



2nd Webinar

Christa G. von Hillebrandt-Andrade

NOAA NWS Caribbean Tsunami Warning Program- Manager

ICG CARIBE EWS Chair

February 12, 2019

To be discussed in Webinar 2

Review the PTWC Products to be issued (pending participation of Dr. Mc Creery, who was not able to participate in Webinar 1).

Emphasize the importance of:

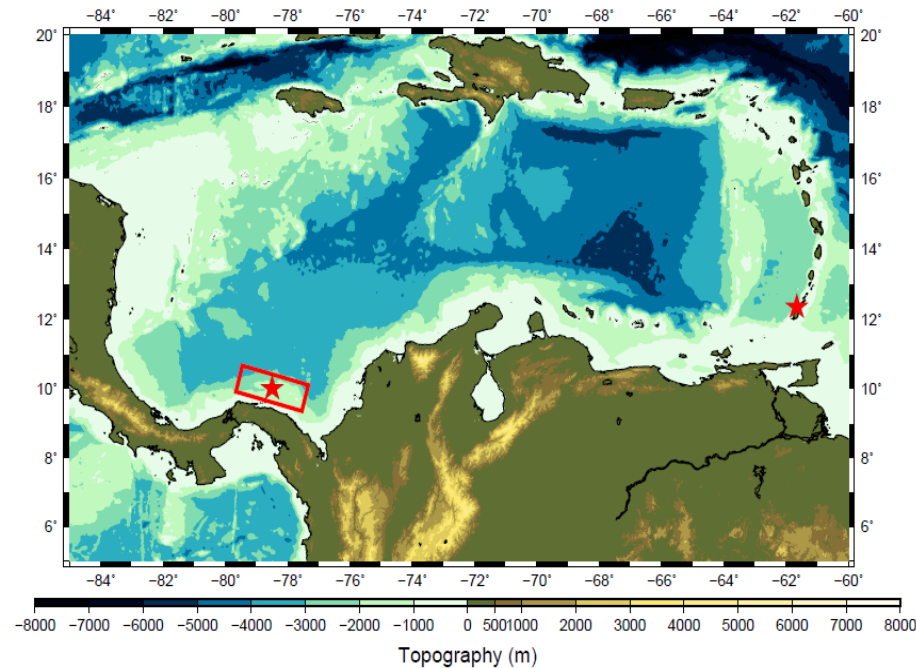
- Communication Systems
- Response Systems

Goals / Metrics

Goals	2013 Results	2014 Results	2015 Results	2016 Results	2017 Results	2018 Metric	2018 Results	2019 Metric
TWFP receive the dummy message	98%	94%	90%	84%	95%	100%	100%	100%
Participation of Member States of ICG CARIBE EWS with designated focal warning point	94%	98% (including two MS/Territory unofficial)	100%	100%	100%	100%	97%	100%
Community involvement (beyond TWFP)	75%	75%	66%	73%	82%	95%	77%	95%
Number of participants	44,000	191,000	191,420	332,812	679,985	+10%	643,403	+10%
Countries who participate submit exercise questionnaire	90%	100%	91%	100%	100%	100%	91%	100%
Members State and territories are satisfied with exercise								

CARIBE WAVE 19

Earthquake and Tsunami Scenarios



Scenario	Origin Time	Mw	Epicenter
Panama	14:00:00 UTC March 14, 2019	8.5	10.00°, -78.50°
Kick 'em Jenny		6.0	12.34°, -61.65°

PTWC products for Caribe Wave 19:

- The initial dummy message for the two scenarios will be issued on March 14, 2019 at 1400 UTC and disseminated over all its standard broadcast channels.

Center	WMO ID	AWIPS ID	NWWS	GTS/ WIS/ WMO	EMWIN	AISR	Fax	Email
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes	Yes

- To verify the current list as of December 2018 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

For changes, email: b.aliaga@unesco.org

Appendix E. TWC Dummy (Start of Exercise) Message

PTWC ← **Center**

WECA41 PHEB 141400 ← **WMO ID**

TSUCAX ← **AWIPS ID**

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1400Z 14 MAR 2019

...TEST...CARIBE WAVE 19 TSUNAMI EXERCISE DUMMY MESSAGE. REFER TO THE EXERCISE HANDBOOK.
THIS IS AN EXERCISE ONLY...TEST...

THIS MESSAGE IS BEING USED TO START THE CARIBE WAVE 19 TSUNAMI EXERCISE AND TEST COMMUNICATIONS WITH UNESCO IOC CARIBE EWS NTWCS AND TWFPS. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN THE HANDBOOK. THE HANDBOOK IS AVAILABLE AT THE WEB SITE CARIBEWAVE.INFO. THE EXERCISE PURPOSE IS TO EXERCISE AND EVALUATE THE CARIBE EWS TSUNAMI WARNING SYSTEM.

THIS IS ONLY AN EXERCISE.

\$\$

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

Users with US Cellphone providers can receive Tweets as text messages, sending as body message:

“Follow NWS_PTWC” to 40404

(this account is for all PTWC products)

and

“Follow NWS_CTWP” to 40404

(this account is only for PTWC products for the Caribbean and Adjacent Regions)

“This is a test message for the CARIBEWAVE19 tsunami exercise #CaribeWave”

(Will be issued at 14h00 UTC to NWS_PTWC and NWS_CTWP
accounts/subscribers.)

Simulated Tsunami Messages

- As of 1405 UTC, PTWC emails will be sent with all the simulated products to the designated CARIBE EWS, TWFP and NTWC for one of the scenarios.
 - By **February 28, 2019**, each Member State needs to select one scenario and must inform its selection to PTWC (charles.mccreery@noaa.gov and cindi.preller@noaa.gov) with a copy to the Caribbean Tsunami Warning Program (christa.vonh@noaa.gov). If the Member State does not inform the PTWC and CTWP, the organizers will decide for which scenario the PTWC will send the products.
 - Each country and territory will choose one scenario and decide if and how to disseminate messages within its area of responsibility.

CARIBE WAVE 19 Scenarios by Member State/Territory	
*scenarios decided by Caribe Wave organizers per Exercise Handbook	
Panama	Kick 'em Jenny
Haiti	United Kingdom British Virgin Islands
Kingdom of Netherlands Aruba	United States of America Puerto Rico US Virgin Islands
Mexico	Venezuela
Colombia	Saint Vincent and the Grenadines

*REMEMBER DEADLINE IS: **February 28.**

Message Chronology issued by the PTWC for Kick 'em Jenny Scenario

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/14/19	1400	----- Earthquake Occurs -----	
3/14/19	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/14/19	1405	Tsunami Information Statement #1	Email
3/14/19	1430	Tsunami Threat Message #2	Email
3/14/19	1500	Tsunami Threat Message #3	Email
3/14/19	1530	Tsunami Threat Message #4	Email
3/14/19	1600	Tsunami Threat Message #5	Email
3/14/19	1630	Final Tsunami Threat Message #6	Email

PTWC Message #1

ZCZC

WECA41 PHEB 141405

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI INFORMATION STATEMENT NUMBER 1...TEST

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

1405 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSE ONLY...

...TEST TSUNAMI INFORMATION STATEMENT 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 6.0
* ORIGIN TIME 1400 UTC MAR 14 2019
* COORDINATES 12.3 NORTH 61.6 WEST
* DEPTH 10 KM / 6 MILES
* LOCATION WINWARD ISLANDS

TEST...EVALUATION...TEST

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

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

TEST...RECOMMENDED ACTIONS...TEST

* THIS IS A TEST MESSAGE.

NO ACTION IS REQUIRED.

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

* THIS IS A TEST MESSAGE.

THIS WILL BE THE ONLY STATEMENT ISSUED FOR THIS EVENT UNLESS ADDITIONAL DATA ARE RECEIVED OR THE SITUATION CHANGES.

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

\$\$

PTWC Message #2

ZCZC
WECA41 PHEB 141430
TSUCAX

← **WMO ID**

← **AWIPS ID**

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

...THIS MESSAGE IS FOR TEST PUSPOSES 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 6.0
- * ORIGIN TIME 1400 UTC MAR 14 2019
- * COORDINATES 12.3 NORTH 61.6 WEST
- * DEPTH 10 KM / 6 MILES
- * LOCATION WINWARD ISLANDS

TEST... EVALUATION ...TEST

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

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

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

* THIS IS A TEST MESSAGE.
THIS ERUPTION MAY PRODUCE HAZARDOUS TSUNAMI WAVES ALONG SOME COASTAL AREAS LOCATED NEAR KICK-EM-JENNY VOLCANO. IT IS NOT POSSIBLE HOWEVER... TO FORECAST THE AFFECTED COASTS NOR THE TSUNAMI AMPLITUDES.

