

# **Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014**

## **INTRODUCTION**

The Pacific Tsunami Warning Center (PTWC) operated by the United States National Weather Service has served since 2005 as the Interim Tsunami Watch Provider for the Tsunami and Other Hazards Warning and Mitigation System for the Caribbean and Adjacent Seas (CARIBE EWS) -- a subsidiary body of UNESCO's Intergovernmental Oceanographic Commission (IOC). The suite of text products issued by PTWC to countries around the Caribbean in support of this mission has evolved over time as supporting data, analysis methods, computational capabilities, and communications have all improved. It is now time to make a significant change to those products in order to take advantage of new capabilities -- particularly the ability to forecast tsunami impacts in real time using numerical forecast models.

The new product suite described in this document is being used, in parallel with existing products, in the March 26, 2014 CaribeWave/LANTEX 14 Exercise for the purpose of familiarizing recipients -- the designated national Tsunami Warning Focal Points (TWFPs) -- with the products' timing and content. This will not only provide CARIBE-EWS Member States the opportunity to evaluate and give feedback on the products, but also to begin considering changes to their Standard Operating Procedures (SOPs) that take advantage of the additional information.

There are some important differences between the existing and new products. Existing products use the term "Watch" that implies a level of alert. A country is designated by PTWC as being in a Watch based upon the tsunami threat presented by the event as well as the time remaining until impact. In recent years, however, use of alert-level terms has caused confusion when a country's independently-derived levels of alert are in conflict with those of PTWC. For this reason, the new products will avoid such terms but will instead provide forecast levels of impact. Alert levels will be the sole responsibility of each country or territory.

Further, procedures for designating levels of alert in existing products are based primarily upon limited historical data. At the time they were conceived and approved by the Intergovernmental Coordination Group for the CARIBE-EWS, numerical-model tsunami forecasting for the Caribbean in real time was not possible. As a consequence, current procedures are extremely conservative and most places that come under a Watch alert do not ultimately experience a destructive tsunami. Numerical forecasts provided in the new product suite will still be conservative but should significantly reduce over-warning. In addition, by giving an expected level of impact they allow local authorities to design appropriate levels of response. For example, the response for a smaller tsunami might be to just clear beaches and harbors versus evacuating the entire coastal zone.

Lastly, the new products suite includes graphical products -- maps that show the forecast directionality of the tsunami energy, the forecast position of the initial wave through time, as well as the expected maximum wave amplitudes at the coast. Graphical products provide more information at a much greater level of detail than is possible with text products. They are also helpful for communicating the threat quickly when time is of the essence.

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It is important to note that while the new products and the procedures behind them represent a significant improvement over the current ones, there are still limitations that should be recognized and understood. The science of forecasting tsunamis is still young and under development. The greatest unknown about the tsunami in real-time (and even later) is its source. How did the seafloor deform? How much was it displaced up or down and over what areas to generate the tsunami? Models all make assumptions about the source based upon the seismic analysis or later upon nearby sea level gauge readings. But they only approximate the real source. The second limitation is in observing the tsunami prior to impact – not only to confirm and measure the waves but to help constrain the forecast models. There are still too few sea level gauges in the Caribbean and for many sources only one or two readings may be possible before the tsunami crosses the sea. The third greatest limitation is how the tsunami will interact with the coast. In most cases a general approximation must be used. Even when detailed coastal inundation models are available, properly capturing coastal resonances, trapped wave energy, and multiple wave interactions after even a few wave cycles is not possible. For these reasons, the forecast model information provided in the new products should be viewed with some caution, taking into consideration limitations described here and explained further in this document.

The US National Tsunami Warning Center (NTWC) is currently responsible for providing tsunami warning guidance for Puerto Rico and the Virgin Islands. Nevertheless, at the request of the ICG CARIBE EWS in 2013, the proposed graphical products do include threat information for these areas. The PTWC text products will only address all Caribbean and Adjacent regions, except Puerto Rico and the Virgin Islands which should continue to refer to the NTWC. During tsunami events the PTWC and WC/ATWC are in communication and coordinate the issuance of products.

Below are both the experimental graphical and text products for the CARIBE WAVE/LANTEX 14 Exercise. For more information on these graphical and text products, please refer to the CARIBE EWS Users Guide Ver. 1.1 prepared for the CARIBE WAVE/LANTEX 2013 exercise.

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## Graphical Products

Three graphical products were prepared for the CARIBE WAVE/LANTEX 2014 Exercise using the PTWC RIFT Tsunami Forecast Model. These products are based on the following earthquake parameters: Origin: 03/26/2014 10:00:00 UTC and Coordinates: 36.04 N 10.75 W Depth: 5 km Magnitude: 8.58.

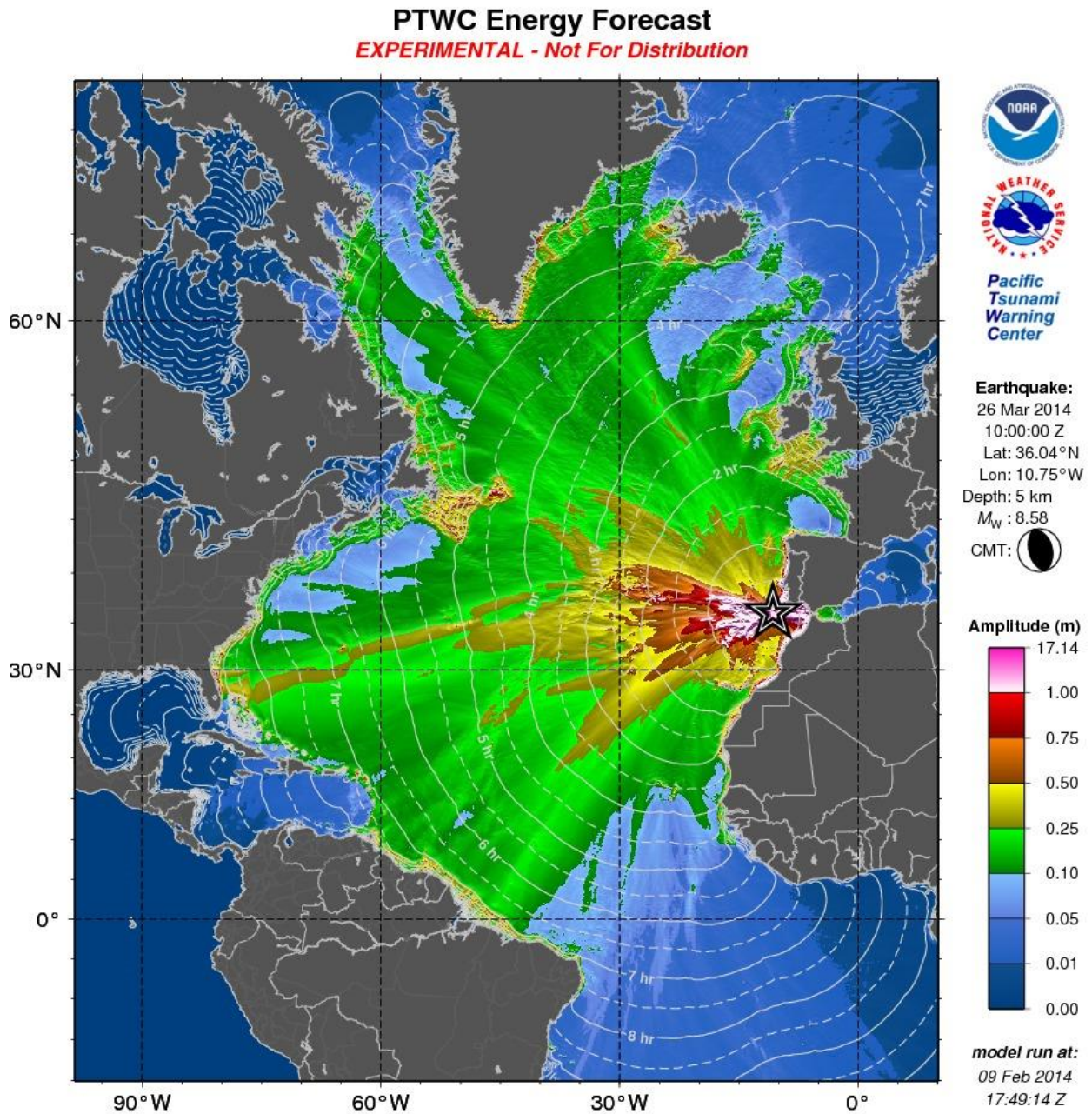


Figure 1. Energy Forecast map for March 26, 2014 CARIBE WAVE/LANTEX Scenario earthquake/tsunami.

