



# CARIBE WAVE/LANTEX 2014

## Webinar English

**Christa G. von Hillebrandt-Andrade**  
**Manager**

**NOAA NWS Caribbean Tsunami Warning Program**  
**ICG CARIBE EWS Chair**  
**January 22, 2014**

# Institutional Reference Frame for the Exercise

- The United National Educational, Scientific, and Cultural Organization's (UNESCO) Intergovernmental Coordination Group for Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (**ICG/CARIBE EWS**)
- Caribbean Disaster and Emergency Management Agency (**CDEMA**)
- Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (**CEPRENAC**)
- The US NWS National Tsunami Hazard Mitigation Program (**NTHMP**), Tsunami Warning Centers (**TWC**) and Caribbean Tsunami Warning Program (**CTWP**)

# CARIBE WAVE/LANTEX 2013

- 30 Members States and 15 of the territories in the Caribbean and Adjacent Regions participated in this exercise. This represented a participation rate of 94% (up from 75% in 2011) of all the countries and territories in the CARIBE EWS.

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

# Feedback from CARIBE WAVE/LANTEX 2013

- 94% (up from 90% in 2011) of the Tsunami Warning Focal Points received in a timely fashion the “dummy” message sent by the Tsunami Warning Centers (TWC)
- 47% of the survey respondents indicated that the exercise had media coverage.
- Alternatives need to be identified at the local level for the reception and dissemination of messages, many TWFP are dependant on email for reception of products
- 93% of the TWFP/NDMO indicated that they had an activation and response process (standard operating procedures) in place for the receipt of tsunami warnings.
- 59% (up from 50% in 2011) indicated that their country had an emergency response plan for tsunamis.
- 8 Member States or their territories indicated that they had tsunami inundation maps available for evacuated areas.
- 20% of the TWFP/NDMO indicated that they had tsunami mass coastal evacuation plan.
- 80% indicated that CARIBE WAVE should be conducted annually

- Exercise is **helpful in validating or highlighting the need for tsunami planning**. There is an **absolute need to reinforce preparedness, evacuation plans** and involvement of private sector in tsunami readiness. The fact that the **population and press has a high interest** and awareness on these matters is important.



# Other Reasons for the Conduct of the Exercise

- Success of LANTEX 09, 10, 11, 12 and 13 and CARIBE WAVE 11 and 13. Every time the participation has increased and there is greater awareness
- Frequency of seismic and tsunami events at the global and regional levels, and the devastating impacts following the Haiti, Chile and Japan earthquakes and tsunamis;
- The M 6.4 Earthquake in Puerto Rico highlighted the need for efficient dissemination mechanisms from government authorities to the public, even when there is NO tsunami threat, but the perception that there could be.
- Tremendous vulnerability to life from tsunamis in the Region;
- Opportunities for partnerships with other bodies that coordinate and execute region-wide exercises;
- Importance of testing and refinement of warning systems and national protocols;



According to the historical tsunami data base, over the past 500 years, at least 75 tsunamis have been observed in the region, and although they do not occur as frequently as in other basins, the vulnerability is very large; upwards of 500,000 people could be killed within hours if the response is not adequate.

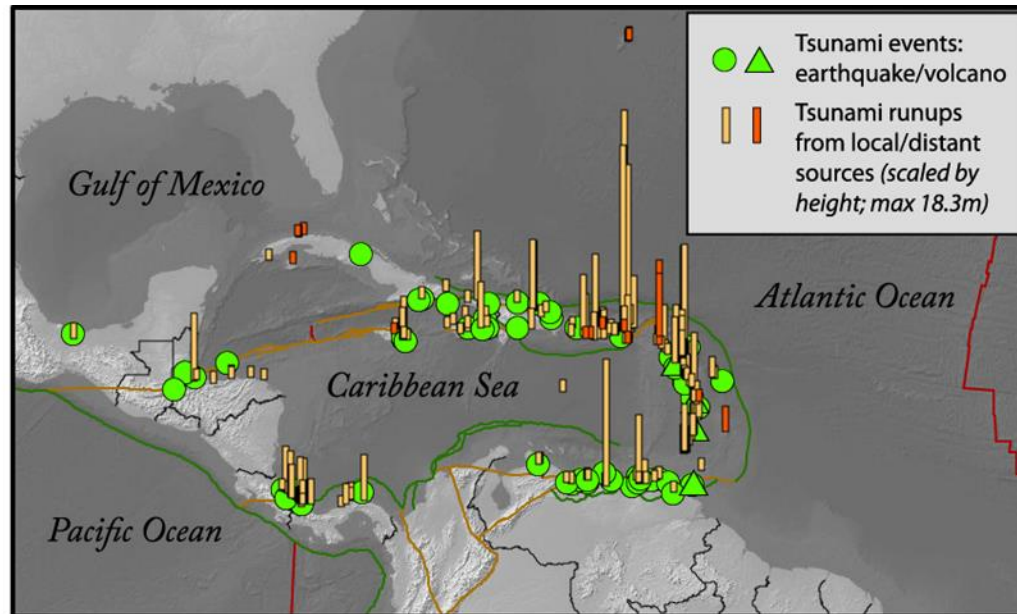


Figure: Map of tsunami run-ups in the Caribbean 1493-2013  
(National Geophysical Data Center, <http://www.ngdc.noaa.gov/hazards/tsu.shtml>). Artist: Jesse Varner.

CARIBE WAVE/LANTEX 2014



# Objectives

- **To exercise and evaluate operations of the current Tsunami Warning System and in particular, the CARIBE EWS.**
  - Validate the **issuance** of tsunami products from the PTWC and NTWC.
  - Validate the **receipt and dissemination** of tsunami products by CARIBE EWS Tsunami Warning Focal Points (TWFP).
- **To continue process of exposure to PTWC proposed CARIBE EWS Enhanced products.**
  - Review and evaluate enhanced products that will be available in parallel with existing PTWC products.
  - Provide feedback on the staging, format and content of the experimental products

# Objectives (cont)

- **To validate the readiness to respond to a distant tsunami.**
  - Validate the operational readiness of the Tsunami Warning Focal Point (TWFP, or like function) and/or the National Disaster Management Office (NDMO).
  - To improve operational readiness. Before the exercise, ensure appropriate tools and response plan(s) have been developed, including public education materials
  - Validate dissemination of warnings and information/advice by Tsunami Warning Focal Points to relevant in-country agencies and the public is accurate and timely.
  - Validate the organisational decision-making process (tsunami response plans) about public warnings and evacuations.
  - Validate the methods used to notify and instruct the public are accurate and timely.

