

# CARIBE WAVE/LANTEX 2015 Task Team Meeting

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

**NOAA NWS Caribbean Tsunami Warning Program  
ICG CARIBE EWS Chair  
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# CARIBE WAVE LANTEX 2015 Task Team

<u>Person</u>	<u>Task Team Meeting</u>	<u>Telephone #</u>	<u>Email</u>
Christa von Hillebrandt-Andrade, CARIBE EWS and CARIBE WAVE 15 Chair; NWS CTWP Manager		1-787-249-8307	<a href="mailto:christa.vonh@noaa.gov">christa.vonh@noaa.gov</a>
Milton Puentes, Vice Chair		57 (1) 2020490	<a href="mailto:milpuentes@gmail.com">milpuentes@gmail.com</a>
Denis Lopez, Vice Chair		596-596-39393	<a href="mailto:denis.lopez@martinique.pref.gouv.fr">denis.lopez@martinique.pref.gouv.fr</a>
Aura Fernandez		582-122575153	<a href="mailto:aefernandez@funvisis.gob.ve">aefernandez@funvisis.gob.ve</a>
Jean Marie Saurel, Chair WG1		596-596-784146	<a href="mailto:saurel@ipgp.fr">saurel@ipgp.fr</a>
Alberto Lopez, Chair WG2		1-787-832-4040	<a href="mailto:alberto.lopez3@upr.edu">alberto.lopez3@upr.edu</a>
Antonio Aguilar, Chair WG3		582-122575153	<a href="mailto:antoniodesastres@gmail.com">antoniodesastres@gmail.com</a>
Patrick Tyburn, Chair WG4		596-596-393813	<a href="mailto:patrick.tyburn@martinique.pref.gouv.fr">patrick.tyburn@martinique.pref.gouv.fr</a>
Bernardo Aliaga, Technical Secretary		33-1-45683980	<a href="mailto:b.aliaga@unesco.org">b.aliaga@unesco.org</a>
Alison Brome, Interim Director, CTIC		246-438-7575	<a href="mailto:a.brome@unesco.org">a.brome@unesco.org</a>
Ronald Jackson, Director CDEMA		246-425-0386	<a href="mailto:Ronald.Jackson@cdema.org">Ronald.Jackson@cdema.org</a>
Roy BarbozaSequeira, Executive Secretary, CEPREDENAC		502-2390-0200	<a href="mailto:rbarboza@sica.int">rbarboza@sica.int</a>
Walt Zaleski, NWS Southern Region		1-817-978-1100x107	<a href="mailto:walt.zaleski@noaa.gov">walt.zaleski@noaa.gov</a>
Wilfredo Ramos, PREMA Rep.		1-787-724-0124 ext. 20036	<a href="mailto:wramos@prema.pr.gov">wramos@prema.pr.gov</a>
Paul Whitmore NTWC Director		1-907-745-4212	<a href="mailto:paul.whitmore@noaa.gov">paul.whitmore@noaa.gov</a>
James Waddell NTWC Rep.		1-907-745-4212	<a href="mailto:james.waddell@noaa.gov">james.waddell@noaa.gov</a>
Charles McCreery PTWC Director		1-808-689-8207	<a href="mailto:charles.mccreery@noaa.gov">charles.mccreery@noaa.gov</a>
Gerard Fryer PTWC Rep.		1-808-689-8207	<a href="mailto:gerard.fryer@noaa.gov">gerard.fryer@noaa.gov</a>
Víctor Huérfano PRSN Director		1-787-833-8433	<a href="mailto:victor@prsn.uprm.edu">victor@prsn.uprm.edu</a>
Eduardo Camacho, Director Instituto Geociencias de la Universidad de Panamá		1-507-523-5557	<a href="mailto:ecamacho@cableonda.net">ecamacho@cableonda.net</a>
Arnulfo Sánchez		1-507-501-5197	<a href="mailto:asanchez@amp.gob.pa">asanchez@amp.gob.pa</a>

# 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 2014

- 31 Members States and 16 of the territories in the Caribbean and Adjacent Regions participated in this exercise. This represented a participation rate of 98% (up from 94% in 2013 and 75% in 2011) of all the countries and territories in the CARIBE EWS.

\*Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Brazil (observer), Colombia, Costa Rica, Curacao, Dominica, Dominican Republic, France (Martinique, Guadeloupe, Guyana, 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, Montserrat, and Turks and Caicos), United States (Puerto Rico and the US Virgin Islands) and Venezuela (Bolivarian Republic of).

# Feedback from CARIBE WAVE/LANTEX 2014

- 94% (equal to 94% in 2013) of the Tsunami Warning Focal Points received in a timely fashion the “dummy” message sent by the Tsunami Warning Centers (TWC)
- 53% (up from 47% in 2013) 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 dependent on email for reception of products
- 87% of the TWFP/NDMO indicated that they had an activation and response process (standard operating procedures) in place for the receipt of tsunami warnings.
- Emergency response plan for tsunamis:
  - 63% of participating countries had a plan for local tsunamis
  - 67% of participating countries had a plan for regional tsunamis
  - 68% of participating countries had a plan for distant tsunamis
- 10 Member States or their territories indicated that they had tsunami inundation maps available for evacuated areas (up from 8 in 2013).
- 22% (up from 20% in 2013) of the TWFP/NDMO indicated that they had tsunami mass coastal evacuation plan.

