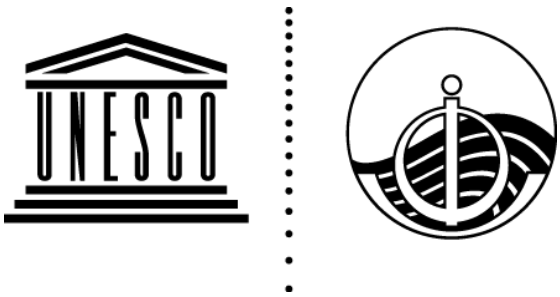
Intergovernmental Oceanographic Commission
Technical Series
157



EXERCISE CARIBE WAVE 21

A Caribbean and Adjacent Region Tsunami Warning Exercise

11 March 2021 (Jamaica and Northern Lesser Antilles Scenarios)

Volume 1 Participant Handbook

UNESCO

Intergovernmental Oceanographic Commission
Technical Series
157

EXERCISE CARIBE WAVE 21

A Caribbean and Adjacent Region Tsunami Warning Exercise

11 March 2021 (Jamaica and Northern Lesser Antilles Scenarios)

Volume 1 Participant Handbook

UNESCO 2020

IOC Technical Series, 157 (volume 1)
Paris, November 2020
English only

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, 2018, 2019 and 2020 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.

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

UNESCO/IOC. 2020. *Exercise Caribe Wave 21. Tsunami Warning Exercise, 11 March 2021 (Jamaica* and Northern Lesser Antilles*). Volume 1: Participant Handbook.* Paris, UNESCO, IOC Technical Series No 157, Vol.1. (English only).

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

Published in 2020
by United Nations Educational, Scientific
and Cultural Organization
7, Place de Fontenoy, 75352 Paris 07 SP

(IOC/2020/TS/157 Vol.1)

TABLE OF CONTENTS

page

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 11 March 2021 on the 10th anniversary of the Japan earthquake and tsunami. 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]).

In light of the coronavirus emergency implications, the Task Team CARIBE WAVE plans on carrying exercises at various scales to advance tsunami preparedness in the Caribbean and adjacent regions. It is up to the Member States and Territories to decide if any additional warning system activity would be executed and whether to use the simulated messages for one of the two scenarios planned for this exercise: Jamaica and Northern Lesser Antilles. The first scenario described in this handbook simulates a tsunami generated by a magnitude 8.0 earthquake located along the Enriquillo-Plantain Garden Fault Zone (EPGFZ). The second scenario is a tsunami generated by a magnitude 8.5 earthquake located along with the Leeward Islands.

The Pacific Tsunami Warning Center (PTWC), the CARIBE-EWS Tsunami Service Provider, will issue the initial dummy message for the two scenarios on 11 March 2021 at 1400 UTC and will disseminate it overall 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 1407 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 (AoR).

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.

1. BACKGROUND

1.1. EXERCISE JUSTIFICATION AND FRAMEWORK

This annual 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 and 2018), Samoa (2009), Haiti (2010), Chile (2010, 2014 and 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 the years 1530 to 2018, tsunamis from earthquake, landslide, and volcanic sources have all impacted the region (Figure 1). Over the last 500 years, at least 83 confirmed tsunamis have been observed (7-10% of the world's oceanic tsunamis) and over 4,500 people have lost their lives from tsunamis in the Caribbean and adjacent regions according to NCEI (2020). 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. 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 with 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 earthquake sources, the region is also threatened by teletsunamis/transatlantic tsunamis, like the 1755 Portugal event. Furthermore, five confirmed volcano tsunami source events, two from volcano generated landslides, 1 from a mud volcano and 1 from a submarine landslide, have affected the Caribbean and adjacent regions (International Tsunami Information Center [ITIC] and National Centers for Environmental Information [NCEI], 2018).

Tsunami services for the Caribbean and adjacent regions within the UNESCO/IOC CARIBE-EWS framework are currently provided by the PTWC in Hawaii. It issues its messages two to ten minutes after an earthquake's occurrence. The PTWC international products include tsunami information and threat 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.

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. Member States need to exercise their Standard Operational Procedures (SOPs) for tsunamis in order to ensure its readiness for the next event.

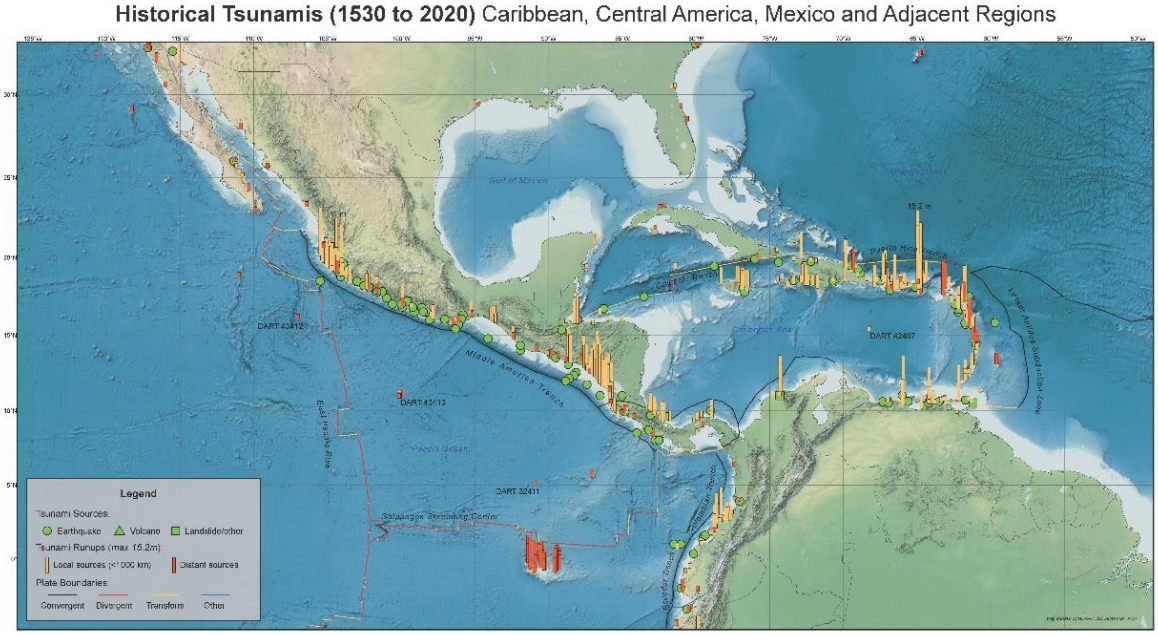


Figure 1. Map of historical tsunamis (1530 to 2020) in the Caribbean, Central America, Mexico and adjacent regions. © International Tsunami Information Center and National Centers for Environmental Information, 2018.

1.2. EXERCISE EARTHQUAKE AND TSUNAMI SCENARIOS

The Exercise Caribe Wave 21 will provide simulated tsunami threat messages issued from the PTWC based on two hypothetical scenarios: a magnitude 8.0 earthquake located on the Enriquillo-Plantain Garden Fault Zone (EPGFZ) and a magnitude 8.5 earthquake located along the Leeward Islands (Figure 2). A description of the proposed scenarios for the exercise is provided in this section.

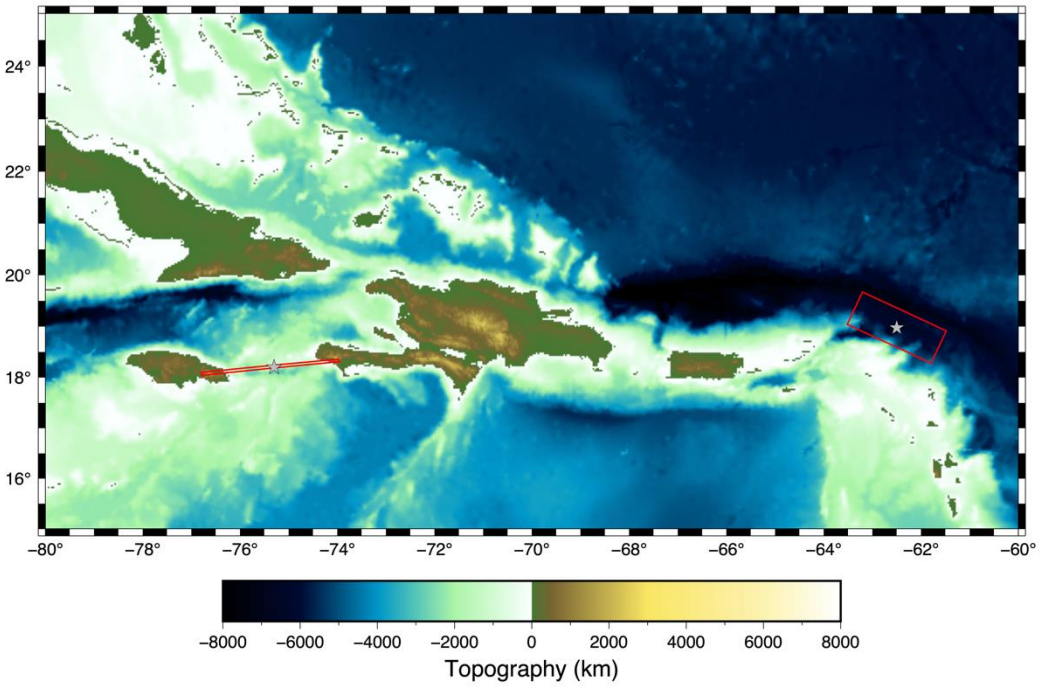


Figure 2. Map of the Exercise Caribe Wave 21 scenarios. Stars indicate epicentral locations and the red boxes indicate the map view of the ruptured fault segments. The figure is underlain by etopo1 model of Amante and Eakins (2009). This figure was generated using The Generic Mapping Tool (GMT) (Wessel et al., 2013).

1.2.1 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 predominately 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 volcanic arcs 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, 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 subduct 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 exists 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 Exercise Caribe Wave 21 scenarios and present a justification on their tsunamigenic potential regardless of their probability of occurrence.

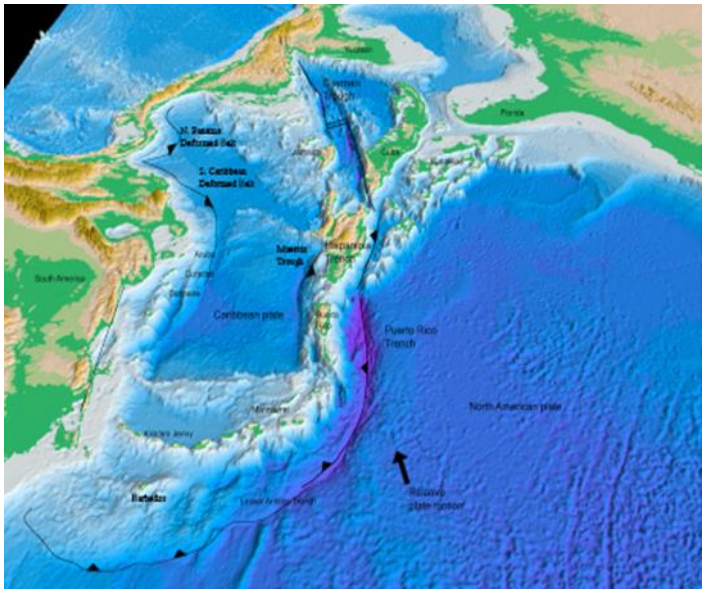


Figure 3. Major Tectonic features in the Caribbean (ten Brink et al., 2008).

1.2.2 Jamaica Scenario

The Enriquillo-Plantain Garden fault zone (EPGFZ) is located along the complex boundary between the North American and Caribbean plates (Prentice et al., 2010). This major active left-lateral strike-slip fault system is hundreds of kilometres long and extends from the countries of Jamaica, Haiti, and the Dominican Republic (Koehler et al., 2013). Historical records show at least the occurrence of one large earthquake greater than Mw 6 per century (Wright, 2019).

Most tsunamis reported in Jamaica and Haiti have been caused by sediment failure processes with the occurrence of an earthquake greater than Mw 5 associated to the EPGFZ (Wright, 2019). The most recent tsunami event associated with this fault occurred on 12 January 2010 in Haiti and was generated by a Mw 7.0 earthquake that devastated the Port-au-Prince region (Calais et al., 2010). This event caused the death of approximately 200,000 people and billions of dollars in damages (Calais et al., 2010). Also, the magnitude Mw 7.5 earthquake that occurred on 7 June 1692 in Jamaica is considered to be associated with the EPGFZ (Lander et al., 2002). This event caused a landslide that generated a tsunami leading to major damages at the town of Port Royal. It was reported that approximately 2,000 people were killed in the 1692 earthquake and tsunami (Landers et al., 2002). For this exercise, some fault properties such as mechanism and magnitude exaggeration have been made slightly unrealistic from a seismologist's perspective to ensure the generation of a significant tsunami to test the CARIBE-EWS systems and local responses.

1.2.3 Northern Lesser Antilles Scenario

The Lesser Antilles arc has been built up by a relative motion between the North America and Caribbean plate. In these plates, convergence and subduction of Atlantic seafloor move at a rate of approximately 2 cm/yr in a WSW direction (Hayes et al., 2014). Even if relatively few large earthquakes have been recorded or analyzed in the Lesser Antilles arc, previous work have concluded that the subduction zone is capable of producing large and damaging earthquakes than can generate a tsunami (Bouin et al., 2010). The tsunami and earthquake hazard potential brings concern for the vulnerable communities and infrastructure in the region. Particularly by the significant population increase during the past fifty years, and the millions of tourists that visit every year (Hayes et al., 2014). The largest known earthquake in the Northern Lesser Antilles region was the event offshore of Guadeloupe on 8 February 1843 (Bernard et al., 1988). Moreover, considering that the arc consists a strand of volcanic islands, locally generated tsunamis have impacted the Lesser Antilles and may do so in the future. On July 2003, a pyroclastic flow from the La Soufrie're Hills volcano on Montserrat spilled into the sea generating a 1 to 2 m high tsunami that struck the island of Guadeloupe (Hayes et al., 2014).

The scenario presented in this exercise is based on the result of a Scientific Experts Meeting on sources of tsunamis in the Lesser Antilles held from 18 to 20 March 2019 in Fort-de-France, Martinique. The objective of this meeting was to better understand the Lesser Antilles tsunami potential from earthquakes and volcanic eruptions. The meeting was sponsored by the Intergovernmental Oceanographic Commission (IOC) of UNESCO and it facilitated tsunami experts of the region and the world to meet and discuss the possible tsunami scenarios for the Lesser Antilles. The scenario used in this exercise is a single-segment source modified from identified scenario NLAF1. This scenario defines the first segment in the Northern Lesser Antilles. Due to the short earthquake and tsunami historical record of the region, and the lack of significantly large earthquakes observed, the experts argued that assigning fault scenarios based on past events underestimates the region's tsunami potential, and thus, assigning equal potential sources along the arc represents a more acceptable methodology. Learning from recent advances of marine geology and geophysics, and geodetic constraints have helped visualize the potential rupture parameters. However, disagreement between geologic and geodetic facts made it difficult to assign a full or partial fault rupture determination of a source, therefore, two-segment fault sources were identified. For the purpose of estimating tsunami impact to the near-field region, and to facilitate the development of products by PTWC for this scenario, the source was modified for a single segment rupturing the entire region without the sub-classification of segments with variable dips.

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 Exercise Caribe Wave 21 the scenario outputs of their ShakeMap and the Prompt Assessment of Global Earthquakes for Response (PAGER) products. These results provide the scope of the potential earthquake related disaster to emergency responders, government, aid agencies and the media. 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 behaviour, and seismic wave propagation through the crust (https://earthquake.usgs.gov/data/shakemap/). PAGER is based on the earthquake shaking (via ShakeMap) and analyses of 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 (https://earthquake.usgs.gov/data/pager/). For Exercise Caribe Wave 21 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 magnitude 8.0 earthquake are Jamaica and Haiti for the Jamaica scenario. The greatest shaking impact from the magnitude 8.5 associated with the Northern Lesser Antilles will be in Anguilla and Puerto Rico. Complete information about the PAGER output for the exercise scenario is available in 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) is 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 test and evaluate operations of the CARIBE 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. **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 programme.

2.3 TYPE OF EXERCISES

CARIBE WAVE is designed for Caribbean countries to carry out exercises at various scales of magnitudes and sophistication. In light of current implications due to the continuing coronavirus pandemic, it will be important to consider the social and physical distancing guidelines. The Emergency Management Organizations (EMOs) are, however, encouraged to exercise down to the level of testing local notification systems such as the Emergency Alert System (EAS), sirens, or loudspeakers. Care should be taken to advise the public as to not create an alarm. At the national level, the exercise facilitates a communication test to validate the receipt of the messages issued by the Pacific Tsunami Warning Center (PTWC), the CARIBE-EWS Tsunami Service Provider.

Exercises stimulate the development, training, testing, and evaluation of disaster plans and Standard Operating Procedures (SOPs). Most countries in the region have participated in SOP workshops and should use the materials and expertise acquired to help guide exercise preparation and conduct. Exercise participants are encouraged to use their own past multi-hazard drills (e.g. flood, hurricane, tsunami, earthquake, etc.) as a framework to conduct Exercise Caribe Wave 21. Annex I gives an overview of SOPs, while Annex II provides a summary of the recently updated CARIBE-EWS Multi-Annual Community Tsunami Exercise Programme Guidelines (IOC/2020/MG/86). This document highlights four types of exercises, each of which will be more or less suitable depending on the objectives that have been set, the time available, funding levels, and how much the participants know on how to react to instructional warnings.

- Drill exercises focus on detailed arrangements for testing specific operation or function in a single organization, facility, or agency such as a hotel, school, village, etc. Drills are used to test the response time with regards to a specific activity, train personnel, assess the capabilities of equipment, assess the cooperation between agencies, and determine whether the capabilities of the resources and personnel staffing is sufficient. An example of a drill exercise would be activating an Emergency Operations Centre or using alternative communications (such as radios) in a tsunami exercise.

