Mid Term Meeting of ICG/CARIBE EWS Officers
13 – 14 November, 2017
Santo Domingo, Dominican Republic

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

CARIBEWAVE 18

Elizabeth Vanacore
PRSN, Chair of ICG CARIBE EWS CARIBE WAVE 18 TT
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NOAA-NWS Caribbean Tsunami Warning Program

CTIC Caribbean Tsunami Information Centre ctic.ioc-unesco.org

RED SISMICA DE PUERTO RICO GEOLOGIA UPR MAYAGUEZ

NOAA

NATIONAL WEATHER SERVICE U.S. DEPARTMENT OF COMMERCE-NOAA

CTWP

NATIONAL WEATHER SERVICE Pacific Tsunami Warning Center

CARIBE WAVE 2017

- 32 nations and 15 territories of the Caribbean and Adjacent Regions participated in this exercise with a total of 679,985 people engaged.
  - This represented an nincrease in participation of 102% (up from 332,814 in 2016).

Objectives for 2018

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 (TWFPs) and/or National Tsunami Warning Centers NTWCs).

2. To evaluate the use of PTWC CARIBE EWS products.

A. Validate readiness to respond to a tsunami.

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

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

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

E. Evaluate the status of the implementation of the TsunamiReady recognition program.

Goals/ Metrics

Goal	2013 Result	2014 Metric	2014 Result	2015 Metric	2015 Result	2016 Metric	2016 Result	2017 Metric	2017 Results	2018 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%	100%	100%	100%	100%
Compliance with the timeline	Close to 100%	100%	Almost 100%	100%	Almost 100%	100%	Almost 100%	100%	Almost 100%	100%
Community involvement (beyond TWFP)	75%	75%	75%	80%	66%	85%	73%	90%	82%	95%
Number of participants	44,000	+10%	191,000	+10%	191,420	+10%	332,814	+10%	679,985	+10%
TWFP receive the dummy message	98%	100%	94%	100%	90%	100%	84%	100%	95%	100%
Countries who participate submit exercise questionnaire	90%	100%	100%	100%	91%	100%	100%	100%	100%	100%

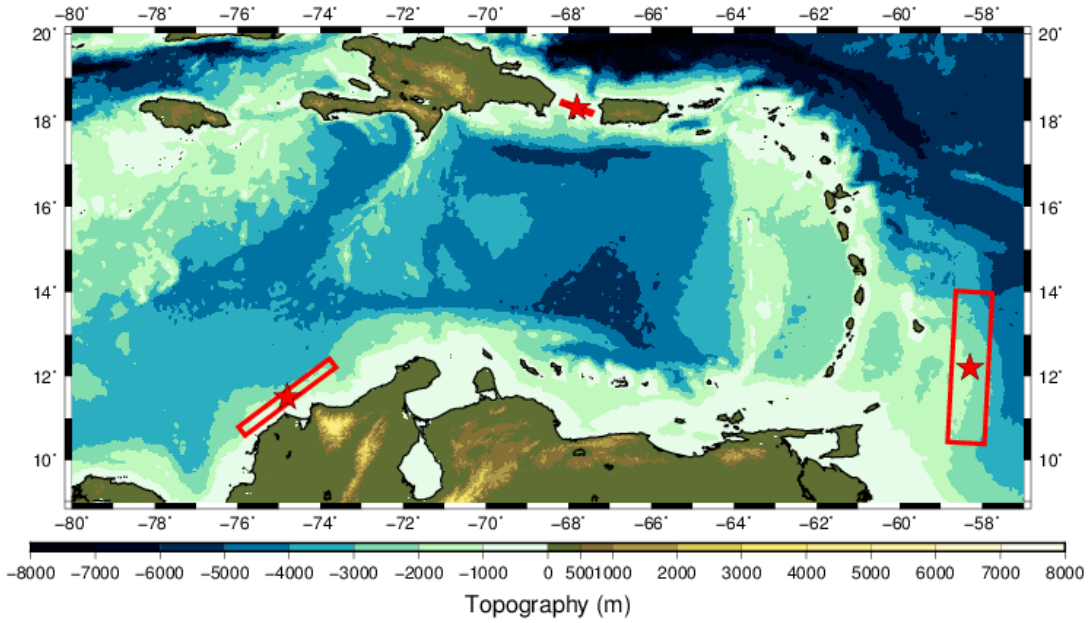
→	Anguilla	1,250
→	Antigua and Barbuda	5,000
	Aruba	9,407
	Bahamas	5
	Barbados	305
	Belize	6
	Bermuda	160
	Bonaire	20
	Brazil	10
→	British Virgin Islands	7,113
	Cayman Islands	30,000
	Colombia	40
	Costa Rica	50
→	Cuba	1,000
	Curacao	143
→	Dominica	170
	Dominican Republic	993
	France	16
	Grenada	21,705
	Guadeloupe	62,183
	Guatemala	10
	Guyana	21
	Guyane	0

	Haiti	2,891
	Honduras	2,000
	Jamaica	7
	Martinique	63,839
	Mexico	1,020
	Montserrat	20
	Netherlands	20
	Nicaragua	30
	Panama	7,102
→	Puerto Rico	153,314
	Saba	0
→	Saint Barthelemy	1,500
	Saint Kitts and Nevis	2,611
	Saint Lucia	2,606
→	Saint Martin	5,000
	Saint Vincent and the Grenadines	7
	Sint Eustatius	20
→	Sint Maarten	1,900
	Suriname	20
	Trinidad and Tobago	11,234
→	Turks and Caicos Islands	35
→	U.S. Virgin Islands	2,135
	Venezuela	283,000

178,417 (26%) participants in 2017 were from countries with very high hurricane impact

CARIBE WAVE 18

Earthquake and Tsunami Scenarios



Scenario	Origin Time	Mw	Epicenter
Barbados	14:00:00 UTC March 15, 2018	8.6	12.20º, -58.30º
Colombia		8.1	11.5º, -74.8º
Puerto Rico		7.6	18.3º, -67.8º

CARIBE WAVE 18
Messages from PTWC/TSP

The initial dummy message for the three scenarios will be issued by the Pacific Tsunami Warning Center (PTWC)] on March 15, 2018 at 1400 UTC and over all its standard broadcast channels.

- PTWC Enhanced Text and Graphical Products
  - **Each country and territory will choose one scenario, PTWC will send them the products for that scenario via Email ONLY**
  - **Each country will decide if and how to disseminate messages within its area of responsibility.**

By March 2, 2018, 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.