CARIBE WAVE/LANTEX 2015

# Timeline

Action	Due Date
Draft handbook among ICG CARIBE EWS TNC/TWFP	August 15, 2014
Deadline for Comments	September 12, 2014
Final Exercise handbook Available on Line	November 10, 2014
Circular Letter Issued by IOC to MS	December 5, 2014
1 <sup>st</sup> Webinar	January 20, 21, 22, 2015, 14h00 AST (18h00 UTC); E,S,F
2 <sup>nd</sup> Webinar	February 24, 25, 26, 2015 14h00 AST (18h00 UTC); E,S,F
Exercise	March 25, 2015 (Wednesday)
Exercise Evaluation Questionnaire Due	April 9, 2015 (Thursday)
Draft Final CARIBE WAVE 2015 Report	ICG CARIBE EWS X

# 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 are to be issued as of first quarter 2015 parallel with existing PTWC products.
  - Provide feedback on the staging, format and content of the enhanced products



# Objectives (cont)

- **To validate the readiness to respond to a local/regional 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 2013	Metric 2014	Result 2014	Metric 2015
Participation of Member States of ICG CARIBE EWS  - With designated focal warning point	94%	95%	98% (including two MS/Territory unofficial)	95%  100%
Compliance with the time line	Close to 100%	100%	Almost 100%, little later than planned getting out handbook	100%
Community involvement (beyond TWFP)	69%	75%	75%	80%
Number people registered			191,000	+10%
TWFP receive the dummy message	98%	100%	94%	100%
Countries who participate submit exercise questionnaire	90%	100%	100%	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 2015

- This exercise will provide simulated tsunami messages from the PTWC and NTWC triggered by a hypothetical earthquake located offshore Panama and a submarine landslide off the coast of Florida.
- The Panama event will be modeled off the September 7, 1882 earthquake and tsunami.
- The tsunami generated by the 1882 Panama earthquake affected the coasts of countries and territories within the Caribbean.
- The maximum reported tsunami wave height resulting from the 1882 earthquake was 3.0 meters.

# CARIBE WAVE/LANTEX 2015

## Tsunami Travel Times

Tsunami travel time contours in hours, beginning from the earthquake origin time.

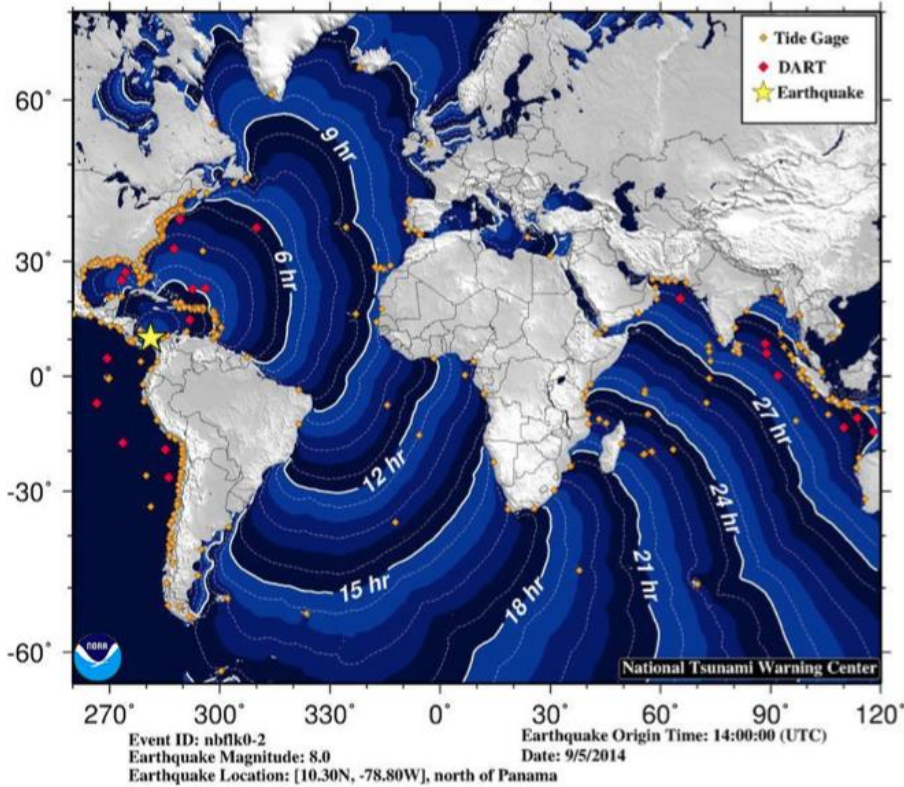


Figure A: Travel Times for Panama Tsunami Scenario

## Tsunami Travel Times

Tsunami travel time contours in hours, beginning from the earthquake origin time.