# Goals

Goal	Result for 2011	Metric 2013	Result 2013	Metric 2014
Participation of Member States of ICG CARIBE EWS	75%	85%	94%	95%
Compliance with the time line	100%	100%	Close to 100%	100%
Community involvement (beyond TWFP)	61%	75%	69%	75%
TWP receive the dummy message	90%	100%	98%	100%
Countries submit exercise questionnaire	94%	100%	90%	100%

# Exercise Manuals

- The exercise manuals are available at [www.caribewave.info](http://www.caribewave.info)
- They include suggested actions as well as a description of the scenario, the time table, travel times and expected wave heights, figures and samples of the messages that would be issued for such events and the website link to evaluation questionnaire.

# CARIBE WAVE/LANTEX 2014

- This exercise will provide simulated tsunami messages from the PTWC and NTWC triggered by a hypothetical earthquake located offshore Portugal and a submarine landslide within the Gulf of Mexico .
- The Portugal event will be modeled off the November 1, 1755 earthquake and tsunami.
- The tsunami generated by the earthquake affected the coasts of Portugal, Spain, North Africa, and the Caribbean.
- While the first tsunami waves reached Lisbon in about 20 minutes it was observed in Antigua about 9.3 hours after the earthquake.
- Later waves, with estimated runup heights of 7 meters, were observed at Saba, Netherlands, Antilles.

# CARIBE WAVE/LANTEX 2014

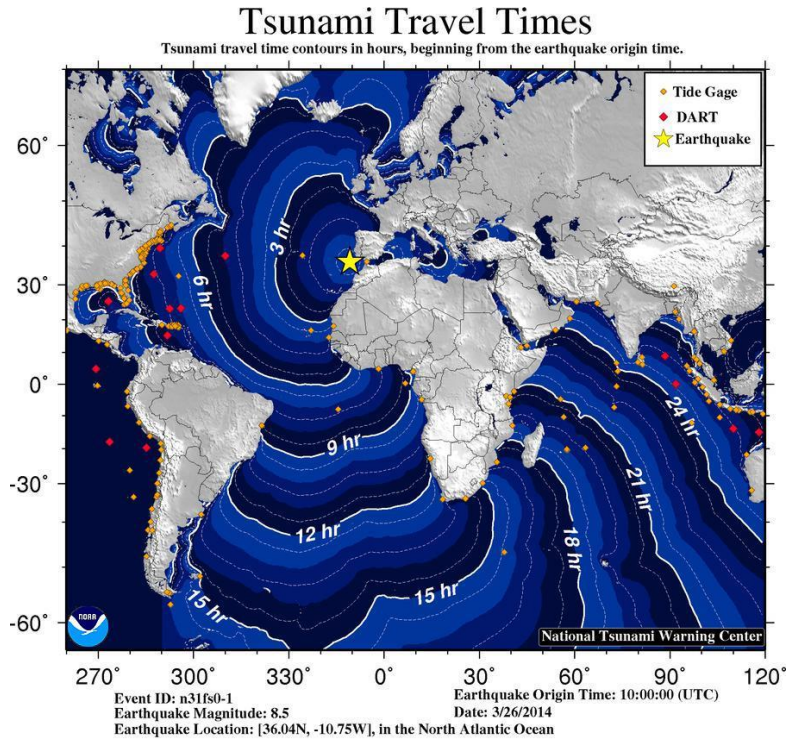


Figure A: Travel Times for Portugal Tsunami Scenario

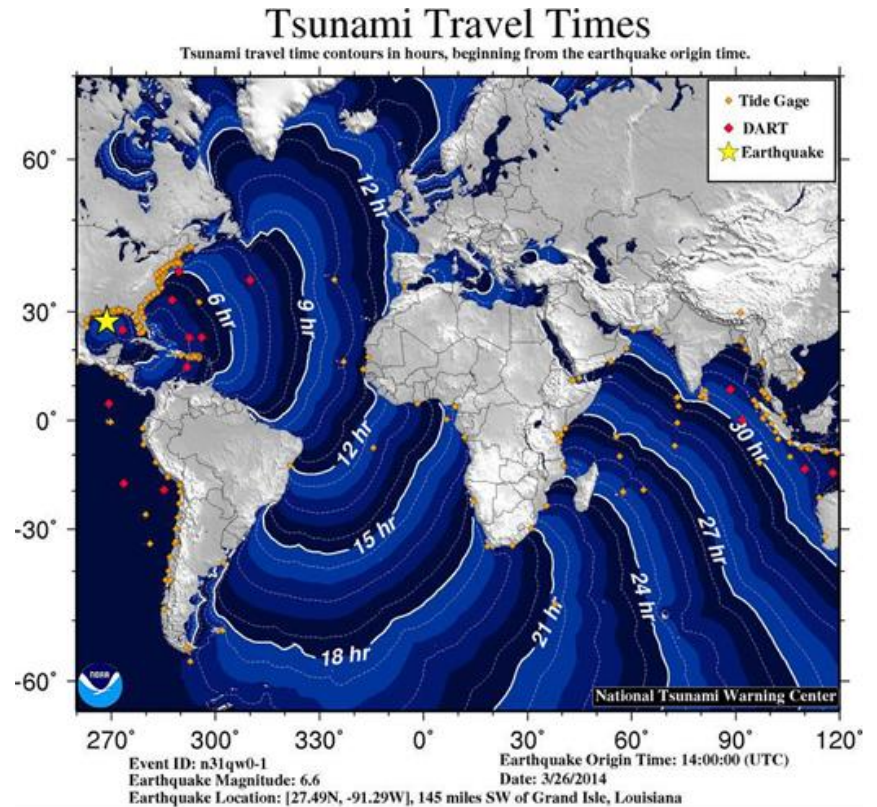


Figure B. Travel Times for Gulf of Mexico submarine landslide tsunami scenario

# CARIBE WAVE/LANTEX 2014

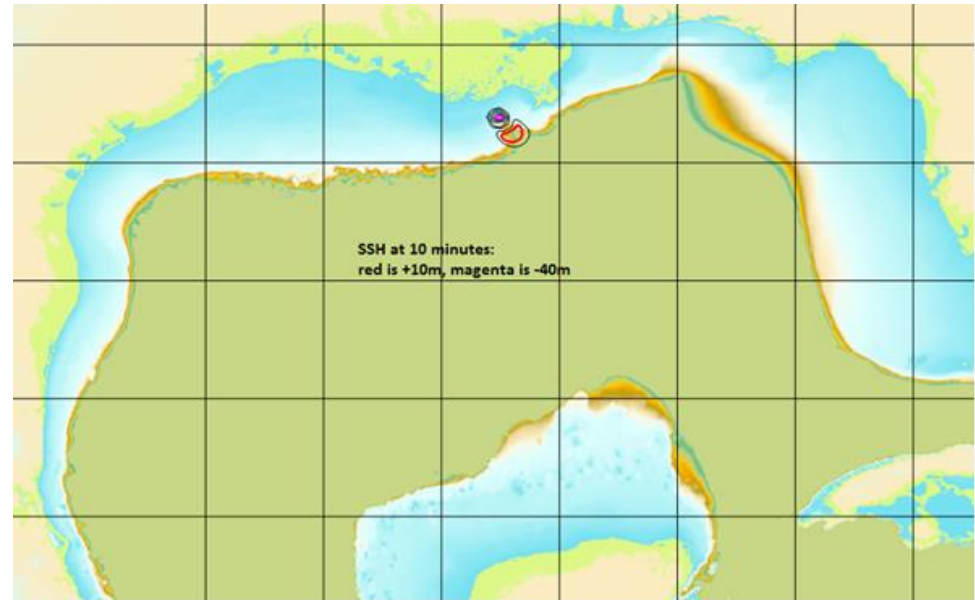
## Portugal Scenario

- March 26, 2014
- 10h00 UTC
- M 8.5, 270 km in the SW of Portugal
- Kick off messages will be issued by PTWC and NTWC. Other warning monitoring centers may also be issuing products.



