



## 2<sup>e</sup> Webinaire

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**3 mars 2016**

# ¡BIENVENUE!

## Série de Webinaires CARIBE WAVE 16

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

### Rappeler

**1 mars 2016** - Implémentation intégrale de la amélioration des produits PTWC.

**1 avril 2016**- Nouvelle date pour l'émission de PTWC assumer une partie des États-Unis NTWC des produits nationaux tsunami des services aux Puerto Rico, Îles Vierges des États-Unis et des îles Britanniques.

# Objectifs

## **1. Exercer et évaluer les opérations de l'actuel Système d'alerte aux tsunamis de la région CARIBE-EWS.**

- A. Validez l'**émission** des produits de tsunami de la PTWC.
- B. Valider la **réception** et la diffusion des produits de tsunami par les points focaux d'alerte aux tsunamis du CARIBE EWS (TWFP) et/ou le Centre Nationale d'alerte aux Tsunamis (NTWC).

## **2. Poursuivre le processus d'exposition au PTWC des produits améliorés du CARIBE-EWS.**

- A. Évaluer les produits améliorés de la PTWC.
- B. Indicateur plus sur les procédures pour l'application de produits améliorés.

## **3. Valider la préparation pour répondre à un tsunami.**

- A. Valider la capacité opérationnelle des points focaux d'alerte aux tsunamis (TWFP, ou fonction similaire) et/ou le Bureau national de gestion des catastrophes (NDMO).
- B. Améliorer l'état de préparation opérationnelle. Avant l'exercice, faire en sorte que les outils appropriés et le(s) plan(s) de réponse ont été développé(s), y compris les matériaux d'éducation du public
- C. Valider que la diffusion des alertes et des informations / conseils à travers les points focaux d'alerte aux tsunamis pour les organismes appropriés dans les pays participants et pour le public soit exacte et en temps opportun.
- D. Valider le processus décisionnel de l'organisation (plans d'intervention de tsunami) sur les avertissements publics et les évacuations.
- E. Valider que les méthodes utilisées pour informer et instruire le public soient exacts et en temps opportun.
- F. Évaluer l'état de la conscience publique nationale et la stratégie de l'éducation.

# Buts

| Buts                                                                                           | Résultat 2013 | Métrique 2014 | Résultat 2015                                       | Métrique 2015 | Résultat 2015 | Métrique 2016 |
|------------------------------------------------------------------------------------------------|---------------|---------------|-----------------------------------------------------|---------------|---------------|---------------|
| Participation des états membres du ICG CARIBE EWS avec des points focaux d'alerte aux tsunamis | 94%           | 95%           | 98% (compris les deux MS/Territoires non officiels) | 95%           | 100%          | 100%          |
| Respect de la chronologie                                                                      | près 100%     | 100%          | près 100%                                           | 100%          | près 100%     | 100%          |
| Participation de la communauté (au-delà de TWFP)                                               | 75%           | 75%           | 75%                                                 | 80%           | 66%           | 85%           |
| Nombre du participants                                                                         | 44,000        | +10%          | 191,000                                             | +10%          | 191,420       | +10%          |
| TWP reçoit le dummy message                                                                    | 98%           | 100%          | 94%                                                 | 100%          | 90%           | 100%          |
| Pays soumettant le questionnaire sur l'exercice.                                               | 90%           | 100%          | 100%                                                | 100%          | 91%           | 100%          |

# Manuel de l'Exercice

- Disponible en ligne en anglais sur le lien suivant: [www.caribewave.info](http://www.caribewave.info)
- Le manuel de l'UNESCO IOC CARIBE EWS pour le scénario de Panama Scenario est seulement disponible en anglais.
- Ils comprennent:
  - Les mesures proposées
  - Description du scénario
  - La table de temps
  - Temps de trajet et l'amplitude attendue des vagues
  - Chiffres et exemples des messages à être transmis durant un tel événement
  - Le lien de questionnaire d'évaluation

# L'exercice Système d'alerte aux Tsunamis

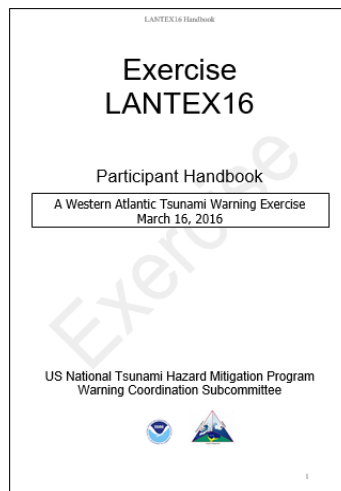
## LANTEX 16

### L'exercice del Atlantique Occidental d'alerte aux Tsunamis

US et la côte est du Canada Scénario  
(Submarine glissements de terrain tsunamigène)

16 mars 2016.

NTWC



## CARIBE WAVE 16

### L'exercice dans les Caraïbes et régions adjacentes d'alerte aux Tsunamis

Scénarios Venezuela et Nord d'Hispaniola

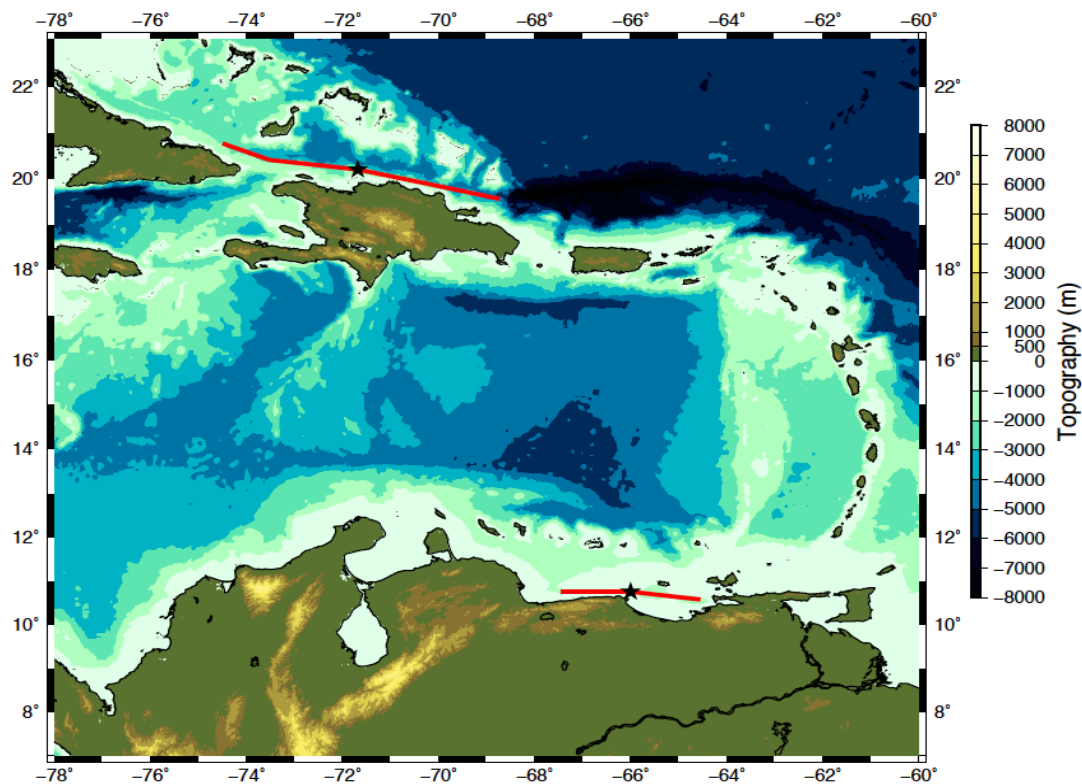
17 mars 2016.

PTWC



# CARIBE WAVE 16

## Carte des Scénarios



| Scène             | Temps d'origine           | Mw  | Épicentre      |
|-------------------|---------------------------|-----|----------------|
| Venezuela         | 14:00:00 UTC 17 mars 2016 | 8.4 | 10.8°N, 66.0°O |
| Nord d'Hispaniola | 15:00:00 UTC 17 mars 2016 | 8.7 | 20.2°N, 71.7°O |

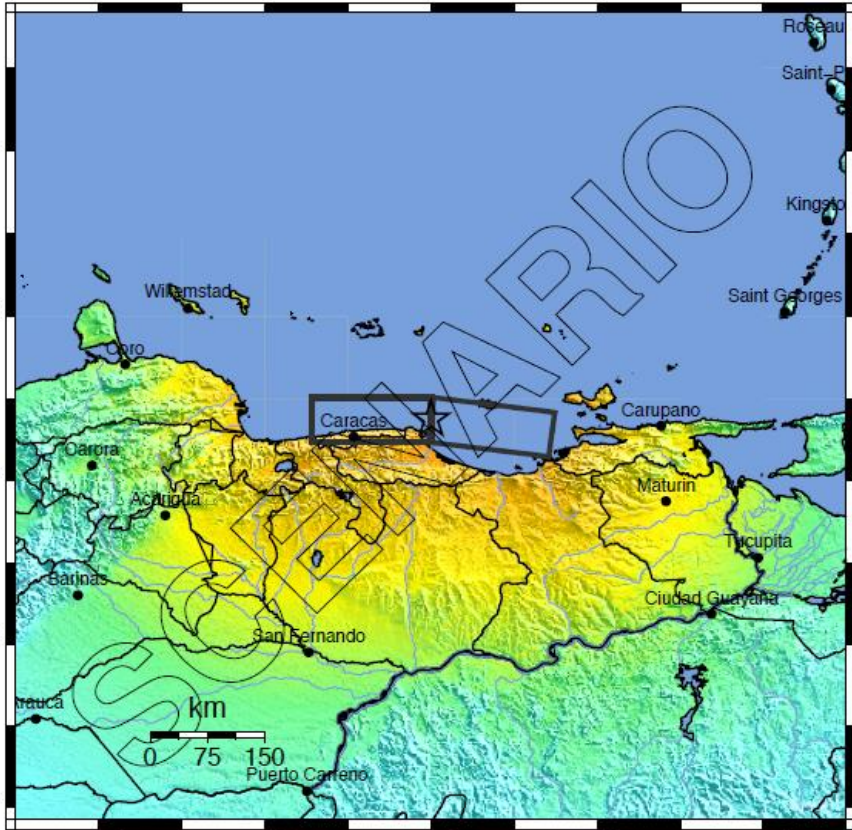
# Venezuela Scenario



# Impact du Scénario Séisme Venezuela

— Earthquake Planning Scenario —  
ShakeMap for Venezuela Scenario

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



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

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

Scale based upon Worden et al. (2012)



Earthquake Shaking **Red Alert**

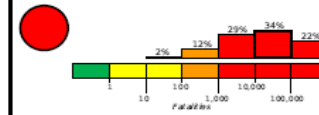


## M 8.4, Venezuela

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

Created: 25 minutes, 0 seconds after earthquake

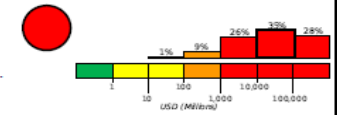
### Estimated Fatalities



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

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

### Estimated Economic Losses

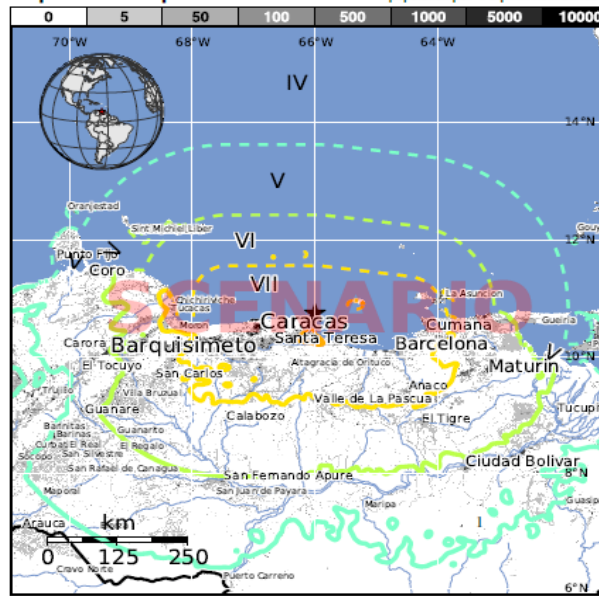


### Estimated Population Exposed to Earthquake Shaking

| ESTIMATED POPULATION EXPOSURE (k = x1000) | --                    | --     | 2,141k | 6,296k   | 4,893k | 11,690k     | 478k           | 0        | 0              |
|-------------------------------------------|-----------------------|--------|--------|----------|--------|-------------|----------------|----------|----------------|
| ESTIMATED MODIFIED MERCALLI INTENSITY     | I                     | II-III | IV     | V        | VI     | VII         | VIII           | IX       | X+             |
| PERCEIVED SHAKING                         | Not felt              | Weak   | Light  | Moderate | Strong | Very Strong | Severe         | Violent  | Extreme        |
| POTENTIAL DAMAGE                          | Resistant Structures  |        | none   | none     | none   | V. Light    | Light          | Moderate | Moderate/Heavy |
|                                           | Vulnerable Structures |        | none   | none     | Light  | Moderate    | Moderate/Heavy | 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 some resistant structures exist. The predominant vulnerable building types are unreinforced brick masonry and adobe construction.

### Historical Earthquakes (with MMI levels):

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

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

### Selected City Exposure

from GeoNames.org

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

bold cities appear on map

(k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

<http://earthquake.usgs.gov/pager>

Event ID: usvenezuela\_2

# Chronologie des Messages Venezuela

| Date      | Heur (UTC) | PTWC                                                          |                                    |
|-----------|------------|---------------------------------------------------------------|------------------------------------|
|           |            | Type de produit                                               | Méthode de transmission            |
| 3/17/2016 | 1400       | - - - - Le tremblement de terre se produit- - - -             |                                    |
| 3/17/2016 | 1405       | Dummy                                                         | NWWS, GTS, EMWIN, AISR, Fax, Email |
| 3/17/2016 | 1405       | Menace de Tsunami Message #1                                  | Email                              |
| 3/17/2016 | 1425       | Menace de Tsunami Message #2 et<br>Product Graphique Améliore | Email                              |
| 3/17/2016 | 1510       | Menace de Tsunami Message #3                                  | Email                              |
| 3/17/2016 | 1545       | Menace de Tsunami Message #4                                  | Email                              |
| 3/17/2016 | 1645       | Menace de Tsunami Message #5                                  | Email                              |
| 3/17/2016 | 1745       | Menace de Tsunami Message #6                                  | Email                              |
| 3/17/2016 | 1845       | Menace de Tsunami Message #7                                  | Email                              |
| 3/17/2016 | 1945       | Menace de Tsunami Message #8                                  | Email                              |

Les messages du début de l'exercice seront également envoyés par le compte Twitter de PTWC

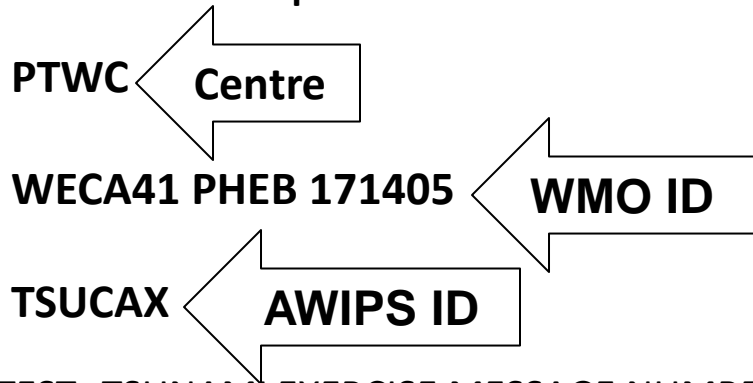
Pour recevoir, envoyer le message: "Follow NWS\_PTWC" à 40404

"Ceci est un message de test à l'exercice du tsunami CARIBEWAVE16 Venezuela." (Délivré à 14h05 UTC).

