

# **CARIBE WAVE/LANTEX 2015**

## **ICG CARIBE EWS Tsunami Exercise**

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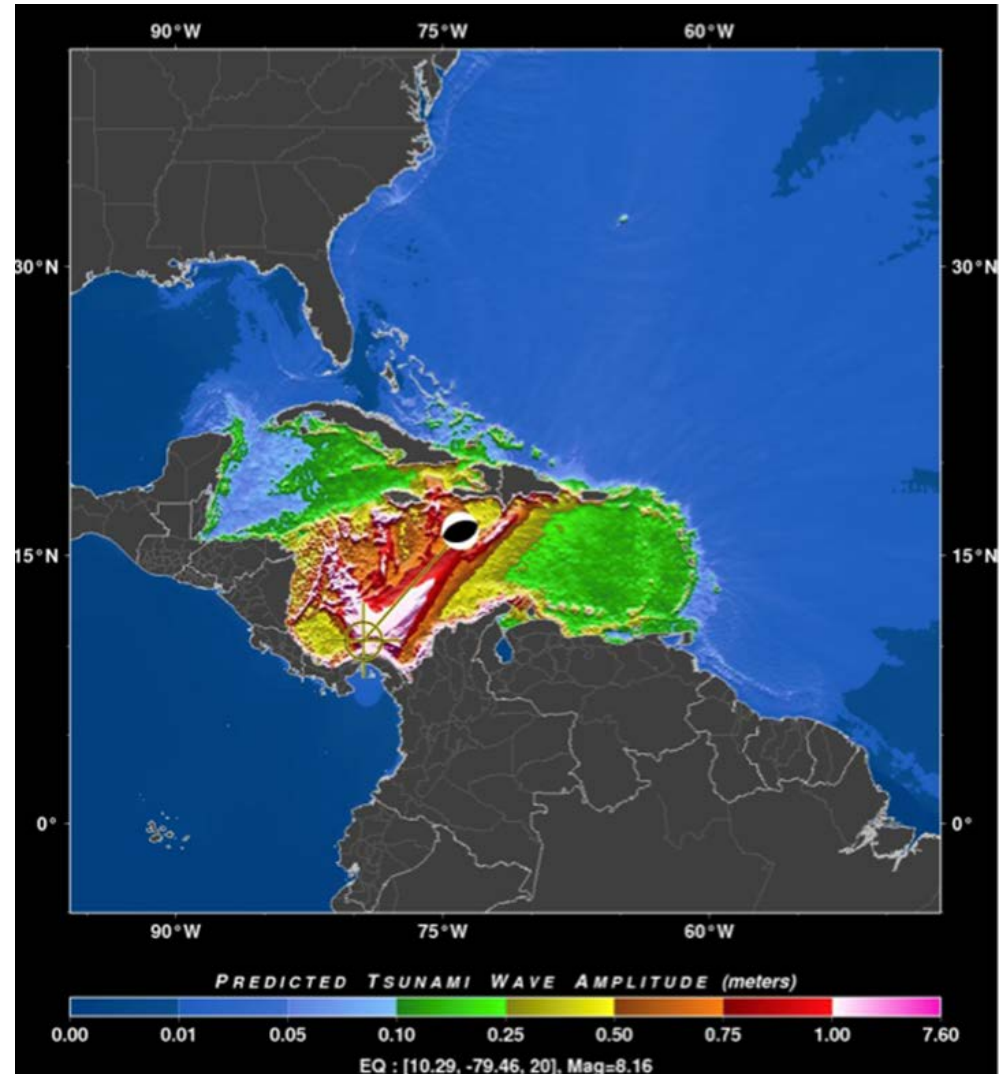
**AGENDA 3.9**

**May 19, 2015**

# CARIBE WAVE/LANTEX 2015

## Panama Scenario

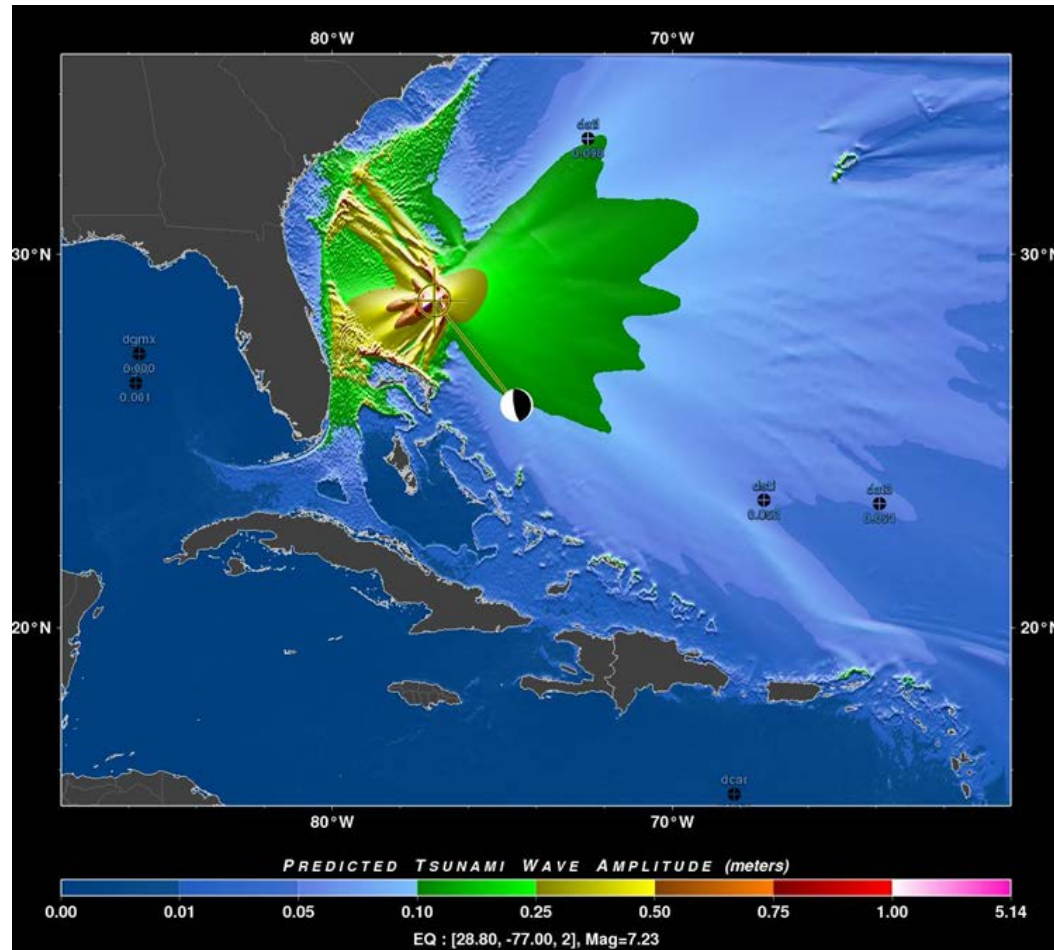
- March 25, 2015
- 14h00 UTC
- M 8.5, north of Panama on the Northern Panama Deformed Belt
- Kick off (Dummy) messages were issued by the PTWC and US NTWC. Other warning/monitoring centers also issued products.