# Gulf of Mexico Scenario

- March 26, 2014
- 14h00 UTC
- M 6.6
- North end of Mississippi Canyon
- Landslide: The slide is 100 cubic km volume; 22km wide; 65km long; 120m maximum thickness
- Kick off messages will be issued by PTWC and NTWC.





# CARIBE WAVE/LANTEX 2014

## Forecasted Tsunami Wave Heights

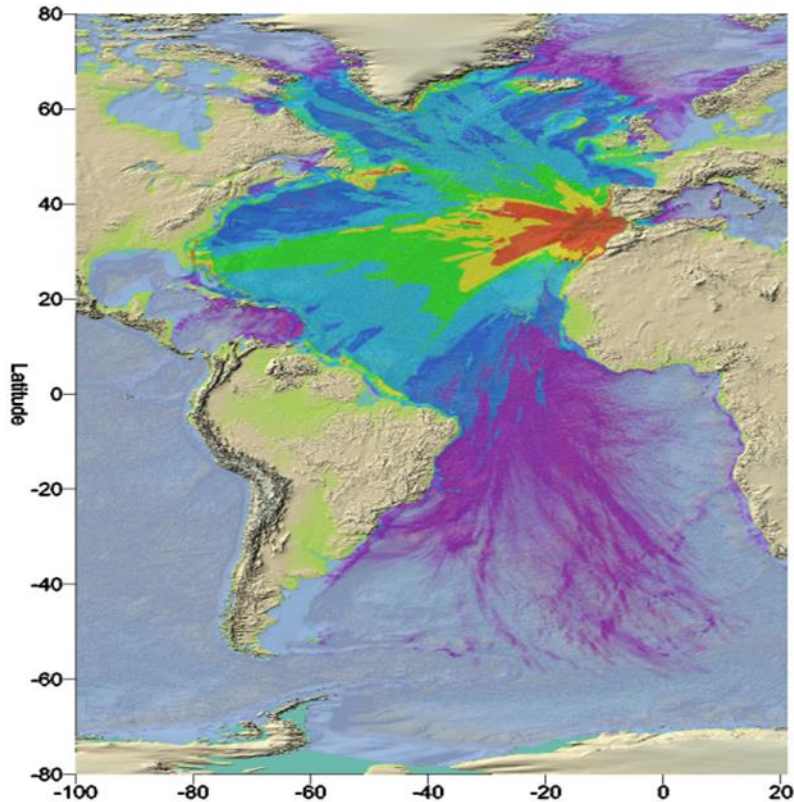


Figure A: Forecasted Tsunami Wave Heights for Portugal Tsunami Scenario

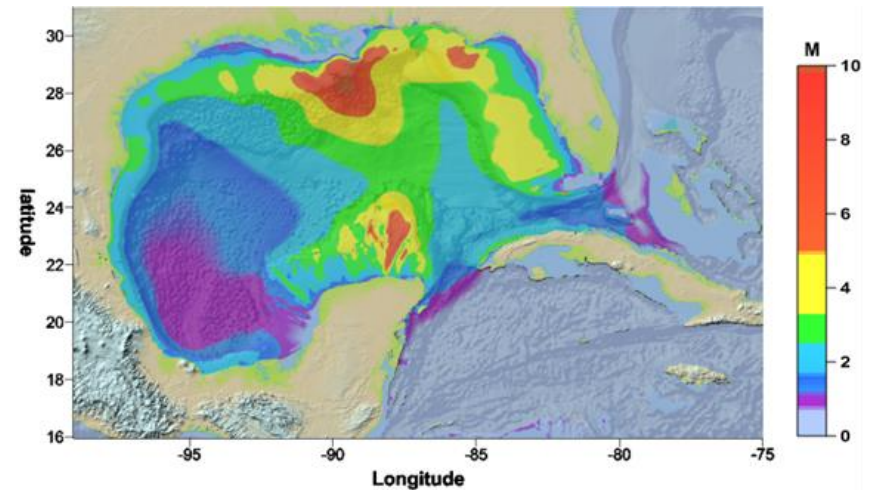


Figure B: Forecasted Tsunami Wave Heights for Gulf of Mexico submarine landslide tsunami scenario

# Product Types Issued for Dummy Message with Transmission Methods

CENTER	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	FAX	EMAIL
NTWC	WEXX30 PAAQ	TSUATE	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Product types

NWWS            NOAA Weather Wire Service  
 GTS             Global Telecommunications System  
 EMWIN         Emergency Manager's Weather Information Network  
 AISR            Aeronautical Information System Replacement

***In the case of NTWC the Dummy message will be issued with WMO ID WEXX30 PAAQ (instead of WEXX20 PAAQ) and AWIPS ID TSUATE (instead of TSUAT1).***

# Message Chronology

## Portugal Scenario

Date (UTC)	Time (UTC)	US NTWC Message				PTWC Message				
		#	Type	Dummy	Email	#	Type	Dummy	Email	
03/26/2014	1000		----- Earthquake Occurs -----							
03/26/2014	1005		Dummy	Yes	Yes		Dummy	Yes	Yes	
03/26/2014	1005	01	TIS #1 Watch?	No	Yes	01	Watch	No	Yes	
03/26/2014	1103	02	Watch	No	Yes	02	Watch	No	Yes	
03/26/2014	1204	03	Watch	No	Yes	03	Watch	No	Yes	
03/26/2014	1300	04	Watch	No	Yes	04	Watch	No	Yes	
03/26/2014	1400	05	Adv/Warn	No	Yes	05	Watch	No	Yes	
03/26/2014	1500	06	Adv/Warn	No	Yes	06	Watch	No	Yes	
03/26/2014	1602	07	Adv/Warn	No	Yes	07	Watch	No	Yes	
03/26/2014	1703	08	Adv/Warn	No	Yes	08	Watch	No	Yes	
03/26/2014	1805	09	Adv/Warn	No	Yes	09	Watch	No	Yes	
03/26/2014	1905	10	Adv/Warn	No	Yes	10	Watch	No	Yes	
03/26/2014	2002	11	Adv	No	Yes	11	Watch	No	Yes	
03/27/2014	2101	12	Adv	No	Yes	12	Watch	No	Yes	
03/27/2014	2201	13	Adv	No	Yes	13	Watch	No	Yes	
03/27/2014	2255	14	Can	No	Yes				Yes	
03/26/2014	2300	14				14	Watch	No	Yes	
03/26/2014	2355	15				15	Can	No	Yes	