- Tabletop exercise may be referred to as a discussion exercise which entails desk-based activities. This type of exercise is intended to generate discussion of issues related to the state of emergency. Participants are presented with a situation that they are required to discuss and for which they formulate the appropriate response or solution. Tabletop exercises may be used to increase public awareness, validate plans, policies and procedures, and training concepts, and/ or to assess the type of systems needed to guide the prevention, protection, mitigation, response, and recovery from the event that has defined. It can also be used to practice problem solving and coordination of services with or without time pressures.

- Functional exercise may also be referred to as an 'operational' or a 'tactical' exercise. This type of exercise is simulated and takes place in an operational environment that requires participants to perform the functions of their roles. These participants interact with the exercise control group who provide prewritten injects and respond to questions and task developing out of the exercise. Functional exercises usually focus on testing plans, policies, and procedures, as well as the multi-agency staff participation involved in the management, direction, command, control, and focusing on the testing of standard operating procedures and internal/external communications between organizations. Functional exercises provide a more realistic simulation of an emergency situation compared to the tabletop exercise.

- A Full-scale exercise may also be referred to as a 'practical' or 'field exercise'. They are usually the biggest, most expensive, most complex and resources-intensive types of exercises, as the focus may include higher-level response structures, and they can be with one agency or multi-agency (different levels of governments from national to local). These exercises are used to test all aspects of the warning and emergency management systems and processes, such as the practicality and communication methods. An example of full-scale exercise would be a post impact tsunami response with volunteers portraying 'victims' and the emergency services using real equipment at the scene with coordination between multi-agency personnel and response to the event. Since actual field mobilization and deployment of response personnel are conducted, full-scale exercises are the most costly, time consuming.

Style	Planning Period	Duration	Comments
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 of time frames for different exercise types

2.4 TIMELINE

The process of planning Exercise Caribe Wave 21 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 Exercise Caribe Wave 21.

ACTION	DUE DATE
Handbook Draft Circulated among ICG/CARIBE-EWS TNC/TWFP and TT Caribe Wave 21	September 2020
Deadline for comments	October 2020
Circular Letter issued by IOC to MS and Exercise participant Handbook available online	November 2020
First webinar CW	26 January 2021 – English 27 January 2021 – Spanish 28 January 2021 – French
Second webinar CW	23 February 2021 – English 24 February 2021 – Spanish 25 February 2021 – French

Countries indicate selected scenario	26 February 2021
Exercise	11 March 2021
Exercise evaluation due	26 March 2021
Final draft Exercise Caribe Wave 21 report	2 April 2021

Table 2. Actions to be taken before, during and after Exercise Caribe Wave 21

3. PTWC PRODUCTS

On 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. The PTWC only issues information and threat messages for the Caribbean. While the first threat message is based on earthquake location, magnitude and travel time thresholds, as of the second threat message, for earthquake generated tsunamis, these products include wave forecasts. Several levels of tsunami threat have been established, and forecast threat levels are 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 the threat 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 Exercise Caribe Wave 21, threat messages and enhanced graphical products 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 Annex III and VI. It is up to each country and territory to decide if and how to disseminate messages within its areas of responsibility.

4. EXERCISE OUTLINE

4.1 PTWC DISSEMINATION METHODS

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

Jamaica Earthquake Scenario:

Origin Time	14:00:00 UTC March 11, 2021
Latitude	18.2°N
Longitude	75.3°W
Magnitude	8.0 – Mw
Depth	25 km

Northern Lesser Antilles Earthquake Scenario:

Origin Time	14:00:00 UTC March 11, 2021
Latitude	18.9°N
Longitude	62.4°W

Magnitude 8.5 – Mw

Depth 25 km

Expected impacts for these events are determined from pre-computed tsunami forecast models. The models indicate significant tsunamis along many coasts in the Caribbean Sea. Annex III provides the model results for the Jamaica and Northern Lesser Antilles scenario.

The PTWC will issue the initial dummy message to start the exercise the 11 March 2021 at 1400 UTC. It will be the only live messages 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 issued with the WMO/AWIPS IDs WECA41 PHEB/TSUCAX. These are issued to test communications with TWFPs and NTWCs, and to start the exercise. The content of the dummy messages is given in Annex V.

The GEONETCast Americas (GNA) is one of the methods in which the dummy message can be received by the TWFPs and NTWCs. It is an operational service used to deliver data and products based on the use of communication satellites (Moura, 2006). GNA has expanded over the last years and become an important data source to the Meteorological community and a wide variety of users that deal with environmental analysis (Maathuis, 2008). It is very important that for Exercise Caribe Wave this method is also validated.

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

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 they are based on tsunami wave forecasts and observations. 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 metre, 1-3 metres, and greater than 3 metres 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 ONLY through email to the corresponding TWFPs and NTWCs. Further dissemination will be the responsibility of the corresponding national and local authorities.

For Exercise Caribe Wave 21, each Member State needs to select one scenario. By 26 February 2021, they must complete a survey (https://forms.gle/NptfCm4xRMw4Bgrw6) to indicate the scenario for which their country wants to receive the simulated messages. 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 this exercise, the TWPF/ NTWC will receive only the simulated product for the selected or assigned scenario.

Participants should follow the corresponding schedule in tables 4 and 5 for each scenarios. The tables include the times when each product will 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 VI) cover a period of time between 7 minutes and 9 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 Jamaica Scenario

Tsunami generated by a magnitude 8.0 earthquake with epicentre at 18.2ºN, 75.3ºW occurring the 11 March 2021 at 1400 UTC. The initial alert is disseminated at 1407 UTC.

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/11/21	**1400**	**- - - - E a r t h q u a k e O c c u r s - - - -**	
3/11/21	**1400**	Dummy	NWWS, GTS, GNA, EMWIN, AISR, Fax, Email
3/11/21	**1407**	Tsunami Threat Message #1	Email
3/11/21	**1415**	Tsunami Threat Message #2	Email
3/11/21	**1425**	Tsunami Threat Message #3 and Graphic Enhanced Products	Email
3/11/21	**1500**	Tsunami threat Message #4	Email
3/11/21	**1600**	Tsunami Threat Message #5	Email
3/11/21	**1700**	Tsunami Threat Message #6	Email
3/11/21	**1800**	Tsunami Threat Message #7	Email
3/11/21	**1900**	Tsunami Threat Message #8	Email
3/11/21	**2000**	Tsunami Threat Message #9	Email
3/11/21	**2100**	Tsunami Threat Message #10	Email
3/11/21	**2200**	Tsunami Threat Message #11	Email
3/11/21	**2300**	Final Tsunami Threat Message #12	Email

Table 4. Timeline Messages issued by PTWC

4.2.2 Northern Lesser Antilles Scenario

Tsunami generated by a magnitude 8.5 earthquake with epicentre at 18.9ºN, 62.4ºW occurring the 11 March 2021 at 1400 UTC. The initial alert is disseminated at 1407 UTC.

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/11/21	**1400**	**- - - - E a r t h q u a k e**	**O c c u r s - - - -**
3/11/21	**1400**	Dummy	NWWS, GTS, GNA, EMWIN, AISR, Fax, Email
3/11/21	**1407**	Tsunami Threat Message #1	Email
3/11/21	**1415**	Tsunami Threat Message # 2	Email
3/11/21	**1425**	Tsunami Threat Message #3 and Graphic Enhanced Products	Email
3/11/21	**1445**	Tsunami Threat Message #4	Email
3/11/21	**1500**	Tsunami Threat Message #5	Email
3/11/21	**1600**	Tsunami Threat Message #6	Email
3/11/21	**1700**	Tsunami Threat Message #7	Email
3/11/21	**1800**	Tsunami Threat Message #8	Email
3/11/21	**1900**	Tsunami Threat Message #9	Email
3/11/21	**2000**	Tsunami Threat Message #10	Email
3/11/21	**2100**	Tsunami Threat Message #11	Email
3/11/21	**2200**	Tsunami Threat Message #12	Email
3/11/21	**2300**	Final Tsunami Threat Message #13	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 21 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 21"** 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 21 Task Team (Table 6).

4.5 COMMUNITY REGISTRATION

For Exercise Caribe Wave 21, the ICG/CARIBE-EWS has continued working along 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 to 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/en/index.php) and the Seismic Research Centre (SRC) (http://uwiseismic.com/downloads/tchws%20final%20media%20kit.pdf) as additional guidance. Annex VII contains a sample press release, which can be adapted as necessary.

Social media has been recognized as a very important mean for disseminating tsunami information and products. CARIBE-EWS countries and territories are encouraged to share information on the Exercise Caribe Wave 21 through this medium. Furthermore, it is requested that the hashtag **#CARIBEWAVE**, be used by the participants before and during the exercise.

Person	Telephone #	Email
Elizabeth Vanacore, PRSN **CARIBE WAVE Chair**	1-787-833-8433	elizabeth.vanacore@upr.edu
Silvia Chacón-Barrantes, **CARIBE-EWS Chair; SINAMOT Costa Rica**	506-830-96690	silviach@una.ac.cr
Dan McNamara **Chair WG 1 Monitoring and Detection Systems**	303-273-8550	mcnamara@usgs.gov
Nicolas Arcos **Chair WG 2 Hazard Assessment**	1-303-497-3158	nicolas.arcos@noaa.gov

Person	Telephone #	Email
Emilio Talavera **Chair WG 3 Tsunami Related Services**	505-224-92761 ext. 102	emilio.talavera@gf.ineter.gob.ni
Christa von Hillebrandt-Andrade **Chair WG 4 Preparedness, Readiness and Resilience Manager, NOAA/CTWP**	1-787-249-8307	christa.vonh@noaa.gov
Alberto López Ivan Wong Matt Hornbach Richard D Koehler **Scientific Experts – Jamaica Scenario**		alberto.lopez3@upr.edu wong@lettisci.com mhornback@smu.edu rkoehler@unr.edu
Alberto López **Scientific Expert – Northern Lesser Antilles Scenario**		alberto.lopez3@upr.edu
Ronald Jackson **Director, CDEMA**	246-425-0386	ronald.Jackson@cdema.org
Claudia Herrera Melgar **Executive Secretary, CEPREDENAC**	502-2390-0200	iajche@cepredenac.org memendez@cepredenac.org
Major Roselly Pepin **Deputy Chief, EMIZ Antilles**	596-59-05-81	roselly.pepin@martinique.pref.gouv.fr
Bernardo Aliaga **Technical Secretary, UNESCO**	33-1-45683980	b.aliaga@unesco.org
Charles McCreery Cindi Preller **PTWC**	1-808-689-8207 1-808-725-6306	charles.mccreery@noaa.gov cindi.preller@noaa.gov
David Wald **Scientific Expert – Earthquake Impact Products, USGS**	1-303-273-8441	wald@usgs.gov
Alison Brome **Programme Officer, CTIC**	246-243-7626	a.brome@unesco.org

Table 6. Members of the CARIBE WAVE 21 Task Team

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 20 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/CaribeWave21. The deadline for completing the evaluation is **26 March 2021.**

6. REFERENCES

Amante, C. and Eakins B.W. 2009. *ETOPO1 1 Arc-Minute Global Relief Model: Procedures, Data Sources and Analysis*. National Geophysical Data Center, NOAA, NOAA Technical Memorandum NESDIS NGDC-24. (doi:10.7289/V5C8276M)

Benz, H.M., et al. 2011. *Seismicity of the Earth 1900–2010 Caribbean plate and vicinity*: U.S. Geological Survey Open-File Report 2010–1083-A, scale 1:8,000,000.

Bernard, P. and Lambert, J. 1988. Subduction and seismic hazard in the northern Lesser Antilles: Revision of the historical seismicity. *Bulletin of the Seismological Society of America*, 78(6), pp.1965–1983.

Bouin, M. P. et al. 2010. Source parameters of the Mw 7.4 Martinique Intermediate-depth earthquake (Leeward Islands) of November 29, 2007: A slab-pull event with horizontal fault plane. *EGUGA*, 5555.

Calais, E. et al. 2010. Transpressional rupture of an unmapped fault during the 2010 Haiti earthquake*. Nature Geoscience*, Vol. 3, Issue 11, pp. 794–799.

DeMets, C., Gordon, R. G. and Argus, D. F. 2010. Geologically current plate motions. *Geophysical Journal International*, Vol. 181, Issue 1, pp. 1–80.

Feuillet, N. et al. 2002. Arc Parallel Extension and Localization of Volcanic Complexes in Guadeloupe, Lesser Antilles. *Journal of Geophysical Research: Solid Earth*, Vol. 107, No B12. (Doi:10.1029/ 2001JB000308).

Hayes, G. P. et al. 2014. Quantifying potential earthquakes and tsunami hazard in the Lesser Antilles subduction zone of the Caribbean region. *Geophysical Journal International*, Vol. 196. Issue 1, pp. 510–521. (https://doi.org/10.1093/gji/ggt385)

International Tsunami Information Center and National Centers for Environmental Information, 2018. *Historical Tsunamis (1530 to 2018) Caribbean, Central America, Mexico and Adjacent Regions*. (https://www.ngdc.noaa.gov/hazard/data/publications/CCAMAR-english.pdf)

Lander, J. F., Whiteside, L. S. and Lockridge, P.A. 2002. A brief history of tsunamis in the Caribbean Sea. *Science of Tsunami Hazards*, Vol. 20, Issue 2, pp.57–94.

Koehler, R. D. et al. 2013. Enriquillo-Plantain Garden fault zone in Jamaica: Paleoseismology and seismic hazard. *Bulletin of the Seismological Society of America*, Vol. 103, Issue 2A, pp. 971–983.

Maathuis, B., Mannaerts, C. and Retsios, B. 2008. *The ITC geonetcast-toolbox approach for less developed countries.* ISPRS 2008: Proceedings of XXI congress: Silk road for information from imager, Department of Water Resources, International Institute for Geo-Information Science and Earth Observation (ITC), pp. 3–11.

Moura, A. D. 2006. WMO's contribution to GEOSS and GEONETCast. *Bulletin of the World Meteorological Organization*, Vol. 55, Issue 4, pp. 256–260.

National Centers for Environmental Information/World Data Service (NCEI/WDS). 2020. *NGDC/WDS Global Historical Tsunami Database*. Boulder, National Center Environmental Information, (doi:10.7289/V5PN93H7).

Prentice, C. S. et al. 2010. Seismic hazard of the Enriquillo-Plantain Garden fault in Haiti inferred from palaeoseismology. *Nature Geoscience*, Vol. 3, Issue 11, 789–793.

ten Brink, U. et al. 2008. *Evaluation of tsunami sources with the potential to impact the U.S. Atlantic and Gulf coasts*. USGS Administrative report to the U.S. Nuclear Regulatory Commission, pp. 300.

UNESCO/IOC. 2017a. *Plans and procedures for tsunami warning and emergency management*. Paris, UNESCO, Manuals and Guides, 76rev., 72 pp. (IOC/2017/MG/76 REV.)

UNESCO/IOC. 2017b. *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)*. Paris, UNESCO, IOC Technical Series No.135 Rev. (English only) (IOC/2017/TS/135 REV.)

UNESCO/IOC. 2019. *Exercise CARIBE WAVE 20. Tsunami Warning Exercise, 19 March 2020 (Jamaica and Portugal). Volume 1: Participant Handbook. Volume 2: Summary Report.* Paris, UNESCO, IOC Technical Series No. 151, Vol. 1., Vol. 2 (English only). (IOC/2019/TS/151 Vol.1+Vol.2).

UNESCO/IOC. 2020. *Preparing for community tsunami evacuations: from inundation to evacuation maps, response plans and exercises*. Paris, UNESCO, Manuals and Guides, 82. (IOC/2020/MG/82, Sup 1 and 2)

von Hillebrandt-Andrade, C. 2013. Minimizing Caribbean Tsunami Risk. *Science*, Vol. 341, pp. 966–968.

Wessel, P. et al. 2013. Generic Mapping Tools: Improved version released. *EOS Trans. AGU*, Vol. 94, Issue 45, p. 409–410. (https://doi.org/10.1002/2013EO450001)

Wright, V. 2019. *Assessing Quaternary Geohazards in Hispaniola and Jamaica Using Seismic, Remote Sensing and Sediment Core data*. Earth Sciences Theses and Dissertations.

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 and 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.

A good reference providing a comprehensive summary on emergency response operations considerations is the document *Plans and procedures for tsunami warning and emergency management* (UNESCO/IOC, 2017a).This document is available through UNESDOC and on the website of the International Tsunami Information Center (ITIC): http://itic.ioc-unesco.org/index.php?option=com_content&view=category&layout=blog&id=1061&Itemid=2255.

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)* (UNESCO/IOC, 2017b, version 2.0 October, 2017). This document is available at UNESDOC and on the website of the Caribbean Tsunami Warning Programme (CTWP) (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 document *Preparing for community tsunami evacuations: from inundation to evacuation maps, response plans and exercises* (UNESCO/IOC, 2020) is available in English and Spanish. Supplements (1. *Programme Modules and Specialized Documents* and 2. *How to Create Evacuation Maps from Inundation Maps –from ComMIT to QGIS: Manual and Tutorial*) are also available in English trough UNESDOC and ITIC website.
(http://itic.ioc-unesco.org/index.php?option=com_content&view=article&id=2092:tsunami-evacuation-maps-plans-procedures-tempp&catid=2166:tsunami-evacuation-maps-plans-procedures-tempp&Itemid=2640)

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. 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). Table I–1 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)	_____	+

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):
Determine if tsunami has caused coastal damage / injuries and the need to initiate search and rescue operations	_____	+ ___
Determine when to declare the “all clear”	_____	+ ___
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

GUIDELINES FOR MULTI-ANNUAL COMMUNITY TSUNAMI EXERCISE PROGRAMME

The Draft *Guidelines for Multi-Annual Community Tsunami Exercise Programme,* IOC/2020/MG/86 (previously entitled Methodological guidelines: How to prepare, conduct and evaluate a community-based tsunami response exercise) was updated in 2020. It provides guidance on how to plan, conduct, and evaluate a multi-annual local tsunami exercise programme. It has been designed for community use by Member States of the Intergovernmental Oceanographic Commission (IOC) who will participate in these multi-annual exercises. The guideline in its updated version is divided into four stages to provide a range of practical advice and templates for community stakeholders and in-country exercise developers. It highlights that a progressive and long-term approach is needed for tsunami exercises.