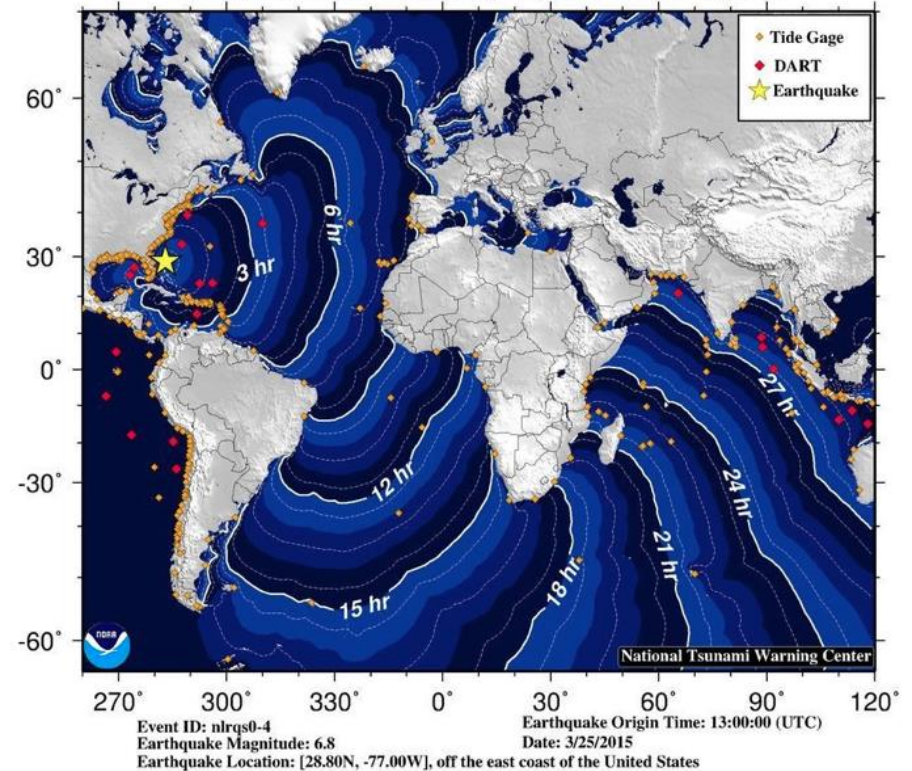
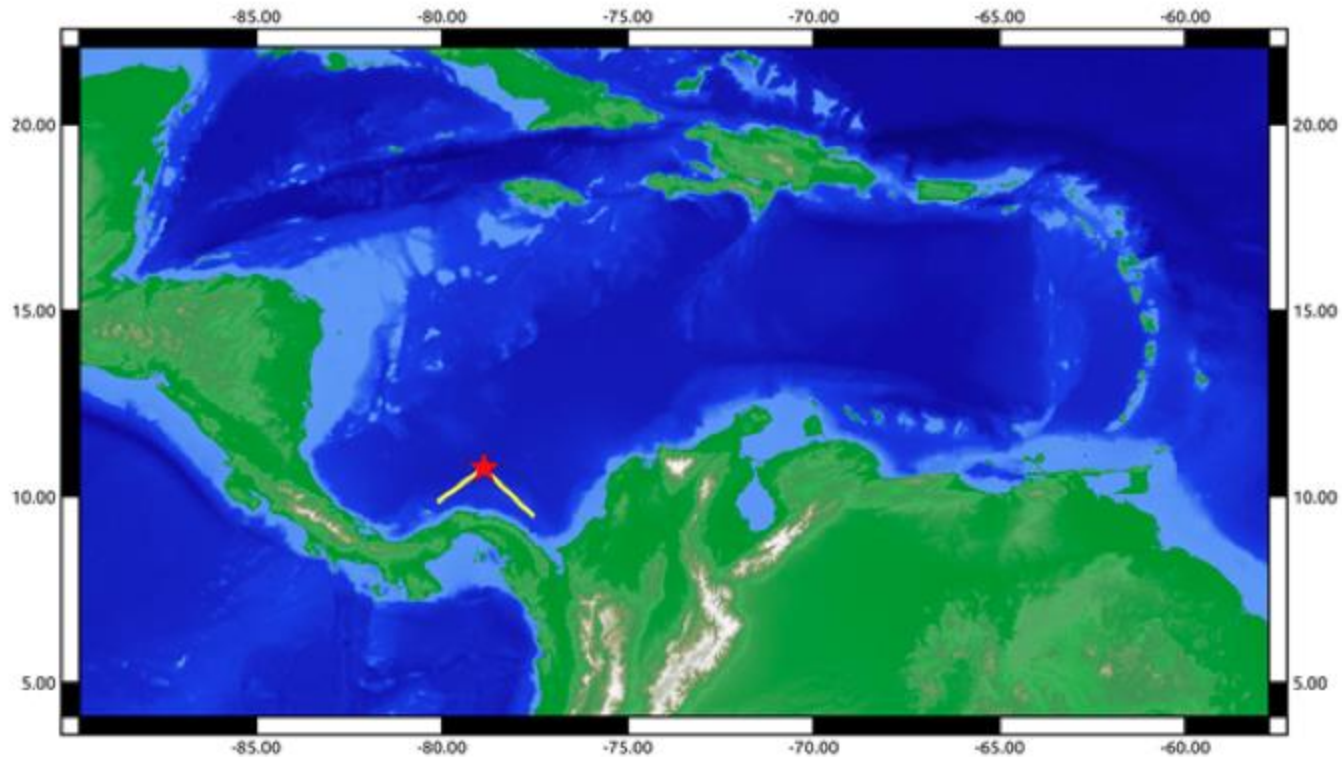