Test Communications

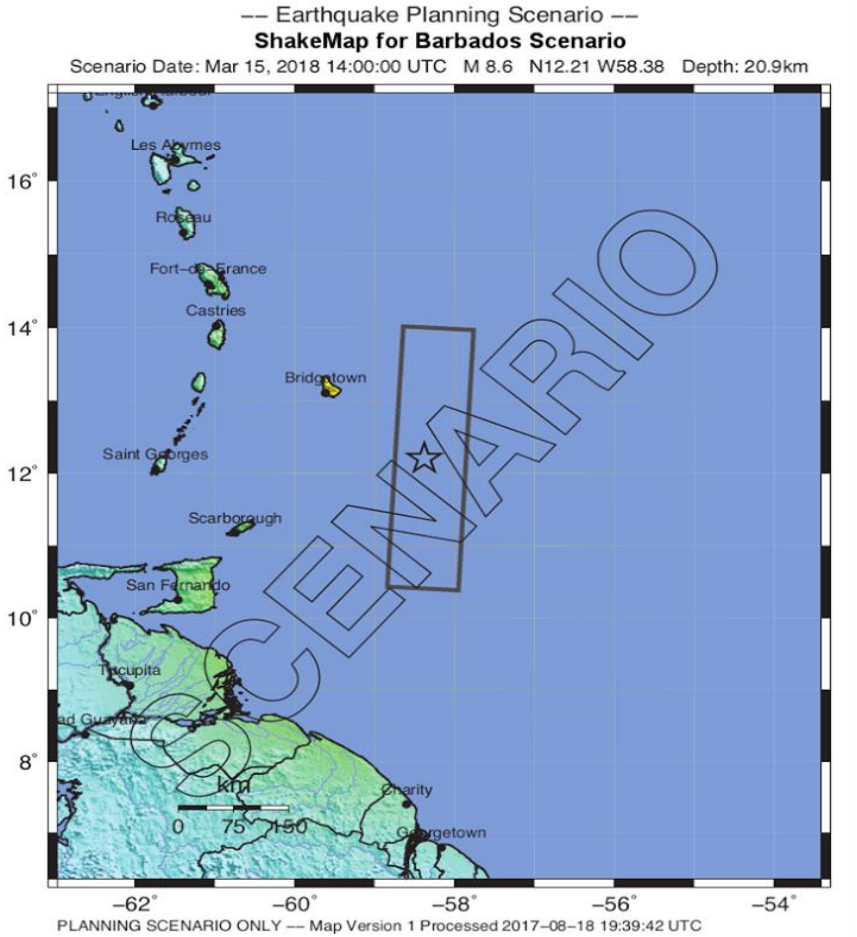
- TSP to TWFP/NTWC

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

- TWFP/NTWC/DMO and Public
  - Email
  - Telephone
  - FAX
  - Social Media, including Whatsapp
  - Sirens
  - TV/Radio
  - EAS

Barbados Scenario

Earthquake Impact Scenario
Barbados



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)

USGS science for a changing world

Earthquake Shaking: Yellow Alert

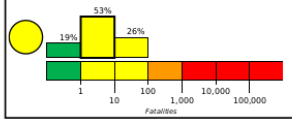
USAID FROM THE AMERICAN PEOPLE

PAGER Version 1

M 8.6, Barbados Scenario

Origin Time: 2018-03-15 14:00:00 UTC (Thu 10:00:00 local)
Location: 12.2051° N 58.3792° W Depth: 20.9 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

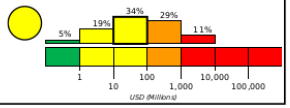
Estimated Fatalities



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

Estimated economic losses are 0-4% GDP of Barbados.

Estimated Economic Losses

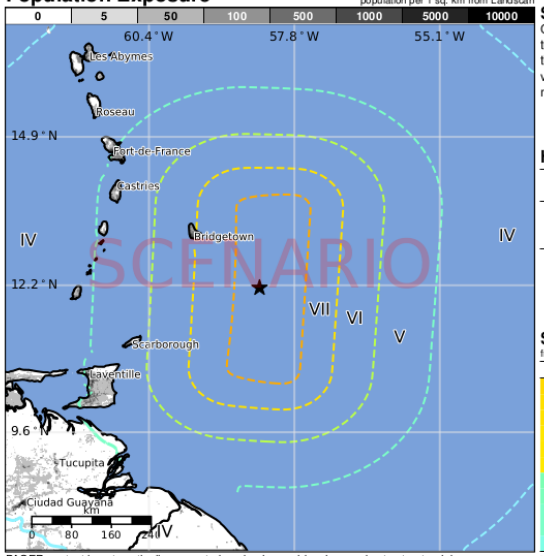


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	39k*	2,846k*	1,727k	150k	143k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are adobe block and informal (metal, timber, GI etc.) construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1990-07-12	351	5.8	V(439k)	–
1988-03-10	322	6.6	VII(20k)	–
1997-04-22	315	6.6	VII(9k)	0

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Crane	1k
VII	Four Cross Roads	<1k
VII	Oistins	2k
VI	Welchman Hall	<1k
VI	**Bridgetown**	**99k**
VI	Bathsheba	2k
V	Chaguanas	67k
V	**Fort-de-France**	**90k**
V	San Fernando	55k
V	**Laventille**	**157k**
IV	Georgetown	235k

bold cities appear on map. (k=x1000)

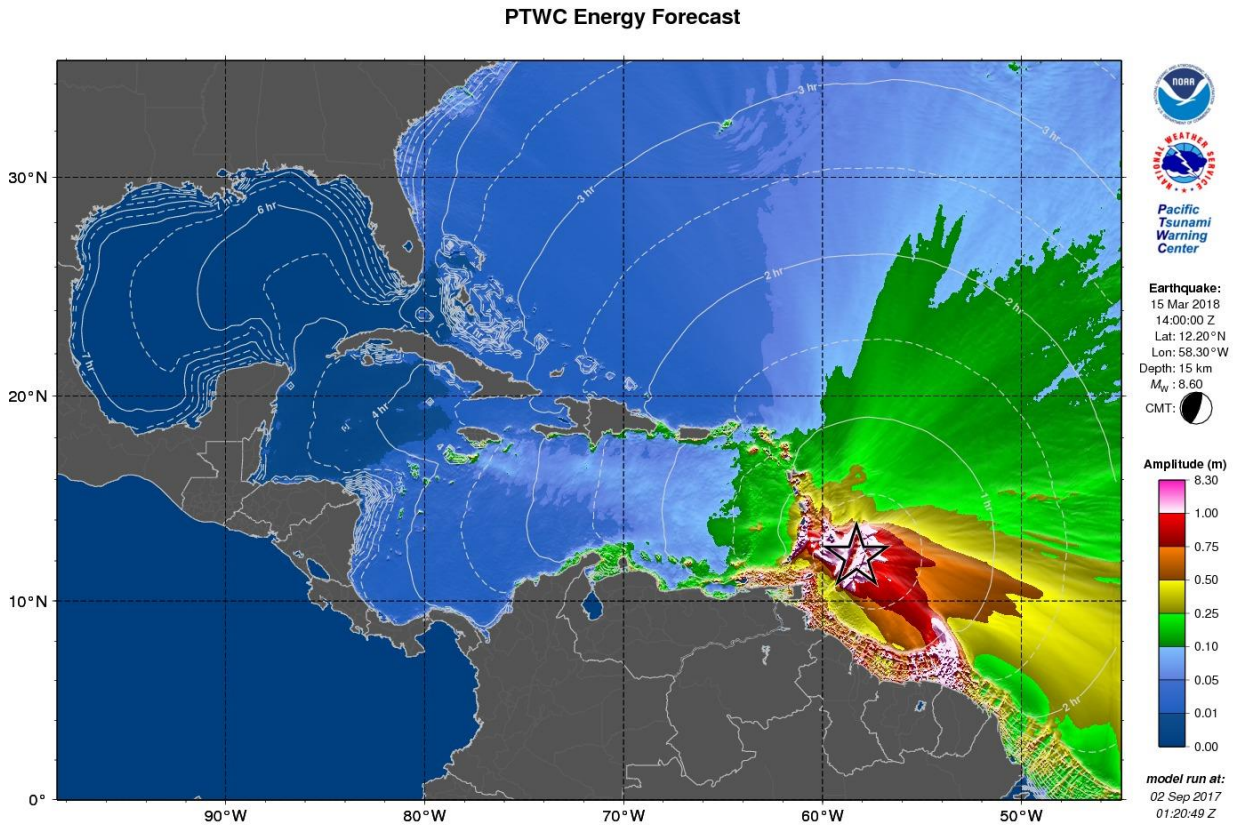
PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
http://earthquake.usgs.gov/data/pager/