The four sections are:

- Section A relates to knowledge of the tsunami as a hazard. It provides the information needed to understand the different forms that a tsunami can take, the dangers involved and safety procedures.

- Section B focuses on establishing a multi-annual programme of exercises.

- Section C deals with the different stages involved in preparing a tsunami evacuation exercise. It concentrates on the different functions that should be in place, the methodological approach to be followed and the practical tools that should be used.

- Section D covers the conduction and evaluation of a tsunami evacuation exercise.

Annexes include samples and templates for all the stages of exercise planning.

The draft version of the Guideline is available in English at http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=19139.

Participants in Exercise Caribe Wave 21 are invited to use this guideline in the planning of exercise activities. Participants will be asked to provide feedback in the post-exercise survey. An updated version of the guidelines will then be presented to the ICG/CARIBE-EWS and then to the UNESCO-IOC Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems (TOWS-WG) for additional consideration.

ANNEX III

TSUNAMI SOURCE SCENARIOS DESCRIPTION

The following scenarios 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.

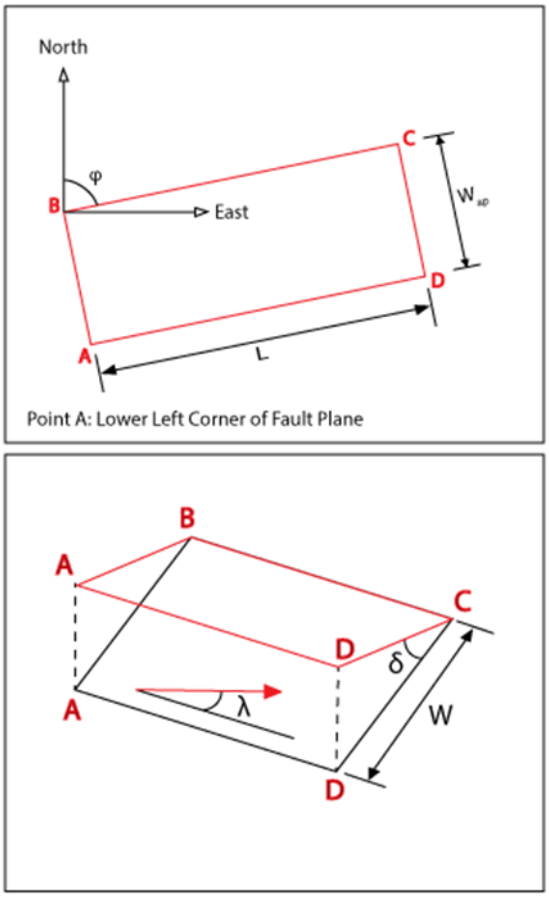


Figure III–1. Schematic of the standard used to describe all fault planes in the Caribe Wave Exercise scenarios.

Jamaica Earthquake Scenario

The Jamaica earthquake scenario consists of a rupture of a fault segment along the Enriquillo-Plantain Garden Fault with the following fault parameters:

- Name of Scenario: Caribe Wave 21 Jamaica Scenario
- EQ Origin Time: 1400 UTC
- Hypocentre Longitude: 75.37ºW
- Hypocentre Latitude: 18.20ºN

- Hypocentre Depth (km): 25 km
- EQ Magnitude (Mw): 8.0
- Slip (m): 6
- Shear modulus: $3.3x10^{11}$ dyne/cm^2
- Seismic Moment: 0.1188E+29 dyne-cm

Corner Point A	
Latitude	18.36º
Longitude	-73.97º
Depth (km)	34.51
Corner Point B	
Latitude	18.31º
Longitude	-73.96º
Depth (km)	15.49

Corner Point C	
Latitude	18.04º
Longitude	-76.79º
Depth (km)	15.49
Corner Point D	
Latitude	18.10º
Longitude	-76.79º
Depth (km)	34.51

Other Fault Parameters	
Strike (ϕ phi)	264.45º
Dip (δ delta)	72º
Rake (λ lambda)	90º
Length (km)	300
Width (W in km)	20
Width in Map View (km) [W_{ap} = W * cos(delta)]	6.18 km

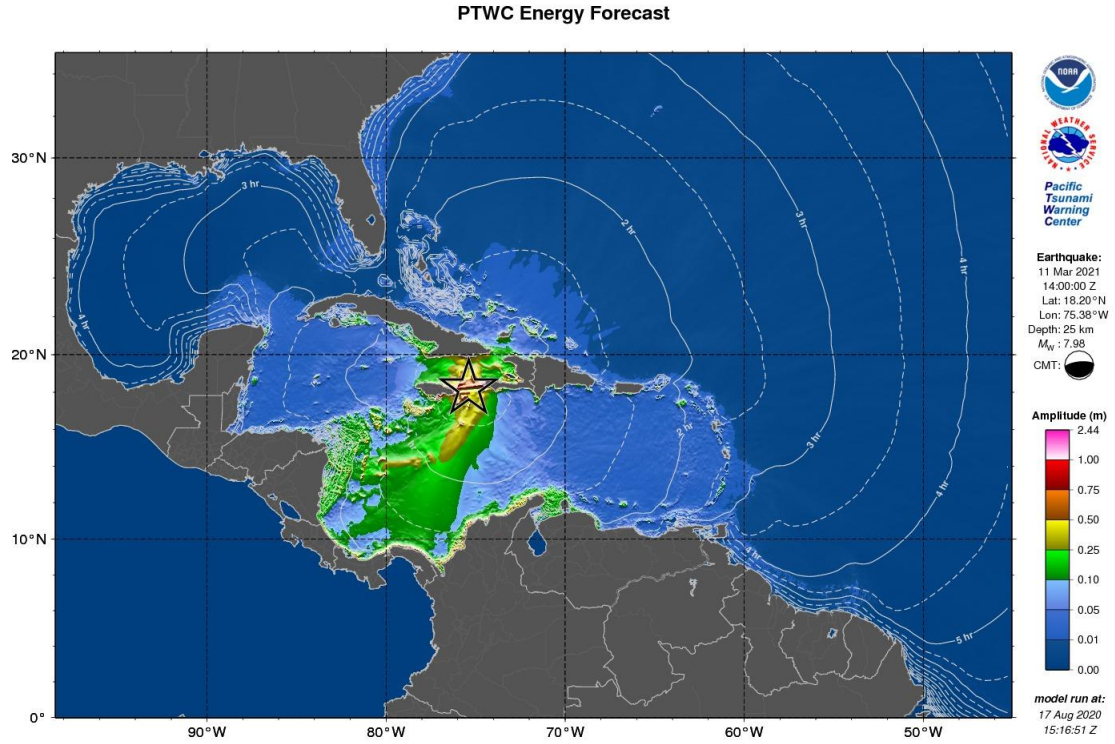


Figure III–2. RIFT maximum amplitude map for the Caribbean and adjacent regions for the Jamaica scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

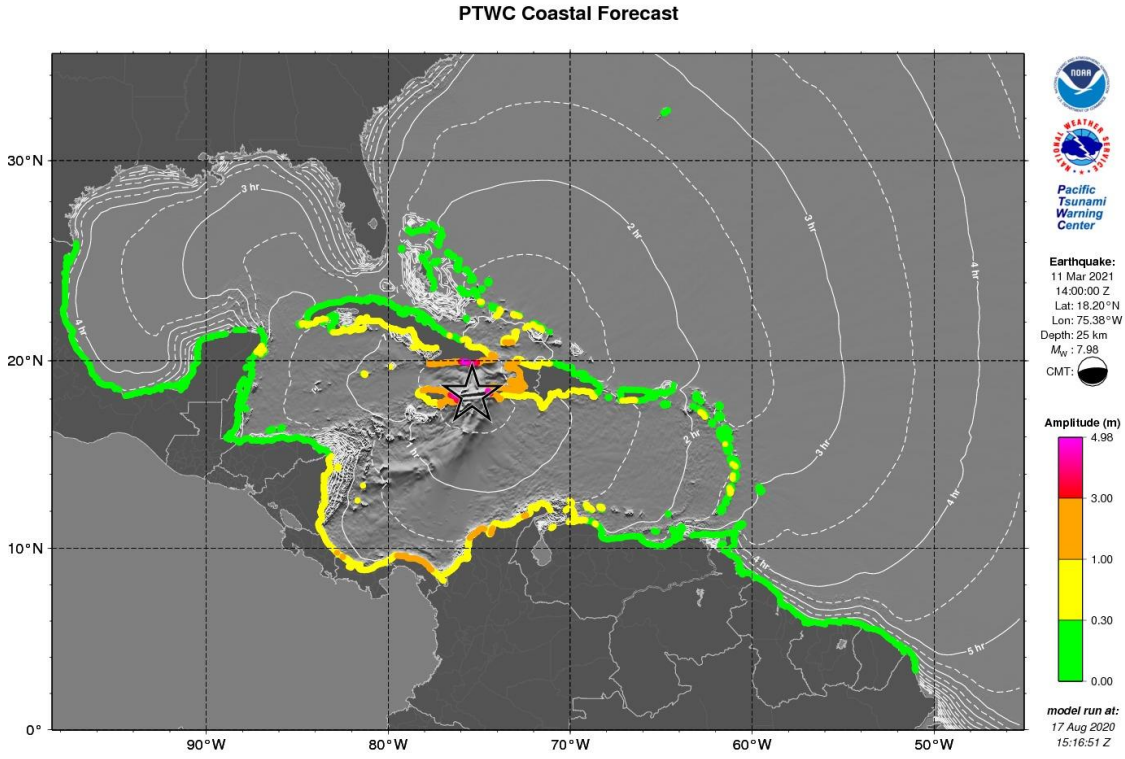


Figure III–3. RIFT coastal tsunami amplitude map for the Caribbean and adjacent regions for the Jamaica scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami.

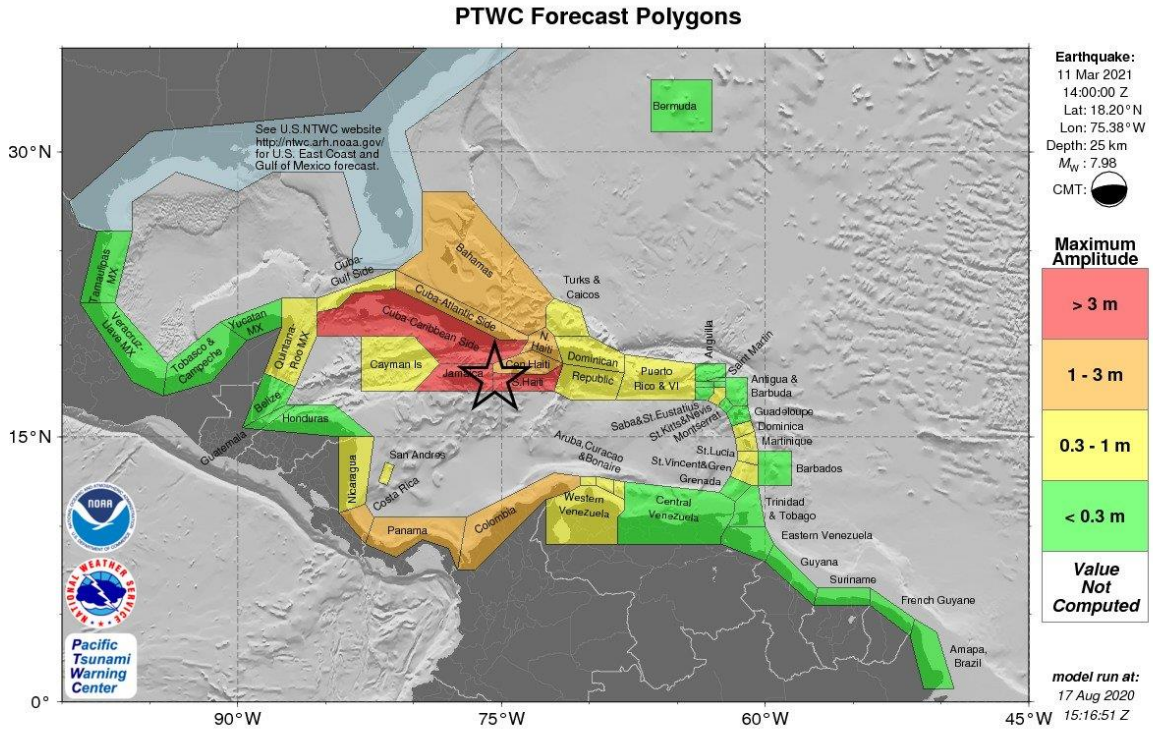


Figure III–4. RIFT forecast polygons for the Caribbean and adjacent regions for the Jamaica scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

Northern Lesser Antilles Earthquake Scenario

The Northern Lesser Antilles earthquake scenario consists of rupture fault segment along the Leeward Islands with the following fault parameters:

- Name of Scenario: Caribe Wave 21 Northern Lesser Antilles Scenario
- EQ Origin Time: 1400 UTC
- Hypocenter Longitude: 62.49ºW
- Hypocenter Latitude: 18.97ºN
- Hypocenter Depth (km): 25 km
- EQ Magnitude (Mw): 8.54
- Slip (m): 15
- Shear modulus: $3.3x10^{11}$ dyne/cm^2
- Seismic Moment: 0.7920E+29 dyne-cm

Corner Point A	
Latitude	19.04º
Longitude	-63.51 º
Depth (km)	34.67
Corner Point B	
Latitude	19.67º
Longitude	-63.20º
Depth (km)	15.32

Corner Point C	
Latitude	18.91º
Longitude	-61.48º
Depth (km)	15.32
Corner Point D	
Latitude	18.28º
Longitude	-61.79º
Depth (km)	34.67

Other Fault Parameters	
Strike (ϕ phi)	115º
Dip (δ delta)	14º
Rake (λ lambda)	50º
Length (km)	200
Width (W in km)	80
Width in Map View (km) [W_{ap} = W * cos(delta)]	77.6 km

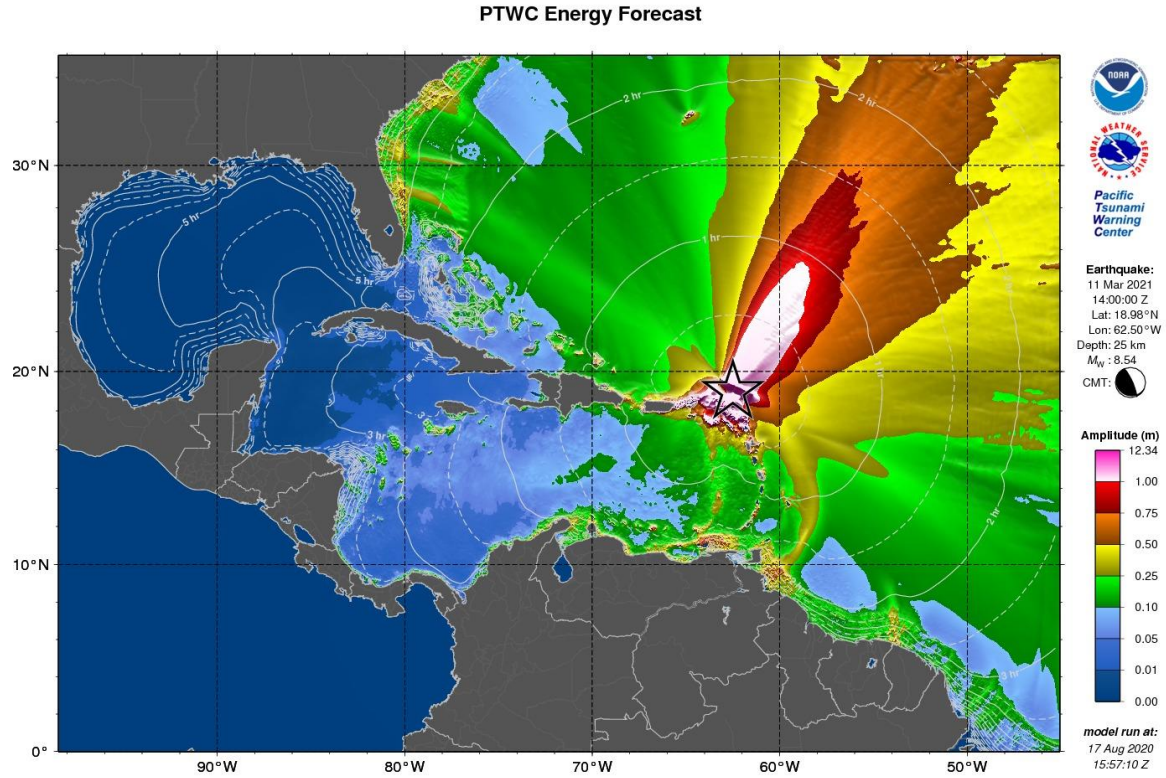


Figure III-5. RIFT maximum amplitude map for the Caribbean and adjacent regions for the Northern Lesser Antilles scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