Figure B. Travel Times for the Florida submarine landslide tsunami scenario

# CARIBE WAVE/LANTEX 2015

## Panama Scenario



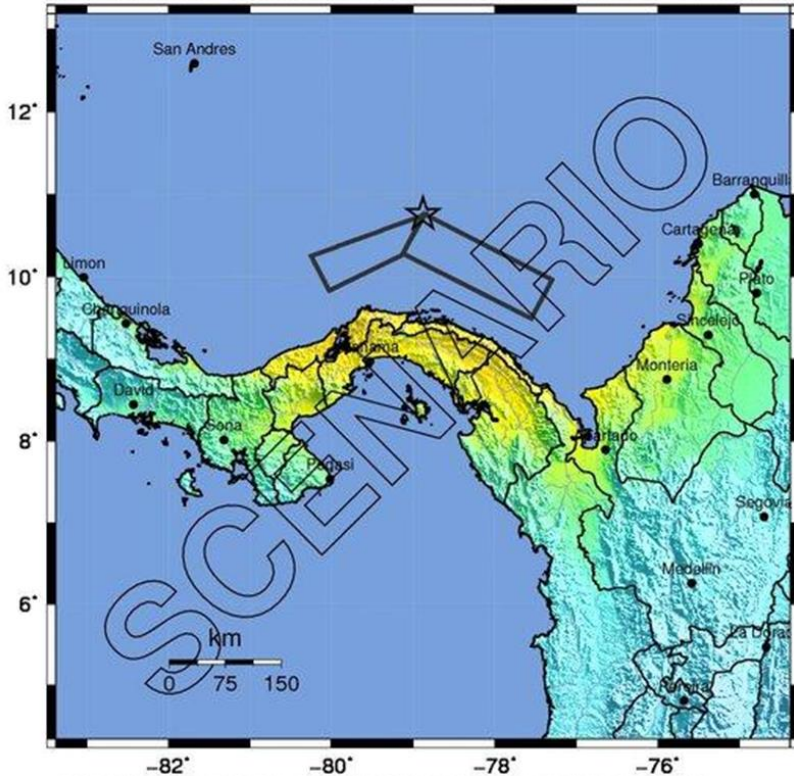
- March 25, 2015, 14h00 UTC
- M 8.5, north of Panama on the Northern Panama Deformed Belt
- Kick off messages will be issued by PTWC and NTWC. Other warning monitoring centers may also be issuing products.



# Earthquake Impact Scenario

## --- Earthquake Planning Scenario --- ShakeMap for Caribe\_Wave2015 Scenario

Scenario Date: Mar 25, 2015 02:00:00 PM UTC M 8.5 N10.76 W78.88 Depth: 15.0km



PLANNING SCENARIO ONLY --- Map Version 1 Processed 2014-09-24 06:14:13 PM UTC

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

Scale based upon Worden et al. (2012)



Earthquake Shaking **Orange Alert**

### M 8.5, Caribe Wave

Origin Time: Wed 2015-03-25 14:00:00 UTC (09:00:00 local)  
Location: 10.76°N 78.88°W Depth: 15 km

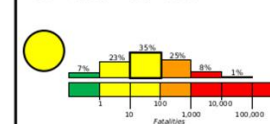
FOR TSUNAMI INFORMATION, SEE: [tsunami.gov](http://tsunami.gov)



PAGER  
Version 1

Created: -15707027 seconds after earthquake

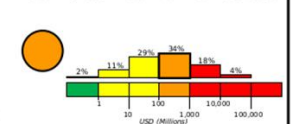
#### Estimated Fatalities



Orange alert level for economic losses. Significant damage is likely and the disaster is potentially widespread. Estimated economic losses are 0-1% GDP of Panama. Past events with this alert level have required a regional or national level response.

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

#### Estimated Economic Losses

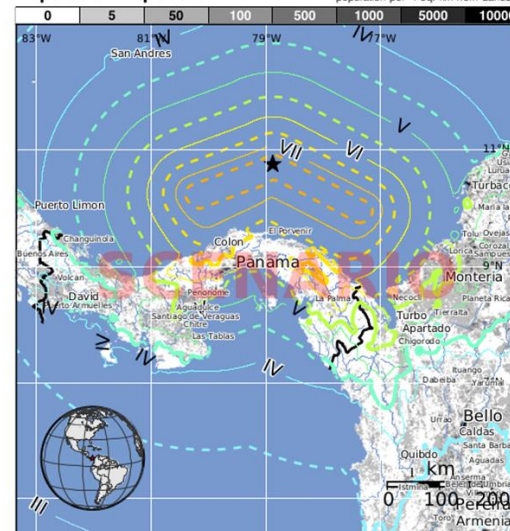


#### Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k = x1000)	0	1	2	3	4	5	6	7	8	9	10
ESTIMATED MODIFIED MERCALLI INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+		
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme		
POTENTIAL DAMAGE	Resistant Structures: none	Vulnerable Structures: none	Resistant Structures: none	Vulnerable Structures: none	V. Light	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy	

\*Estimated exposure only includes population within the map area

#### Population Exposure



**Structures:**  
Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are unreinforced brick masonry and mud wall construction.

#### Historical Earthquakes (with MMI levels):

Date (UTC)	Dist. (km)	Mag.	Max Shaking (MMI#)	Deaths
1985-04-20	254	6.3	VII(7k)	0
1976-07-11	386	7.3	IX(87k)	11
1974-07-13	362	7.3	IX(8k)	11

#### Selected City Exposure

MMI City	Population
VII Colon	77k
VII Ustupo	3k
VII Carti Suitupo	1k
VII San Ignacio de T.	1k
VII Cativa	30k
VII Margarita	3k
VI Panama	408k
V Barranquilla	1,380k
III Medellin	2,000k
III Pereira	440k
III Ibague	422k

bold cities appear on map (k = x1000)

