecasts. Tsunami threat forecasts indicate the levels of threat that have been forecast and to which countries or places they apply. The levels are tsunami heights of 0.3–1 meter, 1–3 meters, and greater than 3 meters above the normal tide level are determined. The threat information is updated usually within an hour. All simulated products (text and graphical) for the scenario chosen by the country will be disseminated through email to the corresponding TWFPs and NTWCs. Further dissemination will be the responsibility of the corresponding national and local authorities.

The PTWC will not issue live messages over broadcast dissemination channels other than to issue initial dummy message to start the exercise the 14 March 2019 at 1400 UTC . The initial dummy message will be disseminated over all standard PTWC broadcast channels. The World Meteorological Organization (WMO) and Advanced Weather Interactive Processing System (AWIPS) headers to be used in the dummy message are listed in Table 3. Please note that the PTWC dummy messages are being issued with the WMO/AWIPS IDs WECA41 PHEB/TSUCAX. These are being issued to test communications with TWFPs and NTWCs, and to start the exercise. The content of the dummy messages is given in Annex V.

For Caribe Wave 19, each Member State needs to select one scenario. By 28 February 2019, they must inform of their selection the PTWC (charles.mccreery@noaa.gov and cindi.preller@noaa.gov) with a copy to the Caribbean Tsunami Warning Program (christa.vonh@noaa.gov). If the Member State does not inform the PTWC and CTWP, the organizers will decide for which scenario the PTWC will send the products. For the exercise, TWPF/ NTWC will receive only the simulated product for that scenario.

Centre	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	Fax	Email
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Product Types Issued for Dummy Message with Transmission Methods

NWWS NOAA Weather Wire Service

GTS Global Telecommunications System

EMWIN Emergency Managers Weather Information Network

AISR Aeronautical Information System Replacement

Participants should follow the schedule in Tables 4, 5 and 6 for each scenario to look at new messages. Those tables include the timelines for when messages would be issued by the PTWC if this were a real event, and can be used by EMOs to drive the exercise timing. The messages (as shown in Annex V) cover a period of time between 5 minutes and 7-hours from earthquake origin time, however in an actual event messages would likely continue for a much longer period of time.

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

their own set of envelopes. The messages, provided in Annex VI, will facilitate this approach.

EMOs can 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.

4.2 MASTER SCHEDULE (EXERCISE SCRIPT)

4.2.1 Kick 'em Jenny Scenario

Tsunami generated by a magnitude 6.0 earthquake with epicentre at 12.342ºN, 61.658ºW occurring the 14 March 2019 at 1400 UTC. The initial alert is disseminated at 1405 UTC.

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/14/19	**1400**	**- - - - E a r t h q u a k e O c c u r s - - - -**	
3/14/19	**1400**	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/14/19	**1405**	Tsunami Information Statement #1	Email
3/14/19	**1430**	Tsunami Threat Message #2	Email
3/14/19	**1500**	Tsunami Threat Message #3	Email
3/14/09	**1530**	Tsunami threat Message #4	Email
3/14/19	**1600**	Tsunami Threat Message #5	Email
3/14/19	**1630**	Final Tsunami Threat Message #6	Email

Table 4. Timeline Messages issued by PTWC

4.2.2 Panama Scenario

Tsunami generated by a magnitude 8.5 earthquake with epicentre at 10.0000ºN, 78.5000ºW occurring the 14 March 2019 at 1400 UTC. The initial alert is disseminated at 1406 UTC.

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/14/19	**1400**	**- - - - E a r t h q u a k e O c c u r s - - - -**	
3/14/19	**1400**	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/14/19	**1406**	Tsunami Threat Message #1	Email
3/14/19	**1425**	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/14/19	**1440**	Tsunami Threat Message #3	Email
3/14/19	**1500**	Tsunami Threat Message #4	Email
3/14/19	**1600**	Tsunami Threat Message #5	Email
3/14/19	**1700**	Tsunami Threat Message #6	Email
3/14/19	**1800**	Tsunami Threat Message #7	Email
3/14/19	**1900**	Tsunami Threat Message #8	Email
3/14/19	**2000**	Tsunami Threat Message #9	Email
3/14/19	**2100**	Tsunami Threat Message #10	Email
3/14/19	**2200**	Tsunami Threat Message #11	Email
3/14/19	**2300**	Final Tsunami Threat Message #12	Email

Table 5. Timeline Messages issued by PTWC

4.3 ACTIONS IN CASE OF EMERGENCY

In the case of a real event occurring during the exercise, the PTWC will issue the corresponding messages for the event. Such messages will be given full priority and a decision will be made by the PTWC whether to issue the Caribe Wave 19 dummy messages and to send email messages to corresponding recipients. In the case of smaller earthquakes, PTWC will issue the corresponding Tsunami Information Statement and the exercise will not be disrupted. All documentation and correspondence relating to this exercise is to be clearly identified as "**CARIBE WAVE 19"** and "**Exercise**."

4.4 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 the members of the Caribe Wave 19 Task Team (Table 6).

4.5 COMMUNITY REGISTRATION

For Caribe Wave 19, the ICG/CARIBE-EWS has teamed up with TsunamiZone.org for online

registration. Under the Caribbean Zone Region tab, participants will be able to sign up and choose among the following community categories: individuals, businesses, schools, faith-based organizations, community groups, government agencies, individuals. The link for registration is the following: http://tsunamizone.org/caribbean. After registering, the participant will receive a confirmation email. If desired, participants can also opt to be listed in the "Who is participating?" Section of the TsunamiZone website, along with participants in tsunami preparedness activities worldwide. The EMOs will thus have real time access to the status of registration of participants within their areas of responsibility. EMOs are encouraged to promote this registration system.

4.6 MEDIA ARRANGEMENTS

One advantage in conducting exercises is that it provides a venue to promote tsunami awareness. Many residents along the CARIBE-EWS coast may not realize that a regional tsunami warning system exists, nor that national authorities have protocols in place to issue tsunami alerts, let alone the proper response for individuals. Therefore, communities may wish to invite their local media to the exercise and promote the awareness of the local tsunami hazard and protocols. Within all Member States, the media can also provide support in building awareness leading up to the exercise and avoid false alarms. Media should be provided with available informational brochures prepared by the local, regional and international agencies. It is also a good opportunity to distribute or prepare Media guides like that of the Puerto Rico Seismic Network (PRSN) (http://www.prsn.uprm.edu/mediakit/) and the Seismic Research Centre (http://www.uwiseismic.com) as additional guidance. Annex VII contains a sample press release, which can be adapted as necessary.

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Table 6. Members of the CARIBE WAVE 19 Task Team

Social media has been recognized as a very important means for disseminating tsunami information and products. CARIBE-EWS countries and territories are encouraged to share information on the exercise Caribe Wave 19 through this medium. Furthermore, it is requested that the hashtag **#CARIBEWAVE**, be used by the participants before and during the exercise.

4.7 PROCEDURE FOR FALSE ALARM

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

5. POST-EXERCISE EVALUATION

Each ICG/CARIBE-EWS Member State and territory is requested to provide feedback on the exercise. This feedback will assist the evaluation of Caribe Wave 19 and the development of subsequent exercises. It will also help response agencies to document lessons learned and lead to improvements of the national systems. To facilitate feedback, the online evaluation survey can be accessed at the following link: https://www.surveymonkey.com/r/CaribeWave19. Deadline for completing the evaluation is **29 March 2019.**

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ANNEX I

STANDARD OPERATING PROCEDURES

END-TO-END TSUNAMI WARNING for Tsunami Warning Focal Points and Tsunami Emergency Response Operations– AN OVERVIEW

September 2008 (updated 2012)
UNESCO-IOC Tsunami Unit (Paris) with ITIC (Hawaii)

This overview summarizes an end-to-end tsunami warning. In event time, it covers activities for monitoring, detection, threat evaluation and warning, alert dissemination, emergency response, and public action. An effective tsunami warning system is achieved when all people in vulnerable coastal communities are prepared to respond appropriately and in a timely manner upon recognizing that a potential destructive tsunami may be approaching. Meeting this challenge requires round-the-clock monitoring with real-time data streams and rapid alerting, as well as prepared communities, a strong emergency management system, and close and effective cooperation and coordination between all stakeholders. To warn without preparing, and further, to warn without providing a public safety message that is understandable to every person about what to do and where to go, is clearly useless. While alerts are the technical trigger for warning, any system will ultimately be judged by its ability to save lives, and by whether people move out of harm's way before a big tsunami hits. Towards these ends, education and awareness are clearly essential activities for successful early warning.

An end-to-end tsunami warning involves a number of stakeholders who must be able to work together and with good understanding of each other's roles, responsibilities, authorities, and action during a tsunami event. Planning and preparedness, and practicing in advance of the real event, helps to familiarize agencies and their staff with the steps and decision-making that need to be carried out without hesitation in a real emergency. Tsunami resilience is built upon a community's preparedness in tsunami knowledge, planning, warning, and awareness. All responding stakeholders should have a basic understanding of earthquake and tsunami science, and be familiar with warning concepts, detection, threat evaluation, and alerting methods, and emergency response and evacuation operations. The key components, requirements, and operations to enable an effective and timely warning and evacuation are covered in the following topics of end to-end tsunami warning:

- Tsunami Science and Hazard Assessment,
- Tsunami Risk Reduction Strategy and community-based disaster risk management,
- Stakeholders, Roles & Responsibilities, and Standard Operating Procedures (SOPs) and their Linkages,
- End-to-end Tsunami Response and SOPs,
- Tsunami Warning Focal Point (TWFP) and National Tsunami Warning Centre (NTWC) operations,
- Tsunami Emergency Response (TER) operations,
- Public Alerting,
- The Role of Media,
- Evacuation and Signage,

- Use of Exercises to Build Preparedness,
- Awareness and Education.

To ensure the long-term sustainability of a tsunami warning system, it should be noted that:

- Tsunamis should be part of an all-hazards (natural and anthropogenic) strategy.
- System redundancy is required to ensure reliability.
- Clearly understood TWFP/TWC and TER public safety messages are essential. Media partnerships for warning, as well as preparedness, are important.
- Awareness must be continuous forever. Tsunamis are low frequency, high impact natural disasters that are also unpredictable.
- National, provincial, and local Tsunami Coordination Committees ensure stakeholder coordination and implementation of the end-to-end tsunami warning.

For specific details and algorithms and for actual descriptions of tsunami warning and emergency response operations, including data networks and data collection, methods of evaluation and criteria for action, products issued and methods of communication of alerts, and evacuation, original source references or plans should be consulted. These are the high-level system descriptions or concepts of operation, agency operations manuals, and user's guides of each regional and national system.

Basic references providing a comprehensive summary on tsunami warning centre and emergency response operations considerations are:

- ITIC IOC Manual on Tsunami Warning Centre Standard Operating Procedures (Guidance and Samples), version 2010 (distributed as part of 2013 SOP capacity building).
- ITIC IOC Manual on Tsunami Emergency Response Standard Operating Procedures (Guidance and Samples), version 2010 (distributed as part of 2013 SOP capacity building)

For a description of the Caribbean tsunami warning system, consult the *User's guide (for) the Pacific Tsunami Warning Center Enhanced Products for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS)* (version 2.0 October, 2017). This document is available at UNESDOC (click here) and on the website of the CWP (http://caribewave.info).

TRAINING

In order to assist countries in strengthening their warning systems, the IOC has compiled and developed a Training Manual in close partnership with ITIC. It contains references, best practices, decision support tools, and guidance materials summarizing key components, requirements, and operations to enable an effective and timely warning and evacuation against tsunamis.

The Manual includes session plans, lectures (in PowerPoint), exercises, and multimedia materials. Together, they represent part of the IOC's collaborative contribution to national capacity building and training on end-to-end tsunami warning and tsunami standard operating procedures to countries of the Indian Ocean, Pacific, Southeast Asia, and the Caribbean. For

more information, please contact Laura Kong, Director of ITIC (laura.kong@noaa.gov), Bernardo Aliaga, Technical Secretary, UNESCO-IOC (b.aliaga@unesco.org), Christa von Hillebrandt, US NWS Caribbean Tsunami Warning Program (christa.vonh@noaa.gov), or Alison Brome, Director of CTIC (a.brome@unesco.org). The tables presented below can be used as a guide for preparing the timeline for the exercise.