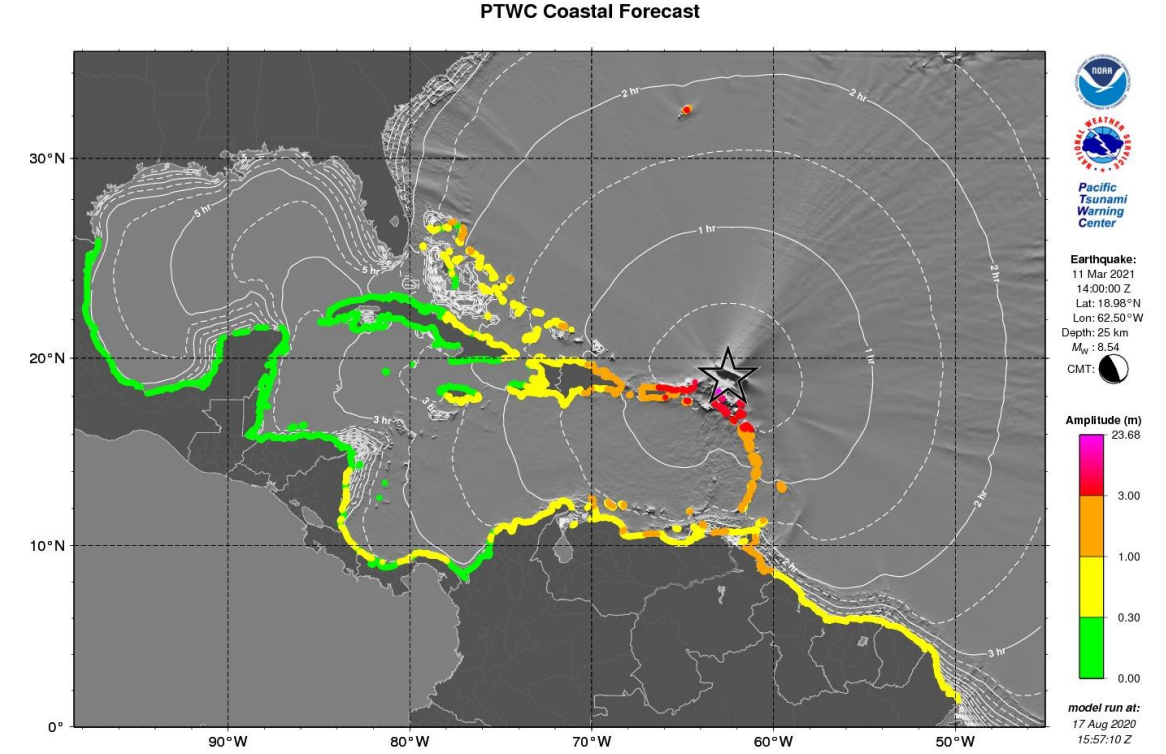


Figure III-6. RIFT coastal tsunami amplitude map for the Caribbean and adjacent regions for the Northern Lesser Antilles scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

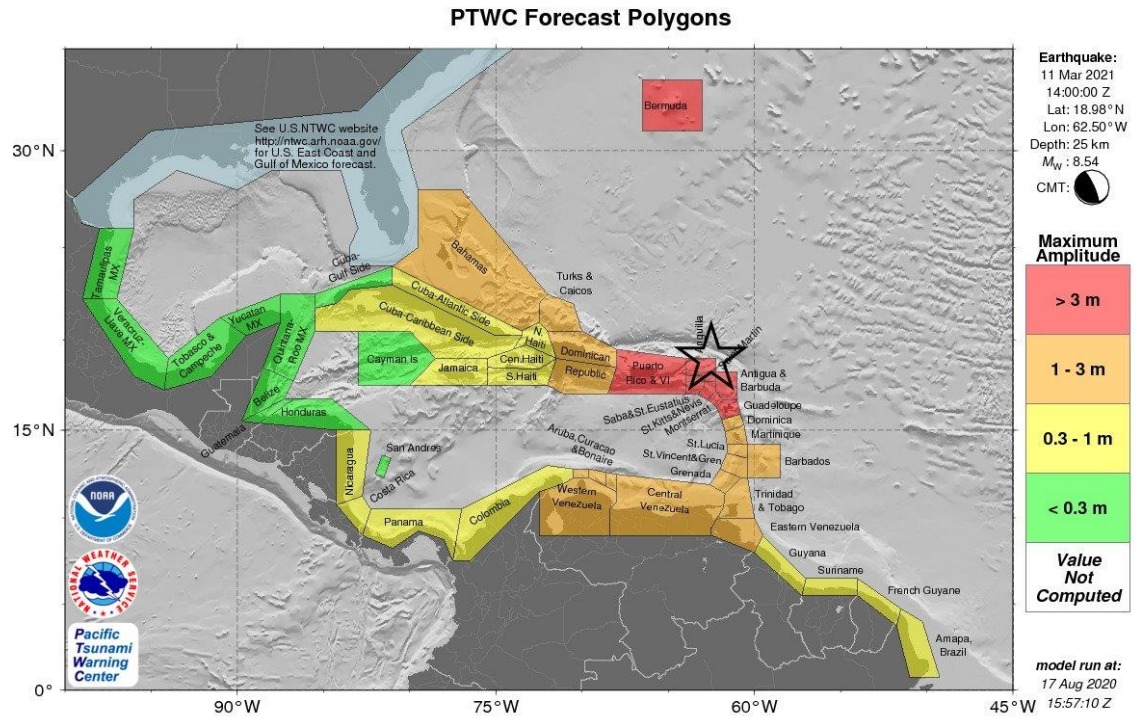


Figure III-7. RIFT forecast polygons for the Caribbean and adjacent regions for the Northern Lesser Antilles scenario. During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centres.

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 21, the fault plane is represented by one segment for each of the scenarios. The Jamaica fault plane is 300 km long and 20 km wide, and the Northern Lesser Antilles fault plane is 200 km long and 80 km wide.

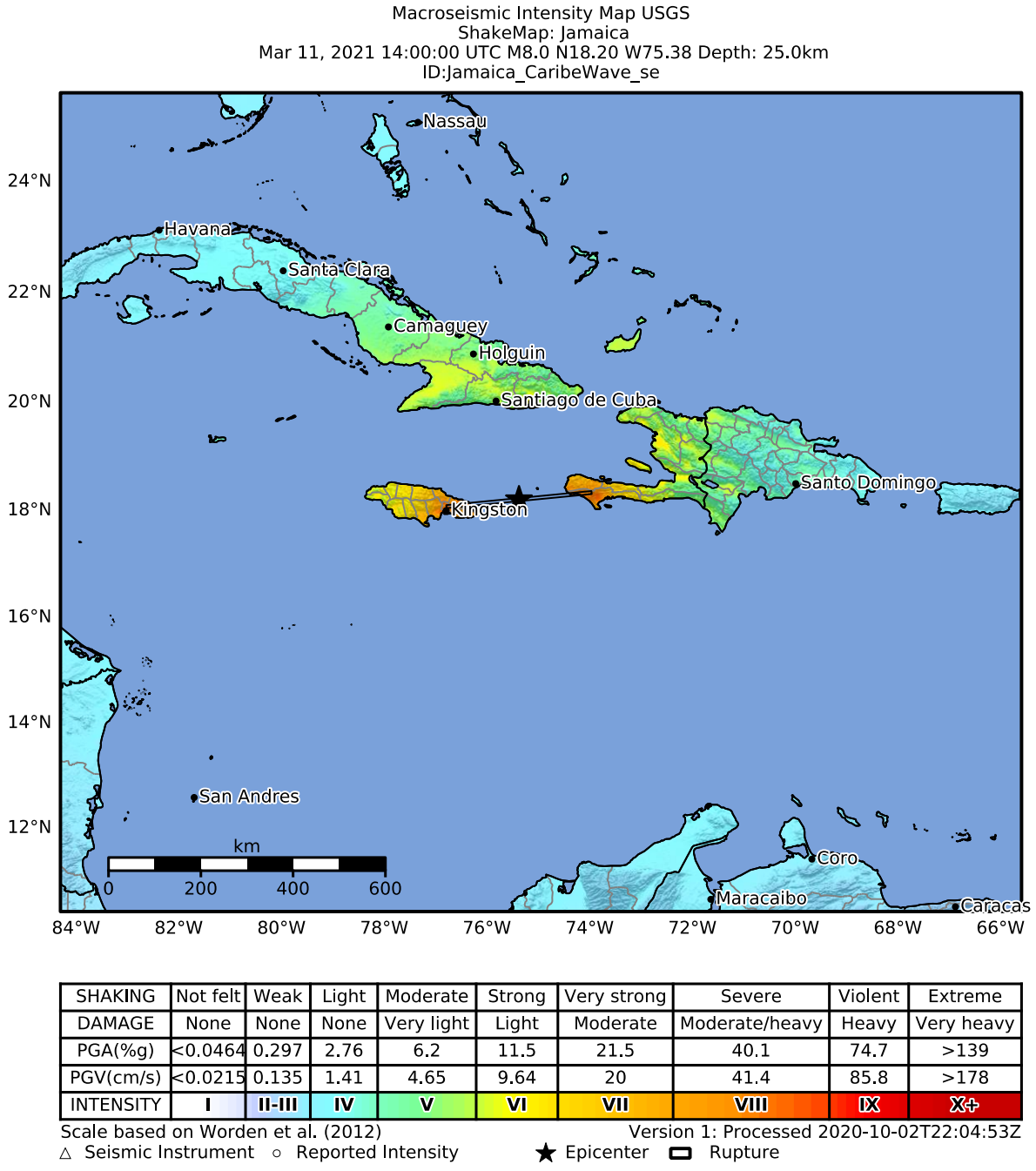
Figures IV–1 through IV–4 show ShakeMap and PAGER outputs for the Exercise Caribe Wave 21 earthquake scenarios.

For the Jamaica scenario, the ShakeMap show intensities up to VIII on the Mercalli Modified Scale (Figure IV–1). The strongest ground shaking is predicted near the East coast of Jamaica and Southwest of Haiti. 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 Anguilla and Puerto Rico.

According to PAGER (Figure IV–2 and IV–4), the Exercise Caribe Wave 21 simulated earthquakes would produce earthquake shaking red alert for Jamaica scenario and yellow alert for the Northern Lesser Antilles scenario. For the Jamaica scenario, fatalities are probable and economic losses might exceed the gross domestic product (GDP). As for the Northern Lesser Antilles scenario, some casualties and damage are possible.

Regarding population exposed to earthquake shaking, it is estimated that almost 2 million people for Jamaica scenario and almost 105k people for the Northern Lesser Antilles scenario would be exposed to Modified Mercalli intensities from III up to VIII (according to PAGER).

Jamaica Earthquake Scenario (will be updated to reflect 2020 date)



SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.0464	0.297	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.0215	0.135	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based on Worden et al. (2012) Version 1: Processed 2020-10-02T22:04:53Z

△ Seismic Instrument ○ Reported Intensity ★ Epicenter ▭ Rupture

Figure IV–1. ShakeMap output for the Caribe Wave 21 Jamaica earthquake scenario (USGS).

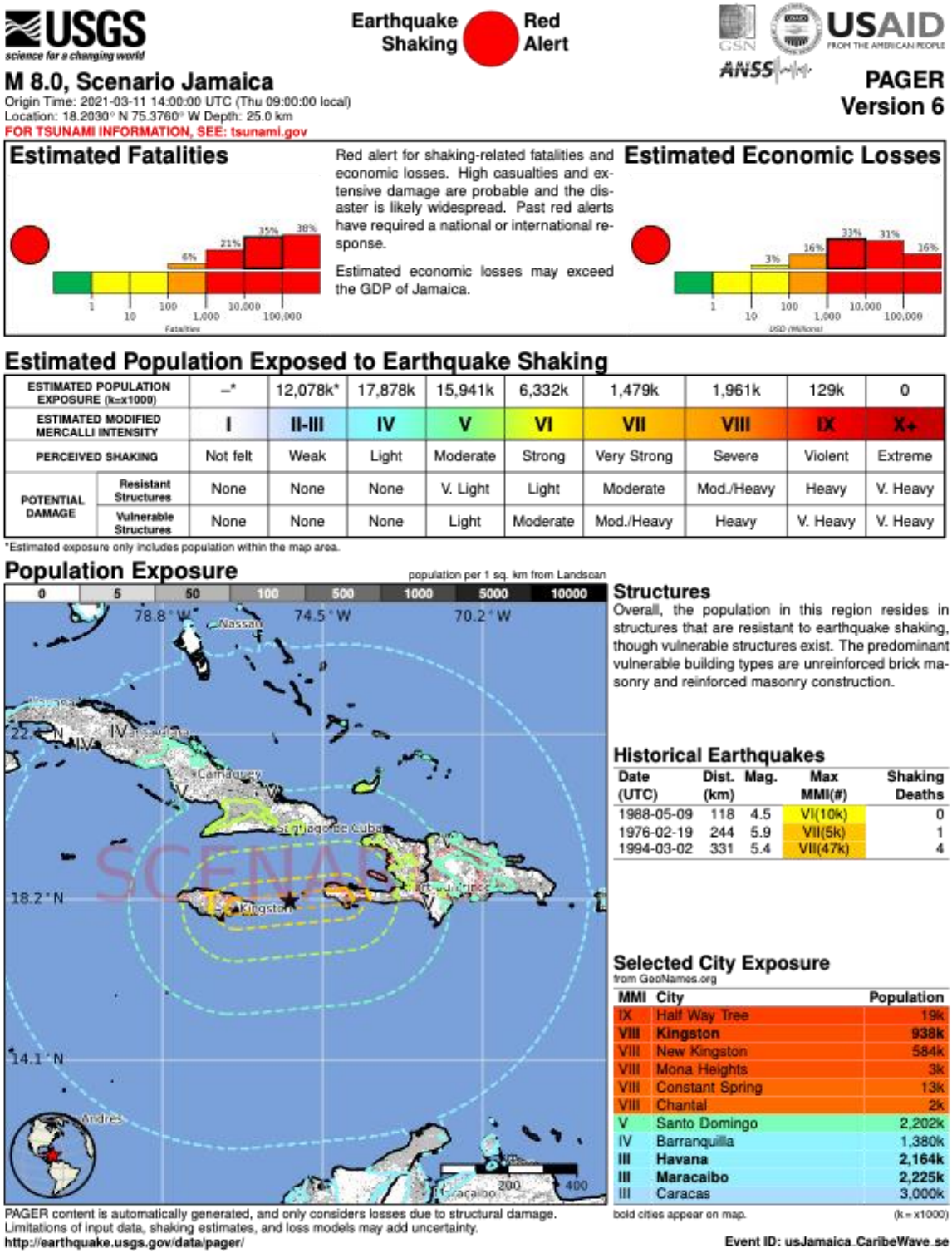
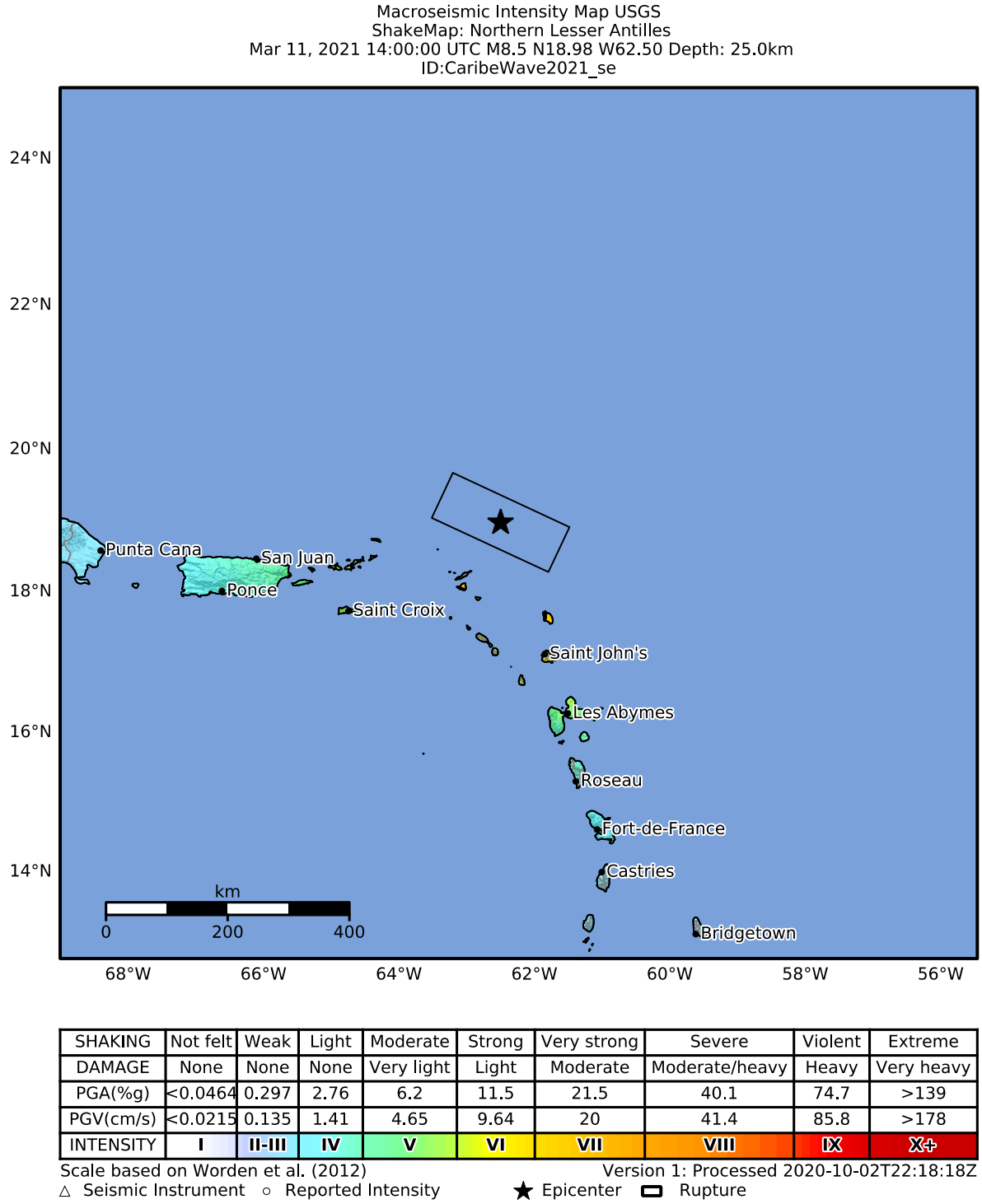


Figure IV–2. PAGER output for Caribe Wave 21 Jamaica earthquake scenario (USGS).