Réseaux sociaux; #CaribeWave

## Appendix E. TWC Dummy (Start of Exercise) Messages

### Venezuela Earthquake Scenario



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

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

THIS MESSAGE IS BEING USED TO START THE CARIBEWAVE 16 CARIBBEAN TSUNAMI EXERCISE VENEZUELA SCENARIO. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN THE HANDBOOK. THE HANDBOOK IS AVAILABLE AT THE WEB SITE CARIBEWAVE.INFO. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

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## Appendix F. TWC Exercise Messages

### Venezuela Earthquake Scenario

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

#### PTWC Message #1

WECA41 PHEB 171405  
TSUCAX

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

...TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

#### PRELIMINARY EARTHQUAKE PARAMETERS

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

#### EVALUATION

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

#### TSUNAMI THREAT FORECAST

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

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

#### RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL

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

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

POTENTIAL IMPACTS

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

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

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

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

NEXT UPDATE AND ADDITIONAL INFORMATION

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

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

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

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

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

**PTWC Message #2**

WECA41 PHEB 171425  
TSUCAX

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

...TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

UPDATES

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

\* FORECAST TSUNAMI AMPLITUDES ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

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

EVALUATION

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

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

TSUNAMI THREAT FORECAST...UPDATED

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

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

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

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

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

\* NON-HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR ALL OTHER  
AREAS COVERED BY THIS MESSAGE.

\* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST  
AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL  
FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS  
WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

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

RECOMMENDED ACTIONS

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

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

ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES 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)   |
|----------------|-----------------|-------------|------------|
| CUMANA         | VENEZUELA       | 10.5N 64.2W | 1438 03/17 |
| MAIQUETIA      | VENEZUELA       | 10.6N 67.0W | 1448 03/17 |
| ONIMA          | BONAIRE         | 12.3N 68.3W | 1455 03/17 |
| WILLEMSTAD     | CURACAO         | 12.1N 68.9W | 1501 03/17 |
| ORANJESTAD     | ARUBA           | 12.5N 70.0W | 1519 03/17 |
| KINGSTOWN      | SAINT VINCENT   | 13.1N 61.2W | 1519 03/17 |
| SAINT GEORGES  | GRENADA         | 12.0N 61.8W | 1519 03/17 |
| CASTRIES       | SAINT LUCIA     | 14.0N 61.0W | 1524 03/17 |
| FORT DE FRANCE | MARTINIQUE      | 14.6N 61.1W | 1527 03/17 |
| ROSEAU         | DOMINICA        | 15.3N 61.4W | 1529 03/17 |
| BASSE TERRE    | GUADELOUPE      | 16.0N 61.7W | 1532 03/17 |
| SANTO DOMINGO  | DOMINICAN REP   | 18.5N 69.9W | 1538 03/17 |
| CABO ENGANO    | DOMINICAN REP   | 18.6N 68.3W | 1543 03/17 |
| PLYMOUTH       | MONTserrat      | 16.7N 62.2W | 1544 03/17 |
| BASSETERRE     | SAINT KITTS     | 17.3N 62.7W | 1545 03/17 |
| BRIDGETOWN     | BARBADOS        | 13.1N 59.6W | 1548 03/17 |
| JACAMEL        | HAITI           | 18.1N 72.5W | 1552 03/17 |
| PIRATES BAY    | TRINIDAD TOBAGO | 11.3N 60.6W | 1553 03/17 |

|                 |                  |             |            |
|-----------------|------------------|-------------|------------|
| SIMPSON BAAI    | SINT MAARTEN     | 18.0N 63.1W | 1554 03/17 |
| RIOHACHA        | COLOMBIA         | 11.6N 72.9W | 1605 03/17 |
| BARRANQUILLA    | COLOMBIA         | 11.1N 74.9W | 1611 03/17 |
| PUERTO PLATA    | DOMINICAN REP    | 19.8N 70.7W | 1613 03/17 |
| THE VALLEY      | ANGUILLA         | 18.3N 63.1W | 1614 03/17 |
| SAINT JOHNS     | ANTIGUA          | 17.1N 61.9W | 1618 03/17 |
| PALMETTO POINT  | BARBUDA          | 17.6N 61.9W | 1624 03/17 |
| SAINT BARTHELEM | SAINT BARTHELEMY | 17.9N 62.8W | 1625 03/17 |
| GRAND TURK      | TURKS N CAICOS   | 21.5N 71.1W | 1627 03/17 |
| CARTAGENA       | COLOMBIA         | 10.4N 75.6W | 1628 03/17 |
| CAP HAITEN      | HAITI            | 19.8N 72.2W | 1629 03/17 |
| SANTIAGO D CUBA | CUBA             | 19.9N 75.8W | 1631 03/17 |
| BAIE BLANCHE    | SAINT MARTIN     | 18.1N 63.0W | 1632 03/17 |
| KINGSTON        | JAMAICA          | 17.9N 76.9W | 1635 03/17 |
| WEST CAICOS     | TURKS N CAICOS   | 21.7N 72.5W | 1638 03/17 |
| ALIGANDI        | PANAMA           | 9.2N 78.0W  | 1645 03/17 |
| MONTEGO BAY     | JAMAICA          | 18.5N 77.9W | 1647 03/17 |
| PORT OF SPAIN   | TRINIDAD TOBAGO  | 10.6N 61.5W | 1649 03/17 |
| SANTA MARTA     | COLOMBIA         | 11.2N 74.2W | 1652 03/17 |
| PUERTO CARRETO  | PANAMA           | 8.8N 77.6W  | 1652 03/17 |
| PUNTA CARIBANA  | COLOMBIA         | 8.6N 76.9W  | 1704 03/17 |
| JEREMIE         | HAITI            | 18.6N 74.1W | 1713 03/17 |
| PUNTO FIJO      | VENEZUELA        | 11.7N 70.2W | 1715 03/17 |
| PUERTO OBALDIA  | PANAMA           | 8.7N 77.4W  | 1716 03/17 |
| CIENFUEGOS      | CUBA             | 22.0N 80.5W | 1725 03/17 |
| PUERTO LIMON    | COSTA RICA       | 10.0N 83.0W | 1729 03/17 |
| COLON           | PANAMA           | 9.4N 79.9W  | 1749 03/17 |
| BOCAS DEL TORO  | PANAMA           | 9.4N 82.2W  | 1803 03/17 |
| COZUMEL         | MEXICO           | 20.5N 87.0W | 1811 03/17 |
| PUNTA GORDA     | NICARAGUA        | 11.4N 83.8W | 1815 03/17 |
| PORT AU PRINCE  | HAITI            | 18.5N 72.4W | 1816 03/17 |
| GOLFO VENEZUELA | VENEZUELA        | 11.4N 71.2W | 1855 03/17 |
| SANTA CRZ D SUR | CUBA             | 20.7N 78.0W | 1930 03/17 |
| PORLAMAR        | VENEZUELA        | 10.9N 63.8W | 1931 03/17 |
| GEORGETOWN      | GUYANA           | 6.8N 58.2W  | 2014 03/17 |
| NUEVA GERONA    | CUBA             | 21.9N 82.8W | 2055 03/17 |
| PUERTO CABEZAS  | NICARAGUA        | 14.0N 83.4W | 2154 03/17 |



## POTENTIAL IMPACTS

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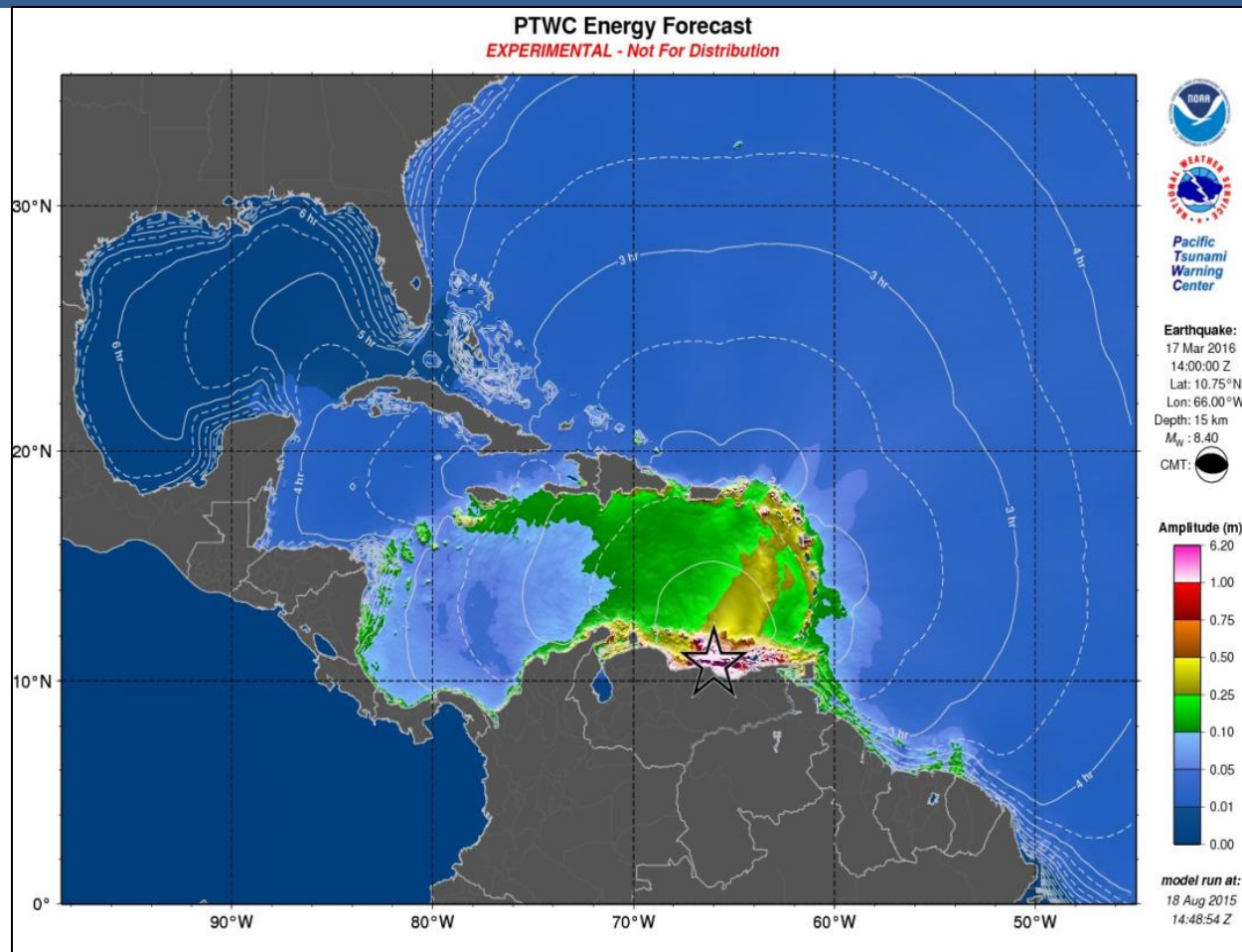
- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT [EARTHQUAKE.USGS.GOV/EARTHQUAKES](http://EARTHQUAKE.USGS.GOV/EARTHQUAKES) -ALL IN LOWERCASE LETTERS-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV) AND AT [WWW.TSUNAMI.GOV](http://WWW.TSUNAMI.GOV).
- \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).
- \* COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV).