Tsunami Evacuation Responsibilities Checklist for Government Disaster Response Agencies		
This is a simple checklist to use when doing an evacuation. List the agency(ies) / department(s) responsible for actions and recommended number of minutes (e.g. +10 minutes) after earthquake origin time.	Earthquake Origin Time: 0000	
	Agency(ies) / Department(s):	Time (mins):
Strong and/or long duration earthquake is felt (vary depending distance from source)	_____ _____	+ __
Tsunami message received from tsunami service provider (NTWCs)	_____ _____	+ __
Call in staff	_____ _____	+ __
Activate emergency centres / Notify public safety agencies	_____ _____	+ __
Coordinate sounding of public sirens and alarm notifications	_____ _____	+ __
Initiate media notifications and evacuation announcements	_____ _____	+ __
Initiate evacuation of people away from coast (Tsunami Evacuation Maps)	_____ _____	+ __
Put boats/ships out to sea if wave impact time permits	_____ _____	+ __
Setup road-blocks and evacuation routes	_____ _____	+ __
Guide people through traffic points to shelter	_____ _____	+ __
Initiate recall of disaster response workers	_____ _____	+ __
Open and operate refuge centres	_____ _____	+ __
Prepare to start electrical generators	_____ _____	+ __
If your facility is located in a tsunami evacuation zone: -Prepare to shut off utilities (e.g. electrical, gas, water) -Protect key equipment (e.g. computers) -Remove key documents (e.g. financial, personal information)	_____ _____	+ __
Determine if tsunami has caused coastal damage / injuries and the need to initiate search and rescue operations	_____ _____	+ __
Determine when to declare the “all clear”		

Tsunami Evacuation Responsibilities Checklist for Government Disaster Response Agencies		
This is a simple checklist to use when doing an evacuation. List the agency(ies) / department(s) responsible for actions and recommended number of minutes (e.g. +10 minutes) after earthquake origin time.	Earthquake Origin Time: 0000	
	Agency(ies) / Department(s):	Time (mins):
	_____ _____	+ __
Prepare for post tsunami impact operations	_____	+ __
Do roll call for workers ___ and volunteers	_____	+ __

Table I–1. Table to be used as a guide the timing, actions, authority, communication means and target audiences for a tsunami event.

ANNEX II

REVIEW GUIDELINES: HOW TO PREPARE, CONDUCT AND EVALUATE A COMMUNITY-BASED TSUNAMI RESPONSE EXERCISE

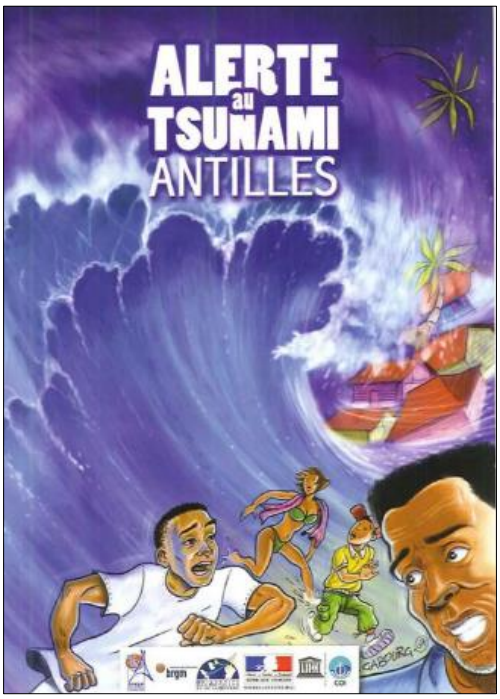


Figure II–1. *Methodological guidelines: How to prepare, conduct and evaluate a community-based tsunami response exercise* (Guide available in English and French, http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=19139).

This guide is recommended for Member States to consider Caribe Wave Exercises. It provides community leaders to conduct and evaluate a tsunami evacuation exercise with a methodology and tools. It is particularly relevant for bodies that would be directly exposed to the effects of a tsunami such as local government, schools, associations, and businesses. The guide is divided into three chapters that focuses on the knowledge of the tsunami as a hazard, on establishing multi-annual programme of exercises, and on the preparedness for conducting a tsunami evacuation exercises. A progressive approach is suggested to allow the guide's target audience to develop multi-annual exercises. This can be done by progressing relatively simply designed exercises that is crucial for selecting the most suited type of exercise to achieve the objectives set, while taking account of a community's existing level of readiness. The first phase is to conduct a tabletop exercise, this is appropriate if the objective is to raise awareness among a teaching team within a school setting about related dangers caused by a tsunami, and to teach people about the counter-measures they should take to make their classroom safe. The second phase takes account of lessons learned during the tabletop exercise and enables a partial tsunami evacuation exercise to be developed. In the third phase, community leaders could design an exercise in which the objective would be for a school community to evacuate to a predetermined safe location in less than 15 minutes. This guide aims to encourage a shared culture of exercises to develop between the municipal authorities tasked with ensuring the safety of those living in their area and community leaders – stakeholders in the social and economic life of the area.

ANNEX III

TSUNAMI SOURCE SCENARIOS DESCRIPTION

Kick ‘em Jenny Earthquake Scenario

For the Kick-‘em-Jenny scenario, a M 6.0 point source was used, therefore no other earthquake source parameters were required.

Panama Earthquake Scenario

The following scenario use a standard format to define the tsunami sources as described in the Figure III–1 below. Each fault segment is defined by 4 corner points where point A is the lower left corner of the fault plane. Line segment A–D indicates the downdip bottom rectangular source area, whereas line B–C is the top portion of the rupture plane that is nearest to the sea-floor surface. Letters W and L represents the width and length of the plane, respectively. Letter W_{ap} represents apparent width and applies to the dimensions when observed the fault plane in map view.

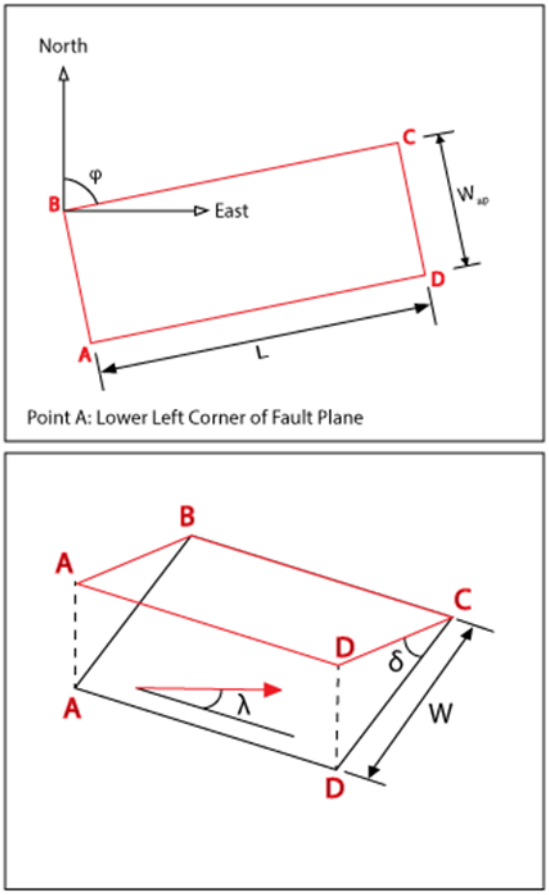


Figure III–1. Schematic of the standard used to describe all fault planes in the Caribe Wave Exercise scenarios

The Panama earthquake scenario consists of a rupture of a fault segment along the southwestern portion of the Caribbean Sea with hypocentre at:

- Name of Scenario: Caribe Wave 19 Panama Scenario
- EQ Origin Time: 1400 UTC
- Hypocentre Longitude: 78.5ºW
- Hypocentre Latitude: 10.0ºN
- Hypocentre Depth (km): 25.1 km
- EQ Magnitude (M_w): 8.47
- Slip (m): 8.00 m
- Shear modulus: 3.3x1011 dyne/cm^2
- Seismic Moment: 0.6336E+29 dyne-cm

Corner Point A	
Latitude	9.903166º
Longitude	-79.66084º
Depth (km)	50
Corner Point B	
Latitude	10.65546º
Longitude	-79.45615º
Depth (km)	0.10

Corner Point C	
Latitude	10.09683º
Longitude	-77.33916º
Depth (km)	0.10
Corner Point D	
Latitude	9.344538º
Longitude	-77.54385º
Depth (km)	50

Other Fault Parameters	
Strike (ϕ phi)	105º
Dip (δ delta)	30º
Rake (λ lambda)	90º
Length (km)	240
Width (W in km)	100 km
Width in Map View (km) [$W_{ap} = W * \cos(\text{delta})$]	86.60 km

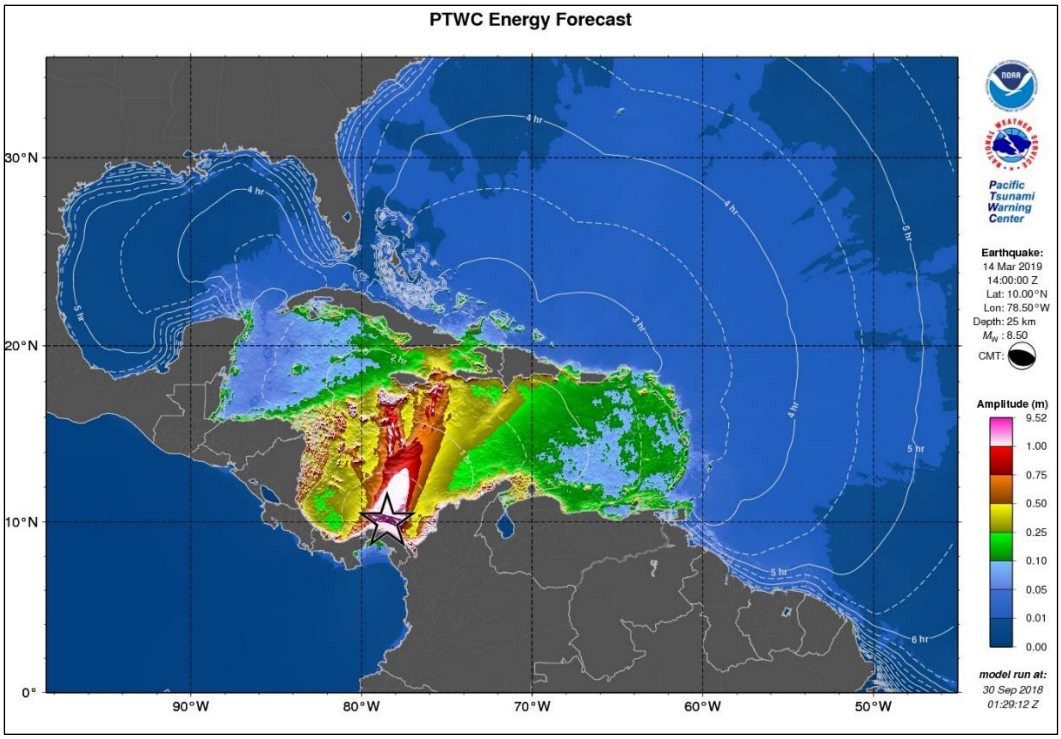


Figure III–2. RIFT maximum amplitude map for the Caribbean and adjacent regions for the Panama scenario. During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

