



CARIBE WAVE 2013

Christa G. von Hillebrandt-Andrade
Manager

NOAA NWS Caribbean Tsunami
Warning Program

CARIBE WAVE 2011

- 34 countries and territories* participated in the first regional tsunami exercise, CARIBE WAVE 2011 which was held on March 23, 2011. This represented a participation rate of almost 90% of the nations in the region that have nominated Tsunami Warning Focal Points and National Contacts in the region and 75% of all the countries and territories in the region.

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

Lessons from CARIBE WAVE 2011

- Confusion with the terms for alert (translation of terms and difference between PTWC and WCATWC products)
- More detail on impacts, injects
- Arrival times for all Forecast Points of CARIBE EWS, irrespective of impact.
- Webinars were considered useful for the organization of the exercise
- The emails that were sent with the products throughout the exercise were also very helpful
- Alternatives need to be identified at the local level for the reception and dissemination of messages
- Improvements could be made to the questionnaires for the final evaluation

- As 100% of the countries and territories indicated thru the survey, despite gaps in communications and actions, the exercise was **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.



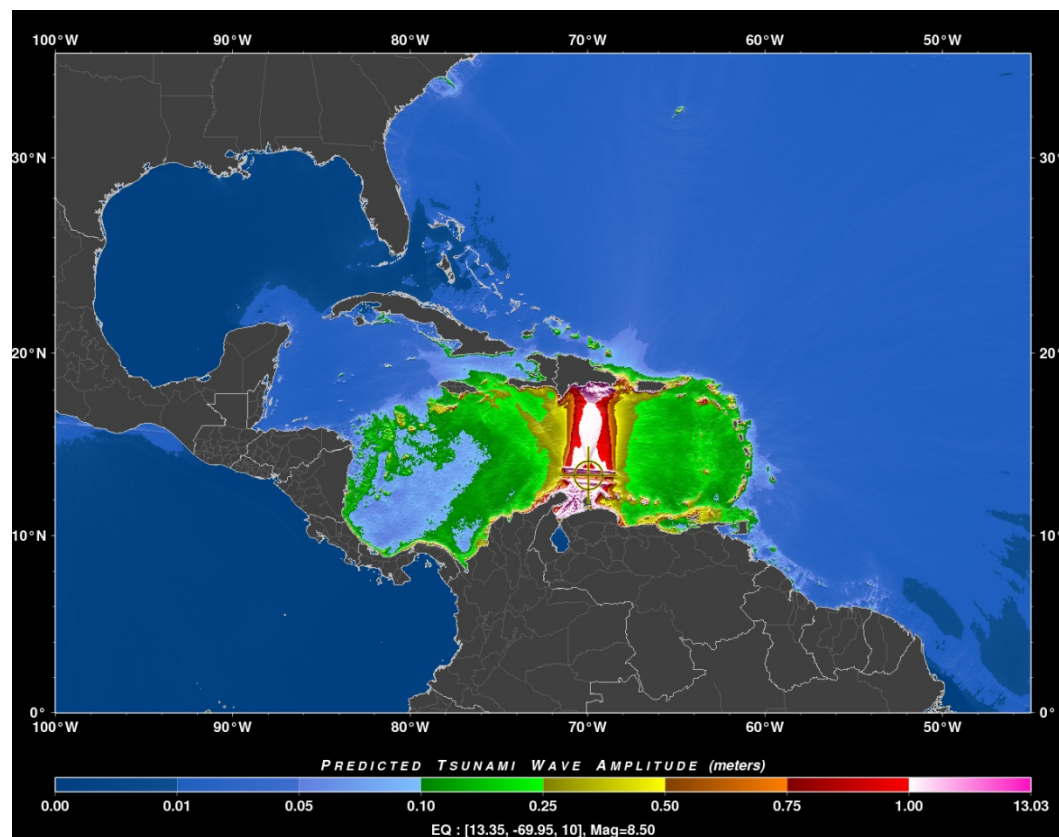
Other Justifications for the Exercise

- Success of LANTEX 09, 10, 11 and 12, 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 and Chile earthquakes and tsunamis;
- 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;



CARIBE WAVE 13

- The ICG CARIBE EWS is proposing to hold its second tsunami exercise, CARIBE WAVE 2013, on March 20, 2013 (this is the proposed date for LANTEX 2013)
- Objective: Use a scenario that affects the greatest amount of the CARIBE EWS region as possible



Evaluation of Tsunami Sources with the Potential to Impact the U.S. Atlantic and Gulf Coasts

