



CARIBE WAVE/LANTEX 2015

Webinar English

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ICG CARIBE EWS Chair
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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 (**CEPREDENAC**)
- Etat-major interministériel de zone Antilles (**EMIZ Antilles**)
- 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. 191,000 people were registered.

*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.

- 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, 13, and 14 and CARIBE WAVE 11, 13, and 14. 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;
- Tremendous vulnerability to life from tsunamis in the Region;
- Importance of testing and refinement of warning systems and national protocols.
- 10th anniversary of the establishment of CARIBE EWS



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.

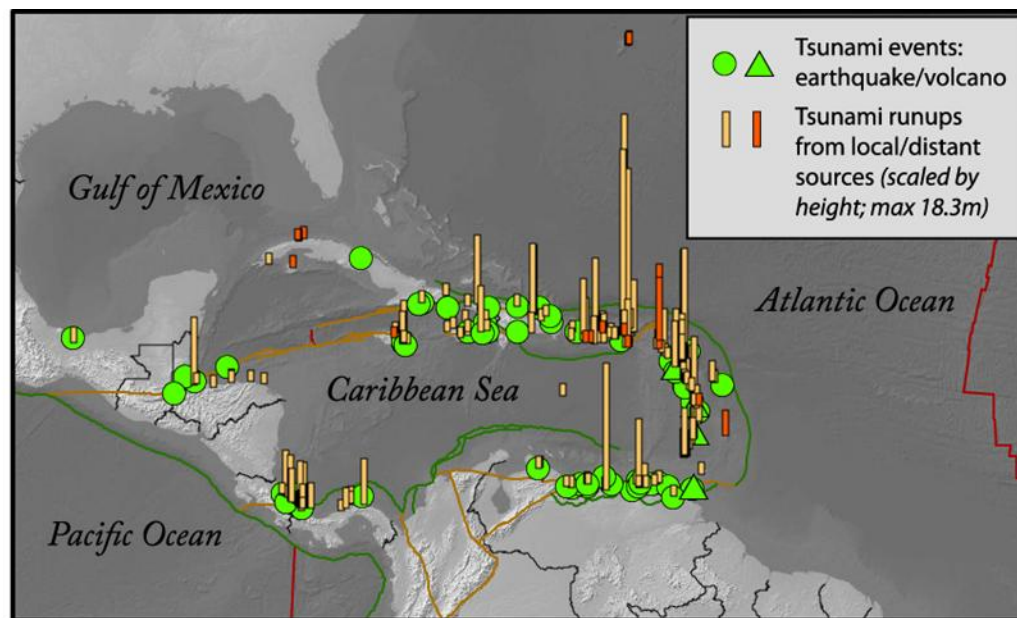


Figure: Map of tsunami run-ups in the Caribbean 1493-2013
(National Geophysical Data Center, <http://www.ngdc.noaa.gov/hazards/tsu.shtml>). Artist: Jesse Varner.

CARIBE WAVE/LANTEX 2015

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). *Looking for more reception via GTS, less dependancy on FAX and Email*
- **To continue process of exposure to PTWC proposed CARIBE EWS Enhanced products.**
 - Review and evaluate enhanced products that are to be issued as of the first quarter of 2015 in 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).
 - Improve operational readiness. Before the exercise, ensure appropriate tools and response plan(s) have been developed, including public education materials
 - Validate that 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 that 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	94%	95%	98% (including two MS/Territory unofficial)	95%
- With designated focal warning point				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
- 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 provides 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 was 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.