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

TEST...RECOMMENDED ACTIONS...TEST

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

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

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

LOCATION	REGION	COORDINATES		ETA (UTC)
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1413 03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1414 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1422 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1427 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1436 03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1439 03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1444 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1445 03/14
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1503 03/14
BASSETERRE	SAINT KITTS	17.3N	62.7W	1513 03/14
ONIMA	BONAIRE	12.3N	68.3W	1514 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1516 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1517 03/14
SABA	SABA	17.6N	63.2W	1518 03/14
WILLEMSTAD	CURACAO	12.1N	68.9W	1521 03/14
CUMANA	VENEZUELA	10.5N	64.2W	1527 03/14
MAIQUETIA	VENEZUELA	10.6N	67.0W	1530 03/14
PALMETTO POINT	BARBUDA	17.6N	61.9W	1537 03/14
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1537 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1537 03/14
ORANJESTAD	ARUBA	12.5N	70.0W	1538 03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1539 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1547 03/14
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1550 03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1552 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1552 03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1555 03/14
SAINT <u>BARTHELEM</u>	SAINT <u>BARTHELEMY</u>	17.9N	62.8W	1555 03/14
SAN JUAN	PUERTO RICO	18.5N	66.1W	1556 03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1557 03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1600 03/14
JACAMEL	HAITI	18.1N	72.5W	1605 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1612 03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1615 03/14
<u>ROADTOWN</u>	BR VIRGIN IS	18.4N	64.6W	1617 03/14
<u>PUERTO PLATA</u>	DOMINICAN REP	19.8N	70.7W	1618 03/14
<u>RIOHACHA</u>	COLOMBIA	11.6N	72.9W	1621 03/14
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1627 03/14
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1632 03/14
CAP HAITEN	HAITI	19.8N	72.2W	1634 03/14
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1643 03/14
MAYAGUANA	BAHAMAS	22.3N	73.0W	1644 03/14
CARTAGENA	COLOMBIA	10.4N	75.6W	1644 03/14
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1646 03/14
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1647 03/14
KINGSTON	JAMAICA	17.9N	76.9W	1650 03/14
BARACOA	CUBA	20.4N	74.5W	1652 03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1652 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1657 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1700 03/14
ALIGANDI	PANAMA	9.2N	78.0W	1701 03/14
<u>MONTEGO BAY</u>	JAMAICA	18.5N	77.9W	1702 03/14

TEST...POTENTIAL IMPACTS...TEST

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

TEST...TSUNAMI OBSERVATIONS...TEST

* THIS IS A TEST MESSAGE.

THE OR DEEP-OCEFOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL

AND/AN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

	GAUGE	TIME OF	MAXIMUM	WAVE
	COORDINATES	MEASURE	TSUNAMI	PERIOD
GAUGE LOCATION	LAT	LOX	(UTC)	HEIGHT (MIN)

CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16
--------------	-------	-------	------	--------------	----

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

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

\$\$

PTWC Message #6

ZCZC
WECA41 PHEB 141630
TSUCAX

WMO ID

AWIPS ID

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

...THIS MESSAGE IS FOR TEST PURPOSE 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 6.0

* ORIGIN TIME 1400 UTC MAR 14 2019

* COORDINATES 12.3 NORTH 61.6 WEST

* DEPTH 10 KM / 6 MILES

* LOCATION WINDWARD ISLANDS

TEST... EVALUATION ...TEST

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

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

TEST... RECOMMENDED ACTIONS ...TEST

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

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

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

TEST... POTENTIAL IMPACTS ...TEST

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

TEST... TSUNAMI OBSERVATIONS ...TEST

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

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)	
	LAT	LOX				
PUERTO PLATA DO	19.8N	70.7W	1624	0.03M/ 0.1FT	18	
PORT SAN ANDRES DO	18.4N	69.6W	1622	0.25M/ 0.8FT	28	
ARECIBO PR	18.5N	66.7W	1610	0.08M/ 0.3FT	24	
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1602	0.28M/ 0.9FT	14	
BARBUDA AG	17.6N	61.8W	1601	0.04M/ 0.1FT	26	
AGUADILLA PR	18.5N	67.2W	1557	0.15M/ 0.5FT	28	
PUNTA CANA DO	18.5N	68.4W	1551	0.28M/ 0.9FT	28	
ORANGESTAD AW	12.5N	70.0W	1542	0.12M/ 0.4FT	22	
MONA ISLAND PR	18.1N	67.9W	1540	0.44M/ 1.4FT	16	
ESPERANZA VIEQUES P	18.1N	65.5W	1535	0.75M/ 2.5FT	28	
BULLEN BAY <u>CURACAO</u>	12.2N	69.0W	1540	0.20M/ 0.7FT	22	
YABUCOA PR	18.1N	65.8W	1536	0.58M/ 1.9FT	28	
PARHAM AT	17.1N	61.8W	1528	0.13M/ 0.4FT	16	
LIMETREE VI	17.7N	64.8W	1524	0.58M/ 1.9FT	18	
DART 42407	15.3N	68.2W	1521	0.03M/ 0.1FT	20	
ST CROIX VI	17.7N	64.7W	1519	0.36M/ 1.2FT	24	
BASSETTERE KN	17.3N	62.7W	1518	0.39M/ 1.3FT	26	
CHARLOTTEVILLE TT	11.3N	60.5W	1513	0.25M/ 0.8FT	18	
SCARBOROUGH TT	11.2N	60.7W	1512	0.10M/ 0.3FT	26	
DESIRADE GUADELOUPE	16.3N	61.1W	1503	0.26M/ 0.9FT	26	
POINT A PITRE GP	16.2N	61.5W	1511	0.22M/ 0.7FT	26	
GANTERS BAY ST LUCI	14.0N	61.0W	1459	0.47M/ 1.5FT	20	
MARIGOT DM	15.5N	61.3W	1457	0.16M/ 0.5FT	22	
BRIDGEPORT BB	13.1N	59.6W	1455	0.18M/ 0.6FT	22	
PORT ST CHARLES BB	13.3N	59.6W	1452	0.21M/ 0.7FT	16	
PORTSMOUTH DM	15.6N	61.5W	1451	0.45M/ 1.5FT	24	
ROSEAU DM	15.3N	61.4W	1451	0.48M/ 1.6FT	14	
FORT DE FRANCE MQ	14.6N	61.1W	1448	0.31M/ 1.0FT	20	
LE PRECHEUR MARTINI	14.8N	61.2W	1436	0.70M/ 2.3FT	24	
PRICKLEY BAY GD	12.0N	61.8W	1435	1.38M/ 4.5FT	22	
CALLIAQUA VC	13.1N	61.2W	1424	0.86M/ 2.8FT	16	

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

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

AUTHORITATIVE INFORMATION ABOUT THE ACTIVITY AT KICK-EM-JENNY

VOLCANO CAN BE FOUND ON THE INTERNET AT UWISEISMIC.COM.

* THIS IS A TEST MESSAGE.

AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S.

GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* THIS IS A TEST MESSAGE.

FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE.

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

* THIS IS A TEST MESSAGE.