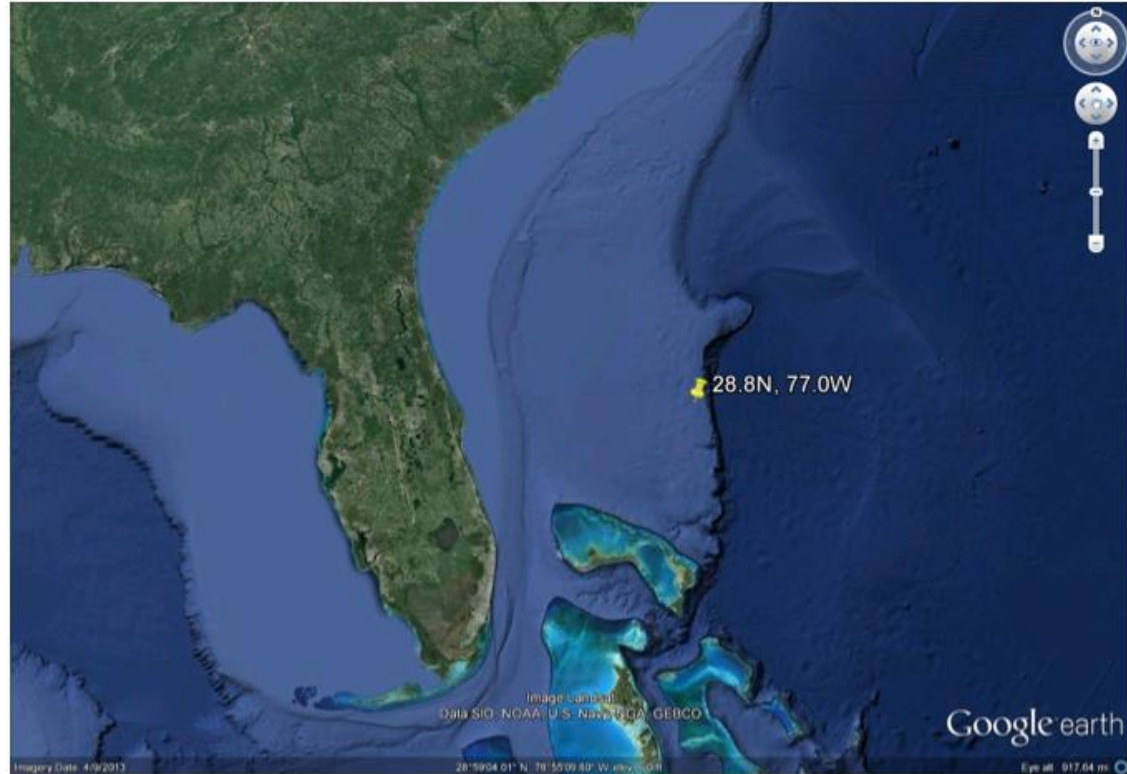
PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

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

Event ID: usCaribe.Wave2015.se