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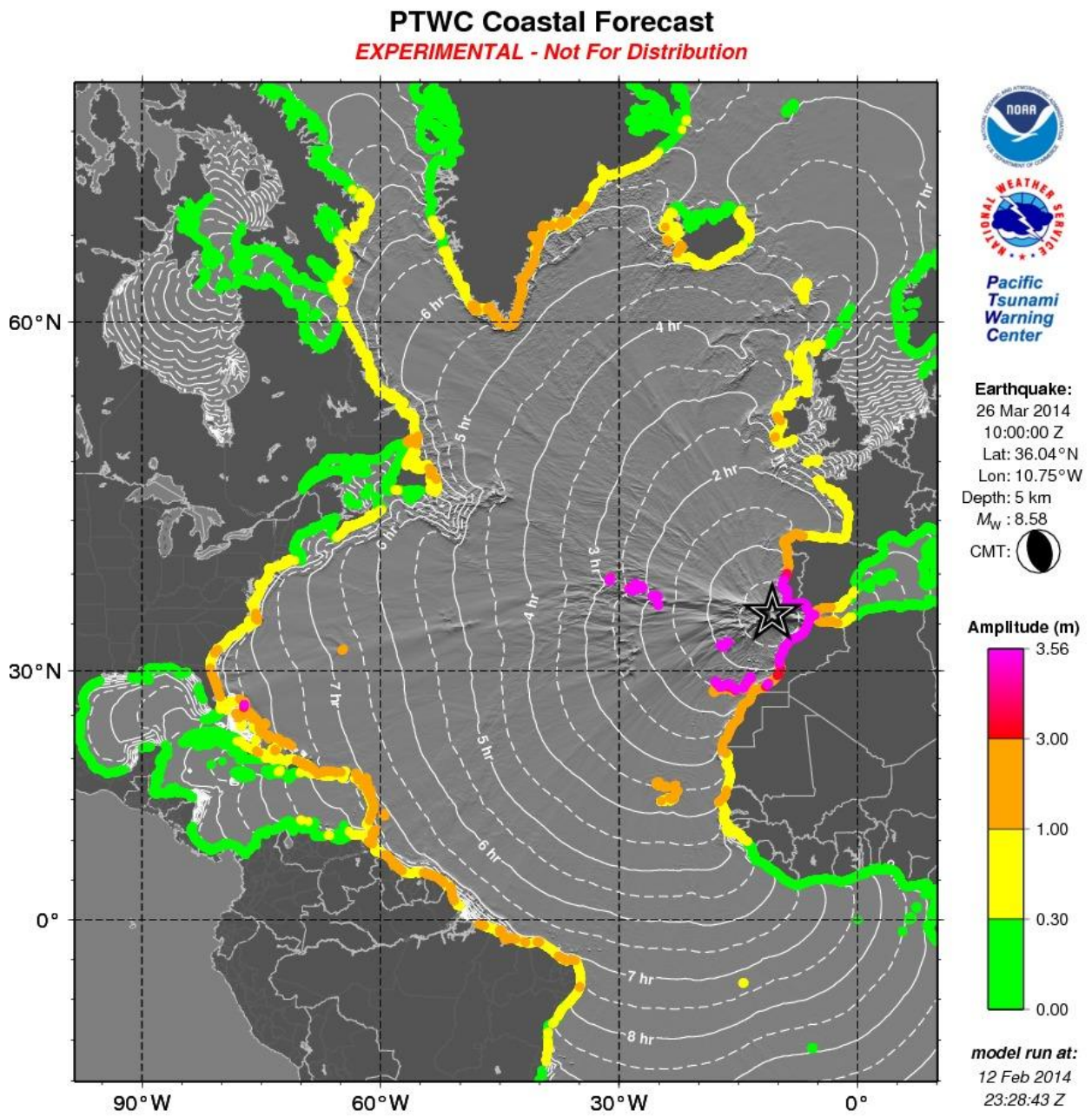


Figure 2. Coastal forecasts for CARIBE WAVE/LANTEX 2014 Scenario earthquake/tsunami.

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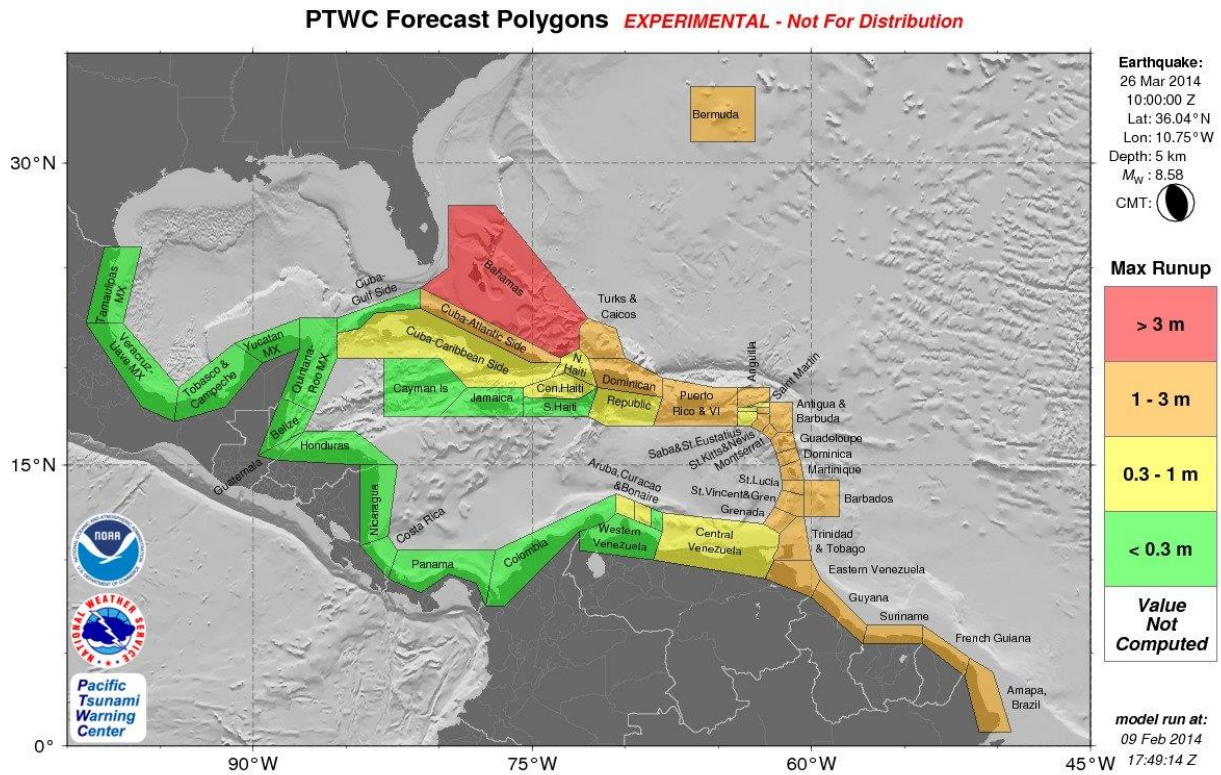


Figure 3. PTWC Forecast Polygons for CARIBE WAVE/LANTEX 2014 Scenario earthquake/tsunami.

## Text Products

ZCZC  
 WECA41 PHEB 261005  
 TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 1  
 NOT FOR DISTRIBUTION  
 NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
 1005 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.0  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.0 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE POSSIBLE FOR SOME COASTS OF THE CARIBE-EWS.
- \* THE EARTHQUAKE AND POTENTIAL TSUNAMI ARE STILL BEING EVALUATED.