# LANTEX 2015

## Florida Scenario

- March 25, 2015
- 13h00 UTC
- Submarine landslide generated by M 6.8 earthquake
- 215 miles east of port Canaveral, Florida
- Kick off (Dummy) messages were issued by the PTWC and US NTWC. Other warning/monitoring centers also issued products.



# CARIBE WAVE/LANTEX 2015 Timeline

Action	Due Date
Draft handbook among ICG CARIBE EWS TNC/TWFP	August 15, 2014 (August 15, 2013)
Deadline for Comments	September 12, 2014 (September 16, 2013)
Final Exercise handbook Available on Line	November 10, 2014 (November 4, 2013)
Circular Letter Issued by IOC to MS	December 5, 2014 (December 1, 2013)
1 <sup>st</sup> Webinar (English, Spanish, French)	January 20-22, 2015 (January 22-24, 2014)
2 <sup>nd</sup> Webinar (English, Spanish, French)	February 24-26, 2015 (February 19-22, 2014)
Exercise	March 25, 2015 (Wednesday) (March 26, 2014)
Exercise Evaluation Questionnaire Due	April 9, 2015 (April 9, 2014)
Draft Final CARIBE WAVE 2015 Report	ICG CARIBE EWS X (May 19-21)

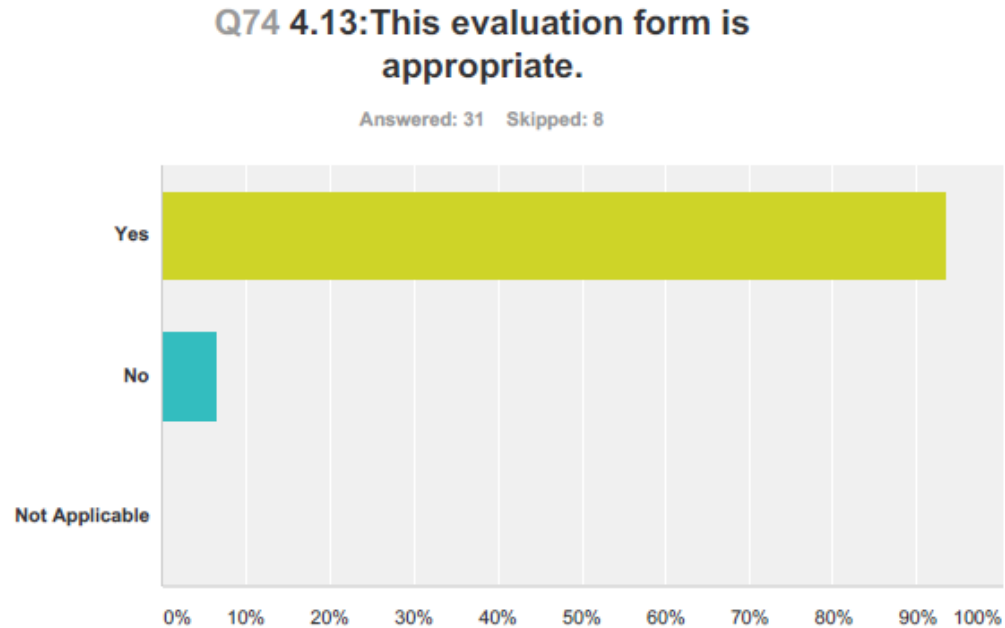
# Goals

Goal	Result for 2013	Result for 2014	Goal for 2015	Result for 2015
Participation of Member States of ICG CARIBE EWS	94%	98% (including two MS/Territory unofficial)	95%	100%
- With designated focal warning point			100%	100%
Compliance with the time line	Close to 100%	Almost 100%, little later than planned getting out handbook	100%	100%
Community involvement (beyond TWFP)	69%	75%	80%	90%
Number of people registered		191,000	+10%	132,447
TWFP receive the dummy message	98%	94%	100%	90%
Countries who participate submit exercise questionnaire	90%	98%	100%	100%

# Evaluation Form

<https://www.surveymonkey.com/r/CaribeWave15>

- Contained 82 questions, few updates from 2014, similar to PTWS (for harmonization purposes)
- To be completed by individuals by April 9<sup>th</sup> (last survey was received April 29<sup>th</sup>, 2015)
- 1 Report to be submitted by each Tsunami National Contact
- Mine of information, not only on exercise but, general preparedness of the country
- Further analysis work required