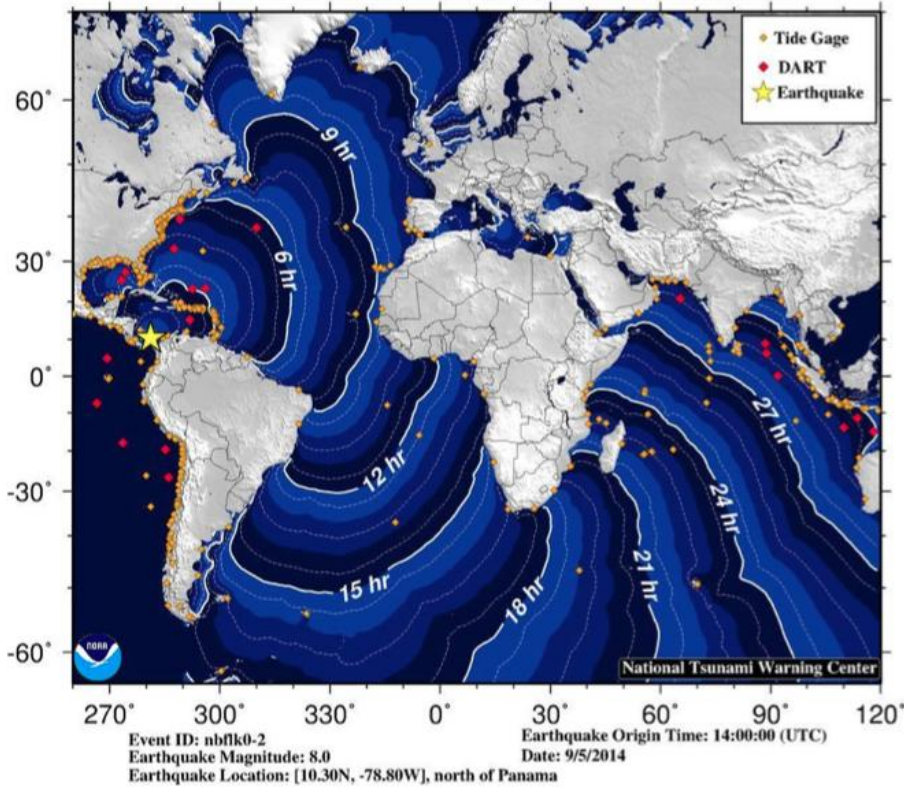


Figure A: Travel times for Panama tsunami scenario

Tsunami Travel Times

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

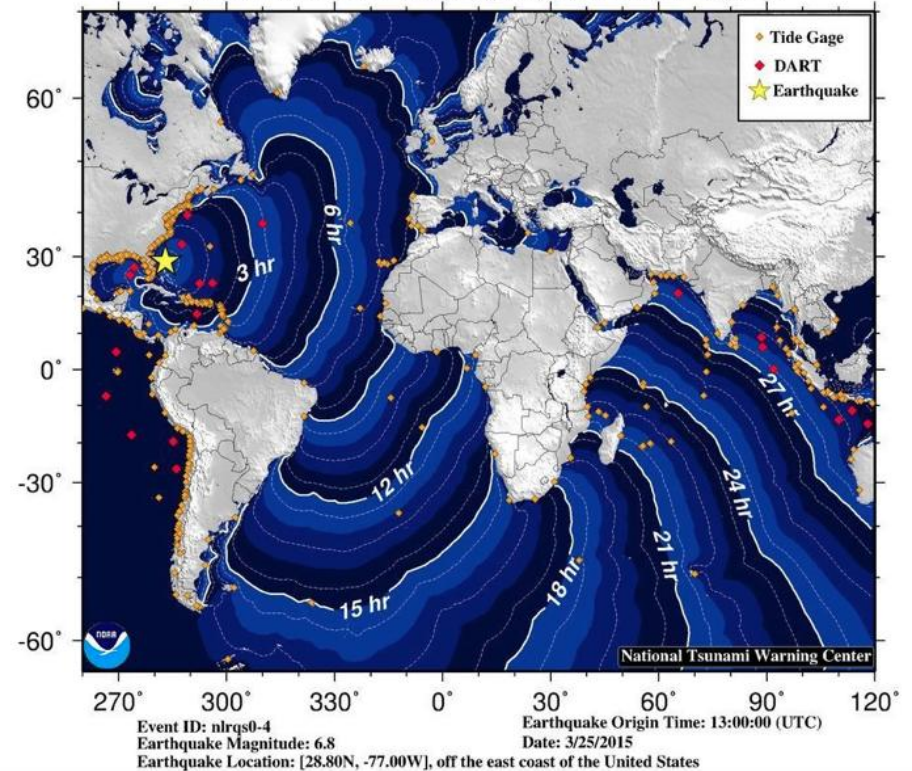
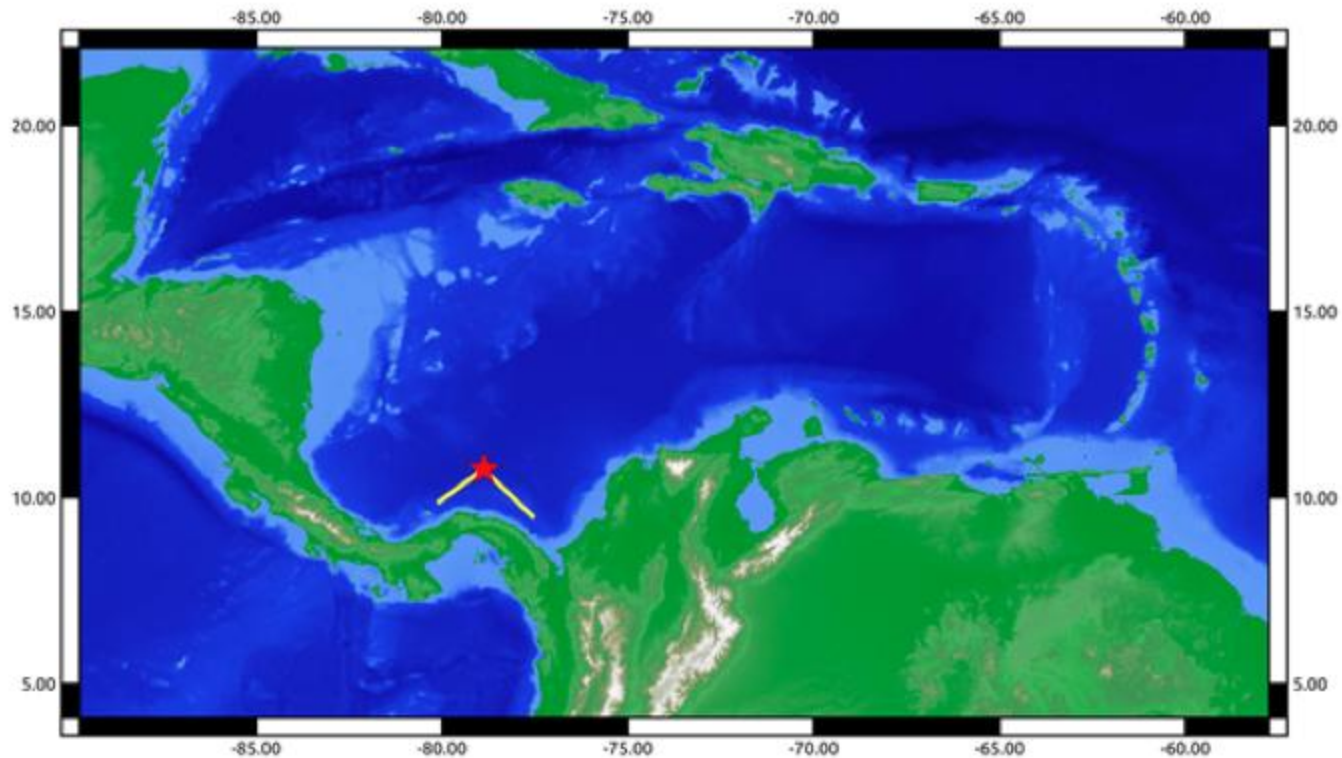


Figure B. Travel times for the Florida submarine landslide tsunami scenario

CARIBE WAVE/LANTEX 2015

Panama Scenario

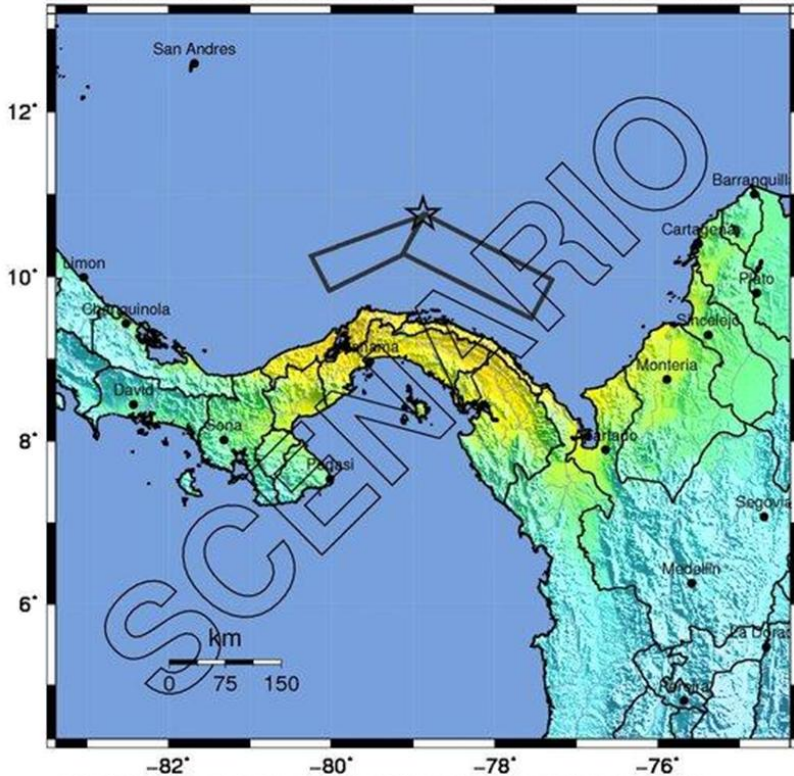


- March 25, 2015, 14h00 UTC
- M 8.5, north of Panama on the Northern Panama Deformed Belt
- Kick off messages will be issued by PTWC and NTWC. Other warning monitoring centers may also be issuing products.

