



CARIBE WAVE 16

2nd Webinar

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March 1, 2016

Welcome!

CARIBE WAVE 16 Webinar Series

- ✓ **19 January in English**
- ✓ **20 de enero en Español**
- ✓ **21 janvier à Français**
- ✓ **1 March in English**
- **2 de marzo en Español**
- **3 mars à Français**

REMINDER

March 1, 2016 – Full Implementation of PTWC Enhanced Products for CARIBE EWS

April 1, 2016 – New date for PTWC to assume from US NTWC the issuance of Domestic Tsunami Services for Puerto Rico, US Virgin Islands and British Virgin Islands.

Objectives

- 1. To exercise and evaluate operations of the CARIBE EWS Tsunami Warning System.**
 - A. Validate the **issuance** of tsunami products from the PTWC.
 - B. Validate the **receipt** of tsunami products by CARIBE EWS Tsunami Warning Focal Points (TWFP) and/or National Tsunami Warning Centers (NTWC).
- 2. To continue the process of exposure to PTWC CARIBE EWS Enhanced products.**
 - A. Evaluate enhanced PTWC products.
 - B. Provide further feedback on the national procedures for implementation of the enhanced products.
- 3. To validate the readiness to respond to a tsunami.**
 - A. Validate the operational readiness of the TWFP (or like function) and/or the National Disaster Management Office (NDMO).
 - B. To improve operational readiness. Before the exercise, ensure appropriate tools and response plan(s) have been developed, including public education materials.
 - C. Validate that the dissemination of warnings and information/advice by Tsunami Warning Focal Points, and National Tsunami Warning Centers, to relevant in-country agencies and the public is accurate and timely.
 - D. Validate the organizational decision-making process (tsunami response plans) about public warnings and evacuations.
 - E. Validate that the methods used to notify and instruct the public are accurate and timely.
 - F. Evaluate the status of the National Public Awareness and Education Strategy.

Goals/ Metrics

Goal	2013 Result	2014 Metric	2014 Result	2015 Metric	2015 Result	2016 Metric
Participation of Member States of ICG CARIBE EWS with designated focal warning point	94%	95%	98% (including two MS/Territory unofficial)	95%	100%	100%
Compliance with the time line	Close to 100%	100%	Almost 100%	100%	Almost 100%	100%
Community involvement (beyond TWFP)	75%	75%	75%	80%	66%	85%
Number of participants	44,000	+10%	191,000	+10%	191,420	+10%
TWFP receive the dummy message	98%	100%	94%	100%	90%	100%
Countries who participate submit exercise questionnaire	90%	100%	100%	100%	91%	100%

Exercise Manuals

- The exercise manuals are available at www.caribewave.info
- UNESCO IOC CARIBE EWS Handbook for Venezuela and Northern Hispaniola Scenarios, only English.
- The manual includes:
 - Suggested actions
 - Scenario description
 - Time table
 - Travel times and expected wave heights
 - Figures and samples of the messages
 - The website link to evaluation questionnaire

Tsunami Warning System Exercises

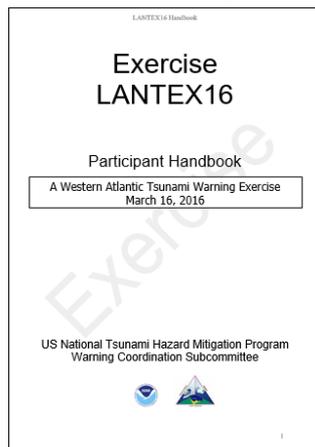
LANTEX 16

A Western Atlantic Tsunami Warning Exercise

United States and Canada East Coast
Scenario (tsunamigenic sub-sea landslide)

March 16, 2016

NTWC



CARIBE WAVE 16

A Caribbean and Adjacent Regions Tsunami Warning Exercise

Venezuela and Northern Hispaniola
Scenarios

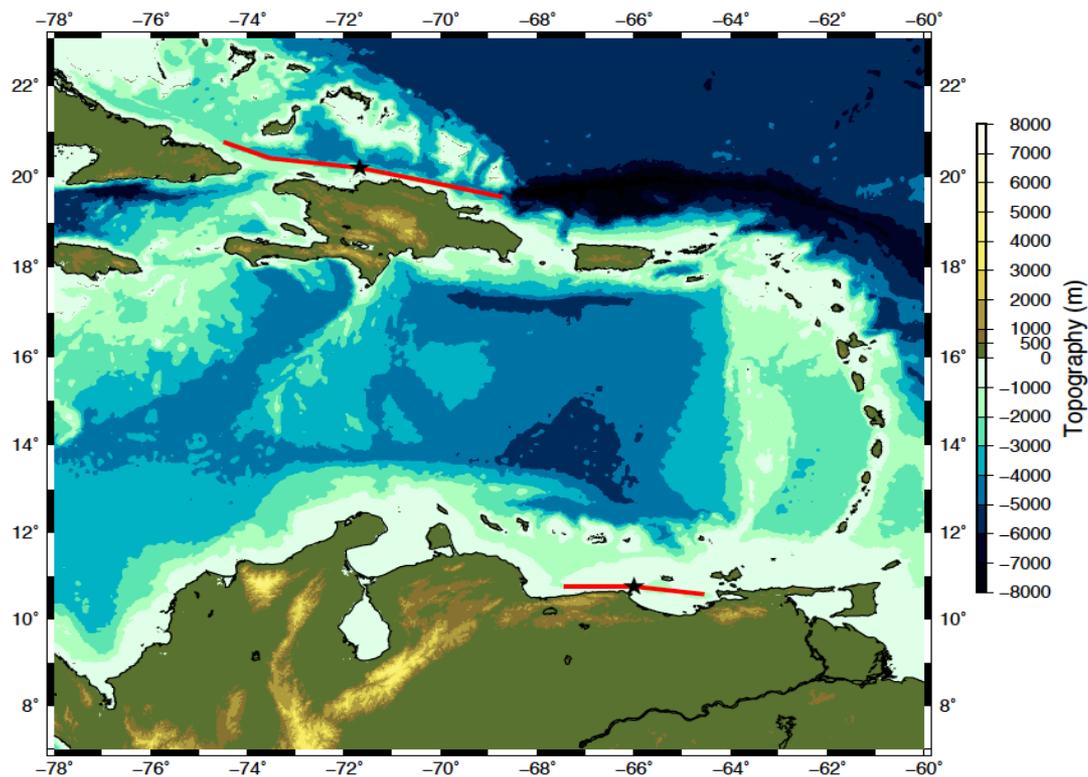
March 17, 2016

PTWC



CARIBE WAVE 16

Scenarios



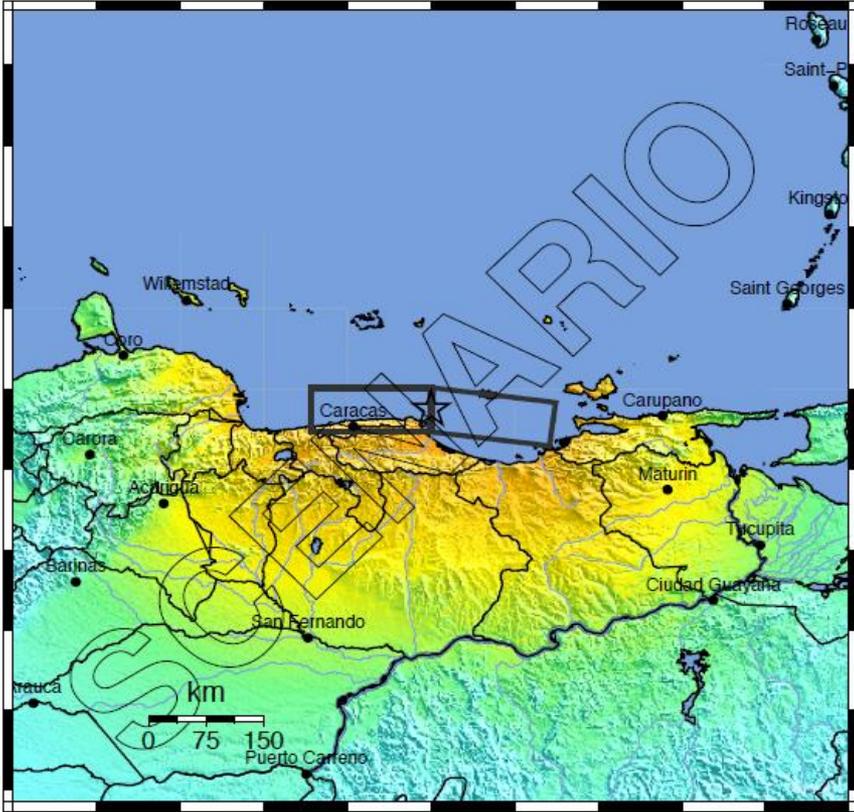
Scenario	Origin Time	Mw	Epicenter
Venezuela	14:00:00 UTC March 17, 2016	8.4	10.8°N, 66.0°W
Northern Hispaniola	15:00:00 UTC March 17, 2016	8.7	20.2°N, 71.7°W

Venezuela Scenario

Earthquake Impact Scenario Venezuela

— Earthquake Planning Scenario —
ShakeMap for Venezuela Scenario

Scenario Date: Mar 17, 2016 02:00:00 PM UTC M 8.4 N10.75 W66.00 Depth: 20.0km



PLANNING SCENARIO ONLY — Map Version 1 Processed 2015-08-25 08:19:16 PM UTC

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2012)

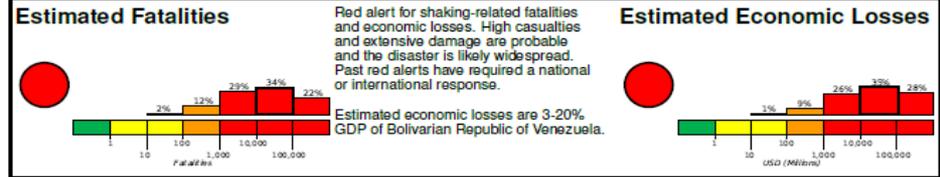


Earthquake Shaking **Red Alert**

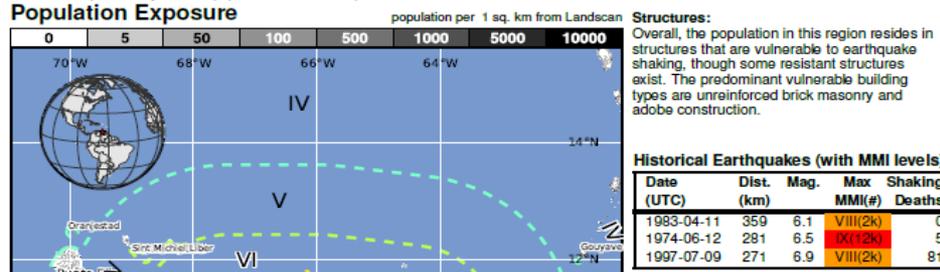


M 8.4, Venezuela
Origin Time: Thu 2016-03-17 14:00:00 UTC (09:30:00 local)
Location: 10.75°N 66.00°W Depth: 20 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

Created: 25 minutes, 0 seconds after earthquake



ESTIMATED POPULATION EXPOSURE (k = x1000)		2,141k	6,296k	4,893k	11,690k	478k	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	Moderate/Heavy	Heavy	V. Heavy
	Vulnerable Structures	none	none	none	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy	V. Heavy



Historical Earthquakes (with MMI levels):

Date (UTC)	Dist. (km)	Mag.	Max Shaking MMI(#)	Deaths
1983-04-11	359	6.1	VIII(2k)	0
1974-06-12	281	6.5	IX(12k)	5
1997-07-09	271	6.9	VIII(2k)	81

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

Selected City Exposure
from GeoNames.org

MMI City	Population
VIII Puerto La Cruz	370k
VIII Guanta	<1k
VIII Lecherías	<1k
VIII Rio Chico	<1k
VIII San Jose de B.	<1k
VIII Boca de Uchire	<1k
VII Barcelona	425k
VII Caracas	3,000k
VII Maracay	1,754k
VII Valencia	1,385k
VI Barquisimeto	809k

Message Chronology issued by the PTWC Venezuela

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/17/2016	1400	---- Earthquake Occurs ----	
3/17/2016	1405	Dummy	Email, NWS, GTS, EMWIN, AISR, Fax
3/17/2016	1405	Tsunami Threat Message #1	Email
3/17/2016	1425	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/17/2016	1510	Tsunami Threat Message #3	Email
3/17/2016	1545	Tsunami Threat Message #4	Email
3/17/2016	1645	Tsunami Threat Message #5	Email
3/17/2016	1745	Tsunami Threat Message #6	Email
3/17/2016	1845	Tsunami Threat Message #7	Email
3/17/2016	1945	Final Tsunami Threat Message #8	Email

Start of Exercise messages will also be sent out by PTWC twitter accounts

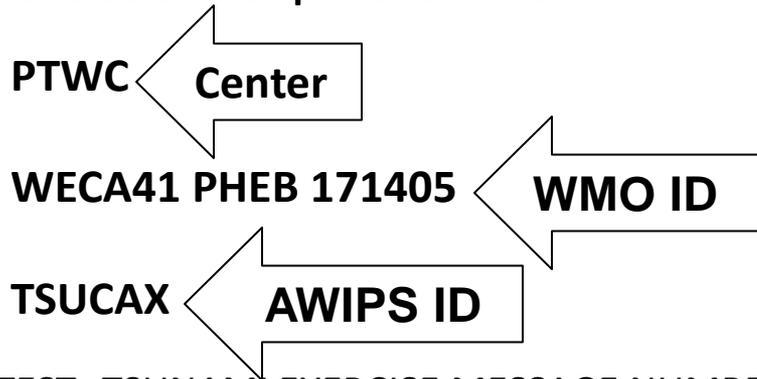
Can be received by text: **“Follow NWS_PTWC” to 40404**

“This is a test message for the CARIBEWAVE16 Venezuela tsunami exercise.” (issued at 14h05 UTC).

Social media Hash Tag: #CaribeWave

Appendix E. TWC Dummy (Start of Exercise) Messages

Venezuela Earthquake Scenario



TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1405Z 17 MAR 2016

...CARIBEWAVE 16 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE CARIBEWAVE 16 CARIBBEAN TSUNAMI EXERCISE VENEZUELA SCENARIO. 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 PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

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Appendix F. TWC Exercise Messages

Venezuela Earthquake Scenario

The following messages created for the CARIBE WAVE 16 tsunami exercise are representative of the official standard products issued by the PTWC during a large magnitude 8.4 earthquake and tsunami originating in Venezuela. During a real event, NTWC and TWFP would be sent via email the graphical products. The alerts would persist longer during a real event than is depicted in this exercise.