**ALL THE SIMULATED MESSAGES WILL BE SENT OUT LIVE  
VIA EMAIL, BUT ONLY TO THOSE WHO HAVE  
REGISTERED. (At the moment the Puerto Rico Seismic  
Network is updating the online registration system, it  
will be available soon)**

**DEADLINE FOR REGISTRATION:  
MONDAY MARCH 24, 2014**

**[http://www.prsn.uprm.edu/caribewave-  
lantex2014/registro](http://www.prsn.uprm.edu/caribewave-lantex2014/registro)**

# Message Chronology

## Gulf of Mexico Scenario

Date (UTC)	Time (UTC)	NTWC Message			
		#	Type	Dummy	Email
03/26/2014	1400		***Earthquake Occurs***		
03/26/2014	1402	01	Warn	Yes	Yes
03/26/2014	1431	02	Warn	No	Yes
03/26/2014	1502	03	Adv/Warn	No	Yes
03/26/2014	1601	04	Adv/Warn	No	Yes
03/26/2014	1703	05	Adv/Warn	No	Yes
03/26/2014	1801	06	Adv/Warn	No	Yes
03/26/2014	1902	07	Adv/Warn	No	Yes
03/26/2014	2001	08	Adv/Warn	No	Yes
03/26/2014	2100	09	Adv	No	Yes
03/26/2014	2200	10	Adv	No	Yes
03/26/2014	2302	11	Can	No	Yes

# Simulated tsunami messages that will be provided by PTWC and NTWC:

- Warning
- Watch
- Advisory
- Cancellation



- National Tsunami Warning Center

- Caribbean Wide Tsunami Watch
- Cancellation



- Pacific Tsunami Warning Center

**THE MESSAGES WILL BE ISSUED LIVE VIA EMAIL,**  
**MUST REGISTER TO RECEIVE**

# Tsunami Messages

**West Coast & Tsunami Warning Center**  
<http://www.ptwc.srh.noaa.gov>  
**Puerto Rico Seismic Network**  
<http://tudlabino.uprm.edu> Telephone: 787-633-8633

**TSUNAMI MESSAGES**



- Danger!
- Run for high ground!
- Follow emergency instructions.

**WARNING**



**ADVISORY**

- Possible strong and dangerous local currents.
- Get out of the water and off the beach.
- Stay tuned for local emergency guidance.



- Potential danger.
- Stayed tuned for more information.

**WATCH**




- Relax.
- No danger.
- A distant ocean basin may be in danger.

**INFORMATION STATEMENT**

WEST COAST & ALASKA TSUNAMI WARNING CENTER


**Pacific Tsunami Warning Center**  
<http://www.weather.gov/ptwc/index.php>  
**Caribbean Tsunami Warning Program**  
<http://www.srh.noaa.gov/srh/ctwp>  
 TSUNAMI MESSAGES FOR THE CARIBBEAN EXCEPT FOR PUERTO RICO AND THE US VIRGIN ISLANDS






- Danger for all coasts within the Caribbean Region!
- Run for High Ground!
- Follow the instructions of the emergency management officials.

**CARIBBEAN SEA WIDE TSUNAMI WATCH**




- Danger for coasts within a thousand kilometers from Earthquake!
- Run for High Ground!
- Follow the instructions of the emergency management officials.

**REGIONAL TSUNAMI WATCH**



- Danger for coasts within a hundred kilometers from Earthquake!
- Run for High Ground!
- Follow the instructions of the emergency management officials.

**LOCAL TSUNAMI WATCH**



- Relax.
- No Danger.
- A more distant place may be in danger.

**INFORMATION STATEMENT**

# NEW: Tsunami Checklists for NDMO/TWFP

IOC Technical Series, 109 (1)  
Annex I – page 4

DISTANT TSUNAMI EVACUATION RESPONSIBILITIES CHECKLIST FOR GOVERNMENT DISASTER RESPONSE AGENCIES		
This is a simple checklist to use when doing an evacuation. List the agency (ies) / department(s) responsible for actions and recommended number of minutes (e.g. +10 minutes) after earthquake origin time. Distant tsunami wave arrival time expected more than 3 hours after earthquake origin time.	Earthquake Origin Time: 0000	
	Agency(ies) / Department(s):	Time (mins):
	_____	
Prepare to start electrical generators	_____	<u>Tbd</u>
If your facility is located in a tsunami evacuation zone: • Prepare to shutoff utilities (e.g. electrical, gas, water) • Protect key equipment (e.g. computers) • Remove key documents (e.g. financial, personal information)	_____	<u>Tbd</u>
Determine if tsunami has caused coastal damage / injuries and the need to initiate search and rescue operations	_____	<u>Tbd</u>
Determine when to declare the "all clear"	_____	<u>Tbd</u>
Prepare for post tsunami impact operations	_____	<u>tbd</u>
Do roll call for workers_____ and volunteers_____	_____	<u>Tbd</u>

Table I-1. Actions, agencies, and timing for a distant tsunami event

EVENT	TIME (WHEN)	ACTIVITY (WHAT INFO)	AUTHORITY (WHO)	MEDIUM (HOW)	TO (TARGET)
EQ Occurs					
Tsunami might come					
Evacuate					
Tsunami comes					
Safe to return					

Table I-2. Table to be used as a guide for timing, actions, authority, communication means, and target audiences in case of a tsunami event.

DISTANT TSUNAMI EVACUATION RESPONSIBILITIES CHECKLIST FOR GOVERNMENT DISASTER RESPONSE AGENCIES		
This is a simple checklist to use when doing an evacuation. List the agency (ies) / department(s) responsible for actions and recommended number of minutes (e.g. +10 minutes) after earthquake origin time. Distant tsunami wave arrival time expected more than 3 hours after earthquake origin time.	Earthquake Origin Time: 0000	
	Agency(ies) / Department(s):	Time (mins):
	_____	
Tsunami message received	_____	<u>+10</u>
Call in staff	_____	<u>+15</u>
Activate emergency centers/ Notify public safety agencies	_____	<u>+25</u>
Coordinate sounding of public sirens and alarm notifications	_____	<u>+45</u>
Initiate media notifications and evacuation announcements	_____	<u>+45</u>
Initiate evacuation of people away from coast (Tsunami Evacuation Maps)	_____	<u>Tbd</u>
Put boats/ships out to sea if wave impact time permits	_____	<u>Tbd</u>
Setup road-blocks and evacuation routes	_____	<u>Tbd</u>
Guide people through traffic points to shelter	_____	<u>Tbd</u>
Initiate recall of disaster response workers	_____	<u>Tbd</u>
Open and operate refuge centers	_____	<u>Tbd</u>



## Appendix D. TWC Dummy Messages

### US NTWC

WEXX30 PAAQ 201305  
TSUATE

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
205 AM AST WED MAR 26 2014

...CARIBE WAVE/LANTEX14 PORTUGAL EVENT TSUNAMI EXERCISE MESSAGE. REFER TO NTWC  
MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE CARIBE WAVE/LANTEX14 PORTUGAL EVENT  
TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE  
NATIONAL TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN  
THE HANDBOOK. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE  
EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST  
TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

### PTWC

WECA41 PHEB 201305  
TSUCAX

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST  
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS  
ISSUED AT 1005Z 26 MAR 2014

...CARIBE WAVE/LANTEX14 PORTUGAL EVENT TSUNAMI EXERCISE MESSAGE. REFER TO PTWC  
MESSAGE 1 IN THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...