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)



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

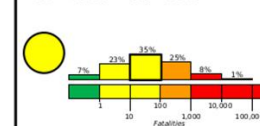
Earthquake Shaking **Orange Alert**



PAGER Version 1

Created: -15707027 seconds after earthquake

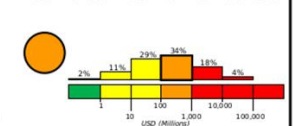
Estimated Fatalities



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

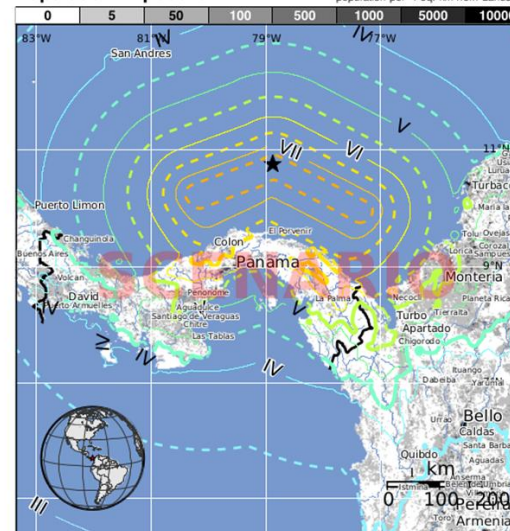


Estimated Population Exposed to Earthquake Shaking

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(6k)	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)

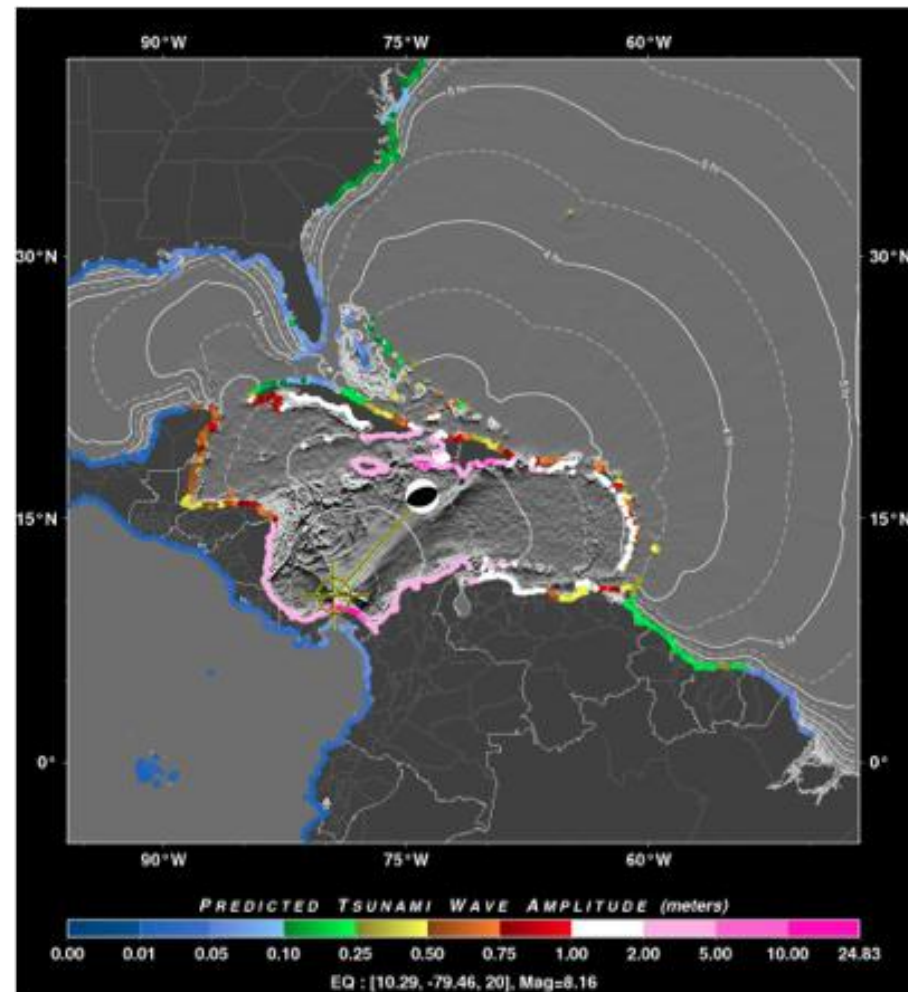
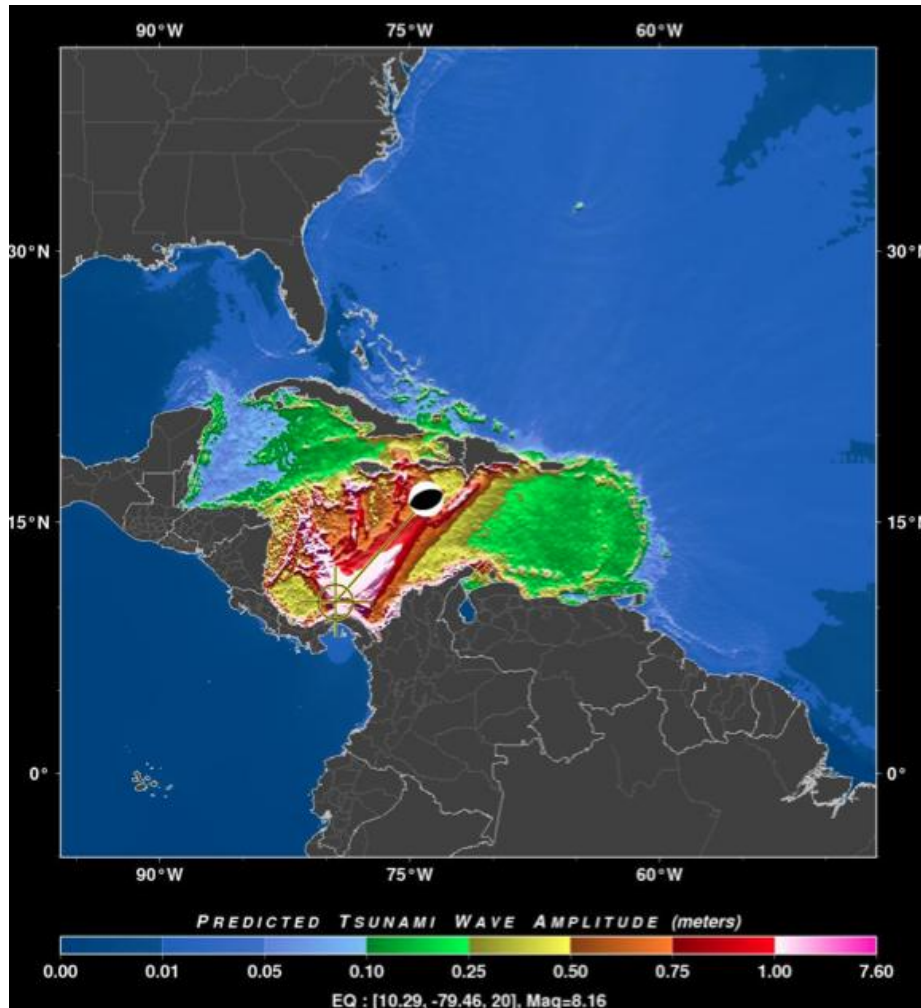
PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