## TSUNAMI THREAT FORECAST

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- \* THERE ARE INSUFFICIENT DATA AT THIS TIME TO GENERATE A TSUNAMI FORECAST. A FORECAST WILL BE DISSEMINATED AS SOON AS THE DATA PERMIT.
- \* IF A TSUNAMI WAS GENERATED... THE EARLIEST ESTIMATED TIME OF ARRIVAL OF THE TSUNAMI IN THE CARIBE-EWS IS 1647 UTC AT RUTHS BAY... BERMUDA.

## RECOMMENDED ACTIONS

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- \* GOVERNMENT AGENCIES RESPONSIBLE FOR TSUNAMIS SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THIS POTENTIAL TSUNAMI THREAT AND STAY ALERT FOR ADDITIONAL INFORMATION.
- \* PERSONS LOCATED IN COASTAL AREAS OF THE CARIBE-EWS SHOULD FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## ESTIMATED TIMES OF ARRIVAL

\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE TSUNAMI... IF ONE  
WAS GENERATED... FOR POINTS WITHIN THE CARIBE-EWS.

LOCATION	REGION	COORDINATES		ETA (UTC)	
RUTHS BAY	BERMUDA	32.4N	64.6W	1647	03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718	03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718	03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718	03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719	03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722	03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723	03/26
SABA	SABA	17.6N	63.2W	1724	03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725	03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727	03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727	03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728	03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728	03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731	03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736	03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751	03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752	03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753	03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

## 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 SMALL 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).

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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

ZCZC  
WECA41 PHEB 261103  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 2  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1103 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

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

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NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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## UPDATES

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- \* THE EARTHQUAKE MAGNITUDE HAS BEEN UPGRADED FROM 8.0 TO 8.5.
- \* A FORECAST OF THE TSUNAMI THREAT IS NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS - UPDATED

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## TSUNAMI THREAT FORECAST

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

BAHAMAS.

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

BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
EUSTATIUS... AND SAINT MARTIN.

- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.

- \* 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## 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 POINTS 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)
RUTHS BAY	BERMUDA	32.4N	64.6W	1647 03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718 03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718 03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718 03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719 03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722 03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723 03/26
SABA	SABA	17.6N	63.2W	1724 03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725 03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727 03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727 03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728 03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728 03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731 03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736 03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751 03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752 03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753 03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754 03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801 03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802 03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803 03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805 03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805 03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808 03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809 03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
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CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### POTENTIAL IMPACTS

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- \* 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.

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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 -ALL IN SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC  
WECA41 PHEB 261204  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 3  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1204 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## UPDATES

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- \* TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE BEEN OBSERVED.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT EUSTATIUS... AND SAINT MARTIN.

- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA... MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS... JAMAICA... AND BONAIRE.

- \* 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 POINTS 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)
RUTHS BAY	BERMUDA	32.4N	64.6W	1647 03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718	03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718	03/26
CASTRIES	SAINTE LUCIA	14.0N	61.0W	1719	03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722	03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723	03/26
SABA	SABA	17.6N	63.2W	1724	03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725	03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727	03/26
SAINTE JOHNS	ANTIGUA	17.1N	61.9W	1727	03/26
BASSETERRE	SAINTE KITTS	17.3N	62.7W	1728	03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728	03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731	03/26
KINGSTOWN	SAINTE VINCENT	13.1N	61.2W	1736	03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751	03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752	03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753	03/26
SAINTE BARTHELEM	SAINTE BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINTE GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINTE MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26



# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

## 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.

## 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
TARIFA ES	36.0N	5.6W	1145	1.82M/ 5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/ 2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/ 7.1FT	19

## 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](http://EARTHQUAKE.USGS.GOV/EARTHQUAKES) -ALL IN SMALL LETTERS-.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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- \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC  
WECA41 PHEB 261300  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 4  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1300 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

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

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NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

UPDATES

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- \* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

-----

- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## EVALUATION

-----

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## TSUNAMI THREAT FORECAST

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BAHAMAS.
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BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.
- \* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
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- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.
- \* ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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.

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## 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.
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## ESTIMATED TIMES OF ARRIVAL

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- \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR POINTS 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)
RUTHS BAY	BERMUDA	32.4N	64.6W	1647 03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718 03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718 03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718 03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719 03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722 03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723 03/26
SABA	SABA	17.6N	63.2W	1724 03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725 03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727 03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727 03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728 03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728 03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731 03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736 03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751 03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752 03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARAOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

\* 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.

## 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LOE			
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/ 3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/ 7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/ 5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/ 2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/ 7.1FT	19

## 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 SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [WCATWC.ARH.NOAA.GOV](http://WCATWC.ARH.NOAA.GOV).

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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

ZCZC  
WECA41 PHEB 261400  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 5  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1400 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## UPDATES

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\* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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\* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.  
\* TSUNAMI WAVES HAVE BEEN OBSERVED.  
\* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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

BAHAMAS.

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

BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
EUSTATIUS... AND SAINT MARTIN.

- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.

- \* 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.



# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## 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 POINTS 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)
RUTHS BAY	BERMUDA	32.4N	64.6W	1647 03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718 03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718 03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718 03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719 03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722 03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723 03/26
SABA	SABA	17.6N	63.2W	1724 03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725 03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727 03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727 03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728 03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728 03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731 03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736 03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751 03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752 03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753 03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754 03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801 03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802 03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803 03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805 03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805 03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808 03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809 03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### POTENTIAL IMPACTS

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- \* 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.

### TSUNAMI OBSERVATIONS

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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\* 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD
	LAT	LOX	(UTC)		(MIN)
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/ 3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/ 3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/ 7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/ 5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/ 2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/ 7.1FT	19

## 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 SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [WCATWC.ARH.NOAA.GOV](http://WCATWC.ARH.NOAA.GOV).

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ZCZC  
WECA41 PHEB 261500  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 6  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1500 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718 03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718 03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719 03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722 03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723 03/26
SABA	SABA	17.6N	63.2W	1724 03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725 03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727 03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727 03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728 03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728 03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731 03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736 03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751 03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752 03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753 03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754 03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801 03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802 03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803 03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805 03/26
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SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808 03/26
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SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816 03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821 03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823 03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824 03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824 03/26
BARACOA	CUBA	20.4N	74.5W	1827 03/26
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GIBARA	CUBA	21.1N	76.1W	1837 03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837 03/26
JEREMIE	HAITI	18.6N	74.1W	1841 03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
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### POTENTIAL IMPACTS

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GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
DAKAR SN	14.7N	17.4W	1437	0.76M/ 2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/ 2.2FT	14

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/ 3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/ 3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/ 7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/ 5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/ 2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/ 7.1FT	19

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- \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC  
WECA41 PHEB 261602  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 7  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1602 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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

## UPDATES

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- \* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT EUSTATIUS... AND SAINT MARTIN.

- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA... MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS... JAMAICA... AND BONAIRE.

- \* 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 POINTS 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)
RUTHS BAY	BERMUDA	32.4N 64.6W	1647 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

ROSEAU	DOMINICA	15.3N	61.4W	1718	03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718	03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718	03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719	03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722	03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723	03/26
SABA	SABA	17.6N	63.2W	1724	03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725	03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727	03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727	03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728	03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728	03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731	03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736	03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751	03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752	03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753	03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### POTENTIAL IMPACTS

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- \* 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.

### 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
DART 44401	37.6N	50.0W	1511	0.09M/ 0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/ 1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/ 2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/ 2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/ 3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/ 3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/ 7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/ 5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/ 2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/ 7.1FT	19

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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 -ALL IN SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC

WECA41 PHEB 261703

TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 8  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1703 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

PRELIMINARY EARTHQUAKE PARAMETERS  
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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
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MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
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## ESTIMATED TIMES OF ARRIVAL

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LOCATION	REGION	COORDINATES		ETA (UTC)
RUTHS BAY	BERMUDA	32.4N	64.6W	1647 03/26
ROSEAU	DOMINICA	15.3N	61.4W	1718 03/26
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1718 03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718 03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719 03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722 03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723 03/26
SABA	SABA	17.6N	63.2W	1724 03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725 03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727 03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727 03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728 03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728 03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731 03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736 03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751 03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752 03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753	03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
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CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
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WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### POTENTIAL IMPACTS

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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

OF THE SHORELINE.