THIS MESSAGE IS BEING USED TO START THE CARIBE WAVE/LANTEXWAVE14 PORTUGAL EVENT  
TSUNAMI EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE  
PACIFIC TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN THE  
HANDBOOK. THE HANDBOOK IS AVAILABLE AT THE WEB SITE NTWC.ARH.NOAA.GOV. THE  
EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST  
TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

\$\$

## Appendix E. US TWC Exercise Messages

The following messages, created for the CARIBE WAVE/LANTEX14 tsunami exercise, are representative of the official standard products issued by the US NTWC and PTWC during a large magnitude 8.5 earthquake and tsunami originating 270 miles west of Gibraltar at 36.04°N, 10.75°W. During a real event, the TWCs would also issue graphical and html-based products to their web sites and via RSS. The alerts would persist longer during a real event than is depicted in this exercise.

### US NTWC Message #1

WEXX32 PAAQ 261005  
TIBATE

PUBLIC TSUNAMI INFORMATION STATEMENT NUMBER 1  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
605 AM EDT WED MAR 26 2014

... THIS IS A TSUNAMI INFORMATION STATEMENT FOR THE U.S. AND CANADA  
EAST COASTS/ GULF OF MEXICO STATES/PUERTO RICO/ THE U.S. VIRGIN  
ISLANDS AND THE BRITISH VIRGIN ISLANDS...

#### EVALUATION

- \* EARTHQUAKES OF THIS SIZE ARE KNOWN TO GENERATE TSUNAMIS POTENTIALLY DANGEROUS TO COASTS OUTSIDE THE SOURCE REGION.
- \* THE U.S. NATIONAL TSUNAMI WARNING CENTER IS ANALYZING THE EVENT TO DETERMINE THE LEVEL OF DANGER.
- \* MORE INFORMATION WILL BE ISSUED AS IT BECOMES AVAILABLE.
- \* THIS EARTHQUAKE HAS THE POTENTIAL TO GENERATE A DESTRUCTIVE TSUNAMI IN THE SOURCE REGION.

#### PRELIMINARY EARTHQUAKE PARAMETERS

* MAGNITUDE	8.0
* ORIGIN TIME	0600 EDT MAR 26 2014
	0500 CDT MAR 26 2014
	0600 AST MAR 26 2014
	1000 UTC MAR 26 2014
* COORDINATES	36.0 NORTH 10.8 WEST
* DEPTH	3 MILES
* LOCATION	NORTH ATLANTIC OCEAN

#### NEXT UPDATE AND ADDITIONAL INFORMATION

- \* MESSAGES WILL BE ISSUED HOURLY TO KEEP YOU INFORMED OF THE PROGRESS OF THIS EVENT.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV) FOR ADDITIONAL INFORMATION.
- \* CARIBBEAN COASTAL REGIONS OUTSIDE PUERTO RICO... U.S. VIRGIN ISLANDS AND BRITISH VIRGIN ISLANDS SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

\$\$

CARIBE WAVE/LANTEX 14 Handbook

TSUNAMI WARNING CENTER MESSAGES AT PTWC.WEATHER.GOV.

\$\$

**US NTWC Bulletin #14**

WEXX30 PAAQ 262255  
TSUATE

BULLETIN  
PUBLIC TSUNAMI MESSAGE NUMBER 14  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
655 PM EDT WED MAR 26 2014

...THE TSUNAMI ADVISORY IS CANCELLED...

CANCELLATIONS

- \* THE TSUNAMI ADVISORY IS CANCELED FOR THE COASTAL AREAS OF FLORIDA - GEORGIA - SOUTH CAROLINA - NORTH CAROLINA - VIRGINIA - MARYLAND - DELAWARE - NEW JERSEY - NEW YORK - CONNECTICUT - RHODE ISLAND - MASSACHUSETTS - NEW HAMPSHIRE - MAINE - NEW BRUNSWICK - NOVA SCOTIA - NEWFOUNDLAND AND LABRADOR FROM FLAMINGO FLORIDA TO CAPE CHIDLEY LABRADOR
- \* THE TSUNAMI WARNING IS CANCELED FOR PUERTO RICO - THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS

IMPACTS - UPDATED

- \* TSUNAMI ACTIVITY HAS SUBSIDED ALONG THE COASTS OF PUERTO RICO... U.S. VIRGIN ISLANDS... BRITISH VIRGIN ISLANDS... AND U.S. AND CANADIAN COASTS IN THE ATLANTIC.
- \* ONGOING ACTIVITY MAY PERSIST IN SOME AREAS CAUSING STRONG CURRENTS DANGEROUS TO SWIMMERS AND BOATS.
- \* THE DETERMINATION TO RE-OCCUPY HAZARD ZONES MUST BE MADE BY LOCAL OFFICIALS.

RECOMMENDED ACTIONS - UPDATED

- \* DO NOT RE-OCCUPY HAZARD ZONES UNTIL LOCAL EMERGENCY OFFICIALS INDICATE IT IS SAFE TO DO SO.

OBSERVATIONS OF TSUNAMI ACTIVITY - UPDATED

SITE	TIME OF MEASUREMENT	OBSERVED MAX TSUNAMI HEIGHT
HUELVA SPAIN	1130 UTC 03-26	07.1FT
TARIFA SPAIN	1145 UTC 03-26	05.9FT
CASCAS PORTUGAL	1151 UTC 03-26	09.9FT
LA PALMA SPAIN	1250 UTC 03-26	02.1FT
ARRECIFE SPAIN	1252 UTC 03-26	03.1FT
POINT DELGADA AZORES	1342 UTC 03-26	05.6FT
FERROL SPAIN	1410 UTC 03-26	01.7FT
DAKAR SENEGAL	1515 UTC 03-26	00.4FT
CHRISTIANSTED USVI	1745 UTC 03-26	01.3FT
LAMESHUR BAY USVI	1752 UTC 03-26	03.2FT
CHARLOTTE AMALIE USVI	1845 UTC 03-26	04.1FT
LIMTETREE USVI	1832 UTC 03-26	01.1FT