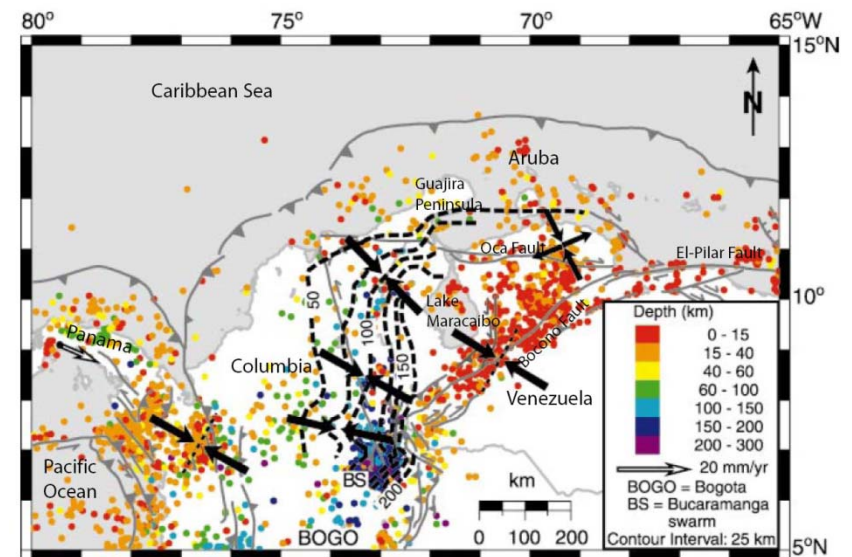
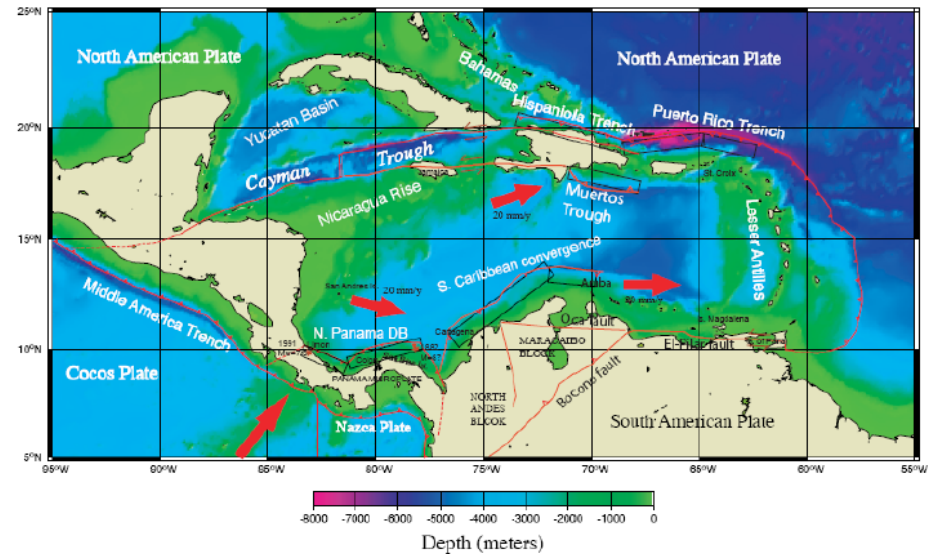
An Updated Report to the US Nuclear Regulatory Commission