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

\$\$

Message Chronology issued by the PTWC for Panama Scenario

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/14/19	1400	---- Earthquake	Occurs----
3/14/19	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/14/19	1406	Tsunami Threat Message #1	Email
3/14/19	1425	Tsunami Threat Message #2 and Graphic Enhanced Product	Email
3/14/19	1440	Tsunami Threat Message #3	Email
3/14/19	1500	Tsunami Threat Message #4	Email
3/14/19	1600	Tsunami Threat Message #5	Email
3/14/19	1700	Tsunami Threat Message #6	Email
3/14/19	1800	Tsunami Threat Message #7	Email
3/14/19	1900	Tsunami Threat Message #8	Email
3/14/19	2000	Tsunami Threat Message #9	Email
3/14/19	2100	Tsunami Threat Message #10	Email
3/14/19	2200	Tsunami Threat Message #11	Email
3/14/19	2300	Final Tsunami Threat Message #12	Email

PTWC Message #1

WECA41 PHEB 141406

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 1...TEST

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

1406 UTC THU MAR 14 2019

...THIS MESSAGE IS FOR TEST PURPOSE 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 8.3
- * ORIGIN TIME 1400 UTC MAR 14 2019
- * COORDINATES 10.0 NORTH 78.5 WEST
- * DEPTH 25 KM / 16 MILES
- * LOCATION NORTH AOF PANAMA

TEST...EVALUATION...TEST

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

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

TEST... TSUNAMI THREAT FORECAST ...TEST

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

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

TEST... RECOMMENDED ACTIONS ...TEST

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

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

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

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

LOCATION	REGION	COORDINATES		ETA (UTC)
ALIGANDI	PANAMA	9.2N	78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N	77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N	75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1452 03/14
COLON	PANAMA	9.4N	79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N	74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1515 03/14
JACAMEL	HAITI	18.1N	72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N	70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N	72.9W	1553 03/14
JEREMIE	HAITI	18.6N	74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N	76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1557 03/14
ONIMA	BONAIRE	12.3N	68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1606 03/14
BARACOA	CUBA	20.4N	74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N	77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N	68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N	80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N	72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1632 03/14
MAIQUETIA	VENEZUELA	10.6N	67.0W	1635 03/14
GIBARA	CUBA	21.1N	76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N	73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N	66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1647 03/14
SABA	SABA	17.6N	63.2W	1651 03/14
BASSETERRE	SAINT KITTS	17.3N	62.7W	1653 03/14
PLYMOUTH	MONTSEERRAT	16.7N	62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N	75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1656 03/14
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657 03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657 03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658 03/14
COZUMEL	MEXICO	20.5N	87.0W	1659 03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659 03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700 03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700 03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701 03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701 03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705 03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705 03/14

TEST... POTENTIAL IMPACTS ...TEST

-
- * 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 SWEEPED 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 PHFB 141425

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 2...TEST

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

1425 UTC THU MAR 14 2019

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

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

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

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

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

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

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

TEST...EVALUATION...TEST

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A REVISED MAGNITUDE OF 8.5 OCCURRED IN THE NORTH ATLANTIC OCEAN AT 1400 UTC ON THURSDAY MARCH 14 2019.

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

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

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF COLOMBIA... CUBA... DOMINICAN REPUBLIC... HAITI... PANAMA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF COSTA RICA... NICARAGUA... VENEZUELA... ARUBA... BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO... MARTINIQUE... PUERTO RICO AND VIRGIN ISLANDS... SAINT KITTS AND NEVIS... SAINT LUCIA... SAINT VINCENT AND THE GRENADINES... AND SAN ANDRES AND PROVIDENCIA.

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

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

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

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

TEST... RECOMMENDED ACTIONS ...TEST

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

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

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

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

LOCATION	REGION	COORDINATES	ETA (UTC)
ALIGANDI	PANAMA	9.2N 78.0W	1419 03/14
PUERTO CARRETO	PANAMA	8.8N 77.6W	1434 03/14
CARTAGENA	COLOMBIA	10.4N 75.6W	1440 03/14
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1448 03/14
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1449 03/14
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1452 03/14
COLON	PANAMA	9.4N 79.9W	1454 03/14
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1456 03/14
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1500 03/14
SANTA MARTA	COLOMBIA	11.2N 74.2W	1501 03/14
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1512 03/14
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1515 03/14
JACAMEL	HAITI	18.1N 72.5W	1536 03/14
ORANJESTAD	ARUBA	12.5N 70.0W	1548 03/14
RIOHACHA	COLOMBIA	11.6N 72.9W	1553 03/14
JEREMIE	HAITI	18.6N 74.1W	1554 03/14
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1554 03/14
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1556 03/14
KINGSTON	JAMAICA	17.9N 76.9W	1556 03/14
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1557 03/14
ONIMA	BONAIRE	12.3N 68.3W	1558 03/14
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1604 03/14
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1606 03/14
BARAOA	CUBA	20.4N 74.5W	1616 03/14
MONTEGO BAY	JAMAICA	18.5N 77.9W	1620 03/14
WILLEMSTAD	CURACAO	12.1N 68.9W	1622 03/14
GREAT INAGUA	BAHAMAS	20.9N 73.7W	1623 03/14
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1623 03/14
CIENFUEGOS	CUBA	22.0N 80.5W	1624 03/14
CAP HAITEN	HAITI	19.8N 72.2W	1628 03/14
CABO ENGANO	DOMINICAN REP	18.6N 68.3W	1629 03/14
CHRISTIANSTED	US VIRGIN IS	17.7N 64.7W	1630 03/14
WEST CAICOS	TURKS N CAICOS	21.7N 72.5W	1632 03/14
MAIQUETIA	VENEZUELA	10.6N 67.0W	1635 03/14
GIBARA	CUBA	21.1N 76.1W	1636 03/14
MAYAGUANA	BAHAMAS	22.3N 73.0W	1636 03/14
PUERTO PLATA	DOMINICAN REP	19.8N 70.7W	1639 03/14
SAN JUAN	PUERTO RICO	18.5N 66.1W	1643 03/14
GRAND TURK	TURKS N CAICOS	21.5N 71.1W	1647 03/14
SABA	SABA	17.6N 63.2W	1651 03/14
BASSETTERRE	SAINT KITTS	17.3N 62.7W	1653 03/14
PLYMOUTH	MONTSERRAT	16.7N 62.2W	1654 03/14
LONG ISLAND	BAHAMAS	23.3N 75.1W	1656 03/14
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1656 03/14
BASSE TERRE	GUADELOUPE	16.0N 61.7W	1656 03/14
SAN SALVADOR	BAHAMAS	24.1N 74.5W	1656 03/14

CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1657	03/14
PORT AU PRINCE	HAITI	18.5N	72.4W	1657	03/14
ROSEAU	DOMINICA	15.3N	61.4W	1658	03/14
COZUMEL	MEXICO	20.5N	87.0W	1659	03/14
PUERTO CORTES	HONDURAS	15.9N	88.0W	1659	03/14
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1700	03/14
CASTRIES	SAINT LUCIA	14.0N	61.0W	1700	03/14
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1701	03/14
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1701	03/14
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1705	03/14
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1705	03/14
EXUMA	BAHAMAS	23.6N	75.9W	1706	03/14
CUMANA	VENEZUELA	10.5N	64.2W	1707	03/14
THE VALLEY	ANGUILLA	18.3N	63.1W	1709	03/14
SAINT GEORGES	GRENADA	12.0N	61.8W	1711	03/14
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1711	03/14
CAT ISLAND	BAHAMAS	24.4N	75.5W	1715	03/14
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1723	03/14
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1723	03/14
LA HABANA	CUBA	23.2N	82.4W	1725	03/14
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1726	03/14
BRIDGETOWN	BARBADOS	13.1N	59.6W	1727	03/14
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1728	03/14
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1732	03/14
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1733	03/14
PALMETTO POINT	BARBUDA	17.6N	61.9W	1736	03/14
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1742	03/14
NASSAU	BAHAMAS	25.1N	77.4W	1744	03/14
TRUJILLO	HONDURAS	15.9N	86.0W	1745	03/14
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1753	03/14
FREEPORT	BAHAMAS	26.5N	78.8W	1756	03/14
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1801	03/14
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1808	03/14
BELIZE CITY	BELIZE	17.5N	88.2W	1809	03/14
BIMINI	BAHAMAS	25.8N	79.3W	1809	03/14
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1825	03/14
PUERTO BARRIOS	GUATEMALA	15.7N	88.6W	1852	03/14
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1858	03/14
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1907	03/14
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1942	03/14
NUEVA GERONA	CUBA	21.9N	82.8W	2015	03/14
PORLAMAR	VENEZUELA	10.9N	63.8W	2031	03/14