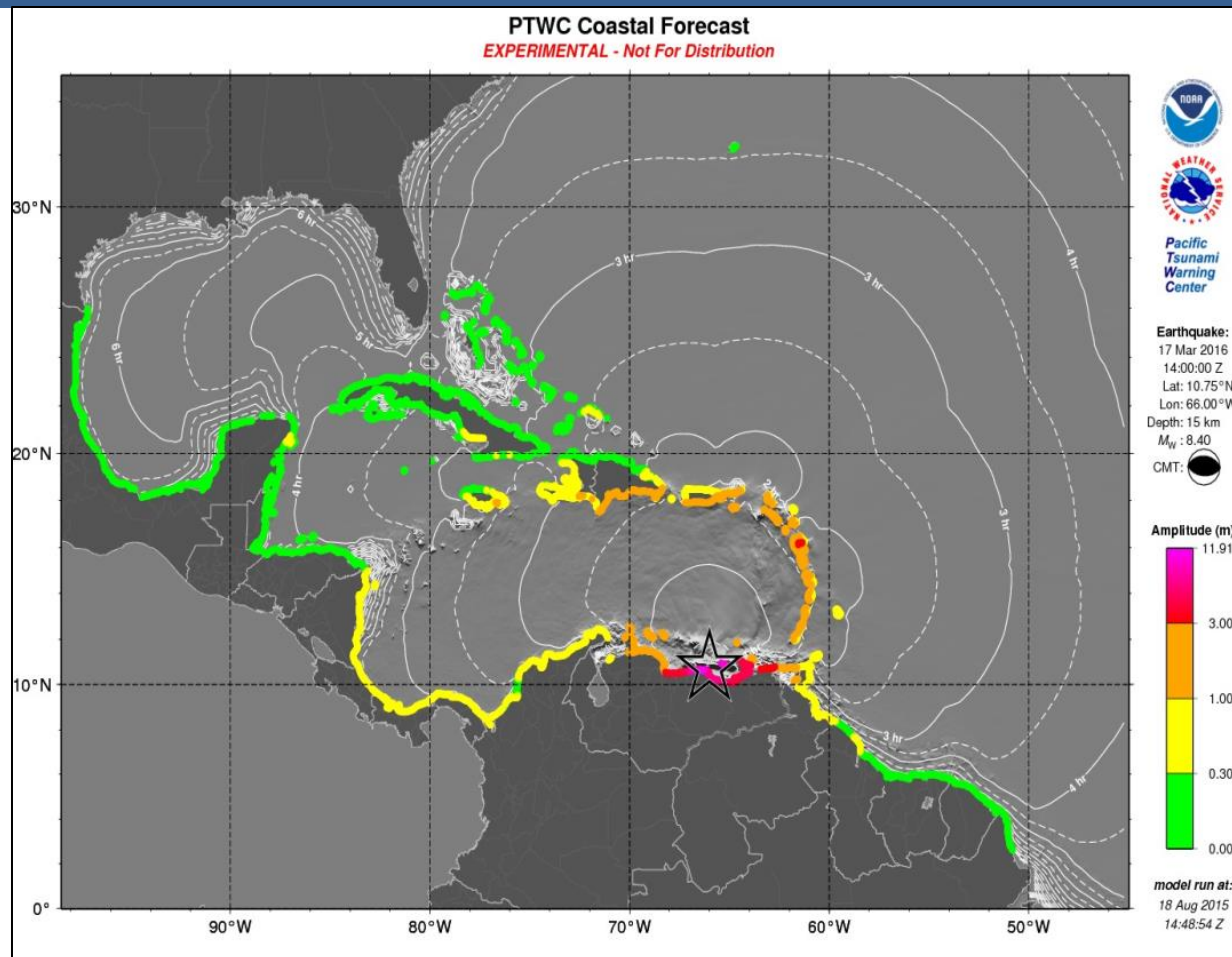
# Prévision des hauteurs de vagues Venezuela



**Carte RIFT avec l'amplitude maximale du tsunami dans l'océan profond de la zone de service CARIBE-EWS basé sur le scénario du Venezuela.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiellement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# Prévision des hauteurs de vagues Venezuela

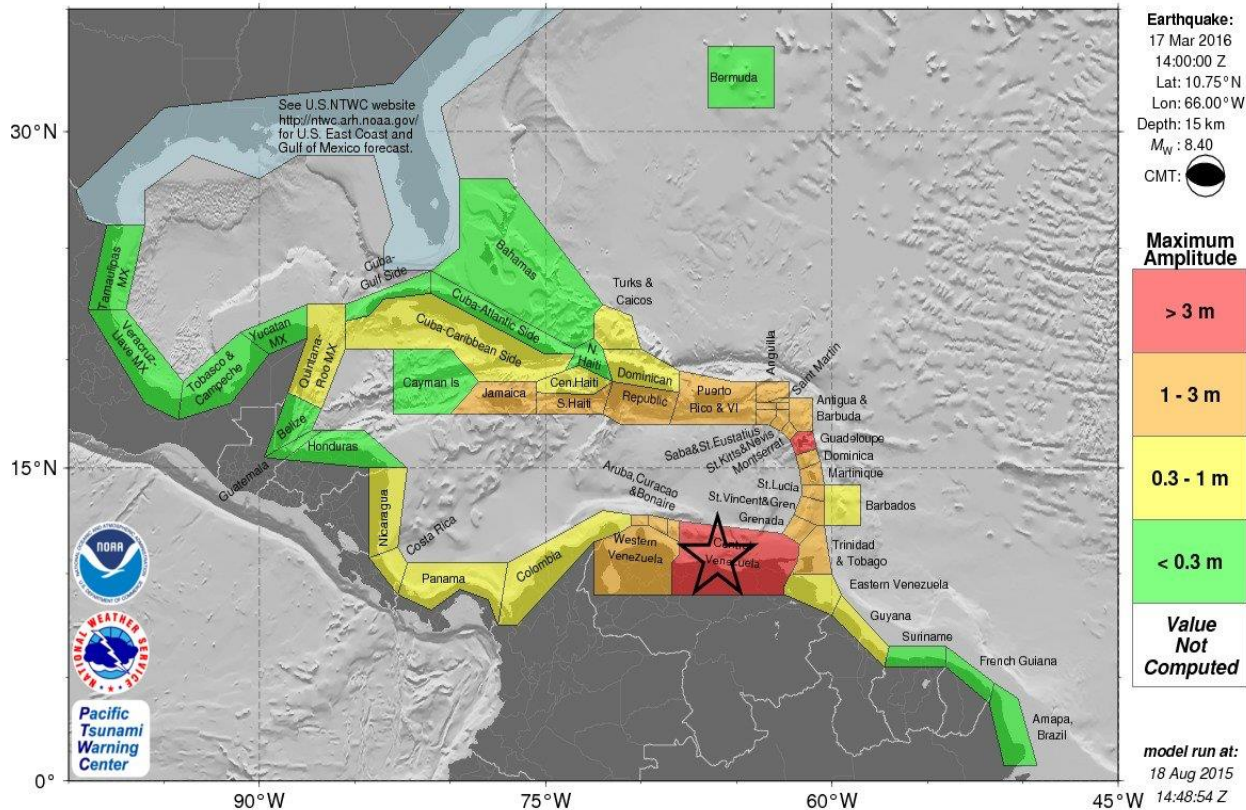


**Carte RIFT montrant les hauteurs de tsunami prévues pour les points individuels de la zone CARIBE-EWS basé sur le scénario de Venezuela.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiallement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# Prévision des hauteurs de vagues Venezuela

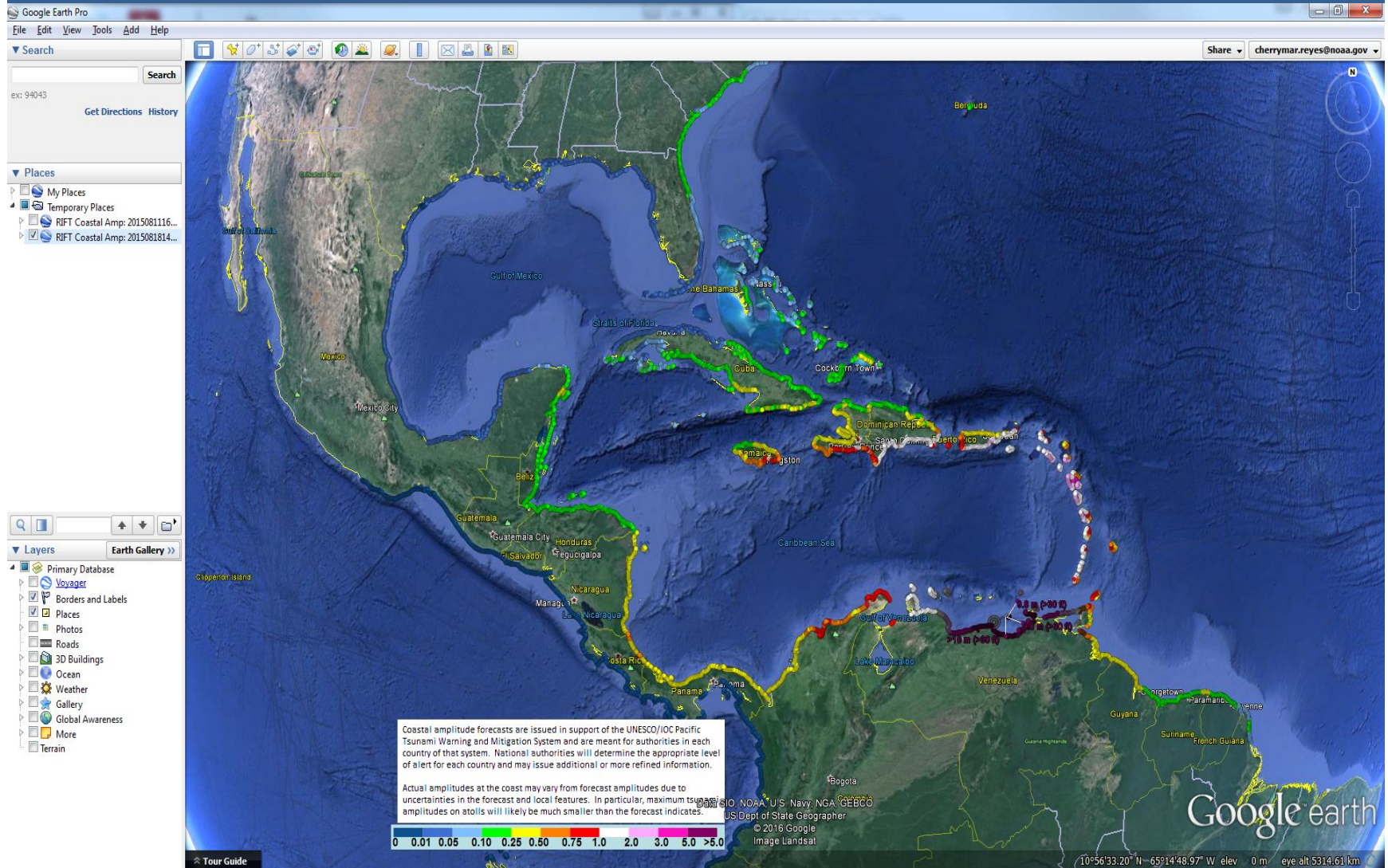
PTWC Forecast Polygons *EXPERIMENTAL - Not For Distribution*



**RIFT Carte du prévisions polygone pour la zone de service CARIBE-EWS pour le scénario du Venezuela.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiellement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# KMZ Venezuela



[C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal\\_amp\\_Vz.kmz](C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal_amp_Vz.kmz)

# Statistiques Polygones PTWC

## Venezuela

PTWC RIFT Tsunami Forecast Model - Run ID: 20150818144854  
 Earthquake - Origin: 03/17/2016 14:00:00 UTC Coordinates: 10.8N 66.0W Depth: 015km Magnitude: 8.4

| Coastal Forecast (meters) |      |        |      | Offshore Forecast (meters) |      |        |      | Total  | Region Name                           |
|---------------------------|------|--------|------|----------------------------|------|--------|------|--------|---------------------------------------|
| Maximum                   | Mean | Median | STD  | Maximum                    | Mean | Median | STD  | Points |                                       |
| 12.00                     | 5.40 | 5.10   | 2.30 | 6.20                       | 2.30 | 2.00   | 1.30 | 244    | Central_Coast_of_Venezuela            |
| 3.10                      | 2.00 | 2.00   | 0.73 | 1.50                       | 0.67 | 0.65   | 0.29 | 71     | Guadeloupe                            |
| 2.80                      | 1.80 | 1.60   | 0.53 | 6.10                       | 1.50 | 1.20   | 0.98 | 100    | Western_Coast_of_Venezuela            |
| 2.60                      | 1.80 | 1.80   | 0.44 | 0.85                       | 0.47 | 0.46   | 0.13 | 31     | Dominica                              |
| 2.50                      | 1.20 | 0.74   | 0.75 | 2.10                       | 0.93 | 0.66   | 0.58 | 28     | Antigua_and_Barbuda                   |
| 2.50                      | 2.00 | 1.90   | 0.27 | 1.50                       | 0.60 | 0.54   | 0.24 | 29     | Saint_Kitts_and_Nevis                 |
| 2.40                      | 1.00 | 1.10   | 0.53 | 1.90                       | 0.56 | 0.48   | 0.38 | 189    | Puerto_Rico_and_Virgin_Is             |
| 2.30                      | 1.60 | 1.50   | 0.40 | 1.70                       | 0.85 | 0.83   | 0.41 | 15     | Bonaire                               |
| 2.30                      | 1.50 | 1.80   | 0.56 | 1.90                       | 0.60 | 0.49   | 0.32 | 41     | Martinique                            |
| 2.20                      | 1.50 | 1.50   | 0.24 | 0.64                       | 0.40 | 0.36   | 0.11 | 8      | Saba_and_Saint_Eustatius              |
| 2.20                      | 1.80 | 1.80   | 0.20 | 0.79                       | 0.50 | 0.45   | 0.12 | 11     | Montserrat                            |
| 1.90                      | 1.30 | 1.40   | 0.43 | 1.10                       | 0.40 | 0.36   | 0.19 | 26     | Saint_Lucia                           |
| 1.90                      | 1.40 | 1.40   | 0.23 | 0.70                       | 0.46 | 0.45   | 0.13 | 27     | Curacao                               |
| 1.50                      | 1.20 | 1.20   | 0.19 | 1.40                       | 0.51 | 0.46   | 0.23 | 148    | Caribbean_Coast_of_Dominican_Republic |
| 1.50                      | 1.20 | 1.30   | 0.20 | 0.79                       | 0.68 | 0.70   | 0.08 | 6      | Saint_Barthelemy                      |
| 1.50                      | 1.40 | 1.50   | 0.06 | 1.30                       | 0.79 | 0.73   | 0.32 | 6      | Sint_Maarten                          |
| 1.40                      | 1.00 | 1.10   | 0.28 | 1.10                       | 0.45 | 0.35   | 0.23 | 29     | Grenada                               |
| 1.40                      | 1.20 | 1.20   | 0.21 | 0.99                       | 0.40 | 0.33   | 0.18 | 33     | Saint_Vincent_and_the_Grenadines      |
| 1.40                      | 1.10 | 1.20   | 0.31 | 1.60                       | 1.10 | 1.10   | 0.27 | 8      | Anguilla                              |
| 1.30                      | 1.20 | 1.20   | 0.05 | 0.68                       | 0.46 | 0.42   | 0.11 | 8      | Aruba                                 |
| 1.30                      | 1.30 | 1.30   | 0.00 | 1.30                       | 1.20 | 1.10   | 0.08 | 3      | Saint_Martin                          |
| 1.20                      | 0.72 | 0.66   | 0.27 | 0.83                       | 0.39 | 0.37   | 0.18 | 77     | Trinidad_and_Tobago                   |
| 1.10                      | 0.47 | 0.45   | 0.24 | 0.67                       | 0.19 | 0.13   | 0.14 | 146    | Jamaica                               |
| 1.10                      | 0.76 | 0.78   | 0.16 | 0.71                       | 0.25 | 0.22   | 0.12 | 89     | Caribbean_Coast_of_Haiti              |
| 1.00                      | 0.54 | 0.51   | 0.22 | 0.94                       | 0.36 | 0.31   | 0.17 | 255    | Caribbean_Coast_of_Colombia           |
| 0.89                      | 0.60 | 0.62   | 0.15 | 0.31                       | 0.19 | 0.19   | 0.06 | 22     | Barbados                              |
| 0.71                      | 0.26 | 0.23   | 0.11 | 1.50                       | 0.14 | 0.09   | 0.19 | 129    | Atlantic_Coast_of_Dominican_Republic  |
| 0.55                      | 0.48 | 0.48   | 0.04 | 0.28                       | 0.18 | 0.18   | 0.04 | 48     | Caribbean_Coast_of_Costa_Rica         |
| 0.50                      | 0.45 | 0.46   | 0.03 | 0.45                       | 0.19 | 0.18   | 0.06 | 82     | Atlantic_Coast_of_Venezuela           |
| 0.49                      | 0.41 | 0.40   | 0.04 | 0.41                       | 0.19 | 0.17   | 0.06 | 179    | Caribbean_Coast_of_Panama             |
| 0.47                      | 0.40 | 0.41   | 0.03 | 0.29                       | 0.15 | 0.15   | 0.06 | 139    | Caribbean_Coast_of_Nicaragua          |
| 0.45                      | 0.36 | 0.37   | 0.05 | 0.26                       | 0.10 | 0.09   | 0.04 | 139    | Gulf_of_Gonave_Coast_of_Haiti         |
| 0.37                      | 0.27 | 0.28   | 0.03 | 0.26                       | 0.15 | 0.14   | 0.04 | 101    | Guyana                                |
| 0.36                      | 0.21 | 0.15   | 0.10 | 0.14                       | 0.07 | 0.07   | 0.03 | 46     | Turks_and_Caicos_Islands              |
| 0.35                      | 0.15 | 0.14   | 0.09 | 0.14                       | 0.05 | 0.05   | 0.03 | 166    | Quintana_Roo_Mexico                   |
| 0.31                      | 0.16 | 0.14   | 0.08 | 0.14                       | 0.05 | 0.04   | 0.02 | 472    | Caribbean_Coast_of_Cuba               |
| 0.30                      | 0.22 | 0.21   | 0.04 | 0.14                       | 0.06 | 0.06   | 0.02 | 66     | Atlantic_Coast_of_Haiti               |
| 0.27                      | 0.15 | 0.16   | 0.03 | 0.32                       | 0.10 | 0.08   | 0.06 | 84     | French_Guiana                         |
| 0.27                      | 0.24 | 0.24   | 0.01 | 0.34                       | 0.15 | 0.14   | 0.06 | 109    | Suriname                              |
| 0.25                      | 0.12 | 0.16   | 0.07 | 0.09                       | 0.03 | 0.04   | 0.02 | 267    | Atlantic_Coast_of_Cuba                |
| 0.23                      | 0.11 | 0.09   | 0.04 | 0.24                       | 0.04 | 0.03   | 0.02 | 442    | Bahamas                               |
| 0.20                      | 0.16 | 0.17   | 0.02 | 0.12                       | 0.07 | 0.07   | 0.02 | 90     | Belize                                |
| 0.19                      | 0.13 | 0.12   | 0.02 | 0.19                       | 0.06 | 0.05   | 0.02 | 185    | Caribbean_Coast_of_Honduras           |
| 0.19                      | 0.18 | 0.18   | 0.00 | 0.07                       | 0.06 | 0.06   | 0.01 | 13     | Caribbean_Coast_of_Guatemala          |
| 0.16                      | 0.15 | 0.16   | 0.00 | 0.14                       | 0.08 | 0.06   | 0.04 | 7      | Bermuda                               |
| 0.14                      | 0.05 | 0.02   | 0.04 | 0.13                       | 0.02 | 0.01   | 0.02 | 1071   | Mainland-Gulf                         |
| 0.11                      | 0.03 | 0.03   | 0.01 | 0.02                       | 0.01 | 0.01   | 0.00 | 119    | Gulf_of_Mexico_Coast_of_Cuba          |
| 0.10                      | 0.10 | 0.10   | 0.00 | 0.14                       | 0.05 | 0.05   | 0.03 | 64     | Anapa_Brazil                          |
| 0.09                      | 0.09 | 0.09   | 0.01 | 0.05                       | 0.04 | 0.03   | 0.01 | 5      | Cayman_Islands                        |
| 0.06                      | 0.02 | 0.01   | 0.02 | 0.02                       | 0.00 | 0.00   | 0.01 | 59     | Yucatan_Mexico                        |
| 0.01                      | 0.01 | 0.01   | 0.00 | 0.01                       | 0.00 | 0.00   | 0.00 | 126    | Tamaulipas_Mexico                     |
| 0.01                      | 0.01 | 0.01   | 0.00 | 0.01                       | 0.00 | 0.00   | 0.00 | 152    | Veracruz_Mexico                       |
| 0.01                      | 0.01 | 0.01   | 0.00 | 0.00                       | 0.00 | 0.00   | 0.00 | 181    | Tabasco_and_Campeche_Mexico           |