## CARIBE WAVE/LANTEX 14 Handbook

MAYAGUEZ PR	1757 UTC	03-26	02.7FT
FAJARDO PR	1751 UTC	03-26	02.7FT
ARECIBO PR	1815 UTC	03-26	05.2FT
BERMUDA	1811 UTC	03-26	02.9FT
SAINT JOHNS CANADA	1833 UTC	03-26	02.9FT
HALIFAX CANADA	1848 UTC	03-26	01.9FT
MONTAUK NY	1912 UTC	03-26	00.9FT
OCEAN CITY MD	1919 UTC	03-26	01.1FT
NANTUCKET MA	1949 UTC	03-26	01.9FT
ATLANTIC CITY NJ	1951 UTC	03-26	02.6FT
VIRGINIA BEACH VA	1955 UTC	03-26	02.1FT
DUCK NC	2020 UTC	03-26	01.3FT
WATCH HILL RI	2033 UTC	03-26	00.7FT
PORTLAND ME	2034 UTC	03-26	00.2FT
TRIDENT PIER FL	2037 UTC	03-26	02.1FT
CHARLESTON SC	2037 UTC	03-26	00.4FT
KEY WEST FL	2104 UTC	03-26	00.3FT

HEIGHT - OBSERVED MAX TSUNAMI HEIGHT IS THE WATER LEVEL ABOVE THE TIDE LEVEL AT THE TIME OF MEASUREMENT.

ALL US EAST COAST - PUERTO RICO - USVI AND BRITISH VI LOCATIONS REPORTED WAVE HEIGHTS HAVE SUBSIDED TO LESS THAN 0.30 M.

### NEXT UPDATE AND ADDITIONAL INFORMATION

- \* THIS WILL BE THE FINAL U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGE ISSUED FOR THIS EVENT.
- \* REFER TO THE INTERNET SITE [NTWC.ARH.NOAA.GOV](http://NTWC.ARH.NOAA.GOV) FOR MORE INFORMATION.
- \* CARIBBEAN COASTAL REGIONS OUTSIDE PUERTO RICO... U.S. VIRGIN ISLANDS AND BRITISH VIRGIN ISLANDS SHOULD REFER TO THE PACIFIC TSUNAMI WARNING CENTER MESSAGES AT [PTWC.WEATHER.GOV](http://PTWC.WEATHER.GOV).

\$\$

### **US NTCW Spanish Bulletin #1**

WEXX42 PAAQ 261005  
TIBSPN

NUMERO BOLETIN INFORMATIVO TSUNAMI EXPERIMENTAL EN ESPANOL 1  
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK  
605 AM EDT WED MAR 26 2014

... BOLETIN INFORMATIVO ACERCA DEL PELIGRO DE TSUNAMI PARA LAS COSTAS DEL ESTE DE LOS ESTADOS UNIDOS Y CANADA/ GOLFO DE MEXICO/ PUERTO RICO/ ISLAS VIRGENES DE LOS ESTADOS UNIDOS Y ISLAS VIRGENES BRITANICAS...

### EVALUACION

- \* SE CONOCE QUE TERREMOTOS DE ESTE TAMAÑO GENERAN TSUNAMIS POTENCIALMENTE PELIGROSOS PARA COSTAS FUERA DEL LUGAR DE ORIGEN.
- \* EL CENTRO NACIONAL DE ALERTA DE TSUNAMIS ESTA ANALIZANDO EL EVENTO PARA DETERMINAR EL NIVEL DE PELIGROSIDAD.
- \* INFORMACION ADICIONAL SERA EMITIDA CUANDO ESTE DISPONIBLE.

CARIBE WAVE/LANTEX 14 Handbook

	PUERTO_CARRETO	8.8N	77.6W	2006Z	26	MAR
	PUERTO_OBALDIA	8.7N	77.4W	2018Z	26	MAR
	COLON	9.4N	79.9W	2040Z	26	MAR
	BOCAS_DEL_TORO	9.4N	82.2W	2052Z	26	MAR
MEXICO	COZUMEL	20.5N	87.0W	2028Z	26	MAR
	MADERO	22.3N	97.8W	2308Z	26	MAR
	VERACRUZ	19.2N	96.1W	2313Z	26	MAR
	TEXAS_BORDER	26.0N	97.1W	2323Z	26	MAR
	PROGRESO	21.3N	89.7W	0014Z	27	MAR
	CAMPECHE	19.9N	90.5W	0310Z	27	MAR
HONDURAS	FUERTO_CORTES	15.9N	88.0W	2032Z	26	MAR
	TRUJILLO	15.9N	86.0W	2119Z	26	MAR
GUYANA	GEORGETOWN	6.8N	58.2W	2033Z	26	MAR
SURINAME	PARAMARIBO	5.9N	55.2W	2033Z	26	MAR
COSTA_RICA	PUERTO_LIMON	10.0N	83.0W	2038Z	26	MAR
NICARAGUA	PUNTA_GORDA	11.4N	83.8W	2130Z	26	MAR
	PUERTO_CABEZAS	14.0N	83.4W	0057Z	27	MAR
BELIZE	BELIZE_CITY	17.5N	88.2W	2142Z	26	MAR
GUATEMALA	PUERTO_BARRIOS	15.7N	88.6W	2225Z	26	MAR

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI WARNING CENTER FOR THIS EVENT AS MORE INFORMATION BECOMES AVAILABLE.

**PTWC Message #15**

WECA41 PHEB 262355  
TSUCAX

TEST...TSUNAMI MESSAGE NUMBER 15...TEST  
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI  
2355 UTC WED MAR 26 2014

THIS MESSAGE APPLIES TO COUNTRIES WITHIN AND BORDERING THE CARIBBEAN SEA...EXCEPT FOR PUERTO RICO...THE U.S. VIRGIN ISLANDS...AND THE BRITISH VIRGIN ISLANDS.

... THE TSUNAMI WATCH IS CANCELLED ...