# Florida Scenario

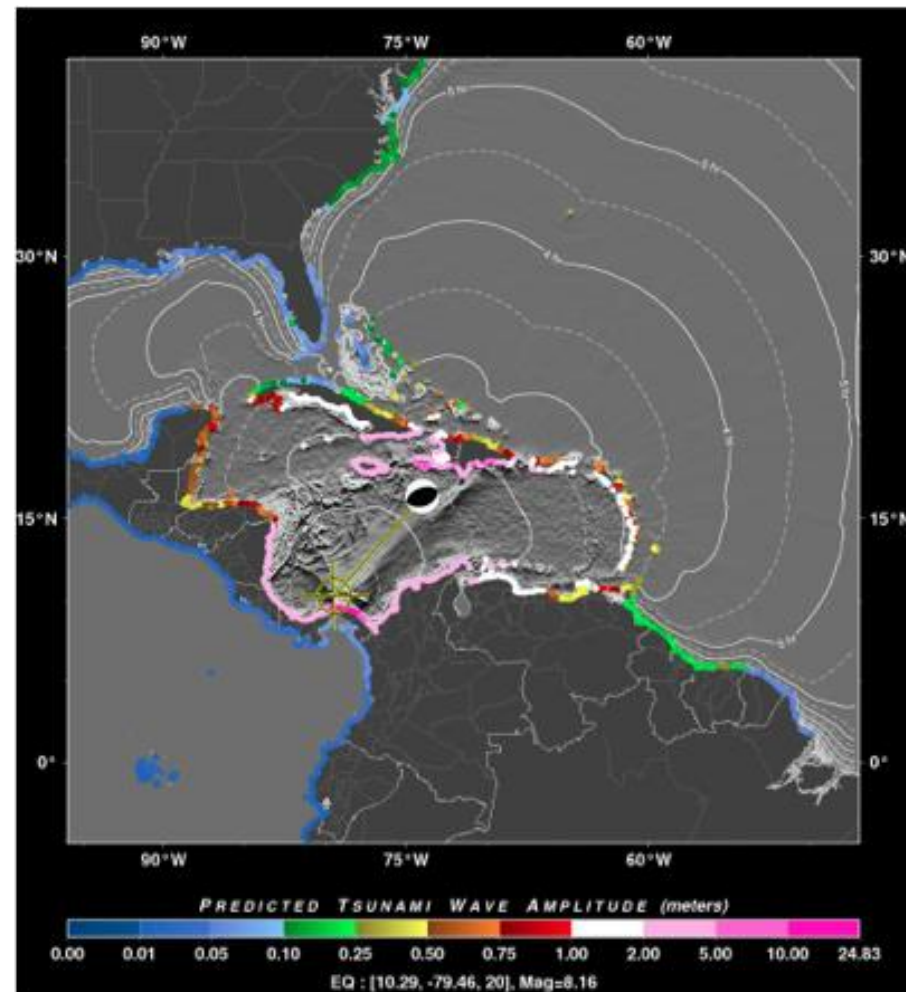
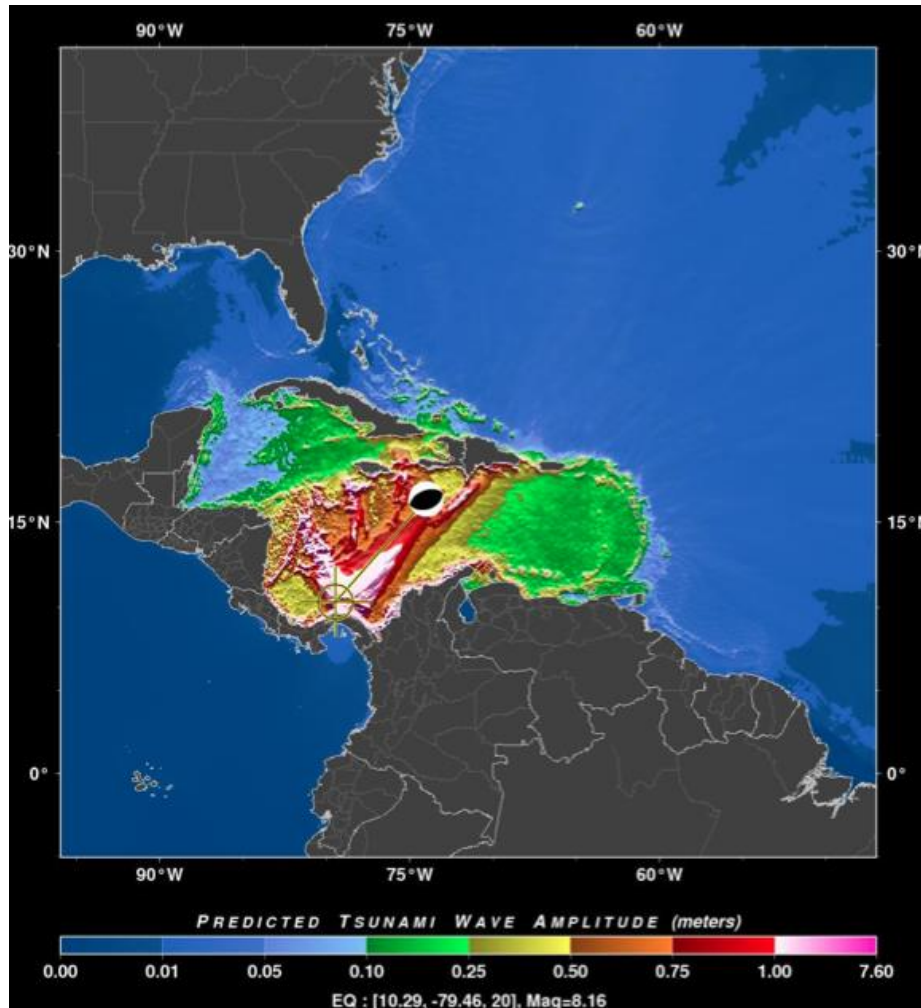
- March 25, 2015
- 14h00 UTC
- M 6.8
- 215 miles east of Port Canaveral, Florida
- Kick off messages will be issued by PTWC and NTWC.