By Atlantic and Gulf of Mexico Tsunami Hazard Assessment Group

PI: Dr. Uri Ten Brink, USGS

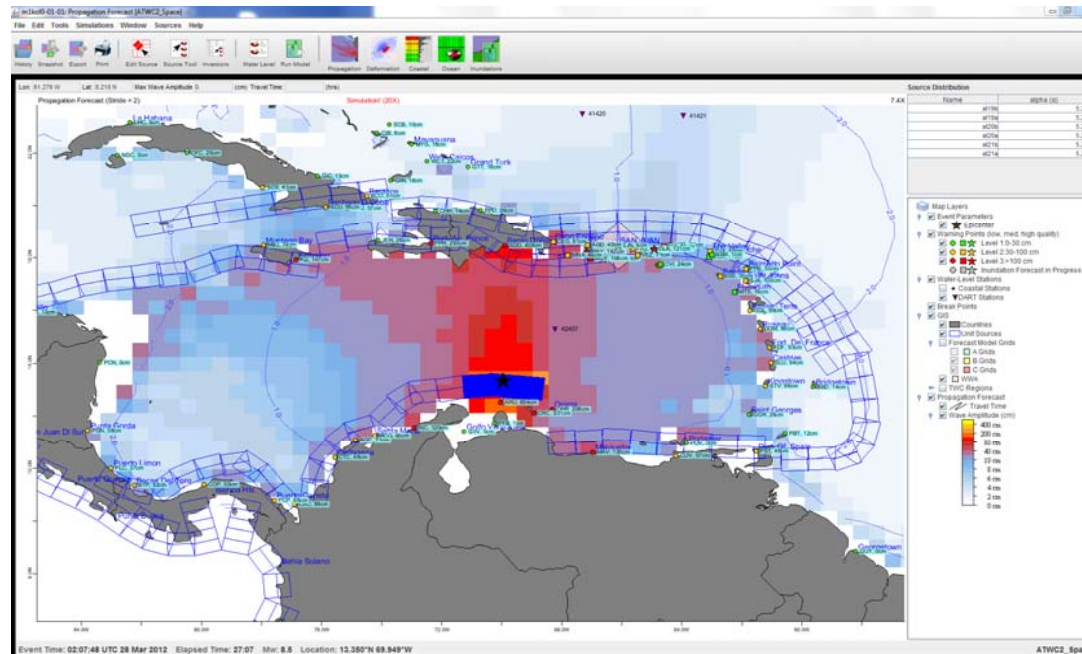
Year: 2007

Source: Northern South America Convergent Zone



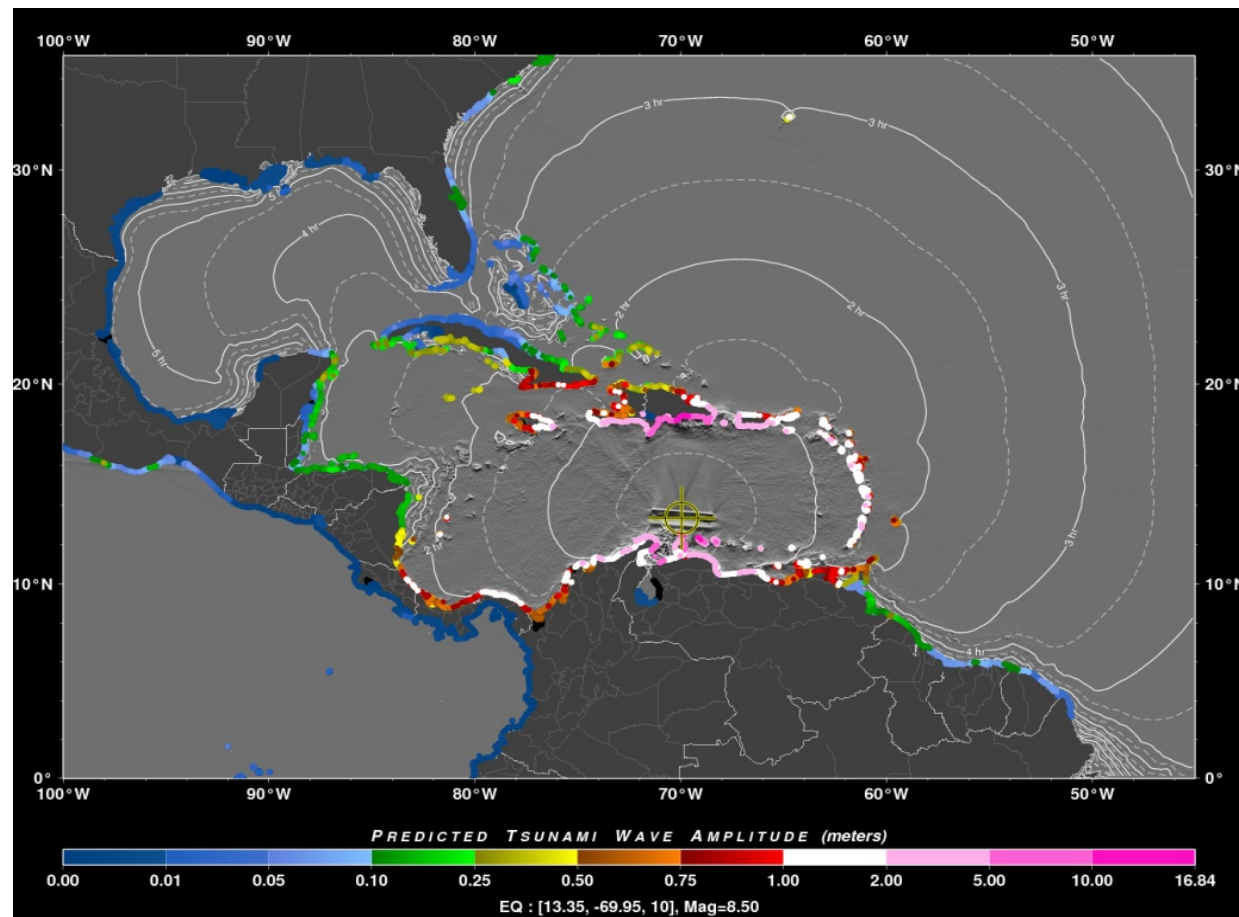
CARIBE WAVE LANTEX 2013

- The M 8.5 earthquake is to be located at 13.35N, 69.95W with a rupture area = 300 x 100 km, depth ~ 5-15 km (Figure 1). The evenly distributed slip is of 5.26 meters.



Short term inundation forecast graphic with the EQ source highlighted in blue (Kara Sterling, US NWS WCATWC).

RIFT (Rapid Inundation Forecasting of Tsunamis) graphic with the travel times and coastal amplitude heights of the tsunamis (Charles McCreery, US NWS PTWC).



Simulated tsunami messages that will be provided by PTWC and WC/ATWC:

- Warning
- Watch
- Advisory
- Cancellation