Event ID: uscaribewave2018.barbados.se

Message Chronology issued by the PTWC
Barbados

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/15/18	1400	----Earthquake Occurs----	
3/15/18	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/15/18	1405	Tsunami Threat Message #1	Email
3/15/18	1425	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/15/18	1500	Tsunami Threat Message #3	Email
3/15/18	1600	Tsunami Threat Message #4	Email
3/15/18	1700	Tsunami Threat Message #5	Email
3/15/18	1800	Tsunami Threat Message #6	Email
3/15/18	1900	Tsunami Threat Message #7	Email
3/15/18	2000	Tsunami Threat Message #8	Email
3/15/18	2100	Final Tsunami Threat Message #9	Email

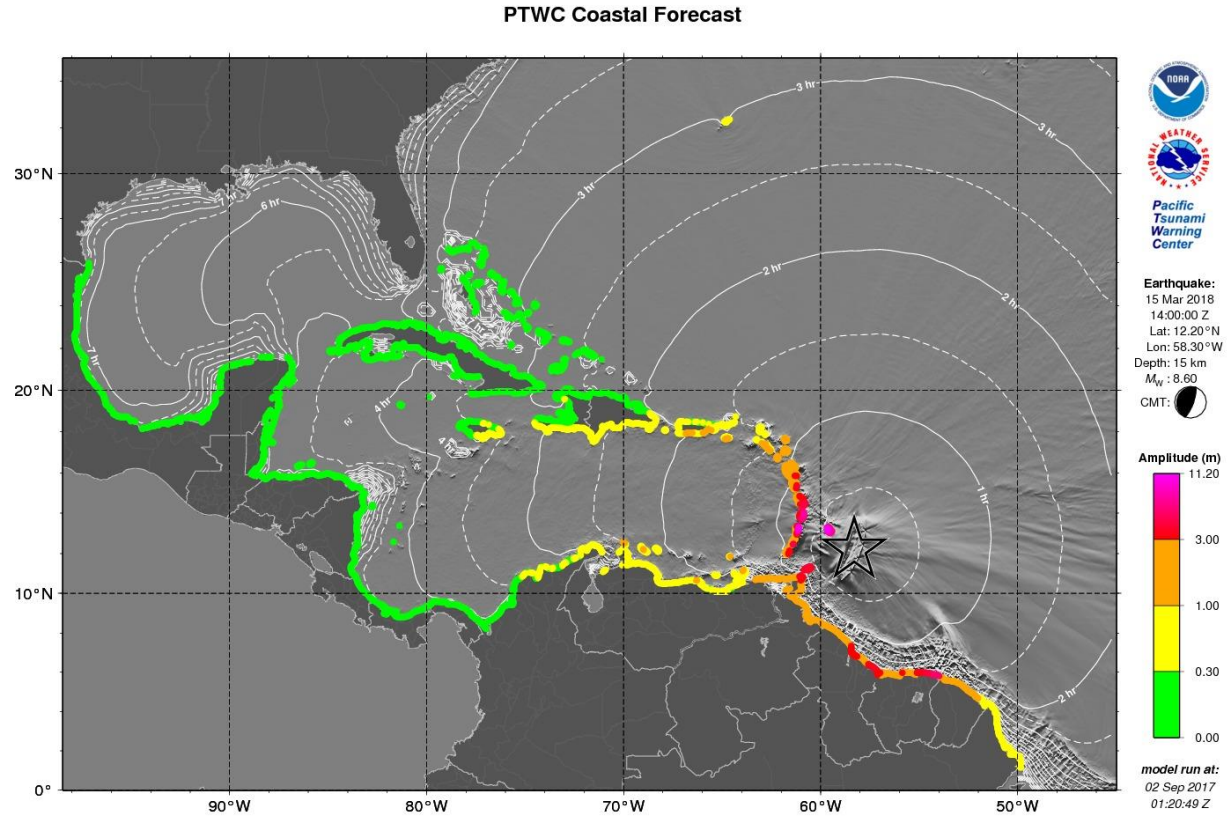
Energy Forecast for Tsunami Wave Heights
Barbados



RIFT maximum amplitude map based on the scenario for Barbados.

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

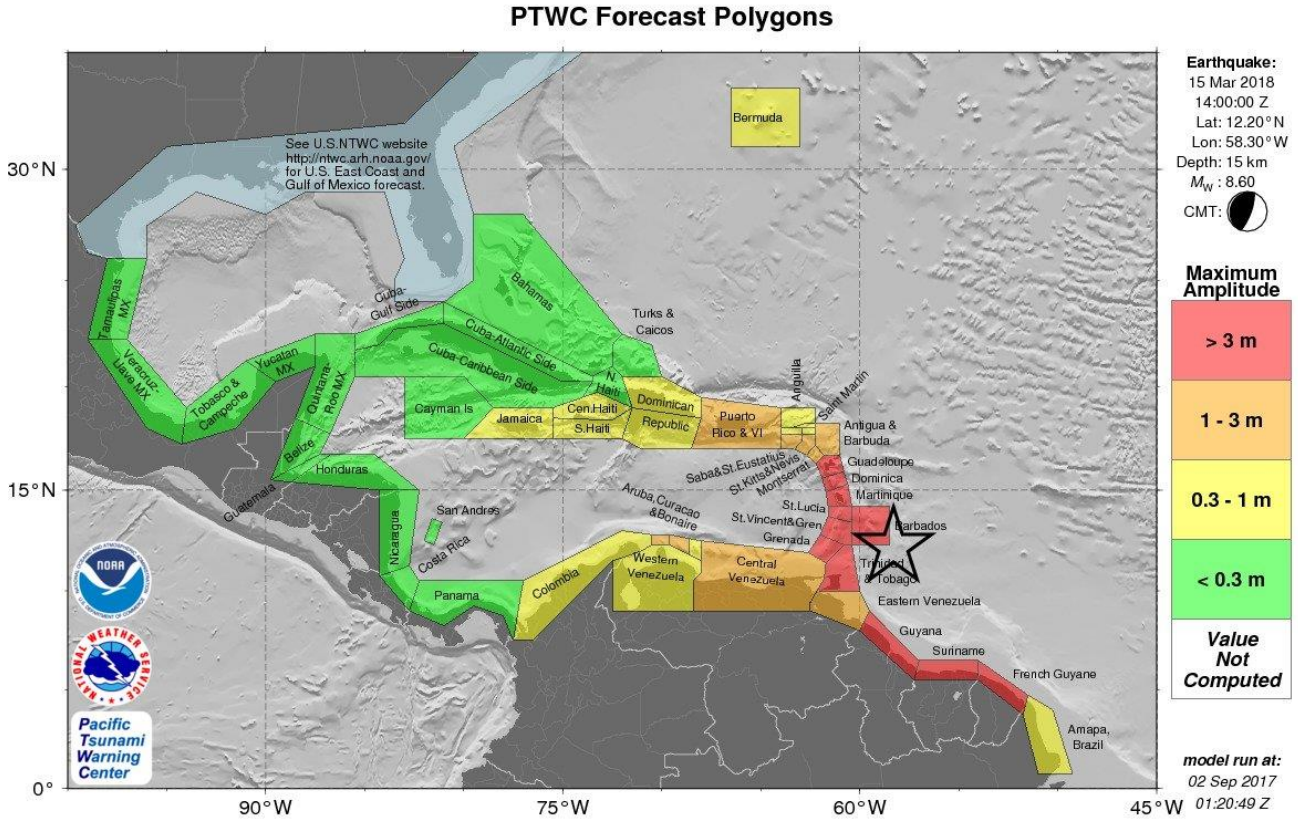
Coastal Forecast for Tsunami Wave Heights
Barbados