(up from 89.7% in 2014)

# Survey was completed by all 46 CARIBE EWS Member States and Territories

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

\*Participated as an Observer, as no TWFP was designated at the time of the exercise

# Objective 1

- ✓ **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 US NTWC.
  - Validate the **receipt and dissemination** of tsunami products by CARIBE EWS Tsunami Warning Focal Points (TWFP). *Looking for more reception via GTS, less dependency on FAX and e-mail.*



# Product Types Issued for Dummy Message with Transmission Methods for Panama (1405h UTC) and Florida (1302h UTC) Scenarios

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	WEGA41 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

*The messages were issued according to the schedule and the means indicated*

**NEW: Start of Exercise messages were also sent out by PTWC and US NTWC twitter accounts. Can be received by text: “Follow NWS\_NTWC” or “Follow NWS\_PTWC” to 40404**

NWS\_NTWC:

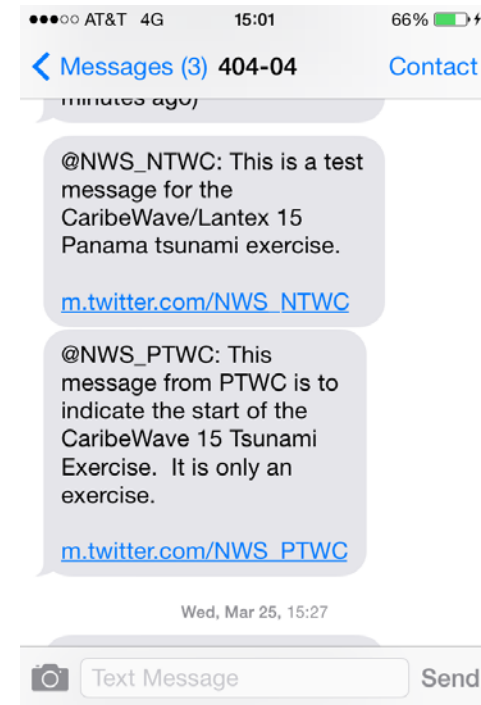
“This is a test message for the LANTEX 15 Florida tsunami exercise.” (issued at 13h02 UTC)

“This is a test message for the CaribeWave/LANTEX 15 Panama tsunami exercise.” (issued at 14h05 UTC)

NWS\_PTWC

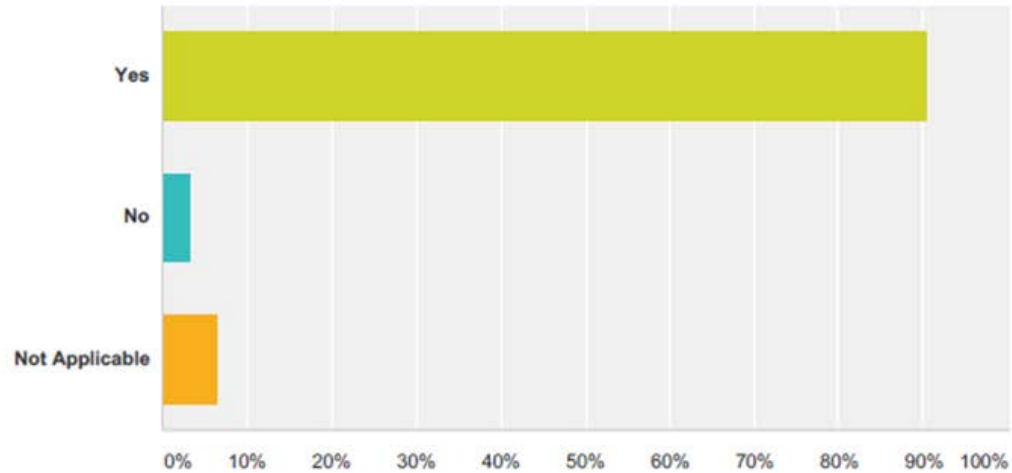
“This is a test message for the LANTEX 15 Florida tsunami exercise.” (issued at 13h02 UTC)

“This is a test message for the CaribeWave/LANTEX 15 Panama tsunami exercise.” (issued at 14h05 UTC)



**Q7 1B.1: The US PTWC and/or US NTWC CARIBE WAVE/LANTEX 15 scenario initial dummy message was received by your country Tsunami Warning Focal Point.**

Answered: 31 Skipped: 8



(down from 94% in 2014)

Answer Choices	Responses	
Yes	90.32%	28
No	3.23%	1
Not Applicable	6.45%	2
<b>Total</b>		<b>31</b>