THE TSUNAMI WATCH IS NOW CANCELLED FOR

BERMUDA / DOMINICA / MONTSERRAT / BARBADOS / SAINT LUCIA /  
GUADELOUPE / SINT EUSTATIUS / SABA / MARTINIQUE / ANGUILLA /  
ANTIGUA / SAINT KITTS / BARBUDA / SINT MAARTEN / SAINT VINCENT /  
BRAZIL / DOMINICAN REP / TURKS N CAICOS / SAINT BARTHELEMY /  
TRINIDAD TOBAGO / BAHAMAS / GRENADA / SAINT MARTIN / HAITI /  
CUBA / FRENCH GUIANA / VENEZUELA / JAMAICA / GUYANA / SURINAME

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 1000Z 26 MAR 2014  
COORDINATES - 36.0 NORTH 10.8 WEST  
LOCATION - AZORES-CAPE ST. VINCENT RIDGE  
MAGNITUDE - 8.5

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

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

TUNFAN MC	21.0N	97.4W	2343	0.01M/ 0.0FT	29
VERACRUS MC	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
PORT 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	20
TACONY PALMYRA BR NJ	40.0N	75.0W	2154	0.69M/ 2.2FT	15
REEDY POINT DE	39.6N	75.6W	2154	0.69M/ 2.2FT	24
PHILADELPHIA FA	39.9N	75.1W	2154	0.69M/ 2.2FT	23
MARCUS HOOK FA	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	0.69M/ 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	39.7W	2132	0.26M/ 0.9FT	17
KEY WEST FL	24.6N	81.8W	2126	0.18M/ 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	0.79M/ 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
SPRINGDALE 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 FA	40.1N	74.8W	2035	0.65M/ 2.1FT	17
BERGEN POINT NY	40.6N	74.1W	2035	0.60M/ 2.0FT	20
KIPTOPHNE VA	37.2N	76.0W	2033	0.74M/ 2.4FT	30
EL FORVENIR RM	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
CONNECTICUT 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 SCHARA OH	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	80.5W	1959	0.22M/ 0.7FT	24
LEWIS 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
CAFE 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

SAINTE HELENA UK	15.9S	5.7W	1910	0.28M/ 0.9FT	30
TORFOLA VI UK	18.4N	64.6W	1855	0.49M/ 1.6FT	22
HATTERAS MC	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
BARANHOA DO	18.2N	71.1W	1839	0.24M/ 0.8FT	16
ILE ROYAL GUIANA FR	5.2N	52.6W	1837	1.05M/ 3.5FT	30
CAP HAITIEN HT	19.8N	72.2W	1824	0.71M/ 2.3FT	16
TAMORADI GA	4.9N	1.7W	1821	0.21M/ 0.7FT	17
FRICOLEY BAY GD	12.0N	61.8W	1818	0.45M/ 1.5FT	17
CHARLOTTE-AMALIE VI	18.3N	64.9W	1818	0.53M/ 1.7FT	21
CULEBRA IS FR	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
MAGREYS ISLAND FR	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
PUEERTO ELAZO DO	19.8N	70.7W	1808	0.78M/ 2.6FT	31
LAMESBUR 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
ISABELLI VIEQUES PR	18.2N	65.4W	1801	0.58M/ 1.9FT	19
PUNTELAS PR	18.0N	66.8W	1800	0.42M/ 1.4FT	29
AGUADILLA PR	18.5N	67.2W	1753	1.02M/ 3.4FT	22
MAYAGUES 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
YANCOCA PR	18.1N	65.8W	1747	0.50M/ 1.7FT	28
DART 41424	32.9N	72.5W	1745	0.07M/ 0.2FT	22
ARRECIBO PR	18.5N	66.7W	1744	1.23M/ 4.0FT	31
LIMESTREE VI	17.7N	64.8W	1744	0.51M/ 1.7FT	25
SAN JUAN PR	18.5N	66.1W	1740	1.07M/ 3.5FT	22
PORT 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	0.13M/ 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 FRECHUR MQ	14.8N	61.2W	1730	0.56M/ 1.8FT	24
DESSAIES GP	16.3N	61.8W	1729	0.72M/ 2.4FT	23
PORT ST CHARLES DD	13.3N	59.6W	1728	1.31M/ 4.3FT	16
DART 44402	39.5N	70.6W	1728	0.07M/ 0.2FT	21
PANAMA AG	17.1N	61.8W	1724	0.96M/ 3.1FT	24
DESIRADE GR	16.3N	61.1W	1715	0.89M/ 2.9FT	30
DART 41421	23.4N	63.9W	1708	0.11M/ 0.3FT	22
BERNEDA 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
DAYAR SN	14.7N	17.4W	1437	0.76M/ 2.5FT	27
NOUANCHOTT MA	18.1N	15.9W	1422	0.68M/ 2.2FT	14
PALMEIRA CAPE VERDE	16.8N	23.0W	1344	0.94M/ 3.1FT	30
PONTE DELGADA PT	37.7N	25.7W	1214	3.73M/12.2FT	23
FERRAS 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

LAT - LATITUDE (N-NORTH, S-SOUTH)

LONG - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (S IS UTC IS GREENWICH TIME)

AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

CARIBE WAVE/LANTEX 14 Handbook

EVALUATION

A SIGNIFICANT TSUNAMI WAS GENERATED BY THIS EARTHQUAKE. HOWEVER...SEA LEVEL READINGS NOW INDICATE THAT THE THREAT HAS DIMINISHED OR IS OVER FOR MOST AREAS. THEREFORE THE TSUNAMI WATCH ISSUED BY THIS CENTER IS NOW CANCELLED.

FOR ANY AFFECTED AREAS - WHEN NO MAJOR WAVES HAVE OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

THIS WILL BE THE FINAL PRODUCT ISSUED BY THE PACIFIC TSUNAMI WARNING CENTER FOR THIS EVENT UNLESS ADDITIONAL INFORMATION BECOMES AVAILABLE

Exercise

# Member State Participation

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





# Media Arrangements

- PRSN Tsunami Media Guide (English and Spanish) (<http://www.prsn.uprm.edu/mediakit/>)
- Seismic Research Unit Tsunami and other Coastal Hazards WS Media Information Kit ([http://www.uwiseismic.com/Downloads/TCHWS Final Media Kit.pdf](http://www.uwiseismic.com/Downloads/TCHWS_Final_Media_Kit.pdf)).
- Sample press release in Handbook which can be adapted as necessary.
- NOAA and UNESCO could be issuing press releases in advance of the event

# Actions in Case of a Real Event

- In the case of a real event occurring during the exercise, the TWCs will issue their normal messages for the event. Such messages will be given full priority and a decision will be made by the TWCs whether to issue the dummy message and to send email messages to registered recipients. Smaller earthquakes that only trigger a Tsunami Information Statement will not disrupt the exercise. All documentation and correspondence relating to this exercise is to be clearly identified as “**CARIBE WAVE 14/LANTEX 14**” and “**Exercise.**”

# Procedure for False Alarm

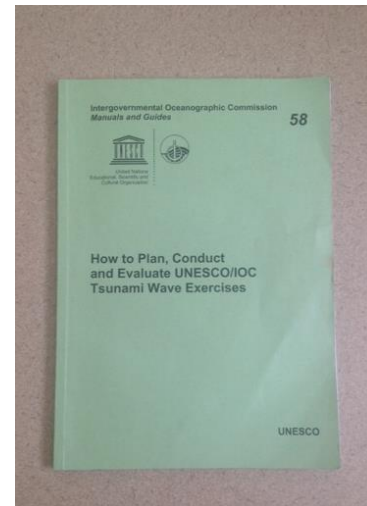
- Any time disaster response exercises are conducted, the potential exists for the public or media to interpret the event as real. Procedures should be set up by all participating entities to address public or media concerns involving this exercise in case of mis-interpretation by media or the public.