TEST... POTENTIAL IMPACTS ...TEST

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

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

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

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

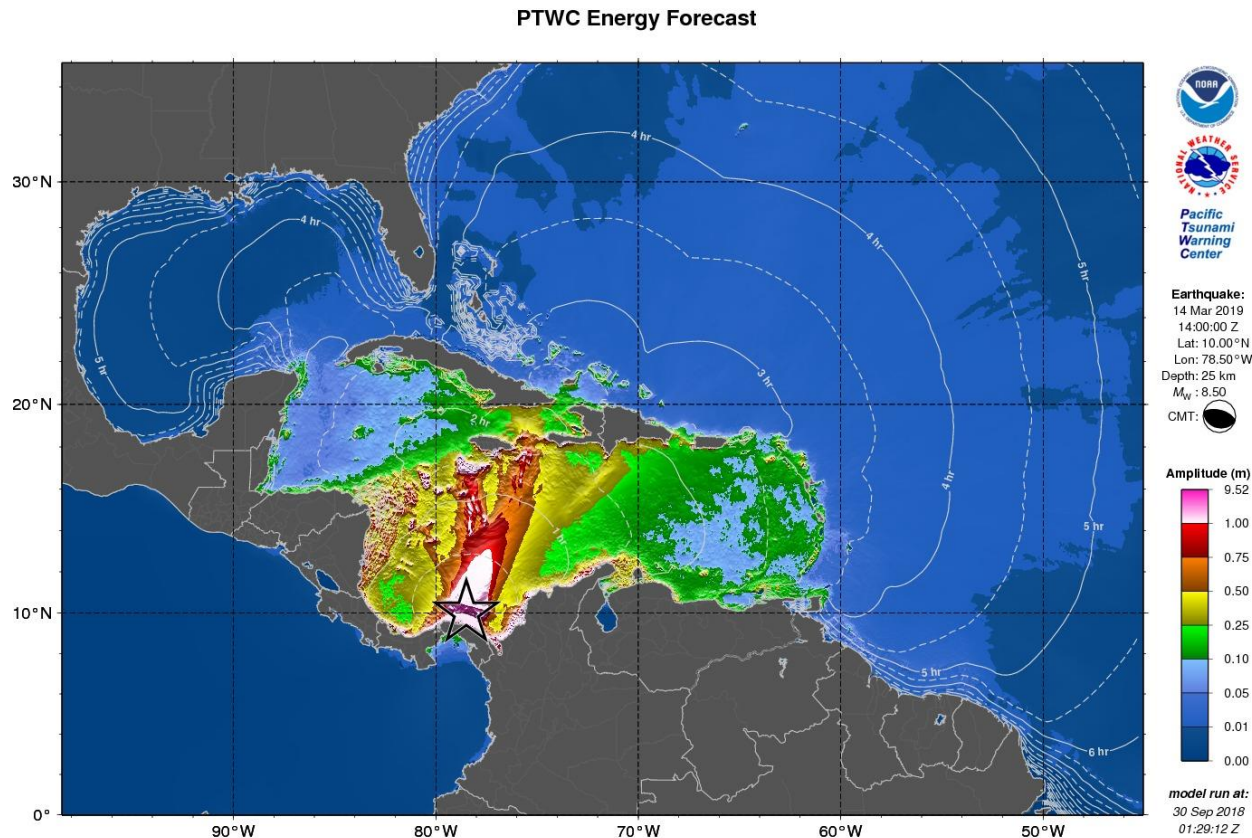
* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV/EARTHQUAKES -ALL IN LOWERCASE LETTERS-.

* 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.

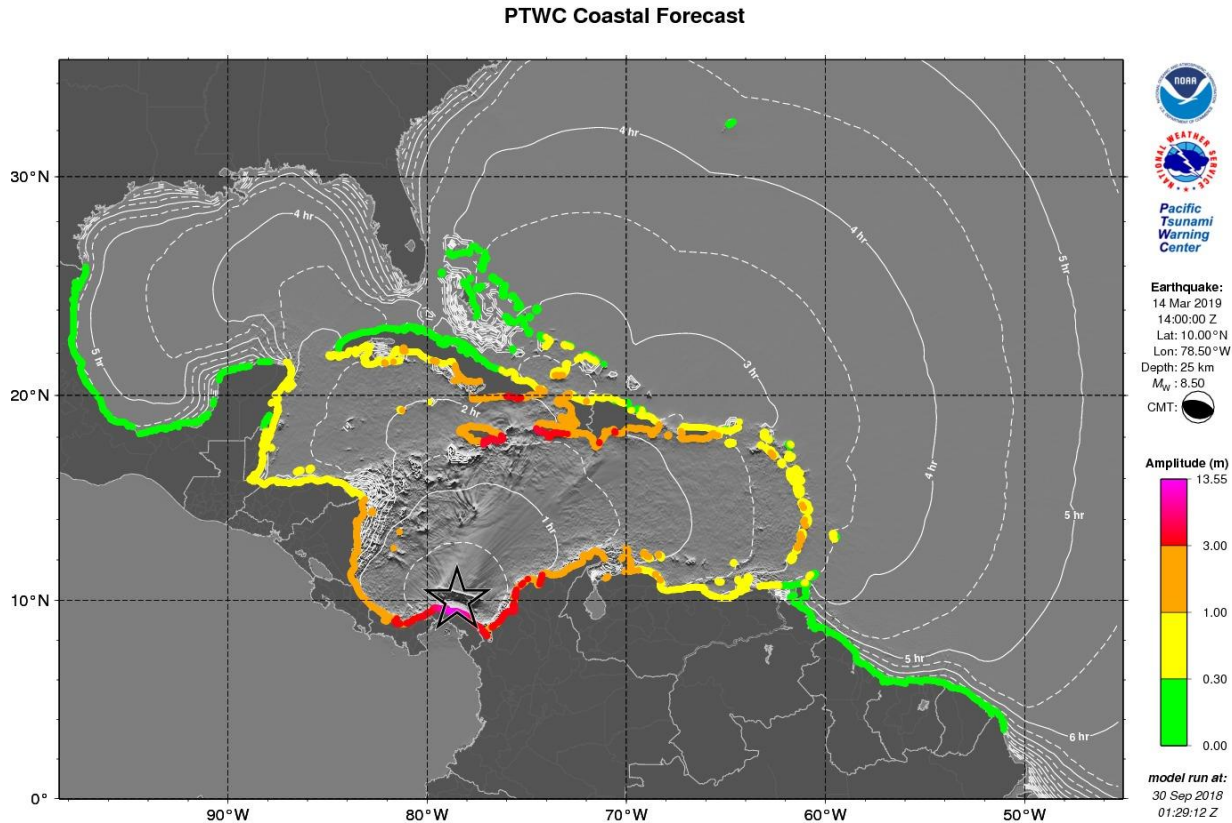
Maximum Deep Ocean Tsunami Amplitude Map Panama Scenario



RIFT maximum amplitude map for the Caribbean and Adjacent Regions for the Panama scenario.

During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

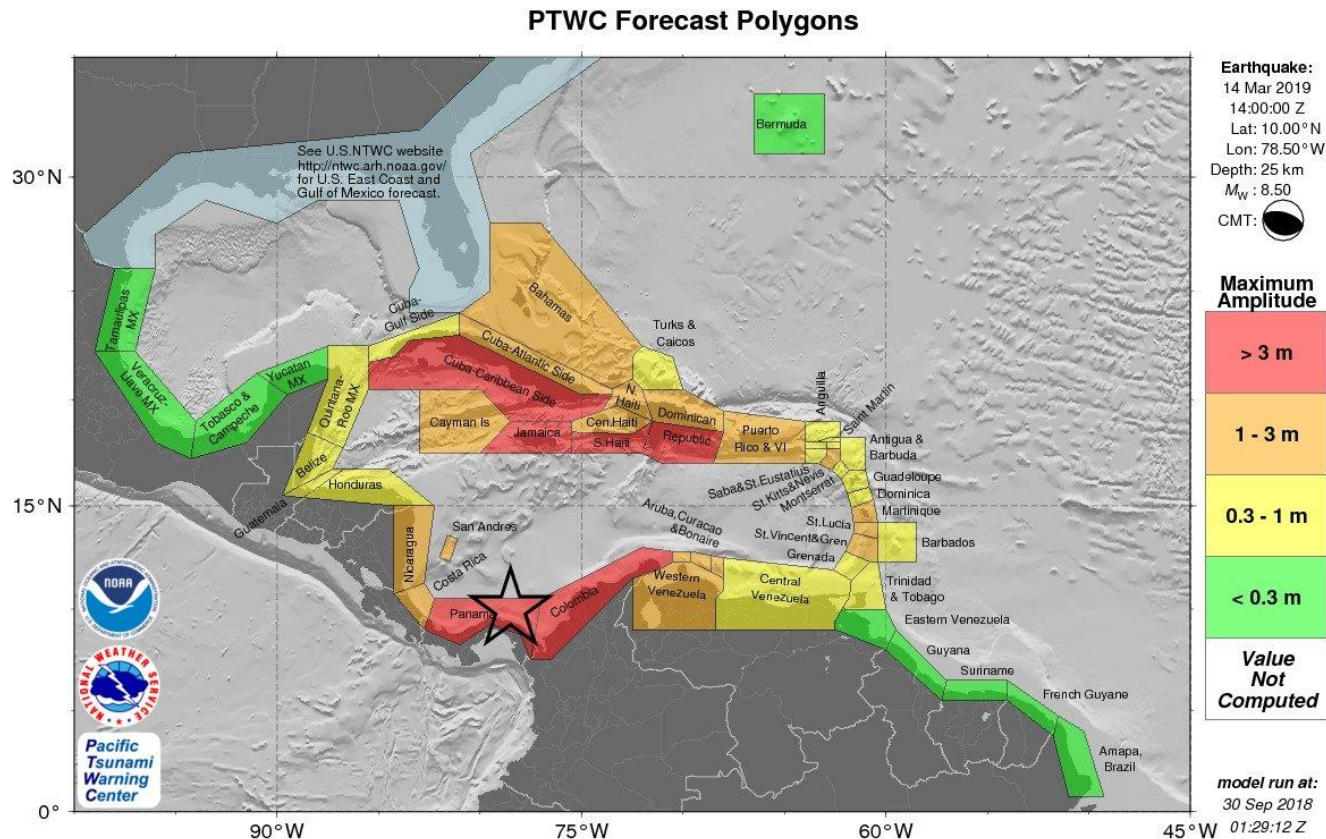
Coastal Forecast for Tsunami Amplitudes Panama Scenario



RIFT coastal tsunami amplitude map based on the scenario for Panama.