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

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 Wave Heights
Barbados

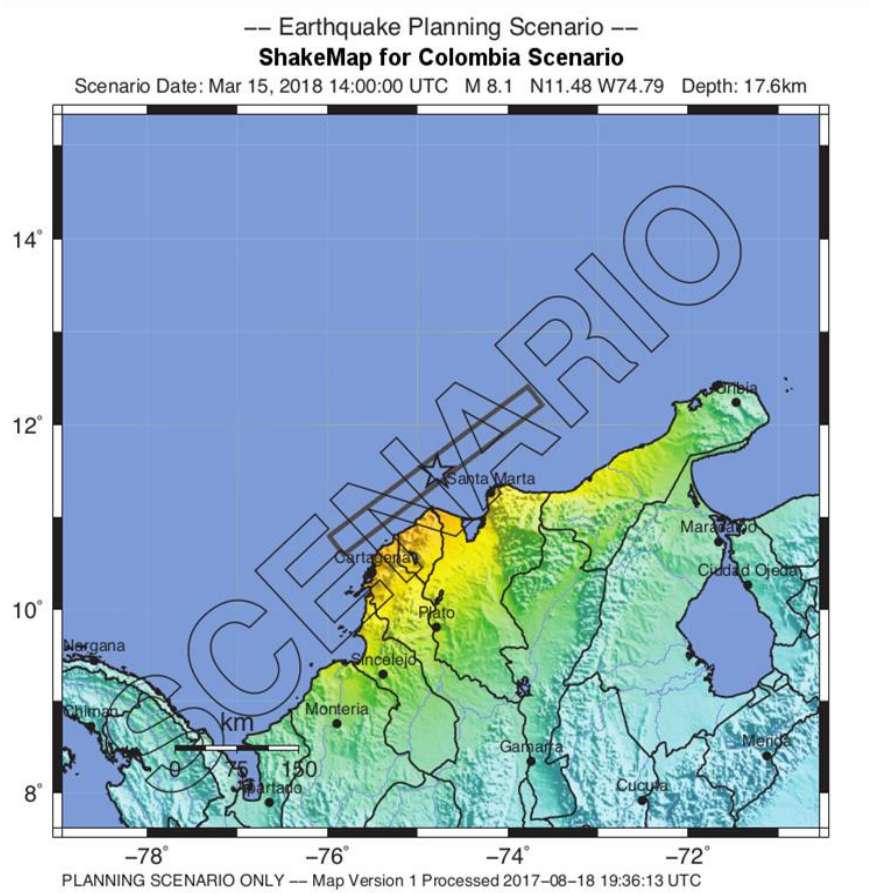


RIFT forecast polygons for the Caribbean region on the Barbados scenario.

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

Colombia Scenario

Earthquake Impact Scenario
Colombia



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)

USGS science for a changing world

Earthquake Shaking — Red Alert

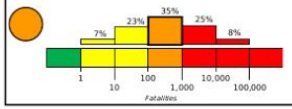
USAID FROM THE AMERICAN PEOPLE

M 8.1, Colombia Scenario

Origin Time: 2018-03-15 14:00:00 UTC (Thu 09:00:00 local)
Location: 11.4820°N 74.7871°W Depth: 17.6 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

PAGER Version 1

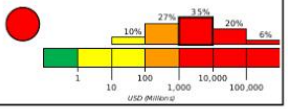
Estimated Fatalities



Red alert for economic losses. Extensive damage is probable and the disaster is likely widespread. Estimated economic losses are 0-1% GDP of Colombia. Past events with this alert level have required a national or international level response.

Orange alert for shaking-related fatalities. Significant casualties are likely.

Estimated Economic Losses

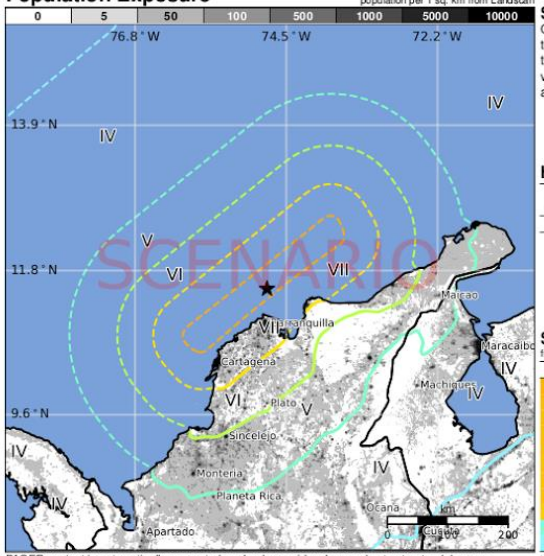


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	1,579k*	8,563k*	3,515k	1,169k	4,338k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are mud wall with wood and ductile reinforced concrete frame construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1978-04-04	365	6.3	V(4k)	–

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Puerto Colombia	26k
VII	Juan de Acosta	9k
VII	Tubara	8k
VII	Santa Catalina	6k
VII	Galapa	20k
VII	Clemencia	9k
VII	**Barranquilla**	**1,380k**
VII	**Cartagena**	**952k**
VII	Santa Marta	432k
IV	**Maracaibo**	**2,225k**
IV	**Cucuta**	**721k**

bold cities appear on map. (k=x1000)

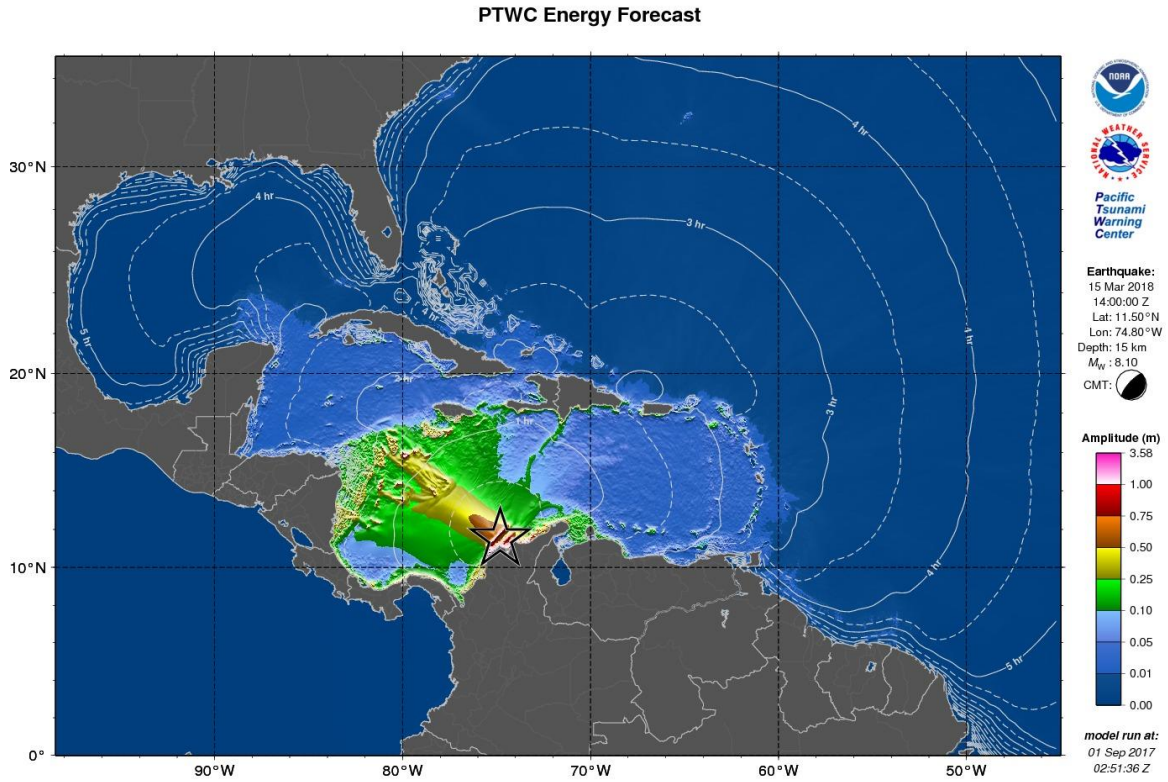
PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
http://earthquake.usgs.gov/data/pager/