# CARIBE WAVE/LANTEX 2015

## Forecasted Tsunami Wave Heights



Forecasted Tsunami Wave Heights for Panama Tsunami Scenario

# CARIBE WAVE/LANTEX 2015

## Forecasted Tsunami Wave Heights

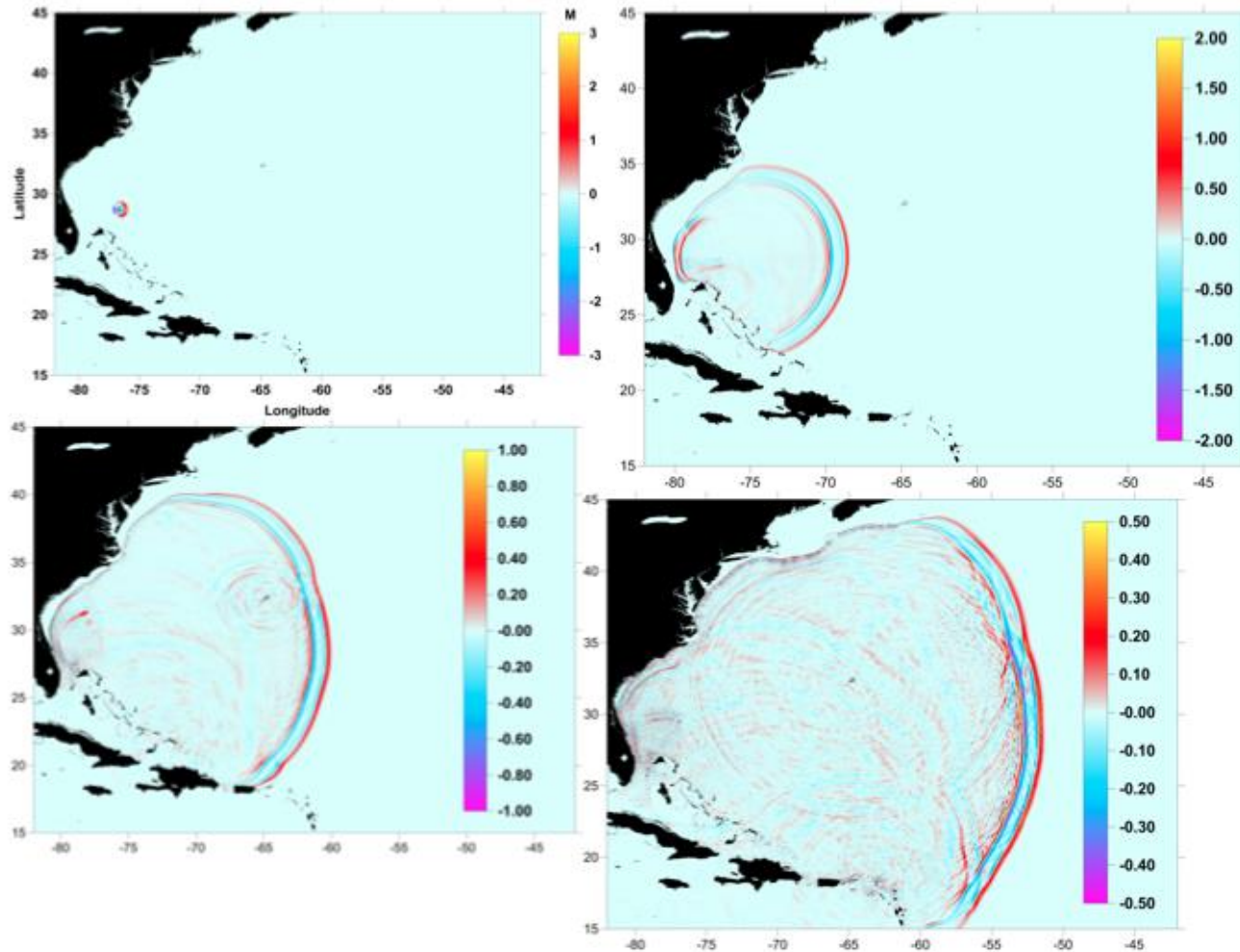


Figure B. Forecasted Tsunami Wave Heights for Florida submarine landslide tsunami scenario, showing tsunami at 5 minutes, 1 hour, 2 hours, and 3 hours.

# Product Types Issued for Dummy Message with Transmission Methods

Center	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	AISR	Fax	Email
NTWC	WEXX20 PAAQ	TSUAT1	Yes	Yes	Yes	Yes	No	No
NTWC	WEXX30 PAAQ	TSUATE	Yes	Yes	Yes	Yes	Yes	Yes
NTWC	WEXX40 PAAQ	TSUSPN	Yes	Yes	Yes	Yes	Yes	Yes
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes	Yes

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

## Panama Scenario

Date (UTC)	Time (UTC)	NTWC Message (for PR and VI)				PTWC Message				
		#	Type	Dummy	Email	#	Type	Dummy	Email	
03/25/2015	1400		----- Earthquake Occurs -----							
03/25/2015	1405	01	Adv	Yes	Yes	01	Watch	Yes	Yes	
03/25/2015	1430					02	Watch	No	Yes	
03/25/2015	1500	02	Warn	No	Yes	03	Watch	No	Yes	
03/25/2015	1602	03	Warn	No	Yes	04	Watch	No	Yes	
03/25/2015	1701	04	Warn	No	Yes	05	Watch	No	Yes	
03/25/2015	1800	05	Warn	No	Yes	06	Watch	No	Yes	
03/25/2015	1901	06	Adv	No	Yes	07	Watch	No	Yes	
03/25/2015	1945	07	Can	No	Yes	08	Can	No	Yes	

# Message Chronology

## Florida Scenario

Date (UTC)	Time (UTC)	NTWC Message			
		#	Type	Dummy	Email
03/25/2015	1300		---- Earthquake Occurs ----		
03/25/2015	1302	01	Warn	Yes	Yes
03/25/2015	1339	02	Warn	No	Yes
03/25/2015	1408	03	<u>Adv/Warn</u>	No	Yes
03/25/2015	1434	04	<u>Adv/Warn</u>	No	Yes
03/25/2015	1501	05	<u>Adv/Warn</u>	No	Yes
03/25/2015	1604	06	<u>Adv/Warn</u>	No	Yes
03/25/2015	1703	07	<u>Adv/Warn</u>	No	Yes
03/25/2015	1801	08	<u>Adv/Warn</u>	No	Yes
03/25/2015	1900	09	<u>Adv</u>	No	Yes
03/25/2015	2000	10	<u>Adv</u>	No	Yes
03/25/2015	2100	11	Cancel	No	Yes

# Simulated tsunami messages that will be provided by PTWC and NTWC (for the Panama scenario only):

➤ 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://westcwc.srh.noaa.gov>  
**Puerto Rico Seismic Network**  
<http://trudisemio.spm.edu> Telephone: 787-633-8632  
**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**

**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)**



## CARIBE WAVE LANTEX 2014

### Formulario de Registro/Registration Form

Favor de completar los siguientes campos para registrarse al ejercicio de Tsunami Caribe Wave/Lantex 2014. Los campos con \* son requeridos  
Please complete the fields below to register to the Tsunami Caribe Wave/Lantex 2014 exercise. A \* indicates a required field.

Nombre/Name\*:

Correo electrónico/Email\*:

Pais/Country\*:  Puerto Rico  Otro/Other

Municipio/Town\*:

Teléfono/Phone\*:

Proveedor de servicio móvil/Mobile Service Provider:  (para mensajes de texto/for text messages)

Tipo de participante/Kind of participant\*:

Nombre Completo de la Agencia/Agency\*:

Cantidad de personas participando/Number of people participating\*:

Registrarme/Submit

**DEADLINE FOR  
REGISTRATION:  
MONDAY  
MARCH 20, 2015**

**\*open item\***



# 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	_____	Tbd
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)	_____	Tbd
Determine if tsunami has caused coastal damage / injuries and the need to initiate search and rescue operations	_____	Tbd
Determine when to declare the "all clear"	_____	Tbd
Prepare for post tsunami impact operations	_____	tbd
Do roll call for workers_____ and volunteers_____	_____	Tbd