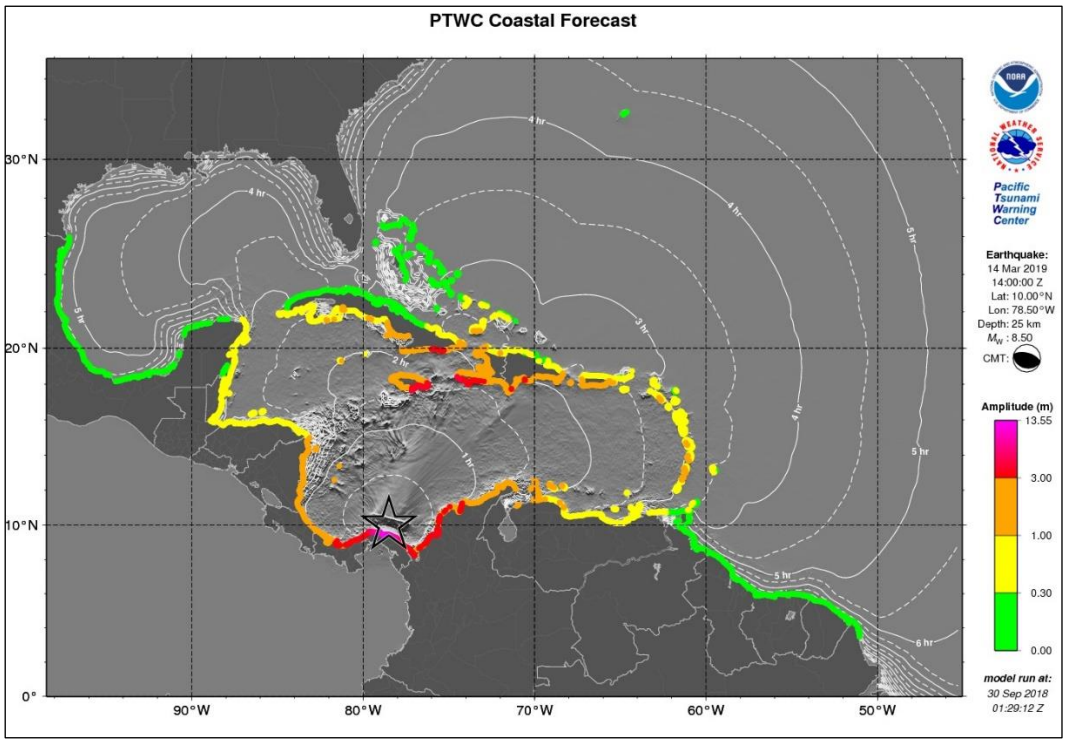


Figure III–3. RIFT coastal tsunami amplitude map for the Caribbean and adjacent regions for the Panama scenario. During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

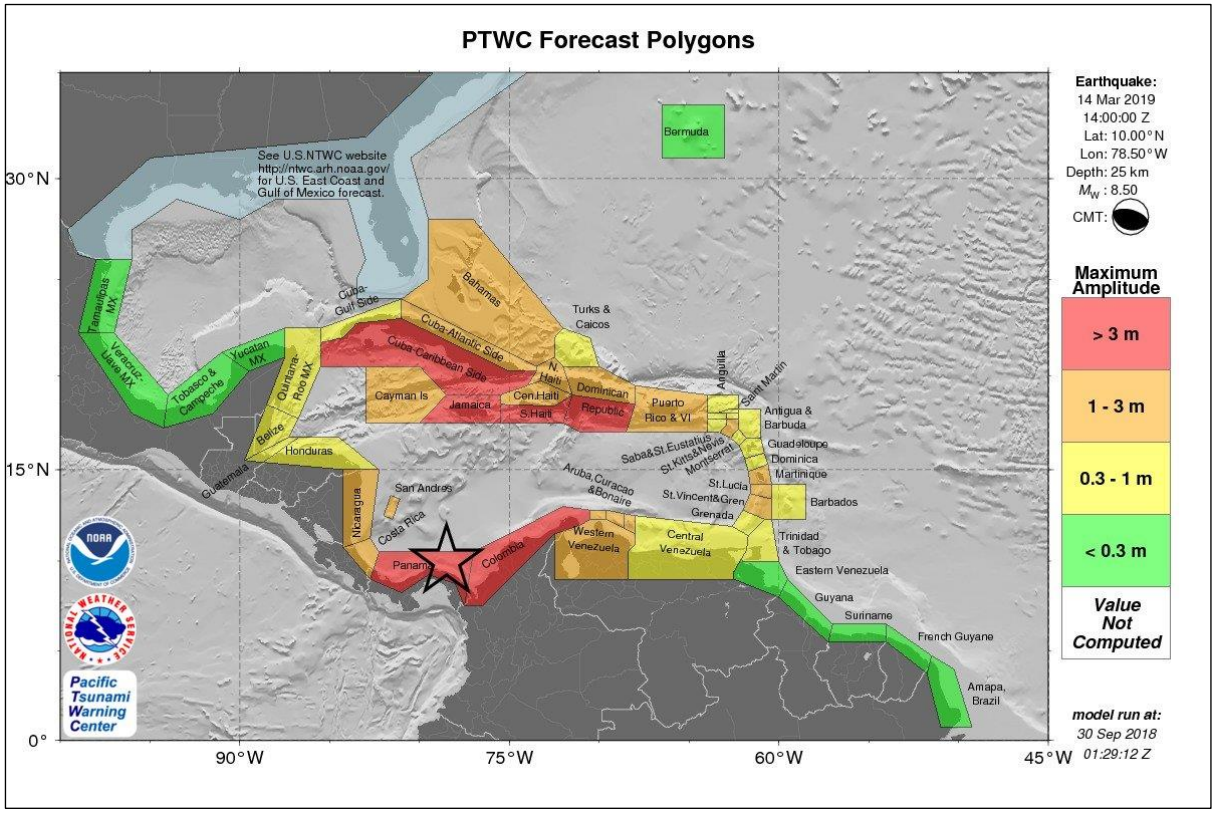


Figure III–4. RIFT forecast polygons for the Caribbean and Adjacent Regions for the Panama scenario. During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

ANNEX IV

EARTHQUAKE IMPACT SCENARIOS

When planning for a tsunami it is important to also take into consideration the potential earthquake impact in areas close to the source, as these impacts can affect tsunami response and increase the tsunami impact by hindering evacuation and contributing debris to be carried by the waves. For earthquake impact, the USGS has developed ShakeMap and the Prompt Assessment of Global Earthquakes for Response (PAGER). The main purpose of ShakeMap is to display the levels of ground shaking produced by the earthquake. The ground shaking events levels in the region are studied depending on the magnitude of the earthquake, the distance from the earthquake source, rock and soil behaviour in the region, and propagation of the seismic waves through the Earth's crust. Based on the output of ShakeMap, PAGER estimates the population exposed to earthquake shaking, fatalities and economic losses.

Earthquake event

The input information for ShakeMap and PAGER are the four corners of the boxes from the fault plane and the depths at each of these four corners. For the case of Caribe Wave 19, the fault plane is represented by one segment for each of scenarios. For Kick 'em Jenny a point source was used. The Panama fault plane is 240 km long and 100 km wide.

Figures IV–1, IV–2, IV–3, and IV–4 show ShakeMap and PAGER outputs for the Caribe Wave 19 earthquake scenarios.

For the Kick 'em Jenny scenario the ShakeMap show intensities up to VI on the Mercalli Modified Scale (Figure IV–1). The strongest ground shaking is predicted Grenada. According to the ShakeMap for the Panama scenario (Figure IV–3), intensities of up to VII on the Mercalli Modified Scale could be observed. The strongest ground shaking is predicted near Panama and Colombia, while to the west on Costa Rica, the ground shaking is moderate.

According to PAGER, (Figures IV–2 and IV–4) the Caribe Wave 19 simulated earthquakes would produce earthquake shaking yellow alert for Kick 'em Jenny scenario and red alert for the Panama scenario. For the Kick 'em Jenny scenario, fatalities and economic losses localized could be expected, but in a moderate manner. For the Panama scenario, fatalities and extensive economic losses are estimated for the northern coast of Panama.

Regarding population exposed to earthquake shaking, it is estimated that almost ~91,000 people for Kick 'em Jenny scenario and almost 1,303,000 people for Panama scenario would be exposed to Modified Mercalli intensities from V up to VII (according to pager).

Kick ‘em Jenny Earthquake scenario:

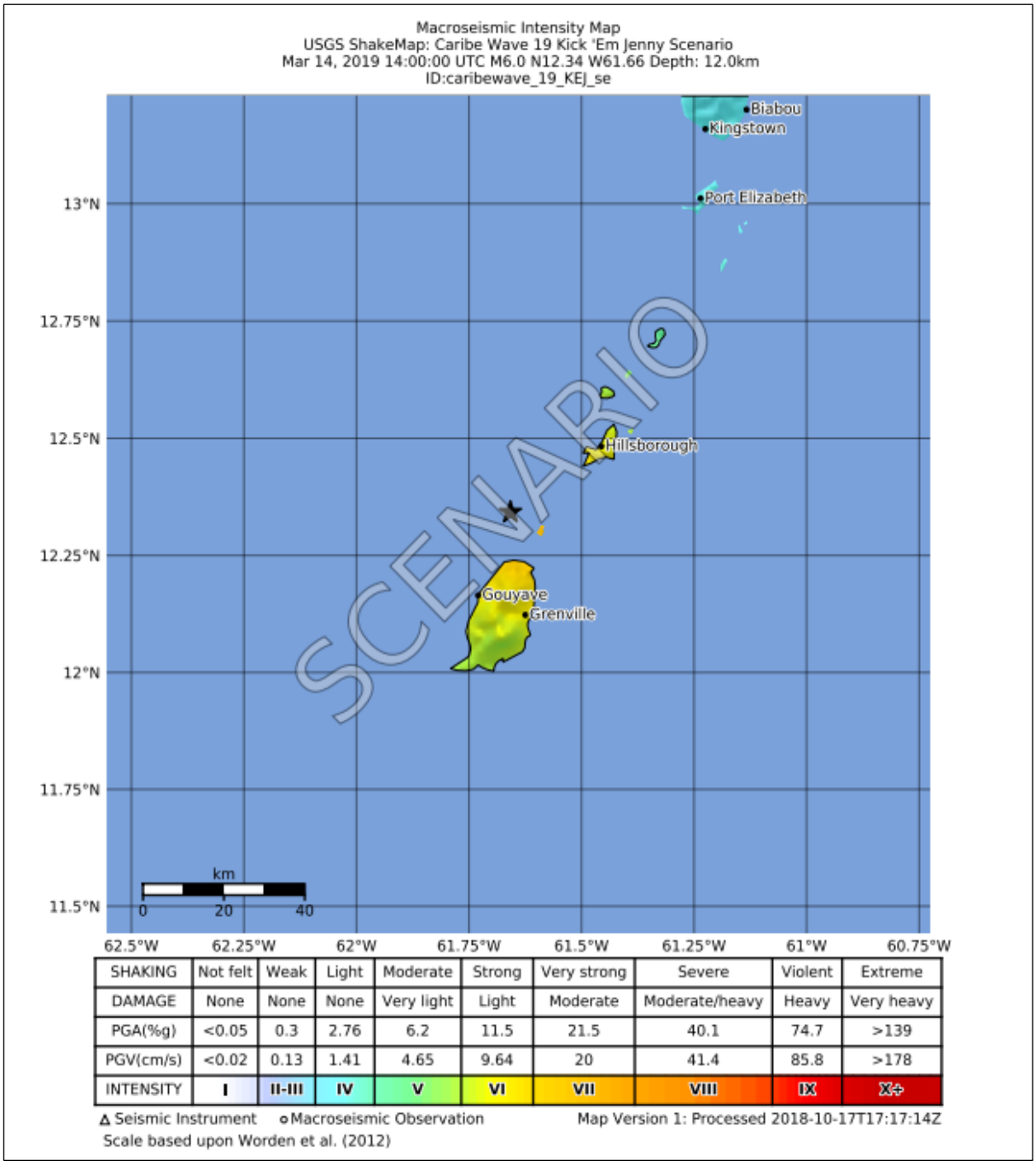


Figure IV–1. ShakeMap output for the Caribe Wave 19 Kick-‘em-Jenny earthquake scenario (USGS)

USGS science for a changing world

Earthquake Shaking: Yellow Alert

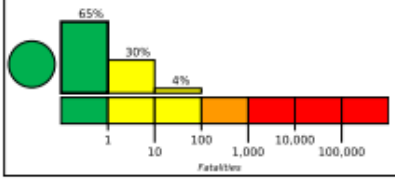
USAID FROM THE AMERICAN PEOPLE

M 6.0, Caribe Wave 19 Kick 'Em Jenny Scenario

Origin Time: 2019-03-14 14:00:00 UTC (Thu 10:00:00 local)
Location: 12.3420° N 61.6580° W Depth: 12.0 km

PAGER Version 1

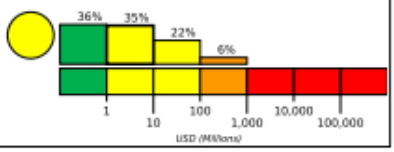
Estimated Fatalities



Yellow alert for economic losses. Some damage is possible and the impact should be relatively localized. Estimated economic losses are less than 1% of GDP of Grenada. Past events with this alert level have required a local or regional level response.