Event ID: uscaribewave2018.colombia.se

Message Chronology issued by the PTWC **Colombia**

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/15/18	1400	----Earthquake Occurs----	
3/15/18	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/15/18	1405	Tsunami Threat Message #1	Email
3/15/18	1425	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/15/18	1500	Tsunami Threat Message #3	Email
3/15/18	1600	Tsunami Threat Message #4	Email
3/15/18	1700	Tsunami Threat Message #5	Email
3/15/18	1800	Tsunami Threat Message #6	Email
3/15/18	1900	Tsunami Threat Message #7	Email
3/15/18	2000	Tsunami Threat Message #8	Email
3/15/18	2100	Final Tsunami Threat Message #9	Email

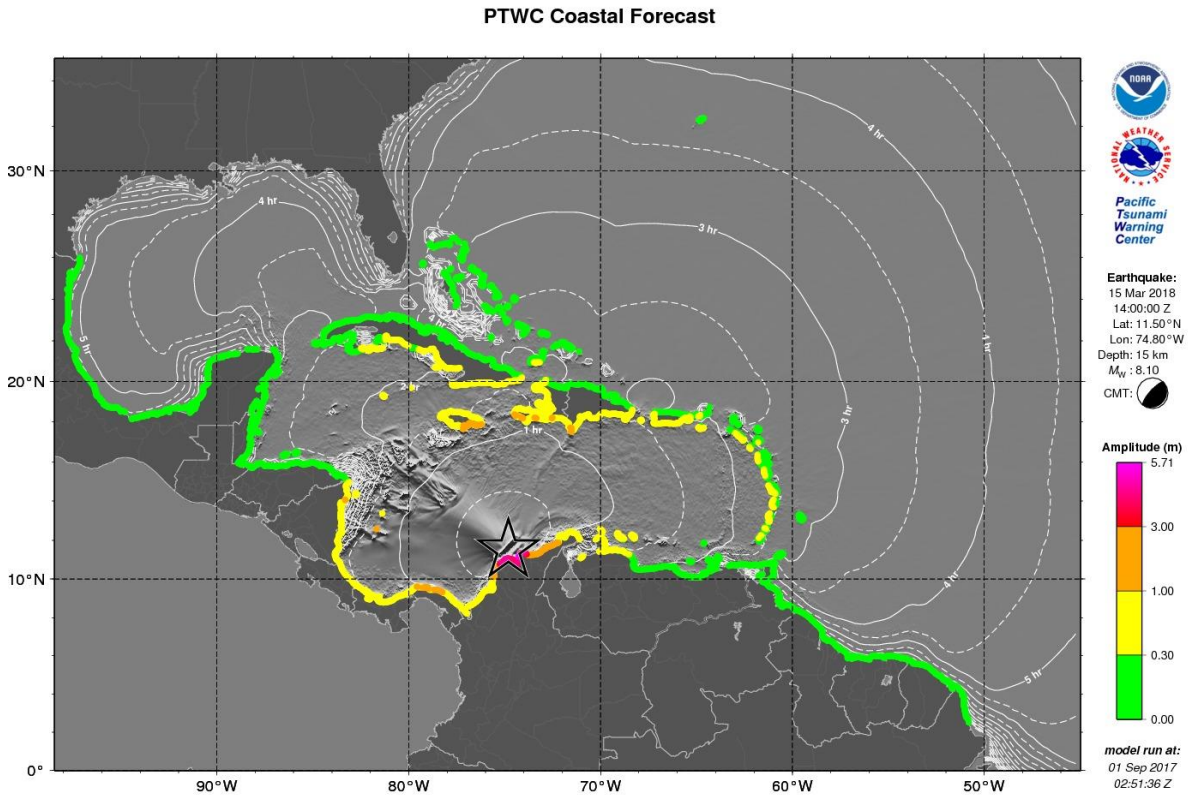
Energy Forecast for Tsunami Wave Heights
Colombia



RIFT maximum amplitude map for the scenario for Colombia.

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

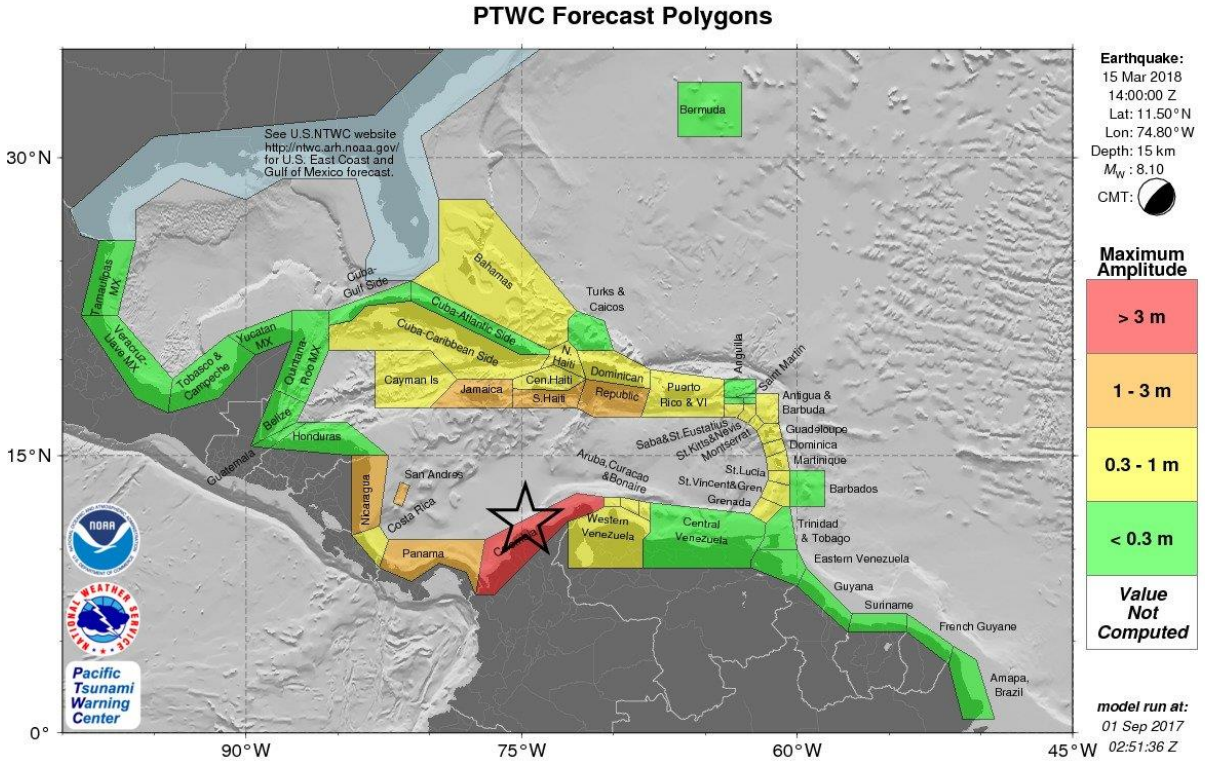
Coastal Forecast for Tsunami Wave Heights
Colombia



RIFT coastal tsunami amplitude map for the scenario for Colombia.