During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Polygons Forecast for Tsunami Amplitudes Panama Scenario

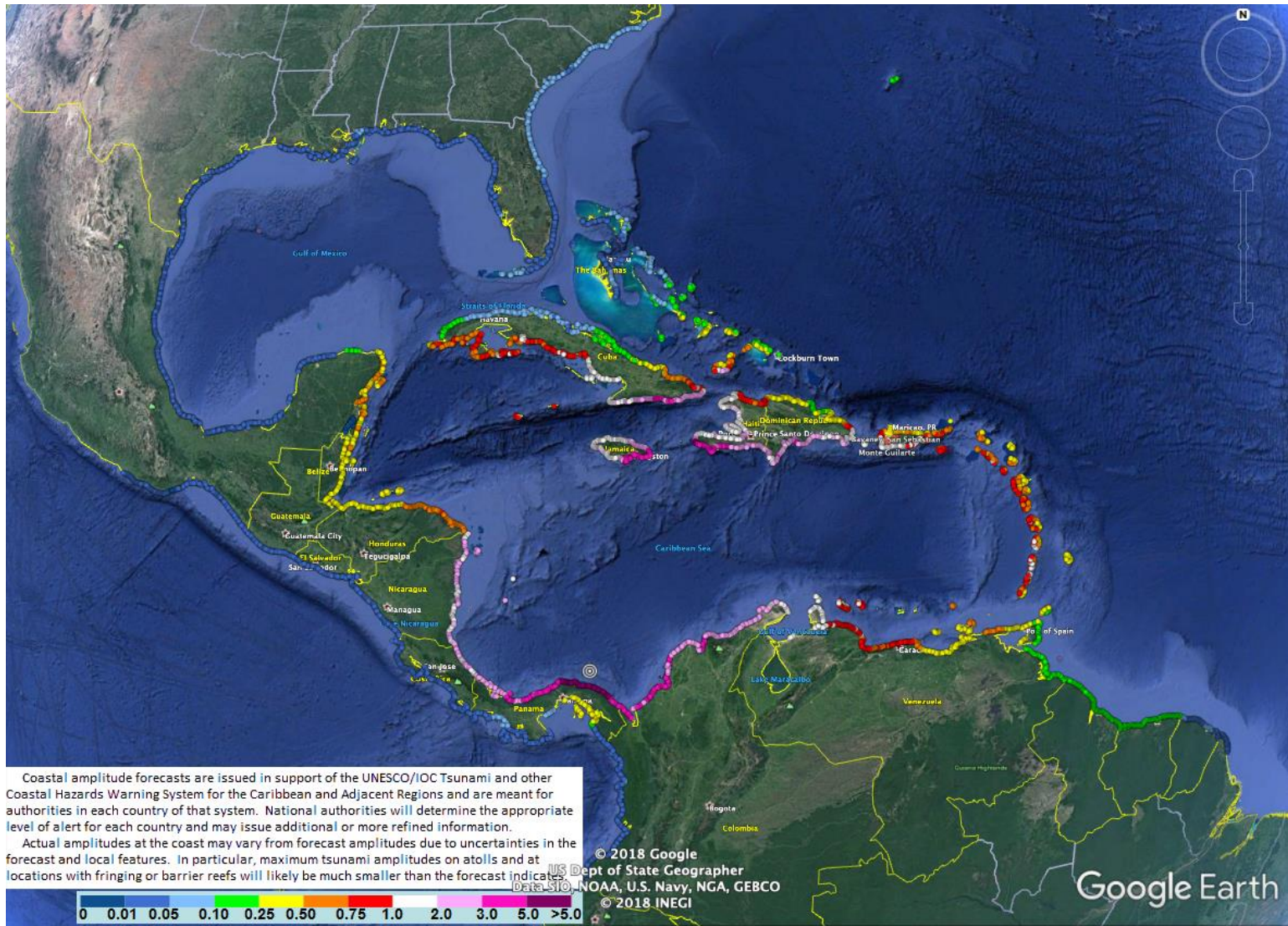


RIFT forecast polygons for the Caribbean region on the Panama scenario.

During a real event this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

KMZ

Panama Scenario



Forecast Statistics for Regional Polygons*

Panama

		Coastal Forecast (meters)				Offshore Forecast (meters)				Total
	Region Name	Maximum	Mean	Median	STD	Maximum	Mean	Median	STD	Points
3	Caribbean Coast of Panama	14.	5.10	3.50	3.30	9.5	2.70	2.10	1.70	179
4	Caribbean Coast of Haiti	5.6	3.10	3.00	0.78	2.3	0.98	0.89	0.38	89
5	Jamaica	5.3	2.50	2.00	1.10	3.6	0.99	0.88	0.51	146
6	Caribbean Coast of Colombia	4.0	2.70	2.70	0.57	3.4	1.60	1.60	0.57	255
7	Caribbean Coast of Cuba	3.9	1.30	0.97	0.80	2.3	0.37	0.29	0.26	422
8	Caribbean Coast of Dominican Republic	3.3	2.20	2.20	0.43	3.3	1.10	0.93	0.60	148
9	Caribbean Coast of Costa Rica	2.7	2.20	2.20	0.24	2.0	1.20	1.20	0.32	48
10	Gulf of Gonave Coast of Haiti	2.6	1.70	1.70	0.31	2.0	0.63	0.52	0.33	140
11	Caribbean Coast of Nicaragua	2.4	2.00	2.10	0.20	1.7	0.84	0.81	0.22	139
12	Bahamas	2.3	0.20	0.08	0.34	1.3	0.10	0.03	0.17	443
13	San Andres and Providencia	2.1	2.00	2.00	0.05	0.84	0.82	0.82	0.02	4
14	Atlantic Coast of Haiti	1.9	1.00	0.94	0.31	1.2	0.38	0.35	0.17	66
15	Puerto Rico and Virgin Islands	1.8	0.85	0.81	0.34	1.4	0.43	0.32	0.30	190
16	Western Coast of Venezuela	1.8	1.10	1.00	0.29	1.0	0.58	0.58	0.19	100
17	Curacao	1.6	1.10	0.94	0.25	0.56	0.34	0.33	0.07	27
18	Aruba	1.6	1.30	1.30	0.17	0.68	0.47	0.43	0.14	8
19	Saint Lucia	1.4	0.77	0.84	0.32	0.38	0.25	0.26	0.08	26
20	Saint Vincent and the Grenadines	1.3	0.95	1.00	0.18	0.54	0.30	0.31	0.08	33
21	Cayman Islands	1.2	0.87	0.89	0.12	0.50	0.37	0.33	0.09	9
22	Bonaire	1.2	0.92	0.90	0.11	0.73	0.41	0.38	0.12	15
23	Atlantic Coast of Cuba	1.1	0.25	0.20	0.24	0.48	0.09	0.05	0.10	259
24	Atlantic Coast of Dominican Republic	1.1	0.38	0.34	0.18	1.9	0.23	0.16	0.26	129
25	Saint Kitts and Nevis	1.1	0.81	0.73	0.18	0.52	0.29	0.24	0.12	29
26	Martinique	1.1	0.72	0.76	0.23	0.50	0.27	0.26	0.09	41
27	Saba and Saint Eustatius	0.98	0.70	0.64	0.12	0.26	0.18	0.16	0.04	8
28	Central Coast of Venezuela	0.96	0.54	0.49	0.18	0.86	0.22	0.19	0.12	238
29	Grenada	0.94	0.63	0.73	0.25	0.76	0.27	0.23	0.16	29
30	Guadeloupe	0.92	0.61	0.60	0.17	0.55	0.24	0.20	0.10	73
31	Montserrat	0.92	0.79	0.77	0.08	0.35	0.25	0.23	0.06	11
32	Dominica	0.89	0.71	0.74	0.13	0.72	0.21	0.19	0.11	31
33	Antigua and Barbuda	0.79	0.45	0.32	0.19	0.62	0.29	0.25	0.16	28
34	Caribbean Coast of Honduras	0.75	0.51	0.45	0.13	1.7	0.31	0.27	0.21	185
35	Sint Maarten	0.73	0.70	0.69	0.03	0.49	0.33	0.32	0.12	6
36	Anguilla	0.71	0.57	0.64	0.15	0.73	0.44	0.39	0.14	8
37	Saint Martin	0.66	0.66	0.66	0.00	0.52	0.46	0.45	0.05	3
38	Gulf of Mexico Coast of Cuba	0.63	0.12	0.09	0.08	0.10	0.03	0.03	0.02	121
39	Quintana Roo Mexico	0.62	0.40	0.47	0.19	1.1	0.17	0.17	0.13	165
40	Belize	0.57	0.39	0.37	0.05	0.43	0.15	0.14	0.06	90
41	Turks and Caicos Islands	0.56	0.30	0.27	0.12	0.37	0.14	0.14	0.07	46
42	Saint Barthelemy	0.56	0.43	0.45	0.13	0.37	0.27	0.26	0.06	4
43	Barbados	0.53	0.35	0.34	0.08	0.17	0.12	0.13	0.03	21
44	Caribbean Coast of Guatemala	0.42	0.41	0.41	0.00	0.34	0.15	0.14	0.06	13
45	Trinidad and Tobago	0.31	0.23	0.25	0.06	0.33	0.15	0.15	0.07	77
46	Atlantic Coast of Venezuela	0.24	0.20	0.21	0.03	0.11	0.06	0.06	0.02	82
47	Guyana	0.22	0.16	0.16	0.02	0.13	0.05	0.04	0.02	101
48	Yucatan Mexico	0.21	0.06	0.03	0.07	0.08	0.02	0.01	0.02	59
49	Bermuda	0.20	0.18	0.18	0.01	0.18	0.09	0.08	0.04	8
50	Suriname	0.18	0.15	0.15	0.02	0.05	0.03	0.03	0.01	108
51	French Guyane	0.11	0.05	0.05	0.01	0.05	0.02	0.02	0.01	84
52	Veracruz Mexico	0.04	0.03	0.03	0.00	0.01	0.01	0.01	0.00	152
53	Amapa Brazil	0.04	0.04	0.04	0.00	0.02	0.01	0.01	0.00	37
54	Tabasco and Campeche Mexico	0.03	0.03	0.03	0.00	0.01	0.01	0.01	0.00	115
55	Tamaulipas Mexico	0.03	0.03	0.03	0.00	0.01	0.01	0.01	0.00	126