PTWC Message #1

WECA41 PHEB 171405
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 1
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1405 UTC THU MAR 17 2016

...TSUNAMI THREAT MESSAGE...

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

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.

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 ****

PRELIMINARY EARTHQUAKE PARAMETERS

- * MAGNITUDE 8.5
- * ORIGIN TIME 1400 UTC MAR 17 2016
- * COORDINATES 10.8 NORTH 66.0 WEST
- * DEPTH 15 KM / 9 MILES
- * LOCATION NEAR THE COAST OF VENEZUELA

EVALUATION

- * AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE COAST OF VENEZUELA AT 1400 UTC ON THURSDAY MARCH 17 2016.
- * BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST

- * HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

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

RECOMMENDED ACTIONS

- * 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.
- * PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL

* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES LISTED 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)
CUMANA	VENEZUELA	10.5N 64.2W	1438 03/17
MAIQUETIA	VENEZUELA	10.6N 67.0W	1448 03/17
ONIMA	BONAIRE	12.3N 68.3W	1455 03/17
WILLEMSTAD	CURACAO	12.1N 68.9W	1501 03/17
ORANJESTAD	ARUBA	12.5N 70.0W	1519 03/17
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1519 03/17
SAINT GEORGES	GRENADA	12.0N 61.8W	1519 03/17
CASTRIES	SAINT LUCIA	14.0N 61.0W	1524 03/17
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1527 03/17
ROSEAU	DOMINICA	15.3N 61.4W	1529 03/17
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1532 03/17
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1538 03/17
SABA	SABA	17.6N 63.2W	1541 03/17
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1543 03/17
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1544 03/17
BASSETERRE	SAINT KITTS	17.3N 62.7W	1545 03/17
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1546 03/17
BRIDGETOWN	BARBADOS	13.1N 59.6W	1548 03/17
JACAMEL	HAITI	18.1N 72.5W	1552 03/17
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1553 03/17
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1554 03/17
RIOHACHA	COLOMBIA	11.6N 72.9W	1605 03/17
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1611 03/17
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1613 03/17
THE VALLEY	ANGUILLA	18.3N 63.1W	1614 03/17
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1618 03/17
PALMETTO POINT	BARBUDA	17.6N 61.9W	1624 03/17
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1625 03/17
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1627 03/17
CARTAGENA	COLOMBIA	10.4N 75.6W	1628 03/17
CAP HAITEN	HAITI	19.8N 72.2W	1629 03/17
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1631 03/17
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1632 03/17
KINGSTON	JAMAICA	17.9N 76.9W	1635 03/17
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1638 03/17
MAYAGUANA	BAHAMAS	22.3N 73.0W	1639 03/17
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1642 03/17
ALIGANDI	PANAMA	9.2N 78.0W	1645 03/17
BARACOA	CUBA	20.4N 74.5W	1647 03/17
MONTEGO BAY	JAMAICA	18.5N 77.9W	1647 03/17
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1647 03/17
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1649 03/17
SANTA MARTA	COLOMBIA	11.2N 74.2W	1652 03/17
PUERTO CARRETO	PANAMA	8.8N 77.6W	1652 03/17
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1652 03/17
LONG ISLAND	BAHAMAS	23.3N 75.1W	1656 03/17
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1702 03/17
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1704 03/17ss

POTENTIAL IMPACTS

* 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.

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

* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

NEXT UPDATE AND ADDITIONAL INFORMATION

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

* 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-.

* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.

* 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 NTWC.ARH.NOAA.GOV.

PTWC Message #2

WECA41 PHEB 171425
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 2
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1425 UTC THU MAR 17 2016

...TSUNAMI THREAT MESSAGE...

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

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UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR
THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL
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ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
INFORMATION.

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UPDATES

* THE ESTIMATED MAGNITUDE OF THE EARTHQUAKE IS REDUCED FROM
8.5 TO 8.4.

* FORECAST TSUNAMI AMPLITUDES ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

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* DEPTH 15 KM / 9 MILES
* LOCATION NEAR THE COAST OF VENEZUELA

EVALUATION

* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.4 OCCURRED
NEAR THE COAST OF VENEZUELA AT 1400 UTC ON THURSDAY MARCH 17
2016.

* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE
FORECAST FOR SOME COASTS.

TSUNAMI THREAT FORECAST...UPDATED

* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE
LEVEL ARE POSSIBLE ALONG SOME COASTS OF
GUADELOUPE... AND VENEZUELA.

* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE
POSSIBLE ALONG SOME COASTS OF

ARUBA... COLOMBIA... DOMINICAN REPUBLIC... HAITI... PUERTO
RICO AND VIRGIN IS... ANGUILLA... ANTIGUA AND BARBUDA...
DOMINICA... GRENADA... JAMAICA... MARTINIQUE...
MONTSERRAT... CURACAO... BONAIRE... SAINT KITTS AND
NEVIS... SAINT LUCIA... SINT MAARTEN... SAINT
BARTHELEMY... SAINT MARTIN... SAINT VINCENT AND THE
GRENADINES... AND TRINIDAD AND TOBAGO.

* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL
ARE POSSIBLE FOR SOME COASTS OF

COSTA RICA... CUBA... GUYANA... MEXICO... NICARAGUA...
PANAMA... BARBADOS... AND TURKS AND CAICOS ISLANDS.

* NON-HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR ALL OTHER
AREAS COVERED BY THIS 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
WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT
YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS
NECESSARY IN SUBSEQUENT PRODUCTS.

RECOMMENDED ACTIONS

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ORANJESTAD	ARUBA	12.5N 70.0W	1519 03/17
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1519 03/17
SAINT GEORGES	GRENADA	12.0N 61.8W	1519 03/17
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BASSE TERRE	GUADELOUPE	16.0N 61.7W	1532 03/17
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1538 03/17
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1543 03/17
PLYMOUTH	MONTserrat	16.7N 62.2W	1544 03/17
BASSETERRE	SAINT KITTS	17.3N 62.7W	1545 03/17
BRIDGETOWN	BARBADOS	13.1N 59.6W	1548 03/17
JACAMEL	HAITI	18.1N 72.5W	1552 03/17
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1553 03/17

SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1554 03/17
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ALIGANDI	PANAMA	9.2N 78.0W	1645 03/17
MONTEGO BAY	JAMAICA	18.5N 77.9W	1647 03/17
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N 61.5W	1649 03/17
SANTA MARTA	COLOMBIA	11.2N 74.2W	1652 03/17
PUERTO CARRETO	PANAMA	8.8N 77.6W	1652 03/17
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1704 03/17
JEREMIE	HAITI	18.6N 74.1W	1713 03/17
PUNTO FIJO	VENEZUELA	11.7N 70.2W	1715 03/17
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1716 03/17
CIENFUEGOS	CUBA	22.0N 80.5W	1725 03/17
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1729 03/17
COLON	PANAMA	9.4N 79.9W	1749 03/17
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1803 03/17
COZUMEL	MEXICO	20.5N 87.0W	1811 03/17
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1815 03/17
PORT AU PRINCE	HAITI	18.5N 72.4W	1816 03/17
GOLFO VENEZUELA	VENEZUELA	11.4N 71.2W	1855 03/17
SANTA CRZ D SUR	CUBA	20.7N 78.0W	1930 03/17
PORLAMAR	VENEZUELA	10.9N 63.8W	1931 03/17
GEORGETOWN	GUYANA	6.8N 58.2W	2014 03/17
NUEVA GERONA	CUBA	21.9N 82.8W	2055 03/17
PUERTO CABEZAS	NICARAGUA	14.0N 83.4W	2154 03/17

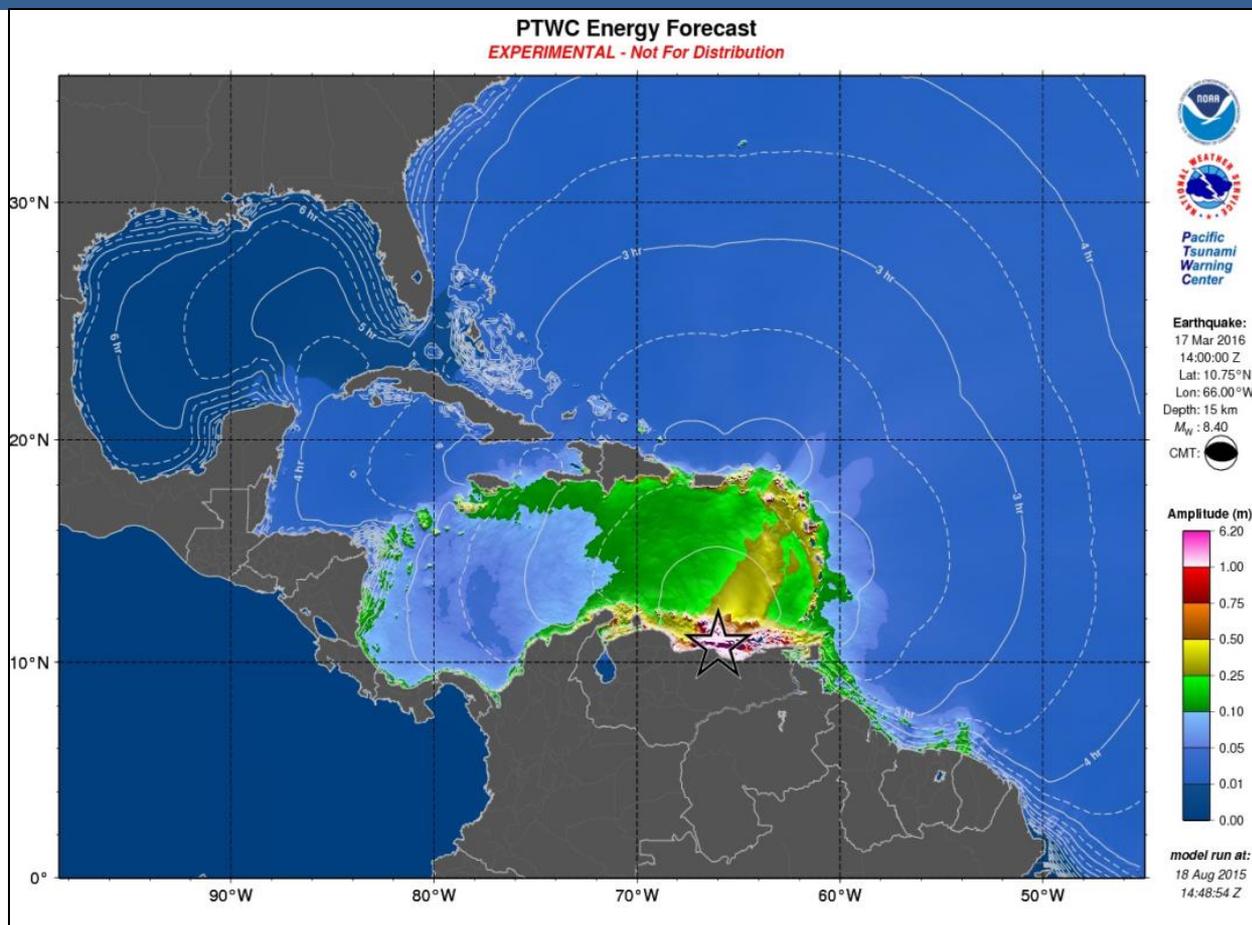
POTENTIAL IMPACTS

- * 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.
- * IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- * IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- * PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

NEXT UPDATE AND ADDITIONAL INFORMATION

- * THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- * 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-.
- * FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- * COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- * 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 NTWC.ARH.NOAA.GOV.

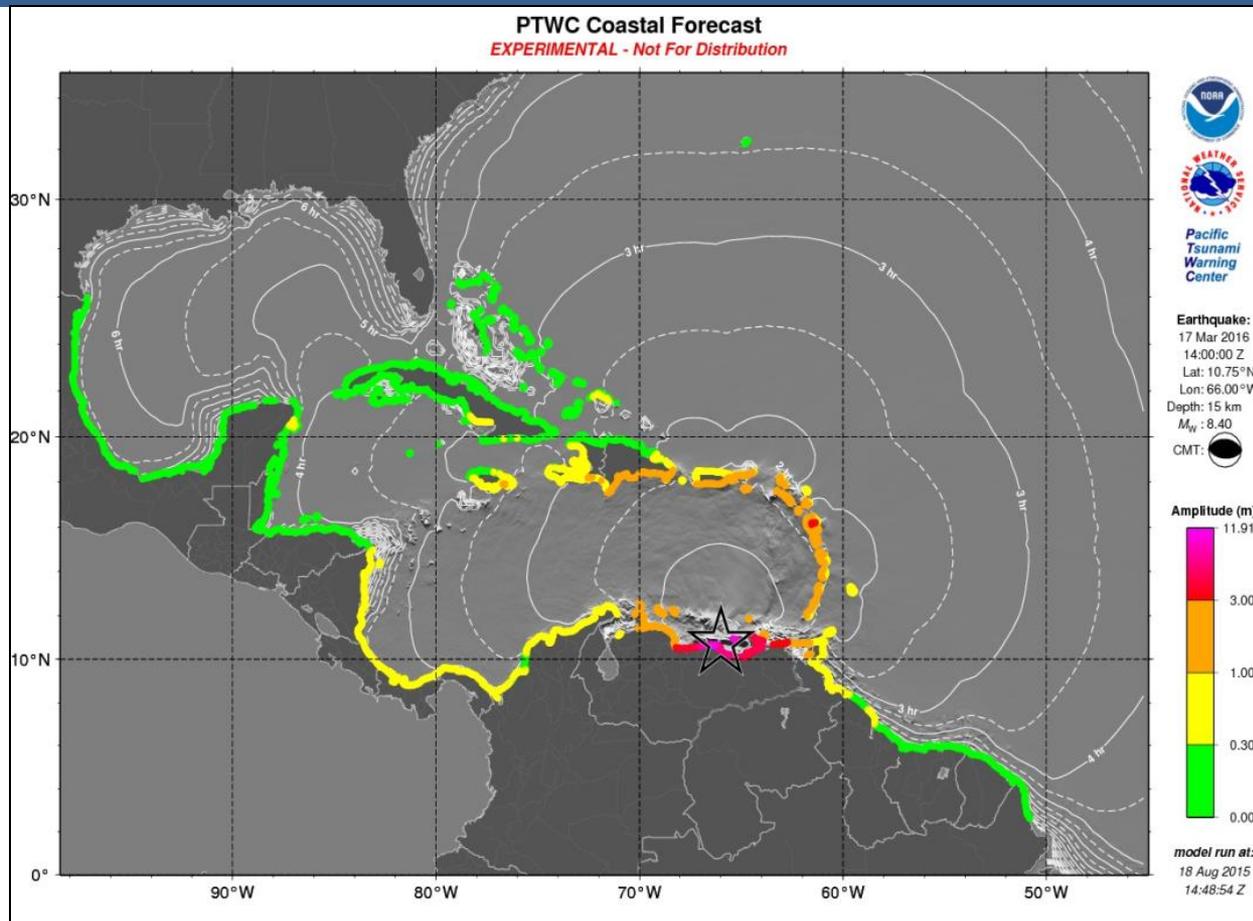
Energy Forecast for Tsunami Wave Heights Venezuela