- West Coast/Alaska Tsunami Warning Center

- Caribbean Wide Tsunami Watch



- Pacific Tsunami Warning Center

THE MESSAGES WILL BE ISSUED LIVE

Tsunami Messages

West Coast & Tsunami Warning Center
<http://tsunami.wa.noaa.gov>
Puerto Rico Seismic Network
<http://tsunami.wa.noaa.gov> Telephone: 787-889-8888
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.



WATCH

- Potential danger.
- Stayed tuned for more information.




INFORMATION STATEMENT

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


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.

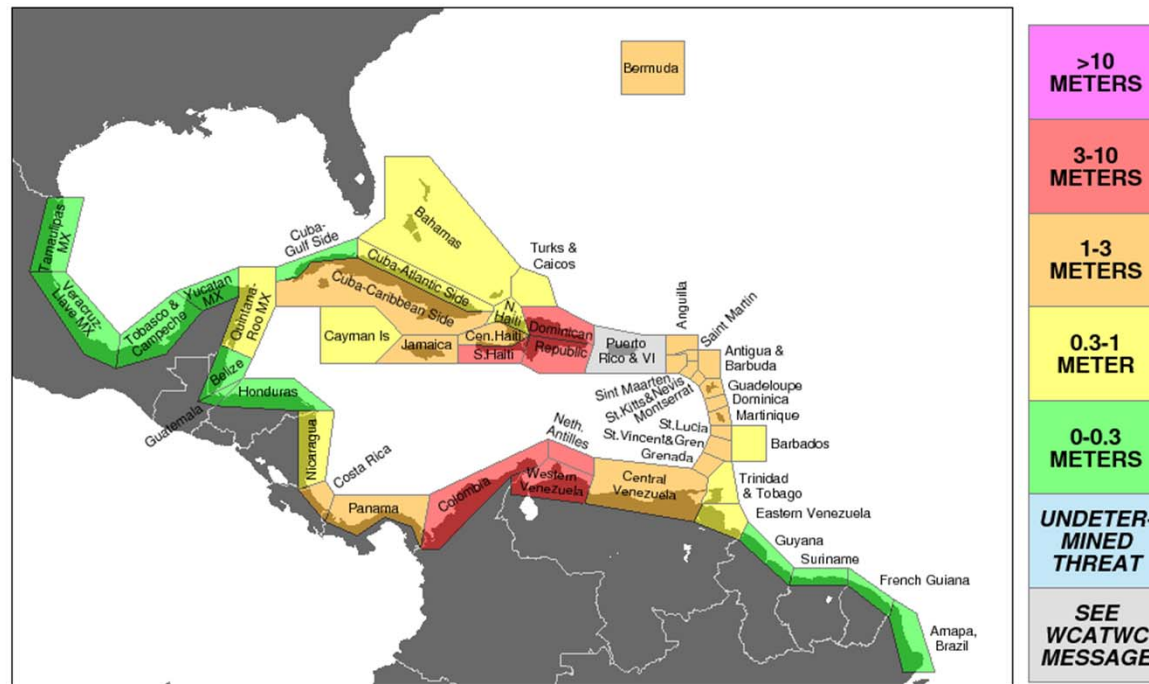
LOCAL TSUNAMI WATCH



INFORMATION STATEMENT

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

Opportunity to Test New Products



CARIBE EWS Proposed Forecast Polygons (Charles McCreery, US NWS PTWC).