**PTWC Message #8**

WECA41 PHEB 171945  
TSUCAX

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

...FINAL TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

UPDATES

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

PRELIMINARY EARTHQUAKE PARAMETERS

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

EVALUATION

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

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

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- \* THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

RECOMMENDED ACTIONS

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

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

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

POTENTIAL IMPACTS

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

TSUNAMI OBSERVATIONS

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

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

NEXT UPDATE AND ADDITIONAL INFORMATION

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

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

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

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

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

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# Chronologie de l'exercice

## PTWC US Produits domestiques

(Puerto Rico et les îles Vierges américaines et britanniques)

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

# PTWC Produits domestiques pour PR, USVI et BVI

ZCZC  
WECA40 PHEB 171405  
TSUCAR

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

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

## AUDIENCE -----

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

## EVALUATION -----

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

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

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

1121 AM AST ON THURSDAY MARCH 17 2016

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

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

\* MONITORING IS UNDERWAY TO FURTHER EVALUATE THE TSUNAMI THREAT.

## PRELIMINARY EARTHQUAKE PARAMETERS -----

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

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

\* DEPTH 9 MILES  
\* LOCATION NEAR THE COAST OF VENEZUELA

## RECOMMENDED ACTIONS -----

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

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

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

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

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

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

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

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

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

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

## FORECASTS OF TSUNAMI ACTIVITY -----

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

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

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

# PTWC Produits domestiques pour PR, USVI et BVI

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

## OBSERVATIONS OF TSUNAMI ACTIVITY

\* NO OBSERVATIONS OF TSUNAMI ACTIVITY ARE AVAILABLE YET.

## IMPACTS

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

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

## NEXT UPDATE AND ADDITIONAL INFORMATION

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

\* FURTHER INFORMATION ABOUT THIS EVENT AND ANY TSUNAMI THREAT TO PUERTO RICO AND THE VIRGIN ISLANDS MAY BE FOUND ON THE INTERNET AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV) AND AT [WWW.TSUNAMI.GOV](http://WWW.TSUNAMI.GOV).

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

\* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE CAN BE OBTAINED FROM THE CORRESPONDING REGIONAL SEISMIC NETWORK OR THE U.S. GEOLOGICAL SURVEY ON THE INTERNET AT [EARTHQUAKE.USGS.GOV/EARTHQUAKES](http://EARTHQUAKE.USGS.GOV/EARTHQUAKES) -ALL LOWERCASE LETTERS-.

##

# PTWC Produits domestiques pour PR, USVI et BVI

ZCZC  
WECA40 PHEB 171425  
TSUCAR

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

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

## AUDIENCE

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

## UPDATES IN THIS MESSAGE

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

## EVALUATION

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.4 OCCURRED NEAR THE COAST OF VENEZUELA AT 1000 AM AST ON THURSDAY MARCH 17 2016.
- \* BASED ON ALL AVAILABLE DATA... THERE IS THE THREAT OF HAZARDOUS TSUNAMI WAVES FLOODING LOW-LYING COASTAL AREAS IN PUERTO RICO AND THE VIRGIN ISLANDS.
- \* THE EARLIEST ESTIMATED TIME THAT TSUNAMI WAVE ACTIVITY AND FLOODING MAY BEGIN WITHIN THE PUERTO RICO AND VIRGIN ISLANDS REGION IS  
  
1121 AM AST ON THURSDAY MARCH 17 2016
- \* ACTIONS TO PROTECT HUMAN LIFE... SAFETY AND PROPERTY SHOULD BE TAKEN IMMEDIATELY.
- \* THE GENERATION OF TSUNAMI WAVES HAS NOT YET BEEN CONFIRMED.

## PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

- \* THE FOLLOWING PARAMETERS ARE BASED ON A PRELIMINARY RAPID

## ASSESSMENT OF THE EARTHQUAKE AND CHANGES MAY OCCUR.

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

## RECOMMENDED ACTIONS

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

## FORECASTS OF TSUNAMI ACTIVITY - UPDATED

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

# PTWC Produits domestiques pour PR, USVI et BVI

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

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

## OBSERVATIONS OF TSUNAMI ACTIVITY

- \* NO OBSERVATIONS OF TSUNAMI ACTIVITY ARE AVAILABLE YET.

## IMPACTS

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

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

## NEXT UPDATE AND ADDITIONAL INFORMATION

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

##

# PRSN (TWFP) Produits Tsunami

## Emailed et Publié sur le Web

### Bulletin #1

University of Puerto Rico  
Mayagüez Campus  
Geology Department

PUERTO RICO SEISMIC NETWORK



**BULLETIN 01**  
**SEISMIC EVENT/Tsunami**  
**CARIBEWAVE 2016 Exercise**

|                                     |                                                                                                                                                                                  |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DATE AND TIME:</b>               | <b>SEISMIC INFORMATION:</b><br>March 17, 2016 – 14:00 UTC (10:00 AST)                                                                                                            |
| <b>LATITUDE – LONGITUDE:</b>        | 10.8 North -66.0 West                                                                                                                                                            |
| <b>LOCATION:</b>                    | North of Venezuela                                                                                                                                                               |
| <b>DEPTH:</b>                       | 14.5 km                                                                                                                                                                          |
| <b>MAGNITUDE:</b>                   | 8.4                                                                                                                                                                              |
| <b>MAXIMUM ESTIMATED INTENSITY:</b> | II in San Juan, Puerto Rico                                                                                                                                                      |
| <b>ISSUED DATE:</b>                 | <b>TSUNAMI INFORMATION:</b><br>2016-03-17 14:05 UTC (10:05 AST)                                                                                                                  |
| <b>TSUNAMI WARNING LEVEL:</b>       | <b>TSUNAMI WARNING IS IN EFFECT FOR Puerto Rico and Virgin Islands.</b>                                                                                                          |
| <b>RECOMMENDED ACTION:</b>          | <b>If you are in a warning area - move inland to higher ground. Be alert to instructions from your local emergency officials. Do not go to the coast to observe the tsunami.</b> |

The PRSN advises that a tsunami Warning for Puerto Rico and the Virgin Islands has been issued by the PTWC. To see the times of arrivals, refer to the following table. For additional information on the level of messaging tsunami refer to messages issued by PRSN for exercise CARIBEWAVE 2016.

Theoretical Time Table:

| SITE             | ESTIMATED TIME OF ARRIVAL | FORECAST TSUNAMI DURATION | FORECAST MAXIMUM HEIGHT | OBSERVED MAXIMUM HEIGHT |
|------------------|---------------------------|---------------------------|-------------------------|-------------------------|
| PEÑELAS          | 11:21 AST 03/17           |                           |                         |                         |
| PONCE            | 11:21 AST 03/17           |                           |                         |                         |
| MAGUEYES ISLAND  | 11:21 AST 03/17           |                           |                         |                         |
| CAJA DE MUERTOS  | 11:22 AST 03/17           |                           |                         |                         |
| CHRISTIANSTEDT   | 11:25 AST 03/17           |                           |                         |                         |
| YABUCOA          | 11:26 AST 03/17           |                           |                         |                         |
| MONA ISLAND      | 11:27 AST 03/17           |                           |                         |                         |
| LIMETREE         | 11:27 AST 03/17           |                           |                         |                         |
| MAYAGUEZ         | 11:32 AST 03/17           |                           |                         |                         |
| AGUADILLA        | 11:41 AST 03/17           |                           |                         |                         |
| VEGUERAS ISLAND  | 11:49 AST 03/17           |                           |                         |                         |
| ARICIBO          | 11:53 AST 03/17           |                           |                         |                         |
| SAN JUAN         | 11:57 AST 03/17           |                           |                         |                         |
| FAJARDO          | 12:00 AST 03/17           |                           |                         |                         |
| ANEGADA          | 12:02 AST 03/17           |                           |                         |                         |
| LAMESHAIRE BAY   | 12:13 AST 03/17           |                           |                         |                         |
| CHARLOTTE AMALIE | 12:18 AST 03/17           |                           |                         |                         |
| VIRGIN GORDIA    | 12:18 AST 03/17           |                           |                         |                         |
| ROADTOWN         | 12:25 AST 03/17           |                           |                         |                         |
| CULEBRA ISLAND   | 12:27 AST 03/17           |                           |                         |                         |

Last Update 2016-03-17 10:05 AM



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E-mail: [prsn@prsn.upr.edu](mailto:prsn@prsn.upr.edu)  
EQUAL OPPORTUNITY EMPLOYMENT AFFAIRS

### Bulletin #2

University of Puerto Rico  
Mayagüez Campus  
Geology Department

PUERTO RICO SEISMIC NETWORK



**BULLETIN 02**  
**SEISMIC EVENT/Tsunami**  
**CARIBEWAVE 2016 Exercise**

|                                     |                                                                                                                                                                                  |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DATE AND TIME:</b>               | <b>SEISMIC INFORMATION:</b><br>March 17, 2016 – 14:00 UTC (10:00 AST)                                                                                                            |
| <b>LATITUDE – LONGITUDE:</b>        | 10.8 North -66.0 West                                                                                                                                                            |
| <b>LOCATION:</b>                    | North of Venezuela                                                                                                                                                               |
| <b>DEPTH:</b>                       | 14.5 km                                                                                                                                                                          |
| <b>MAGNITUDE:</b>                   | 8.4                                                                                                                                                                              |
| <b>MAXIMUM ESTIMATED INTENSITY:</b> | II in San Juan, Puerto Rico                                                                                                                                                      |
| <b>ISSUED DATE:</b>                 | <b>TSUNAMI INFORMATION:</b><br>2016-03-17 14:25 UTC (10:25 AST)                                                                                                                  |
| <b>TSUNAMI WARNING LEVEL:</b>       | <b>TSUNAMI WARNING IS IN EFFECT FOR Puerto Rico and Virgin Islands.</b>                                                                                                          |
| <b>RECOMMENDED ACTION:</b>          | <b>If you are in a warning area - move inland to higher ground. Be alert to instructions from your local emergency officials. Do not go to the coast to observe the tsunami.</b> |

The PRSN advises that a tsunami Warning for Puerto Rico and the Virgin Islands has been issued by the PTWC. To see the times of arrivals, refer to the following table. For additional information on the level of messaging tsunami refer to messages issued by PRSN for exercise CARIBEWAVE 2016.