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

Event ID: usCaribe.Wave2015.se

CARIBE WAVE/LANTEX 2015

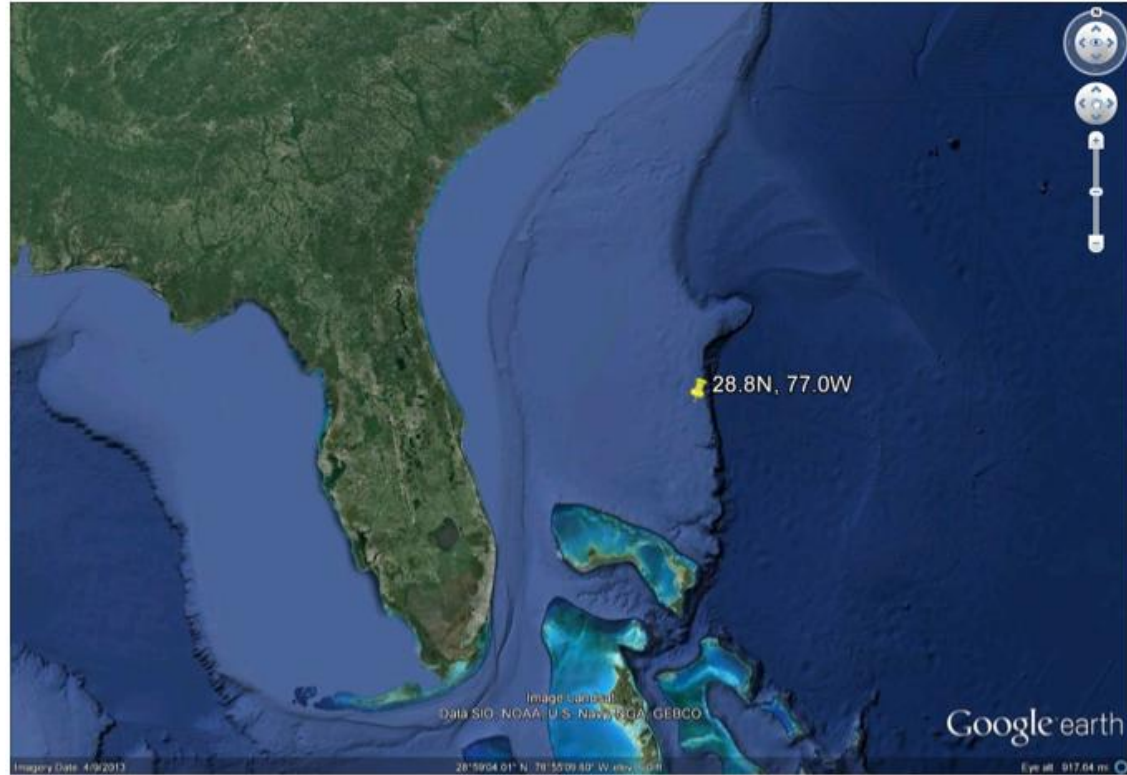
Forecasted Tsunami Wave Heights



Forecasted Tsunami Wave Amplitudes for Panama Tsunami Scenario

Florida Scenario

- March 25, 2015
- 13h00 UTC
- M 6.8
- 215 miles east of Port Canaveral, Florida
- Kick off (Dummy) messages will be issued by PTWC and NTWC.



CARIBE WAVE/LANTEX 2015

Forecasted Tsunami Wave Amplitudes

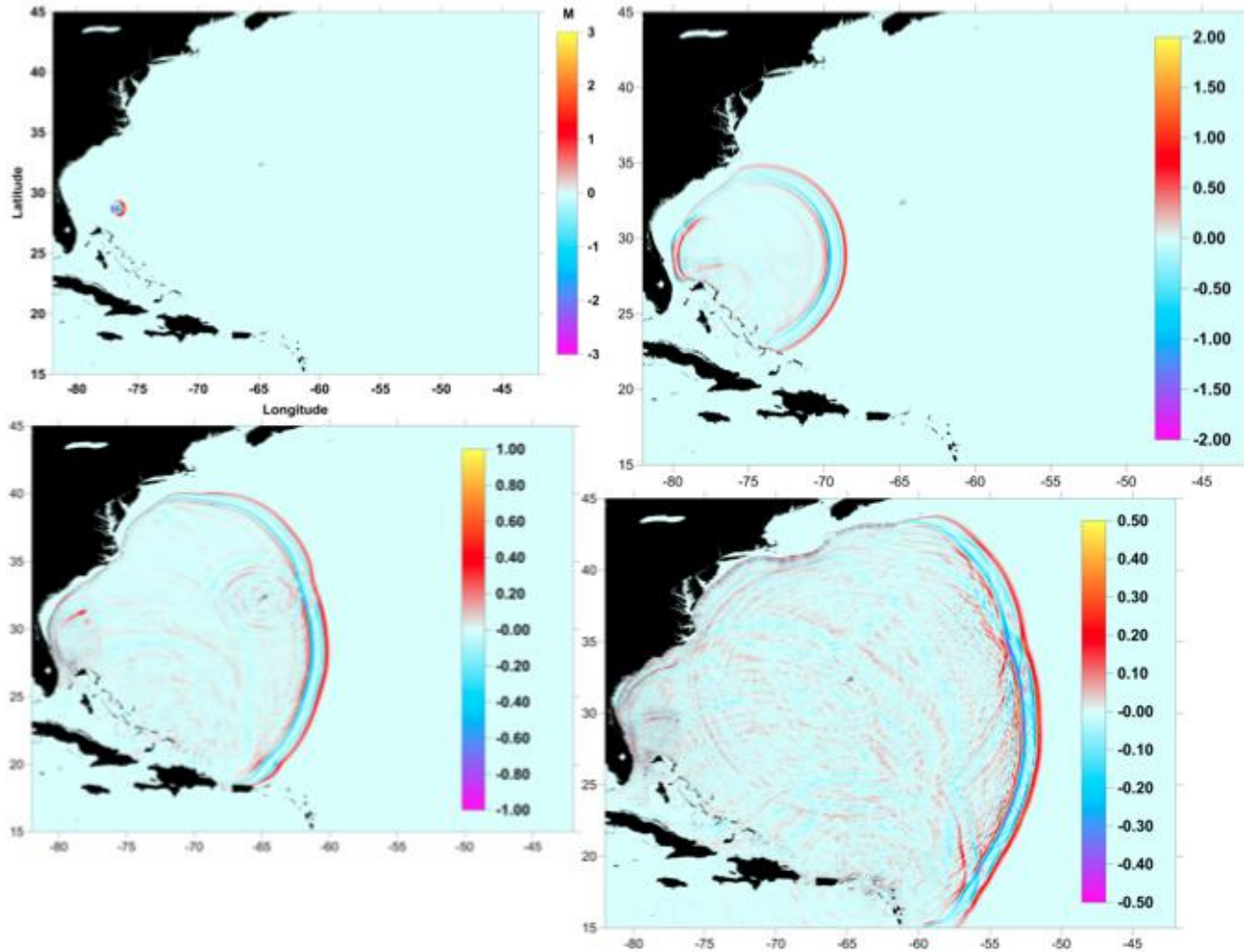


Figure B. Forecasted Tsunami Wave Amplitudes for Florida submarine landslide tsunami scenario, showing tsunami at 5 minutes, 1 hour, 2 hours, and 3 hours.