*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 small islands will likely be much smaller than the forecast indicates.

PTWC Message #12

ZCZC

WECA41 PHFB 142300

TSUCAX

WMO ID

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 12...TEST

NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI

2300 UTC THU MAR 14 2019

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

...TEST FINAL TSUNAMI THREAT MESSAGE TEST...

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

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

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

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

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

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

TEST...EVALUATION...TEST

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A MAGNITUDE OF 8.5 OCCURRED IN THE NORTH ATLANTIC OCEAN AT 1400 UTC ON THURSDAY MARCH 14 2019.

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

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

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

TEST... RECOMMENDED ACTIONS ...TEST

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

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

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

TEST... POTENTIAL IMPACTS ...TEST

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

Sea Level Monitoring

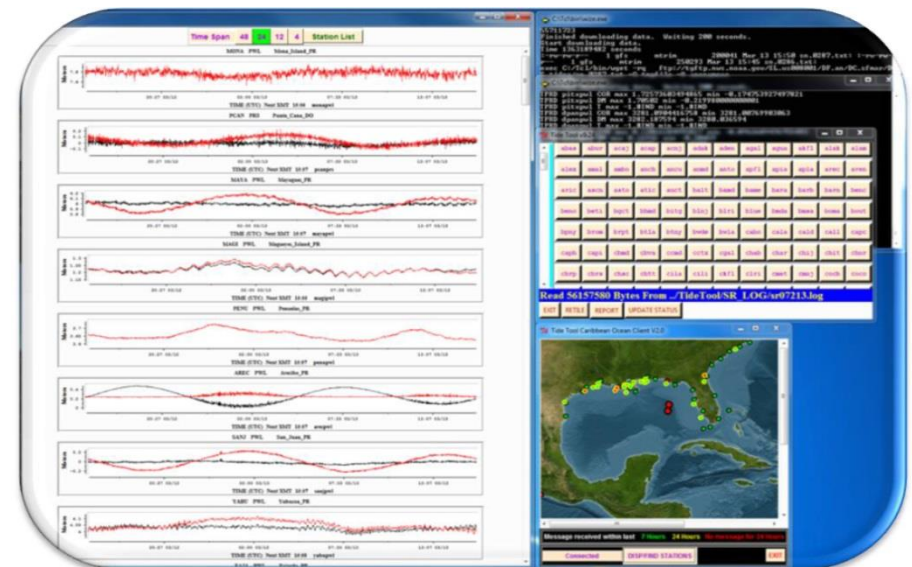
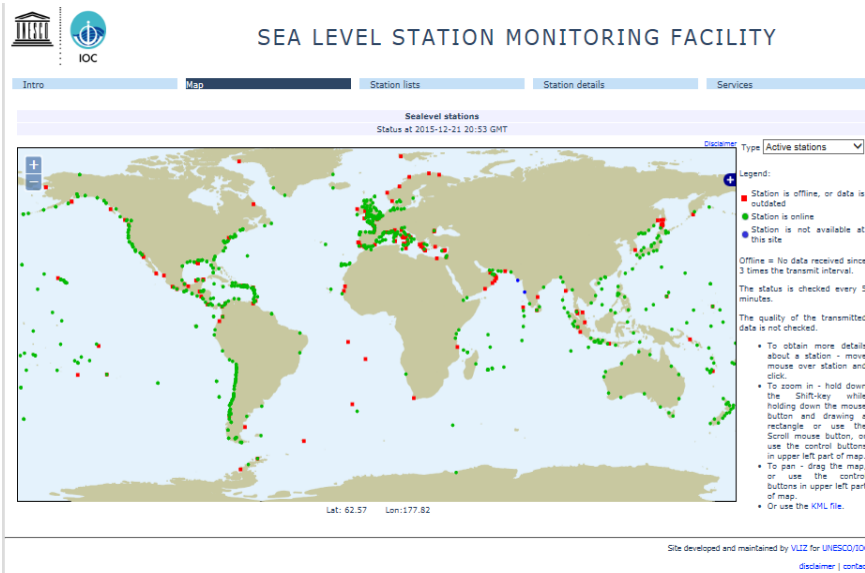
As good practice for the exercise, corresponding authorities are encouraged to check out sea level readings in real time on the IOC Sea Level Monitoring Facility and Tide Tool which can also be run with the earthquake parameters.