RIFT maximum tsunami amplitude in the deep ocean for the CARIBE EWS area of service based on the Venezuela scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Coastal Forecast for Tsunami Wave Heights Venezuela

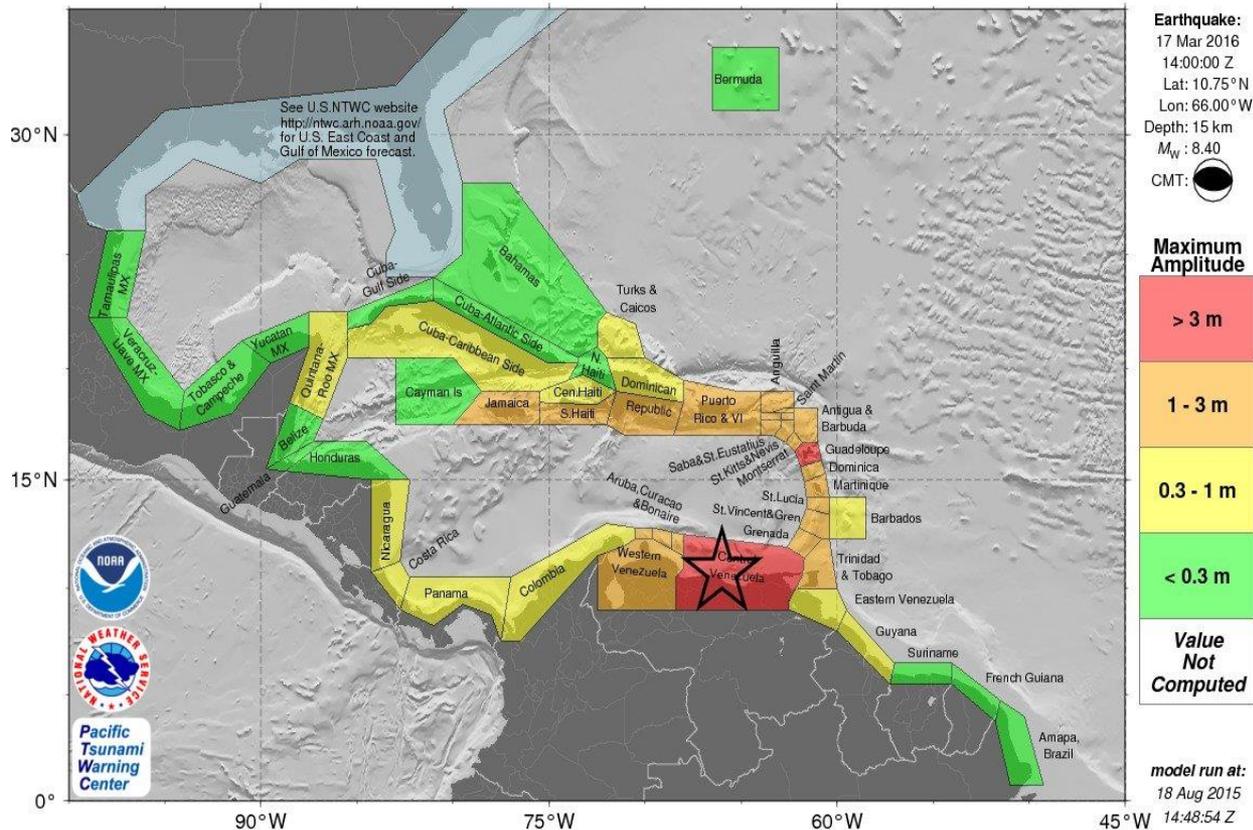


RIFT forecast tsunami heights for individual forecast points for the CARIBE EWS area of service based on the Venezuela scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Polygons Forecast for Tsunami Wave Heights Venezuela

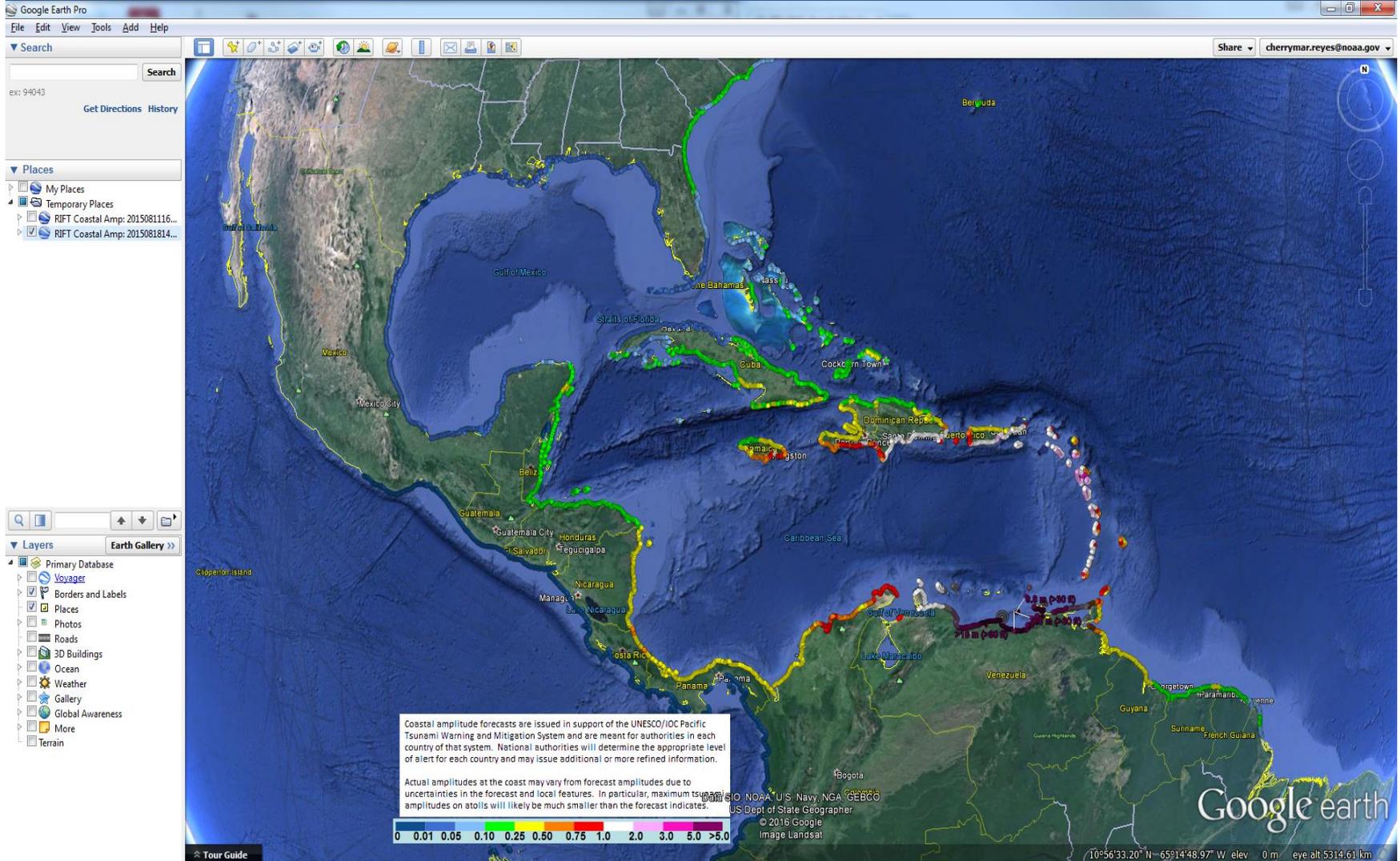
PTWC Forecast Polygons **EXPERIMENTAL - Not For Distribution**



RIFT forecast polygons for the CARIBE EWS area of service for the Venezuela scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

KMZ Venezuela



C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal_amp_Vz.kmz

PTWC Message #8

WECA41 PHEB 171945
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 8
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1945 UTC THU MAR 17 2016

...FINAL TSUNAMI THREAT MESSAGE...

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

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.

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 ****

UPDATES

-
- * THIS IS THE FINAL TSUNAMI THREAT MESSAGE FOR THIS EVENT.
 - * TSUNAMI OBSERVATIONS ARE UPDATED IN THIS MESSAGE.

PRELIMINARY EARTHQUAKE PARAMETERS

-
- * MAGNITUDE 8.4
 - * ORIGIN TIME 1400 UTC MAR 17 2016
 - * COORDINATES 10.8 NORTH 66.0 WEST
 - * DEPTH 15 KM / 9 MILES
 - * LOCATION NEAR THE COAST OF VENEZUELA

EVALUATION

- * AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.4 OCCURRED
NEAR THE COAST OF VENEZUELA AT 1400 UTC ON THURSDAY MARCH 17
2016.

- * BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS
EARTHQUAKE HAS NOW LARGELY PASSED.
TSUNAMI THREAT FORECAST...UPDATED

- * THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

RECOMMENDED ACTIONS

- * 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.

- * PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY
ALERT
FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL
AUTHORITIES.

- * REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

POTENTIAL IMPACTS

- * MINOR SEA LEVEL FLUCTUATIONS MAY PERSIST IN COASTAL AREAS
AFFECTED BY THE TSUNAMI FOR SEVERAL HOURS OR LONGER.

TSUNAMI OBSERVATIONS

* 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	COORDINATES LAT LON	TIME OF MAXIMUM MEASURE (UTC)	WAVE TSUNAMI PERIOD HEIGHT (MIN)
ILE ROYAL GUIANA FR	5.3N 52.6W	1922	0.20M/0.6FT 22
DART 42429	27.4N 85.7W	1908	0.00M/0.0FT 26
DART 42409	26.7N 85.8W	1856	0.00M/0.0FT 24
PUERTO MORELOS MX	21.4N 86.8W	1855	0.14M/0.5FT 28
ISLA MUJERES	21.2N 86.7W	1839	0.18M/0.6FT 18
DART 41424	32.9N 72.5W	1746	0.02M/0.1FT 14
LIMON CR	10.0N 83.0W	1735	0.69M/2.3FT 18
GEORGE TOWN CY	19.3N 81.4W	1732	0.12M/0.4FT 24
EL PORVENIR PM	9.6N 78.9W	1732	0.46M/1.5FT 26
SAN ANDRES CO	12.6N 81.7W	1716	0.45M/1.5FT 22
SANTA MARTA CO	11.2N 74.2W	1702	0.94M/3.1FT 22
CAP HAITIEN HT	19.8N 72.2W	1640	0.24M/0.8FT 26
PARHAM AT	17.1N 61.8W	1628	0.82M/2.7FT 16
DART 41420	23.5N 67.3W	1625	0.03M/0.1FT 22
DART 41421	23.4N 63.9W	1625	0.03M/0.1FT 26
LAMESHURBAYSTJOHNVI	18.3N 64.7W	1623	2.05M/6.7FT 22
PUERTO PLATA DO	19.8N 70.7W	1620	0.25M/0.8FT 18
DESIRADE GUADELOUPE	16.3N 61.1W	1609	0.96M/3.2FT 28
SAN JUAN PR	18.5N 66.1W	1611	0.41M/1.4FT 24
JACMEL HT	18.2N 72.5W	1600	1.47M/4.8FT 14
CHARLOTTEVILLE TT	11.3N 60.5W	1606	0.75M/2.4FT 26
LE ROBERT MARTINIQU	14.7N 60.9W	1559	1.16M/3.8FT 28
BRIDGEPORT BB	13.1N 59.6W	1554	0.78M/2.6FT 22
PORT ST CHARLES BB	13.3N 59.6W	1555	0.88M/2.9FT 16
POINT A PITRE GP	16.2N 61.5W	1555	4.30M/14.1FT 28
PUNTA CANA DO	18.5N 68.4W	1547	1.91M/6.3FT 18
DESHAIES GUADELOUPE	16.3N 61.8W	1544	3.03M/9.9FT 20
ESPERANZA VIEQUES P	18.1N 65.5W	1542	1.69M/5.6FT 24
PORT SAN ANDRES DO	18.4N 69.6W	1548	1.68M/5.5FT 26
MAYAGUEZ PR	18.2N 67.2W	1541	1.42M/4.7FT 18
ROSEAU DM	15.3N 61.4W	1540	2.74M/9.0FT 26
LE PRECHEUR MARTINI	14.8N 61.2W	1534	2.55M/8.4FT 26
FORT DE FRANCE MQ	14.6N 61.1W	1541	2.97M/9.7FT 26
MONA ISLAND PR	18.1N 67.9W	1538	1.38M/4.5FT 20
CALLIAQUA VC	13.1N 61.2W	1540	1.87M/6.1FT 22
LIMETREE VI	17.7N 64.8W	1538	2.42M/7.9FT 22
ST CROIX VI	17.7N 64.7W	1535	2.27M/7.5FT 24
MAGUEYES ISLAND PR	18.0N 67.0W	1534	1.38M/4.5FT 14
PENUELAS PR	18.0N 66.8W	1535	1.91M/6.3FT 20
PRICKLEY BAY GD	12.0N 61.8W	1525	1.76M/5.8FT 24
BULLEN BAY CURACAO	12.2N 69.0W	1512	2.18M/7.2FT 22
DART 42407	15.3N 68.2W	1507	0.22M/0.7FT 16

NEXT UPDATE AND ADDITIONAL INFORMATION

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

* 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-.

* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.

* 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 NTWC.ARH.NOAA.GOV.