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

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 threat Level for the Panama Scenario

- Warning
- Advisory
- Cancellation



- National Tsunami Warning Center

- Caribbean Wide Tsunami Watch
- Cancellation



- Pacific Tsunami Warning Center

THE MESSAGES WILL BE ISSUED LIVE VIA EMAIL FROM NTWC/PRSN, BUT MUST REGISTER TO RECEIVE; FOR PTWC WILL SEND AUTOMATICALLY, BUT ONLY TO TWFP

Simulated threat Level for the Florida Scenario

➤ Warning

➤ Advisory

➤ Cancellation



- US National Tsunami Warning Center

➤ Information Statement

➤ Regional Tsunami Watch

➤ Cancellation



- Pacific Tsunami Warning Center

THE MESSAGES WILL BE ISSUED LIVE VIA EMAIL FROM NTRWC, BUT MUST REGISTER TO RECEIVE; FOR PTWC WILL SEND AUTOMATICALLY, BUT ONLY TO TWFP

Changes to Registration for 2015

- Focus is on keeping track of participants
- TWFP of CARIBE EWS will receive emails with the tsunami products during exercise, no registration necessary.
- Participants under the jurisdiction of the NTWC (United States, Puerto Rico, US Virgin Islands) will have the option to receive e-mails directly from the NTWC, but must register
- TWFPs and TNCs are in charge of disseminating information and dummy messages to participants. When participants register, their contact information will be sent to their respective TWFPs/TNCs.
- Participants will be encouraged to contact their TWFPs/TNCs for more information.
- [TWFP Link](#)
- [TNC Link](#)

The [Registration](#) will open on Friday, January 23, 2015

**DEADLINE FOR REGISTRATION for email subscription
(US NTWC and PRSN):
Friday MARCH 20, 2015**

No DEADLINE for other registration

Tsunami Messages

West Coast & Tsunami Warning Center
<http://www.cwbc.srh.noaa.gov>
Puerto Rico Seismic Network
<http://tudisimio.usps.edu> Telephone: 787-632-8632
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

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

Appendix E. TWC Dummy (Start of Exercise) Messages

US NTWC

WSXX20 PAAQ 251405
TSUNTI

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
1005 AM AST WED MAR 25 2015

...CARIBBEWAVE 15 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 CARIBBEWAVE 15 CARIBBEAN 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.ANH.NOAA.GOV. THE
EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST
TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

##

WSXX30 PAAQ 251405
TSUATE

TEST...PUBLIC TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
1005 AM AST WED MAR 25 2015

...CARIBBEWAVE 15 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 CARIBBEWAVE 15 CARIBBEAN TSUNAMI
EXERCISE. THIS WILL BE THE ONLY EXERCISE MESSAGE BROADCAST FROM THE NATIONAL
TSUNAMI WARNING CENTER EXCLUDING SPECIAL EMAIL MESSAGES DISCUSSED IN THE
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EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST
TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

##

WSXX40 PAAQ 251405
TSUSIV

TEST...MENSAJE DE EJERCICIO DE TSUNAMI NUMERO 1...TEST
NWS CENTRO NACIONAL DE ALERTA DE TSUNAMI PALMER AK
1005 AM AST WED MAR 25 2015

...MENSAJE PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI CARIBBEWAVE 15. REFERIRSE
AL MENSAJE 1 DE NTWC EN EL MANUAL PARA EL EJERCICIO. ESTO ES UN EJERCICIO
SOLAMENTE...

ESTE MENSAJE ESTA SIENDO USADO PARA DAR COMIENZO AL EJERCICIO DE TSUNAMI CARIBE
WAVE 15. ESTE SERA EL UNICO MENSAJE QUE SERA EMITIDO DESDE EL CENTRO NACIONAL
DE ALERTA DE TSUNAMI EXCLUYENDO LOS MENSAJES ESPECIALES DE CORREO ELECTRONICO
DISCUTIDOS EN EL MANUAL. EL MANUAL ESTA DISPONIBLE EN LA PAGINA
NTWC.ANH.NOAA.GOV. EL PROPOSITO DEL EJERCICIO ES PROVEER A LAS AUTORIDADES DE
MANEJO DE EMERGENCIA UN ESCENARIO REALISTICO PARA PROBAR LOS PLANES DE RESPUESTA
A TSUNAMIS.

ESTE ES SOLO UN EJERCICIO.

\$\$

PTWC

WSCA1 PH88 251405
TSUCAM

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1405Z 25 MAR 2015

...CARIBBEAN 15 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 CARIBBEAN 15 CARIBBEAN 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 NWS.PACIFIC.NOAA.GOV. THE
EXERCISE PURPOSE IS TO PROVIDE EMERGENCY MANAGEMENT A REALISTIC SCENARIO TO TEST
TSUNAMI RESPONSE PLANS.

THIS IS ONLY AN EXERCISE.

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Appendix F. TWC Exercise Messages

The following messages created for the CARIBE WAVE/LANTEX15 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 just north of Panama. 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. NTWC also issues a product under the header WEXX20 PAAQ/TSUAT1 which is designed to drive automated alert systems.

US NTWC Message #1

WEXX20 PAAQ 251405
TSUATE

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 1
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
1005 AM AST WED MAR 25 2015

...A TSUNAMI ADVISORY IS NOW IN EFFECT...

WARNINGS/ADVISORIES/WATCHES

TSUNAMI ADVISORY IN EFFECT FOR...

- * COASTAL AREAS OF PUERTO RICO - THE U.S. VIRGIN ISLANDS AND THE BRITISH VIRGIN ISLANDS.

FOR OTHER US AND CANADIAN COASTS IN THE ATLANTIC AND GULF OF MEXICO - THE LEVEL OF TSUNAMI DANGER IS BEING EVALUATED. FURTHER INFORMATION WILL BE PROVIDED IN SUPPLEMENTARY MESSAGES.

PRELIMINARY EARTHQUAKE PARAMETERS

* MAGNITUDE 8.0
* ORIGIN TIME 1000 EDT MAR 25 2015
1000 AST MAR 25 2015
0900 CDT MAR 25 2015
1400 UTC MAR 25 2015
* COORDINATES 10.3 NORTH 78.8 WEST
* DEPTH 9 MILES
* LOCATION NORTH OF PANAMA

IMPACTS FOR TSUNAMI ADVISORY AREAS

-
- * A TSUNAMI CAPABLE OF PRODUCING STRONG CURRENTS OR WAVES DANGEROUS TO PERSONS IN OR VERY NEAR THE WATER IS EXPECTED.
 - * CURRENTS MAY BE HAZARDOUS TO SWIMMERS... BOATS... AND COASTAL STRUCTURES AND MAY CONTINUE FOR MANY HOURS AFTER THE TSUNAMI ARRIVAL.
 - * THE FIRST WAVE MAY NOT BE THE LARGEST.

US NTWC Message #7

WXXX30 PAAQ 251945
TSUNAMI

BULLETIN
PUBLIC TSUNAMI MESSAGE NUMBER 7
NWS NATIONAL TSUNAMI WARNING CENTER PALMER AK
345 PM AST WED MAR 25 2015

...THE TSUNAMI ADVISORY IS CANCELLED...