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## TSUNAMI OBSERVATIONS

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\* 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
DART 44401	37.6N	50.0W	1511	0.09M/ 0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/ 1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/ 2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/ 2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/ 3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
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## NEXT UPDATE AND ADDITIONAL INFORMATION

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\* 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 SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [WCATWC.ARH.NOAA.GOV](http://WCATWC.ARH.NOAA.GOV).

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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ZCZC  
WECA41 PHEB 261805  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 9  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1805 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

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NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

UPDATES

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\* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

EVALUATION

-----

\* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

- \* TSUNAMI WAVES HAVE BEEN OBSERVED ALONG SOME COASTS OF THE CARIBE-EWS.
- \* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
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- \* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
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- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.
- \* 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

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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 POINTS 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)	
ROSEAU	DOMINICA	15.3N	61.4W	1718	03/26
PLYMOUTH	MONTserrat	16.7N	62.2W	1718	03/26
BRIDGETOWN	BARBADOS	13.1N	59.6W	1718	03/26
CASTRIES	SAINT LUCIA	14.0N	61.0W	1719	03/26
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1722	03/26
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1723	03/26
SABA	SABA	17.6N	63.2W	1724	03/26
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1725	03/26
THE VALLEY	ANGUILLA	18.3N	63.1W	1727	03/26
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1727	03/26
BASSETERRE	SAINT KITTS	17.3N	62.7W	1728	03/26
PALMETTO POINT	BARBUDA	17.6N	61.9W	1728	03/26
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1731	03/26
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1736	03/26
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1751	03/26
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1752	03/26
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1753	03/26
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1754	03/26
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1801	03/26
MAYAGUANA	BAHAMAS	22.3N	73.0W	1802	03/26
SAINT GEORGES	GRENADA	12.0N	61.8W	1803	03/26
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805	03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805	03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808	03/26

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

CAP HAITEN	HAITI	19.8N	72.2W	1809	03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816	03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821	03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823	03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824	03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824	03/26
BARACOA	CUBA	20.4N	74.5W	1827	03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829	03/26
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### 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.
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- \* 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## 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 TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT		WAVE PERIOD (MIN)
	LAT	LON				
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/	12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

## NEXT UPDATE AND ADDITIONAL INFORMATION

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

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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 SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

\$\$

ZCZC  
WECA41 PHEB 261905  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 10  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
1905 UCT WED MAR 26 2014

...TSUNAMI THREAT MESSAGE...

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UPDATES  
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PRELIMINARY EARTHQUAKE PARAMETERS  
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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE NOW BEEN OBSERVED ALONG SOME COASTS OF THE CARIBE-EWS.
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COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
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## RECOMMENDED ACTIONS

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LOCATION	REGION	COORDINATES		ETA (UTC)
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1805 03/26
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1805 03/26
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1808 03/26
CAP HAITEN	HAITI	19.8N	72.2W	1809 03/26
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1816 03/26
LONG ISLAND	BAHAMAS	23.3N	75.1W	1821 03/26
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1823 03/26
EXUMA	BAHAMAS	23.6N	75.9W	1824 03/26
CAT ISLAND	BAHAMAS	24.4N	75.5W	1824 03/26
BARACOA	CUBA	20.4N	74.5W	1827 03/26
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1829 03/26

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CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1834	03/26
JACAMEL	HAITI	18.1N	72.5W	1835	03/26
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1835	03/26
GIBARA	CUBA	21.1N	76.1W	1837	03/26
ORANJESTAD	ARUBA	12.5N	70.0W	1837	03/26
JEREMIE	HAITI	18.6N	74.1W	1841	03/26
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1844	03/26
NASSAU	BAHAMAS	25.1N	77.4W	1847	03/26
CAYENNE	FRENCH GUIANA	4.9N	52.3W	1847	03/26
MAIQUETIA	VENEZUELA	10.6N	67.0W	1850	03/26
WILLEMSTAD	CURACAO	12.1N	68.9W	1857	03/26
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1858	03/26
FREEPORT	BAHAMAS	26.5N	78.8W	1859	03/26
CUMANA	VENEZUELA	10.5N	64.2W	1903	03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908	03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912	03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934	03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937	03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033	03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033	03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157	03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201	03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210	03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339	03/26

### POTENTIAL IMPACTS

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### TSUNAMI OBSERVATIONS

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## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT		WAVE PERIOD (MIN)
	LAT	LON				
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19
CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/	12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

## 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 SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [WCATWC.ARH.NOAA.GOV](http://WCATWC.ARH.NOAA.GOV).

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ZCZC  
WECA41 PHEB 262002  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 11  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2002 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## UPDATES

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- \* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE BEEN OBSERVED.
- \* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES... TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND VENEZUELA.

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT EUSTATIUS... AND SAINT MARTIN.

- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA... MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS... JAMAICA... AND BONAIRE.

- \* 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 POINTS 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

LOCATION	REGION	COORDINATES		ETA (UTC)
CUMANA	VENEZUELA	10.5N	64.2W	1903 03/26
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1908 03/26
BIMINI	BAHAMAS	25.8N	79.3W	1912 03/26
PORT AU PRINCE	HAITI	18.5N	72.4W	1934 03/26
CIENFUEGOS	CUBA	22.0N	80.5W	1937 03/26
GEORGETOWN	GUYANA	6.8N	58.2W	2033 03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033 03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157 03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201 03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210 03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339 03/26

## 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.

## 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	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LOH			
BORDEN FLATS LT MA	41.7N	71.2W	1952	0.57M/ 1.9FT	23
CAPE MAY NJ	39.0N	74.9W	1949	0.60M/ 2.0FT	22
KINGS POINT NY	40.8N	73.8W	1948	0.60M/ 2.0FT	31
BEAUFORT NC	34.7N	76.7W	1946	0.68M/ 2.2FT	16
BRIDGEPORT CT	41.2N	73.2W	1945	0.73M/ 2.4FT	18

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

ATLANTIC CITY NJ	39.4N	74.4W	1944	0.69M/	2.2FT	20
WACHAPREAGUE VA	37.6N	75.7W	1943	0.64M/	2.1FT	25
MONTAUK NY	41.0N	72.0W	1940	0.73M/	2.4FT	16
SETTLEMENT PT BS	26.7N	79.0W	1939	0.60M/	2.0FT	26
SANTA MARTA CO	11.2N	74.2W	1937	0.21M/	0.7FT	25
OREGON INLET NC	35.8N	75.5W	1932	0.79M/	2.6FT	28
PORT OF SPAIN TT	10.6N	61.5W	1923	0.64M/	2.1FT	18
OCEAN CITY MD	38.3N	75.1W	1920	0.74M/	2.4FT	23
NEW HAVEN CT	41.3N	72.9W	1917	0.73M/	2.4FT	21
DUCK PIER NC	36.2N	75.7W	1914	0.76M/	2.5FT	18
NANTUCKET ISLAND MA	41.3N	70.1W	1913	0.57M/	1.9FT	15
SAINT HELENA UK	15.9S	5.7W	1910	0.28M/	0.9FT	30
TORTOLA VI UK	18.4N	64.6W	1855	0.49M/	1.6FT	22
HATTERAS NC	35.2N	75.7W	1854	0.79M/	2.6FT	17
PORT SAN ANDRES DO	18.4N	69.6W	1852	0.34M/	1.1FT	31
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19
CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29



# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/	12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
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## NEXT UPDATE AND ADDITIONAL INFORMATION

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WECA41 PHEB 262101  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 12  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2101 UCT WED MAR 26 2014

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

...TSUNAMI THREAT MESSAGE...

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

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NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## UPDATES

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- \* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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- \* MAGNITUDE 8.5
- \* ORIGIN TIME 1000 UTC MAR 26 2014
- \* COORDINATES 36.0 NORTH 10.8 WEST
- \* DEPTH 5 KM / 3 MILES
- \* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE BEEN OBSERVED.
- \* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

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

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

BAHAMAS.