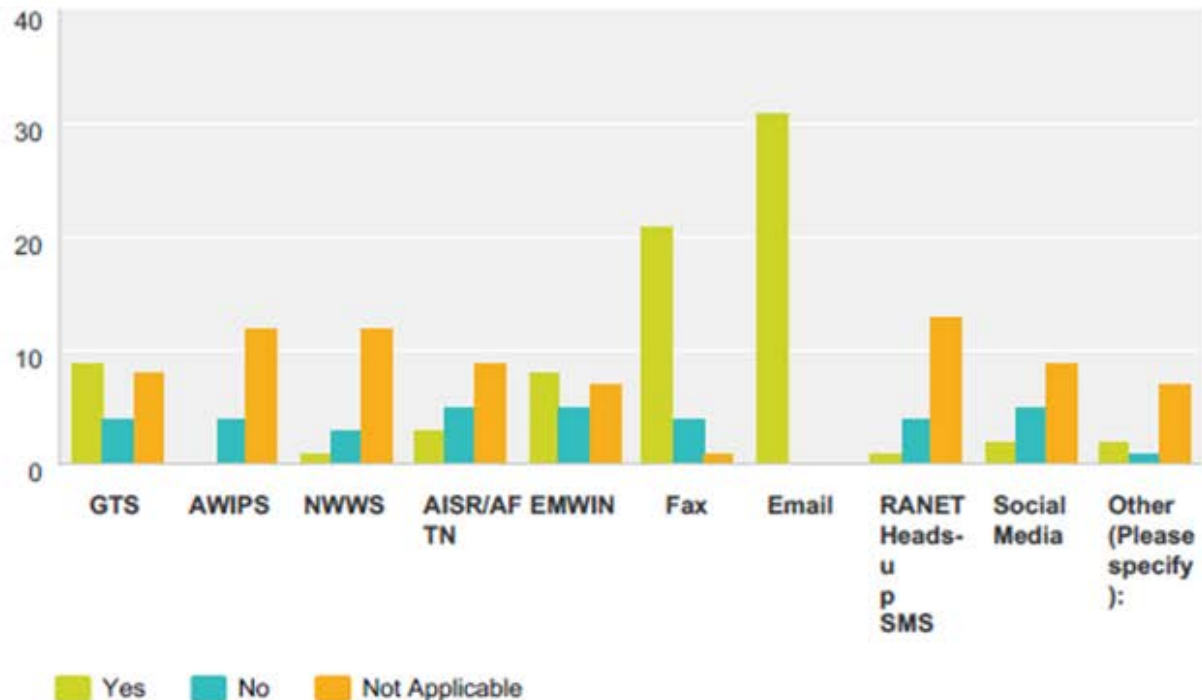
**YES:** Antigua and Barbuda, Aruba, Bahamas, Belize, Bermuda, British Virgin Islands, Cayman Islands, Colombia, Costa Rica, Curaçao, Dominica, Dominican Republic, France, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Puerto Rico, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos, US Virgin Islands, Venezuela

**NO:** Haiti (due to a changed e-mail address)

**NOT APPLICABLE:** Anguilla, Montserrat

**Q5 1A.2: The US PTWC and/or US NTWC CARIBE WAVE/LANTEX 15 initial dummy messages were sent to National Tsunami Warning Focal Points by the several methods. Please check all methods through which the messages were received by the Tsunami Warning Focal Point.**

Answered: 32 Skipped: 7



Type of Participant	Number of Registrants	Number of Participants
State Agency	184	21,333
National Agency	97	2,184
International Agency	10	30
Private Business	35	2,106
Press	12	146
Educational Institution	282	83,845
Health Facility	31	3,251
Community	57	5,302
Individual	188	833
Other*	142	13,408
<b>Total:</b>	<b>1,038</b>	<b>132,447</b>

\*This includes TWFPs and TNCs

- Registrant information for each Member State/Territory was sent to TWFPs prior to the exercise

## ALL THE SIMULATED MESSAGES WERE SENT OUT LIVE VIA EMAIL TO TWFPs ONLY

- TWFPs distributed tsunami products as applicable within their Member States/Territories



### CARIBE WAVE / LANTEX 2015

#### Formulario de Registro/Registration Form

Favor de completar la siguiente información para registrarse en el ejercicio de Tsunami Caribe Wave/LanTex 2015 (Marzo 25 de 2015). Los campos con \* son requeridos. Para un funcionamiento adecuado utilice Chrome o Firefox.  
Please fill the fields below to register to the Tsunami Caribe Wave/LanTex 2015 exercise (March 25, 2015). \* are required fields. Only fully functional on Chrome and Firefox.

[Para más información oprima aquí / For more information click here](#)

Ejercicio/Exercise\*:  LANTEX (Florida Scenario)  CARIBE WAVE/LANTEX (Panama Scenario)

Desearé recibir mensajes simulados del NTWC? / Want to receive simulated messages from NTWC?\*:  Si/Yes  No

Desearé recibir mensajes simulados de la RSPR? / Want to receive simulated messages from PRSN?\*:  Si/Yes  No

País/Country\*:

País/Country\*:

State/ Commonwealth\*:

Municipio/Town\*:

Tipo de participante/Kind of participant\*:

Explicar/ Explain

Nombre de la Institución/Institution Name\*:

Cantidad de personas participando/Number of participants\*:

Nombre del Contacto/Contact Name\*:

Correo electrónico/Email\*:

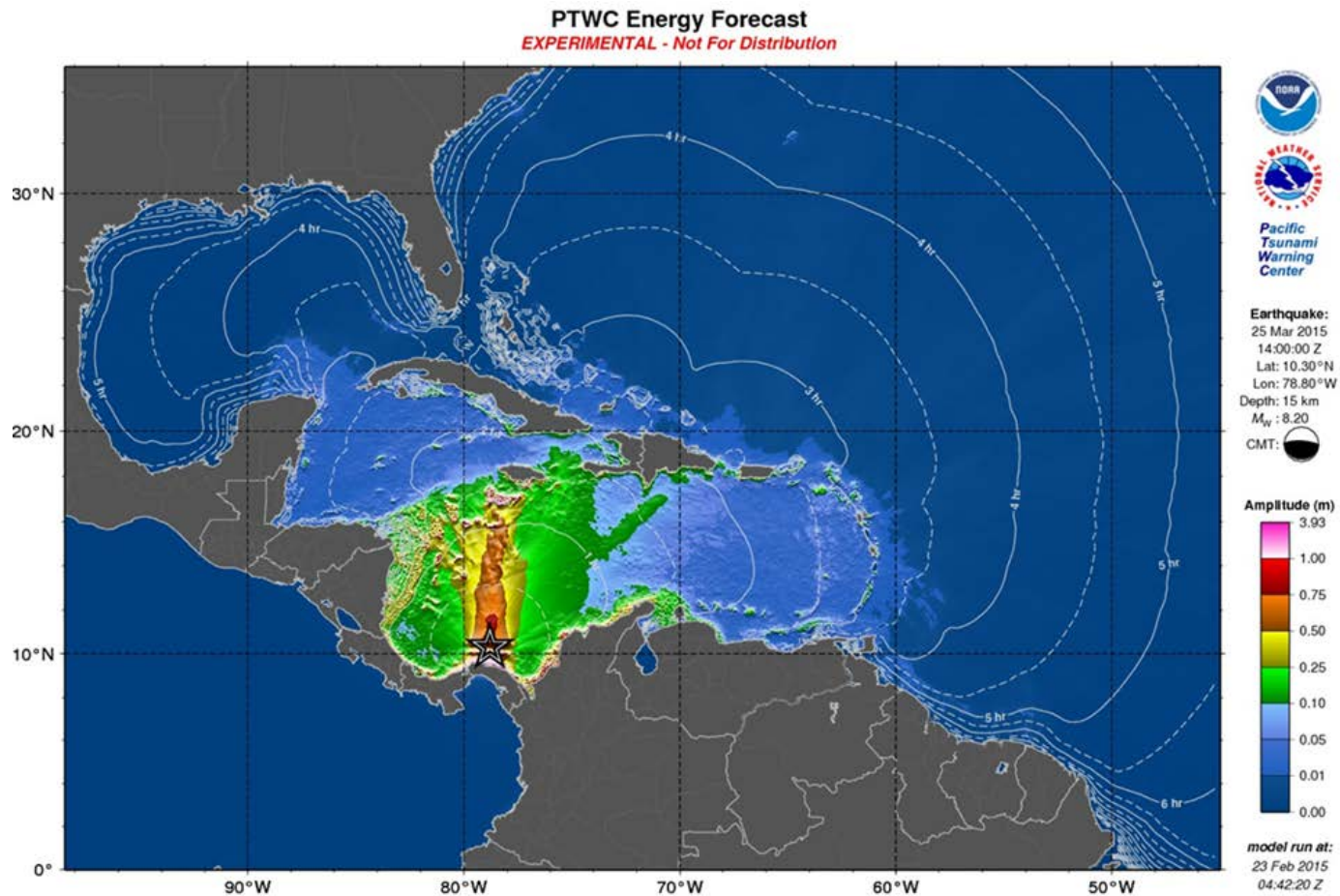
Página Electrónica/Web Site:

Comentarios/Comments:

# Objective 2

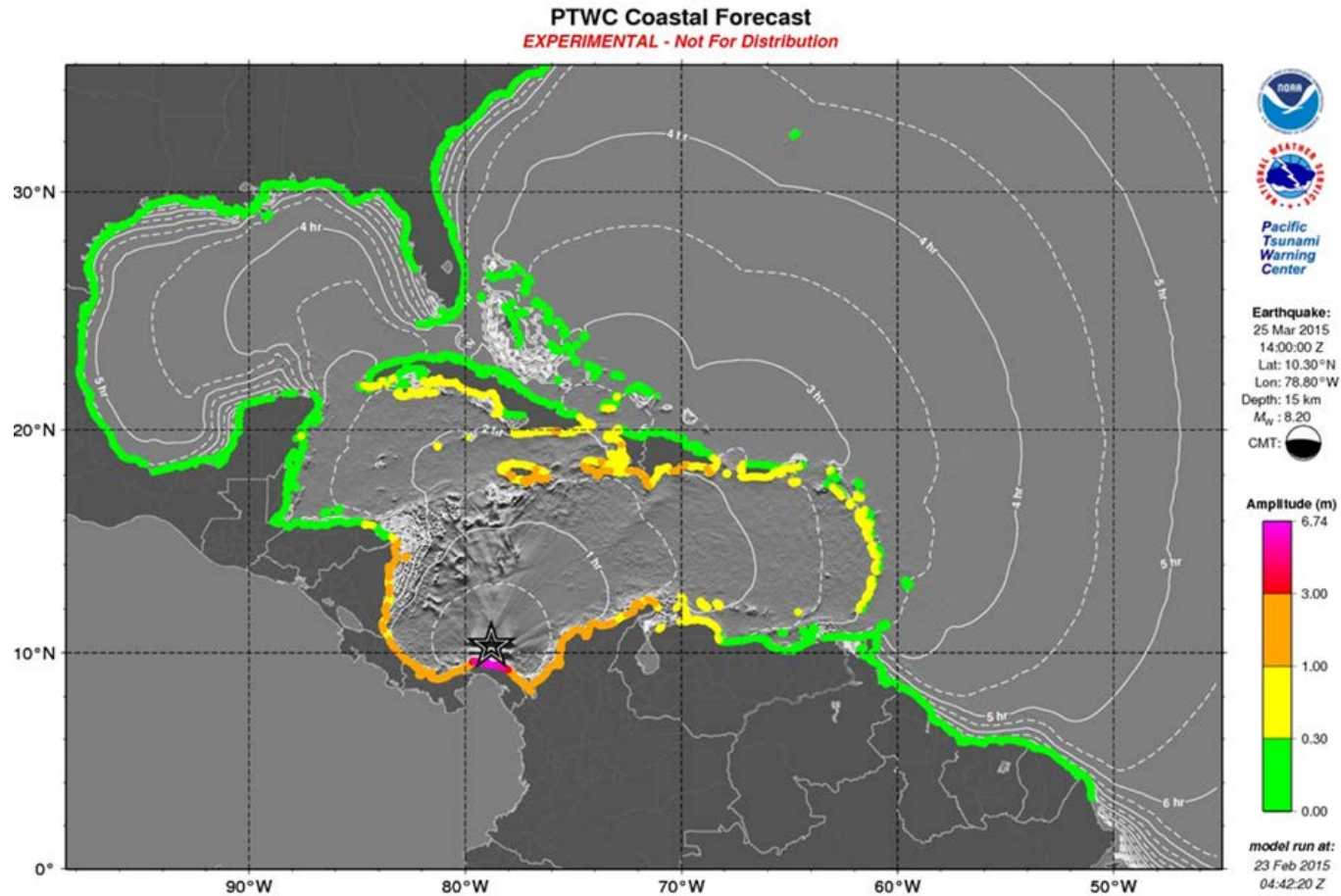
- ✓ **To continue process of exposure to PTWC proposed CARIBE EWS Enhanced products.**
  - Review and evaluate PTWC enhanced products that are to be issued in the first quarter of 2015 in parallel with existing PTWC products.
  - Provide feedback on the staging, format and content of the experimental products.