# Post-Exercise Evaluation Form

- All participating agencies are requested to provide brief feedback on the exercise. This feedback will assist the ICG/CARIBE-EWS, NTHMP, and NOAA in the evaluation of CARIBEWAVE14 and the development of subsequent exercises, and help response agencies document lessons learned.
- The deadline for completing the evaluation is **April 11, 2014**.
- Survey Monkey through the following link: <https://www.surveymonkey.com/s/VHM92KG>.

# Resources

- IOC Manual “How to plan, conduct and evaluate tsunami exercises” which will also be a useful resource.
- CARIBE WAVE 2011 and 2013 Manuals
- CARIBE WAVE 2013 Final and Media Report
- PTWC Communications Plan for the Caribbean
- Available at [www.caribewave.info](http://www.caribewave.info)



# CARIBE WAVE LANTEX 2014 Task Team

- Christa von Hillebrandt-Andrade, CARIBE EWS and NWS Caribbean Tsunami Warning Program
- Victor Hugo Cano, Dawn French y Philippe Sarron, CARIBE EWS
- Jean Marie Saurel, Chair of Working Group 1, Martinique Volcano Observatory.
- Narcisse Zahibo, Chair of Working Group 2, Université des Antilles et Guyane, Guadeloupe
- Kerry Hinds, Chair of Working Group 4, Dept. of Disaster Management, Barbados
- Alison Brome, Director of Caribbean Tsunami Information Center
- Charles McCreery and Gerard Fryer, Pacific Tsunami Warning Center
- Paul Whitmore and James Waddell, National Tsunami Warning Center
- Ronald Jackson, Director of CDEMA or his Designate
- Noel Barrillas, Director/Wilfried Strauch of CEPREDENAC
- Bernardo Aliaga, Technical Secretary ICG CARIBE EWS
- Melinda Bailey, NWS Southern Region
- Wilfredo Ramos, PRSEMA
- Víctor Huérfano, Puerto Rico Seismic Network
- Fernando Carrilho, Instituto Portugues do Mar e da Atmosfera

# Additional Info

CARIBE WAVE/LANTEX 2014

Additional Links and Information for CARIBE WAVE 2014 exercise

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



Webinars for CARIBE WAVE/LANTEX 2014


- 15h00 UTC, Wednesday, January 22, 2014 in English  
<https://www1.gotomeeting.com/register/905870972>
- 15h00 UTC, Jueves, 23 de Enero de 2014 en Espanol  
<https://www1.gotomeeting.com/register/548199432>
- 15h00 UTC, Vendredi, 24 Janvier de 2014 en Francais  
<https://www1.gotomeeting.com/register/284320296>
- 15h00 UTC, Wednesday, February 19, 2014 in English  
<https://www1.gotomeeting.com/register/167785881>
- 15h00 UTC, Jueves, 20 de Febrero de 2014 en Espanol  
<https://www1.gotomeeting.com/register/829228621>
- 15h00 UTC, Vendredi, 21 Fevrier en Francais  
<https://www1.gotomeeting.com/register/898900856>
- PTWC Enhanced Products for CARIBE WAVE/LANTEX 2014 (pending)
- Register by March 24, 2014 to receive Tsunami Messages during CARIBE WAVE/LANTEX 2014
- Exercise CARIBE WAVE/ LANTEX14 Portugal Scenario [Participant Handbook](#)
- Exercise LANTEX 14 Gulf of Mexico Scenario, [Participant Handbook](#)
- How to Plan, Conduct and Evaluate Tsunami Exercises ([English](#) | [Espanol](#))
- [CARIBE WAVE/LANTEX 2014 Post-Exercise evaluation, Deadline: April 11, 2014](#)

Additional Online Resources for CARIBE WAVE/LANTEX 2014:

- [US National Tsunami Warning Center](#)
- [UNESCO IOC](#)


Additional Links and Information for CARIBE WAVE 2013 exercise


- [Preliminary Executive Summary](#) CARIBE WAVE/LANTEX 2013 Tsunami Exercise
- [CARIBE WAVE/LANTEX 2013 Final Report](#)
- [Media Releases](#)
- Exercise CARIBE WAVE/ LANTEX13 [Participant Handbook](#)
- How to Plan, Conduct and Evaluate Tsunami Exercises ([English](#) | [Espanol](#))
- LANTEX 2013 [Presentation](#) (English)
- [Animation of the Tsunami Propagation](#) of the Caribe Wave Scenario in the Caribbean
- Animations of Tsunami Inundation of the CARIBE WAVE Scenario in Puerto Rico
  - [West \(coast\)](#) | [Central \(central\)](#) | [East \(east\)](#)


online Puerto Rico  
red sismica
english

---

Nuestro Trabajo
Sismicidad
Educación
Tsunami
Investigación
Enlaces


home
uprm.edu



**No hay aviso, vigilancia o advertencia de tsunami para Puerto Rico e Islas Vírgenes**

**SISMOS SIGNIFICATIVOS MAS RECIENTES**

Magnitud	Agencia	Hora Local (GMT-4)	Latitud	Longitud	Prof	Región
3.61 Md	PRSN	2014-01-16 03:38:10	19.1491	-86.6705	37	ZONA DE FALLA DE LOS 19° N
3.35 Md	PRSN	2014-01-14 19:50:30	19.0628	-86.7745	44	ZONA DE FALLA DE LOS 19° N
3.51 Md	PRSN	2014-01-14 11:27:29	19.5286	-84.3333	46	TRINCHERA DE PUERTO RICO
4.24 Md	PRSN	2014-01-14 08:08:50	19.129	-86.9183	42	ZONA DE FALLA DE LOS 19° N
3.60 Md	PRSN	2014-01-13 06:50:02	18.844	-86.784	41	ZONA DE FALLA DE LOS 19° N
3.68 Md	PRSN	2014-01-13 03:12:21	19.1383	-86.845	41	ZONA DE FALLA DE LOS 19° N
3.59 Md	PRSN	2014-01-13 03:08:08	19.1106	-86.7885	38	ZONA DE FALLA DE LOS 19° N

# Webinars

- ✓ 22 January in English
- 23 de enero en Español
- 24 janvier à Français
- 19 February in English
- 20 de febrero en Español
- 21 février à Français



# Questions, Comments

Thank you for participating

# Updated Timeline

Action	Due Date
Draft Circulated among ICG CARIBE EWS TNC/TWFP	August 15, 2013
Deadline for Comments	September 16, 2013
Final Exercise Manual Available on Line	January, 2014
Circular Letter Issued by IOC to MS	January 16, 2014
1st Webinar	January 22, 23 and 24, 2014
2 <sup>nd</sup> Webinar	February 19, 20 and 21, 2014
Exercise	March 26, 2014
Exercise Evaluation Questionnaire Due	April 11, 2014
Final CARIBE WAVE 2014 Report	ICG CARIBE EWS IX _ May 13-15, 2014, USVI