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BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.

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

HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
EUSTATIUS... AND SAINT MARTIN.

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COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## ESTIMATED TIMES OF ARRIVAL

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LOCATION	REGION	COORDINATES		ETA (UTC)
GEORGETOWN	GUYANA	6.8N	58.2W	2033 03/26
PARAMARIBO	SURINAME	5.9N	55.2W	2033 03/26
PORLAMAR	VENEZUELA	10.9N	63.8W	2157 03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201 03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210 03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339 03/26

## 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.

## 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	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD
	LAT	LON	(UTC)	HEIGHT	(MIN)
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## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

TRIDENT PIER FL	28.4N	80.6W	2047	1.32M/	4.3FT	31
CHARLESTON SC	32.8N	79.9W	2046	0.70M/	2.3FT	18
NEW BOLD PA	40.1N	74.8W	2035	0.65M/	2.1FT	17
BERGEN POINT NY	40.6N	74.1W	2035	0.60M/	2.0FT	20
KIPTOPEKE VA	37.2N	76.0W	2033	0.74M/	2.4FT	30
EL PORVENIR PM	9.6N	78.9W	2027	0.15M/	0.5FT	26
SAN ANDRES CO	12.6N	81.7W	2026	0.13M/	0.4FT	17
POINTE NOIRE CG	4.8S	11.8E	2026	0.26M/	0.8FT	26
WILMINGTON NC	34.2N	78.0W	2020	0.72M/	2.3FT	21
BRANDYWINE DE	39.0N	75.1W	2019	0.69M/	2.2FT	21
CHESAPEAKE BAY VA	37.0N	76.1W	2017	0.76M/	2.5FT	23
WRIGHT BEACH NC	34.2N	77.8W	2017	0.72M/	2.3FT	17
QUONSET POINT RI	41.6N	71.4W	2017	0.53M/	1.7FT	25
PROVIDENCE RI	41.8N	71.4W	2017	0.53M/	1.7FT	29
NEWPORT RI	41.5N	71.3W	2007	0.53M/	1.7FT	25
CONIMICUT LIGHT RI	41.7N	71.3W	2007	0.53M/	1.7FT	31
BOSTON MA	42.4N	71.1W	2007	0.67M/	2.2FT	24
SANDY HOOK NJ	40.5N	74.0W	2006	0.60M/	2.0FT	17
BATTERY THE NY	40.7N	74.0W	2006	0.60M/	2.0FT	32
PORT SONARA CM	4.0N	9.1E	2005	0.14M/	0.5FT	21
BURLINGTON NJ	40.1N	74.9W	2001	0.74M/	2.4FT	17
VIRGINIA KEY FL	25.7N	80.2W	1959	0.22M/	0.7FT	24
LEWES DE	38.8N	75.1W	1954	0.69M/	2.2FT	19
BORDEN FLATS LT MA	41.7N	71.2W	1952	0.57M/	1.9FT	23
CAPE MAY NJ	39.0N	74.9W	1949	0.60M/	2.0FT	22
KINGS POINT NY	40.8N	73.8W	1948	0.60M/	2.0FT	31
BEAUFORT NC	34.7N	76.7W	1946	0.68M/	2.2FT	16
BRIDGEPORT CT	41.2N	73.2W	1945	0.73M/	2.4FT	18
ATLANTIC CITY NJ	39.4N	74.4W	1944	0.69M/	2.2FT	20
WACHAPREAGUE VA	37.6N	75.7W	1943	0.64M/	2.1FT	25
MONTAUK NY	41.0N	72.0W	1940	0.73M/	2.4FT	16
SETTLEMENT PT BS	26.7N	79.0W	1939	0.60M/	2.0FT	26
SANTA MARTA CO	11.2N	74.2W	1937	0.21M/	0.7FT	25
OREGON INLET NC	35.8N	75.5W	1932	0.79M/	2.6FT	28
PORT OF SPAIN TT	10.6N	61.5W	1923	0.64M/	2.1FT	18
OCEAN CITY MD	38.3N	75.1W	1920	0.74M/	2.4FT	23
NEW HAVEN CT	41.3N	72.9W	1917	0.73M/	2.4FT	21
DUCK PIER NC	36.2N	75.7W	1914	0.76M/	2.5FT	18
NANTUCKET ISLAND MA	41.3N	70.1W	1913	0.57M/	1.9FT	15
SAINT HELENA UK	15.9S	5.7W	1910	0.28M/	0.9FT	30
TORTOLA VI UK	18.4N	64.6W	1855	0.49M/	1.6FT	22
HATTERAS NC	35.2N	75.7W	1854	0.79M/	2.6FT	17
PORT SAN ANDRES DO	18.4N	69.6W	1852	0.34M/	1.1FT	31
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/	12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

NEXT UPDATE AND ADDITIONAL INFORMATION

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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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 -ALL IN SMALL 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 WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC  
WECA41 PHEB 262201  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 13  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2201 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

UPDATES

- 
- \* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE BEEN OBSERVED.
- \* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

## TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.
- \* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
EUSTATIUS... AND SAINT MARTIN.



# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

\* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.

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

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

## RECOMMENDED ACTIONS

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\* 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

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\* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR POINTS 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)
PORLAMAR	VENEZUELA	10.9N	63.8W	2157 03/26
SANTA CRZ D SUR	CUBA	20.7N	78.0W	2201 03/26
ILHA DE MARACA	BRAZIL	2.2N	50.5W	2210 03/26
NUEVA GERONA	CUBA	21.9N	82.8W	2339 03/26

## POTENTIAL IMPACTS

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# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

- \* 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.

## 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	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)	
	LAT	Lon				
MONEY POINT VA	36.8N	76.3W	2144	0.81M/	2.6FT	29
SALVADOR BR	12.9S	38.7W	2132	0.26M/	0.9FT	17
KEY WEST FL	24.6N	81.8W	2126	0.10M/	0.3FT	18
DART 42429	27.4N	85.7W	2124	0.00M/	0.0FT	27
NEW LONDON CT	41.4N	72.1W	2122	0.73M/	2.4FT	16
DART 42409	26.7N	85.8W	2116	0.00M/	0.0FT	16
SEWELLS POINT VA	36.9N	76.3W	2107	0.76M/	2.5FT	19
VACA KEY FL	24.7N	81.1W	2106	0.14M/	0.5FT	14
PUERTO MORELOS MX	21.4N	86.8W	2106	0.04M/	0.1FT	21
SPRINGMAID PIER SC	33.7N	78.9W	2057	0.63M/	2.1FT	14
LIMON CR	10.0N	83.0W	2053	0.18M/	0.6FT	27
TRIDENT PIER FL	28.4N	80.6W	2047	1.32M/	4.3FT	31
CHARLESTON SC	32.8N	79.9W	2046	0.70M/	2.3FT	18
NEW BOLD PA	40.1N	74.8W	2035	0.65M/	2.1FT	17
BERGEN POINT NY	40.6N	74.1W	2035	0.60M/	2.0FT	20
KIPTOPEKE VA	37.2N	76.0W	2033	0.74M/	2.4FT	30
EL PORVENIR PM	9.6N	78.9W	2027	0.15M/	0.5FT	26
SAN ANDRES CO	12.6N	81.7W	2026	0.13M/	0.4FT	17
POINTE NOIRE CG	4.8S	11.8E	2026	0.26M/	0.8FT	26
WILMINGTON NC	34.2N	78.0W	2020	0.72M/	2.3FT	21
BRANDYWINE DE	39.0N	75.1W	2019	0.69M/	2.2FT	21
CHESAPEAKE BAY VA	37.0N	76.1W	2017	0.76M/	2.5FT	23
WRIGHT BEACH NC	34.2N	77.8W	2017	0.72M/	2.3FT	17
QUONSET POINT RI	41.6N	71.4W	2017	0.53M/	1.7FT	25