Green alert for shaking-related fatalities. There is a low likelihood of casualties.

Estimated Economic Losses

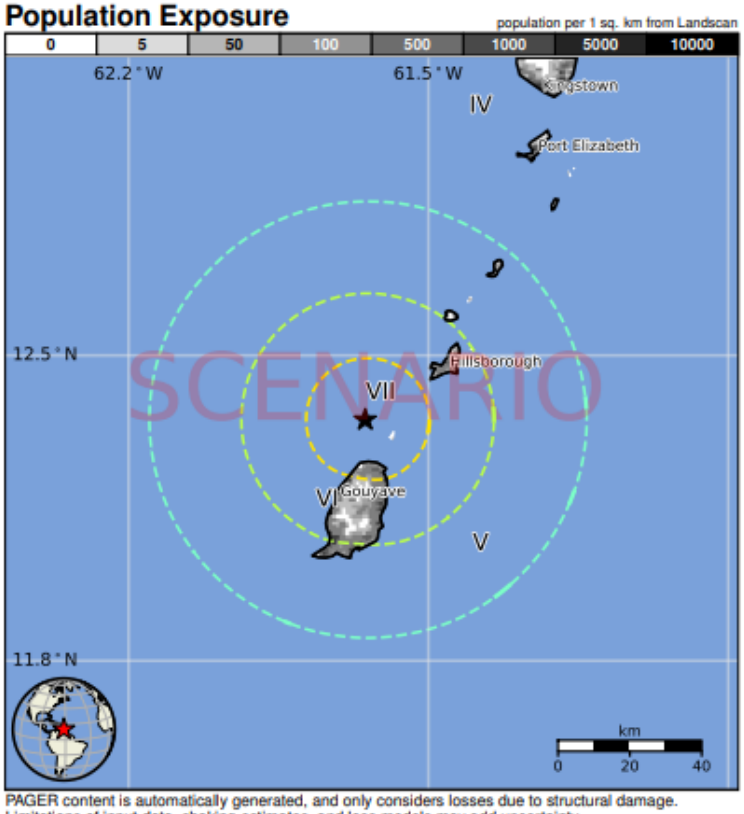


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	–*	73k	13k	91k	11k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are rubble/field stone masonry and unknown/miscellaneous types construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
2004-11-21	370	6.3	VII(3k)	1
1986-06-11	239	6.2	IX(6k)	2
1997-07-09	292	6.9	VIII(8k)	81

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Sauteurs	1k
VI	Victoria	2k
VI	**Gouyave**	**3k**
VI	Grenville	2k
VI	**Hillsborough**	**1k**
VI	Saint George's	8k
VI	Saint David's	1k
IV	**Port Elizabeth**	**1k**
IV	**Kingstown**	**25k**
IV	Layou	0
IV	Kingstown Park	18k

bold cities appear on map. (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
http://earthquake.usgs.gov/data/pager/

Event ID: uscaribewave_19_KEJ_se

Figure IV–2. PAGER output for Caribe Wave 19 Kick 'em-Jenny earthquake scenario (USGS)

Panama Earthquake scenario:

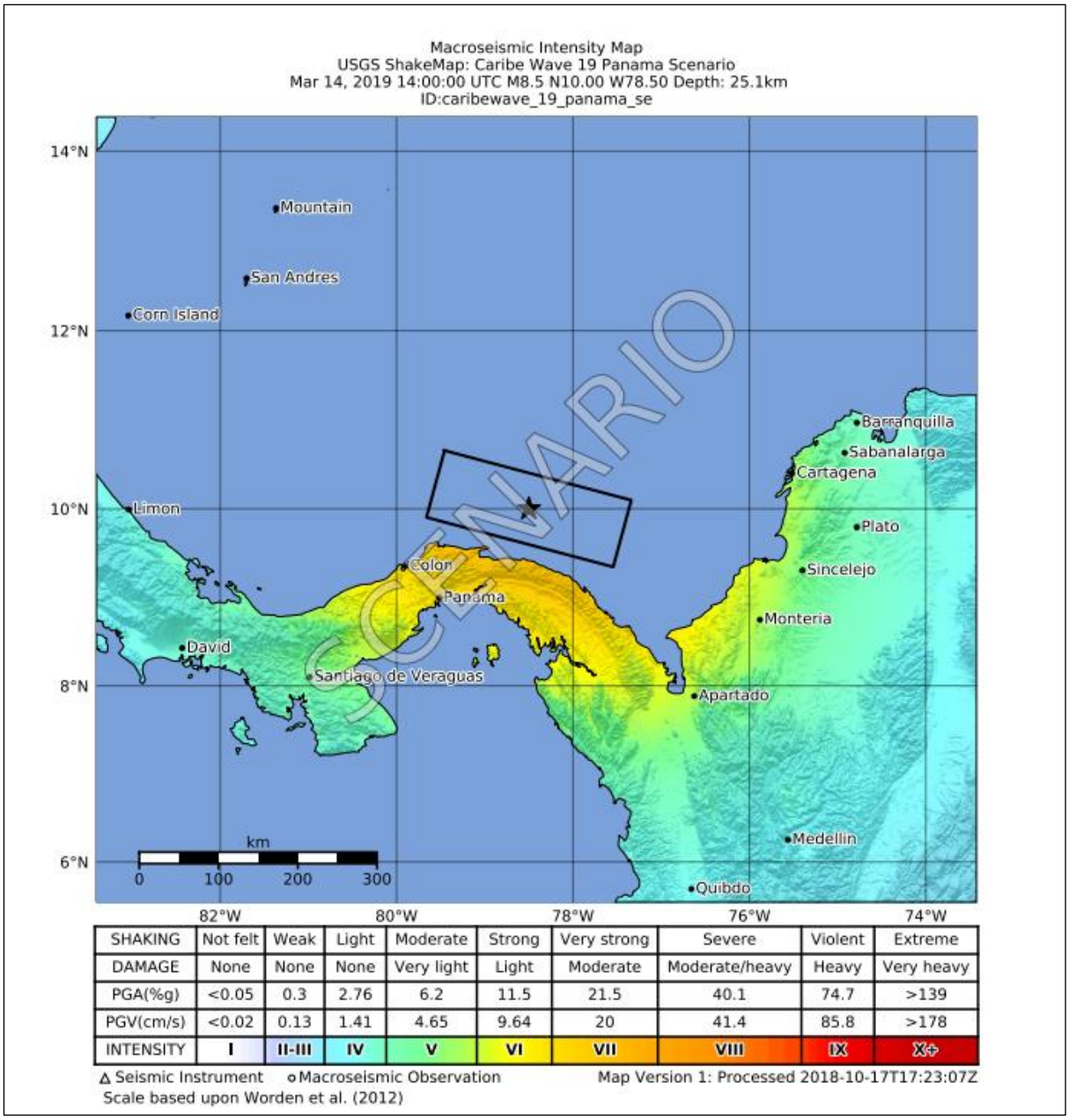


Figure IV–3. ShakeMap output for the Caribe Wave 19 Panama earthquake scenario (USGS)

USGS science for a changing world

Earthquake Shaking — Red Alert

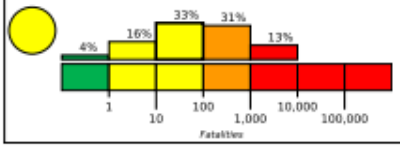
USAID FROM THE AMERICAN PEOPLE

M 8.5, Caribe Wave 19 Panama Scenario

Origin Time: 2019-03-14 14:00:00 UTC (Thu 09:00:00 local)
Location: 10.0000° N 78.5000° W Depth: 25.1 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

PAGER Version 1

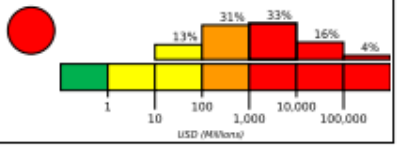
Estimated Fatalities



Red alert for economic losses. Extensive damage is probable and the disaster is likely widespread. Estimated economic losses are 0-8% GDP of Panama. Past events with this alert level have required a national or international level response.

Yellow alert for shaking-related fatalities. Some casualties are possible.

Estimated Economic Losses

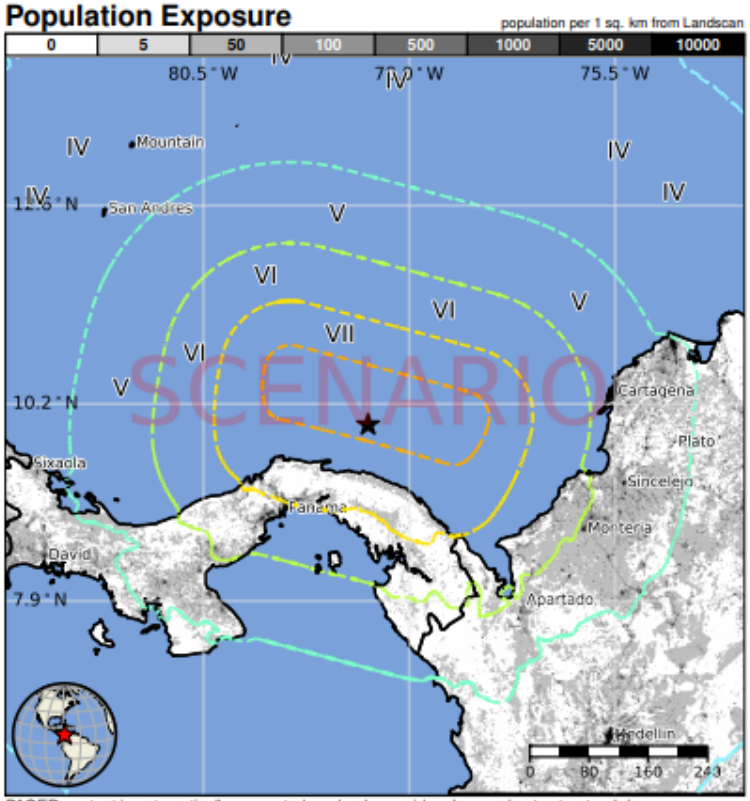


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	400k*	9,562k*	7,700k	1,903k	1,303k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
http://earthquake.usgs.gov/data/pager/

Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are mud wall and informal (metal, timber, GI etc.) construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
2000-11-08	332	6.5	VII(3k)	0
1977-08-31	391	6.5	IX(4k)	3
1974-07-13	269	7.3	IX(2k)	11

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Nargana	1k
VII	El Porvenir	0
VII	Playa Chiquita	<1k
VII	Santa Isabel	<1k
VII	Viento Frio	<1k
VII	Palmira	<1k
VI	**Panama**	**408k**
V	**Cartagena**	**952k**
IV	Barranquilla	1,380k
IV	Santa Marta	432k
IV	**Medellin**	**2,000k**

bold cities appear on map. (k = x1000)

Event ID: uscaribewave_19_panama_se

Figure IV-4. PAGER output for Caribe Wave 19 Panama earthquake scenario (USGS)

ANNEX V

TWC DUMMY (START OF EXERCISE) MESSAGES

PTWC

WECA41 PHEB 141400

TSUCAX

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST

NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS

ISSUED AT 1400Z 14 MAR 2019

...TEST... CARIBE WAVE 19 TSUNAMI EXERCISE DUMMY MESSAGE.