# Energy forecast map for CARIBE WAVE/LANTEX 2015 Panama Scenario

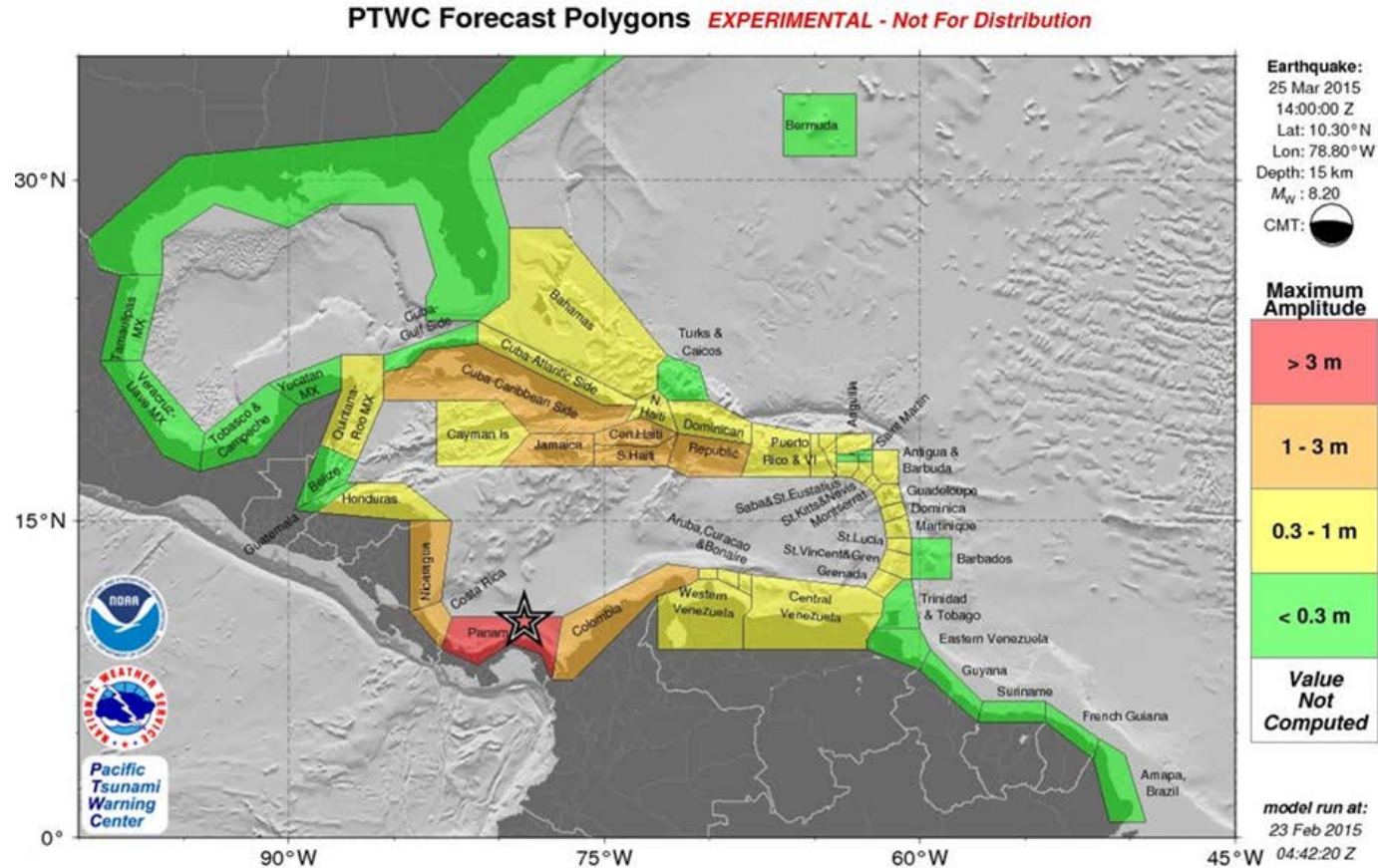




# Coastal forecasts and travel times for CARIBE WAVE/LANTEX 2015 Panama Scenario



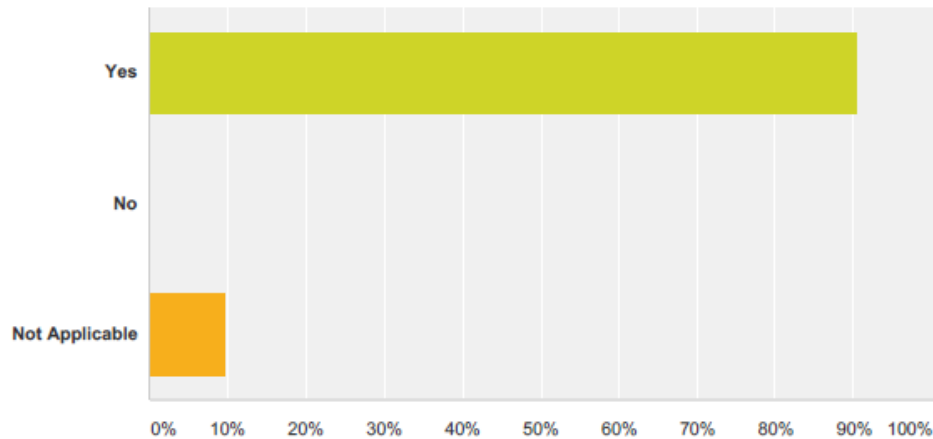
# Forecast polygons for CARIBE WAVE/LANTEX 2015 Panama Scenario