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Exercise Time Table – PTWC US Domestic Products (Puerto Rico and US and British Virgin Islands)

Date	Time (UTC)	Local Time	PTWC Domestic Message			
			#	Type	Dummy	Email
03/17/2016	14:00	10:00 am	Earthquakes Occurs			
03/17/2016	14:05	10:05 am	01	Warning	Yes	Yes
03/17/2016	14:25	10:25 am	02	Warning	No	Yes
03/17/2016	14:50	10:50 am	03	Warning	No	Yes
03/17/2016	15:20	11:20 am	04	Warning	No	Yes
03/17/2016	15:50	11:50 am	05	Warning	No	Yes
03/17/2016	16:20	12:20 am	06	Warning	No	Yes
03/17/2016	16:50	12:50 am	07	Warning	No	Yes
03/17/2016	17:20	1:20 am	08	Warning	No	Yes
03/17/2016	17:50	1:50 pm	09	Warning	No	Yes
03/17/2016	18:20	2:20 pm	10	Advisory	No	Yes
03/17/2016	18:50	2:50 pm	11	Advisory	No	Yes
03/17/2016	19:20	3:20 pm	12	Advisory	No	Yes
03/17/2016	19:50	3:50 pm	13	Cancellation	No	Yes

PTWC Domestic Product for PR, USVI and BVI

ZCZC
WECA40 PHEB 171405
TSUCAR

TSUNAMI MESSAGE NUMBER 1
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1005 AM AST THU MAR 17 2016

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

AUDIENCE -----

* GOVERNMENT OFFICIALS... MEDIA... AND GENERAL PUBLIC OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS.

EVALUATION -----

* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE COAST OF VENEZUELA AT 1000 AM AST ON THURSDAY MARCH 17 2016.

* BASED ON ALL AVAILABLE DATA... THERE IS THE THREAT OF HAZARDOUS TSUNAMI WAVES FLOODING LOW-LYING COASTAL AREAS IN PUERTO RICO AND THE VIRGIN ISLANDS.

* THE EARLIEST ESTIMATED TIME THAT TSUNAMI WAVE ACTIVITY AND FLOODING MAY BEGIN WITHIN THE PUERTO RICO AND VIRGIN ISLANDS REGION IS

1121 AM AST ON THURSDAY MARCH 17 2016

* ACTIONS TO PROTECT HUMAN LIFE... SAFETY AND PROPERTY SHOULD BE TAKEN IMMEDIATELY.

* THE GENERATION OF TSUNAMI WAVES HAS NOT YET BEEN CONFIRMED.

* MONITORING IS UNDERWAY TO FURTHER EVALUATE THE TSUNAMI THREAT.

PRELIMINARY EARTHQUAKE PARAMETERS -----

* THE FOLLOWING PARAMETERS ARE BASED ON A PRELIMINARY RAPID ASSESSMENT OF THE EARTHQUAKE AND CHANGES MAY OCCUR.

* MAGNITUDE 8.5
* ORIGIN TIME 1000 AM AST MAR 17 2016
* COORDINATES 10.8 NORTH 66.0 WEST

* DEPTH 9 MILES
* LOCATION NEAR THE COAST OF VENEZUELA

RECOMMENDED ACTIONS -----

* ACTIONS REQUIRED TO PROTECT HUMAN LIFE... SAFETY AND PROPERTY WILL VARY WITHIN THE TSUNAMI WARNING AREA.

* PERSONS LOCATED IN OR NEAR THE OCEAN OR IN LOW-LYING COASTAL AREAS SHOULD EVACUATE INLAND OR TO HIGHER GROUND ABOVE AND BEYOND DESIGNATED TSUNAMI HAZARD ZONES... OR MOVE TO THE THIRD FLOOR OR HIGHER OF A MULTI-STORY BUILDING... DEPENDING UPON YOUR SITUATION.

* PERSONS LOCATED IN OR NEAR THE OCEAN SHOULD MOVE OUT OF THE WATER... OFF THE BEACH AND AWAY FROM HARBORS... MARINAS... BAYS AND INLETS.

* DO NOT GO TO THE SHORE TO OBSERVE THE TSUNAMI.

* DO NOT RETURN TO EVACUATED AREAS UNTIL THE ALL CLEAR IS GIVEN BY LOCAL AUTHORITIES.

* PERSONS LOCATED OUTSIDE THE EVACUATION ZONE SHOULD LIMIT TRAVEL TO PREVENT CONGESTION OF EVACUATION ROUTES.

* LIMIT TELEPHONE AND CELL PHONE USAGE SO THOSE SYSTEMS DO NOT BECOME OVERLOADED.

* BOATERS - WHERE TIME AND CONDITIONS PERMIT... MOVE YOUR BOAT OUT TO SEA TO A DEPTH OF AT LEAST 450 FEET.

* BOATERS - IF AT SEA... AVOID ENTERING SHALLOW WATER... HARBORS... MARINAS... BAYS AND INLETS TO AVOID FLOATING AND SUBMERGED DEBRIS AND STRONG CURRENTS.

* BE ALERT TO AND FOLLOW INSTRUCTIONS FROM LOCAL EMERGENCY MANAGEMENT OFFICIALS BECAUSE THEY MAY HAVE MORE DETAILED OR SPECIFIC INFORMATION FOR YOUR LOCATION.

FORECASTS OF TSUNAMI ACTIVITY -----

* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW.

* OBSERVED ARRIVAL TIMES MAY DIFFER FROM THESE ETAS AND THE INITIAL WAVE MAY NOT BE THE LARGEST.

* A TSUNAMI IS A SERIES OF WAVES AND THE DURATION OF EACH WAVE CAN BE FIVE MINUTES TO ONE HOUR.

PTWC Domestic Product for PR, USVI and BVI

TERRITORY	COASTAL LOCATION	ETA (AST)	FORECAST HEIGHT	FORECAST DURATION
PUERTO RICO	FENUELAS	1121 AM		
	PONCE	1121 AM		
	MAGUEYES IS	1121 AM		
	CAJA DE MUERTOS	1122 AM		
	YABUCCA	1126 AM		
	MONA ISLAND	1127 AM		
	MAYAGUEZ	1132 AM		
	AGUARDILLA	1141 AM		
	VIEQUES IS	1149 AM		
	ARECIBO	1153 AM		
	SAN JUAN	1157 AM		
	FAJARDO	1200 PM		
	CULEBRA IS	1227 PM		
	US VIRGIN IS	CHRISTIANSTED	1125 AM	
LIMETREE		1127 AM		
LAMESHUR BAY		1213 PM		
CHARLOTTE AMALIE		1218 PM		
BR VIRGIN IS	ANEGADA	1202 PM		
	VIRGIN GORDA	1218 PM		
	ROD TOWN	1225 PM		

OBSERVATIONS OF TSUNAMI ACTIVITY

* NO OBSERVATIONS OF TSUNAMI ACTIVITY ARE AVAILABLE YET.

IMPACTS

- * IMPACTS WILL VARY AT DIFFERENT LOCATIONS WITHIN PUERTO RICO AND THE VIRGIN ISLANDS.
- * SEA LEVEL FLUCTUATIONS THAT ARE 3 FEET OR MORE ABOVE AND BELOW THE TIDE LEVEL ALONG SOME OR ALL COASTS.
- * REPEATED FLOODING AND DRAINING OF LOW-LYING COASTAL AREAS.
- * STRONG AND UNUSUAL WAVES... CURRENTS AND INLAND FLOODING THAT CAN DROWN OR INJURE PEOPLE AND WEAKEN OR DESTROY STRUCTURES ON LAND AND IN THE WATER.
- * RAPIDLY FLOWING FLOOD WATER FILLED WITH HAZARDOUS DEBRIS.
- * SECONDARY HAZARDS THAT MAY INCLUDE DOWNED POWER LINES... FIRES... AND HAZARDOUS MATERIAL SPILLS.

* THE HAZARD IS FORECAST TO BEGIN AROUND 1121 AM AST ON THURSDAY MARCH 17 2016 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

NEXT UPDATE AND ADDITIONAL INFORMATION

* THE NEXT MESSAGE WILL BE ISSUED IN THIRTY MINUTES... OR SOONER IF THE SITUATION WARRANTS.

* FURTHER INFORMATION ABOUT THIS EVENT AND ANY TSUNAMI THREAT TO PUERTO RICO AND THE VIRGIN ISLANDS MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

* INFORMATION REGARDING ANY TSUNAMI THREAT TO US GULF OR ATLANTIC COASTS WILL BE ISSUED BY THE US NATIONAL TSUNAMI WARNING CENTER AND CAN BE FOUND ON THE INTERNET AT NITWC.ARH.NOAA.GOV AND AT WWW.TSUNAMI.GOV.

* AUTHORITY INFORMATION ABOUT THE EARTHQUAKE CAN BE OBTAINED FROM THE CORRESPONDING REGIONAL SEISMIC NETWORK OR THE U.S. GEOLOGICAL SURVEY ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

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PTWC Domestic Product for PR, USVI and BVI

ZCZC
WECA40 PHEB 171425
TSUCAR

TSUNAMI MESSAGE NUMBER 2
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1025 AM AST THU MAR 17 2016

...A TSUNAMI WARNING CONTINUES IN EFFECT...

AUDIENCE

- * GOVERNMENT OFFICIALS... MEDIA... AND GENERAL PUBLIC OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS.

UPDATES IN THIS MESSAGE

- * THE EARTHQUAKE PARAMETERS HAVE BEEN REVISED.
- * TSUNAMI HEIGHT AND DURATION FORECASTS ARE NOW INCLUDED.

EVALUATION

- * AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.4 OCCURRED NEAR THE COAST OF VENEZUELA AT 1000 AM AST ON THURSDAY MARCH 17 2016.
- * BASED ON ALL AVAILABLE DATA... THERE IS THE THREAT OF HAZARDOUS TSUNAMI WAVES FLOODING LOW-LYING COASTAL AREAS IN PUERTO RICO AND THE VIRGIN ISLANDS.
- * THE EARLIEST ESTIMATED TIME THAT TSUNAMI WAVE ACTIVITY AND FLOODING MAY BEGIN WITHIN THE PUERTO RICO AND VIRGIN ISLANDS REGION IS

1121 AM AST ON THURSDAY MARCH 17 2016
- * ACTIONS TO PROTECT HUMAN LIFE... SAFETY AND PROPERTY SHOULD BE TAKEN IMMEDIATELY.
- * THE GENERATION OF TSUNAMI WAVES HAS NOT YET BEEN CONFIRMED.

PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

- * THE FOLLOWING PARAMETERS ARE BASED ON A PRELIMINARY RAPID

ASSESSMENT OF THE EARTHQUAKE AND CHANGES MAY OCCUR.

* MAGNITUDE	8.4
* ORIGIN TIME	1000 AM AST MAR 17 2016
* COORDINATES	10.8 NORTH 66.0 WEST
* DEPTH	9 MILES
* LOCATION	NEAR THE COAST OF VENEZUELA

RECOMMENDED ACTIONS

- * ACTIONS REQUIRED TO PROTECT HUMAN LIFE... SAFETY AND PROPERTY WILL VARY WITHIN THE TSUNAMI WARNING AREA.
- * PERSONS LOCATED IN OR NEAR THE OCEAN OR IN LOW-LYING COASTAL AREAS SHOULD EVACUATE INLAND OR TO HIGHER GROUND ABOVE AND BEYOND DESIGNATED TSUNAMI HAZARD ZONES... OR MOVE TO THE THIRD FLOOR OR HIGHER OF A MULTI-STORY BUILDING... DEPENDING UPON YOUR SITUATION.
- * PERSONS LOCATED IN OR NEAR THE OCEAN SHOULD MOVE OUT OF THE WATER... OFF THE BEACH AND AWAY FROM HARBORS... MARINAS... BAYS AND INLETS.
- * DO NOT GO TO THE SHORE TO OBSERVE THE TSUNAMI.
- * DO NOT RETURN TO EVACUATED AREAS UNTIL THE ALL CLEAR IS GIVEN BY LOCAL AUTHORITIES.
- * PERSONS LOCATED OUTSIDE THE EVACUATION ZONE SHOULD LIMIT TRAVEL TO PREVENT CONGESTION OF EVACUATION ROUTES.
- * LIMIT TELEPHONE AND CELL PHONE USAGE SO THOSE SYSTEMS DO NOT BECOME OVERLOADED.
- * BOATERS - WHERE TIME AND CONDITIONS PERMIT... MOVE YOUR BOAT OUT TO SEA TO A DEPTH OF AT LEAST 450 FEET.
- * BOATERS - IF AT SEA... AVOID ENTERING SHALLOW WATER... HARBORS... MARINAS... BAYS AND INLETS TO AVOID FLOATING AND SUBMERGED DEBRIS AND STRONG CURRENTS.
- * BE ALERT TO AND FOLLOW INSTRUCTIONS FROM LOCAL EMERGENCY MANAGEMENT OFFICIALS BECAUSE THEY MAY HAVE MORE DETAILED OR SPECIFIC INFORMATION FOR YOUR LOCATION.

FORECASTS OF TSUNAMI ACTIVITY - UPDATED

- * ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE ARE GIVEN BELOW.

PTWC Domestic Product for PR, USVI and BVI

- * OBSERVED ARRIVAL TIMES MAY DIFFER FROM THESE ETAS AND THE INITIAL WAVE MAY NOT BE THE LARGEST.
- * THE FORECAST HEIGHT IS THE MAXIMUM EXPECTED WATER LEVEL ABOVE THE TIDE AT THAT COASTAL LOCATION.
- * THE FORECAST DURATION IS THE APPROXIMATE EXPECTED LENGTH OF TIME AFTER INITIAL IMPACT THAT THE TSUNAMI MAY CONTINUE TO BE A HAZARD.
- * A TSUNAMI IS A SERIES OF WAVES AND THE DURATION OF EACH WAVE CAN BE FIVE MINUTES TO ONE HOUR.

TERRITORY	COASTAL LOCATION	ETA (AST)	FORECAST HEIGHT	FORECAST DURATION
PUERTO RICO	PENUELAS	1121 AM	2.0-4.5 FT	12 HRS
	PONCE	1121 AM	2.1-4.7 FT	12 HRS
	MAGUEYES IS	1121 AM	1.8-4.0 FT	12 HRS
	CAJA DE MUERTOS	1122 AM	1.6-3.6 FT	12 HRS
	YABUCCA	1126 AM	2.1-4.6 FT	12 HRS
	MONA ISLAND	1127 AM	1.5-3.3 FT	12 HRS
	MAYAGUEZ	1132 AM	1.4-3.1 FT	12 HRS
	AGUADILLA	1141 AM	1.0-2.2 FT	6 HRS
	VIEQUES IS	1149 AM	BELOW 1 FT	-----
	ARECIBO	1153 AM	0.6-1.3 FT	6 HRS
	SAN JUAN	1157 AM	0.5-1.2 FT	6 HRS
	FAJARDO	1200 PM	0.5-1.2 FT	6 HRS
	CULEBRA IS	1227 PM	0.7-1.6 FT	6 HRS
	USVI	CHRISTIANSTED	1125 AM	1.6-3.6 FT
LIMETREE		1127 AM	2.5-5.6 FT	12 HRS
LAMESHUR BAY		1213 PM	1.4-3.0 FT	12 HRS
CHARLOTTE AMALIE		1216 PM	BELOW 1 FT	-----
BVI	ANEGADA	1202 PM	0.6-1.3 FT	6 HRS
	VIRGIN GORDA	1218 PM	1.4-3.1 FT	12 HRS
	ROADTOWN	1225 PM	BELOW 1 FT	-----

OBSERVATIONS OF TSUNAMI ACTIVITY

- * NO OBSERVATIONS OF TSUNAMI ACTIVITY ARE AVAILABLE YET.