REFER TO THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY. TEST...

THIS MESSAGE IS BEING USED TO START THE CARIBE WAVE 19

TSUNAMI EXERCISE AND TEST COMMUNICATIONS WITH UNESCO IOC CARIBE

EWS NTWCS AND TWFPS. THIS WILL BE THE ONLY EXERCISE MESSAGE

BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER EXCLUDING

SPECIAL EMAIL MESSAGES DISCUSSED IN THE HANDBOOK. THE HANDBOOK

IS AVAILABLE AT THE WEB SITE CARIBEWAVE.INFO. THE EXERCISE

PURPOSE IS TO EXERCISE AND EVALUATE THE CARIBE EWS TSUNAMI

WARNING SYSTEM.

$$

ANNEX VI

TWC EXERCISE MESSAGES

Kick ‘em Jenny Scenario

The following messages created for the Caribe Wave 19 tsunami exercises have been prepared to evaluate tsunami services and products for volcanic events. The initial message is similar to the standard product issued by the PTWC for a magnitude 6.0 earthquake originating north of Grenada. The subsequent messages are proposed for volcanic events and are based on discussions and recommendations of ICG/CARIBE-EWS for tsunamis from volcanic events.

PTWC Message #1

ZCZC
WECA43 PHEB 141405
TIBCAX

TEST...TSUNAMI INFORMATION STATEMENT NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1405 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI INFORMATION STATEMENT TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
---

* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE.
  THE PRELIMINARY LOCATION OF THIS EARTHQUAKE IS NEAR KICK-EM-JENNY VOLCANO. THE SEISMIC RESEARCH CENTRE OF THE UNIVERSITY OF THE WEST INDIES HAS RECENTLY BEEN REPORTING THAT THIS VOLCANO IS EXHIBITING ELEVATED SIGNS OF UNREST.

* THIS IS A TEST MESSAGE.
  BASED ON ALL AVAILABLE DATA... THERE IS NO SIGNIFICANT TSUNAMI THREAT FROM THE EARTHQUAKE. HOWEVER... THERE IS A SMALL POSSIBILITY OF TSUNAMI WAVES ALONG CARIBBEAN COASTS LOCATED NEAREST THE EPICENTER... PARTICULARLY IF THE EARTHQUAKE IS ASSOCIATED WITH AN ERUPTION OF THE VOLCANO.

TEST...RECOMMENDED ACTIONS...TEST
---
* THIS IS A TEST MESSAGE.
NO ACTION IS REQUIRED.

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST
---
* THIS IS A TEST MESSAGE.
THIS WILL BE THE ONLY STATEMENT ISSUED FOR THIS EVENT UNLESS ADDITIONAL DATA ARE RECEIVED OR THE SITUATION CHANGES.

* THIS IS A TEST MESSAGE.
AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

$$

PTWC Message #2

ZCZC
WECA41 PHEB 141430
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1430 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TEST TSUNAMI THREAT MESSAGE TEST TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
---

* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE.
  TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE.
  ASSOCIATED WITH THIS EARTHQUAKE... THE UWI SEISMIC RESEARCH CENTRE REPORTS A SIGNIFICANT ERUPTION OF KICK-EM-JENNY VOLCANO THAT BEGAN AROUND 1400 UTC ON MAR 14 2019 AND IS CONTINUING.

* THIS IS A TEST MESSAGE.
  THIS ERUPTION MAY PRODUCE HAZARDOUS TSUNAMI WAVES ALONG SOME COASTAL AREAS LOCATED NEAR KICK-EM-JENNY VOLCANO. IT IS NOT

POSSIBLE HOWEVER... TO FORECAST THE AFFECTED COASTS NOR THE TSUNAMI AMPLITUDES.

* THIS IS A TEST MESSAGE.
THE TSUNAMI THREAT WILL CONTINUE UNTIL THE VOLCANIC ACTIVITY HAS ENDED OR IS SUFFICIENTLY DIMINISHED... AND SEA LEVEL READINGS ARE BELOW THREAT LEVELS.

TEST...RECOMMENDED ACTIONS...TEST

* THIS IS A TEST MESSAGE.
GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

TEST...ESTIMATED TIMES OF ARRIVAL...TEST

* THIS IS A TEST MESSAGE.
ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREE HOURS TSUNAMI TRAVEL TIME. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1413 03/14
SAINT GEORGES	GRENADA	12.0N 61.8W	1414 03/14
CASTRIES	SAINT LUCIA	14.0N 61.0W	1422 03/14
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1427 03/14
ROSEAU	DOMINICA	15.3N 61.4W	1436 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1439 03/14
BRIDGETOWN	BARBADOS	13.1N 59.6W	1444 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1445 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1503 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1513 03/14
ONIMA	BONAIRE	12.3N 68.3W	1514 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1516 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1517 03/14
SABA	SABA	17.6N 63.2W	1518 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1521 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1527 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1530 03/14
PALMETTO POINT	BARBUDA	17.6N 61.9W	1537 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1537 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1537 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1538 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1539 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1547 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1550 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1552 03/14

ANEGADA	BR VIRGIN IS	18.8N 64.3W	1552 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1555 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1555 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1556 03/14
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1557 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1600 03/14
JACAMEL	HAITI	18.1N 72.5W	1605 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1612 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1615 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1617 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1618 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1621 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1627 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1632 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1634 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1643 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1644 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1644 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1646 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1647 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1650 03/14
BARACOA	CUBA	20.4N 74.5W	1652 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1652 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1657 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1700 03/14
ALIGANDI	PANAMA	9.2N 78.0W	1701 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1702 03/14

TEST...POTENTIAL IMPACTS...TEST

---

* THIS IS A TEST MESSAGE.
  A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE.
  PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST...TSUNAMI OBSERVATIONS...TEST

---

* THIS IS A TEST MESSAGE.
  THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED

LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
CALLIAQUA VC	13.1N 61.2W	1424	0.86M/ 2.8FT	16

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST

* THIS IS A TEST MESSAGE.
  THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
  FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

$$

PTWC Message #3

ZCZC
WECA41 PHEB 141500
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 3...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
---

* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE.
  TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE.
  ASSOCIATED WITH THIS EARTHQUAKE... THE UWI SEISMIC RESEARCH CENTRE REPORTS A SIGNIFICANT ERUPTION OF KICK-EM-JENNY VOLCANO THAT BEGAN AROUND 1400 UTC ON MAR 14 2019 AND IS CONTINUING.

* THIS IS A TEST MESSAGE.
  THIS ERUPTION MAY PRODUCE HAZARDOUS TSUNAMI WAVES ALONG SOME COASTAL AREAS LOCATED NEAR KICK-EM-JENNY VOLCANO. IT IS NOT

POSSIBLE HOWEVER... TO FORECAST THE AFFECTED COASTS NOR THE TSUNAMI AMPLITUDES.

* THIS IS A TEST MESSAGE.
THE TSUNAMI THREAT WILL CONTINUE UNTIL THE VOLCANIC ACTIVITY HAS ENDED OR IS SUFFICIENTLY DIMINISHED... AND SEA LEVEL READINGS ARE BELOW THREAT LEVELS.

TEST...RECOMMENDED ACTIONS...TEST

* THIS IS A TEST MESSAGE.
GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

TEST...ESTIMATED TIMES OF ARRIVAL...TEST

* THIS IS A TEST MESSAGE.
ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREE HOURS TSUNAMI TRAVEL TIME. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1413 03/14
SAINT GEORGES	GRENADA	12.0N 61.8W	1414 03/14
CASTRIES	SAINT LUCIA	14.0N 61.0W	1422 03/14
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1427 03/14
ROSEAU	DOMINICA	15.3N 61.4W	1436 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1439 03/14
BRIDGETOWN	BARBADOS	13.1N 59.6W	1444 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1445 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1503 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1513 03/14
ONIMA	BONAIRE	12.3N 68.3W	1514 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1516 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1517 03/14
SABA	SABA	17.6N 63.2W	1518 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1521 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1527 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1530 03/14
PALMETTO POINT	BARBUDA	17.6N 61.9W	1537 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1537 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1537 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1538 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1539 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1547 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1550 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1552 03/14

ANEGADA	BR VIRGIN IS	18.8N 64.3W	1552 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1555 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1555 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1556 03/14
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1557 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1600 03/14
JACAMEL	HAITI	18.1N 72.5W	1605 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1612 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1615 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1617 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1618 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1621 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1627 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1632 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1634 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1643 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1644 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1644 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1646 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1647 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1650 03/14
BARACOA	CUBA	20.4N 74.5W	1652 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1652 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1657 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1700 03/14
ALIGANDI	PANAMA	9.2N 78.0W	1701 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1702 03/14

TEST...POTENTIAL IMPACTS...TEST
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* THIS IS A TEST MESSAGE.
  A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE.
  PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST...TSUNAMI OBSERVATIONS...TEST
---

* THIS IS A TEST MESSAGE.
  THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED

LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
GANTERS BAY ST LUCI	14.0N	61.0W	1459	0.47M/ 1.5FT	20
MARIGOT DM	15.5N	61.3W	1457	0.16M/ 0.5FT	22
BRIDGEPORT BB	13.1N	59.6W	1455	0.18M/ 0.6FT	22
PORT ST CHARLES BB	13.3N	59.6W	1452	0.21M/ 0.7FT	16
PORTSMOUTH DM	15.6N	61.5W	1451	0.45M/ 1.5FT	24
ROSEAU DM	15.3N	61.4W	1451	0.48M/ 1.6FT	14
FORT DE FRANCE MQ	14.6N	61.1W	1448	0.31M/ 1.0FT	20
LE PRECHEUR MARTINI	14.8N	61.2W	1436	0.70M/ 2.3FT	24
PRICKLEY BAY GD	12.0N	61.8W	1435	1.38M/ 4.5FT	22
CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST

* THIS IS A TEST MESSAGE.
  THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
  FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

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PTWC Message #4

ZCZC
WECA41 PHEB 141530
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 4...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1530 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
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* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE.
  TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE.
  ASSOCIATED WITH THIS EARTHQUAKE... THE UWI SEISMIC RESEARCH CENTRE REPORTS A SIGNIFICANT ERUPTION OF KICK-EM-JENNY VOLCANO THAT BEGAN AROUND 1400 UTC ON MAR 14 2019 AND IS CONTINUING.

* THIS IS A TEST MESSAGE.
  THIS ERUPTION MAY PRODUCE HAZARDOUS TSUNAMI WAVES ALONG SOME COASTAL AREAS LOCATED NEAR KICK-EM-JENNY VOLCANO. IT IS NOT

POSSIBLE HOWEVER... TO FORECAST THE AFFECTED COASTS NOR THE TSUNAMI AMPLITUDES.

* THIS IS A TEST MESSAGE.
THE TSUNAMI THREAT WILL CONTINUE UNTIL THE VOLCANIC ACTIVITY HAS ENDED OR IS SUFFICIENTLY DIMINISHED... AND SEA LEVEL READINGS ARE BELOW THREAT LEVELS.