Northern Lesser Antilles Earthquake Scenario



SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.0464	0.297	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.0215	0.135	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based on Worden et al. (2012) Version 1: Processed 2020-10-02T22:18:18Z
△ Seismic Instrument ○ Reported Intensity ★ Epicenter ▭ Rupture

Figure IV–3. ShakeMap output for the Caribe Wave 21 Northern Lesser Antilles earthquake scenario (USGS).

USGS science for a changing world

Earthquake Shaking — Yellow Alert

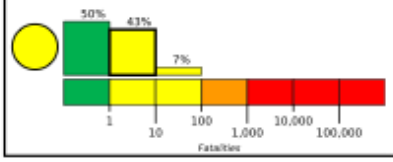
GSN ANSS USAID FROM THE AMERICAN PEOPLE

M 8.5, Scenario Northern Lesser Antilles

Origin Time: 2021-03-11 14:00:00 UTC (Thu 10:00:00 local)
Location: 18.9767° N 62.4988° W Depth: 25.0 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

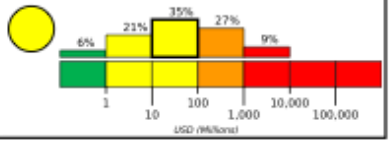
PAGER Version 2

Estimated Fatalities



Yellow alert for shaking-related fatalities and economic losses. Some casualties and damage are possible and the impact should be relatively localized. Past yellow alerts have required a local or regional level response.

Estimated Economic Losses

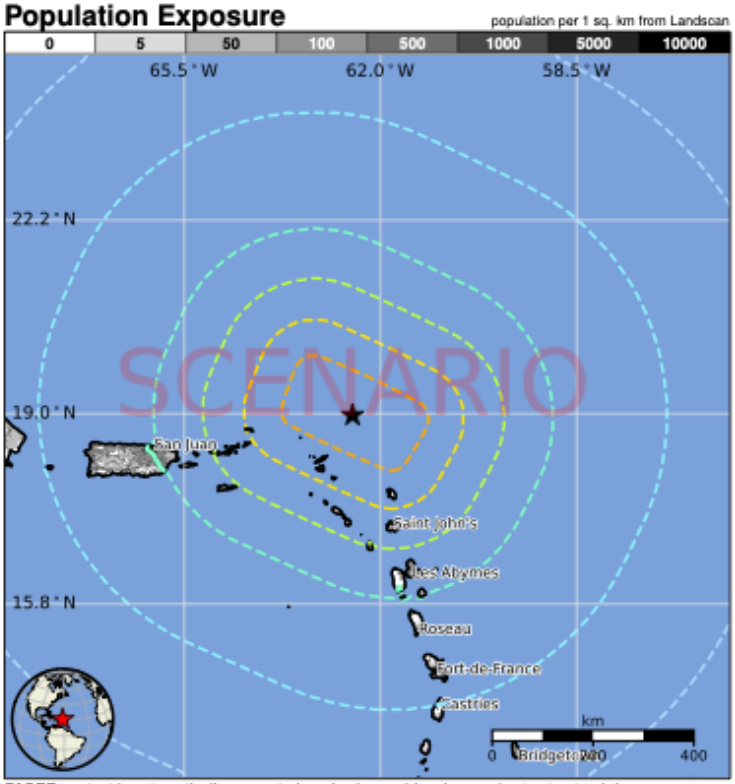


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	1,038k*	2,525k	1,769k	248k	105k	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 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
1985-03-16	221	6.4	VII(6k)	0
1974-10-08	189	7.5	IX(45k)	0
2004-11-21	377	6.3	VII(3k)	1

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

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	North Side	<1k
VII	Stoney Ground	<1k
VII	The Valley	2k
VII	Island Harbour	<1k
VII	East End Village	<1k
VII	North Hill Village	<1k
V	Carolina	170k
V	**San Juan**	**418k**
IV	Bayamon	203k
IV	Ponce	153k
III	La Romana	208k

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: usCaribeWave2021.se

Figure IV–4. PAGER output for Caribe Wave 21 Northern Lesser Antilles earthquake scenario (USGS).

ANNEX V

TWC DUMMY (START OF EXERCISE) MESSAGE

PTWC

```
WECA41 PHEB 111400

TSUCAX


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

NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS

ISSUED AT 1400Z 11 MAR 2021


...TEST... CARIBE WAVE 21 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 21

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

This Annex contains the messages issued by the PTWC for the two scenarios that will be practiced during Exercise Caribe Wave 21:

- Jamaica Scenario and
- Northern Lesser Antilles Scenario

Jamaica Scenario

The following messages created for the Caribe Wave 21 tsunami exercise are representative of the official standard products issued by the PTWC for a magnitude 8.0 earthquake and subsequent tsunami originating in the Enriquillo-Plantain Garden Fault Zone. 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 111407
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1407 UTC THU MAR 11 2021

...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 7.9
* ORIGIN TIME 1400 UTC MAR 11 2021
* COORDINATES 18.2 NORTH 75.4 WEST
* DEPTH 25 KM / 16 MILES
* LOCATION JAMAICA REGION

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

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 7.9 OCCURRED IN THE JAMAICA REGION AT 1400 UTC ON THURSDAY MARCH 11 2021.

* 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

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

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 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)
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1422 03/11
JEREMIE	HAITI	18.6N	74.1W	1424 03/11
JACAMEL	HAITI	18.1N	72.5W	1433 03/11
BARACOA	CUBA	20.4N	74.5W	1442 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1446 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1448 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1451 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1454 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1454 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1458 03/11
GIBARA	CUBA	21.1N	76.1W	1502 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1502 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1502 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1505 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1510 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1511 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1513 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1522 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1522 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1526 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1527 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1529 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1532 03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1532 03/11
ONIMA	BONAIRE	12.3N	68.3W	1535 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1535 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1537 03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1538 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1541 03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1541 03/11
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1544 03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1544 03/11
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1547 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1548 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1549 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1550 03/11

ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1558 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1558 03/11
COZUMEL	MEXICO	20.5N	87.0W	1600 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602 03/11
SABA	SABA	17.6N	63.2W	1603 03/11
PUERTO CORTES	HONDURAS	15.9N	88.0W	1603 03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608 03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610 03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1611 03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1611 03/11
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1612 03/11
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1612 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616 03/11
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1617 03/11
THE VALLEY	ANGUILLA	18.3N	63.1W	1620 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622 03/11
COLON	PANAMA	9.4N	79.9W	1622 03/11
LA HABANA	CUBA	23.2N	82.4W	1624 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633 03/11
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1634 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635 03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1638 03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1639 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1643 03/11
PALMETTO POINT	BARBUDA	17.6N	61.9W	1644 03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1645 03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1650 03/11
TRUJILLO	HONDURAS	15.9N	86.0W	1650 03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1650 03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1653 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1656 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706 03/11

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... 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.

$$

NNNN

PTWC Message #2

```
ZCZC
WECA41 PHEB 111415
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1415 UTC THU MAR 11 2021

...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 *****


THE EARTHQUAKE MAGNITUDE IS REVISED IN THIS MESSAGE.


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

  * MAGNITUDE      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

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


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

  * THIS IS A TEST MESSAGE. HAZARDOUS TSUNAMI WAVES FROM THIS
```

EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

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

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 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)
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1422 03/11
JEREMIE	HAITI	18.6N	74.1W	1424 03/11
JACAMEL	HAITI	18.1N	72.5W	1433 03/11
BARACOA	CUBA	20.4N	74.5W	1442 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1446 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1448 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1451 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1454 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1454 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1458 03/11
GIBARA	CUBA	21.1N	76.1W	1502 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1502 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1502 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1505 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1510 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1511 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1513 03/11

LONG ISLAND	BAHAMAS	23.3N	75.1W	1522	03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1522	03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1526	03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1527	03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1529	03/11
EXUMA	BAHAMAS	23.6N	75.9W	1532	03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1532	03/11
ONIMA	BONAIRE	12.3N	68.3W	1535	03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1535	03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1537	03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1538	03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1541	03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1541	03/11
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1544	03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1544	03/11
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1547	03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1548	03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1549	03/11
ALIGANDI	PANAMA	9.2N	78.0W	1550	03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1558	03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1558	03/11
COZUMEL	MEXICO	20.5N	87.0W	1600	03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602	03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602	03/11
SABA	SABA	17.6N	63.2W	1603	03/11
PUERTO CORTES	HONDURAS	15.9N	88.0W	1603	03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608	03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609	03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610	03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610	03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1611	03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1611	03/11
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1612	03/11
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1612	03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615	03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616	03/11
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1617	03/11
THE VALLEY	ANGUILLA	18.3N	63.1W	1620	03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621	03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621	03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622	03/11
COLON	PANAMA	9.4N	79.9W	1622	03/11
LA HABANA	CUBA	23.2N	82.4W	1624	03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627	03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627	03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630	03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633	03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633	03/11
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1634	03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635	03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1638	03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1639	03/11
CUMANA	VENEZUELA	10.5N	64.2W	1643	03/11
PALMETTO POINT	BARBUDA	17.6N	61.9W	1644	03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1645	03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1650	03/11
TRUJILLO	HONDURAS	15.9N	86.0W	1650	03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1650	03/11

BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1653 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1656 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1707 03/11
BELIZE CITY	BELIZE	17.5N	88.2W	1713 03/11

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... 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.

$$

NNNN

PTWC Message #3

```
ZCZC
WECA41 PHEB 111425
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 3...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1425 UTC THU MAR 11 2021

...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 *****


FORECAST TSUNAMI AMPLITUDES ARE PROVIDED IN THIS MESSAGE.


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

  * MAGNITUDE      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.
```

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

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

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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1422 03/11
JEREMIE	HAITI	18.6N	74.1W	1424 03/11
JACAMEL	HAITI	18.1N	72.5W	1433 03/11
BARACOA	CUBA	20.4N	74.5W	1442 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1446 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1448 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1451 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1454 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1454 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1458 03/11
GIBARA	CUBA	21.1N	76.1W	1502 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1502 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1502 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1505 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1510 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1511 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1513 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1522 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1522 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1526 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1527 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1529 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1532 03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1532 03/11
ONIMA	BONAIRE	12.3N	68.3W	1535 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1535 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1537 03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1538 03/11

CAT ISLAND	BAHAMAS	24.4N	75.5W	1541 03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1541 03/11
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1544 03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1544 03/11
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1547 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1548 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1549 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1550 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1558 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1558 03/11
COZUMEL	MEXICO	20.5N	87.0W	1600 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602 03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608 03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622 03/11
COLON	PANAMA	9.4N	79.9W	1622 03/11
LA HABANA	CUBA	23.2N	82.4W	1624 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1707 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1735 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1751 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1850 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	1910 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2032 03/11

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... 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.

$$

NNNN

PTWC Message #4

```
ZCZC
WECA41 PHEB 111500
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 4...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 11 2021

...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 *****


TSUNAMI WAVES HAVE NOW BEEN CONFIRMED.


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

  * MAGNITUDE      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1422 03/11
JEREMIE	HAITI	18.6N	74.1W	1424 03/11
JACAMEL	HAITI	18.1N	72.5W	1433 03/11
BARACOA	CUBA	20.4N	74.5W	1442 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1446 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1448 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1451 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1454 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1454 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1458 03/11
GIBARA	CUBA	21.1N	76.1W	1502 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1502 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1502 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1505 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1510 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1511 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1513 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1522 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1522 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1526 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1527 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1529 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1532 03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1532 03/11
ONIMA	BONAIRE	12.3N	68.3W	1535 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1535 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1537 03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1538 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1541 03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1541 03/11
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1544 03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1544 03/11
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1547 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1548 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1549 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1550 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1558 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1558 03/11
COZUMEL	MEXICO	20.5N	87.0W	1600 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602 03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608 03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622 03/11
COLON	PANAMA	9.4N	79.9W	1622 03/11
LA HABANA	CUBA	23.2N	82.4W	1624 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630 03/11

BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633	03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633	03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635	03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706	03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1707	03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1735	03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1751	03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1850	03/11
NUEVA GERONA	CUBA	21.9N	82.8W	1910	03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2032	03/11

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)
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #5

```
ZCZC
WECA41 PHEB 111600
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 5...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1600 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)

GIBARA	CUBA	21.1N	76.1W	1502	03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1502	03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1502	03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1505	03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1510	03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1511	03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1513	03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1522	03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1522	03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1526	03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1527	03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1529	03/11
EXUMA	BAHAMAS	23.6N	75.9W	1532	03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1532	03/11
ONIMA	BONAIRE	12.3N	68.3W	1535	03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1535	03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1537	03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1538	03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1541	03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1541	03/11
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1544	03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1544	03/11
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1547	03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1548	03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1549	03/11
ALIGANDI	PANAMA	9.2N	78.0W	1550	03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1558	03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1558	03/11
COZUMEL	MEXICO	20.5N	87.0W	1600	03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602	03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602	03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608	03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609	03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610	03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610	03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615	03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616	03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621	03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621	03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622	03/11
COLON	PANAMA	9.4N	79.9W	1622	03/11
LA HABANA	CUBA	23.2N	82.4W	1624	03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627	03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627	03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630	03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633	03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633	03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635	03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706	03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1707	03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1735	03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1751	03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1850	03/11
NUEVA GERONA	CUBA	21.9N	82.8W	1910	03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2032	03/11

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)
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #6

```
ZCZC
WECA41 PHEB 111700
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 6...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1700 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)

COZUMEL	MEXICO	20.5N	87.0W	1600 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1602 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1602 03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1608 03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1609 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1610 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1610 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1615 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1616 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1621 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1621 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1622 03/11
COLON	PANAMA	9.4N	79.9W	1622 03/11
LA HABANA	CUBA	23.2N	82.4W	1624 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1627 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1627 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1630 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1633 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1633 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1635 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1706 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1707 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1735 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1751 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1850 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	1910 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2032 03/11

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)
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #7

```
ZCZC
WECA41 PHEB 111800
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 7...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1800 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1706 03/11
ROADTOWN	BR VIRGIN IS	18.4N 64.6W	1707 03/11
SANTA CRZ D SUR	CUBA	20.7N 78.0W	1735 03/11
PUNTO FIJO	VENEZUELA	11.7N 70.2W	1751 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1850 03/11
NUEVA GERONA	CUBA	21.9N 82.8W	1910 03/11
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2032 03/11

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)
GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24

```
    CAP HAITIEN HT       19.8N  72.2W    1504   0.46M/ 1.5FT  22
    PORT ROYAL JM        17.9N  76.8W    1456   2.08M/ 6.8FT  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
    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.

$$


NNNN
```

PTWC Message #8

```
ZCZC
WECA41 PHEB 111900
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 8...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1900 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1850 03/11
NUEVA GERONA	CUBA	21.9N 82.8W	1910 03/11
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2032 03/11

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)

GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #9

```
ZCZC
WECA41 PHEB 112000
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 9...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2000 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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	1910 03/11
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2032 03/11

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)

WRIGHT BEACH NC	34.2N	77.8W	1901	0.09M/ 0.3FT	18
GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #10

```
ZCZC
WECA41 PHEB 112100
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 10...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2100 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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)
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2032 03/11

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)
WRIGHT BEACH NC	34.2N	77.8W	1901	0.09M/ 0.3FT	18

GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #11

```
ZCZC
WECA41 PHEB 112200
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 11...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2200 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  CUBA... HAITI... AND JAMAICA.

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

  COLOMBIA... COSTA RICA... PANAMA... AND BAHAMAS.

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

  DOMINICAN REPUBLIC... MEXICO... NICARAGUA... VENEZUELA... ARUBA... BONAIRE... CAYMAN ISLANDS... CURACAO... DOMINICA... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND PROVIDENCIA... 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... 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)
WRIGHT BEACH NC	34.2N	77.8W	1901	0.09M/ 0.3FT	18
GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16

DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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 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.

$$

NNNN

PTWC Message #12

```
ZCZC
WECA41 PHEB 112300
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 12...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2300 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    18.2 NORTH  75.4 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       JAMAICA REGION


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE JAMAICA REGION AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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.