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

PROVIDENCE RI	41.8N	71.4W	2017	0.53M/	1.7FT	29
NEWPORT RI	41.5N	71.3W	2007	0.53M/	1.7FT	25
CONIMICUT LIGHT RI	41.7N	71.3W	2007	0.53M/	1.7FT	31
BOSTON MA	42.4N	71.1W	2007	0.67M/	2.2FT	24
SANDY HOOK NJ	40.5N	74.0W	2006	0.60M/	2.0FT	17
BATTERY THE NY	40.7N	74.0W	2006	0.60M/	2.0FT	32
PORT SONARA CM	4.0N	9.1E	2005	0.14M/	0.5FT	21
BURLINGTON NJ	40.1N	74.9W	2001	0.74M/	2.4FT	17
VIRGINIA KEY FL	25.7N	80.2W	1959	0.22M/	0.7FT	24
LEWES DE	38.8N	75.1W	1954	0.69M/	2.2FT	19
BORDEN FLATS LT MA	41.7N	71.2W	1952	0.57M/	1.9FT	23
CAPE MAY NJ	39.0N	74.9W	1949	0.60M/	2.0FT	22
KINGS POINT NY	40.8N	73.8W	1948	0.60M/	2.0FT	31
BEAUFORT NC	34.7N	76.7W	1946	0.68M/	2.2FT	16
BRIDGEPORT CT	41.2N	73.2W	1945	0.73M/	2.4FT	18
ATLANTIC CITY NJ	39.4N	74.4W	1944	0.69M/	2.2FT	20
WACHAPREAGUE VA	37.6N	75.7W	1943	0.64M/	2.1FT	25
MONTAUK NY	41.0N	72.0W	1940	0.73M/	2.4FT	16
SETTLEMENT PT BS	26.7N	79.0W	1939	0.60M/	2.0FT	26
SANTA MARTA CO	11.2N	74.2W	1937	0.21M/	0.7FT	25
OREGON INLET NC	35.8N	75.5W	1932	0.79M/	2.6FT	28
PORT OF SPAIN TT	10.6N	61.5W	1923	0.64M/	2.1FT	18
OCEAN CITY MD	38.3N	75.1W	1920	0.74M/	2.4FT	23
NEW HAVEN CT	41.3N	72.9W	1917	0.73M/	2.4FT	21
DUCK PIER NC	36.2N	75.7W	1914	0.76M/	2.5FT	18
NANTUCKET ISLAND MA	41.3N	70.1W	1913	0.57M/	1.9FT	15
SAINT HELENA UK	15.9S	5.7W	1910	0.28M/	0.9FT	30
TORTOLA VI UK	18.4N	64.6W	1855	0.49M/	1.6FT	22
HATTERAS NC	35.2N	75.7W	1854	0.79M/	2.6FT	17
PORT SAN ANDRES DO	18.4N	69.6W	1852	0.34M/	1.1FT	31
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19
CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/	12.2FT	23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

### NEXT UPDATE AND ADDITIONAL INFORMATION

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  - \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS AND

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

THE BRITISH VIRGIN ISLANDS SHOULD REFER TO WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WCATWC.ARH.NOAA.GOV.

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ZCZC  
WECA41 PHEB 262300  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 14  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2300 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## UPDATES

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\* ADDITIONAL TSUNAMI OBSERVATIONS ARE NOW INCLUDED.

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* TSUNAMI WAVES HAVE BEEN OBSERVED.
- \* BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

### TSUNAMI THREAT FORECAST

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- \* TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BAHAMAS.
- \* TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF  
  
BRAZIL... CUBA... DOMINICAN REPUBLIC... GUYANA...  
SURINAME... ANGUILLA... ANTIGUA AND BARBUDA... BARBADOS...  
BERMUDA... DOMINICA... FRENCH GUIANA... GRENADA... GUADELOUPE...  
MARTINIQUE... MONTSERRAT... SAINT KITTS AND NEVIS... SAINT  
LUCIA... SAINT BARTHELEMY... SAINT VINCENT AND THE GRENADINES...  
TRINIDAD AND TOBAGO... TURKS AND CAICOS ISLANDS... AND  
VENEZUELA.
- \* TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
HAITI... ARUBA... CURACAO... SINT MAARTEN... SABA AND SINT  
EUSTATIUS... AND SAINT MARTIN.
- \* TSUNAMI WAVES LESS THAN 0.3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF  
  
COLOMBIA... COSTA RICA... HONDURAS... GUATEMALA...  
MEXICO... NICARAGUA... PANAMA... BELIZE... CAYMAN ISLANDS...  
JAMAICA... AND BONAIRE.
- \* 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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

## RECOMMENDED ACTIONS

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- \* 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

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- \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR POINTS 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)
SANTA CRZ D SUR	CUBA	20.7N 78.0W	2201 03/26
ILHA DE MARACA	BRAZIL	2.2N 50.5W	2210 03/26
NUEVA GERONA	CUBA	21.9N 82.8W	2339 03/26

## 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.

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

## 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	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
WALVIS BAY NA	22.9S	14.5E	2248	0.18M/ 0.6FT	17
PILOTS STATION LA	28.9N	89.4W	2228	0.01M/ 0.0FT	24
TRISTAN DA CUNHA UK	37.0S	12.3W	2155	0.21M/ 0.7FT	28
TACONY PALMYRA BR NJ	40.0N	75.0W	2154	0.68M/ 2.2FT	15
REEDY POINT DE	39.6N	75.6W	2154	0.69M/ 2.2FT	24
PHILADELPHIA PA	39.9N	75.1W	2154	0.69M/ 2.2FT	23
MARCUS HOOK PA	39.8N	75.4W	2154	0.69M/ 2.2FT	31
DELAWARE CITY DE	39.6N	75.6W	2154	0.69M/ 2.2FT	27
CHESAPEAKE CITY MD	39.5N	75.8W	2154	0.60M/ 2.0FT	24
SHIP JOHN SHOAL NJ	39.3N	75.4W	2149	0.60M/ 2.0FT	30
WOODS HOLE MA	41.5N	70.7W	2149	0.67M/ 2.2FT	25
MONEY POINT VA	36.8N	76.3W	2144	0.81M/ 2.6FT	29
SALVADOR BR	12.9S	38.7W	2132	0.26M/ 0.9FT	17
KEY WEST FL	24.6N	81.8W	2126	0.10M/ 0.3FT	18
DART 42429	27.4N	85.7W	2124	0.00M/ 0.0FT	27
NEW LONDON CT	41.4N	72.1W	2122	0.73M/ 2.4FT	16
DART 42409	26.7N	85.8W	2116	0.00M/ 0.0FT	16
SEWELLS POINT VA	36.9N	76.3W	2107	0.76M/ 2.5FT	19
VACA KEY FL	24.7N	81.1W	2106	0.14M/ 0.5FT	14
PUERTO MORELOS MX	21.4N	86.8W	2106	0.04M/ 0.1FT	21
SPRINGMAID PIER SC	33.7N	78.9W	2057	0.63M/ 2.1FT	14
LIMON CR	10.0N	83.0W	2053	0.18M/ 0.6FT	27
TRIDENT PIER FL	28.4N	80.6W	2047	1.32M/ 4.3FT	31
CHARLESTON SC	32.8N	79.9W	2046	0.70M/ 2.3FT	18
NEW BOLD PA	40.1N	74.8W	2035	0.65M/ 2.1FT	17
BERGEN POINT NY	40.6N	74.1W	2035	0.60M/ 2.0FT	20
KIPTOPEKE VA	37.2N	76.0W	2033	0.74M/ 2.4FT	30
EL PORVENIR PM	9.6N	78.9W	2027	0.15M/ 0.5FT	26
SAN ANDRES CO	12.6N	81.7W	2026	0.13M/ 0.4FT	17
POINTE NOIRE CG	4.8S	11.8E	2026	0.26M/ 0.8FT	26
WILMINGTON NC	34.2N	78.0W	2020	0.72M/ 2.3FT	21
BRANDYWINE DE	39.0N	75.1W	2019	0.69M/ 2.2FT	21
CHESAPEAKE BAY VA	37.0N	76.1W	2017	0.76M/ 2.5FT	23
WRIGHT BEACH NC	34.2N	77.8W	2017	0.72M/ 2.3FT	17
QUONSET POINT RI	41.6N	71.4W	2017	0.53M/ 1.7FT	25
PROVIDENCE RI	41.8N	71.4W	2017	0.53M/ 1.7FT	29
NEWPORT RI	41.5N	71.3W	2007	0.53M/ 1.7FT	25
CONIMICUT LIGHT RI	41.7N	71.3W	2007	0.53M/ 1.7FT	31



## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

BOSTON MA	42.4N	71.1W	2007	0.67M/	2.2FT	24
SANDY HOOK NJ	40.5N	74.0W	2006	0.60M/	2.0FT	17
BATTERY THE NY	40.7N	74.0W	2006	0.60M/	2.0FT	32
PORT SONARA CM	4.0N	9.1E	2005	0.14M/	0.5FT	21
BURLINGTON NJ	40.1N	74.9W	2001	0.74M/	2.4FT	17
VIRGINIA KEY FL	25.7N	80.2W	1959	0.22M/	0.7FT	24
LEWES DE	38.8N	75.1W	1954	0.69M/	2.2FT	19
BORDEN FLATS LT MA	41.7N	71.2W	1952	0.57M/	1.9FT	23
CAPE MAY NJ	39.0N	74.9W	1949	0.60M/	2.0FT	22
KINGS POINT NY	40.8N	73.8W	1948	0.60M/	2.0FT	31
BEAUFORT NC	34.7N	76.7W	1946	0.68M/	2.2FT	16
BRIDGEPORT CT	41.2N	73.2W	1945	0.73M/	2.4FT	18
ATLANTIC CITY NJ	39.4N	74.4W	1944	0.69M/	2.2FT	20
WACHAPREAGUE VA	37.6N	75.7W	1943	0.64M/	2.1FT	25
MONTAUK NY	41.0N	72.0W	1940	0.73M/	2.4FT	16
SETTLEMENT PT BS	26.7N	79.0W	1939	0.60M/	2.0FT	26
SANTA MARTA CO	11.2N	74.2W	1937	0.21M/	0.7FT	25
OREGON INLET NC	35.8N	75.5W	1932	0.79M/	2.6FT	28
PORT OF SPAIN TT	10.6N	61.5W	1923	0.64M/	2.1FT	18
OCEAN CITY MD	38.3N	75.1W	1920	0.74M/	2.4FT	23
NEW HAVEN CT	41.3N	72.9W	1917	0.73M/	2.4FT	21
DUCK PIER NC	36.2N	75.7W	1914	0.76M/	2.5FT	18
NANTUCKET ISLAND MA	41.3N	70.1W	1913	0.57M/	1.9FT	15
SAINT HELENA UK	15.9S	5.7W	1910	0.28M/	0.9FT	30
TORTOLA VI UK	18.4N	64.6W	1855	0.49M/	1.6FT	22
HATTERAS NC	35.2N	75.7W	1854	0.79M/	2.6FT	17
PORT SAN ANDRES DO	18.4N	69.6W	1852	0.34M/	1.1FT	31
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19
CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21
PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23	
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

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  - \* COASTAL REGIONS OF PUERTO RICO... THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS SHOULD REFER TO WEST COAST AND ALASKA TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT [WCATWC.ARH.NOAA.GOV](http://WCATWC.ARH.NOAA.GOV).

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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ZCZC  
WECA41 PHEB 262355  
TSUCAX

EXPERIMENTAL TSUNAMI MESSAGE NUMBER 15  
NOT FOR DISTRIBUTION  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2355 UCT WED MAR 26 2014

...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... THE CARIBE-EWS... AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

NATIONAL AUTHORITIES WILL DETERMINE THE TSUNAMI THREAT AND APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY.

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

## PRELIMINARY EARTHQUAKE PARAMETERS

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\* MAGNITUDE 8.5  
\* ORIGIN TIME 1000 UTC MAR 26 2014  
\* COORDINATES 36.0 NORTH 10.8 WEST  
\* DEPTH 5 KM / 3 MILES  
\* LOCATION AZORES-CAPE ST. VINCENT RIDGE

## EVALUATION

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- \* AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.5 OCCURRED NEAR THE AZORES-CAPE SAINT VINCENT RIDGE AT 1000 UTC ON WEDNESDAY MARCH 26 2014.
- \* BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS PASSED AND THERE IS NO FURTHER THREAT.

TSUNAMI THREAT FORECAST...UPDATED

# Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

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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 UP TO 30 CM ABOVE AND BELOW THE NORMAL TIDE MAY OCCUR IN COASTAL AREAS NEAR THE EARTHQUAKE OVER THE NEXT FEW HOURS.... AND CONTINUING FOR UP TO SEVERAL HOURS.

## TSUNAMI OBSERVATIONS

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

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LON			
TUXPAN MX	21.0N	97.4W	2343	0.01M/ 0.0FT	29
VERACRUZ MX	19.2N	96.1W	2328	0.01M/ 0.0FT	19
CEDROS BAY TT	10.1N	61.9W	2322	0.64M/ 2.1FT	21
GRAND ISLE LA	29.3N	90.0W	2322	0.01M/ 0.0FT	24
PENSACOLA FL	30.4N	87.2W	2316	0.01M/ 0.0FT	22
FORT FOURCHON LA	29.1N	90.2W	2311	0.01M/ 0.0FT	19
POINT FORTIN TT	10.2N	61.4W	2253	1.05M/ 3.4FT	17
WALVIS BAY NA	22.9S	14.5E	2248	0.18M/ 0.6FT	17
PILOTS STATION LA	28.9N	89.4W	2228	0.01M/ 0.0FT	24
TRISTAN DA CUNHA UK	37.0S	12.3W	2155	0.21M/ 0.7FT	28
TACONY PALMYRA BR NJ	40.0N	75.0W	2154	0.68M/ 2.2FT	15