TEST...RECOMMENDED ACTIONS...TEST
---

* THIS IS A TEST MESSAGE.
GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

TEST...ESTIMATED TIMES OF ARRIVAL...TEST
---

* THIS IS A TEST MESSAGE.
ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREE HOURS TSUNAMI TRAVEL TIME. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ROSEAU	DOMINICA	15.3N 61.4W	1436 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1439 03/14
BRIDGETOWN	BARBADOS	13.1N 59.6W	1444 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1445 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1503 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1513 03/14
ONIMA	BONAIRE	12.3N 68.3W	1514 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1516 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1517 03/14
SABA	SABA	17.6N 63.2W	1518 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1521 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1527 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1530 03/14
PALMETTO POINT	BARBUDA	17.6N 61.9W	1537 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1537 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1537 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1538 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1539 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1547 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1550 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1552 03/14
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1552 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1555 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1555 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1556 03/14

BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1557 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1600 03/14
JACAMEL	HAITI	18.1N 72.5W	1605 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1612 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1615 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1617 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1618 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1621 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1627 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1632 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1634 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1643 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1644 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1644 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1646 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1647 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1650 03/14
BARACOA	CUBA	20.4N 74.5W	1652 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1652 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1657 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1700 03/14
ALIGANDI	PANAMA	9.2N 78.0W	1701 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1702 03/14

TEST...POTENTIAL IMPACTS...TEST

---

* THIS IS A TEST MESSAGE.
  A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE.
  PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST...TSUNAMI OBSERVATIONS...TEST

---

* THIS IS A TEST MESSAGE.
  THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
PARHAM AT	17.1N	61.8W	1528	0.13M/ 0.4FT	16
LIMETREE VI	17.7N	64.8W	1524	0.58M/ 1.9FT	18
DART 42407	15.3N	68.2W	1521	0.03M/ 0.1FT	20
ST CROIX VI	17.7N	64.7W	1519	0.36M/ 1.2FT	24
BASSETERRE KN	17.3N	62.7W	1518	0.39M/ 1.3FT	26
CHARLOTTEVILLE TT	11.3N	60.5W	1513	0.25M/ 0.8FT	18
SCARBOROUGH TT	11.2N	60.7W	1512	0.10M/ 0.3FT	26
DESIRADE GUADELOUPE	16.3N	61.1W	1503	0.26M/ 0.9FT	26
POINT A PITRE GP	16.2N	61.5W	1511	0.22M/ 0.7FT	26
GANTERS BAY ST LUCI	14.0N	61.0W	1459	0.47M/ 1.5FT	20
MARIGOT DM	15.5N	61.3W	1457	0.16M/ 0.5FT	22
BRIDGEPORT BB	13.1N	59.6W	1455	0.18M/ 0.6FT	22
PORT ST CHARLES BB	13.3N	59.6W	1452	0.21M/ 0.7FT	16
PORTSMOUTH DM	15.6N	61.5W	1451	0.45M/ 1.5FT	24
ROSEAU DM	15.3N	61.4W	1451	0.48M/ 1.6FT	14
FORT DE FRANCE MQ	14.6N	61.1W	1448	0.31M/ 1.0FT	20
LE PRECHEUR MARTINI	14.8N	61.2W	1436	0.70M/ 2.3FT	24
PRICKLEY BAY GD	12.0N	61.8W	1435	1.38M/ 4.5FT	22
CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST

* THIS IS A TEST MESSAGE.
  THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
  THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY
  VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S.
  GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT
  EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
  FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
  WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS...
  AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC
  TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE
  PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND
  THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S.
  NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
  AT WWW.TSUNAMI.GOV.

PTWC Message #5

ZCZC
WECA41 PHEB 141600
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 5...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1600 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

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**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
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* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE.
  TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE.
  ASSOCIATED WITH THIS EARTHQUAKE... THE UWI SEISMIC RESEARCH CENTRE REPORTS A SIGNIFICANT ERUPTION OF KICK-EM-JENNY VOLCANO THAT BEGAN AROUND 1400 UTC ON MAR 14 2019 AND IS CONTINUING.

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  THIS ERUPTION MAY PRODUCE HAZARDOUS TSUNAMI WAVES ALONG SOME COASTAL AREAS LOCATED NEAR KICK-EM-JENNY VOLCANO. IT IS NOT

POSSIBLE HOWEVER... TO FORECAST THE AFFECTED COASTS NOR THE TSUNAMI AMPLITUDES.

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THE TSUNAMI THREAT WILL CONTINUE UNTIL THE VOLCANIC ACTIVITY HAS ENDED OR IS SUFFICIENTLY DIMINISHED... AND SEA LEVEL READINGS ARE BELOW THREAT LEVELS.

TEST...RECOMMENDED ACTIONS...TEST
---

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GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

TEST...ESTIMATED TIMES OF ARRIVAL...TEST
---

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ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREE HOURS TSUNAMI TRAVEL TIME. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1503 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1513 03/14
ONIMA	BONAIRE	12.3N 68.3W	1514 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1516 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1517 03/14
SABA	SABA	17.6N 63.2W	1518 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1521 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1527 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1530 03/14
PALMETTO POINT	BARBUDA	17.6N 61.9W	1537 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1537 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1537 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1538 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1539 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1547 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1550 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1552 03/14
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1552 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1555 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1555 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1556 03/14
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1557 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1600 03/14
JACAMEL	HAITI	18.1N 72.5W	1605 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1612 03/14

BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1615 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1617 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1618 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1621 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1627 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1632 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1634 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1643 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1644 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1644 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1646 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1647 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1650 03/14
BARACOA	CUBA	20.4N 74.5W	1652 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1652 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1657 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1700 03/14
ALIGANDI	PANAMA	9.2N 78.0W	1701 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1702 03/14

TEST...POTENTIAL IMPACTS...TEST

* THIS IS A TEST MESSAGE.
  A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE.
  IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE.
  PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST...TSUNAMI OBSERVATIONS...TEST

* THIS IS A TEST MESSAGE.
  THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
AGUADILLA PR	18.5N 67.2W	1557	0.15M/ 0.5FT	28

PUNTA CANA DO	18.5N	68.4W	1551	0.28M/ 0.9FT	28
ORANGESTAD AW	12.5N	70.0W	1542	0.12M/ 0.4FT	22
MONA ISLAND PR	18.1N	67.9W	1540	0.44M/ 1.4FT	16
ESPERANZA VIEQUES P	18.1N	65.5W	1535	0.75M/ 2.5FT	28
BULLEN BAY CURACAO	12.2N	69.0W	1540	0.20M/ 0.7FT	22
YABUCOA PR	18.1N	65.8W	1536	0.58M/ 1.9FT	28
PARHAM AT	17.1N	61.8W	1528	0.13M/ 0.4FT	16
LIMETREE VI	17.7N	64.8W	1524	0.58M/ 1.9FT	18
DART 42407	15.3N	68.2W	1521	0.03M/ 0.1FT	20
ST CROIX VI	17.7N	64.7W	1519	0.36M/ 1.2FT	24
BASSETERRE KN	17.3N	62.7W	1518	0.39M/ 1.3FT	26
CHARLOTTEVILLE TT	11.3N	60.5W	1513	0.25M/ 0.8FT	18
SCARBOROUGH TT	11.2N	60.7W	1512	0.10M/ 0.3FT	26
DESIRADE GUADELOUPE	16.3N	61.1W	1503	0.26M/ 0.9FT	26
POINT A PITRE GP	16.2N	61.5W	1511	0.22M/ 0.7FT	26
GANTERS BAY ST LUCI	14.0N	61.0W	1459	0.47M/ 1.5FT	20
MARIGOT DM	15.5N	61.3W	1457	0.16M/ 0.5FT	22
BRIDGEPORT BB	13.1N	59.6W	1455	0.18M/ 0.6FT	22
PORT ST CHARLES BB	13.3N	59.6W	1452	0.21M/ 0.7FT	16
PORTSMOUTH DM	15.6N	61.5W	1451	0.45M/ 1.5FT	24
ROSEAU DM	15.3N	61.4W	1451	0.48M/ 1.6FT	14
FORT DE FRANCE MQ	14.6N	61.1W	1448	0.31M/ 1.0FT	20
LE PRECHEUR MARTINI	14.8N	61.2W	1436	0.70M/ 2.3FT	24
PRICKLEY BAY GD	12.0N	61.8W	1435	1.38M/ 4.5FT	22
CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST
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* THIS IS A TEST MESSAGE.
  THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
  THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY
  VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S.
  GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT
  EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
  FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
  WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS...
  AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC
  TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE
  PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND
  THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S.

NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

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PTWC Message #6

ZCZC
WECA41 PHEB 141630
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 6...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1630 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST FINAL TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST...PRELIMINARY EARTHQUAKE PARAMETERS...TEST
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* MAGNITUDE	6.0
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	12.3 NORTH 61.6 WEST
* DEPTH	10 KM / 6 MILES
* LOCATION	WINDWARD ISLANDS

TEST...EVALUATION...TEST
---

* THIS IS A TEST MESSAGE.
  AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 6.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MAR 14 2019.

* THIS IS A TEST MESSAGE.
  BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE AND THE ACTIVITY OF THE KICK EM JENNY VOLCANO HAS PASSED AND THERE IS NO FURTHER THREAT.

TEST...RECOMMENDED ACTIONS...TEST
---

* THIS IS A TEST MESSAGE.
  GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.

* THIS IS A TEST MESSAGE.
PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.

* THIS IS A TEST MESSAGE.
REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

TEST...POTENTIAL IMPACTS...TEST

* THIS IS A TEST MESSAGE.
MINOR SEA LEVEL FLUCTUATIONS OF UP TO 0.3 METERS ABOVE AND BELOW THE NORMAL TIDE MAY CONTINUE OVER THE NEXT FEW HOURS.

TEST...TSUNAMI OBSERVATIONS...TEST

* THIS IS A TEST MESSAGE.
THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
PUERTO PLATA DO	19.8N	70.7W	1624	0.03M/ 0.1FT	18
PORT SAN ANDRES DO	18.4N	69.6W	1622	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1610	0.08M/ 0.3FT	24
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1602	0.28M/ 0.9FT	14
BARBUDA AG	17.6N	61.8W	1601	0.04M/ 0.1FT	26
AGUADILLA PR	18.5N	67.2W	1557	0.15M/ 0.5FT	28
PUNTA CANA DO	18.5N	68.4W	1551	0.28M/ 0.9FT	28
ORANGESTAD AW	12.5N	70.0W	1542	0.12M/ 0.4FT	22
MONA ISLAND PR	18.1N	67.9W	1540	0.44M/ 1.4FT	16
ESPERANZA VIEQUES P	18.1N	65.5W	1535	0.75M/ 2.5FT	28
BULLEN BAY CURACAO	12.2N	69.0W	1540	0.20M/ 0.7FT	22
YABUCOA PR	18.1N	65.8W	1536	0.58M/ 1.9FT	28
PARHAM AT	17.1N	61.8W	1528	0.13M/ 0.4FT	16
LIMETREE VI	17.7N	64.8W	1524	0.58M/ 1.9FT	18
DART 42407	15.3N	68.2W	1521	0.03M/ 0.1FT	20
ST CROIX VI	17.7N	64.7W	1519	0.36M/ 1.2FT	24
BASSETERRE KN	17.3N	62.7W	1518	0.39M/ 1.3FT	26
CHARLOTTEVILLE TT	11.3N	60.5W	1513	0.25M/ 0.8FT	18
SCARBOROUGH TT	11.2N	60.7W	1512	0.10M/ 0.3FT	26
DESIRADE GUADELOUPE	16.3N	61.1W	1503	0.26M/ 0.9FT	26
POINT A PITRE GP	16.2N	61.5W	1511	0.22M/ 0.7FT	26
GANTERS BAY ST LUCI	14.0N	61.0W	1459	0.47M/ 1.5FT	20
MARIGOT DM	15.5N	61.3W	1457	0.16M/ 0.5FT	22
BRIDGEPORT BB	13.1N	59.6W	1455	0.18M/ 0.6FT	22
PORT ST CHARLES BB	13.3N	59.6W	1452	0.21M/ 0.7FT	16
PORTSMOUTH DM	15.6N	61.5W	1451	0.45M/ 1.5FT	24

ROSEAU DM	15.3N	61.4W	1451	0.48M/ 1.6FT	14
FORT DE FRANCE MQ	14.6N	61.1W	1448	0.31M/ 1.0FT	20
LE PRECHEUR MARTINI	14.8N	61.2W	1436	0.70M/ 2.3FT	24
PRICKLEY BAY GD	12.0N	61.8W	1435	1.38M/ 4.5FT	22
CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16

TEST...NEXT UPDATE AND ADDITIONAL INFORMATION...TEST
---

* THIS IS A TEST MESSAGE.
  THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
  THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY
  VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.
  AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S.
  GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT
  EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.
  FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
  WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS...
  AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC
  TSUNAMI WARNING CENTER MESSAGES SPECIFICALLY FOR THOSE
  PLACES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.
  COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND
  THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S.
  NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
  AT WWW.TSUNAMI.GOV.