	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI	WAVE PERIOD
GAUGE LOCATION	LAT	LON	(UTC)	HEIGHT	(MIN)
WRIGHT BEACH NC	34.2N	77.8W	1901	0.09M/ 0.3FT	18
GANTERS BAY ST LUCI	14.0N	61.0W	1701	0.28M/ 0.9FT	28
PRICKLEY BAY GD	12.0N	61.8W	1700	0.16M/ 0.5FT	20
LE ROBERT MARTINIQU	14.7N	60.9W	1659	0.12M/ 0.4FT	22
CALLIAQUA VC	13.1N	61.2W	1648	0.33M/ 1.1FT	26
BLOWING POINT AI	18.2N	63.1W	1643	0.25M/ 0.8FT	22
POINT A PITRE GP	16.2N	61.5W	1639	0.13M/ 0.4FT	28

DESIRADE GUADELOUPE	16.3N	61.1W	1645	0.10M/ 0.3FT	18
FORT DE FRANCE MQ	14.6N	61.1W	1639	0.31M/ 1.0FT	14
SAINT MARTIN FR	18.1N	63.1W	1635	0.17M/ 0.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1634	0.25M/ 0.8FT	24
CULEBRA IS PR	18.3N	65.3W	1635	0.09M/ 0.3FT	26
LE PRECHEUR MARTINI	14.8N	61.2W	1635	0.20M/ 0.7FT	22
ROSEAU DM	15.3N	61.4W	1631	0.23M/ 0.8FT	22
PORTSMOUTH DM	15.6N	61.5W	1631	0.30M/ 1.0FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1628	0.17M/ 0.6FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1627	0.22M/ 0.7FT	22
LIMON CR	10.0N	83.0W	1626	0.89M/ 2.9FT	26
CEIBA CABOTAGE HN	15.8N	86.8W	1625	0.13M/ 0.4FT	22
SAPZURRO CO	8.7N	77.4W	1617	0.69M/ 2.3FT	18
BASSETERRE KN	17.3N	62.7W	1620	0.17M/ 0.6FT	28
CARRIE BOW CAY BZ	16.8N	88.1W	1617	0.17M/ 0.5FT	24
PUERTO CORTES HN	15.8N	88.0W	1610	0.18M/ 0.6FT	14
SIAN KAAN MX	19.3N	87.4W	1612	0.21M/ 0.7FT	26
EL PORVENIR PA	9.6N	78.9W	1607	1.18M/ 3.9FT	28
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	28
PUERTO MORELOS MX	20.9N	86.9W	1601	0.25M/ 0.8FT	22
PUERTO MORELOS MX	20.9N	86.9W	1603	0.25M/ 0.8FT	16
SAN ANDRES CO	12.6N	81.7W	1556	0.57M/ 1.9FT	28
SAN JUAN PR	18.5N	66.1W	1558	0.07M/ 0.2FT	22
ESPERANZA VIEQUES P	18.1N	65.5W	1558	0.25M/ 0.8FT	28
ARECIBO PR	18.5N	66.7W	1551	0.10M/ 0.3FT	16
LIMETREE VI	17.7N	64.8W	1552	0.23M/ 0.8FT	18
ST CROIX VI	17.7N	64.7W	1549	0.15M/ 0.5FT	20
ISLA NAVAL CO	10.2N	75.8W	1547	0.73M/ 2.4FT	24
ROATAN ISLAND HN	16.3N	86.5W	1552	0.15M/ 0.5FT	26
YABUCOA PR	18.1N	65.8W	1544	0.28M/ 0.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1547	0.39M/ 1.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1541	0.29M/ 1.0FT	26
MAYAGUEZ PR	18.2N	67.2W	1547	0.29M/ 1.0FT	26
SANTA MARTA CO	11.2N	74.2W	1537	0.72M/ 2.4FT	20
PUNTA CANA DO	18.5N	68.4W	1539	0.23M/ 0.7FT	22
MONA ISLAND PR	18.1N	67.9W	1529	0.29M/ 0.9FT	22
DART 42407	15.3N	68.2W	1524	0.03M/ 0.1FT	16
GRAND TURK ISLAND T	21.4N	71.1W	1521	0.18M/ 0.6FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.19M/ 0.6FT	14
BARAHONA DO	18.2N	71.1W	1516	0.52M/ 1.7FT	20
GEORGE TOWN CY	19.3N	81.4W	1505	0.32M/ 1.1FT	24
CAP HAITIEN HT	19.8N	72.2W	1504	0.46M/ 1.5FT	22
PORT ROYAL JM	17.9N	76.8W	1456	2.08M/ 6.8FT	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.

$$

NNNN

Northern Lesser Antilles Scenario

The following messages created for the Caribe Wave 21 tsunami exercise are representative of the official standard products issued by the PTWC for a magnitude 8.5 earthquake and subsequent tsunami originating along the Leeward Islands. 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 111407
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1407 UTC THU MAR 11 2021

...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      8.0
  * ORIGIN TIME    1400 UTC MAR 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.0 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

  US VIRGIN IS... SABA... SINT EUSTATIUS... SAINT KITTS... PUERTO RICO... SINT MAARTEN... BR VIRGIN IS... ANGUILLA... BARBUDA... GUADELOUPE... MONTSERRAT... SAINT MARTIN... SAINT BARTHELEMY... DOMINICAN REP... DOMINICA... MARTINIQUE... ANTIGUA... SAINT LUCIA... BARBADOS... SAINT VINCENT... TURKS N CAICOS... HAITI... BAHAMAS... BONAIRE... TRINIDAD TOBAGO... GRENADA... CURACAO... CUBA... ARUBA... VENEZUELA... BERMUDA... JAMAICA... COLOMBIA... CAYMAN ISLANDS AND PANAMA

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 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)
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1428 03/11
SABA	SABA	17.6N 63.2W	1429 03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1433 03/11
BASSETERRE	SAINT KITTS	17.3N 62.7W	1434 03/11
SAN JUAN	PUERTO RICO	18.5N 66.1W	1435 03/11
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1435 03/11
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1437 03/11
THE VALLEY	ANGUILLA	18.3N 63.1W	1438 03/11
PALMETTO POINT	BARBUDA	17.6N 61.9W	1441 03/11
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1447 03/11
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1448 03/11
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1449 03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1451 03/11
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1452 03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1452 03/11

CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1453 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1453 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1456 03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1458 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1501 03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1503 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1503 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1510 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1512 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1514 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1515 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1518 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1519 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1520 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1526 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527 03/11
ONIMA	BONAIRE	12.3N	68.3W	1530 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1532 03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1532 03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1532 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1534 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1537 03/11
BARACOA	CUBA	20.4N	74.5W	1537 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1538 03/11
JACAMEL	HAITI	18.1N	72.5W	1542 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1542 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1543 03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1554 03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1556 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1558 03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1559 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1605 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1607 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1611 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1613 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1622 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1624 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1625 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1628 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1628 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1628 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1631 03/11
JEREMIE	HAITI	18.6N	74.1W	1638 03/11
GIBARA	CUBA	21.1N	76.1W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1645 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1647 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1652 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1700 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1702 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1703 03/11

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... 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.

* 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.

$$

NNNN

PTWC Message #2

```
ZCZC
WECA41 PHEB 111415
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1415 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

US VIRGIN IS... SABA... SINT EUSTATIUS... SAINT KITTS...
PUERTO RICO... SINT MAARTEN... BR VIRGIN IS... ANGUILLA...
BARBUDA... GUADELOUPE... MONTSERRAT... SAINT MARTIN...
SAINT BARTHELEMY... DOMINICAN REP... DOMINICA...
MARTINIQUE... ANTIGUA... SAINT LUCIA... BARBADOS... SAINT
VINCENT... TURKS N CAICOS... HAITI... BAHAMAS...
BONAIRE... TRINIDAD TOBAGO... GRENADA... CURACAO...
CUBA... ARUBA... VENEZUELA... BERMUDA... JAMAICA...
COLOMBIA... CAYMAN ISLANDS AND PANAMA

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 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)
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1428 03/11
SABA	SABA	17.6N 63.2W	1429 03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1433 03/11
BASSETERRE	SAINT KITTS	17.3N 62.7W	1434 03/11
SAN JUAN	PUERTO RICO	18.5N 66.1W	1435 03/11
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1435 03/11
ANEGADA	BR VIRGIN IS	18.8N 64.3W	1437 03/11
THE VALLEY	ANGUILLA	18.3N 63.1W	1438 03/11
PALMETTO POINT	BARBUDA	17.6N 61.9W	1441 03/11
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1447 03/11
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1448 03/11
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1449 03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N 63.1W	1451 03/11
BAIE LUCAS	SAINT MARTIN	18.1N 63.0W	1452 03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1452 03/11
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1453 03/11
ROSEAU	DOMINICA	15.3N 61.4W	1453 03/11
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1456 03/11
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1458 03/11
CASTRIES	SAINT LUCIA	14.0N 61.0W	1501 03/11
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1503 03/11

PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1503 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1510 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1512 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1514 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1515 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1518 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1519 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1520 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1526 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527 03/11
ONIMA	BONAIRE	12.3N	68.3W	1530 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1532 03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1532 03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1532 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1534 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1537 03/11
BARACOA	CUBA	20.4N	74.5W	1537 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1538 03/11
JACAMEL	HAITI	18.1N	72.5W	1542 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1542 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1543 03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1554 03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1556 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1558 03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1559 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1605 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1607 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1611 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1613 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1622 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1624 03/11
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1625 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1628 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1628 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1628 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1631 03/11
JEREMIE	HAITI	18.6N	74.1W	1638 03/11
GIBARA	CUBA	21.1N	76.1W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1645 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1647 03/11
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1652 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1700 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1702 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1703 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1708 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1709 03/11

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... 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.

* 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.

$$

NNNN

PTWC Message #3

```
ZCZC
WECA41 PHEB 111425
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 3...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1425 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

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


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

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

      ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE...
```

MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

  DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

  BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)
SABA	SABA	17.6N	63.2W	1429 03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1430 03/11
THE VALLEY	ANGUILLA	18.3N	63.1W	1431 03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1432 03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1432 03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1433 03/11
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1434 03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1436 03/11
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1442 03/11
PALMETTO POINT	BARBUDA	17.6N	61.9W	1443 03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1446 03/11
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1448 03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1448 03/11
ROSEAU	DOMINICA	15.3N	61.4W	1454 03/11
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1457 03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1458 03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1459 03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1500 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1501 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1501 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1501 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1507 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1509 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1509 03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1511 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1515 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1518 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1521 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1525 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527 03/11
ONIMA	BONAIRE	12.3N	68.3W	1527 03/11
BARACOA	CUBA	20.4N	74.5W	1538 03/11
JACAMEL	HAITI	18.1N	72.5W	1539 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1539 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1540 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1541 03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1542 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1543 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1549 03/11
JEREMIE	HAITI	18.6N	74.1W	1549 03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552 03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1553 03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1554 03/11
GIBARA	CUBA	21.1N	76.1W	1555 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1557 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1557 03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1558 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1559 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1601 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1603 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1611 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1612 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1624 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1626 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1635 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1636 03/11

ABACO ISLAND	BAHAMAS	26.6N	77.1W	1639 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1642 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1646 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1649 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1651 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1651 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1655 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1655 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1704 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1742 03/11
COLON	PANAMA	9.4N	79.9W	1744 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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... 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.

* 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.

$$

NNNN

PTWC Message #4

```
ZCZC
WECA41 PHEB 111445
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 4...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1445 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE... MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)	
SABA	SABA	17.6N	63.2W	1429	03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1430	03/11
THE VALLEY	ANGUILLA	18.3N	63.1W	1431	03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1432	03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1432	03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1433	03/11
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1434	03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1436	03/11
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1442	03/11
PALMETTO POINT	BARBUDA	17.6N	61.9W	1443	03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1446	03/11
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1448	03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1448	03/11
ROSEAU	DOMINICA	15.3N	61.4W	1454	03/11
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1457	03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1458	03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1459	03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1500	03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1501	03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1501	03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1501	03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1507	03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1509	03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1509	03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1511	03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1515	03/11
CAP HAITEN	HAITI	19.8N	72.2W	1518	03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1521	03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1525	03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527	03/11
ONIMA	BONAIRE	12.3N	68.3W	1527	03/11
BARACOA	CUBA	20.4N	74.5W	1538	03/11
JACAMEL	HAITI	18.1N	72.5W	1539	03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1539	03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1540	03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1541	03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1542	03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1543	03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1549	03/11
JEREMIE	HAITI	18.6N	74.1W	1549	03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552	03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1553	03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1554	03/11
GIBARA	CUBA	21.1N	76.1W	1555	03/11
EXUMA	BAHAMAS	23.6N	75.9W	1557	03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1557	03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1558	03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1559	03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1601	03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1603	03/11
CUMANA	VENEZUELA	10.5N	64.2W	1611	03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1612	03/11
NASSAU	BAHAMAS	25.1N	77.4W	1624	03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1626	03/11

MONTEGO BAY	JAMAICA	18.5N	77.9W	1635 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1636 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1639 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1642 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1646 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1649 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1651 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1651 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1655 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1655 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1704 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1742 03/11
COLON	PANAMA	9.4N	79.9W	1744 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #5

```
ZCZC
WECA41 PHEB 111500
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 5...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE... MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

  DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

  BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)	
SABA	SABA	17.6N	63.2W	1429	03/11
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1430	03/11
THE VALLEY	ANGUILLA	18.3N	63.1W	1431	03/11
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1432	03/11
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1432	03/11
SAN JUAN	PUERTO RICO	18.5N	66.1W	1433	03/11
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1434	03/11
BASSETERRE	SAINT KITTS	17.3N	62.7W	1436	03/11
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1442	03/11
PALMETTO POINT	BARBUDA	17.6N	61.9W	1443	03/11
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1446	03/11
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1448	03/11
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1448	03/11
ROSEAU	DOMINICA	15.3N	61.4W	1454	03/11
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1457	03/11
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1458	03/11
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1459	03/11
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1500	03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1501	03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1501	03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1501	03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1507	03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1509	03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1509	03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1511	03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1515	03/11
CAP HAITEN	HAITI	19.8N	72.2W	1518	03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1521	03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1525	03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527	03/11
ONIMA	BONAIRE	12.3N	68.3W	1527	03/11
BARACOA	CUBA	20.4N	74.5W	1538	03/11
JACAMEL	HAITI	18.1N	72.5W	1539	03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1539	03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1540	03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1541	03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1542	03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1543	03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1549	03/11
JEREMIE	HAITI	18.6N	74.1W	1549	03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552	03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1553	03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1554	03/11
GIBARA	CUBA	21.1N	76.1W	1555	03/11
EXUMA	BAHAMAS	23.6N	75.9W	1557	03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1557	03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1558	03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1559	03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1601	03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1603	03/11
CUMANA	VENEZUELA	10.5N	64.2W	1611	03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1612	03/11
NASSAU	BAHAMAS	25.1N	77.4W	1624	03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1626	03/11

MONTEGO BAY	JAMAICA	18.5N	77.9W	1635 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1636 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1639 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1642 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1646 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1649 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1651 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1651 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1655 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1655 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1704 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1742 03/11
COLON	PANAMA	9.4N	79.9W	1744 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #6

```
ZCZC
WECA41 PHEB 111600
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 6...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1600 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE... MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1500 03/11
CASTRIES	SAINT LUCIA	14.0N	61.0W	1501 03/11
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1501 03/11
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1501 03/11
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1507 03/11
BRIDGETOWN	BARBADOS	13.1N	59.6W	1509 03/11
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1509 03/11
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1511 03/11
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1515 03/11
CAP HAITEN	HAITI	19.8N	72.2W	1518 03/11
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1521 03/11
MAYAGUANA	BAHAMAS	22.3N	73.0W	1525 03/11
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1527 03/11
ONIMA	BONAIRE	12.3N	68.3W	1527 03/11
BARACOA	CUBA	20.4N	74.5W	1538 03/11
JACAMEL	HAITI	18.1N	72.5W	1539 03/11
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1539 03/11
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1540 03/11
ORANJESTAD	ARUBA	12.5N	70.0W	1541 03/11
SAINT GEORGES	GRENADA	12.0N	61.8W	1542 03/11
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1543 03/11
LONG ISLAND	BAHAMAS	23.3N	75.1W	1549 03/11
JEREMIE	HAITI	18.6N	74.1W	1549 03/11
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1552 03/11
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1553 03/11
MAIQUETIA	VENEZUELA	10.6N	67.0W	1554 03/11
GIBARA	CUBA	21.1N	76.1W	1555 03/11
EXUMA	BAHAMAS	23.6N	75.9W	1557 03/11
CAT ISLAND	BAHAMAS	24.4N	75.5W	1557 03/11
ESSO PIER	BERMUDA	32.4N	64.7W	1558 03/11
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1559 03/11
WILLEMSTAD	CURACAO	12.1N	68.9W	1601 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1603 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1611 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1612 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1624 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1626 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1635 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1636 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1639 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1642 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1646 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1649 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1651 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1651 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1655 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1655 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1704 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1742 03/11
COLON	PANAMA	9.4N	79.9W	1744 03/11

BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28

PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #7

```
ZCZC
WECA41 PHEB 111700
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 7...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1700 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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
```

ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE... MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

  DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

  BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)
WILLEMSTAD	CURACAO	12.1N	68.9W	1601 03/11
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1603 03/11
CUMANA	VENEZUELA	10.5N	64.2W	1611 03/11
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1612 03/11
NASSAU	BAHAMAS	25.1N	77.4W	1624 03/11
SANTA MARTA	COLOMBIA	11.2N	74.2W	1626 03/11
MONTEGO BAY	JAMAICA	18.5N	77.9W	1635 03/11
FREEPORT	BAHAMAS	26.5N	78.8W	1636 03/11
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1639 03/11
PORT AU PRINCE	HAITI	18.5N	72.4W	1642 03/11
CARTAGENA	COLOMBIA	10.4N	75.6W	1642 03/11
CIENFUEGOS	CUBA	22.0N	80.5W	1646 03/11
BIMINI	BAHAMAS	25.8N	79.3W	1649 03/11
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1651 03/11
KINGSTON	JAMAICA	17.9N	76.9W	1651 03/11
RIOHACHA	COLOMBIA	11.6N	72.9W	1655 03/11
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1655 03/11
ALIGANDI	PANAMA	9.2N	78.0W	1704 03/11
PUERTO CARRETO	PANAMA	8.8N	77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1742 03/11
COLON	PANAMA	9.4N	79.9W	1744 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #8

```
ZCZC
WECA41 PHEB 111800
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 8...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1800 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS

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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

      ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE...
      MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND
      SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND
```

NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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	1704 03/11
PUERTO CARRETO	PANAMA	8.8N 77.6W	1710 03/11
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1722 03/11
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1726 03/11
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1742 03/11

COLON	PANAMA	9.4N	79.9W	1744 03/11
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1756 03/11
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N	52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N	58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22

PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.
$$

NNNN

PTWC Message #9

ZCZC
WECA41 PHEB 111900
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 9...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1900 UTC THU MAR 11 2021

...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 11 2021
* COORDINATES 19.0 NORTH 62.5 WEST
* DEPTH 25 KM / 16 MILES
* LOCATION LEEWARD ISLANDS

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

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC ON THURSDAY MARCH 11 2021.