Theoretical Time Table:

| SITE             | ESTIMATED TIME OF ARRIVAL | FORECAST TSUNAMI DURATION | FORECAST MAXIMUM HEIGHT | OBSERVED MAXIMUM HEIGHT |
|------------------|---------------------------|---------------------------|-------------------------|-------------------------|
| PEÑELAS          | 11:21 AST 03/17           | 12 HRS                    | 2.0-4.5 FT              |                         |
| PONCE            | 11:21 AST 03/17           | 12 HRS                    | 2.1-4.7 FT              |                         |
| MAGUEYES ISLAND  | 11:21 AST 03/17           | 12 HRS                    | 1.8-4.0 FT              |                         |
| CAJA DE MUERTOS  | 11:22 AST 03/17           | 12 HRS                    | 1.6-3.6 FT              |                         |
| CHRISTIANSTEDT   | 11:25 AST 03/17           | 12 HRS                    | 1.6-3.6 FT              |                         |
| YABUCOA          | 11:26 AST 03/17           | 12 HRS                    | 2.1-4.6 FT              |                         |
| MONA ISLAND      | 11:27 AST 03/17           | 12 HRS                    | 1.5-3.3 FT              |                         |
| LIMETREE         | 11:27 AST 03/17           | 12 HRS                    | 2.5-6.6 FT              |                         |
| MAYAGUEZ         | 11:32 AST 03/17           | 12 HRS                    | 1.4-3.1 FT              |                         |
| AGUADILLA        | 11:41 AST 03/17           | 12 HRS                    | 1.0-2.2 FT              |                         |
| VEGUERAS ISLAND  | 11:49 AST 03/17           | 12 HRS                    | BELOW 1 FT              |                         |
| ARICIBO          | 11:53 AST 03/17           | 6 HRS                     | 0.6-1.3 FT              |                         |
| SAN JUAN         | 11:57 AST 03/17           | 6 HRS                     | 0.5-1.2 FT              |                         |
| FAJARDO          | 12:00 AST 03/17           | 6 HRS                     | 0.5-1.2 FT              |                         |
| ANEGADA          | 12:02 AST 03/17           | 6 HRS                     | 0.6-1.3 FT              |                         |
| LAMESHAIRE BAY   | 12:13 AST 03/17           | 12 HRS                    | 1.4-3.0 FT              |                         |
| CHARLOTTE AMALIE | 12:18 AST 03/17           | —                         | BELOW 1 FT              |                         |
| VIRGIN GORDIA    | 12:18 AST 03/17           | 12 HRS                    | 1.4-3.1 FT              |                         |
| ROADTOWN         | 12:25 AST 03/17           | —                         | BELOW 1 FT              |                         |
| CULEBRA ISLAND   | 12:27 AST 03/17           | 6 HRS                     | 0.7-1.6 FT              |                         |

Last Update 2016-03-17 10:25 AM



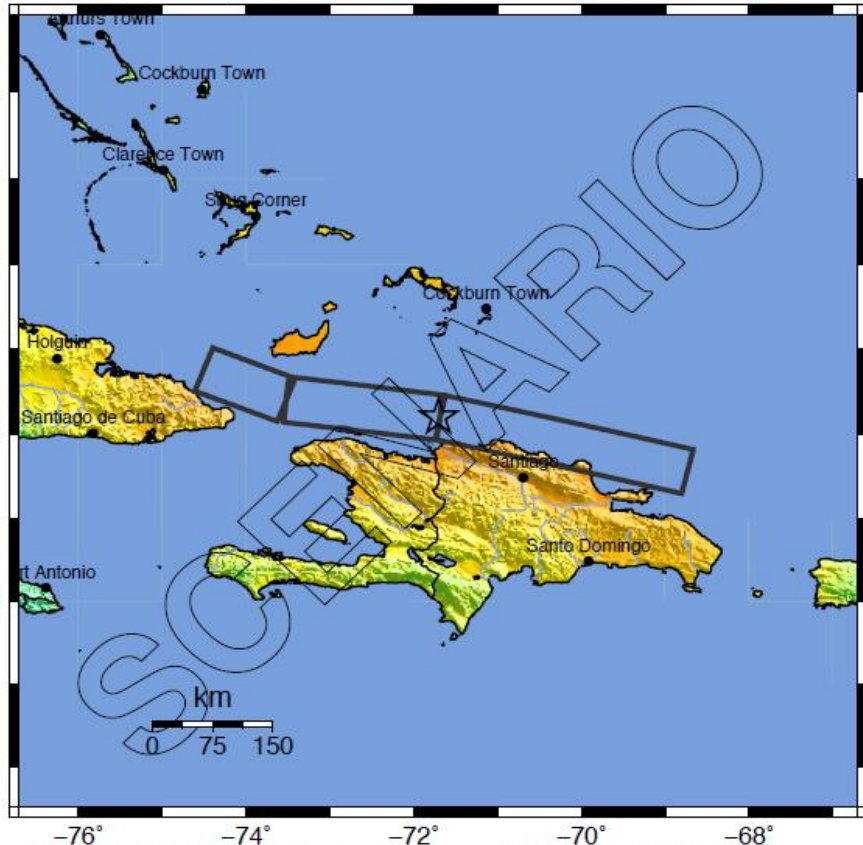
Call Box 9000 Mayagüez PR 00881-0000  
Tels: (787) 832-4323, Fax: (787) 245-1064  
E-mail: [prsn@prsn.upr.edu](mailto:prsn@prsn.upr.edu)  
EQUAL OPPORTUNITY EMPLOYMENT AFFAIRS

# Scenario de Nord d'Hispaniola

# Impact du Scénario Séisme Nord d'Hispaniola

— Earthquake Planning Scenario —  
ShakeMap for Hispaniola Scenario

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



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

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

Scale based upon Worden et al. (2012)



## M 8.7, Northern Hispaniola

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

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

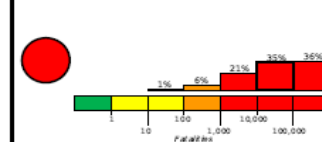
FOR TSUNAMI INFORMATION, SEE: [tsunami.gov](http://tsunami.gov)



PAGER  
Version 1

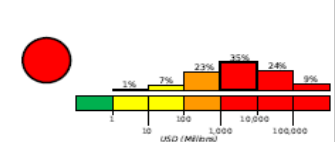
Created: 22 minutes, 0 seconds after earthquake

### Estimated Fatalities



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

### Estimated Economic Losses



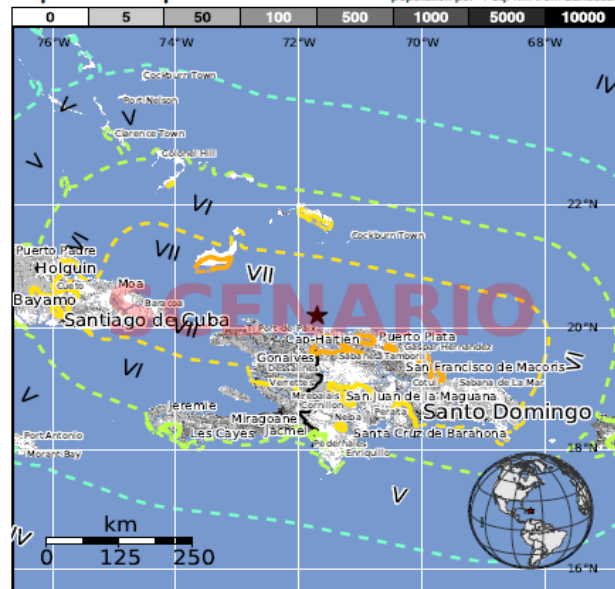
Estimated economic losses are 3-20% GDP of Dominican Republic.

### Estimated Population Exposed to Earthquake Shaking

| ESTIMATED POPULATION EXPOSURE (k = x1000) | --                         | --                          | 5k*   | 710k*    | 9,934k* | 13,629k     | 641k           | 0       | 0        |
|-------------------------------------------|----------------------------|-----------------------------|-------|----------|---------|-------------|----------------|---------|----------|
| ESTIMATED MODIFIED MERCALLI INTENSITY     | I                          | II-III                      | IV    | V        | VI      | VII         | VIII           | IX      | X+       |
| PERCEIVED SHAKING                         | Not felt                   | Weak                        | Light | Moderate | Strong  | Very Strong | Severe         | Violent | Extreme  |
| POTENTIAL DAMAGE                          | Resistant Structures: none | Vulnerable Structures: none | none  | V. Light | Light   | Moderate    | Moderate/Heavy | 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 some resistant structures exist. The predominant vulnerable building types are concrete/cinder block masonry and mud wall construction.

### Historical Earthquakes (with MMI levels):

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

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

### Selected City Exposure

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

bold cities appear on map (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

<http://earthquake.usgs.gov/pager>

Event ID: ushispaniola.se



# Chronologie des Messages Nord d'Hispaniola

| Date      | Heur (UTC) | PTWC                                                          |                                    |
|-----------|------------|---------------------------------------------------------------|------------------------------------|
|           |            | Type de produit                                               | Méthode de transmission            |
| 3/17/2016 | 1500       | - - - - Le tremblement de terre se produit- - - -             |                                    |
| 3/17/2016 | 1505       | Dummy                                                         | NWWS, GTS, EMWIN, AISR, Fax, Email |
| 3/17/2016 | 1505       | Menace de Tsunami Message #1                                  | Email                              |
| 3/17/2016 | 1525       | Menace de Tsunami Message #2 et<br>Product Graphique Améliore | Email                              |
| 3/17/2016 | 1600       | Menace de Tsunami Message #3                                  | Email                              |
| 3/17/2016 | 1630       | Menace de Tsunami Message #4                                  | Email                              |
| 3/17/2016 | 1700       | Menace de Tsunami Message #5                                  | Email                              |
| 3/17/2016 | 1800       | Menace de Tsunami Message #6                                  | Email                              |
| 3/17/2016 | 1900       | Menace de Tsunami Message #7                                  | Email                              |
| 3/17/2016 | 2000       | Menace de Tsunami Message #8                                  | Email                              |

Les messages du début de l'exercice seront également envoyés par le compte twitter de PTWC

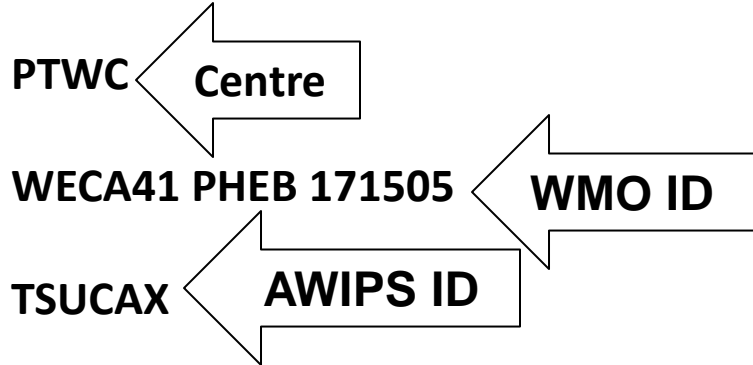
Pour recevoir, envoyer le message: "Follow NWS\_PTWC" to 40404

"Ceci est un message de test à l'exercice du tsunami CARIBEWAVE16 Nord d'Hispaniola" (Délivré à 14h05 UTC).

Réseaux sociaux; #CaribeWave

## Appendix E. TWC Dummy (Start of Exercise) Messages

### Northern Hispaniola Earthquake Scenario



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

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

THIS MESSAGE IS BEING USED TO START THE CARIBEWAVE 16 CARIBBEAN TSUNAMI EXERCISE NORTHERN HISPANIOLA SCENARIO. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE PACIFIC TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN THE HANDBOOK. THE HANDBOOK IS AVAILABLE AT THE WEB SITE CARIBEWAVE.INFO. THE EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

**Northern Hispaniola Earthquake Scenario**

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

**PTWC Message #1**

WECA41 PHEB 171505  
TSUCAX

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

...TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

**PRELIMINARY EARTHQUAKE PARAMETERS**

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

**EVALUATION**

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

**TSUNAMI THREAT FORECAST**

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

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

**RECOMMENDED ACTIONS**

- \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL

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

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

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

POTENTIAL IMPACTS

- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT [EARTHQUAKE.USGS.GOV/EARTHQUAKES](http://EARTHQUAKE.USGS.GOV/EARTHQUAKES) -ALL IN LOWERCASE LETTERS-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV) AND AT [WWW.TSUNAMI.GOV](http://WWW.TSUNAMI.GOV).
- \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).
- \* COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV).

\$\$

**PTWC Message #2**

WECA41 PHEB 171525  
TSUCAX

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

...TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

UPDATES

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

\* FORECAST TSUNAMI AMPLITUDES ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

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

EVALUATION

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

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

TSUNAMI THREAT FORECAST...UPDATED

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

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

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

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

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

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

\* NON-HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR ALL OTHER  
AREAS COVERED BY THIS MESSAGE.

\* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST  
AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL  
FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS  
WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

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

RECOMMENDED ACTIONS

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

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

ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES 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)   |
|-----------------|----------------|-------------|------------|
| CAP HAITEN      | HAITI          | 19.8N 72.2W | 1509 03/17 |
| PUERTO PLATA    | DOMINICAN REP  | 19.8N 70.7W | 1512 03/17 |
| WEST CAICOS     | TURKS N CAICOS | 21.7N 72.5W | 1521 03/17 |
| MAYAGUANA       | BAHAMAS        | 22.3N 73.0W | 1526 03/17 |
| GRAND TURK      | TURKS N CAICOS | 21.5N 71.1W | 1526 03/17 |
| BARACOA         | CUBA           | 20.4N 74.5W | 1530 03/17 |
| GREAT INAGUA    | BAHAMAS        | 20.9N 73.7W | 1531 03/17 |
| JEREMIE         | HAITI          | 18.6N 74.1W | 1541 03/17 |
| SANTIAGO D CUBA | CUBA           | 19.9N 75.8W | 1544 03/17 |
| GIBARA          | CUBA           | 21.1N 76.1W | 1547 03/17 |
| SAN SALVADOR    | BAHAMAS        | 24.1N 74.5W | 1551 03/17 |
| CABO ENGANO     | DOMINICAN REP  | 18.6N 68.3W | 1552 03/17 |
| LONG ISLAND     | BAHAMAS        | 23.3N 75.1W | 1558 03/17 |
| EXUMA           | BAHAMAS        | 23.6N 75.9W | 1606 03/17 |
| CROOKED ISLAND  | BAHAMAS        | 22.7N 74.1W | 1607 03/17 |
| CAT ISLAND      | BAHAMAS        | 24.4N 75.5W | 1609 03/17 |
| ELEUTHERA ISLAN | BAHAMAS        | 25.2N 76.1W | 1615 03/17 |

|                 |                  |             |            |
|-----------------|------------------|-------------|------------|
| CAYMAN BRAC     | CAYMAN ISLANDS   | 19.7N 79.9W | 1616 03/17 |
| JACAMEL         | HAITI            | 18.1N 72.5W | 1616 03/17 |
| ANDROS ISLAND   | BAHAMAS          | 25.0N 77.9W | 1624 03/17 |
| SANTO DOMINGO   | DOMINICAN REP    | 18.5N 69.9W | 1625 03/17 |
| MONTEGO BAY     | JAMAICA          | 18.5N 77.9W | 1627 03/17 |
| SIMPSON BAAI    | SINT MAARTEN     | 18.0N 63.1W | 1631 03/17 |
| GRAND CAYMAN    | CAYMAN ISLANDS   | 19.3N 81.3W | 1632 03/17 |
| THE VALLEY      | ANGUILLA         | 18.3N 63.1W | 1632 03/17 |
| PORT AU PRINCE  | HAITI            | 18.5N 72.4W | 1634 03/17 |
| NASSAU          | BAHAMAS          | 25.1N 77.4W | 1636 03/17 |
| CIENFUEGOS      | CUBA             | 22.0N 80.5W | 1638 03/17 |
| BASSETERRE      | SAINT KITTS      | 17.3N 62.7W | 1640 03/17 |
| KINGSTON        | JAMAICA          | 17.9N 76.9W | 1643 03/17 |
| FREEPORT        | BAHAMAS          | 26.5N 78.8W | 1648 03/17 |
| PLYMOUTH        | MONTERRAT        | 16.7N 62.2W | 1651 03/17 |
| ONIMA           | BONAIRE          | 12.3N 68.3W | 1651 03/17 |
| PALMETTO POINT  | BARBUDA          | 17.6N 61.9W | 1652 03/17 |
| ABACO ISLAND    | BAHAMAS          | 26.6N 77.1W | 1652 03/17 |
| BASSE TERRE     | GUADELOUPE       | 16.0N 61.7W | 1657 03/17 |
| SAINT JOHNS     | ANTIGUA          | 17.1N 61.9W | 1657 03/17 |
| SAINT BARTHELEM | SAINT BARTHELEMY | 17.9N 62.8W | 1658 03/17 |
| ORANJESTAD      | ARUBA            | 12.5N 70.0W | 1700 03/17 |
| BIMINI          | BAHAMAS          | 25.8N 79.3W | 1701 03/17 |
| ROSEAU          | DOMINICA         | 15.3N 61.4W | 1703 03/17 |
| RUTHS BAY       | BERMUDA          | 32.4N 64.6W | 1705 03/17 |
| BAIE BLANCHE    | SAINT MARTIN     | 18.1N 63.0W | 1707 03/17 |
| CASTRIES        | SAINT LUCIA      | 14.0N 61.0W | 1710 03/17 |
| FORT DE FRANCE  | MARTINIQUE       | 14.6N 61.1W | 1710 03/17 |
| SANTA MARTA     | COLOMBIA         | 11.2N 74.2W | 1712 03/17 |
| BRIDGETOWN      | BARBADOS         | 13.1N 59.6W | 1718 03/17 |
| MAIQUETIA       | VENEZUELA        | 10.6N 67.0W | 1722 03/17 |
| CARTAGENA       | COLOMBIA         | 10.4N 75.6W | 1723 03/17 |
| KINGSTOWN       | SAINT VINCENT    | 13.1N 61.2W | 1724 03/17 |
| WILLEMSTAD      | CURACAO          | 12.1N 68.9W | 1724 03/17 |
| COZUMEL         | MEXICO           | 20.5N 87.0W | 1729 03/17 |
| PUERTO CORTES   | HONDURAS         | 15.9N 88.0W | 1733 03/17 |
| BARRANQUILLA    | COLOMBIA         | 11.1N 74.9W | 1734 03/17 |
| ALIGANDI        | PANAMA           | 9.2N 78.0W  | 1740 03/17 |
| SAINT GEORGES   | GRENADA          | 12.0N 61.8W | 1742 03/17 |
| CUMANA          | VENEZUELA        | 10.5N 64.2W | 1745 03/17 |
| RIOHACHA        | COLOMBIA         | 11.6N 72.9W | 1747 03/17 |
| PUERTO CARRETO  | PANAMA           | 8.8N 77.6W  | 1748 03/17 |
| LA HABANA       | CUBA             | 23.2N 82.4W | 1750 03/17 |
| PUERTO OBALDIA  | PANAMA           | 8.7N 77.4W  | 1800 03/17 |
| PIRATES BAY     | TRINIDAD TOBAGO  | 11.3N 60.6W | 1803 03/17 |
| PUNTA CARIBANA  | COLOMBIA         | 8.6N 76.9W  | 1804 03/17 |
| PUERTO LIMON    | COSTA RICA       | 10.0N 83.0W | 1809 03/17 |
| COLON           | PANAMA           | 9.4N 79.9W  | 1814 03/17 |
| TRUJILLO        | HONDURAS         | 15.9N 86.0W | 1819 03/17 |
| BOCAS DEL TORO  | PANAMA           | 9.4N 82.2W  | 1825 03/17 |
| BELIZE CITY     | BELIZE           | 17.5N 88.2W | 1842 03/17 |
| PORT OF SPAIN   | TRINIDAD TOBAGO  | 10.6N 61.5W | 1857 03/17 |
| PUNTA GORDA     | NICARAGUA        | 11.4N 83.8W | 1859 03/17 |
| SANTA CRZ D SUR | CUBA             | 20.7N 78.0W | 1902 03/17 |
| PUNTO FIJO      | VENEZUELA        | 11.7N 70.2W | 1925 03/17 |
| PUERTO BARRIOS  | GUATEMALA        | 15.7N 88.6W | 1926 03/17 |
| GOLFO VENEZUELA | VENEZUELA        | 11.4N 71.2W | 2024 03/17 |
| NUEVA GERONA    | CUBA             | 21.9N 82.8W | 2039 03/17 |
| PORLAMAR        | VENEZUELA        | 10.9N 63.8W | 2105 03/17 |
| PUERTO CABEZAS  | NICARAGUA        | 14.0N 83.4W | 2223 03/17 |



## POTENTIAL IMPACTS

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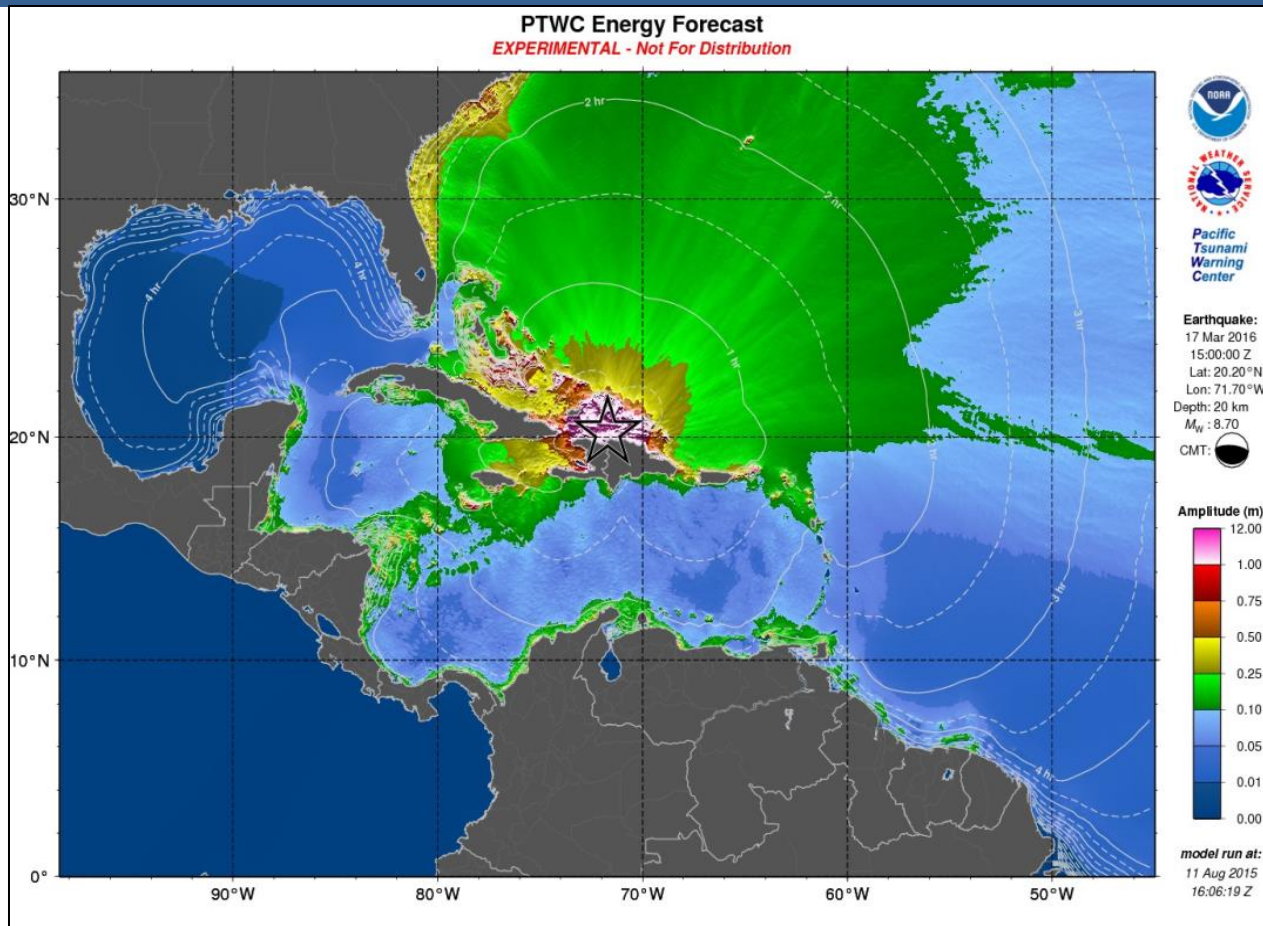
- \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

## NEXT UPDATE AND ADDITIONAL INFORMATION

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- \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- \* AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT [EARTHQUAKE.USGS.GOV/EARTHQUAKES](http://EARTHQUAKE.USGS.GOV/EARTHQUAKES) -ALL IN LOWERCASE LETTERS-.
- \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV) AND AT [WWW.TSUNAMI.GOV](http://WWW.TSUNAMI.GOV).
- \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS... AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES FOR THOSE PLACES THAT CAN BE FOUND AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).
- \* COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV).

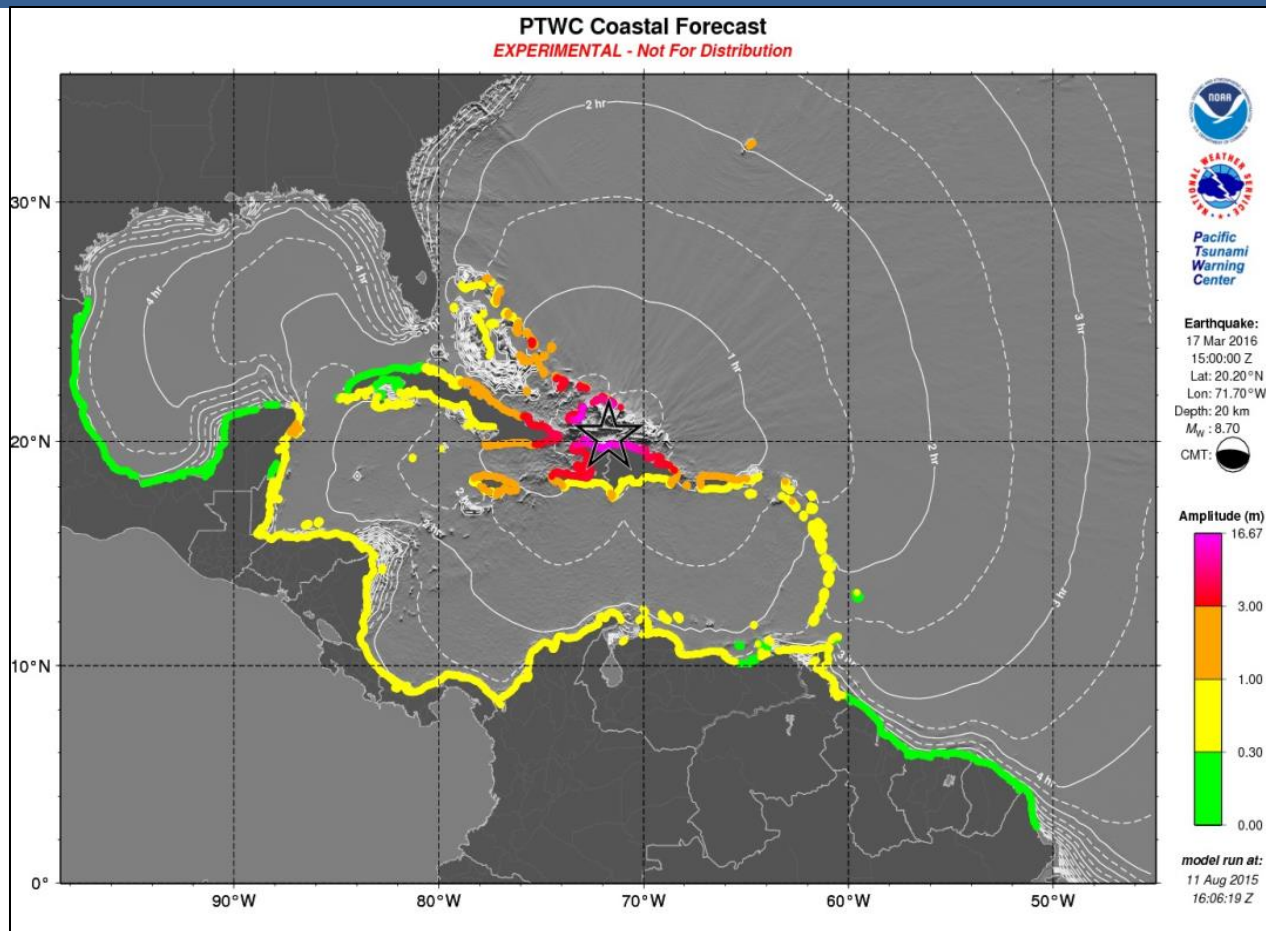
# Prévision des hauteurs de vagues Nord d'Hispaniola