# Feedback on Enhanced Products

**Q20 2A.1: The information contained in the enhanced products is understandable.**

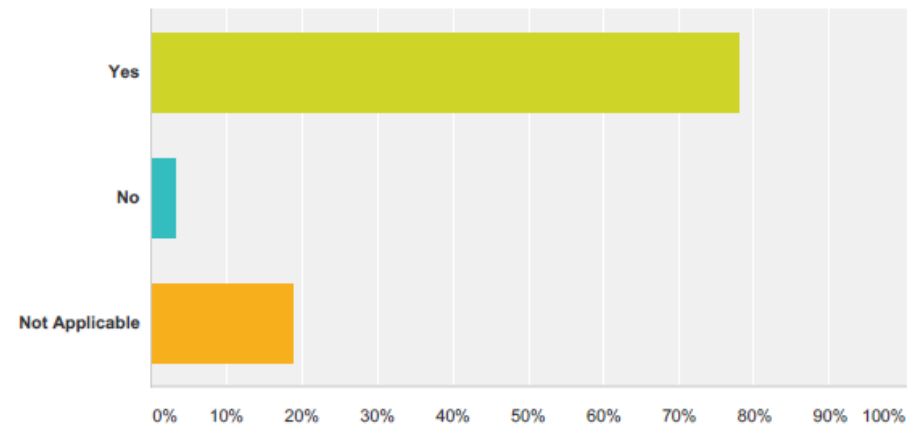
Answered: 31 Skipped: 8



(up from 83% in 2014)

**Q21 2A.2: The information contained in the enhanced products helps with your decision-making.**

Answered: 32 Skipped: 7



(up from 77% in 2014)

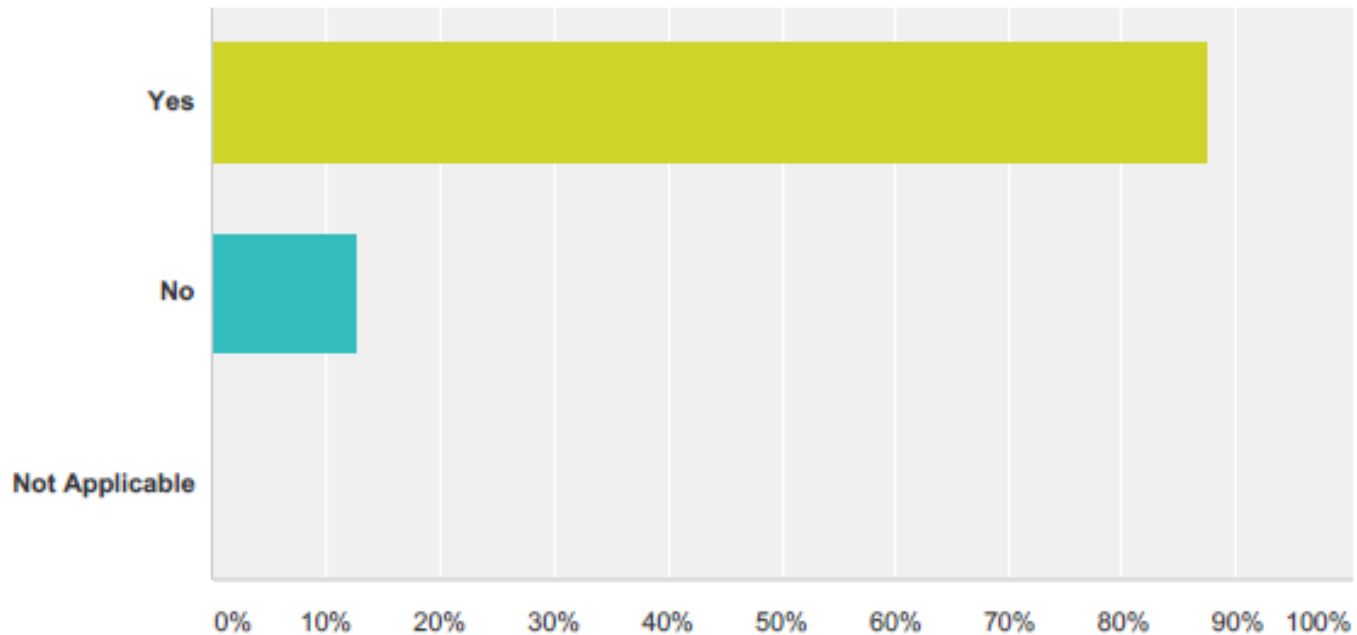
# Objective 3

- ✓ **To validate the readiness to respond to a local/regional source 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 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.