CANCELLATIONS

- * THE TSUNAMI ADVISORY 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

<u>SITE</u>	<u>TIME</u> <u>OF MEASUREMENT</u>	<u>OBSERVED MAX</u> <u>TSUNAMI HEIGHT</u>
EL PORVENIR PANAMA	1505 UTC 03-25	07.8FT
SANTA MARTA COLOMBIA	1634 UTC 03-25	08.6FT
LIMON COSTA RICA	1544 UTC 03-25	01.9FT
SAN ANDRES COLOMBIA	1623 UTC 03-25	06.2FT
PORT AU PRINCE HAITI	1722 UTC 03-25	02.1FT
SANTO DOMINGO DR	1734 UTC 03-25	09.8FT
BULLEN BAY CURACAO	1715 UTC 03-25	02.4FT
MONA ISLAND PR	1745 UTC 03-25	05.6FT
MAYAGUES PR	1732 UTC 03-25	03.0FT
MAGUEYES ISLAND PR	1746 UTC 03-25	02.9FT
YARUCCA PR	1735 UTC 03-25	04.2FT
SAN JUAN PR	1721 UTC 03-25	00.4FT
LIME TREE BAY US VIRGI	1756 UTC 03-25	02.1FT
CHRISTIANSTED HARBOR U	1731 UTC 03-25	01.8FT
ESPERANZA VISQUES ISLA	1751 UTC 03-25	03.5FT
FAJARDO PR	1755 UTC 03-25	01.7FT
CHARLOTTE AMALIE US VI	1748 UTC 03-25	03.6FT
LAMMESHUR BAY ST JOHN	1744 UTC 03-25	04.2FT
PUNTO FLATA DR	1823 UTC 09-06	00.5FT
MASETENNE CG BASE ST.	1845 UTC 09-06	01.9FT
BARBUDA	1812 UTC 09-06	01.8FT
DESIRADE GUADELOUPE	1845 UTC 09-06	01.7FT
ROSKAU DOMINICA	1822 UTC 09-06	00.7FT
CALLIAQUA CG BASE ST.	1847 UTC 09-06	01.4FT

US NTWC Spanish Bulletin #1

NEOO40 PAAQ 251405
1905PM

BULLETIN

Mensaje de TSUNAMI NUMERO 1
 NMS CENTRO NACIONAL DE ALERTA DE TSUNAMI PALMER AK
 1005 AM AST WED MAR 25 2015

...UNA ADVERTENCIA DE TSUNAMI ESTA AHORA EN EFECTO...

AVISOS/ADVERTENCIAS/VIGILANCIAS

ADVERTENCIA DE TSUNAMI EN EFECTO PARA...

- * AREAS COSTERAS DE PUERTO RICO - ISLAS VIRGENES DE LOS ESTADOS UNIDOS E ISLAS VIRGENES BRITANICAS.

PARA OTRAS COSTAS DEL PACIFICO DE LOS ESTADOS UNIDOS Y CANADA EN NORTE AMERICA - EL NIVEL DE AMENAZA DE TSUNAMI ESTA SIENDO EVALUADO. SE PROPORCIONA INFORMACION ADICIONAL EN MENSAJES SUPLEMENTARIOS.

PARAMETROS PRELIMINARES DEL TERREMOTO

- * MAGNITUD 8.0
- * TIEMPO DE ORIGEN 1200 EDT MAR 25 2015
1200 AST MAR 25 2015
0900 CDT MAR 25 2015
1400 UTC MAR 25 2015
- * COORDENADAS 15.3 NORTE 78.8 OESTE
- * PROFUNDIDAD 9 MILEAS
- * LOCALIZACION NORTH OF PANAMA

IMPACTOS PARA AREAS BAJO ADVERTENCIA DE TSUNAMI

- * UN TSUNAMI CAPAZ DE PRODUCIR FUERTES CORRIENTES U OLAS PELIGROSAS A PERSONAS EN O MUY CERCA DEL AGUA ES ESPERADO.
- * **CORRIENTES PUEDEN SER PELIGROSAS PARA NADADORES, EMBARCACIONES Y ESTRUCTURAS COSTERAS Y PUEDEN CONTINUAR POR MUCHAS HORAS DESPUES DE LA LLEGADA DEL TSUNAMI.**
- * LA PRIMERA OLA PUEDE NO SER LA MAS GRANDE.

ACCIONES RECOMENDADAS

- * SI SE ENCUENTRA EN UN AREA BAJO ADVERTENCIA - SALGASE DE LA PLAYA BAHIAS Y MARINAS. NO SE ESPERAN INUNDACIONES GENERALIZADAS PARA AREAS BAJO ADVERTENCIA
- * ESTE ALERTA A INSTRUCCIONES DE SUS AUTORIDADES DE MANEJO DE EMERGENCIA.
- * NO VAYA A LA COSTA PARA OBSERVAR EL TSUNAMI.
- * NO REGRESE A LA COSTA HASTA QUE LAS AUTORIDADES LOCALES DE MANEJO DE EMERGENCIA INDIQUEN QUE ES SEGURO HACERLO.

PTWC Message #7

TEST...TSUNAMI MESSAGE NUMBER 7...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EMA BEACH HI
1900 UTC WED MAR 25 2015

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.

... A CARIBBEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

PANAMA / COLOMBIA / COSTA RICA / HAITI / ARUBA / NICARAGUA /
CAYMAN ISLANDS / JAMAICA / CUBA / BONAIRE / DOMINICAN REP /
BAHAMAS / CURACAO / TURKS N CAICOS / VENEZUELA / SABA /
SAINT KITTS / MONTSERRAT / MEXICO / HONDURAS / SAINT EUSTATIUS /
GUADELOUPE / DOMINICA / SAINT LUCIA / SAINT MAARTEN /
SAINT VINCENT / MARTINIQUE / ANGUILLA / GRENADA / BARBADOS /
SAINT BARTHELEMY / ANTIGUA / BARBUDA / SAINT MARTIN /
TRINIDAD TOBAGO / BELIZE / BERMUDEA / GUATEMALA / FRENCH GUIANA /
GUYANA / SURINAME / BRAZIL

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 ANSA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 1400Z 25 MAR 2015
COORDINATES - 10.3 NORTH 78.8 WEST
LOCATION - NORTH OF PANAMA
MAGNITUDE - 8.5

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE (UTC)	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD (MIN)
	LAT	LONG			
EL PORVENIR PA	9.5N	78.9W	1505	2.4M/07.8FT	15
LIMON CR	10.0N	83.0W	1544	0.6M/01.9FT	12
SANTA MARTA CO	11.2N	74.2W	1634	2.6M/08.6FT	13
SAN ANDRES CO	12.6N	81.7W	1623	1.9M/06.2FT	13
PORT AU PRINCE HT	18.5N	72.4W	1722	0.6M/02.1FT	14
SANTO DOMINGO DO	18.4N	69.6W	1734	3.0M/09.8FT	12
BULLEN BAY CURACAO	12.2N	69.0W	1715	0.7M/02.4FT	15
MONA ISLAND PR	18.1N	67.9W	1745	1.7M/05.6FT	15
MAYAGUEZ PR	18.2N	67.2W	1732	0.9M/03.0FT	15
MAGUIYES IS PR	18.0N	67.0W	1746	0.9M/03.0FT	14
YABUCCA PR	18.1N	65.8W	1735	0.7M/02.2FT	14
SAN JUAN PR	18.5N	66.1W	1721	0.1M/00.4FT	20
LIMESTREE USVI	17.7N	64.7W	1756	0.6M/02.1FT	15
ST CROIX USVI	17.7N	64.6W	1731	0.5M/01.8FT	18
ESPERANZA VIRGUES PR	18.1N	65.5W	1751	1.1M/03.5FT	13
FALJARDO PR	18.3N	65.6W	1755	0.5M/01.7FT	14
CHARLOTTE ANGLI USVI	18.3N	64.9W	1748	1.1M/03.6FT	17
LAMESHUR BAY USVI	18.3N	64.7W	1744	1.3M/04.2FT	16
PUERTO PLATA DO	19.8N	70.7W	1823	0.2M/00.5FT	20
BASSETERRE KN	17.3N	62.7W	1845	0.6M/01.9FT	19
BARBUDA AG	17.6N	61.8W	1812	0.5M/01.8FT	14
DESINADE GP	16.3N	61.1W	1845	0.5M/01.7FT	12
ROSEAU DM	15.3N	61.4W	1822	0.2M/00.7FT	12
CALLAQUA VC	13.1N	61.2W	1847	0.4M/01.4FT	15
PRICKLY BAY GD	12.0N	61.8W	1821	0.2M/00.7FT	18