Product Types Issued for Dummy Message with Transmission Methods

Centre	WMO ID	AWIPS ID	NWWS	GTS	EMWIN	Fax	Email
WCATWC	WEXX20 PAAQ	TSUAT1	Yes	Yes	Yes	Yes	Yes
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes

NWWS
GTS
EMWIN

NOAA Weather Wire Service
Global Telecommunications System
Emergency Manager's Weather Information Network

Objectives

- Ensure message transmission from PTWC and WC/ATWC to the Tsunami Warning Focal Points.
- Test tsunami response plans (SOP's) for those Caribbean Emergency Management Offices (EMOs) that have developed plans, and provide a catalyst for EMOs that have not developed one.
- Coastal EMOs review, discuss, and evaluate the various communication alternatives for receiving and disseminating tsunami messages.
- Coastal EMOs review, discuss, and evaluate potential response actions and challenges.
- Identify processes to issue local **all-clear** notices.

Goals

- Participation of 85% of the Member States of ICG CARIBE EWS (75% participation in 2011)
- Compliance with the time line
- 75 % of the Member States involve community participation (61% had community involvement in 2011)
- 100% of focal points receive the dummy message thru one of the official means (90% received in 2011)
- 100% of countries submit exercise questionnaire (94% submitted in 2011)
- Others....

Member State Participation

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



Exercise Manual

- The exercise manual will be available in Spanish, English and French. It will 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 an event and an evaluation questionnaire.

Timeline

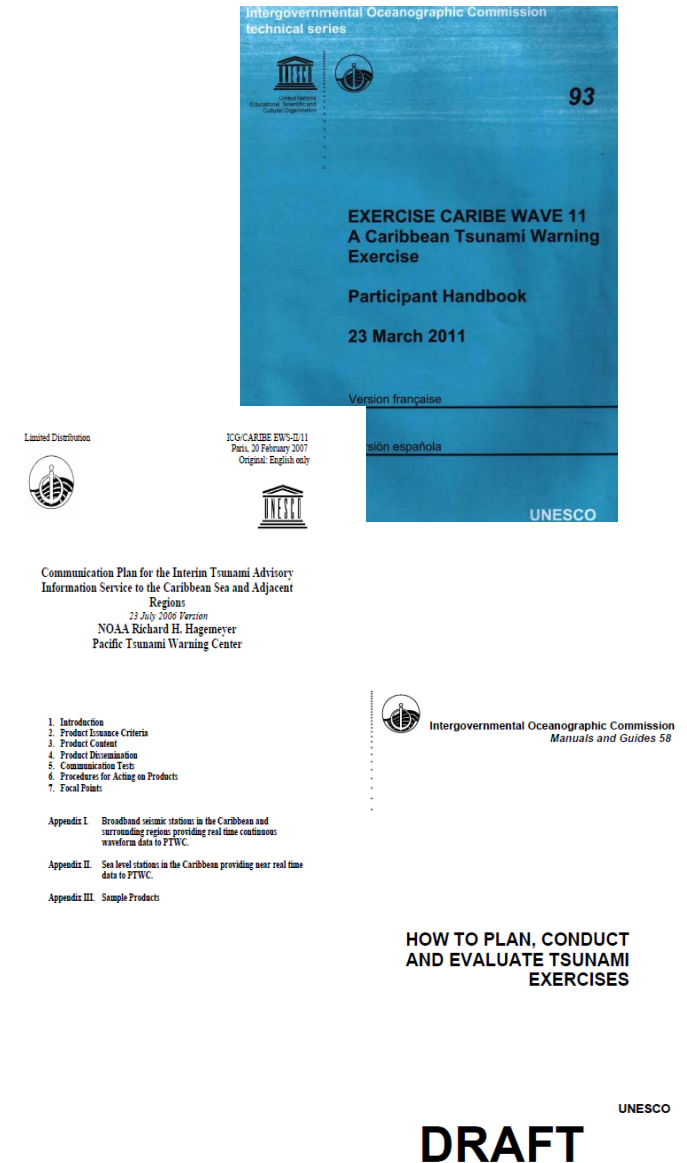
Action	Due Date
1st Draft Circulated among Task Team	July 1, 2012
2 nd Draft Circulated among ICG CARIBE EWS TNC/TWFP	September 1, 2012
Final Exercise Manual Available on Line	November 1, 2012
Circular Letter Issued by IOC	November 15, 2012
1st Webinar	Mid- Late January, 2013
2 nd Webinar	Mid – Late February 2013
Exercise	March 20, 2013
Exercise Questionnaire Due	April 1, 2013
Report	ICG CARIBE EWS VIII