* 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

  ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE... MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND

SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)
PUNTO FIJO	VENEZUELA	11.7N 70.2W	1807 03/11
CAYENNE	FRENCH GUYANE	4.9N 52.3W	1820 03/11
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1833 03/11
GEORGETOWN	GUYANA	6.8N 58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1907 03/11

SANTA CRZ D SUR	CUBA	20.7N	78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N	55.2W	1924 03/11
PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
WRIGHT BEACH NC	34.2N	77.8W	1843	0.72M/ 2.4FT	20
CORN ISLAND NI	12.3N	83.1W	1847	0.33M/ 1.1FT	16
VACA KEY FL	24.7N	81.1W	1842	0.09M/ 0.3FT	20
TRIDENT PIER FL	28.4N	80.6W	1839	1.42M/ 4.6FT	20
BEAUFORT NC	34.7N	76.7W	1822	0.78M/ 2.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1818	0.08M/ 0.3FT	18
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26

BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

PTWC Message #10

```
ZCZC
WECA41 PHEB 112000
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 10...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2000 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS

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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

      ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE...
      MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND
      SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND
```

NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

  DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

  BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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)
GEORGETOWN	GUYANA	6.8N 58.2W	1907 03/11
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1907 03/11
SANTA CRZ D SUR	CUBA	20.7N 78.0W	1909 03/11
PARAMARIBO	SURINAME	5.9N 55.2W	1924 03/11

PORLAMAR	VENEZUELA	10.9N	63.8W	1927 03/11
NUEVA GERONA	CUBA	21.9N	82.8W	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2206 03/11

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)
PUERTO EL BLUFF NI	12.0N	83.7W	1936	0.31M/ 1.0FT	20
WRIGHT BEACH NC	34.2N	77.8W	1843	0.72M/ 2.4FT	20
CORN ISLAND NI	12.3N	83.1W	1847	0.33M/ 1.1FT	16
VACA KEY FL	24.7N	81.1W	1842	0.09M/ 0.3FT	20
TRIDENT PIER FL	28.4N	80.6W	1839	1.42M/ 4.6FT	20
BEAUFORT NC	34.7N	76.7W	1822	0.78M/ 2.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1818	0.08M/ 0.3FT	18
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16

BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #11

```
ZCZC
WECA41 PHEB 112100
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 11...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2100 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS

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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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

      ANGUILLA... ANTIGUA AND BARBUDA... GUADELOUPE...
      MONTSERRAT... PUERTO RICO AND VIRGIN ISLANDS... SABA AND
      SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND
```

NEVIS... SINT MAARTEN... AND SAINT MARTIN.

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

DOMINICAN REPUBLIC... VENEZUELA... ARUBA... BAHAMAS... BARBADOS... BERMUDA... BONAIRE... CURACAO... DOMINICA... GRENADA... MARTINIQUE... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... AND TURKS AND CAICOS ISLANDS.

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

BRAZIL... COLOMBIA... COSTA RICA... CUBA... FRENCH GUYANE... GUYANA... HAITI... NICARAGUA... PANAMA... SURINAME... AND JAMAICA.

* 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	2047 03/11
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2201 03/11

ILHA DE MARACA BRAZIL 2.2N 50.5W 2206 03/11

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)
PUERTO EL BLUFF NI	12.0N	83.7W	1936	0.31M/ 1.0FT	20
WRIGHT BEACH NC	34.2N	77.8W	1843	0.72M/ 2.4FT	20
CORN ISLAND NI	12.3N	83.1W	1847	0.33M/ 1.1FT	16
VACA KEY FL	24.7N	81.1W	1842	0.09M/ 0.3FT	20
TRIDENT PIER FL	28.4N	80.6W	1839	1.42M/ 4.6FT	20
BEAUFORT NC	34.7N	76.7W	1822	0.78M/ 2.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1818	0.08M/ 0.3FT	18
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26

DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.
$$
NNNN

PTWC Message #12

```
ZCZC
WECA41 PHEB 112200
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 12...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2200 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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...UPDATED ...TEST
------------------------------------------------

  * 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)
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2201 03/11
ILHA DE MARACA	BRAZIL	2.2N 50.5W	2206 03/11

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)
PUERTO EL BLUFF NI	12.0N	83.7W	1936	0.31M/ 1.0FT	20
WRIGHT BEACH NC	34.2N	77.8W	1843	0.72M/ 2.4FT	20
CORN ISLAND NI	12.3N	83.1W	1847	0.33M/ 1.1FT	16
VACA KEY FL	24.7N	81.1W	1842	0.09M/ 0.3FT	20
TRIDENT PIER FL	28.4N	80.6W	1839	1.42M/ 4.6FT	20
BEAUFORT NC	34.7N	76.7W	1822	0.78M/ 2.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1818	0.08M/ 0.3FT	18
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22
CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22

YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.

$$

NNNN

PTWC Message #13

```
ZCZC
WECA41 PHEB 112300
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 13...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2300 UTC THU MAR 11 2021

...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 11 2021
  * COORDINATES    19.0 NORTH  62.5 WEST
  * DEPTH          25 KM / 16 MILES
  * LOCATION       LEEWARD ISLANDS


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

  * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
    MAGNITUDE OF 8.5 OCCURRED IN THE LEEWARD ISLANDS AT 1400 UTC
    ON THURSDAY MARCH 11 2021.

  * 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.

GAUGE LOCATION	GAUGE COORDINATES LAT	LON	TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
PUERTO BILWI NI	14.0N	83.4W	2215	0.33M/ 1.1FT	24
PUERTO EL BLUFF NI	12.0N	83.7W	1936	0.31M/ 1.0FT	20
WRIGHT BEACH NC	34.2N	77.8W	1843	0.72M/ 2.4FT	20
CORN ISLAND NI	12.3N	83.1W	1847	0.33M/ 1.1FT	16
VACA KEY FL	24.7N	81.1W	1842	0.09M/ 0.3FT	20
TRIDENT PIER FL	28.4N	80.6W	1839	1.42M/ 4.6FT	20
BEAUFORT NC	34.7N	76.7W	1822	0.78M/ 2.6FT	18
ISLA MUJERES MX	21.3N	86.7W	1818	0.08M/ 0.3FT	18
ILE ROYAL GUIANA FR	5.3N	52.6W	1759	0.40M/ 1.3FT	24
LIMON CR	10.0N	83.0W	1749	0.45M/ 1.5FT	18
PUERTO MORELOS MX	20.9N	86.9W	1747	0.06M/ 0.2FT	22
SAPZURRO CO	8.7N	77.4W	1731	0.19M/ 0.6FT	22
VIRGINIA KEY FL	25.7N	80.2W	1727	0.25M/ 0.8FT	24
EL PORVENIR PA	9.6N	78.9W	1724	0.36M/ 1.2FT	28
SAN ANDRES CO	12.6N	81.7W	1729	0.20M/ 0.7FT	18
SETTLEMENT PT BS	26.7N	79.0W	1710	0.39M/ 1.3FT	14
PORT ROYAL JM	17.9N	76.8W	1657	0.59M/ 1.9FT	18
ISLA NAVAL CO	10.2N	75.8W	1656	0.25M/ 0.8FT	24
SANTA MARTA CO	11.2N	74.2W	1639	0.49M/ 1.6FT	22
BERMUDA UK	32.4N	64.7W	1608	2.87M/ 9.4FT	22
PRICKLEY BAY GD	12.0N	61.8W	1553	1.44M/ 4.7FT	26
BULLEN BAY CURACAO	12.2N	69.0W	1546	1.40M/ 4.6FT	16
BARAHONA DO	18.2N	71.1W	1537	0.82M/ 2.7FT	22
GANTERS BAY ST LUCI	14.0N	61.0W	1532	1.14M/ 3.8FT	26
DART 41425	28.7N	65.7W	1529	0.16M/ 0.5FT	22

CAP HAITIEN HT	19.8N	72.2W	1525	0.48M/ 1.6FT	18
CALLIAQUA VC	13.1N	61.2W	1527	1.27M/ 4.2FT	28
GRAND TURK ISLAND T	21.4N	71.1W	1524	0.89M/ 2.9FT	24
CULEBRA IS PR	18.3N	65.3W	1514	3.16M/10.4FT	14
DART 42407	15.3N	68.2W	1516	0.08M/ 0.3FT	26
MAGUEYES ISLAND PR	18.0N	67.0W	1512	1.14M/ 3.8FT	28
PUERTO PLATA DO	19.8N	70.7W	1509	0.82M/ 2.7FT	28
FORT DE FRANCE MQ	14.6N	61.1W	1507	1.27M/ 4.2FT	22
PUNTA CANA DO	18.5N	68.4W	1506	1.29M/ 4.2FT	16
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1504	3.80M/12.5FT	28
MONA ISLAND PR	18.1N	67.9W	1509	1.26M/ 4.1FT	22
LE ROBERT MARTINIQU	14.7N	60.9W	1508	1.22M/ 4.0FT	28
BLOWING POINT AI	18.2N	63.1W	1502	9.02M/29.6FT	16
ROSEAU DM	15.3N	61.4W	1503	2.26M/ 7.4FT	18
LE PRECHEUR MARTINI	14.8N	61.2W	1459	1.29M/ 4.2FT	20
PORTSMOUTH DM	15.6N	61.5W	1456	2.23M/ 7.3FT	24
SAINT MARTIN FR	18.1N	63.1W	1502	5.44M/17.9FT	26
DART 41420	23.4N	67.3W	1457	0.17M/ 0.6FT	18
MAYAGUEZ PR	18.2N	67.2W	1457	2.49M/ 8.2FT	26
POINT A PITRE GP	16.2N	61.5W	1451	2.68M/ 8.8FT	26
DESHAIES GUADELOUPE	16.3N	61.8W	1454	2.74M/ 9.0FT	26
ESPERANZA VIEQUES P	18.1N	65.5W	1450	2.40M/ 7.9FT	20
ARECIBO PR	18.5N	66.7W	1450	2.31M/ 7.6FT	22
YABUCOA PR	18.1N	65.8W	1448	2.88M/ 9.5FT	22
BASSETERRE KN	17.3N	62.7W	1445	5.15M/16.9FT	16
DART 41421	23.4N	63.8W	1445	0.22M/ 0.7FT	24
SAN JUAN PR	18.5N	66.1W	1446	2.87M/ 9.4FT	14
LIMETREE VI	17.7N	64.8W	1447	2.25M/ 7.4FT	20
ST CROIX VI	17.7N	64.7W	1435	3.56M/11.7FT	24
PARHAM AT	17.1N	61.8W	1439	3.56M/11.7FT	22
DESIRADE GUADELOUPE	16.3N	61.1W	1434	2.91M/ 9.5FT	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.

* 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.
$$

NNNN

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 11, 2021

(*insert community/county/state name*) will join other localities in the Caribbean as a participant in a tsunami response exercise on March 11, 2021 on the 10th anniversary of the Japan earthquake and tsunami. 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 simulated scenarios of an earthquake occurrence in Jamaica and Northern Lesser Antilles.

(*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 21, 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 11, 2021. 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 https://www.tsunami.gov.

For more information on the ICG/CARIBE-EWS, see http://ioc-tsunami.org/index.php?option=com_oe&task=viewEventRecord&eventID=2359.

###

On the Web:

ICG/CARIBE EWS	http://www.ioc-tsunami.org
Pacific Tsunami Warning Center	https://tsunami.gov
NOAA Tsunami Program	https://www.tsunami.gov
Caribbean Tsunami Warning Program	https://www.weather.gov/ctwp/
Caribbean Tsunami Information Centre	https://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
CTIC	Caribbean Tsunami Information Centre
CTWP	Caribbean Tsunami Warning Program
CW	Caribe Wave
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
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPGFZ	Enriquillo-Plantain Garden Fault Zone
GDP	Gross Domestic Product
GMT	Generic Mapping Tool
GTS	Global Telecommunication 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 of UNESCO
ITIC	International Tsunami Information Center
MS	Member States
NCEI	National Centers for Environmental Information

NOAA	U.S. National Oceanic and Atmospheric Administration
NTWC	National Tsunami Warning Centre
NWWS	NOAA Weather Wire Service
PAGER	Prompt Assessment of Global Earthquakes for Response
PRSN	Puerto Rico Seismic Network
PTWC	Pacific Tsunami Warning Center
SCDB	Southern Caribbean Deformed Belt
SOP	Standard Operating Procedures
SRC	Seismic Research Centre
TER	Tsunami Emergency Response
TOWS-WG	Working Group on Tsunamis and Other Hazards related to Sea-Level Warning and Mitigation Systems
TT	Task Team
TWFP	Tsunami Warning Focal Points
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USGS	United Stated Geological Survey
WMO	World Meteorological Organization

IOC Technical Series

No.	Title	Languages
1	Manual on International Oceanographic Data Exchange. 1965	(out of stock)
2	Intergovernmental Oceanographic Commission (Five years of work). 1966	(out of stock)
3	Radio Communication Requirements of Oceanography. 1967	(out of stock)
4	Manual on International Oceanographic Data Exchange - Second revised edition. 1967	(out of stock)
5	Legal Problems Associated with Ocean Data Acquisition Systems (ODAS). 1969	(out of stock)
6	Perspectives in Oceanography, 1968	(out of stock)
7	Comprehensive Outline of the Scope of the Long-term and Expanded Programme of Oceanic Exploration and Research. 1970	(out of stock)
8	IGOSS (Integrated Global Ocean Station System) - General Plan Implementation Programme for Phase I. 1971	(out of stock)
9	Manual on International Oceanographic Data Exchange - Third Revised Edition. 1973	(out of stock)
10	Bruun Memorial Lectures, 1971	E, F, S, R
11	Bruun Memorial Lectures, 1973	(out of stock)
12	Oceanographic Products and Methods of Analysis and Prediction. 1977	E only
13	International Decade of Ocean Exploration (IDOE), 1971-1980. 1974	(out of stock)
14	A Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment and Baseline Study Guidelines. 1976	E, F, S, R
15	Bruun Memorial Lectures, 1975 - Co-operative Study of the Kuroshio and Adjacent Regions. 1976	(out of stock)
16	Integrated Ocean Global Station System (IGOSS) General Plan and Implementation Programme 1977-1982. 1977	E, F, S, R
17	Oceanographic Components of the Global Atmospheric Research Programme (GARP) . 1977	(out of stock)
18	Global Ocean Pollution: An Overview. 1977	(out of stock)
19	Bruun Memorial Lectures - The Importance and Application of Satellite and Remotely Sensed Data to Oceanography. 1977	(out of stock)
20	A Focus for Ocean Research: The Intergovernmental Oceanographic Commission - History, Functions, Achievements. 1979	(out of stock)
21	Bruun Memorial Lectures, 1979: Marine Environment and Ocean Resources. 1986	E, F, S, R
22	Scientific Report of the Interealibration Exercise of the IOC-WMO-UNEP Pilot Project on Monitoring Background Levels of Selected Pollutants in Open Ocean Waters. 1982	(out of stock)
23	Operational Sea-Level Stations. 1983	E, F, S, R
24	Time-Series of Ocean Measurements. Vol.1. 1983	E, F, S, R
25	A Framework for the Implementation of the Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment. 1984	(out of stock)
26	The Determination of Polychlorinated Biphenyls in Open-ocean Waters. 1984	E only
27	Ocean Observing System Development Programme. 1984	E, F, S, R
28	Bruun Memorial Lectures, 1982: Ocean Science for the Year 2000. 1984	E, F, S, R
29	Catalogue of Tide Gauges in the Pacific. 1985	E only
30	Time-Series of Ocean Measurements. Vol. 2. 1984	E only
31	Time-Series of Ocean Measurements. Vol. 3. 1986	E only
32	Summary of Radiometric Ages from the Pacific. 1987	E only
33	Time-Series of Ocean Measurements. Vol. 4. 1988	E only
34	Bruun Memorial Lectures, 1987: Recent Advances in Selected Areas of Ocean Sciences in the Regions of the Caribbean, Indian Ocean and the Western Pacific. 1988	Composite E, F, S
35	Global Sea-Level Observing System (GLOSS) Implementation Plan. 1990	E only

(continued)

36	Bruun Memorial Lectures 1989: Impact of New Technology on Marine Scientific Research. 1991	Composite E, F, S
37	Tsunami Glossary - A Glossary of Terms and Acronyms Used in the Tsunami Literature. 1991	E only
38	The Oceans and Climate: A Guide to Present Needs. 1991	E only
39	Bruun Memorial Lectures, 1991: Modelling and Prediction in Marine Science. 1992	E only
40	Oceanic Interdecadal Climate Variability. 1992	E only
41	Marine Debris: Solid Waste Management Action for the Wider Caribbean. 1994	E only
42	Calculation of New Depth Equations for Expendable Bathymerographs Using a Temperature-Error-Free Method (Application to Sippican/TSK T-7, T-6 and T-4 XBTS. 1994	E only
43	IGOSS Plan and Implementation Programme 1996-2003. 1996	E, F, S, R
44	Design and Implementation of some Harmful Algal Monitoring Systems. 1996	E only
45	Use of Standards and Reference Materials in the Measurement of Chlorinated Hydrocarbon Residues. 1996	E only
46	Equatorial Segment of the Mid-Atlantic Ridge. 1996	E only
47	Peace in the Oceans: Ocean Governance and the Agenda for Peace; the Proceedings of *Pacem in Maribus* XXIII, Costa Rica, 1995. 1997	E only
48	Neotectonics and fluid flow through seafloor sediments in the Eastern Mediterranean and Black Seas - Parts I and II. 1997	E only
49	Global Temperature Salinity Profile Programme: Overview and Future. 1998	E only
50	Global Sea-Level Observing System (GLOSS) Implementation Plan-1997. 1997	E only
51	L'état actuel de 1'exploitation des pêcheries maritimes au Cameroun et leur gestion intégrée dans la sous-région du Golfe de Guinée *(cancelled)*	F only
52	Cold water carbonate mounds and sediment transport on the Northeast Atlantic Margin. 1998	E only
53	The Baltic Floating University: Training Through Research in the Baltic, Barents and White Seas - 1997. 1998	E only
54	Geological Processes on the Northeast Atlantic Margin (8th training-through-research cruise, June-August 1998). 1999	E only
55	Bruun Memorial Lectures, 1999: Ocean Predictability. 2000	E only
56	Multidisciplinary Study of Geological Processes on the North East Atlantic and Western Mediterranean Margins (9th training-through-research cruise, June-July 1999). 2000	E only
57	Ad hoc Benthic Indicator Group - Results of Initial Planning Meeting, Paris, France, 6-9 December 1999. 2000	E only
58	Bruun Memorial Lectures, 2001: Operational Oceanography – a perspective from the private sector. 2001	E only
59	Monitoring and Management Strategies for Harmful Algal Blooms in Coastal Waters. 2001	E only
60	Interdisciplinary Approaches to Geoscience on the North East Atlantic Margin and Mid-Atlantic Ridge (10th training-through-research cruise, July-August 2000). 2001	E only
61	Forecasting Ocean Science? Pros and Cons, Potsdam Lecture, 1999. 2002	E only
62	Geological Processes in the Mediterranean and Black Seas and North East Atlantic (11th training-through-research cruise, July- September 2001). 2002	E only
63	Improved Global Bathymetry – Final Report of SCOR Working Group 107. 2002	E only
64	R. Revelle Memorial Lecture, 2006: Global Sea Levels, Past, Present and Future. 2007	E only
65	Bruun Memorial Lectures, 2003: Gas Hydrates – a potential source of energy from the oceans. 2003	E only
66	Bruun Memorial Lectures, 2003: Energy from the Sea: the potential and realities of Ocean Thermal Energy Conversion (OTEC). 2003	E only