**Carte RIFT avec l'amplitude maximale du tsunami dans l'océan profond de la zone de service CARIBE-EWS basé sur le scénario du Nord d'Hispaniola.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiellement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# Prévision des hauteurs de vagues Nord d'Hispaniola

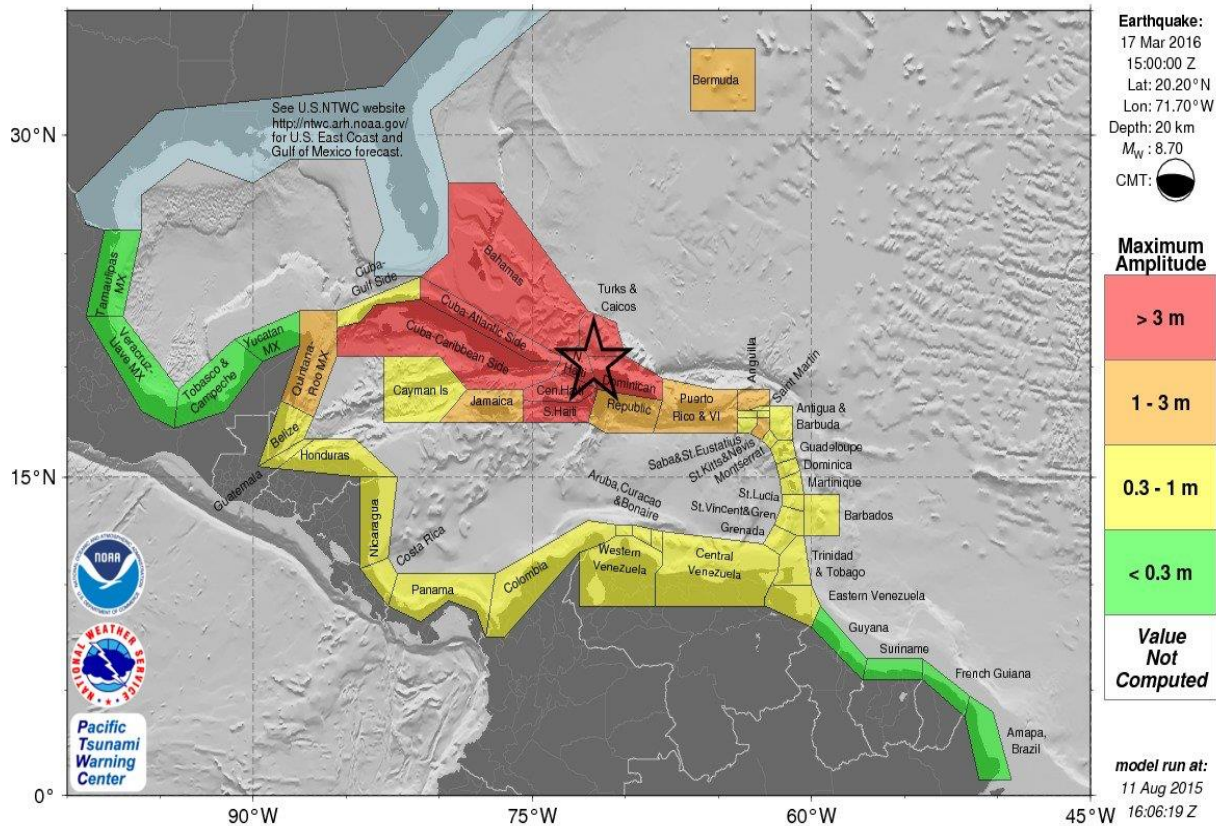


**Carte RIFT montrant les hauteurs de tsunami prévues pour les points individuels de la zone CARIBE-EWS basé sur le scénario de Nord d'Hispaniola.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiellement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# Prévision des hauteurs de vagues Nord d'Hispaniola

PTWC Forecast Polygons *EXPERIMENTAL - Not For Distribution*

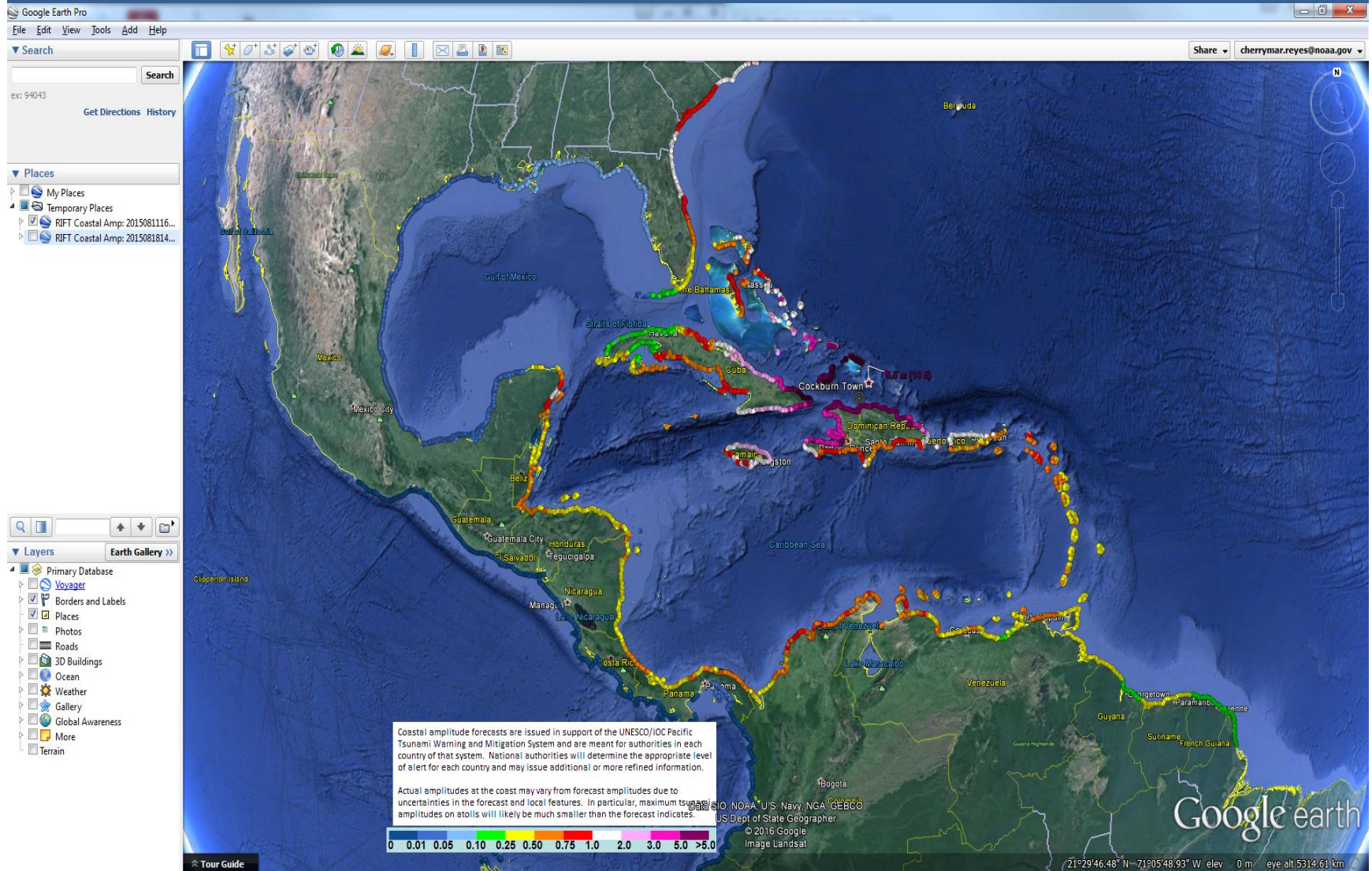


**RIFT Carte du prévisions polygone pour la zone de service CARIBE-EWS pour le scénario du Nord d'Hispaniola.**

Lors d'un événement réel ce produits sont disponible uniquement a l'officiellement désigné points focaux d'alerte aux tsunamis, et Contacts Nationaux Tsunami.

# KMZ

## Nord d'Hispaniola



[C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal\\_amp-NH.kmz](C:\Users\ctwp.sad\Desktop\CARIBE WAVE 16\coastal_amp-NH.kmz)

# Statistics PTWC Polygons

## Nord Hispaniola

EXPERIMENTAL - NOT FOR DISTRIBUTION

PTWC RIFT Tsunami Forecast Model - Run ID: 20150811160619

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

| Coastal Forecast (meters) |       |        |      | Offshore Forecast (meters) |      |        |      | Total  | Region Name                           |
|---------------------------|-------|--------|------|----------------------------|------|--------|------|--------|---------------------------------------|
| Maximum                   | Mean  | Median | STD  | Maximum                    | Mean | Median | STD  | Points |                                       |
| 17.00                     | 2.40  | 1.10   | 3.10 | 8.30                       | 1.00 | 0.47   | 1.30 | 442    | Bahamas                               |
| 17.00                     | 13.00 | 14.00  | 2.90 | 12.00                      | 4.30 | 3.70   | 2.00 | 66     | Atlantic Coast of Haiti               |
| 16.00                     | 8.30  | 7.50   | 4.30 | 12.00                      | 3.20 | 2.40   | 2.10 | 129    | Atlantic Coast of Dominican Republic  |
| 15.00                     | 7.00  | 5.80   | 3.80 | 6.60                       | 2.80 | 2.30   | 1.40 | 46     | Turks and Caicos Islands              |
| 7.10                      | 2.20  | 2.00   | 1.70 | 3.40                       | 0.73 | 0.58   | 0.57 | 267    | Atlantic Coast of Cuba                |
| 6.90                      | 1.10  | 0.68   | 1.30 | 2.30                       | 0.36 | 0.26   | 0.36 | 472    | Caribbean Coast of Cuba               |
| 6.30                      | 4.30  | 4.30   | 0.61 | 3.10                       | 1.30 | 1.20   | 0.48 | 139    | Gulf of Gonave Coast of Haiti         |
| 5.00                      | 0.98  | 0.87   | 0.56 | 1.90                       | 0.33 | 0.23   | 0.28 | 89     | Caribbean Coast of Haiti              |
| 2.90                      | 1.50  | 1.30   | 0.60 | 1.20                       | 0.51 | 0.50   | 0.21 | 146    | Jamaica                               |
| 2.00                      | 0.96  | 0.62   | 0.50 | 1.80                       | 0.49 | 0.45   | 0.33 | 189    | Puerto Rico and Virgin Is             |
| 1.70                      | 0.85  | 0.75   | 0.37 | 1.20                       | 0.35 | 0.26   | 0.23 | 148    | Caribbean Coast of Dominican Republic |
| 1.60                      | 0.61  | 0.56   | 0.43 | 0.85                       | 0.24 | 0.23   | 0.17 | 166    | Quintana Roo Mexico                   |
| 1.60                      | 1.40  | 1.50   | 0.14 | 0.96                       | 0.67 | 0.65   | 0.22 | 7      | Bermuda                               |
| 1.40                      | 0.38  | 0.07   | 0.46 | 1.50                       | 0.21 | 0.03   | 0.29 | 1149   | Mainland-Gulf                         |
| 1.30                      | 0.86  | 0.79   | 0.16 | 1.00                       | 0.62 | 0.60   | 0.24 | 8      | Anguilla                              |
| 1.00                      | 0.82  | 0.83   | 0.09 | 0.44                       | 0.23 | 0.21   | 0.06 | 29     | Saint Kitts and Nevis                 |
| 0.98                      | 0.64  | 0.64   | 0.13 | 1.20                       | 0.35 | 0.32   | 0.15 | 255    | Caribbean Coast of Colombia           |
| 0.93                      | 0.58  | 0.52   | 0.13 | 0.61                       | 0.31 | 0.30   | 0.13 | 100    | Western Coast of Venezuela            |
| 0.79                      | 0.71  | 0.70   | 0.04 | 0.43                       | 0.31 | 0.29   | 0.07 | 6      | Saint Barthelemy                      |
| 0.78                      | 0.70  | 0.70   | 0.05 | 0.20                       | 0.17 | 0.17   | 0.01 | 11     | Montserrat                            |
| 0.77                      | 0.71  | 0.72   | 0.05 | 0.19                       | 0.17 | 0.17   | 0.01 | 8      | Saba and Saint Eustatius              |
| 0.74                      | 0.56  | 0.55   | 0.11 | 0.87                       | 0.30 | 0.22   | 0.19 | 28     | Antigua and Barbuda                   |
| 0.73                      | 0.49  | 0.49   | 0.11 | 0.50                       | 0.20 | 0.18   | 0.09 | 179    | Caribbean Coast of Panama             |
| 0.72                      | 0.52  | 0.51   | 0.09 | 0.30                       | 0.15 | 0.15   | 0.04 | 27     | Curacao                               |
| 0.72                      | 0.69  | 0.70   | 0.03 | 0.44                       | 0.29 | 0.27   | 0.09 | 6      | Sint Maarten                          |
| 0.71                      | 0.63  | 0.67   | 0.08 | 0.34                       | 0.22 | 0.20   | 0.07 | 8      | Aruba                                 |
| 0.68                      | 0.68  | 0.68   | 0.00 | 0.53                       | 0.47 | 0.47   | 0.05 | 3      | Saint Martin                          |
| 0.64                      | 0.51  | 0.51   | 0.09 | 0.43                       | 0.17 | 0.14   | 0.08 | 71     | Guadeloupe                            |
| 0.63                      | 0.41  | 0.39   | 0.08 | 0.76                       | 0.23 | 0.18   | 0.15 | 185    | Caribbean Coast of Honduras           |
| 0.63                      | 0.52  | 0.57   | 0.09 | 0.21                       | 0.15 | 0.15   | 0.04 | 5      | Cayman Islands                        |
| 0.61                      | 0.59  | 0.58   | 0.02 | 0.28                       | 0.22 | 0.22   | 0.04 | 13     | Caribbean Coast of Guatemala          |
| 0.60                      | 0.40  | 0.38   | 0.11 | 0.70                       | 0.19 | 0.16   | 0.10 | 244    | Central Coast of Venezuela            |
| 0.59                      | 0.42  | 0.43   | 0.08 | 0.28                       | 0.13 | 0.12   | 0.04 | 29     | Grenada                               |
| 0.59                      | 0.51  | 0.51   | 0.05 | 0.40                       | 0.19 | 0.18   | 0.06 | 48     | Caribbean Coast of Costa Rica         |
| 0.58                      | 0.44  | 0.44   | 0.06 | 0.49                       | 0.22 | 0.20   | 0.09 | 139    | Caribbean Coast of Nicaragua          |
| 0.58                      | 0.49  | 0.52   | 0.06 | 0.59                       | 0.25 | 0.23   | 0.11 | 90     | Belize                                |
| 0.56                      | 0.40  | 0.41   | 0.08 | 0.33                       | 0.14 | 0.14   | 0.05 | 41     | Martinique                            |
| 0.55                      | 0.44  | 0.45   | 0.07 | 0.25                       | 0.11 | 0.10   | 0.03 | 31     | Dominica                              |
| 0.55                      | 0.48  | 0.46   | 0.05 | 0.65                       | 0.23 | 0.18   | 0.14 | 15     | Bonaire                               |
| 0.53                      | 0.41  | 0.41   | 0.04 | 0.23                       | 0.14 | 0.13   | 0.04 | 33     | Saint Vincent and the Grenadines      |
| 0.48                      | 0.38  | 0.41   | 0.06 | 0.17                       | 0.11 | 0.11   | 0.03 | 26     | Saint Lucia                           |
| 0.45                      | 0.14  | 0.14   | 0.05 | 0.16                       | 0.05 | 0.04   | 0.03 | 119    | Gulf of Mexico Coast of Cuba          |
| 0.45                      | 0.33  | 0.31   | 0.05 | 0.69                       | 0.22 | 0.19   | 0.13 | 77     | Trinidad and Tobago                   |
| 0.38                      | 0.33  | 0.33   | 0.03 | 0.24                       | 0.14 | 0.14   | 0.04 | 82     | Atlantic Coast of Venezuela           |
| 0.31                      | 0.28  | 0.27   | 0.02 | 0.09                       | 0.07 | 0.07   | 0.01 | 22     | Barbados                              |
| 0.29                      | 0.27  | 0.27   | 0.02 | 0.25                       | 0.13 | 0.12   | 0.05 | 109    | Suriname                              |
| 0.28                      | 0.08  | 0.03   | 0.10 | 0.11                       | 0.04 | 0.03   | 0.03 | 59     | Yucatan Mexico                        |
| 0.28                      | 0.25  | 0.25   | 0.02 | 0.20                       | 0.14 | 0.14   | 0.03 | 101    | Guyana                                |
| 0.23                      | 0.15  | 0.16   | 0.02 | 0.24                       | 0.10 | 0.09   | 0.04 | 84     | French Guiana                         |
| 0.16                      | 0.14  | 0.13   | 0.01 | 0.13                       | 0.07 | 0.06   | 0.03 | 65     | Amapa Brazil                          |
| 0.03                      | 0.03  | 0.03   | 0.00 | 0.01                       | 0.01 | 0.01   | 0.00 | 152    | Veracruz Mexico                       |
| 0.03                      | 0.03  | 0.02   | 0.00 | 0.02                       | 0.01 | 0.00   | 0.00 | 183    | Tabasco and Campeche Mexico           |
| 0.03                      | 0.03  | 0.03   | 0.00 | 0.02                       | 0.01 | 0.01   | 0.00 | 126    | Tamaulipas Mexico                     |