IMPACTS

- * IMPACTS WILL VARY AT DIFFERENT LOCATIONS WITHIN PUERTO RICO AND THE VIRGIN ISLANDS.
- * SEA LEVEL FLUCTUATIONS THAT ARE 3 FEET OR MORE ABOVE AND BELOW THE TIDE LEVEL ALONG SOME OR ALL COASTS.

- * REPEATED FLOODING AND DRAINING OF LOW-LYING COASTAL AREAS.
- * STRONG AND UNUSUAL WAVES... CURRENTS AND INLAND FLOODING THAT CAN DROWN OR INJURE PEOPLE AND WEAKEN OR DESTROY STRUCTURES ON LAND AND IN THE WATER.
- * RAPIDLY FLOWING FLOOD WATER FILLED WITH HAZARDOUS DEBRIS.
- * SECONDARY HAZARDS THAT MAY INCLUDE DOWNED POWER LINES... FIRES... AND HAZARDOUS MATERIAL SPILLS.
- * THE HAZARD IS FORECAST TO BEGIN AROUND 1121 AM AST ON THURSDAY MARCH 17 2016 AND IT CAN PERSIST FOR MANY HOURS OR LONGER.

NEXT UPDATE AND ADDITIONAL INFORMATION

- * THE NEXT MESSAGE WILL BE ISSUED IN THIRTY MINUTES... OR SOONER IF THE SITUATION WARRANTS.
- * FURTHER INFORMATION ABOUT THIS EVENT AND ANY TSUNAMI THREAT TO PUERTO RICO AND THE VIRGIN ISLANDS MAY BE FOUND ON THE INTERNET AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- * INFORMATION REGARDING ANY TSUNAMI THREAT TO US GULF OR ATLANTIC COASTS WILL BE ISSUED BY THE US NATIONAL TSUNAMI WARNING CENTER AND CAN BE FOUND ON THE INTERNET AT NTWC.ARH.NOAA.GOV AND AT WWW.TSUNAMI.GOV.
- * AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE CAN BE OBTAINED FROM THE CORRESPONDING REGIONAL SEISMIC NETWORK OR THE U.S. GEOLOGICAL SURVEY ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL LOWERCASE LETTERS-.

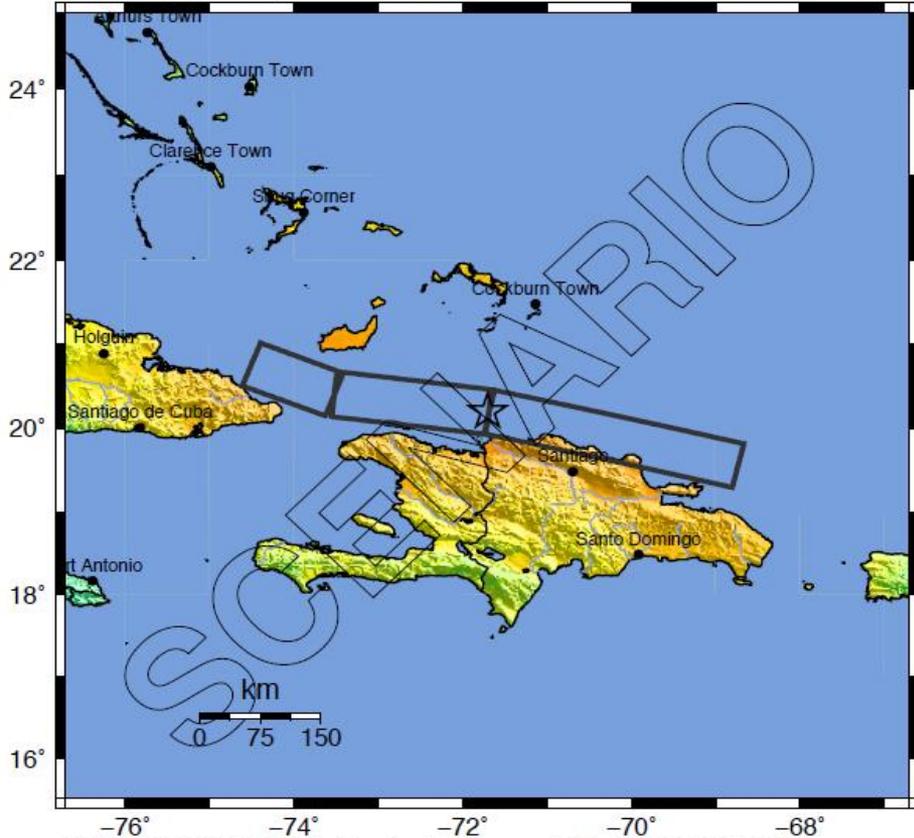
##

Northern Hispaniola Scenario

Earthquake Impact Scenario Northern Hispaniola

— Earthquake Planning Scenario —
ShakeMap for Hispaniola Scenario

Scenario Date: Mar 17, 2016 03:00:00 PM UTC M 8.7 N20.20 W71.70 Depth: 15.0km



PLANNING SCENARIO ONLY --- Map Version 1 Processed 2015-08-25 08:18:37 PM UTC

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	9.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2012)



Earthquake Shaking **Red Alert**



M 8.7, Northern Hispaniola

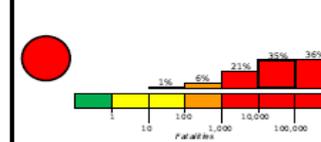
Origin Time: Thu 2016-03-17 15:00:00 UTC (10:00:00 local)

Location: 20.20°N 71.70°W Depth: 15 km

FOR TSUNAMI INFORMATION, SEE: [tsunami.gov](#)

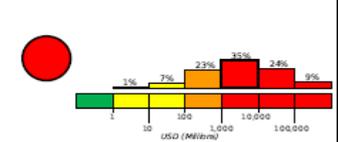
Created: 22 minutes, 0 seconds after earthquake

Estimated Fatalities



Red alert for shaking-related fatalities and economic losses. High casualties and extensive damage are probable and the disaster is likely widespread. Past red alerts have required a national or international response.

Estimated Economic Losses



Estimated economic losses are 3-20% GDP of Dominican Republic.

Estimated Population Exposed to Earthquake Shaking

	0	5	50	100	500	1000	5000	10000		
ESTIMATED POPULATION EXPOSURE (k = x1000)	--	--	5k*	710k*	9,934k*	13,629k	641k	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	Vulnerable Structures: none	Resistant Structures: none	Vulnerable Structures: none	Resistant Structures: V. Light	Vulnerable Structures: Light	Resistant Structures: Moderate	Vulnerable Structures: Moderate/Heavy	Resistant Structures: Heavy	Vulnerable Structures: V. Heavy

*Estimated exposure only includes population within the map area

Population Exposure



Structures: Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are concrete/cinder block masonry and mud wall construction.

Historical Earthquakes (with MMI levels):

Date (UTC)	Dist. (km)	Mag.	Max Shaking (MMI#)	Deaths
1994-07-12	90	5.6	VIII(6k)	0
1984-06-24	353	5.2	V(440k)	5
1984-06-24	347	6.7	VIII(326k)	5

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

Selected City Exposure

MMI City	Population
VIII Castanuelas	4K
VIII Caracol	2K
VIII Arroyo Salado	2K
VIII Ferrier	4K
VIII Agua Santa del Yuna	2K
VIII Jaibon	5K
VII Santiago de los C.	1,200K
VII Santo Domingo	2,202K
VII Santiago de Cuba	556K
VI Holguin	319K
VI Port-au-Prince	1,235K

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/pager>

Event ID: ushispaniola.se

Message Chronology issued by the PTWC

Northern Hispaniola

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/17/2016	1500	----Earthquake Occurs----	
3/17/2016	1505	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/17/2016	1505	Tsunami Threat Message #1	Email
3/17/2016	1525	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/17/2016	1600	Tsunami Threat Message #3	Email
3/17/2016	1630	Tsunami Threat Message #4	Email
3/17/2016	1700	Tsunami Threat Message #5	Email
3/17/2016	1800	Tsunami Threat Message #6	Email
3/17/2016	1900	Tsunami Threat Message #7	Email
3/17/2016	2000	Final Tsunami Threat Message #8	Email

Start of Exercise messages will also be sent out by PTWC twitter accounts

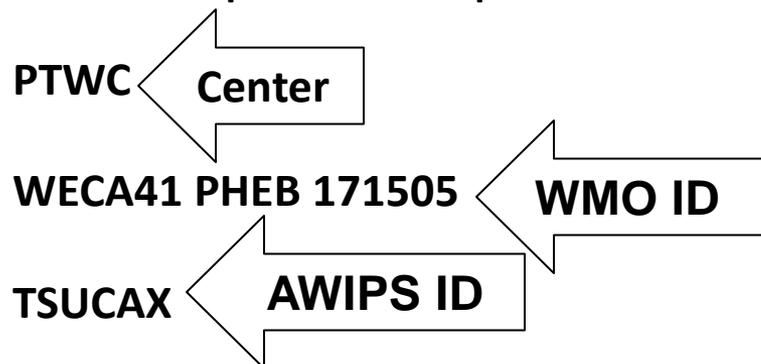
Can be received by text: **“Follow NWS_PTWC” to 40404**

“This is a test message for the CARIBEWAVE16 Northern Hispaniola tsunami exercise.” (issued at 15h05 UTC).

Social media Hash Tag: #CaribeWave

Appendix E. TWC Dummy (Start of Exercise) Messages

Northern Hispaniola Earthquake Scenario



TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1505Z 17 MAR 2016

...CARIBEWAVE 16 TSUNAMI EXERCISE MESSAGE. REFER TO PTWC MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE CARIBEWAVE 16 CARIBBEAN TSUNAMI EXERCISE NORTHERN HISPANIOLA SCENARIO. 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 PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

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Northern Hispaniola Earthquake Scenario

The following messages created for the CARIBE WAVE 16 tsunami exercise are representative of the official standard products issued by the PTWC during a large magnitude 8.7 earthquake and tsunami originating just northern Hispaniola. During a real event, the TWCs would also issue graphical and html-based products to their web sites and via RSS. The alerts would persist longer during a real event than is depicted in this exercise.

PTWC Message #1

WECA41 PHEB 171505
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 1
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1505 UTC THU MAR 17 2016

...TSUNAMI THREAT MESSAGE...

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

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.

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 ****

PRELIMINARY EARTHQUAKE PARAMETERS

- * MAGNITUDE 8.5
- * ORIGIN TIME 1500 UTC MAR 17 2016
- * COORDINATES 20.2 NORTH 71.7 WEST
- * DEPTH 20 KM / 12 MILES
- * LOCATION DOMINICAN REPUBLIC REGION

EVALUATION

- * AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED IN THE DOMINICAN REPUBLIC REGION AT 1500 UTC ON THURSDAY MARCH 17 2016.
- * BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST

- * HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

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

RECOMMENDED ACTIONS

- * 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.
- * PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL

* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES LISTED 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)
CAP HAITEN	HAITI	19.8N 72.2W	1509 03/17
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1514 03/17
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1521 03/17
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1524 03/17
MAYAGUANA	BAHAMAS	22.3N 73.0W	1527 03/17
BARACOA	CUBA	20.4N 74.5W	1529 03/17
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1529 03/17
CROOKED ISLAND	BAHAMAS	22.7N 74.1W	1542 03/17
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1544 03/17
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1546 03/17
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1549 03/17
LONG ISLAND	BAHAMAS	23.3N 75.1W	1551 03/17
EXUMA	BAHAMAS	23.6N 75.9W	1604 03/17
MONTEGO BAY	JAMAICA	18.5N 77.9W	1605 03/17
CAT ISLAND	BAHAMAS	24.4N 75.5W	1610 03/17
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1617 03/17
ABACO ISLAND	BAHAMAS	26.6N 77.1W	1618 03/17
JACAMEL	HAITI	18.1N 72.5W	1619 03/17
KINGSTON	JAMAICA	17.9N 76.9W	1620 03/17
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1623 03/17
ANDROS ISLAND	BAHAMAS	25.0N 77.9W	1623 03/17
SABA	SABA	17.6N 63.2W	1626 03/17
JEREMIE	HAITI	18.6N 74.1W	1629 03/17
SIMPSON BAAI	SINT MAARTEN	18.0N 63.1W	1633 03/17
GIBARA	CUBA	21.1N 76.1W	1634 03/17
ELEUTHERA ISLAN	BAHAMAS	25.2N 76.1W	1636 03/17
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1636 03/17
CIENFUEGOS	CUBA	22.0N 80.5W	1639 03/17
NASSAU	BAHAMAS	25.1N 77.4W	1640 03/17
THE VALLEY	ANGUILLA	18.3N 63.1W	1642 03/17

BASSETTERRE	SAINT KITTS	17.3N 62.7W	1642 03/17
FREEPORT	BAHAMAS	26.5N 78.8W	1643 03/17
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1644 03/17
PALMETTO POINT	BARBUDA	17.6N 61.9W	1651 03/17
ONIMA	BONAIRE	12.3N 68.3W	1653 03/17
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1657 03/17
PLYMOUTH	MONTserrat	16.7N 62.2W	1657 03/17
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N 62.8W	1658 03/17
WILLEMSTAD	CURACAO	12.1N 68.9W	1659 03/17
ORANJESTAD	ARUBA	12.5N 70.0W	1701 03/17
ROSEAU	DOMINICA	15.3N 61.4W	1703 03/17
BAIE BLANCHE	SAINT MARTIN	18.1N 63.0W	1704 03/17
FORT DE FRANCE	MARTINIQUE	14.6N 61.1W	1706 03/17
SAINT JOHNS	ANTIGUA	17.1N 61.9W	1708 03/17
RUTHS BAY	BERMUDA	32.4N 64.6W	1710 03/17
CASTRIES	SAINT LUCIA	14.0N 61.0W	1711 03/17
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1713 03/17
BIMINI	BAHAMAS	25.8N 79.3W	1715 03/17
RIOHACHA	COLOMBIA	11.6N 72.9W	1715 03/17
PORT AU PRINCE	HAITI	18.5N 72.4W	1718 03/17
BRIDGETOWN	BARBADOS	13.1N 59.6W	1720 03/17
KINGSTOWN	SAINT VINCENT	13.1N 61.2W	1720 03/17
MAIQUETIA	VENEZUELA	10.6N 67.0W	1723 03/17
COZUMEL	MEXICO	20.5N 87.0W	1726 03/17
CARTAGENA	COLOMBIA	10.4N 75.6W	1727 03/17
SAINT GEORGES	GRENADA	12.0N 61.8W	1730 03/17
PUERTO CORTES	HONDURAS	15.9N 88.0W	1734 03/17
ALIGANDI	PANAMA	9.2N 78.0W	1738 03/17
CUMANA	VENEZUELA	10.5N 64.2W	1739 03/17
PIRATES BAY	TRINIDAD TOBAGO	11.3N 60.6W	1742 03/17
PUERTO CARRETO	PANAMA	8.8N 77.6W	1747 03/17
TRUJILLO	HONDURAS	15.9N 86.0W	1753 03/17
SANTA MARTA	COLOMBIA	11.2N 74.2W	1755 03/17
LA HABANA	CUBA	23.2N 82.4W	1756 03/17
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1800 03/17

POTENTIAL IMPACTS

- * 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.
- * IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- * IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- * PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

NEXT UPDATE AND ADDITIONAL INFORMATION

- * THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- * 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-.
- * FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.
- * COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.
- * 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 NTWC.ARH.NOAA.GOV.