EVALUATION

SEA LEVEL READINGS INDICATE A TSUNAMI WAS GENERATED. IT MAY HAVE ALREADY HAD DESTRUCTIVE ALONG COASTS NEAR THE EARTHQUAKE EPICENTER.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF THE CARIBBEAN. FOR THOSE 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.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVES MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
PANAMA	ALIGANDI	9.2N 78.0W	1425Z 25 MAR
	PUERTO_CARRISTO	8.8N 77.6W	1439Z 25 MAR
	COLON	9.4N 79.9W	1451Z 25 MAR
COLOMBIA	PUERTO_OBALDIA	8.7N 77.4W	1453Z 25 MAR
	BOCAS DEL TORO	9.4N 82.2W	1506Z 25 MAR
	CARTAGENA	10.4N 75.6W	1442Z 25 MAR
	PUNTA_CARIBANA	8.6N 76.9W	1459Z 25 MAR
	SANTA MARCA	11.2N 74.2W	1502Z 25 MAR
COSTA RICA	BARRANQUILLA	11.1N 74.9W	1516Z 25 MAR
	RIONAGUA	11.6N 72.9W	1522Z 25 MAR
	PUERTO_LINON	10.0N 83.0W	1454Z 25 MAR
HAITI	JACMEL	18.1N 72.5W	1532Z 25 MAR
	JEROME	18.6N 74.1N	1551Z 25 MAR
	CAP HAITEEN	19.8N 72.2W	1626Z 25 MAR
ARUBA	PORT AU PRINCE	18.3N 72.4W	1655Z 25 MAR
	ORANJESTAD	12.5N 70.0W	1547Z 25 MAR
NICARAGUA	PUNTA GONDA	11.4N 83.8W	1548Z 25 MAR
	PUERTO CABEZAS	14.0N 83.4W	1936Z 25 MAR
CAYMAN ISLANDS	CAYMAN BRAC	19.7N 79.9W	1551Z 25 MAR
	GRAND CAYMAN	19.3N 81.3W	1600Z 25 MAR
JAMAICA	KINGSTON	17.9N 76.9W	1553Z 25 MAR
	MONTEGO BAY	18.5N 77.9W	1615Z 25 MAR
CUBA	SANTIAGO_D_CUBA	19.9N 75.8W	1554Z 25 MAR
	BARACOA	20.4N 74.5W	1614Z 25 MAR
	CIENFUEGOS	22.0N 80.5W	1620Z 25 MAR
	GINAMA	21.1N 76.1W	1634Z 25 MAR
	LA HABANA	23.2N 82.4W	1721Z 25 MAR
DOMAIRE	SANTA_CRE_D_SUR	20.7N 78.0W	1854Z 25 MAR
	NEUVA GERONA	21.9N 82.8W	2010Z 25 MAR
	OKIMA	12.3N 68.3W	1557Z 25 MAR
DOMINICAN REP	SANTO DOMINGO	18.5N 69.9W	1604Z 25 MAR
	CABO ENGANO	18.6N 68.3W	1628Z 25 MAR
BAHAMAS	PUERTO PLATA	19.8N 70.7W	1637Z 25 MAR
	GREAT INAGUA	20.9N 73.7W	1620Z 25 MAR
	MAYAGUANA	22.3N 73.0W	1634Z 25 MAR
	LONG ISLAND	23.3N 75.1W	1654Z 25 MAR
	SAN SALVADOR	24.1N 74.5W	1654Z 25 MAR
	EXUMA	23.6N 75.9W	1704Z 25 MAR
	CROOKED ISLAND	22.7N 74.1W	1709Z 25 MAR
	CAT ISLAND	24.4N 75.5W	1713Z 25 MAR
	BLEUHERA ISLAND	25.2N 76.1W	1721Z 25 MAR
	ANDROS ISLAND	25.0N 77.9W	1730Z 25 MAR
NASSAU	25.1N 77.4W	1742Z 25 MAR	

	FRESHPORT	26.5N 78.8W	1754Z 25 MAR	
	ABADO ISLAND	26.6N 77.1W	1759Z 25 MAR	
	BIMINI	25.8N 79.3W	1807Z 25 MAR	
CURACAO	WILLEMSTAD	12.1N 68.9W	1621Z 25 MAR	
	WEST CAICOS	21.7N 72.5W	1630Z 25 MAR	
TURKS N CAICOS	GRAND TURK	21.5N 71.1W	1645Z 25 MAR	
	MALDEN	10.6N 67.5W	1634Z 25 MAR	
VENEZUELA	COMANA	10.5N 64.2W	1707Z 25 MAR	
	PUNTO FIJO	11.7N 70.2W	1807Z 25 MAR	
	GOLFO VENEZUELA	11.4N 71.2W	1906Z 25 MAR	
	FORLAMAR	10.9N 63.8W	2031Z 25 MAR	
	SABA	17.6N 63.2W	1650Z 25 MAR	
	SAINT KITTS	17.3N 62.7W	1632Z 25 MAR	
	MONTSERRAT	16.7N 62.2W	1632Z 25 MAR	
	MEXICO	COZUMEL	20.5N 87.5W	1655Z 25 MAR
		MADRID	22.3N 97.8W	1936Z 25 MAR
		VERACRUZ	19.2N 96.1W	1941Z 25 MAR
	TEXAS BORDER	26.0N 97.1W	1951Z 25 MAR	
	PROGRESO	21.3N 89.7W	2042Z 25 MAR	
	CAMPECHE	19.9N 90.5W	2338Z 25 MAR	
HONDURAS	PUERTO CORTES	15.9N 88.5W	1655Z 25 MAR	
	TROJILLO	15.9N 86.5W	1741Z 25 MAR	
SINT EUSTATIUS	SINT EUSTATIUS	17.5N 63.0W	1656Z 25 MAR	
GUADELOUPE	BASSE TERRE	16.0N 61.7W	1656Z 25 MAR	
DOMINICA	ROSSAU	15.3N 61.4W	1657Z 25 MAR	
SAINT LUCIA	CASTRIES	14.0N 61.0W	1659Z 25 MAR	
SINT MAARTEN	SIMPSON BAAI	18.0N 63.1W	1700Z 25 MAR	
SAINT VINCENT	KINGSTON	13.1N 61.2W	1701Z 25 MAR	
MARTINIQUE	FORT DE FRANCE	14.6N 61.1W	1704Z 25 MAR	
ANGUILLA	THE VALLEY	18.3N 63.1W	1708Z 25 MAR	
GRENADA	SAINT GEORGES	12.0N 61.8W	1710Z 25 MAR	
BARBADOS	BRIDGETOWN	13.1N 59.6W	1726Z 25 MAR	
SAINT BARTHELEMY	SAINT BARTHELEMY	17.9N 62.8W	1727Z 25 MAR	
ANTIGUA	SAINT JOHN'S	17.1N 61.9W	1732Z 25 MAR	
BARBUDA	PALMETTO POINT	17.6N 61.9W	1735Z 25 MAR	
SAINT MARTIN	BAIE BLANCHE	18.1N 63.0W	1738Z 25 MAR	
TRINIDAD TOBAGO	FINANCES BAY	11.3N 60.6W	1753Z 25 MAR	
	PORT OF SPAIN	10.6N 61.5W	1824Z 25 MAR	
BELIZE	BELIZE CITY	17.5N 88.2W	1805Z 25 MAR	
BERMUDA	RUTHS BAY	32.4N 64.6W	1819Z 25 MAR	
GUATEMALA	PUERTO MARIPOS	15.7N 88.6W	1847Z 25 MAR	
FRENCH GUIANA	CAYENNE	4.9N 52.3W	2103Z 25 MAR	
GUYANA	GEORGETOWN	6.8N 58.2W	2142Z 25 MAR	
SURINAME	PARAMARIBO	5.9N 55.2W	2203Z 25 MAR	
BRAZIL	FORTALEZA	3.7S 38.5W	2244Z 25 MAR	
	SAO LUIS	2.5S 44.3W	0044Z 26 MAR	
	ILHA DE MARACA	2.2N 50.5W	0049Z 26 MAR	