## Pacific Tsunami Warning Center Enhanced Products for the ICG CARIBE EWS for CARIBE WAVE/LANTEX 2014

REEDY POINT DE	39.6N	75.6W	2154	0.69M/	2.2FT	24
PHILADELPHIA PA	39.9N	75.1W	2154	0.69M/	2.2FT	23
MARCUS HOOK PA	39.8N	75.4W	2154	0.69M/	2.2FT	31
DELAWARE CITY DE	39.6N	75.6W	2154	0.69M/	2.2FT	27
CHESAPEAKE CITY MD	39.5N	75.8W	2154	0.60M/	2.0FT	24
SHIP JOHN SHOAL NJ	39.3N	75.4W	2149	0.60M/	2.0FT	30
WOODS HOLE MA	41.5N	70.7W	2149	0.67M/	2.2FT	25
MONEY POINT VA	36.8N	76.3W	2144	0.81M/	2.6FT	29
SALVADOR BR	12.9S	38.7W	2132	0.26M/	0.9FT	17
KEY WEST FL	24.6N	81.8W	2126	0.10M/	0.3FT	18
DART 42429	27.4N	85.7W	2124	0.00M/	0.0FT	27
NEW LONDON CT	41.4N	72.1W	2122	0.73M/	2.4FT	16
DART 42409	26.7N	85.8W	2116	0.00M/	0.0FT	16
SEWELLS POINT VA	36.9N	76.3W	2107	0.76M/	2.5FT	19
VACA KEY FL	24.7N	81.1W	2106	0.14M/	0.5FT	14
PUERTO MORELOS MX	21.4N	86.8W	2106	0.04M/	0.1FT	21
SPRINGMAID PIER SC	33.7N	78.9W	2057	0.63M/	2.1FT	14
LIMON CR	10.0N	83.0W	2053	0.18M/	0.6FT	27
TRIDENT PIER FL	28.4N	80.6W	2047	1.32M/	4.3FT	31
CHARLESTON SC	32.8N	79.9W	2046	0.70M/	2.3FT	18
NEW BOLD PA	40.1N	74.8W	2035	0.65M/	2.1FT	17
BERGEN POINT NY	40.6N	74.1W	2035	0.60M/	2.0FT	20
KIPTOPEKE VA	37.2N	76.0W	2033	0.74M/	2.4FT	30
EL PORVENIR PM	9.6N	78.9W	2027	0.15M/	0.5FT	26
SAN ANDRES CO	12.6N	81.7W	2026	0.13M/	0.4FT	17
POINTE NOIRE CG	4.8S	11.8E	2026	0.26M/	0.8FT	26
WILMINGTON NC	34.2N	78.0W	2020	0.72M/	2.3FT	21
BRANDYWINE DE	39.0N	75.1W	2019	0.69M/	2.2FT	21
CHESAPEAKE BAY VA	37.0N	76.1W	2017	0.76M/	2.5FT	23
WRIGHT BEACH NC	34.2N	77.8W	2017	0.72M/	2.3FT	17
QUONSET POINT RI	41.6N	71.4W	2017	0.53M/	1.7FT	25
PROVIDENCE RI	41.8N	71.4W	2017	0.53M/	1.7FT	29
NEWPORT RI	41.5N	71.3W	2007	0.53M/	1.7FT	25
CONIMICUT LIGHT RI	41.7N	71.3W	2007	0.53M/	1.7FT	31
BOSTON MA	42.4N	71.1W	2007	0.67M/	2.2FT	24
SANDY HOOK NJ	40.5N	74.0W	2006	0.60M/	2.0FT	17
BATTERY THE NY	40.7N	74.0W	2006	0.60M/	2.0FT	32
PORT SONARA CM	4.0N	9.1E	2005	0.14M/	0.5FT	21
BURLINGTON NJ	40.1N	74.9W	2001	0.74M/	2.4FT	17
VIRGINIA KEY FL	25.7N	80.2W	1959	0.22M/	0.7FT	24
LEWES DE	38.8N	75.1W	1954	0.69M/	2.2FT	19
BORDEN FLATS LT MA	41.7N	71.2W	1952	0.57M/	1.9FT	23
CAPE MAY NJ	39.0N	74.9W	1949	0.60M/	2.0FT	22
KINGS POINT NY	40.8N	73.8W	1948	0.60M/	2.0FT	31
BEAUFORT NC	34.7N	76.7W	1946	0.68M/	2.2FT	16
BRIDGEPORT CT	41.2N	73.2W	1945	0.73M/	2.4FT	18
ATLANTIC CITY NJ	39.4N	74.4W	1944	0.69M/	2.2FT	20
WACHAPREAGUE VA	37.6N	75.7W	1943	0.64M/	2.1FT	25
MONTAUK NY	41.0N	72.0W	1940	0.73M/	2.4FT	16
SETTLEMENT PT BS	26.7N	79.0W	1939	0.60M/	2.0FT	26
SANTA MARTA CO	11.2N	74.2W	1937	0.21M/	0.7FT	25

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OREGON INLET NC	35.8N	75.5W	1932	0.79M/	2.6FT	28
PORT OF SPAIN TT	10.6N	61.5W	1923	0.64M/	2.1FT	18
OCEAN CITY MD	38.3N	75.1W	1920	0.74M/	2.4FT	23
NEW HAVEN CT	41.3N	72.9W	1917	0.73M/	2.4FT	21
DUCK PIER NC	36.2N	75.7W	1914	0.76M/	2.5FT	18
NANTUCKET ISLAND MA	41.3N	70.1W	1913	0.57M/	1.9FT	15
SAINT HELENA UK	15.9S	5.7W	1910	0.28M/	0.9FT	30
TORTOLA VI UK	18.4N	64.6W	1855	0.49M/	1.6FT	22
HATTERAS NC	35.2N	75.7W	1854	0.79M/	2.6FT	17
PORT SAN ANDRES DO	18.4N	69.6W	1852	0.34M/	1.1FT	31
LAGOS NG	6.4N	3.4E	1849	0.14M/	0.4FT	21
BARAHONA DO	18.2N	71.1W	1839	0.24M/	0.8FT	16
ILE ROYAL GUIANA FR	5.3N	52.6W	1837	1.05M/	3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/	2.3FT	16
TAKORADI GA	4.9N	1.7W	1821	0.21M/	0.7FT	17
PRICKLEY BAY GD	12.0N	61.8W	1818	0.45M/	1.5FT	15
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/	1.7FT	21
CULEBRA IS PR	18.3N	65.3W	1817	0.58M/	1.9FT	19
CHARLOTTEVILLE TT	11.3N	60.5W	1816	0.77M/	2.5FT	16
DART 42407	15.3N	68.2W	1815	0.03M/	0.1FT	28
FORTALEZA BR	3.7S	38.5W	1815	0.78M/	2.6FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1814	0.44M/	1.4FT	20
FAJARDO PR	18.3N	65.6W	1813	0.74M/	2.4FT	22
ALEXANDRIA EG	31.2N	29.9E	1808	0.01M/	0.0FT	29
PUERTO PLATA DO	19.8N	70.7W	1808	0.78M/	2.6FT	31
LAMESHUR BAY VI	18.3N	64.7W	1807	0.52M/	1.7FT	26
SCARBOROUGH TT	11.2N	60.7W	1807	0.77M/	2.5FT	18
PUNTA CANA DO	18.5N	68.4W	1805	0.83M/	2.7FT	26
MONA ISLAND PR	18.1N	67.9W	1802	0.61M/	2.0FT	30
ISABELII VIEQUES PR	18.2N	65.4W	1801	0.58M/	1.9FT	19
PENUELAS PR	18.0N	66.8W	1800	0.42M/	1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/	3.4FT	22
MAYAGUEZ PR	18.2N	67.2W	1752	0.94M/	3.1FT	23
BARBUDA AG	17.6N	61.8W	1752	0.96M/	3.1FT	25
ESPERANZA VIEQUES P	18.1N	65.5W	1749	0.46M/	1.5FT	29
YABUCOA PR	18.1N	65.8W	1747	0.50M/	1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/	0.2FT	22
ARECIBO PR	18.5N	66.7W	1744	1.23M/	4.0FT	31
LIMETREE VI	17.7N	64.8W	1744	0.51M/	1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/	3.5FT	22
FORT DE FRANCE MQ	14.6N	61.1W	1740	0.49M/	1.6FT	29
BRIDGEPORT BB	13.1N	59.6W	1733	0.97M/	3.2FT	26
ASCENSION UK	7.9S	14.4W	1733	0.30M/	1.0FT	27
ROSEAU DM	15.3N	61.4W	1733	0.61M/	2.0FT	32
DART 41420	23.5N	67.3W	1730	0.11M/	0.4FT	31
LE ROBERT MQ	14.7N	60.9W	1730	0.91M/	3.0FT	29
POINT A PITRE GP	16.2N	61.5W	1730	0.94M/	3.1FT	19
LE PRECHEUR MQ	14.8N	61.2W	1730	0.56M/	1.8FT	24
DESHAIES GP	16.3N	61.8W	1729	0.72M/	2.4FT	23
PORT ST CHARLES BB	13.3N	59.6W	1728	1.31M/	4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/	0.2FT	21

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PARHAM AG	17.1N	61.8W	1724	0.96M/	3.1FT	24
DESIRADE GP	16.3N	61.1W	1715	0.89M/	2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/	0.3FT	22
BERMUDA UK	32.4N	64.7W	1706	1.83M/	6.0FT	27
DART 44401	37.6N	50.0W	1511	0.09M/	0.3FT	28
MALIN HEAD IE	55.4N	7.3W	1458	0.49M/	1.6FT	27
DAKAR SN	14.7N	17.4W	1437	0.76M/	2.5FT	27
NOUAKCHOTT MA	18.1N	15.9W	1422	0.68M/	2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/	3.1FT	30
PONTA DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT		23
FERROL ES	43.5N	8.3W	1207	1.19M/	3.9FT	22
LA PALMA ES	28.7N	17.8W	1148	2.35M/	7.7FT	15
TARIFA ES	36.0N	5.6W	1145	1.82M/	5.9FT	21
ALGECIRAS ES	36.2N	5.4W	1138	0.89M/	2.9FT	27
HUELVA ES	37.1N	6.8W	1130	2.18M/	7.1FT	19

### NEXT UPDATE AND ADDITIONAL INFORMATION

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