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PTWC Message #2

WECA41 PHEB 171525
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 2
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1525 UTC THU MAR 17 2016

...TSUNAMI THREAT MESSAGE...

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

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.

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 ****

UPDATES

* THE ESTIMATED MAGNITUDE OF THE EARTHQUAKE IS REVISED FROM
8.5 TO 8.7.

* FORECAST TSUNAMI AMPLITUDES ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

* MAGNITUDE 8.7
* ORIGIN TIME 1500 UTC MAR 17 2016
* COORDINATES 20.2 NORTH 71.7 WEST
* DEPTH 20 KM / 12 MILES
* LOCATION DOMINICAN REPUBLIC REGION

EVALUATION

* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.7 OCCURRED IN
THE DOMINICAN REPUBLIC REGION AT 1500 UTC ON THURSDAY MARCH 17
2016.

* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE
FORECAST FOR SOME COASTS.

TSUNAMI THREAT FORECAST...UPDATED

* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE
LEVEL ARE POSSIBLE ALONG SOME COASTS OF

CUBA... DOMINICAN REPUBLIC... HAITI... BAHAMAS... AND TURKS
AND CAICOS ISLANDS.

* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE
POSSIBLE ALONG SOME COASTS OF

MEXICO... PUERTO RICO AND VIRGIN IS... ANGUILLA...
BERMUDA... JAMAICA... AND SAINT KITTS AND NEVIS.

* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL
ARE POSSIBLE FOR SOME COASTS OF

ARUBA... COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...
NICARAGUA... PANAMA... ANTIGUA AND BARBUDA... BARBADOS...
BELIZE... CAYMAN ISLANDS... DOMINICA... GRENADA...
GUADELOUPE... MARTINIQUE... MONTSERRAT... CURACAO...
BONAIRE... SAINT LUCIA... SINT MAARTEN... SAINT
BARTHELEMY... SAINT MARTIN... SAINT VINCENT AND THE
GRENADINES... TRINIDAD AND TOBAGO... AND VENEZUELA.

* NON-HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR ALL OTHER
AREAS COVERED BY THIS 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
WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* FOR OTHER AREAS COVERED BY THIS PRODUCT A FORECAST HAS NOT
YET BEEN COMPUTED. THE FORECAST WILL BE EXPANDED AS
NECESSARY IN SUBSEQUENT PRODUCTS.

RECOMMENDED ACTIONS

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ESTIMATED TIMES OF ARRIVAL

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Table with 4 columns: LOCATION, REGION, COORDINATES, ETA(UTC). Lists various locations like CAP HAITEN, PUERTO PLATA, WEST CAICOS, etc.

Table with 4 columns: LOCATION, REGION, COORDINATES, ETA(UTC). Lists various locations like CAYMAN BRAC, JACAMEL, ANDROS ISLAND, etc.

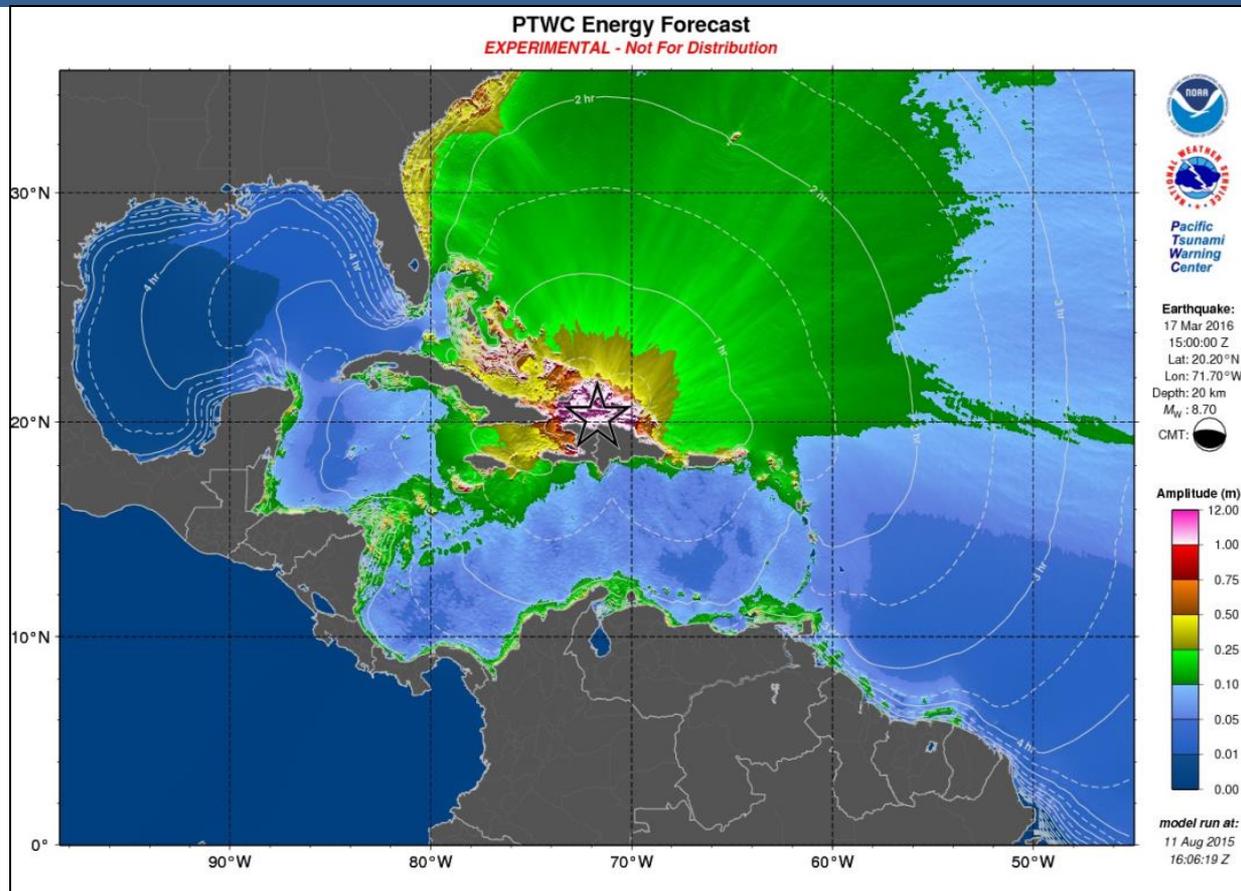
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- * COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT NTWC.ARH.NOAA.GOV.

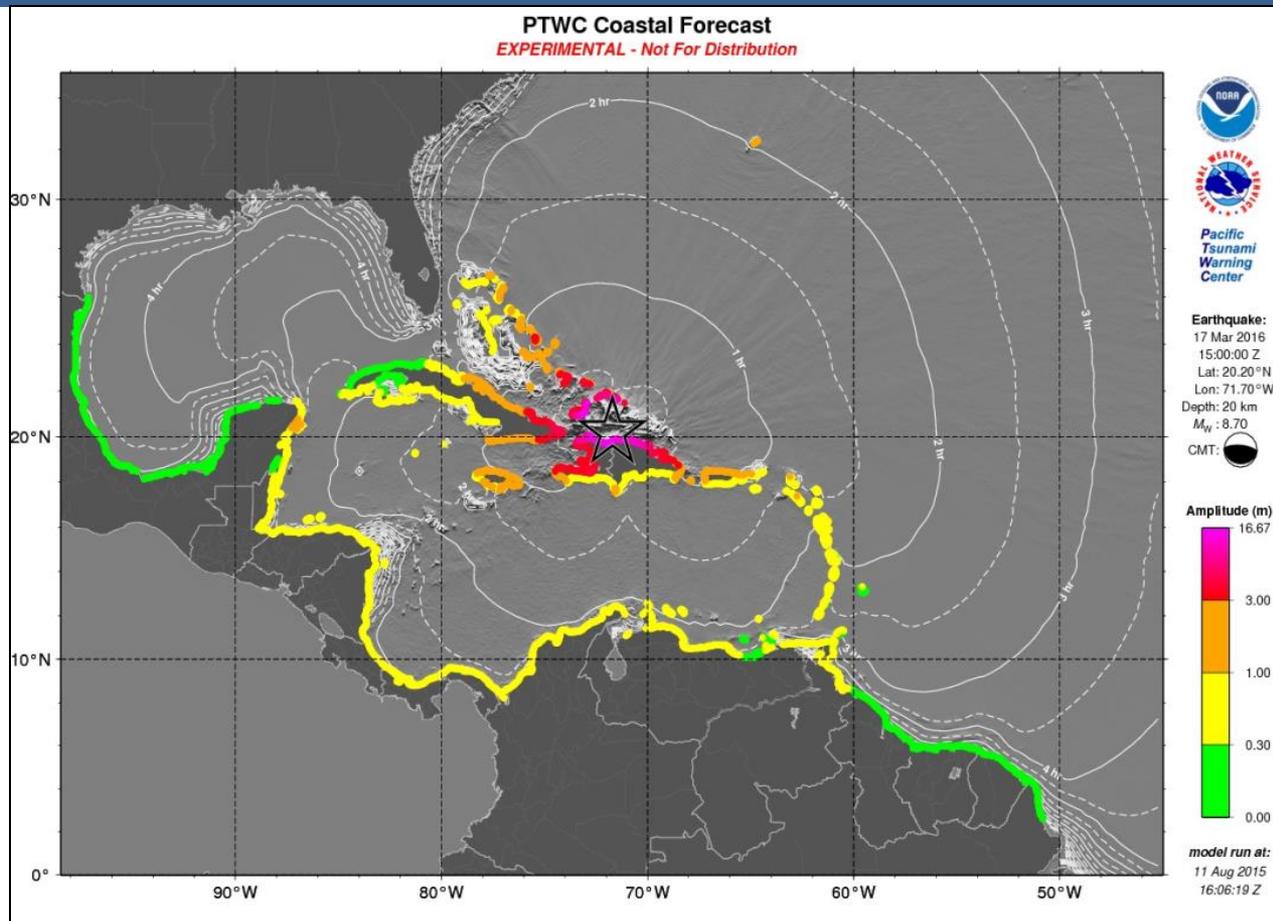
Energy Forecast for Tsunami Wave Heights Northern Hispaniola



RIFT maximum tsunami amplitude in the deep ocean for the CARIBE EWS area of service based on the Northern Hispaniola scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Coastal Forecast for Tsunami Wave Heights Northern Hispaniola

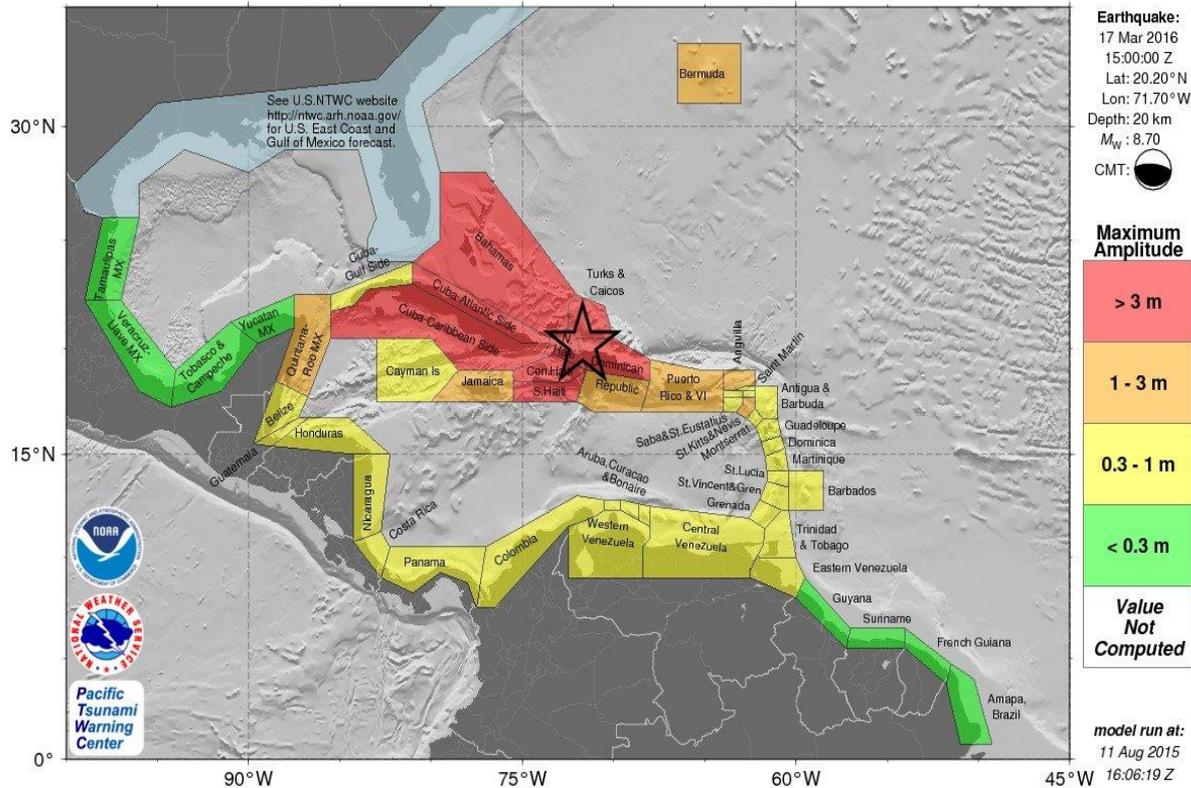


RIFT forecast tsunami heights for individual forecast points for the CARIBE EWS area of service based on the Northern Hispaniola scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Polygons Forecast for Tsunami Wave Heights Northern Hispaniola