IOC Sea Level Monitoring Facility

<http://www.ioc-sealevelmonitoring.org/>

Tide Tool

stuart.weinstein@noaa.gov



Member State Participation

The *Tsunami*Zone Registration

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

The screenshot displays the TsunamiZone.org website. At the top, a navigation bar includes links for Home, TsunamiZone Regions, Other Languages, Contact Us, Search, and Login. Below this is a large banner image of a beach with a person running. The main content area is divided into several sections:

- Register Here!** Know Your Zone Who is Participating? How to Participate Resources News & Events Partners & Sponsors
- WELCOME TO THE TSUNAMIZONE!** This section includes links for **ESPAÑOL** and **FRANÇAIS**. It contains a video player titled "Staying Safe Where th..." and text explaining the purpose of the site: "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?" It also mentions that TsunamiZone.org provides suggestions and resources for families and organizations to "know your zone" and to learn how to be safe. A call to action at the bottom asks "Are You in the Zone?" with a "Find Out: TsunamiZone.org" button.
- 2019 OFFICIAL ACTIVITIES** This section lists various events:
 - March 10-16: Puerto Rico, U.S. Virgin Islands, CARIBE WAVE 2019 (March 14)
 - March 20: PACIFEX19
 - March 25-30: Alaska
 - March 25-29: California
 - March 26: LANTEX19
 - April: Hawaii & Washington
 - April 8-12: Washington (Road Show)
 - November 5: World Tsunami Awareness Day
- Over 100,000 participants registered** (with Facebook and Twitter icons)
- PARTICIPATE AND SHARE** This section includes links for "How to Participate" (Information for individuals, schools and many types of organizations), "Tsunami Resources" (Manuals, posters, & much more), "Who is Participating?" (Lists by county, area, & category), and "Share Your Activities" (Your photos, videos, and stories of tsunami preparedness week).
- CHECK THE STATS** This section states: "As more people and organizations register, these totals will grow larger. Please encourage others to register tsunami preparedness activities!" It shows two statistics:
 - Global Total for 2019: Over 100,000
 - Global Total for 2018: Over 570,000
- TSUNAMI TALK** This section features a Facebook page preview for "The TsunamiZone" with 607 likes and a "Like Page" button. It also includes a "Follow @thetsunamizone" button with 1,308 followers and the hashtag #TsunamiPrep.

TWFP and NTWC should register on Tsunami Zone to be part of the statistical count. Independent of registering, they will receive the simulated bulletins from PTWC.

[Home](#)
[TsunamiZone Regions](#)
[Other Languages](#)
[Contact Us](#)
[Search](#)
[Login](#)

The
TsunamiZone

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

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 2019 tsunami preparedness activities!

2019 OFFICIAL ACTIVITIES

March 10-16
[Puerto Rico, U.S. Virgin Islands, CARIBE WAVE 2019](#) (March 14)

March 20
[PACIFEX19](#)

March 25-30
 Alaska

March 25-29
[California](#)

March 26
[LANTEX19](#)

April
 Hawaii & Washington

April 8-12
 Washington (Road Show)

November 5
 World Tsunami Awareness Day

<https://www.tsunamizone.org/>

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

WHO IS PARTICIPATING? (CARIBBEAN)

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 02/12/2019 11:25 AM PST.

Category	Participants	Participation totals for each area	Total
Total:	108,485		
Individuals/Families	80	Anguilla	1,250
Childcare and Pre-Schools	21	Antigua and Barbuda	0
K-12 Schools and Districts	92,658	Aruba	0
Colleges and Universities	845	Bahamas	0
Local Government	2,629	Barbados	10
State Government	7,246	Belize	0
Federal Government (Including Military)	3,900	Bermuda	0
Tribes	0	Bonaire	0
Businesses	7	Brazil	2
Hotels and Other Lodgings	0	British Virgin Islands	14
Healthcare	200	Cayman Islands	50
Senior Facilities/Communities	0	Colombia	3
Disability/AFN Organizations	0	Costa Rica	0
Non-Profit Organizations	135	Cuba	0
Neighborhood Groups	0	Curacao	0
Preparedness Organizations	652	Dominica	0
Faith-based Organizations	0	Dominican Republic	3
Museums, Libraries, Parks, etc.	0	France	0
Volunteer/Service Clubs	0	Grenada	506
Youth Organizations	0	Guadeloupe	91,409
Animal Shelter/Service Providers	0	Guatemala	0
Agriculture/Livestock	0	Guyana	0
Volunteer Radio Groups	102	Guyane	0
Science/Engineering Organizations	0		
Media Organizations	0		
Other	10		
		Honduras	0
		Jamaica	0
		Martinique	3
		Mexico	2,605
		Montserrat	0
		Netherlands	0
		Nicaragua	0
		Panama	3
		Puerto Rico	629
		Saba	0
		Saint Barthelemy	0
		Saint Kitts and Nevis	0
		Saint Lucia	1,730
		Saint Martin	100
		Saint Vincent and the Grenadines	0
		Sint Eustatius	0
		Sint Maarten	0
		Suriname	0
		Trinidad and Tobago	30
		Turks and Caicos Islands	0
		US Virgin Islands	85
		Venezuela	10,053

WHO IS PARTICIPATING? (GRENADA)

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.

Participation totals for each county are [listed below](#).

These totals are current as of 02/12/2019 11:25 AM PST.

Category	Participants
Total:	506
Individuals/Families	32
Childcare and Pre-Schools	0
K-12 Schools and Districts	294
Colleges and Universities	95
Local Government	0
State Government	38
Federal Government (Including Military)	0
Tribes	0
Businesses	7
Hotels and Other Lodgings	0
Healthcare	40
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	0
Youth Organizations	0
Animal Shelter/Service Providers	0
Agriculture/Livestock	0
Volunteer Radio Groups	0
Science/Engineering Organizations	0
Media Organizations	0
Other	0

COLLEGE OR UNIVERSITY PARTICIPANTS

Tsunami preparedness activities of 95 participants have been registered by 1 college or university in the Grenada area in 2019.

Scroll down to see the colleges and universities who agreed to be listed on this website when they registered. ([Not listed?](#))

OTHER LISTS

TsunamiZone participants in other categories:

Select a category...

Over 220,000 participants registered



COLLEGES AND UNIVERSITIES REGISTERED IN 2019

Sauleurs
T. A. Marryshow Community College, St. Patrick, St. Patrick, Grenada

Names are linked if a website was provided during registration.
If a school or district has registered it is listed in bold type.

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

When a school registers but the district does not, the district name is not bold.

HEALTHCARE FACILITY PARTICIPANTS

Tsunami preparedness activities of 40 participants have been registered by 1 healthcare facility in the Grenada area in 2019.

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

OTHER LISTS

TsunamiZone participants in other categories:

Select a category...

Over 220,000 participants registered



HEALTHCARE FACILITIES REGISTERED IN 2019

St. Patrick's Health center, St. Patrick, Grenada

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.

K-12 SCHOOL OR DISTRICT PARTICIPANTS

Tsunami preparedness activities of 294 participants have been registered by 1 K-12 school or district in the Grenada area in 2019.

Scroll down to see the K-12 schools and districts who agreed to be listed on this website when they registered. ([Not listed?](#))

OTHER LISTS

TsunamiZone participants in other categories:

Select a category...

Over 220,000 participants registered



K-12 SCHOOLS AND DISTRICTS REGISTERED IN 2019

Public Schools:
St. Patrick's Anglican School, St. Patrick, Grenada

Names are linked if a website was provided during registration.
If a school or district has registered it is listed in bold type.

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

When a school registers but the district does not, the district name is not bold.

Media Arrangements

- PRSN Tsunami Media Guide (English and Spanish):
<http://www.prsn.uprm.edu/mediakit/>
- Seismic Research Unit 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

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

Procedures 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.

Post-Exercise Evaluation Form

- Each CARIBE EWS member state and territory is requested to provide feedback on the exercise.
 - This feedback will assist the ICG/CARIBE-EWS in the evaluation of Caribe Wave 19 and the development of subsequent exercises, and help response agencies document lessons learned.
 - To facilitate feedback, the online evaluation survey can be accessed at the following link:

<https://www.surveymonkey.com/r/CaribeWave19>
 - The deadline for completing the evaluation is March 29, 2019.
 - 70 questions (83 questions in 2016, 64 questions in 2017, and 66 questions in 2018), 13 pages, should take no more than 30 minutes.

Post-Exercise Evaluation Form

Questionnaire

6. 1B.2:

The PTWC issued the CARIBE WAVE 19 initial Dummy Message by several methods. Please check all methods through which the message was received by the TWFP/NTWC.

	Yes	No	Not Applicable
WMO Information Process (e.g., GTS, WIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NWWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AISR/AFTN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EMWIN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GEONETCast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Email from PTWC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

7. 1B.3:

The PTWC issued the CARIBE WAVE 19 initial Dummy Message by several methods. Please indicate the time at which the message was received by the TWFP/NTWC (UTC, Coordinated Universal Time).

	Hour	Minutes	Time Zone
WMO Information Process (e.g., GTS, WIS)	<input type="text"/>	<input type="text"/>	<input type="text"/>
AISR/AFTN	<input type="text"/>	<input type="text"/>	<input type="text"/>
EMWIN	<input type="text"/>	<input type="text"/>	<input type="text"/>
GEONETCast	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fax	<input type="text"/>	<input type="text"/>	<input type="text"/>
Email from PTWC	<input type="text"/>	<input type="text"/>	<input type="text"/>
Social Media	<input type="text"/>	<input type="text"/>	<input type="text"/>

Post-Exercise Evaluation Form

Questionnaire

8. 1B.4:

Were there any problems with the receipt of PTWC CARIBE WAVE 19 initial Dummy (Start of Exercise) Message?