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

Polygons Forecast for Tsunami Wave Heights
Colombia



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

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

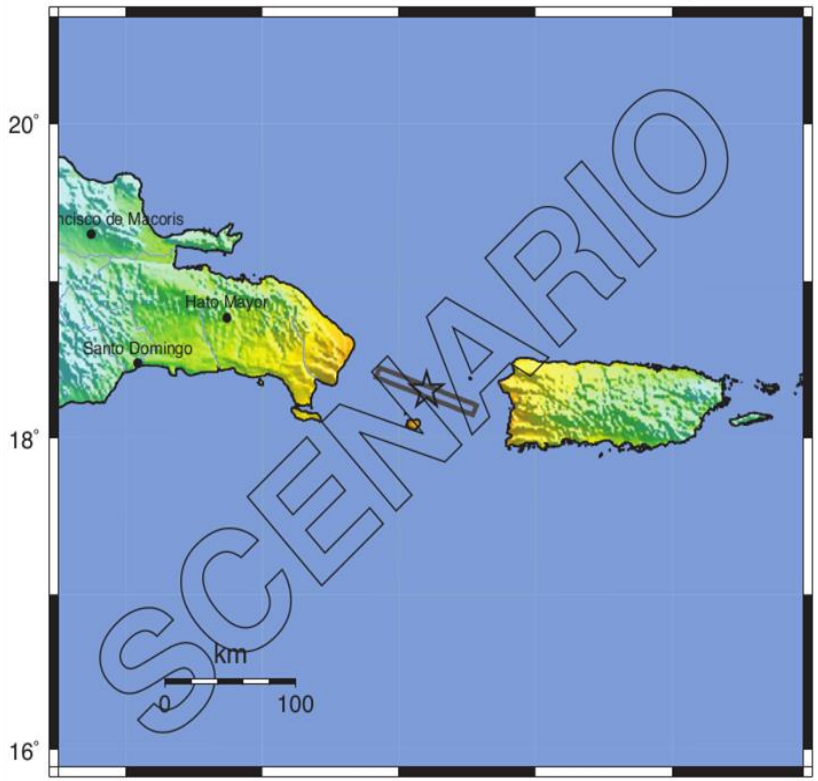
Puerto Rico Scenario

Earthquake Impact Scenario
Puerto Rico

-- Earthquake Planning Scenario --

ShakeMap for Puerto Rico Scenario

Scenario Date: Mar 15, 2018 14:00:00 UTC M 7.6 N18.31 W67.80 Depth: 12.0km



PLANNING SCENARIO ONLY -- Map Version 1 Processed 2017-08-18 19:24:24 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)

USGS science for a changing world

Earthquake Shaking — Orange Alert

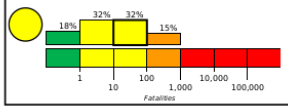
USAID FROM THE AMERICAN PEOPLE

PAGER Version 1

M 7.6, Puerto Rico Scenario

Origin Time: 2018-03-15 14:00:00 UTC (Thu 10:00:00 local)
Location: 18.3063°N 67.7968°W Depth: 12.0 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

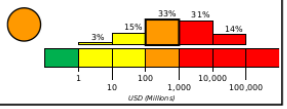
Estimated Fatalities



Orange alert for economic losses. Significant damage is likely and the disaster is potentially widespread. Estimated economic losses are 0-2% GDP of Puerto Rico. Past events with this alert level have required a regional or national level response.

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

Estimated Economic Losses



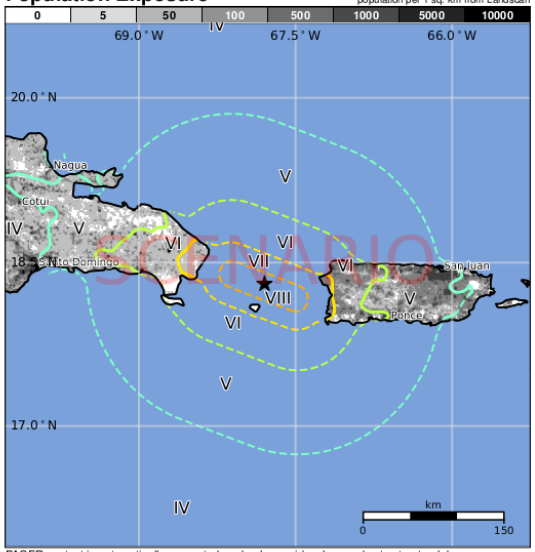
Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	–*	1,031k*	7,558k	1,838k	290k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per 1 sq. km from Landscan



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

Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are concrete/cinder block masonry and informal (metal, timber, GI etc.) construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1979-03-23	140	6.6	VI(605k)	0
2003-09-22	344	6.4	IX(132k)	1
1984-06-24	169	6.7	VII(326k)	5

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

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Punta Cana	100k
VII	La Playa	2k
VII	Anasco	6k
VII	Stella	1k
VII	Cabo Rojo	11k
VII	Boqueron	2k
VI	La Romana	208k
VI	San Pedro de Macoris	218k
V	Santo Domingo Este	700k
V	**Santo Domingo**	**2,202k**
V	**San Juan**	**418k**

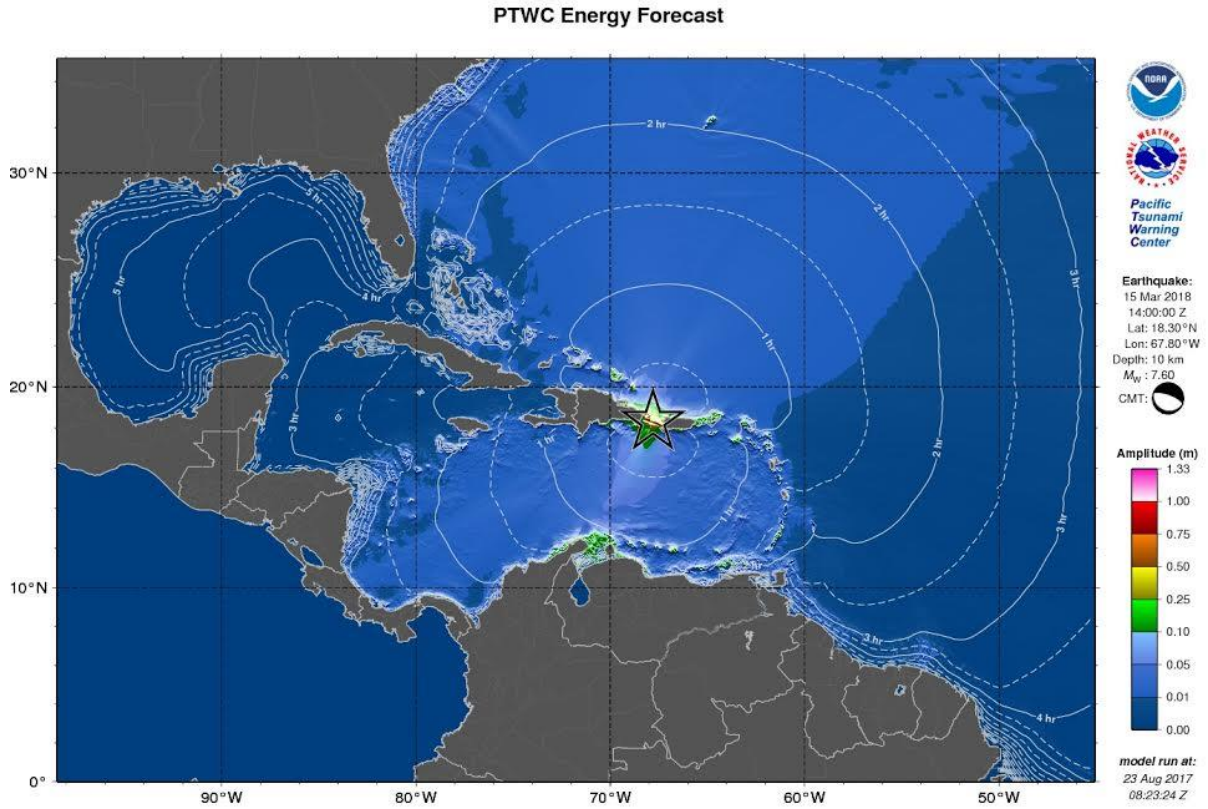
bold cities appear on map. (k=x1000)