67	Interdisciplinary Geoscience Research on the North East Atlantic Margin, Mediterranean Sea and Mid-Atlantic Ridge (12th training-through-research cruise, June-August 2002). 2003	E only
68	Interdisciplinary Studies of North Atlantic and Labrador Sea Margin Architecture and Sedimentary Processes (13th training-through-research cruise, July-September 2003). 2004	E only
69	Biodiversity and Distribution of the Megafauna / Biodiversité et distribution de la mégafaune. 2006 Vol.1 The polymetallic nodule ecosystem of the Eastern Equatorial Pacific Ocean / Ecosystème de nodules polymétalliques de l'océan Pacifique Est équatorial Vol.2 Annotated photographic Atlas of the echinoderms of the Clarion-Clipperton fracture zone / Atlas photographique annoté des échinodermes de la zone de fractures de Clarion et de Clipperton Vol.3 Options for the management and conservation of the biodiversity — The nodule ecosystem in the Clarion Clipperton fracture zone: scientific, legal and institutional aspects	E F
70	Interdisciplinary geoscience studies of the Gulf of Cadiz and Western Mediterranean Basin (14th training-through-research cruise, July-September 2004). 2006	E only
71	Indian Ocean Tsunami Warning and Mitigation System, IOTWS. Implementation Plan, 7–9 April 2009 (2nd Revision). 2009	E only
72	Deep-water Cold Seeps, Sedimentary Environments and Ecosystems of the Black and Tyrrhenian Seas and the Gulf of Cadiz (15th training-through-research cruise, June–August 2005). 2007	E only
73	Implementation Plan for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS), 2007–2011. 2007 *(electronic only)*	E only
74	Bruun Memorial Lectures, 2005: The Ecology and Oceanography of Harmful Algal Blooms – Multidisciplinary approaches to research and management. 2007	E only
75	National Ocean Policy. The Basic Texts from: Australia, Brazil, Canada, China, Colombia, Japan, Norway, Portugal, Russian Federation, United States of America. (Also Law of Sea Dossier 1). 2008	E only
76	Deep-water Depositional Systems and Cold Seeps of the Western Mediterranean, Gulf of Cadiz and Norwegian Continental margins (16th training-through-research cruise, May–July 2006). 2008	E only
77	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – 12 September 2007 Indian Ocean Tsunami Event. Post-Event Assessment of IOTWS Performance. 2008	E only
78	Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) – Implementation Plan 2013–2017 (Version 2.0). 2013	E only
79	Filling Gaps in Large Marine Ecosystem Nitrogen Loadings Forecast for 64 LMEs – GEF/LME global project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. 2008	E only
80	Models of the World's Large Marine Ecosystems. GEF/LME Global Project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. 2008	E only
81	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – Implementation Plan for Regional Tsunami Watch Providers (RTWP). 2008	E only
82	Exercise Pacific Wave 08 – A Pacific-wide Tsunami Warning and Communication Exercise, 28–30 October 2008. 2008	E only
83.	*Cancelled*	
84.	Global Open Oceans and Deep Seabed (GOODS) Bio-geographic Classification. 2009	E only
85.	Tsunami Glossary	E, F, S
86	Pacific Tsunami Warning System (PTWS) Implementation Plan	*Electronic publication*

(continued)

87.	Operational Users Guide for the Pacific Tsunami Warning and Mitigation System (PTWS) – Second Edition. 2011	E only
88.	Exercise Indian Ocean Wave 2009 (IOWave09) – An Indian Ocean-wide Tsunami Warning and Communication Exercise – 14 October 2009. 2009	E only
89.	Ship-based Repeat Hydrography: A Strategy for a Sustained Global Programme. 2009	E only
90.	12 January 2010 Haiti Earthquake and Tsunami Event Post-Event Assessment of CARIBE EWS Performance. 2010	E only
91.	Compendium of Definitions and Terminology on Hazards, Disasters, Vulnerability and Risks in a coastal context	*Under preparation*
92.	27 February 2010 Chile Earthquake and Tsunami Event – Post-Event Assessment of PTWS Performance (Pacific Tsunami Warning System). 2010	E only
93.	Exercise CARIBE WAVE 11 / LANTEX 11—A Caribbean Tsunami Warning Exercise, 23 March 2011	
	Vol. 1 Participant Handbook / Exercise CARIBE WAVE 11 —Exercice d'alerte au tsunami dans les Caraïbes, 23 mars 2011. Manuel du participant / Ejercicio Caribe Wave 11. Un ejercicio de alerta de tsunami en el Caribe, 23 de marzo de 2011. Manual del participante. 2010	E/F/S
	Vol. 2 Report. 2011	E only
	Vol. 3 Supplement: Media Reports. 2011	E/F/S
94.	Cold seeps, coral mounds and deep-water depositional systems of the Alboran Sea, Gulf of Cadiz and Norwegian continental margin (17th training-through-research cruise, June–July 2008)	E only
95.	International Post-Tsunami Survey for the 25 October 2010 Mentawai, Indonesia Tsunami	E only
96.	Pacific Tsunami Warning System (PTWS) 11 March 2011 Off Pacific coast of Tohoku, Japan, Earthquake and Tsunami Event. Post-Event Assessment of PTWS Performance	E only
97.	Exercise PACIFIC WAVE 11: A Pacific-wide Tsunami Warning and Communication Exercise, 9–10 November 2011	
	Vol. 1 Exercise Manual. 2011	E only
	Vol. 2 Report. 2013	E only
98.	Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and connected seas. First Enlarged Communication Test Exercise (ECTE1). Exercise Manual and Evaluation Report. 2011	E only
99.	Exercise INDIAN OCEAN WAVE 2011 – An Indian Ocean-wide Tsunami Warning and Communication Exercise, 12 October 2011	E only
	Vol. 1 Exercise Manual. 2011 Supplement: Bulletins from the Regional Tsunami Service Providers	
	Vol. 2 Exercise Report. 2013	
100.	Global Sea Level Observing System (GLOSS) Implementation Plan – 2012. 2012	E only
101.	Exercise Caribe Wave/Lantex 13. A Caribbean Tsunami Warning Exercise, 20 March 2013. Volume 1: Participant Handbook. 2012 Volume 2: Final Report	E only
102.	Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas — Second Enlarged Communication Test Exercise (CTE2), 22 May 2012.	E only
	Vol. 1 Exercise Manual. 2012	
	Vol. 2 Evaluation Report. 2014	
103.	Exercise NEAMWAVE 12. A Tsunami Warning and Communication Exercise for the North-eastern Atlantic, the Mediterranean, and Connected Seas Region, 27–28 November 2012. Vol. 1: Exercise Manual. 2012 Vol. 2: Evaluation Report. 2013	E only
104.	Seísmo y tsunami del 27 de agosto de 2012 en la costa del Pacífico frente a El Salvador, y seísmo del 5 de septiembre de 2012 en la costa del Pacífico frente a Costa Rica. Evaluación subsiguiente sobre el funcionamiento del Sistema de Alerta contra los Tsunamis y Atenuación de sus Efectos en el Pacífico. 2012	Español solamente (resumen en inglés y francés)

105.	Users Guide for the Pacific Tsunami Warning Center Enhanced Products for the Pacific Tsunami Warning System, August 2014. Revised Edition. 2014	E, S
106.	Exercise Pacific Wave 13. A Pacific-wide Tsunami Warning and Enhanced Products Exercise, 1–14 May 2013. Vol. 1 Exercise Manual. 2013 Vol. 2 Summary Report. 2013	E only
107.	Tsunami Public Awareness and Educations Strategy for the Caribbean and Adjacent Regions. 2013	E only
108.	Pacific Tsunami Warning and Mitigation System (PTWS) Medium-Term Strategy, 2014−2021. 2013	E only
109.	Exercise Caribe Wave/Lantex 14. A Caribbean and Northwestern Atlantic Tsunami Warning Exercise, 26 March 2014. Vol. 1 Participant Handbook. 2014 Vol. 2 Evaluation Report. 2015 (English only)	E/S
110.	Directory of atmospheric, hydrographic and biological datasets for the Canary Current Large Marine Ecosystem, 3rd edition: revised and expanded. 2017	E only
111.	Integrated Regional Assessments in support of ICZM in the Mediterranean and Black Sea Basins. 2014	E only
112.	11 April 2012 West of North Sumatra Earthquake and Tsunami Event - Post-event Assessment of IOTWS Performance	E only
113.	Exercise Indian Ocean Wave 2014: An Indian Ocean-wide Tsunami Warning and Communication Exercise. Vol.1 Manual Vol. 2 Exercise Report. 2015	E only
114.	Exercise NEAMWAVE 14. A Tsunami Warning and Communication Exercise for the North-Eastern Atlantic, the Mediterranean, and Connected Seas Region, 28–30 October 2014 Vol. 1 Manual Vol. 2 Evaluation Report – Supplement: Evaluation by Message Providers and Civil Protection Authorities	E only
115.	Oceanographic and Biological Features in the Canary Current Large Marine Ecosystem. 2015 *(revised in 2016)*	E only
116.	Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas. Third Enlarged Communication Test Exercise (CTE3), 1st October 2013. Vol. 1 Exercise Manual Vol. 2 Evaluation Report	E only
117.	Exercise Pacific Wave 15. A Pacific-wide Tsunami Warning and Enhanced Products Exercise, 2–6 February 2015 Vol. 1: Exercise Manual; Vol. 2: Summary Report	E only
118.	Exercise Caribe Wave/Lantex 15. A Caribbean and Northwestern Atlantic Tsunami Warning Exercise, 25 March 2015 (SW Caribbean Scenario) Vol. 1: Participant Handbook Vol. 2: Summary Report	E only
119.	Transboundary Waters Assessment Programme (TWAP) Assessment of Governance Arrangements for the Ocean Vol 1: Transboundary Large Marine Ecosystems; Supplement: Individual Governance Architecture Assessment for Fifty Transboundary Large Marine Ecosystems Vol 2: Areas Beyond National Jurisdiction	E only
120.	Transboundary Waters Assessment Programme (TWAP) – Status and Trends in Primary Productivity and Chlorophyll from 1996 to 2014 in Large Marine Ecosystems and the Western Pacific Warm Pool, Based on Data from Satellite Ocean Colour Sensors. 2017	E only
121.	Exercise Indian Ocean Wave 14, an Indian Ocean wide Tsunami Warning and Communications Exercise, 9–10 September 2014	*In preparation*
122.	Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas. Sixth Communication Test Exercise (CTE6), 29 July 2015. Vol. 1: Exercise Manual Vol. 2: Evaluation Report	E only

(continued)

123	Preparing for the next tsunami in the North-Eastern Atlantic, the Mediterranean and Connected Seas – Ten years of the Tsunami Warning System (NEAMTWS). 2017 —*Cancelled*	*(see IOC/INF-1340)*
124	Indicadores Marino Costeros del Pacífico Sudeste / Coastal and Marine Indicators of the Southeast Pacific (SPINCAM)	E/S
125	Exercise CARIBE WAVE 2016: A Caribbean and Adjacent Regions Tsunami Warning Exercise, 17 March 2016 (Venezuela and Northern Hispaniola Scenarios) Volume 1: Participant Handbook Volume 2: Final Report	E only
126	Exercise Pacific Wave 16. A Pacific-wide Tsunami Warning and Enhanced Products Exercise, 1-5 February 2016. Volume 1: Exercise Manual. Volume 2: Summary Report	E only
127	Experiencias locales de manejo costero integrado: casos piloto SPINCAM en el Pacífico Sudeste. (ICAM Dossier nº9)	S only
128.	Exercise Indian Ocean Wave 2016: An Indian Ocean-wide Tsunami Warning and Communications Exercise, 7–8 September 2016 Vol 1: Participant Manual Vol. 2: Exercise Report	E only
129	What are Marine Ecological Time Series telling us about the Ocean – A status report	E only
130	Tsunami Watch Operations – Global Service Definition Document	E only
131	Exercise Pacific Wave 2017. A Pacific-wide Tsunami Warning and Enhanced Products Exercise, 15-17 February 2017. Volume 1: Exercise Manual Volume 2: Exercise Report	E only
132.	2nd March 2016 Southwest of Sumatra Earthquake and Tsunami Event Post-Event Assessment of the Performance of the Indian Ocean Tsunami Warning and Mitigation System; Supplement: Tsunami Service Provider Bulletins and Maps	E only
133.	Exercise CARIBE WAVE 17. A Caribbean and Adjacent Regions Tsunami Warning Exercise, 21 March 2017 (Costa Rica, Cuba and Northeastern Antilles Scenarios). Volume 1: Participant Handbook Volume 2: Final Report	E only
134.	Tsunami Exercise NEAMWave17 – A Tsunami Warning and Communication Exercise for the North-eastern Atlantic, the Mediterranean, and Connected Seas Region, 31 October – 3 November 2017 Volume 1: Exercise Instructions. 2017 Volume 2: Evaluation Report. 2018 Supplement: Evaluation by Message Providers and Civil Protection Authorities	E only
135.	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), October 2017	E only
136.	Exercise CARIBE WAVE 18. Tsunami Warning Exercise, 15 March 2018 (Barbados, Colombia and Puerto Rico Scenarios). Volume 1: Participant Handbook. 2017 Volume 2: Final Report	E only
137.	The Ocean is losing its breath: declining oxygen in the world's ocean and coastal waters	(under preparation)
138.	Exercise Indian Ocean Wave 2018: An Indian Ocean-wide Tsunami Warning and Communication Exercise, 4–5 September 2018 Volume 1: Exercise Manual & Supplements Volume 2: Exercise Report. 2019	E only
139.	Exercise Pacific Wave 2018. A Pacific-wide Tsunami Warning and Enhanced Products Exercise, September to November 2018. Volume 1: Exercise Manual. Volume 2: Summary Report	E only
140	Analysis of transboundary Water Ecosystems and Green and Blue Infrastructures: Intercontinental Biosphere Reserve of the Mediterranean: Andalusia (Spain) – Morocco	E F S

141	Exercise Caribe Wave 2019. A Caribbean and Adjacent Region Tsunami Warning Exercise, 14 March 2019. Volume 1: Participant handbook. Volume 2: Summary Report	E only
142	Users' Guide for the Northwest Pacific Tsunami Advisory Center (NWPTAC) – Enhanced Products for the Pacific Tsunami Warning System. 2019	E only
143	Capacity Assessment of Tsunami Preparedness in the Indian Ocean, Status Report, 2018 + Supplement: National Reports	E only
144	Indian Ocean Tsunami Warning and Mitigation System (IOTWMS): Medium Term Strategy, 2019–2024	E only
145	IOTWMS Users Guide for National Tsunami Warning Centres	(under preparation)
146	Definition of Services provided by the Tsunami Service Providers of the IOTWMS	E only
147	*The Global Ocean Observing System 2030 Strategy* (IOC Brochure 2019-5)	(See GOOS Report 239)
148	Ejercicio TSUNAMI-CA 19. Un simulacro de tsunami para Centroamérica, 19 de agosto de 2019. Volumen 1, Manual para participantes.	S only
149	User's Guide for the South China Sea Tsunami Advisory Center (SCSTAC) products for the South China Sea Tsunami Warning and Mitigation System	E only
150	Limitations and Challenges of Early Warning Systems: A Case Study from the 28 September 2018 Palu-Donggala Tsunami	E, Bahasa
151	Exercise CARIBE WAVE 20. Tsunami Warning Exercise, 19 March 2020 (Jamaica and Portugal). Volume 1: Participant Handbook Volume 2: Summary Report	E only
152	Technical Report on the status of coastal vulnerability in central African countries (ICAM Dossier no 10)	E, F
153	Exercise Indian Ocean Wave 2020: An Indian Ocean-wide Tsunami Warning and Communication Exercise, 6–20 October 2020. Volume 1: Exercise Manual Supplement 1: TSP Bulletins for Scenario 1 South of Java Supplement 2: TSP Bulletins for Scenario 2 Andaman Islands Supplement 3: TSP Bulletins for Scenario 3 Off Coast of Pakistan Volume 2: Exercise Report	E only
154	La contribución de las actividades marítimas a la economía de los países del Pacífico Sur	S only
155	Exercise Pacific Wave 2020: A Pacific-wide Tsunami Service Provider Communications Exercise,5 November 2020 Volume 1: Exercise Manual	E only
156	Ejercicio Tsunami-CA 20 – Ejercicio de respuesta en caso de tsunami para América Central: un terremoto lento y tsunami frente al golfo de Fonseca, 11 de noviembre de 2020. Vol.1: Manual para participantes	S only
157	Exercise Caribe Wave 21. Tsunami Warning Exercise, 11 March 2021 (Jamaica and Northern Lesser Antilles). Volume 1: Participant Handbook.	E only

(continued)