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	_____	+10
Call in staff	_____	+15
Activate emergency centers/ Notify public safety agencies	_____	+25
Coordinate sounding of public sirens and alarm notifications	_____	+45
Initiate media notifications and evacuation announcements	_____	+45
Initiate evacuation of people away from coast (Tsunami Evacuation Maps)	_____	Tbd
Put boats/ships out to sea if wave impact time permits	_____	Tbd
Setup road-blocks and evacuation routes	_____	Tbd
Guide people through traffic points to shelter	_____	Tbd
Initiate recall of disaster response workers	_____	Tbd
Open and operate refuge centers	_____	Tbd

# 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 15/LANTEX 15**” and “**Exercise.**”

# Procedure for False Alarm

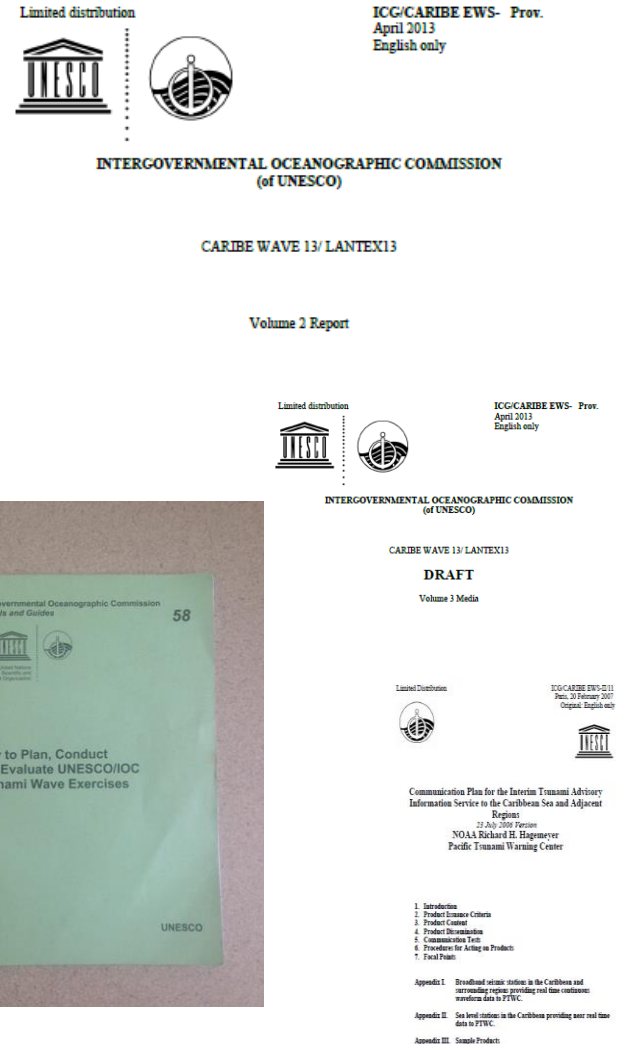
- Any time disaster response exercises are conducted, the potential exists for the public or media to interpret the event as real. Procedures should be set up by all participating entities to address public or media concerns involving this exercise in case of mis-interpretation by media or the public.

# 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 CARIBEWAVE15 and the development of subsequent exercises, and help response agencies document lessons learned.
- The deadline for completing the evaluation is **April 9, 2015**.
- Survey Monkey:  
[www.surveymonkey.com/s/CaribeWave15](http://www.surveymonkey.com/s/CaribeWave15)

# Resources

- IOC Manual “How to plan, conduct and evaluate tsunami exercises” which will also be a useful resource.
- CARIBE WAVE 2011, 2013, 2014 Manuals
- CARIBE WAVE 2013, 2014 Final and Media Report
- PTWC Communications Plan for the Caribbean
- Available at [www.caribewave.info](http://www.caribewave.info)



# 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



Webinars for CARIBE WAVE/LANTEX 2014

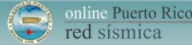
- 15h00 UTC, Wednesday, January 22, 2014 in English  
<https://www1.gotomeeting.com/register/905870972>
- 15h00 UTC, Jueves, 23 de Enero de 2014 en Espanol  
<https://www1.gotomeeting.com/register/548199432>
- 15h00 UTC, Vendredi, 24 Janvier de 2014 en Francais  
<https://www1.gotomeeting.com/register/284320296>
- 15h00 UTC, Wednesday, February 19, 2014 in English  
<https://www1.gotomeeting.com/register/147785881>
- 15h00 UTC, Jueves, 20 de Febrero de 2014 en Espanol  
<https://www1.gotomeeting.com/register/829228521>
- 15h00 UTC, Vendredi, 21 Fevrier en Francais  
<https://www1.gotomeeting.com/register/898900859>
- 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 \(east\)](#)


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**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	19.5288	-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



# Timeline

Action	Due Date
Draft handbook among ICG CARIBE EWS TNC/TWFP	August 15, 2014
Deadline for Comments	September 12, 2014
Final Exercise handbook Available on Line	November 10, 2014
Circular Letter Issued by IOC to MS	December 5, 2014
1 <sup>st</sup> Webinar	January 20, 21, 22, 2015, 14h00 AST (18h00 UTC); E,S,F
2 <sup>nd</sup> Webinar	February 24, 25, 26, 2015 14h00 AST (18h00 UTC); E,S,F
Exercise	March 25, 2015 (Wednesday)
Exercise Evaluation Questionnaire Due	April 9, 2015 (Thursday)
Draft Final CARIBE WAVE 2015 Report	ICG CARIBE EWS X

Another meeting of Task Team?

# Questions, Comments

Thank you for participating