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

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 Center Tsunami and other Coastal Hazards WS Media Information Kit (English) ([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

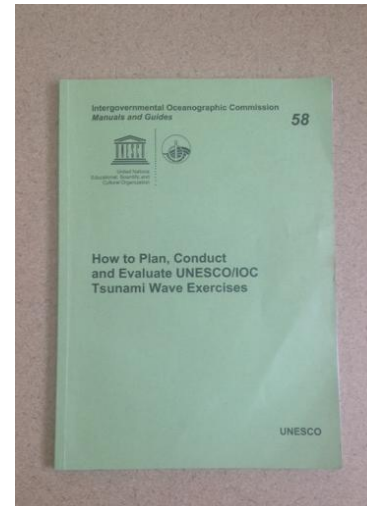
- Any time disaster response exercises are conducted, the potential exists for the public or media to interpret the event as real. Procedures should be set up by all participating entities to address public or media concerns involving this exercise in case of mis-interpretation by media or the public.

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

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



Additional Info

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

National Weather Service Regional Office
Southern Region Headquarters

Caribbean Tsunami Warning Program

CARIBE WAVE/LANTEX 2015
March 25, 2015
Documentation and Registration

Tsunami Warning Centers
Areas of Responsibility

The US National Weather Service established the Caribbean Tsunami Warning Program (CTWP) in Mayaguez, Puerto Rico in 2010 as a first step of a broader approach for the establishment of a Caribbean Tsunami Warning Center (CTWC).

The office currently provides education and preparedness services and support and guidance for tsunami observations, including seismic and sea level systems, tsunami forecasting and communication. It works closely with the Pacific Tsunami Warning Agency and the National Tsunami Warning Office which are currently providing tsunami services to the Caribbean.

The CTWP also participates and supports activities of the UNESCO Intergovernmental Oceanographic Commission's Intergovernmental Cooperation Group for Tsunamis and Other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions. It is staffed by one full-time Scientist Manager and Scientists. The Program provides briefings and materials for use by the general public, government, scientists and broadcast media.

CARIBE WAVE/LANTEX 2015

- [UNESCO IOC Circular Letter](#) Announcing CARIBE WAVE/LANTEX 2015
- [CaribeWave 2015 Task Team Meeting Presentation](#)
- The participants **HANDBOOKS** are available for
 - [SW Caribbean Scenario \(UNESCO Format\)](#)
 - [SW Caribbean Scenario \(NOAA Format\)](#)
 - [Florida Scenario](#)

Webinar 1 for CARIBE WAVE/LANTEX 2015:

- [English](#): 18h00 UTC, Tuesday, January 20, 2015 - [Presentation](#)
- [Español](#): 18h00 UTC, miércoles, 21 de enero de 2015
- [Français](#): 18h00 UTC, jeudi, 22 janvier de 2015

Webinar 2 for CARIBE WAVE/LANTEX 2015:

- [English](#): 18h00 UTC, Tuesday, February 24, 2015
- [Español](#): 18h00 UTC, miércoles, 25 de Febrero de 2015
- [Français](#): 18h00 UTC, jeudi, 26 février de 2015

Additional Websites for CARIBE WAVE/LANTEX 2015

- [US National Tsunami Warning Center](#)
- [UNESCO IOC](#)
- [Puerto Rico Seismic Network](#)
- [NOAA Tsunami Program](#)

Thanks and PLEASE contact me with any questions.

Christa G. von Hillebrandt-Andrade
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NOAA NWS Caribbean Tsunami Warning Program
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[Back](#) [Caribbean Tsunami Warning Program Home](#)

Puerto Rico Seismic Network

Report a felt earthquake
Confidence Request
Subscribe to our mailing lists
Tsunami Evacuation Maps

Our Work
Seismology
Education
Tsunami
Research
Links

Visits to the PRSN:
(groups need appointment)
Tue and Thu: 10:00AM-12:30PM
Sat: 10:00AM-12:00PM

Educational consultants by phone:
Mon-Sat: 9:00AM - 4:00PM

Contact:
T: 787-833-8433, 787-205-5452
[Calendar of activities](#)

No Warning, Advisory or Watch is in effect for Puerto Rico and The Virgin Islands

Issued at: 2015-01-21 02:05:16 Local Time (GMT-4), ID: 20150121055001

Latest Significant Earthquakes

Magnitude	Agency	Local Time (GMT-4)	Latitude	Longitude	Depth (Km)	Region
3.74 Md	RSFR	2015-01-21 01:48:57	18.417	-67.7213	123	MONA PASSAGE
3.81 Md	RSFR	2015-01-18 21:07:27	17.8971	-63.6395	129	LEEWARD ISLANDS
3.61 Md	RSFR	2015-01-02 16:55:02	17.9231	-68.5055	101	EASTERN DOMINICAN REPUBLIC
3.63 Md	RSFR	2014-12-31 10:05:16	18.5448	-68.8981	183	EASTERN DOMINICAN REPUBLIC
3.79 Md	RSFR	2014-12-28 22:04:21	16.2135	-64.3338	32	SOMBREIRO SEISMIC ZONE
3.89 Md	RSFR	2014-12-21 18:14:46	19.0165	-65.1793	24	SOMBREIRO SEISMIC ZONE

More Significant Earthquakes

CARIBE WAVE/LANTEX 2015 Task Team

<u>Person</u>	<u>Telephone #</u>	<u>Email</u>
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Webinars

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

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 st Webinar	January 20, 21, 22, 2015, 14h00 AST (18h00 UTC); E,S,F
2 nd 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

Questions, Comments

Thank you for participating

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