PTWC Forecast Polygons **EXPERIMENTAL - Not For Distribution**

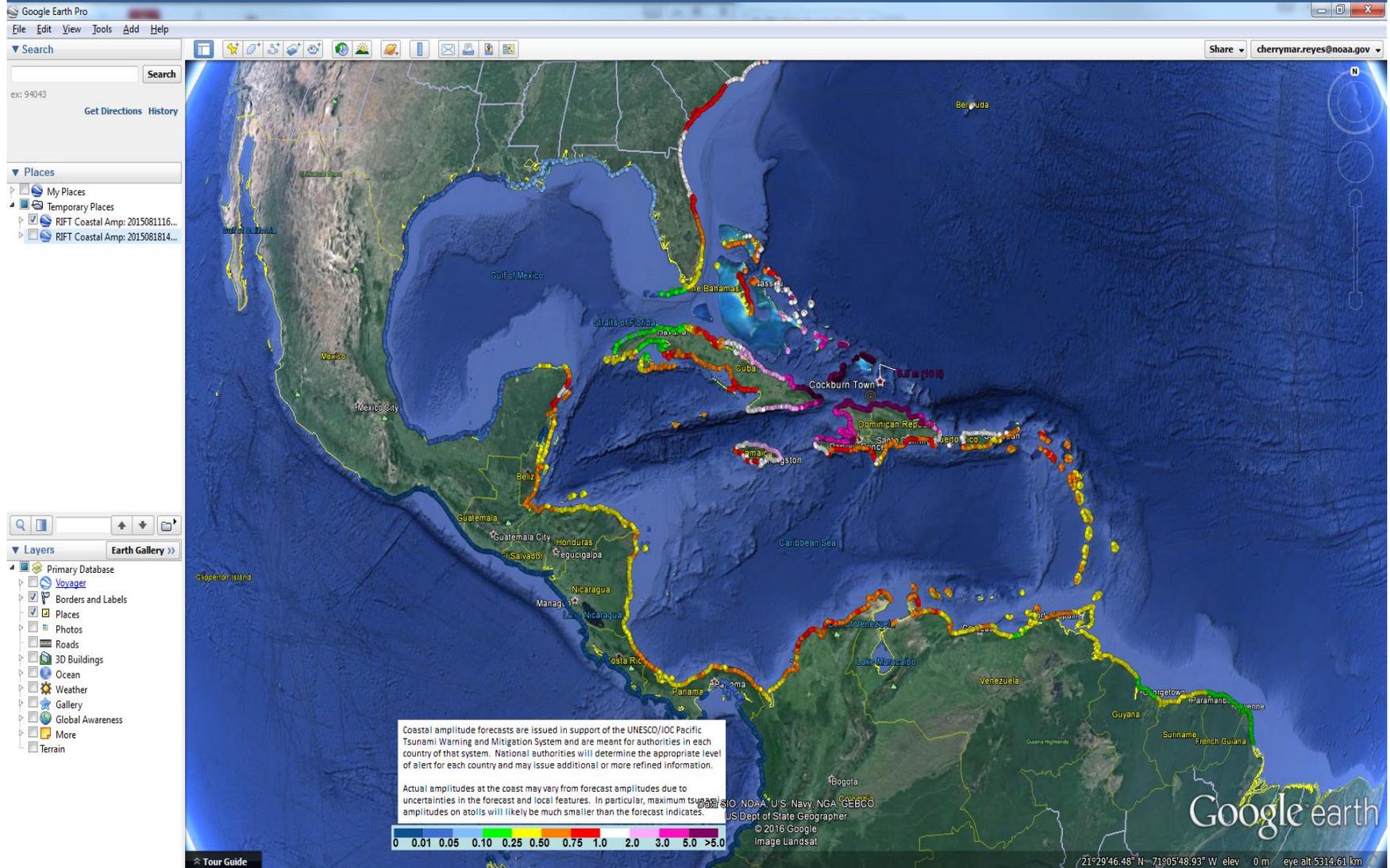


RIFT forecast polygons for the CARIBE EWS Area of Service for the Northern Hispaniola scenario.

During a real event and for this exercise this product will only be sent by Email to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

KMZ

Northern Hispaniola



C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal_amp-NH.kmz

Forecasted Maximum Wave Heights*

Northern Hispaniola

PTWC

Location	Tsunami Travel Time (hrs./m.)	Location	Tsunami Travel Time (hrs./m.)
PILOTS STATION LA	4.4 hrs./ 0.08 m	DART 41424	2.1 hrs./ 0.19 m
KEY WEST FL	3.9 hrs./ 0.2 m	LAMESHURBAYSTJOHNVI	2 hrs./ 0.83 m
TRIDENT PIER FL	3.9 hrs./ 1.26 m	DESHAIES GUADELOUPE	2 hrs./ 0.62 m
DART 42429	3.3 hrs./ 0.01 m	PORT SAN ANDRES DO	1.9 hrs./ 1.14 m
LIMON CR	3.3 hrs./ 0.71 m	PARHAM AT	1.8 hrs./ 0.42 m
CHARLOTTEVILLE TT	3.2 hrs./ 0.28 m	DESIRADE GUADELOUPE	1.9 hrs./ 0.38 m
DART 42409	3.2 hrs./ 0.01 m	ESPERANZA VIEQUES P	1.7 hrs./ 0.73 m
PUERTO MORELOS MX	3.1 hrs./ 0.38 m	GEORGE TOWN CY	1.7 hrs./ 0.47 m
ISLA MUJERES	3 hrs./ 0.68 m	LIMETREE VI	1.6 hrs./ 0.77 m
EL PORVENIR PM	2.9 hrs./ 0.87 m	ST CROIX VI	1.5 hrs./ 0.8 m
PRICKLEY BAY GD	2.8 hrs./ 0.47 m	DART 42407	1.5 hrs./ 0.07 m
SAN ANDRES CO	2.9 hrs./ 0.57 m	JACMEL HT	1.5 hrs./ 0.78 m
CALLIAQUA VC	2.6 hrs./ 0.5 m	MAGUEYES ISLAND PR	1.4 hrs./ 0.91 m
BRIDGEPORT BB	2.5 hrs./ 0.31 m	PENUELAS PR	1.4 hrs./ 0.94 m
PORT ST CHARLES BB	2.4 hrs./ 0.31 m	DART 41421	1.3 hrs./ 0.19 m
SANTA MARTA CO	2.4 hrs./ 0.89 m	MONA ISLAND PR	1.2 hrs./ 2.74 m
FORT DE FRANCE MQ	2.3 hrs./ 0.62 m	PUNTA CANA DO	1.1 hrs./ 3.47 m
LE ROBERT MARTINIQU	2.2 hrs./ 0.31 m	SAN JUAN PR	1 hrs./ 2.03 m
ROSEAU DM	2.2 hrs./ 0.46 m	MAYAGUEZ PR	1.1 hrs./ 3.55 m
LE PRECHEUR MARTINI	2.2 hrs./ 0.54 m	DART 41420	0.9 hrs./ 0.24 m
BULLEN BAY CURACAO	2.2 hrs./ 0.89 m	PUERTO PLATA DO	0.4 hrs./ 15.3 m
POINT A PITRE GP	2 hrs./ 0.6 m	CAP HAITIEN HT	0.2 hrs./ 17.7 m

*Maximum tsunami height is measured as water level above tide level at time of measurement,
run-up can be double this value

Tabla de Polígonos PTWC

PTWC RIFT Tsunami Forecast Model - Run ID: 20150811160619

Earthquake - Origin: 03/17/2016 15:00:00 UTC Coordinates: 20.2N 71.7W Depth: 020km Magnitude: 8.4

Coastal Forecast (meters)				Offshore Forecast (meters)				Total Points	Region Name
Maximum	Mean	Median	STD	Maximum	Mean	Median	STD		
17.00	2.40	1.10	3.10	8.30	1.00	0.47	1.30	442	Bahamas
17.00	13.00	14.00	2.90	12.00	4.30	3.70	2.00	66	Atlantic_Coast_of_Haiti
16.00	8.30	7.50	4.30	12.00	3.20	2.40	2.10	129	Atlantic_Coast_of_Dominican_Republic
15.00	7.00	5.80	3.80	6.60	2.80	2.30	1.40	46	Turks_and_Caicos_Islands
7.10	2.20	2.00	1.70	3.40	0.73	0.58	0.57	267	Atlantic_Coast_of_Cuba
6.90	1.10	0.68	1.30	2.30	0.36	0.26	0.36	472	Caribbean_Coast_of_Cuba
6.30	4.30	4.30	0.61	3.10	1.30	1.20	0.48	139	Gulf_of_Gonave_Coast_of_Haiti
5.00	0.98	0.87	0.56	1.90	0.33	0.23	0.28	89	Caribbean_Coast_of_Haiti
2.90	1.50	1.30	0.60	1.20	0.51	0.50	0.21	146	Jamaica
2.00	0.96	0.62	0.50	1.80	0.49	0.45	0.33	189	Puerto_Rico_and_Virgin_Is
1.70	0.85	0.75	0.37	1.20	0.35	0.26	0.23	148	Caribbean_Coast_of_Dominican_Republic
1.60	0.61	0.56	0.43	0.85	0.24	0.23	0.17	166	Quintana_Roo_Mexico
1.60	1.40	1.50	0.14	0.96	0.67	0.65	0.22	7	Bermuda
1.40	0.38	0.07	0.46	1.50	0.21	0.03	0.29	1149	Mainland-Gulf
1.30	0.86	0.79	0.16	1.00	0.62	0.60	0.24	8	Anguilla
1.00	0.82	0.83	0.09	0.44	0.23	0.21	0.06	29	Saint_Kitts_and_Nevis
0.98	0.64	0.64	0.13	1.20	0.35	0.32	0.15	255	Caribbean_Coast_of_Colombia
0.93	0.58	0.52	0.13	0.61	0.31	0.30	0.13	100	Western_Coast_of_Venezuela
0.79	0.71	0.70	0.04	0.43	0.31	0.29	0.07	6	Saint_Barthelemy
0.78	0.70	0.70	0.05	0.20	0.17	0.17	0.01	11	Montserrat
0.77	0.71	0.72	0.05	0.19	0.17	0.17	0.01	8	Saba_and_Saint_Eustatius
0.74	0.56	0.55	0.11	0.87	0.30	0.22	0.19	28	Antigua_and_Barbuda
0.73	0.49	0.49	0.11	0.50	0.20	0.18	0.09	179	Caribbean_Coast_of_Panama
0.72	0.52	0.51	0.09	0.30	0.15	0.15	0.04	27	Curacao
0.72	0.69	0.70	0.03	0.44	0.29	0.27	0.09	6	Sint_Maarten
0.71	0.63	0.67	0.08	0.34	0.22	0.20	0.07	8	Aruba
0.68	0.68	0.68	0.00	0.53	0.47	0.47	0.05	3	Saint_Martin
0.64	0.51	0.51	0.09	0.43	0.17	0.14	0.08	71	Guadeloupe
0.63	0.41	0.39	0.08	0.76	0.23	0.18	0.15	185	Caribbean_Coast_of_Honduras
0.63	0.52	0.57	0.09	0.21	0.15	0.15	0.04	5	Cayman_Islands
0.61	0.59	0.58	0.02	0.28	0.22	0.22	0.04	13	Caribbean_Coast_of_Guatemala
0.60	0.40	0.38	0.11	0.70	0.19	0.16	0.10	244	Central_Coast_of_Venezuela
0.59	0.42	0.43	0.08	0.28	0.13	0.12	0.04	29	Grenada
0.59	0.51	0.51	0.05	0.40	0.19	0.18	0.06	48	Caribbean_Coast_of_Costa_Rica
0.58	0.44	0.44	0.06	0.49	0.22	0.20	0.09	139	Caribbean_Coast_of_Nicaragua
0.58	0.49	0.52	0.06	0.59	0.25	0.23	0.11	90	Belize
0.56	0.40	0.41	0.08	0.33	0.14	0.14	0.05	41	Martinique
0.55	0.44	0.45	0.07	0.25	0.11	0.10	0.03	31	Dominica
0.55	0.48	0.46	0.05	0.65	0.23	0.18	0.14	15	Bonaire
0.53	0.41	0.41	0.04	0.23	0.14	0.13	0.04	33	Saint_Vincent_and_the_Grenadines
0.48	0.38	0.41	0.06	0.17	0.11	0.11	0.03	26	Saint_Lucia
0.45	0.14	0.14	0.05	0.16	0.05	0.04	0.03	119	Gulf_of_Mexico_Coast_of_Cuba
0.45	0.33	0.31	0.05	0.69	0.22	0.19	0.13	77	Trinidad_and_Tobago
0.38	0.33	0.33	0.03	0.24	0.14	0.14	0.04	82	Atlantic_Coast_of_Venezuela
0.31	0.28	0.27	0.02	0.09	0.07	0.07	0.01	22	Barbados
0.29	0.27	0.27	0.02	0.25	0.13	0.12	0.05	109	Suriname
0.28	0.08	0.03	0.10	0.11	0.04	0.03	0.03	59	Yucatan_Mexico
0.28	0.25	0.25	0.02	0.20	0.14	0.14	0.03	101	Guyana
0.23	0.15	0.16	0.02	0.24	0.10	0.09	0.04	84	French_Guiana
0.16	0.14	0.13	0.01	0.13	0.07	0.06	0.03	65	Amapa_Brazil
0.03	0.03	0.03	0.00	0.01	0.01	0.01	0.00	152	Veracruz_Mexico
0.03	0.03	0.02	0.00	0.02	0.01	0.00	0.00	183	Tabasco_and_Campeche_Mexico
0.03	0.03	0.03	0.00	0.02	0.01	0.01	0.00	126	Tamaulipas_Mexico

PTWC Message #8

WECA41 PHEB 172000
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 8
NOT FOR DISTRIBUTION
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
2000 UTC THU MAR 17 2016

...FINAL TSUNAMI THREAT MESSAGE...

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

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.