**PTWC Message #8**

WECA41 PHEB 172000  
TSUCAX

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

...FINAL TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

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

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

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*

UPDATES

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

PRELIMINARY EARTHQUAKE PARAMETERS

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

EVALUATION

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

TSUNAMI THREAT FORECAST...UPDATED

- 
- \* THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

RECOMMENDED ACTIONS

- 
- \* GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.
  - \* PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.
  - \* REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

POTENTIAL IMPACTS

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

TSUNAMI OBSERVATIONS

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

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

NEXT UPDATE AND ADDITIONAL INFORMATION

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

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

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

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

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

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# Participation des Etats Membres – Inscription Tsunami Zone

Chaque État membre doit établir son propre groupe de travail pour déterminer l'ampleur de la participation nationale et les tests.

The screenshot shows the homepage of the TsunamiZone website. At the top, there is a navigation bar with links for 'Page d'accueil', 'Régions du TsunamiZone', 'Autres langues', 'Contactez-nous', 'Recherche', and 'Connexion'. Below this is a banner image of a tsunami wave with the text 'The TsunamiZone' and 'California Tsunami Preparedness Week March 20-26, 2016'. A 'Caribe Wave' button is visible on the right. The main content area is divided into two columns. The left column is titled 'BIENVENUE SUR TSUNAMIZONE !' and contains text about preparing for tsunamis, including instructions like 'BAISSEZ-VOUS!', 'ABRITEZ-VOUS!', 'AGRIPPEZ-VOUS!', 'ALLEZ VERS TERRAIN ELEVE!', and 'RESTEZ LA!'. The right column is titled 'CALENDRIER 2016' and lists official regions for TsunamiZone, such as '13-19 Mars Puerto Rico, Îles vierges américaines', '20-26 Mars Californie', '27 Mars - 2 Avril Alaska, Guam', 'Avril Hawaï', '24-30 Septembre Samoa américaines', and 'Octobre Oregon & Washington'. At the bottom, there is a 'PARTICIPANTS' section with a table showing participation statistics.

Page d'accueil Régions du TsunamiZone Autres langues Contactez-nous Recherche Connexion

The TsunamiZone California Tsunami Preparedness Week March 20-26, 2016

Inscrivez-vous ici! Caribe Wave

**BIENVENUE SUR TSUNAMIZONE !**

Chacun d'où qu'il soit devrait savoir comment se préparer au risque de tsunami et quoi faire pour se mettre en sécurité. Cela concerne aussi bien les personnes qui habitent et/ou travaillent sur la frange littorale que celles qui y transitent ou y séjournent temporairement.

**Inscrivez-vous** à l'exercice CARIBE WAVE 16 pour faire partie des nombreuses personnes et organisations qui partout à travers le monde participent à des activités de préparation aux tsunamis !

**BAISSEZ-VOUS ! ABRITEZ-VOUS ! AGRIPPEZ-VOUS !**  
Protégez-vous lors de tremblements de terre !

**ALLEZ VERS TERRAIN ELEVE !**  
Le tremblement c'est votre alerte au tsunami.

**RESTEZ LA !**  
Les vagues d'un tsunami peuvent continuer pour des heures.

**CALENDRIER 2016**

Régions officielles du TsunamiZone sont vinculées à une page avec plus d'informations :

13-19 Mars  
Puerto Rico, Îles vierges américaines

20-26 Mars  
Californie

27 Mars - 2 Avril  
Alaska, Guam

Avril  
Hawaï

24-30 Septembre  
Samoa américaines

Octobre  
Oregon & Washington

Plus de 37 000 participants inscrits

**CARIBE WAVE**

Cette année le TsunamiZone s'associe aux organisateurs de l'exercice tsunami CARIBE WAVE 16 pour offrir aux populations francophones des Caraïbes l'opportunité de se préparer aux tsunamis.

Visitez le site web de l'exercice tsunami CARIBE WAVE 16 pour apprendre comment bien vous préparer pour survivre à un tsunami et récupérer rapidement si votre région était frappée.

**PARTICIPANTS**

Inscrivez-vous dès aujourd'hui à l'exercice CARIBE WAVE 16 pour rejoindre plus de cent mille personnes qui se préparent aux tsunamis !

|                                            |                |
|--------------------------------------------|----------------|
| Total mondial :                            | Plus de 37 000 |
| Participant dans les régions TsunamiZone : | Plus de 37 000 |
| Participants d'ailleurs :                  | 20             |

PTWC envoyé par email tous les produits améliorés simulés (texte et graphiques) a TWFP et NTWC désigné (**pour recevoir les produits ne doivent pas vous inscrire, mais le registre fera partie du décompte statistique des “Who is participating”**) UNESCO IOC CARIBE EWS TWFP et NTWC:

[http://www.ioc-tsunami.org/index.php?option=com\\_content&view=article&id=6&Itemid=22&lang=en](http://www.ioc-tsunami.org/index.php?option=com_content&view=article&id=6&Itemid=22&lang=en)

Nom d'utilisateur: tsunami  
mot de passe: bigwave

# The TsunamiZone

**Puerto Rico**  
Tsunami Preparedness Week  
**March 13-19, 2016**

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


## CARIBE WAVE 2016

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

[ESPAÑOL](#) | [FRANÇAIS](#)

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



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

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

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

## UNESCO CARIBE EWS

### UNESCO CARIBE EWS Member States and Territories

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

Les pays peuvent garder une trace des participants en cliquant sur « Who is Participating »



## WHO IS PARTICIPATING?

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

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

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

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

# Dispositions pour les médias

- Des dossiers de presse sur les Tsunamis ont été préparés par:
  - Réseau Sismique de Puerto Rico (Anglais et Espagnol)  
<http://www.prnsn.uprm.edu/mediakit/>
  - Centre sur la Recherche Sismique (Anglais)  
[http://www.uwiseismic.com/Downloads/TCHWS Final Media Kit.pdf](http://www.uwiseismic.com/Downloads/TCHWS%20Final%20Media%20Kit.pdf)
- Des exemples de communiqué de presse dans le Manuel peuvent être adaptés si nécessaire.

# Actions en cas d'un événement réel

- Dans le cas d'un événement réel durant l'exercice, le TWC envoyer des messages réguliers à l'événement avec la plus haute priorité à l'exercice de CARIBE WAVE 16. Si un événement important est annulée ou arrêter l'envoi de messages.
- Tous les documents et correspondance relatifs à cet exercice doivent être clairement identifiés comme "**CARIBE WAVE 16**" et "**Exercice.**"
- Toutes les entités concernées devraient organiser la procédure dans le cas d'une interprétation erronée de l'année (fausse alarme) se produit.

# Procédure pour fausse alarme

- Chaque fois que des exercices d'intervention en cas de catastrophe sont menés, le potentiel existe pour que le public ou les médias à interpréter l'événement comme étant réel. Des procédures devront être mises en place par l'ensemble des entités participantes pour répondre aux préoccupations du public ou des médias concernés dans l'exercice en cas de mauvaises interprétations.

# Formulaire d'évaluation après l'exercice

- Tous les membres participants sont invités à fournir des commentaires brefs sur l'exercice.
- 83 questions, ne devraient pas prendre plus de 30 minutes pour répondre.
- La date limite pour remplir le formulaire d'évaluation est le

**23 mars 2016.**

<https://www.surveymonkey.com/r/CaribeWave16>



# Ressources

- Manuel IOC “How to plan, conduct and evaluate tsunami exercises” (Anglais, Espagnol).
- Manuel CARIBE WAVE 2011, 2013, 2014, et 2015.
- Rapport final CARIBE WAVE 2013, 2014, et 2015.
- Plan de Communication de PTWC pour les Caraïbes.
- Disponible sur [www.caribewave.info](http://www.caribewave.info)

# Autres informations

- Matériels additionnels seront placés sur les pages de CTWP ([www.caribewave.info](http://www.caribewave.info)).
  - Cette présentation sera placée sur la page.
- Envoyer les liens des pages de chaque pays à [christa.vonh@noaa.gov](mailto:christa.vonh@noaa.gov) pour être inclus sur les pages de CTWP.

# Equipe CARIBE WAVE 16

| Contact                                                             | Telephone #           | Email                                                                                              |
|---------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|
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| Alison Brome, Interim Director, CTIC                                | 1-246-622-1610 x1002  | <a href="mailto:a.brome@unesco.org">a.brome@unesco.org</a>                                         |
| Charles McCreery, PTWC Director                                     | 1-808-689-8207        | <a href="mailto:charles.mccreery@noaa.gov">charles.mccreery@noaa.gov</a>                           |
| Gerard Fryer, PTWC Rep.                                             | 1-808-689-8207        | <a href="mailto:gerard.fryer@noaa.gov">gerard.fryer@noaa.gov</a>                                   |
| Víctor Huérfano, PRSN Director                                      | 1-787-833-8433        | <a href="mailto:victor@prsn.uprm.edu">victor@prsn.uprm.edu</a>                                     |
| Ronald Jackson, Director CDEMA                                      | 246-425-0386          | <a href="mailto:ronald.jackson@cdema.org">ronald.jackson@cdema.org</a>                             |
| Roy Barboza Sequeira, Executive Secretary, CEPREDENAC               | 502-2390-0200         | <a href="mailto:rbarboza@sica.int">rbarboza@sica.int</a>                                           |
| Bernardo Aliaga, Technical Secretary UNESCO                         | 33-1-45683980         | <a href="mailto:b.aliaga@unesco.org">b.aliaga@unesco.org</a>                                       |
| Walt Zaleski, NWS Southern Region WCM                               | 1-817-978-1100 x107   | <a href="mailto:walt.zaleski@noaa.gov">walt.zaleski@noaa.gov</a>                                   |
| Wilfredo Ramos, PREMA Rep.                                          | 1-787-724-0124 x20036 | <a href="mailto:wramos@prema.pr.gov">wramos@prema.pr.gov</a>                                       |
| Heriberto Fabian, Scientific Expert, Dominican Republic             | 001-829-932-2318      | <a href="mailto:fabianespinal@gmail.com">fabianespinal@gmail.com</a>                               |
| Frank Audemard (Funvisis), CARIBE EWS Vice Chair WG2                | 582-122575153         | <a href="mailto:faudemard@funvisis.gob.ve">faudemard@funvisis.gob.ve</a>                           |

# Chronologie

| <b>Action</b>                                                                 | <b>Date limite</b>        |
|-------------------------------------------------------------------------------|---------------------------|
| Ce Project est diffuse parmi les ICG CARIBE EWS TNC/TWFP                      | Septembre- 2015           |
| <b>Date Limite pour commentaires</b>                                          | 18 septembre 2015         |
| Version finale du manuel d'exercice disponible en ligne                       | 15 octobre 2015           |
| <b>Lettre Circulaire émise par IOC a MS</b>                                   | Novembre, 2015            |
| <b>1<sup>er</sup> Webinaire</b>                                               | 19, 20 et 21 janvier 2016 |
| <b>2<sup>do</sup> Webinaire</b>                                               | 1, 2, et 3 mars 2016      |
| <b>l'Exercice</b>                                                             | 17 mars 2016              |
| <b>Date limite pour soumettre le Questionnaire d'évaluation de l'exercice</b> | 23 mars 2016              |
| <b>Rapport final de Manuel</b>                                                | 1 avril 2016              |
| <b>Discussion de l'Exercice<br/>ICG CARIBE EWS 11<sup>ma</sup> Session</b>    | 5-7 avril 2016 (AC)       |

# Questions, Commentaires

Merci de votre participation

[christa.vonh@noaa.gov](mailto:christa.vonh@noaa.gov)