CARIBE WAVE LANTEX 2011 Task Team

- Chair of CARIBE EWS
- Chairs of Working Group 1, 2, 3 and 4
- Manager Caribbean Tsunami Warning Program (Leader)
- Director of Caribbean Tsunami Information Center
- Director ITIC
- Director Pacific Tsunami Warning Center
- Director West Coast/Alaska Tsunami Warning Center
- Director of CDEMA
- Director of CEPREDENAC
- Technical Secretary ICG CARIBE EWS

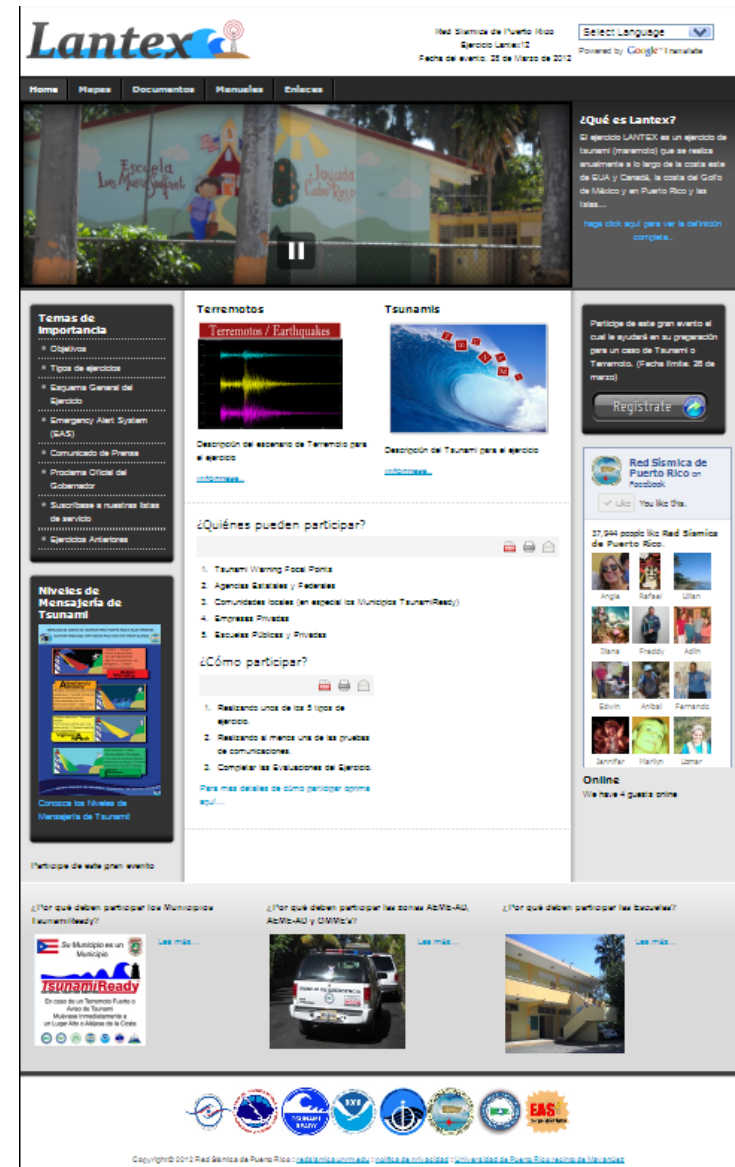
Resources

- Draft IOC Manual “How to plan, conduct and evaluate tsunami exercises” which will also be a useful resource (English and Spanish).
- CARIBE WAVE 2011 Manual
- CARIBE WAVE 2011 Report (Draft)
- PTWC Communications Plan for the Caribbean



Decisions that need to be considered by the ICG VII

- Date and time of exercise – March 20, 2013, 13h00
- Scenario of the Exercise – M8.5 off Venezuela
- Task team members and leader
- Approval of time line
- Other Recommendations
 - Web site
 - Registration for Member States to indicate their participation
 - Local and national participation
 - Specific Objectives



Other Recommendations

- Text products only include information that would be included in a real event.
- Separate email message lists to be established for existing and new products.