- ☐ Yes
- ☐ No
- ☐ Not Applicable

Comments:

9. 1B.5:

Did your TWFP/NTWC receive by email from PTWC the simulated exercise messages at the times specified in the Exercise Manual?

- ☐ Yes
- ☐ No
- ☐ Not Applicable

Comments:

10. 1B.6:

Did the Tsunami Warning Focal Point / National Tsunami Warning Center receive any message from an organization other than the PTWC (e.g., Hydro/Met Office)? If yes, please use the comment box to indicate the agencies that received and communicated the products from PTWC during the exercise.

- ☐ Yes
- ☐ No

Comments:

Post-Exercise Evaluation Form

Questionnaire

* 47. 3.F.1:

Is your country already implementing the Community Performance Based Tsunami Recognition Program (TsunamiReady or Tsunami Ready)?

☐ Yes

☐ No

Comments:

48. 3.F.2:

Is your country interested in implementing the Community Performance Based Tsunami Recognition Program (TsunamiReady or Tsunami Ready)?

☐ Yes

☐ No

Other (please specify)

* 49. 3.F.3:

How many communities in your country have already been designated as TsunamiReady® or Tsunami Ready?

Communities	<input type="text" value=""/>
-------------	-------------------------------

50. 3.F.4:

What is the target number of Tsunami Ready communities in your country/territory you expect will pursue Tsunami Ready recognition?

Communities	<input type="text" value=""/>
-------------	-------------------------------

New in 2019

- A review for tsunami products proposed for volcanic events.

OBJECTIVE 3

To evaluate volcanic products.

SUB OBJECTIVE 3A

Evaluate proposed PTWC CARIBE EWS products for volcanic events.

44. 3A.1:

Rate the text message issued by PTWC on its usefulness in decision making from 1 (poor) to 5 (excellent)

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. 3A.2:

Did the test KemJ products contain all the information required for national/local decision making? Please provide comments and suggestions on how to improve.

☐ Yes

☐ No

Comments:

46. 3A.3:

Were regional in-country event information/data (seismic data, GPS, sea level, volcanic, etc.) utilized to complement the PTWC exercise messages?

☐ Yes

☐ No

Comments:

47. 3A.4:

Was additional in-country expert consultation utilized for analyzing the PTWC exercise messages?

☐ Yes

☐ No

Comments:

48. 3A.5:

What was the reaction of authorities/media and public to the KemJ exercise? If other, please specify in the comments.

☐ Interest

☐ Fear

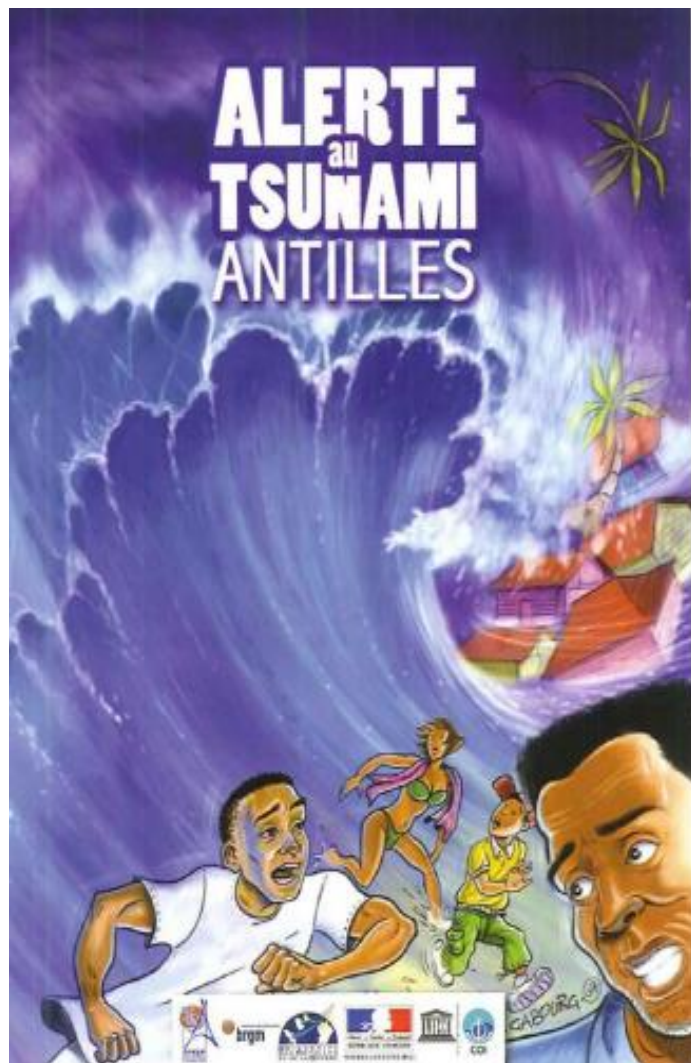
☐ No reaction

☐ Other

Comments:

- As in 2018 each MS/Territory will be asked to reconfirm the total number of participants.

Methodological Guidelines: How to prepare, conduct and evaluate a community-based tsunami response exercise



- This guide is recommended for Member States to consider Caribe Wave Exercises.
- Provides community leaders to conduct and evaluate a tsunami evacuation exercise with a methodology and tools.
- It is particularly relevant for bodies that would be directly exposed to the effects of a tsunami such as local government, schools, associations, and businesses.
- This guide aims to encourage a shared culture of exercises to develop between the municipal authorities tasked with ensuring the safety of those living in their area and community leaders – stakeholders in the social and economic life of the area.
- Guide available in English and French http://www.ioc-tsunami.org/index.php?option=com_oa&task=viewDocumentRecord&docID=19139

Resources

- IOC Manuals “[How to plan, conduct and evaluate tsunami exercises](#)” and “[Module on Tsunami Exercise](#)” are useful resources.
- CARIBE WAVE 2011, 2013, 2014, 2015, 2016, 2017, 2018 and 2019 Handbooks.
- CARIBE WAVE 2013, 2014, 2015, 2016, 2017 and 2018 Final and Media Report.
- 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). Available at www.caribewave.info
- Questions on the exercise can be addressed to the members of the CARIBE WAVE 19 Task Team.

CARIBE WAVE 19 Task Team

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
Nestor Luque Chair WG 1 Monitoring and Detection Systems	507-523-5560	barcelona010104@yahoo.com
Nicolas Arcos Chair WG 2 Hazard Assessment	1-303-497-3158	nicolas.arcos@noaa.gov
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
Richard Robertson, SRC Joan L. Latchman, SRC Frederic Dondin, SRC Valerie Clouard, IPGP Scientific Experts – Kick-'em-Jenny Scenario		richard.robertson@sta.uwi.edu j_latchman@uwiseismic.com fredericdondin@gmail.com clouard@ipgp.fr
Eduardo Camacho, U of Panama Mary Rengifo, Dirección General Marítima Diana Patricia Mendoza, OSSO Alberto López, UPRM Scientific Expert – Panama Scenario		ecamacho507@hotmail.com mrengifo@dimar.mil.co alberto.lopez3@upr.edu
Ronald Jackson Director CDEMA	246-425-0386	ronald.Jackson@cdema.org
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 Director PTWC	1-808-689-8207	charles.mccreery@noaa.gov
David Wald, USGS Scientific Expert – Earthquake Impact Products	1-303-273-8441	wald@usgs.gov
Alison Brome Director CTIC	246-243-7626	a.brome@unesco.org

Timeline

ACTION	DUE DATE
Circular Letter Issued by IOC to MS	✓ Aug 2018
Handbook Draft Circulated among ICG CARIBE EWS TNC/TWFP and TT CARIBE WAVE 19	✓ Aug 2018
Deadline for Comments	✓ Sept 2018
Exercise Handbook Available Online	✓ Nov 2018
1 st Webinar CW	15 - Jan - 2019 - English 16 - Jan - 2019 - Spanish 17 - Jan - 2019 - French
2 nd Webinar CW	12 - Feb - 2019 - English 13 - Feb - 2019 - Spanish 14 - Feb - 2019 - French
Countries Indicate Selected Scenario	February 28, 2019
Exercise	March 14, 2019
Exercise Evaluation Due	March 29, 2019
Draft Final CARIBE WAVE Caribe 19 Report 5 April 2019	

Questions, Comments

Thank you for participating

christa.vonh@noaa.gov