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Panama **scenario**:

The following messages created for the Caribe Wave 19 tsunami exercise are representative of the official standard products issued by the PTWC for a magnitude 8.5 earthquake and subsequent tsunami originating in Northern Panama Deformed Belt. During a real event, the PTWC would also post the text products on tsunami.gov. The alerts would persist longer during a real event than is depicted in this exercise.

PTWC Message #1

ZCZC
WECA41 PHEB 141406
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1406 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE		8.3
* ORIGIN TIME		1400 UTC MAR 14 2019
* COORDINATES	1	0.0 NORTH 78.5 WEST
* DEPTH		25 KM / 16 MILES
* LOCATION		NORTH OF PANAMA

TEST... EVALUATION ...TEST
---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.3 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TEST... TSUNAMI THREAT FORECAST ...TEST
---

* THIS IS A TEST MESSAGE. HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

  PANAMA... COLOMBIA... SAN ANDRES PROVID... COSTA RICA...
  HAITI... ARUBA... NICARAGUA... CAYMAN ISLANDS...
  JAMAICA... CUBA... BONAIRE... DOMINICAN REP... CURACAO...
  BAHAMAS... PUERTO RICO... US VIRGIN IS... TURKS N
  CAICOS... VENEZUELA... SABA... SAINT KITTS...
  MONTSERRAT... SINT EUSTATIUS... GUADELOUPE... DOMINICA...
  MEXICO... HONDURAS... BR VIRGIN IS... SAINT LUCIA... SINT
  MAARTEN... SAINT VINCENT AND MARTINIQUE

TEST... RECOMMENDED ACTIONS ...TEST
---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THE REGION IDENTIFIED WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ALIGANDI	PANAMA	9.2N 78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N 77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1452 03/14
COLON	PANAMA	9.4N 79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14

GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1606 03/14
BARACOA	CUBA	20.4N	74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N	77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N	68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N	80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N	72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1632 03/14
MAIQUETIA	VENEZUELA	10.6N	67.0W	1635 03/14
GIBARA	CUBA	21.1N	76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N	73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N	66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1647 03/14
SABA	SABA	17.6N	63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N	62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658 03/14
COZUMEL	MEXICO	20.5N	87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14

TEST... POTENTIAL IMPACTS ...TEST

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* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #2

ZCZC
WECA41 PHEB 141425
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1425 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
---

* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST
---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST
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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA...

GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS...
SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN...
TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
---

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE

MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ALIGANDI	PANAMA	9.2N 78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N 77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1452 03/14
COLON	PANAMA	9.4N 79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARACOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14

MAIQUETIA	VENEZUELA	10.6N	67.0W	1635 03/14
GIBARA	CUBA	21.1N	76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N	73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N	66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1647 03/14
SABA	SABA	17.6N	63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N	62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658 03/14
COZUMEL	MEXICO	20.5N	87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N	75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N	64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N	75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1723 03/14
LA HABANA	CUBA	23.2N	82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1733 03/14

PALMETTO POINT	BARBUDA	17.6N	61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N	88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N	79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N	88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

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* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

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* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST
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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #3

ZCZC
WECA41 PHEB 141440
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 3...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1440 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST
---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST
---

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  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
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TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ALIGANDI	PANAMA	9.2N 78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N 77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1452 03/14
COLON	PANAMA	9.4N 79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARACOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14

MAIQUETIA	VENEZUELA	10.6N 67.0W	1635 03/14
GIBARA	CUBA	21.1N 76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1639 03/14
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SABA	SABA	17.6N 63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N 72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N 61.4W	1658 03/14
COZUMEL	MEXICO	20.5N 87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N 88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N 61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N 75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N 61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N 75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N 76.1W	1723 03/14
LA HABANA	CUBA	23.2N 82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N 59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N 77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1733 03/14

PALMETTO POINT	BARBUDA	17.6N	61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N	88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N	79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N	88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

---

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* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

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* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #4

ZCZC
WECA41 PHEB 141500
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 4...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST

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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ALIGANDI	PANAMA	9.2N 78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N 77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1452 03/14
COLON	PANAMA	9.4N 79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARACOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14

MAIQUETIA	VENEZUELA	10.6N	67.0W	1635 03/14
GIBARA	CUBA	21.1N	76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N	73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N	66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1647 03/14
SABA	SABA	17.6N	63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N	62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658 03/14
COZUMEL	MEXICO	20.5N	87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N	75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N	64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N	75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1723 03/14
LA HABANA	CUBA	23.2N	82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1733 03/14

PALMETTO POINT	BARBUDA	17.6N	61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N	88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N	79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N	88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

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* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

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* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT LON	TIME OF MEASURE (UTC)	MAXIMUM WAVE TSUNAMI HEIGHT	PERIOD (MIN)
SAPZURRO CO	8.7N 77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N 75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N 78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #5

ZCZC
WECA41 PHEB 141600
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 5...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1600 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

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**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST

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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
---

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TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
---

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARACOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1635 03/14
GIBARA	CUBA	21.1N 76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1647 03/14
SABA	SABA	17.6N 63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1653 03/14

PLYMOUTH	MONTSERRAT	16.7N	62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658 03/14
COZUMEL	MEXICO	20.5N	87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N	75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N	64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N	75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1723 03/14
LA HABANA	CUBA	23.2N	82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1733 03/14
PALMETTO POINT	BARBUDA	17.6N	61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808 03/14

BELIZE CITY	BELIZE	17.5N 88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N 79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N 88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N 78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N 82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N 63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

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* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

---

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS

MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER

MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #6

ZCZC
WECA41 PHEB 141700
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 6...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1700 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST

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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
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* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARACOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1635 03/14
GIBARA	CUBA	21.1N 76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1647 03/14
SABA	SABA	17.6N 63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N 62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N 64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N 72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N 61.4W	1658 03/14
COZUMEL	MEXICO	20.5N 87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N 88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N 61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1701 03/14

KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N	75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N	64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N	75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1723 03/14
LA HABANA	CUBA	23.2N	82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1733 03/14
PALMETTO POINT	BARBUDA	17.6N	61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N	88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N	79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N	88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

---

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

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* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28

LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #7

ZCZC
WECA41 PHEB 141800
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 7...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1800 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE 8.5
* ORIGIN TIME 1400 UTC MAR 14 2019
* COORDINATES 10.0 NORTH 78.5 WEST
* DEPTH 25 KM / 16 MILES
* LOCATION NORTH OF PANAMA

TEST... EVALUATION ...TEST
---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST
---

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...
ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA...
GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS...
SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN...
TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
---

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND

THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N 61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1705 03/14
EXUMA	BAHAMAS	23.6N 75.9W	1706 03/14
CUMANA	VENEZUELA	10.5N 64.2W	1707 03/14
THE VALLEY	ANGUILLA	18.3N 63.1W	1709 03/14
SAINT GEORGES	GRENADA	12.0N 61.8W	1711 03/14
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1711 03/14
CAT ISLAND	BAHAMAS	24.4N 75.5W	1715 03/14
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1723 03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N 76.1W	1723 03/14
LA HABANA	CUBA	23.2N 82.4W	1725 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1726 03/14
BRIDGETOWN	BARBADOS	13.1N 59.6W	1727 03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1728 03/14
ANDROS ISLAND	BAHAMAS	25.0N 77.9W	1732 03/14
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1733 03/14
PALMETTO POINT	BARBUDA	17.6N 61.9W	1736 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1742 03/14
NASSAU	BAHAMAS	25.1N 77.4W	1744 03/14
TRUJILLO	HONDURAS	15.9N 86.0W	1745 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1753 03/14
FREEPORT	BAHAMAS	26.5N 78.8W	1756 03/14
ABACO ISLAND	BAHAMAS	26.6N 77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N 70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N 88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N 79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N 88.6W	1852 03/14

SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

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* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

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* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
ISLA MUJERES MX	21.3N	86.7W	1742	0.53M/ 1.7FT	20
BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
GANTERS BAY ST LUCI	14.0N	61.0W	1733	0.98M/ 3.2FT	18
PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20
CEIBA CABOTAGE HN	15.8N	86.8W	1725	0.42M/ 1.4FT	22
POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18
CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26
PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28

AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT

MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #8

ZCZC
WECA41 PHEB 141900
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 8...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1900 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST

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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
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* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
ABACO ISLAND	BAHAMAS	26.6N 77.1W	1801 03/14
PUNTO FIJO	VENEZUELA	11.7N 70.2W	1808 03/14
BELIZE CITY	BELIZE	17.5N 88.2W	1809 03/14
BIMINI	BAHAMAS	25.8N 79.3W	1809 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1825 03/14
PUERTO BARRIOS	GUATEMALA	15.7N 88.6W	1852 03/14
SANTA CRZ D SUR	CUBA	20.7N 78.0W	1858 03/14
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N 82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N 63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

---

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

---

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
BERMUDA UK	32.4N	64.7W	1830	0.18M/ 0.6FT	26
TELA HN	15.8N	87.5W	1812	0.35M/ 1.1FT	20
CHARLOTTEVILLE TT	11.3N	60.5W	1807	0.29M/ 1.0FT	16
ISLA MUJERES MX	21.3N	86.7W	1742	0.53M/ 1.7FT	20
BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
GANTERS BAY ST LUCI	14.0N	61.0W	1733	0.98M/ 3.2FT	18
PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20
CEIBA CABOTAGE HN	15.8N	86.8W	1725	0.42M/ 1.4FT	22
POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18
CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26

PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

---

* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #9

ZCZC
WECA41 PHEB 142000
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 9...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2000 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST
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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST
---

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
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* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
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* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1907 03/14
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	1942 03/14
NUEVA GERONA	CUBA	21.9N 82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N 63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS

MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
BERMUDA UK	32.4N	64.7W	1830	0.18M/ 0.6FT	26
TELA HN	15.8N	87.5W	1812	0.35M/ 1.1FT	20
CHARLOTTEVILLE TT	11.3N	60.5W	1807	0.29M/ 1.0FT	16
ISLA MUJERES MX	21.3N	86.7W	1742	0.53M/ 1.7FT	20
BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
GANTERS BAY ST LUCI	14.0N	61.0W	1733	0.98M/ 3.2FT	18
PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20
CEIBA CABOTAGE HN	15.8N	86.8W	1725	0.42M/ 1.4FT	22
POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18
CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26
PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24

ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON

THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #10

ZCZC
WECA41 PHEB 142100
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 10...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2100 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

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* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST

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* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST
---

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A

SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA(UTC)
NUEVA GERONA	CUBA	21.9N 82.8W	2015 03/14
PORLAMAR	VENEZUELA	10.9N 63.8W	2031 03/14

TEST... POTENTIAL IMPACTS ...TEST

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
DAUPHIN ISLAND AL	30.3N	88.1W	2017	0.03M/ 0.1FT	16
BERMUDA UK	32.4N	64.7W	1830	0.18M/ 0.6FT	26
TELA HN	15.8N	87.5W	1812	0.35M/ 1.1FT	20
CHARLOTTEVILLE TT	11.3N	60.5W	1807	0.29M/ 1.0FT	16
ISLA MUJERES MX	21.3N	86.7W	1742	0.53M/ 1.7FT	20
BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
GANTERS BAY ST LUCI	14.0N	61.0W	1733	0.98M/ 3.2FT	18
PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20
CEIBA CABOTAGE HN	15.8N	86.8W	1725	0.42M/ 1.4FT	22
POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18
CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26
PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14

ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

---

* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN

LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #11

ZCZC
WECA41 PHEB 142200
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 11...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2200 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
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* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST
---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST ...TEST
---

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

  COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

  BELIZE... GUATEMALA... HONDURAS... MEXICO... ANGUILLA...

ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA... GUADELOUPE... MONTSERRAT... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SINT MAARTEN... SAINT MARTIN... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST
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* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... POTENTIAL IMPACTS ...TEST
---

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

---

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI	WAVE PERIOD
GAUGE LOCATION	LAT	LON	(UTC)	HEIGHT	(MIN)
DAUPHIN ISLAND AL	30.3N	88.1W	2017	0.03M/ 0.1FT	16
BERMUDA UK	32.4N	64.7W	1830	0.18M/ 0.6FT	26
TELA HN	15.8N	87.5W	1812	0.35M/ 1.1FT	20
CHARLOTTEVILLE TT	11.3N	60.5W	1807	0.29M/ 1.0FT	16
ISLA MUJERES MX	21.3N	86.7W	1742	0.53M/ 1.7FT	20
BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
GANTERS BAY ST LUCI	14.0N	61.0W	1733	0.98M/ 3.2FT	18
PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20

CEIBA CABOTAGE HN	15.8N	86.8W	1725	0.42M/ 1.4FT	22
POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18
CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26
PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
MAGUEYES ISLAND PR	18.0N	67.0W	1635	1.18M/ 3.9FT	18
MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26

DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT 20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT 22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT 22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT 16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT 24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT 14
COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT 20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT 24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT 22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT 16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

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* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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NNNN

PTWC Message #12

ZCZC
WECA41 PHEB 142300
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 12...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2300 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST FINAL TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE *****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST
---

* MAGNITUDE	8.5
* ORIGIN TIME	1400 UTC MAR 14 2019
* COORDINATES	10.0 NORTH 78.5 WEST
* DEPTH	25 KM / 16 MILES
* LOCATION	NORTH OF PANAMA

TEST... EVALUATION ...TEST

---

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NORTH OF PANAMA AT 1400 UTC ON THURSDAY MARCH 14 2019.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS PASSED AND THERE IS NO FURTHER THREAT.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST

---

* THIS IS A TEST MESSAGE. THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

TEST... RECOMMENDED ACTIONS ...TEST

---

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.

* THIS IS A TEST MESSAGE. PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.

* THIS IS A TEST MESSAGE. REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

TEST... POTENTIAL IMPACTS ...TEST

---

* THIS IS A TEST MESSAGE. MINOR SEA LEVEL FLUCTUATIONS UP TO 30 CM ABOVE AND BELOW THE NORMAL TIDE MAY OCCUR IN COASTAL AREAS NEAR THE EARTHQUAKE OVER THE NEXT FEW HOURS.... AND CONTINUING FOR UP TO SEVERAL HOURS.

TEST... TSUNAMI OBSERVATIONS ...TEST

---

* THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

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TELA HN	15.8N	87.5W	1812	0.35M/ 1.1FT	20
CHARLOTTEVILLE TT	11.3N	60.5W	1807	0.29M/ 1.0FT	16
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BRIDGEPORT BB	13.1N	59.6W	1741	0.45M/ 1.5FT	20
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PARHAM AT	17.1N	61.8W	1737	0.37M/ 1.2FT	18
BLOWING POINT AI	18.2N	63.1W	1729	0.71M/ 2.3FT	24
LE ROBERT MARTINIQU	14.7N	60.9W	1728	0.41M/ 1.3FT	18
SAINT MARTIN FR	18.1N	63.1W	1727	0.66M/ 2.2FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1727	0.31M/ 1.0FT	18
PRICKLEY BAY GD	12.0N	61.8W	1726	0.91M/ 3.0FT	20
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POINT A PITRE GP	16.2N	61.5W	1721	0.50M/ 1.7FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1718	0.75M/ 2.5FT	22
CALLIAQUA VC	13.1N	61.2W	1712	1.27M/ 4.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1713	1.13M/ 3.7FT	28
MARIGOT DM	15.5N	61.3W	1718	0.51M/ 1.7FT	18

CARRIE BOW CAY BZ	16.8N	88.1W	1708	0.36M/ 1.2FT	14
PUERTO CORTES HN	15.8N	88.0W	1705	0.39M/ 1.3FT	18
ROSEAU DM	15.3N	61.4W	1705	0.76M/ 2.5FT	24
LE PRECHEUR MARTINI	14.8N	61.2W	1709	0.77M/ 2.5FT	26
PORTSMOUTH DM	15.6N	61.5W	1710	0.81M/ 2.6FT	22
DESHAIES GUADELOUPE	16.3N	61.8W	1708	0.92M/ 3.0FT	22
SIAN KAAN MX	19.3N	87.4W	1707	0.52M/ 1.7FT	26
PUERTO MORELOS MX	20.9N	86.9W	1702	0.40M/ 1.3FT	16
PUERTO MORELOS MX	20.9N	86.9W	1704	0.40M/ 1.3FT	22
BASSETERRE KN	17.3N	62.7W	1702	0.71M/ 2.3FT	26
UTILA ISLAND HN	16.1N	86.9W	1658	0.46M/ 1.5FT	22
GRAND TURK ISLAND T	21.4N	71.1W	1652	0.20M/ 0.7FT	18
SAN JUAN PR	18.5N	66.1W	1655	0.53M/ 1.7FT	28
PUERTO PLATA DO	19.8N	70.7W	1653	0.32M/ 1.0FT	24
ARECIBO PR	18.5N	66.7W	1645	0.47M/ 1.6FT	14
ROATAN ISLAND HN	16.3N	86.5W	1648	0.41M/ 1.3FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1643	1.01M/ 3.3FT	28
LIMETREE VI	17.7N	64.8W	1638	0.79M/ 2.6FT	28
AGUADILLA PR	18.5N	67.2W	1636	0.89M/ 2.9FT	22
ST CROIX VI	17.7N	64.7W	1638	0.83M/ 2.7FT	16
PORT SAN ANDRES DO	18.4N	69.6W	1638	2.65M/ 8.7FT	28
CAP HAITIEN HT	19.8N	72.2W	1642	0.56M/ 1.8FT	22
CAJA DE MUERTOS PR	17.9N	66.5W	1642	1.06M/ 3.5FT	28
YABUCOA PR	18.1N	65.8W	1634	1.07M/ 3.5FT	16
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MAYAGUEZ PR	18.2N	67.2W	1631	1.21M/ 4.0FT	20
PUNTA CANA DO	18.5N	68.4W	1623	1.44M/ 4.7FT	24
MONA ISLAND PR	18.1N	67.9W	1621	1.21M/ 4.0FT	26
GEORGE TOWN CY	19.3N	81.4W	1610	0.73M/ 2.4FT	18
BARAHONA DO	18.2N	71.1W	1609	2.53M/ 8.3FT	26
PORT ROYAL JM	17.9N	76.8W	1602	4.51M/14.8FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1610	1.41M/ 4.6FT	26
DART 42407	15.3N	68.2W	1602	0.12M/ 0.4FT	20
PUERTO ESTRELLA CO	12.4N	71.3W	1602	1.99M/ 6.5FT	22
JACMEL HT	18.2N	72.5W	1550	2.58M/ 8.5FT	22
SANTA MARTA CO	11.2N	74.2W	1510	3.15M/10.3FT	16
LIMON CR	10.0N	83.0W	1510	2.49M/ 8.2FT	24
SAN ANDRES CO	12.6N	81.7W	1503	2.50M/ 8.2FT	14

COVENAS CO	9.4N	76.2W	1503	3.54M/11.6FT	20
SAPZURRO CO	8.7N	77.4W	1453	3.64M/11.9FT	24
ISLA NAVAL CO	10.2N	75.8W	1451	2.98M/ 9.8FT	22
EL PORVENIR PA	9.6N	78.9W	1427	11.04M/36.2FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

---

* THIS IS A TEST MESSAGE. THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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ANNEX VII

SAMPLE PRESS RELEASE FOR LOCAL MEDIA

TEMPLATE FOR NEWS RELEASE

USE AGENCY MASTHEAD

Contact: (insert name) **FOR IMMEDIATE RELEASE**

(insert phone number) (insert date)

(insert email address)

CARIBBEAN TSUNAMI EXERCISE TO BE CONDUCTED MARCH 14, 2019

(*insert community/county/state name*) will join other localities in the Caribbean as a participant in a tsunami response exercise on March 14, 2019. The purpose of this exercise is to evaluate national and local tsunami response plans, increase tsunami preparedness, and improve coordination throughout the region. This exercise includes two scenarios, one of which is of volcanic origin.

(*insert a promotional comment from a local official, such as "The 2010 Haiti, 2010, 2014, 2015 Chilean, 2011 Japan, and the recent 2018 Sulawesi earthquakes and tsunamis have reminded the world of the urgent need to be more prepared for such events," said (insert name of appropriate official*). "This important exercise will test the current procedures of the Tsunami Warning System and help identify operational strengths and weaknesses in each community." (*Please modify for uniqueness.))*

The exercise, titled CARIBE WAVE 19, will simulate a widespread Tsunami Threat situation throughout the Caribbean, which requires implementation of local tsunami response, plans. The exercise will (*insert "include" or "not include")* public notification.

The exercise will simulate (*insert description of chosen scenario - source and appropriate local time*) on March 14, 2019. A handbook has been prepared which describes the scenarios and contains tsunami messages from the Pacific Tsunami Warning Center (PTWC). The PTWC is the Regional Tsunami Service Provider for the other countries in the Caribbean Sea and Adjacent Regions.

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 UNESCO/IOC Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), the Caribbean Emergency Management Agency (CDEMA), the Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), EMIZ Antilles and the U.S. National Oceanic and Atmospheric Administration (NOAA).

For more information on the U.S. tsunami warning system, see www.tsunami.gov.

For more information on the ICG/CARIBE-EWS, see http://ioc-tsunami.org/index.php?option=com_oe&task=viewEventRecord&eventID=1912.

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On the Web:

ICG/CARIBE-EWS	http://www.ioc-tsunami.org
Pacific Tsunami Warning Center	http://tsunami.gov
NOAA Tsunami Program	http://www.tsunami.gov
Caribbean Tsunami Warning Program	http://caribewave.info
Caribbean Tsunami Information Centre	http://www.ctic.ioc-unesco.org/

Insert state/local emergency response URLs

ANNEX VIII

LIST OF ACRONYMS

AISR	Aeronautical Information System Replacement
AWIPS	Advanced Weather Interactive Processing System
CDEMA	Caribbean Disaster Emergency Management Agency
CEPREDENAC	Coordination Centre for the Prevention of Natural Disasters in Central America
EAS	Emergency Alert System
EMIZA	Etat-Major Interministériel de la Zone de Défense et de Sécurité Antilles
EMO	emergency management organization
EMWIN	Emergency Managers Weather Information Network
EOP	Emergency Operations Plan
GMT	Generic Mapping Tool
GTS	Global Telecommunications System
ICG	Intergovernmental Coordination Group
ICG/CARIBE-EWS	Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions
IOC	Intergovernmental Oceanographic Commission
ITIC	International Tsunami Information Center
MS	Member States
NaDMA	National Disaster Management Agency)
NCEI	National Centers for Environmental Information
NDMO	National Disaster Management Office
NOAA	U.S. National Oceanic and Atmospheric Administration
NPDB	Northern Panama Deformed Belt
NTWC	National Tsunami Warning Centre
NWWS	NOAA Weather Wire Service
OEM	Offices of Emergency Management

PAGER	Prompt Assessment of Global Earthquakes for Response
PTWC	Pacific Tsunami Warning Center
SCDB	Southern Caribbean Deformed Belt
SOP	Standard Operating Procedures
TER	Tsunami Emergency Response
TT	Task Team
TWFP	Tsunami Warning Focal Points
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USGS	United States Geological Survey
WMO	World Meteorological Organization