Event ID: uscaribewave2018_puerto_rico_se

Message Chronology issued by the PTWC
Puerto Rico

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/15/18	1400	----Earthquake Occurs----	
3/15/18	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/15/18	1405	Tsunami Threat Message #1	Email
3/15/18	1425	Tsunami Threat Message # 2 and Graphic Enhanced Product	Email
3/15/18	1500	Tsunami Threat Message #3	Email
3/15/18	1600	Tsunami Threat Message #4	Email
3/15/18	1700	Tsunami Threat Message #5	Email
3/15/18	1800	Tsunami Threat Message #6	Email
3/15/18	1900	Tsunami Threat Message #7	Email
3/15/18	2000	Tsunami Threat Message #8	Email
3/15/18	2100	Final Tsunami Threat Message #9	Email

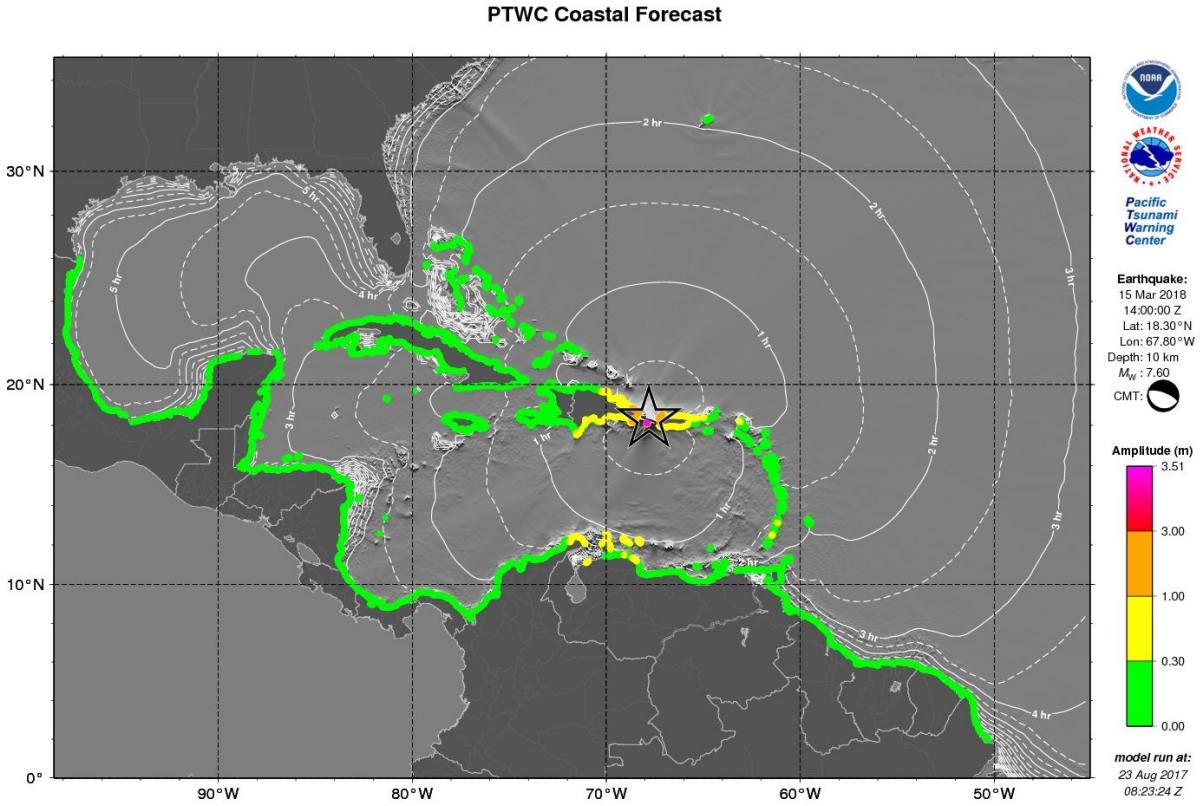
Energy Forecast for Tsunami Wave Heights
Puerto Rico



RIFT maximum amplitude map for the scenario for Puerto Rico.

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

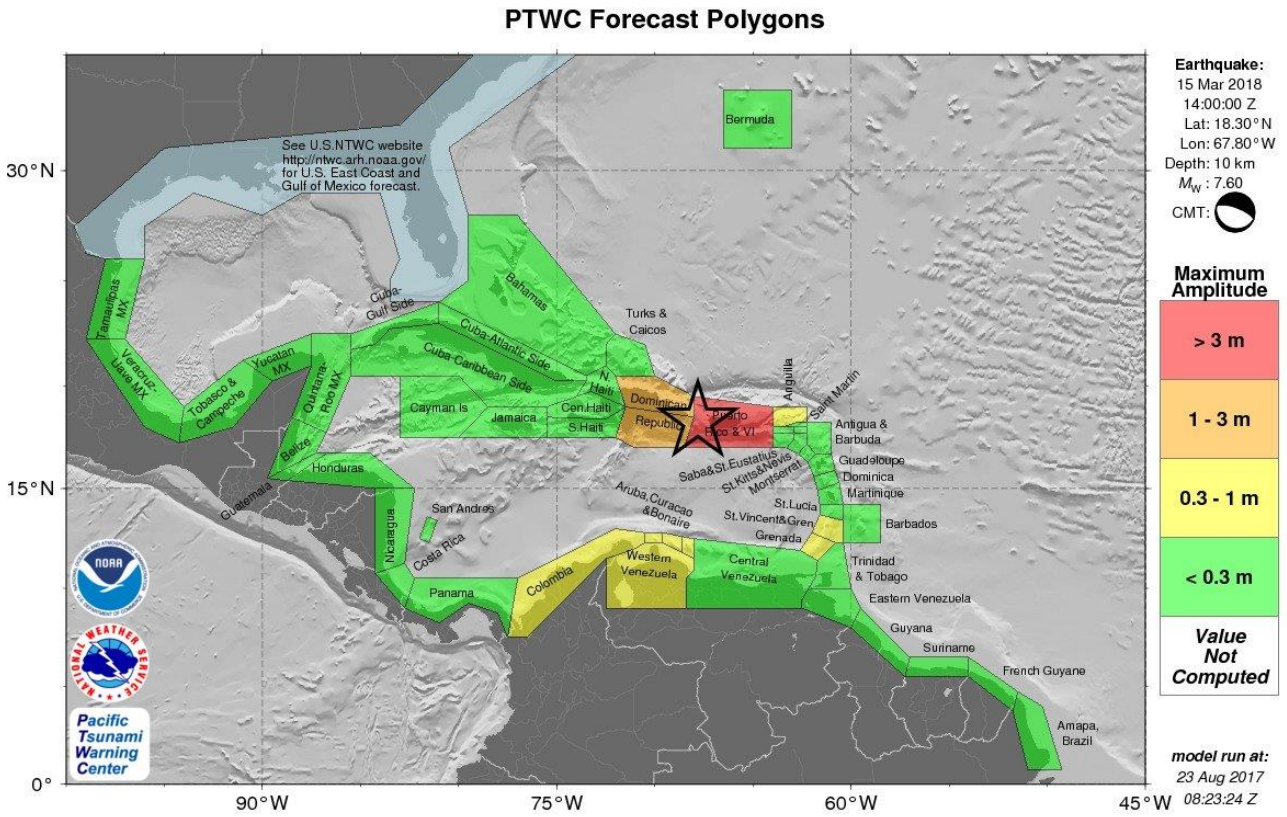
Coastal Forecast for Tsunami Wave Heights
Puerto Rico



RIFT coastal tsunami amplitude map for the scenario for Puerto Rico.