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 ****

UPDATES

-
- * THIS IS THE FINAL TSUNAMI THREAT MESSAGE FOR THIS EVENT.
 - * TSUNAMI OBSERVATIONS ARE UPDATED IN THIS MESSAGE.

PRELIMINARY EARTHQUAKE PARAMETERS

-
- * MAGNITUDE 8.7
 - * ORIGIN TIME 1500 UTC MAR 17 2016
 - * COORDINATES 20.2 NORTH 71.7 WEST
 - * DEPTH 20 KM / 12 MILES
 - * LOCATION DOMINICAN REPUBLIC REGION

EVALUATION

-
- * AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.7 OCCURRED IN THE DOMINICAN REPUBLIC REGION AT 1500 UTC ON THURSDAY MARCH 17 2016.
 - * BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS NOW LARGELY PASSED.

TSUNAMI THREAT FORECAST...UPDATED

-
- * THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

RECOMMENDED ACTIONS

-
- * 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.
 - * PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.
 - * REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

POTENTIAL IMPACTS

-
- * MINOR SEA LEVEL FLUCTUATIONS MAY PERSIST IN COASTAL AREAS AFFECTED BY THE TSUNAMI FOR SEVERAL HOURS OR LONGER.

TSUNAMI OBSERVATIONS

* 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.

Table with columns: GAUGE LOCATION, COORDINATES (LAT, LON), TIME OF MEASURE (UTC), MAXIMUM TSUNAMI HEIGHT (MIN), WAVE PERIOD (MIN). Rows include locations like PILOTS STATION LA, KEY WEST FL, TRIDENT PIER FL, etc.

NEXT UPDATE AND ADDITIONAL INFORMATION

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

* 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-.

* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT PTWC.WEATHER.GOV AND AT WWW.TSUNAMI.GOV.

* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT PTWC.WEATHER.GOV.

* 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 NTWC.ARH.NOAA.GOV.

\$\$

Member State Participation – Registration

The Tsunami Zone

Member States to establish their own national task teams to determine the scope of their national participation and testing.

The screenshot shows the website's navigation bar with links for Home, TsunamiZone Regions, Other Languages, Contact Us, Search, and Login. Below the navigation is a banner for "Guam Tsunami Preparedness Week Mar. 27-Apr. 2, 2016" featuring a beach scene and a person running. A secondary navigation bar includes "Register Here!", "Know Your Zone", "Who is Participating?", "How to Participate", "Resources", "News & Events", and "Partners & Sponsors". A green status bar indicates "No Tsunami Warnings, Advisories or Watches are in effect".

WELCOME TO THE TSUNAMIZONE!

ESPAÑOL | FRANÇAIS

Everyone, everywhere should know how to be prepared for tsunamis and what to do to be safe. This is true for people who live or work near the ocean, but also for anyone who may visit someday. Are you in the Zone?

TsunamiZone.org provides suggestions and resources for your family or organization to "know your zone" and to learn how to be safe.

Be counted among people and organizations worldwide by registering your 2016 tsunami preparedness activities!

2016 CALENDAR

- March 13-19
Puerto Rico, U.S. Virgin Islands,
LANTEX16 (March 16),
CARIBE WAVE 2016 (March 17)
- March 20-26
California
- March 27-April 2
Alaska, Guam
- April
Hawaii
- June 7-10
Cascadia Rising 2016
- September 24-30
American Samoa
- October
Oregon & Washington

[Find a local event](#)
Add events to the calendar

Over 42,000 participants registered

The PTWC will send via email all the simulated enhanced products (text and graphical) to the designated TWFP and NTWC (no need to register to received them **but if registered, you will be part of the statistical count of who is participating**). To verify the current list of officially designated UNESCO IOC CARIBE EWS TWFP and NTWC check out:

http://www.ioc-tsunami.org/index.php?option=com_content&view=article&id=6&Itemid=22&lang=en

Username: tsunami

pwd: bigwave

The TsunamiZone

Puerto Rico
Tsunami Preparedness Week
March 13-19, 2016

[Register Here!](#)
[Know Your Zone](#)
[Who is Participating?](#)
[How to Participate](#)
[Resources](#)
[News & Events](#)
[Partners & Sponsors](#)


CARIBE WAVE 2016

Regional Tsunami Exercises to be conducted in the Caribbean and Adjacent Regions on March 17, 2016: [Register Now!](#)

[ESPAÑOL](#) | [FRANÇAIS](#)

On March 17, 2016, the annual Caribbean and Adjacent Regions Tsunami Exercise, [CARIBE WAVE](#), will take place. UNESCO, the [U.S. National Tsunami Hazard Mitigation Program \(NTHMP\)](#), in the case of Puerto Rico and the US Virgin Islands, together with other regional organizations, are providing the framework. This exercise is a means for emergency responders throughout the Caribbean and Adjacent Regions serviced by the [Pacific Tsunami Warning Center \(PTWC\)](#), to test and update tsunami response plans with their at risk communities. The scenarios are based on tsunamis generated by major earthquakes located off the coast of Venezuela (14h00 UTC) and the second off the north coast of Hispaniola (15h00).



The initial kick off message will be issued by the Pacific Tsunami Warning Center (PTWC) over all standard broadcast channels to test communications and begin the exercise. It will be the only exercise message broadcast from the PTWC excluding special simulated email messages to officially designated Tsunami Warning Focal Points (TWFPs) and National Tsunami Warning Centers.

Each of the 48 Member States and Territories of the UNESCO IOC Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) will decide the level of participation and coordinate the corresponding activities within their jurisdictions. In the U.S., the San Juan Weather Forecast Office of the [National Weather Service](#), the Puerto Rico Emergency Management Agency, the [Virgin Islands Territorial Emergency Management Agency](#) and the [Puerto Rico Seismic Network](#) are the points of contact for local activities. The [Caribbean Tsunami Warning Program](#) and the Caribbean Tsunami Information Center will be providing regional support. The exercise handbooks, as well as additional background materials and the links for registration and evaluation, are posted at [caribewave.info](#). High levels of vulnerability and risk to life and livelihoods from tsunamis along the Caribbean and Adjacent regions should provide a strong incentive for countries and communities to prepare for a tsunami and participate in this exercise.

[Register today for the CARIBE WAVE 2016 exercise!](#)

UNESCO CARIBE EWS

UNESCO CARIBE EWS Member States and Territories

Antigua and Barbuda*	Bahamas
Barbados	Belize
Colombia	Costa Rica
Dominica	Dominican Republic
France (Guadeloupe, Guyane, Martinique, Saint Martin, St. Barthelemy)	
Grenada	Guatemala
Haiti	Guyana
Jamaica	Honduras
Netherlands (Aruba***, Bonaire, Curaçao***, Saba, Sint Eustatius, Sint Maarten***)	Mexico
Nicaragua	Panama
Saint Kitts and Nevis	Saint Lucia
Saint Vincent and the Grenadines	
Suriname	Trinidad and Tobago
United Kingdom of Great Britain & Northern Ireland (Anguilla***, Bermuda, British Virgin Islands***, Cayman Islands***, Montserrat***, Turks and Caicos)	
United States (Puerto Rico and U.S. Virgin Islands)	
Venezuela, Bolivarian Republic of	

Countries can keep track of registration by clicking on « Who is Participating »



WHO IS PARTICIPATING?

Click on a category name to see a list of who is participating. Click on a region name to see details of participation totals by area.

These totals are current as of 02/25/2016 3:25 AM PST.

Category	Participants	Participation totals for each area	Total
Total:	42,353		
Individuals/Families	317	California	37506
Childcare and Pre-Schools	100	North Coast	114
K-12 Schools and Districts	2,133	Shasta Cascade	2
Colleges and Universities	36,274	Bay Area	201
Local Government	1,124	Delta Sierra	82
State Government	708	Inyo-Mono	0
Federal Government (Including Military)	480	Central Valley South	5
Tribes	30	Central Coast	36356
Businesses	550	Southern California Coast	685
Hotels and Other Lodgings	55	Inland Southern California	39
Healthcare	257	San Diego	22
Senior Facilities/Communities	0	Other Areas	0
Disability/AFN Organizations	0	Caribbean	4134
Non-Profit Organizations	282	Antigua and Barbuda	1
Neighborhood Groups	0	Bahamas	2
Preparedness Organizations	5	Colombia	5
Faith-based Organizations	0	Costa Rica	1
Museums, Libraries, Parks, etc.	0	Dominican Republic	9
Volunteer/Service Clubs	20	Martinique	580
Youth Organizations	0	Mexico	3
Animal Shelter/Service Providers	0	Panama	65
Agriculture/Livestock	0	Puerto Rico	2664
Volunteer Radio Groups	0	U.S. Virgin Islands	804
Science/Engineering Organizations	1	Other Areas	713
Media Organizations	0	Other Areas	713
Other	17		

Category	Participants	Participation totals for each area	Total
Total:	9,859	Antigua and Barbuda	1
Individuals/Families	131	Bahamas	2
Childcare and Pre-Schools	30	Colombia	5
K-12 Schools and Districts	3,755	Costa Rica	1
Colleges and Universities	1,414	Dominican Republic	9
Local Government	2,529	Martinique	1,499
State Government	1,092	Mexico	603
Federal Government (Including Military)	607	Panama	65
Tribes	0	Puerto Rico	1,915
Businesses	4	U.S. Virgin Islands	807
Hotels and Other Lodgings	35		
Healthcare	150		
Senior Facilities/Communities	0		
Disability/AFN Organizations	0		
Non-Profit Organizations	72		
Neighborhood Groups	0		
Preparedness Organizations	0		
Faith-based Organizations	0		
Museums, Libraries, Parks, etc.	0		
Volunteer/Service Clubs	20		
Youth Organizations	0		
Animal Shelter/Service Providers	0		
Agriculture/Livestock	0		
Volunteer Radio Groups	0		
Science/Engineering Organizations	1		
Media Organizations	0		
Other	19		



WHO IS PARTICIPATING?

Click on a category name to see a list of who is participating. Click on a region name to see details of participation totals by area.

These totals are current as of 03/01/2016 3:25 AM PST.

Category	Participants
Total:	807
Individuals/Families	12
Childcare and Pre-Schools	0
K-12 Schools and Districts	490
Colleges and Universities	0
Local Government	147
State Government	100
Federal Government (Including Military)	0
Tribes	0
Businesses	0
Hotels and Other Lodgings	35
Healthcare	0
Senior Facilities/Communities	0
Disability/AFN Organizations	0
Non-Profit Organizations	0
Neighborhood Groups	0
Preparedness Organizations	0
Faith-based Organizations	0
Museums, Libraries, Parks, etc.	0
Volunteer/Service Clubs	20
Youth Organizations	0
Animal Shelter/Service Providers	0
Agriculture/Livestock	0
Volunteer Radio Groups	0
Science/Engineering Organizations	0
Media Organizations	0
Other	3

[Register Here!](#)

[Know Your Zone](#)

[Who is Participating?](#)

[How to Participate](#)

[Resources](#)

[News & Events](#)

[Partners & Sponsors](#)

LOCAL GOVERNMENT AGENCY PARTICIPANTS

There are 3 local government agencies registered for the 2016 Tsunami Preparedness Activities in the U.S. Virgin Islands area, with a total of 147 participants.

Scroll down to see the local government agencies who agreed to be listed on this website when they registered. ([Not listed?](#))

OTHER LISTS

TsunamiZone participants in other categories:

Select a category...

Local government agencies in other areas:

Select an area...

Participation totals:

Select an area...

Over 48,000 participants registered



LOCAL GOVERNMENT AGENCIES REGISTERED IN 2016

[St. Croix](#)

[Legislature of the Virgin Islands, St. Croix](#), *Frederiksted, VI*

[Virgin Island Lottery](#), *Fredricksted, VI*

VIRGIN ISLANDS GOVERNMENT

[VIRGIN ISLANDS TERRITORIAL EMERGENCY
MANAGEMENT AGENCY](#), *Christiansted, VI*

Names are linked if a website was provided during registration.

If an organization has registered it is listed in bold type.

Most organizations register on behalf of all their locations. Some locations may also register and are listed beneath their parent organization name. In this case their participants are not added to the overall total (to avoid duplication).

When a location registers but the parent organization does not, the parent organization name is not bold.

Media Arrangements

- PRSN Tsunami Media Guide (English and Spanish)
<http://www.prsn.uprm.edu/mediakit/>
- Seismic Research Center Tsunami and other Coastal Hazards WS Media Information Kit
<http://www.uwiseismic.com>
- Handbook sample press release, which can be adapted as necessary.
- Social media; #CaribeWave

Actions in Case of a Real Event or False Alarm

- In the case of a real event occurring during the exercise, the TWCs will issue their normal messages for the event with full priority over the CARIBE WAVE 16.
- Smaller earthquakes that only trigger a Tsunami Information Statement will not disrupt the exercise.
- All documentation and correspondence relating to this exercise is to be clearly identified as **“CARIBE WAVE 16”** and **“Exercise.”**

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 miss-interpretation by media or the public.

Post-Exercise Evaluation Form

- All participating agencies are requested to provide brief feedback on the exercise to assist in the development of subsequent exercises.
 - 1 TWFP/TNC per member state.
 - General public can also complete shorter version of survey.
- 83 questions, should take no more than 20 minutes.
- The deadline for completing the evaluation is **March 23, 2016.**
 - <https://www.surveymonkey.com/r/CaribeWave16>

Resources

- IOC Manual “How to plan, conduct and evaluate tsunami exercises” which will also be a useful resource.
- CARIBE WAVE 2011, 2013, 2014, 2015 Handbooks
- CARIBE WAVE 2013, 2014, 2015 Final and Media Report
- PTWC Communications Plan for the Caribbean
- Available at www.caribewave.info

Additional Info

- Additional materials will be added to CTWP (www.caribewave.info) and PRSN websites.
- Send links of other national pages to christa.vonh@noaa.gov to include on CTWP and PRSN websites
- This presentation is available on CTWP website

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Timeline

ACTION	DUE DATE
Draft Circulated among ICG CARIBE EWS TNC/TWFP	September- 2015
Deadline for Comments	September 18, 2015
Final Exercise Handbook Available Online	October 15, 2015
Circular Letter Issued by IOC to MS	November, 2015
1st Webinar CW	January 19, 20, 21 – 2016
2nd Webinar CW	March 1, 2, 3 - 2016
Exercise Registration Deadline	March 11, 2016
Exercise	March 17, 2016
Exercise Evaluation Due	March 23, 2016
Draft Final Caribe 16 Report	April 1, 2016
Discussion of Exercise ICG CARIBE EWS 11th Session	April 5-7, 2016

Questions, Comments

Thank you for participating

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