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

Polygons Forecast for Tsunami Wave Heights
Puerto Rico



RIFT forecast polygons for the Caribbean region on the Puerto Rico scenario.

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

Exercise Manual/Circular Letter

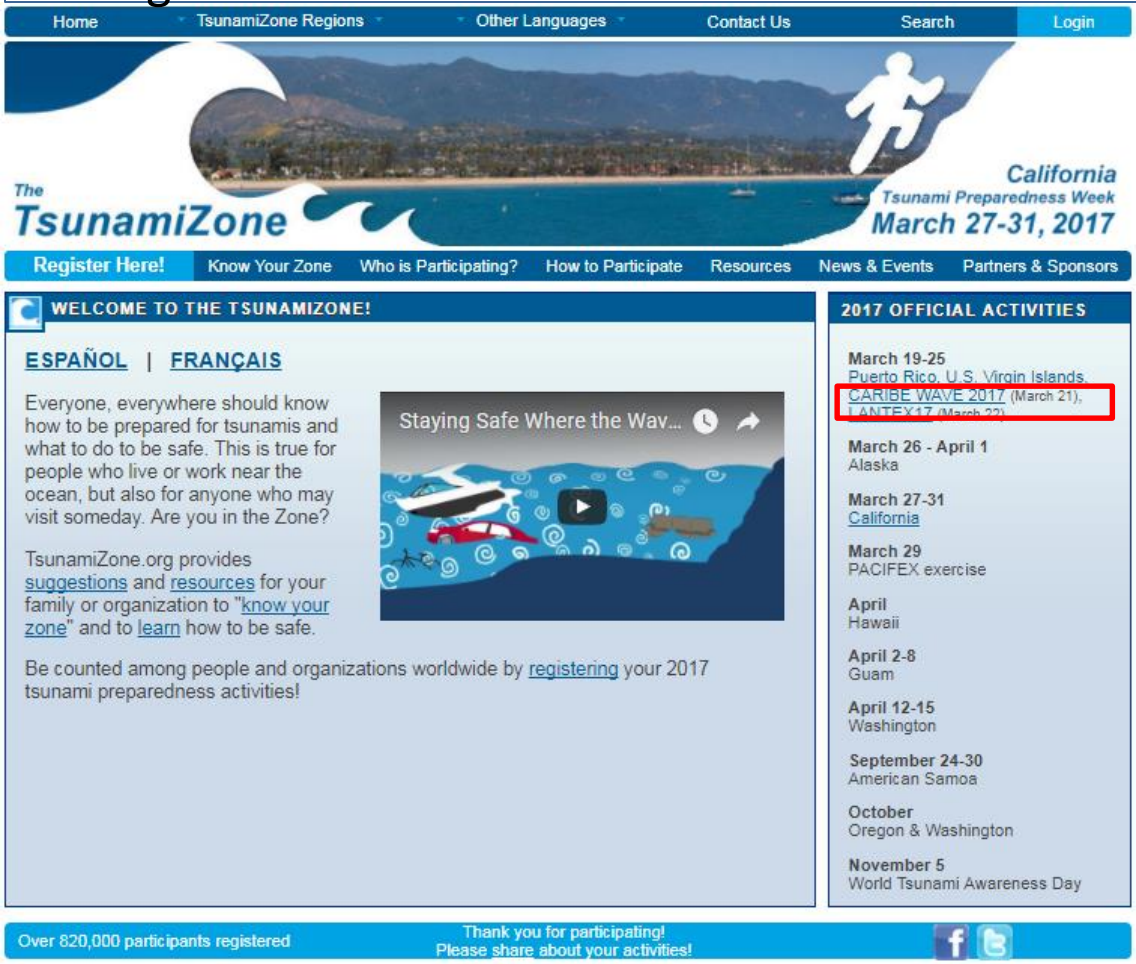
- The exercise manual is being formatted and should be available by end of November 2017 and once ready Circular Letter will be issued from IOC.
- Suggestions for letter
  - Reference to the Hurricane Impacts
  - Strongly encourage participation – might consider Table Top instead of population mobilization
  - High emphasis on Communication component
    - PTWC to NTWC and TWFP
    - Between NTWC, TWFP and DMO
    - To the Public (will depend on local sensitivities)

Types of Exercises

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

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 PTWC will send via email all the simulated enhanced products (text and graphical) to the designated TWFP and NTWC (no need to register to receive 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

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 18 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 18**" 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 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 18 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/CaribeWave18
  - The deadline for completing the evaluation is April 4, 2018.
    - 66 questions (64 questions in 2017, and 83 questions in 2016), average time spent on survey was 130 minutes

CARIBE WAVE 18 Task Team

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Timeline

ACTION	DUE DATE
Draft Circulated among ICG CARIBE EWS TNC/TWFP	Aug 2017
Deadline for Comments	Sep 2017
Final Exercise Handbook Available Online	Oct 2017
Circular Letter Issued by IOC to MS	Nov 2017
1st Webinar CW (overview of the scenarios, registration system)	23 - Jan- 2018 -English 24 - Jan- 2018 -Spanish 25 - Jan- 2018 –French
2nd Webinar CW (communications, media, evaluation)	27- Feb- 2018 -English 28- Feb- 2018 -Spanish 1- Mar- 2018 –French
Countries Indicate Selected Scenario	
Exercise	15-Mar-2018
Exercise Evaluation Due	4-Apr-2018
Draft Final CARIBE WAVE Caribe 18 Report	

In light of Hurricane Season

- Very likely that the number of people participating will decrease
- Emphasis on Communications, redundancy
  - TSP (PTWC) to MS
  - Within Member States
- Emphasize that in lieu of drills, Table Top Exercise can be conducted
- Media – can link importance to lessons learned from Hurricanes
- If there are still gaps in Observations, these could be highlited
- Expectations are no extra funding to be available

Mid Term Meeting of ICG/CARIBE EWS Officers
13 – 14 November, 2017
Santo Domingo, Dominican Republic

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

Thank You

Elizabeth Vanacore
PRSN, Chair of ICG CARIBE EWS CARIBE WAVE 18 TT
Christa von Hillebrandt-Andrade
NOAA-NWS Caribbean Tsunami Warning Program

CTIC Caribbean Tsunami Information Centre ctic.ioc-unesco.org

RED SISMICA DE PUERTO RICO · GEOLOGIA UPR MAYAGUEZ ·

NOAA

NATIONAL WEATHER SERVICE · U.S. DEPARTMENT OF COMMERCE-NOAA

CTWP

NATIONAL WEATHER SERVICE Pacific Tsunami Warning Center