# TWFP Readiness

**Q29 3A.1: The TWFP/NDMO has an activation and response process (standard operating procedures) in place for the receipt of tsunami warnings.**

Answered: 32 Skipped: 7

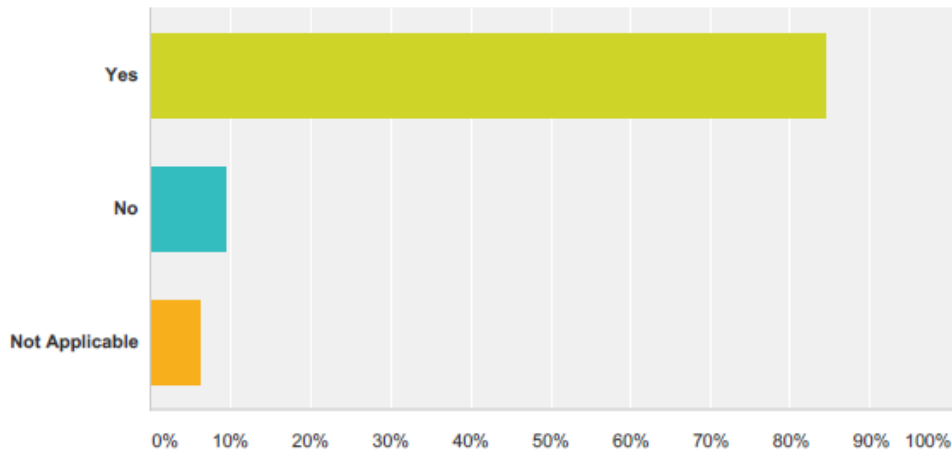


(up from 81% in 2014)

# Tsunami Response Planning

**Q30 3A.2: The TWFP/NDMO has, prior to the exercise, engaged in tsunami response planning.**

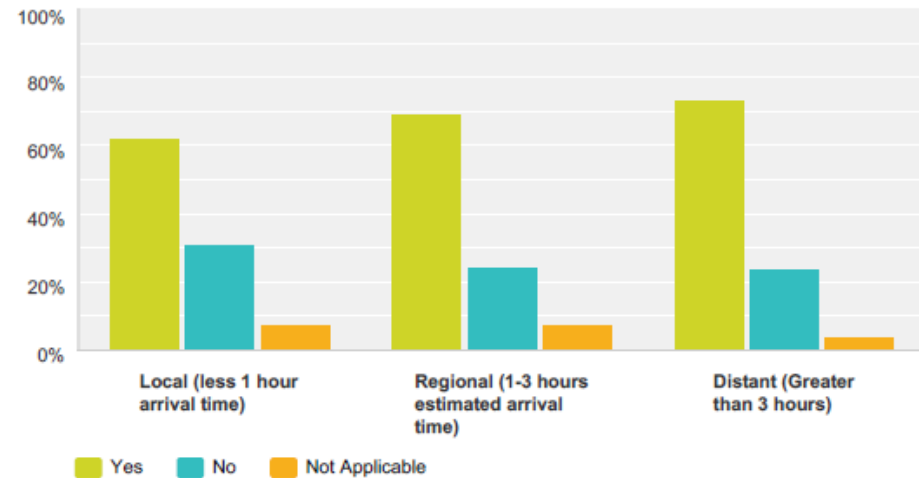
Answered: 32 Skipped: 7



(down from 87% in 2014)

**Q35 3B.2: A country tsunami emergency response plan (standard operating procedures) for tele/regional/local tsunamis exists.**

Answered: 31 Skipped: 8

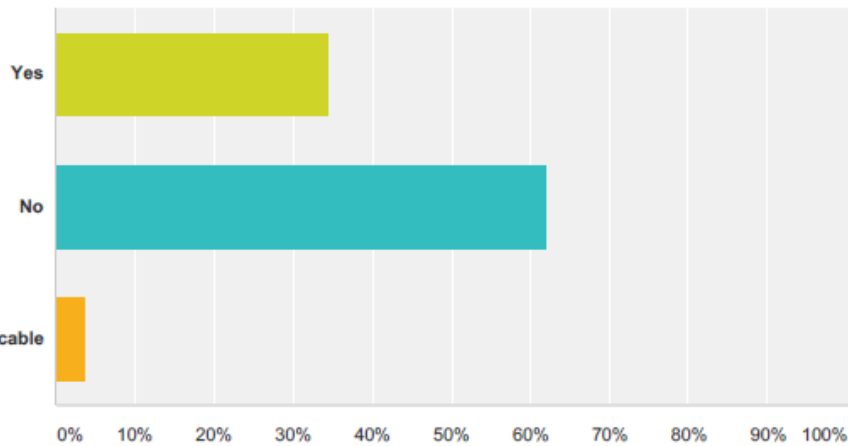


(up from 63% local, 67% regional, and 70% distant in 2014)

# Tsunami Response Planning

**Q33 3A.5: The TWFP/NDMO has a tsunami mass coastal evacuation plan.**

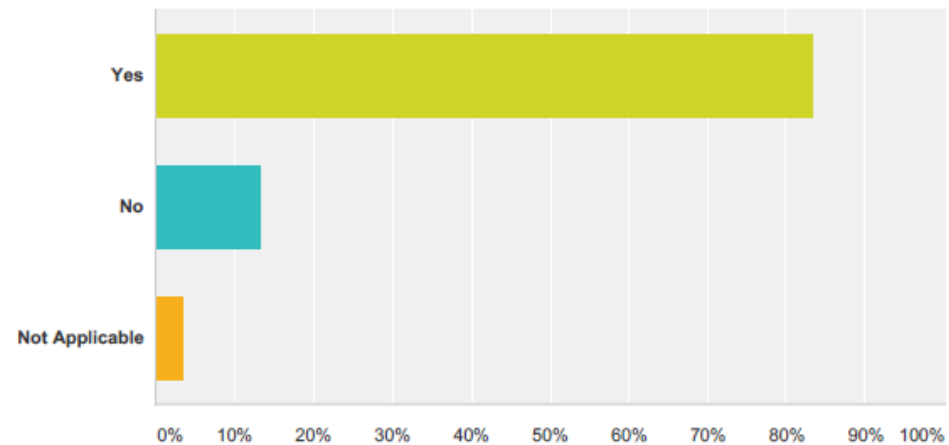
Answered: 29 Skipped: 10



(up from 22% in 2014)

**Q34 3B.1: Arrangements to assemble the in-country disaster management group (Emergency Operations Center) relevant to decision-making on tsunami warning and response exist.**

Answered: 30 Skipped: 9

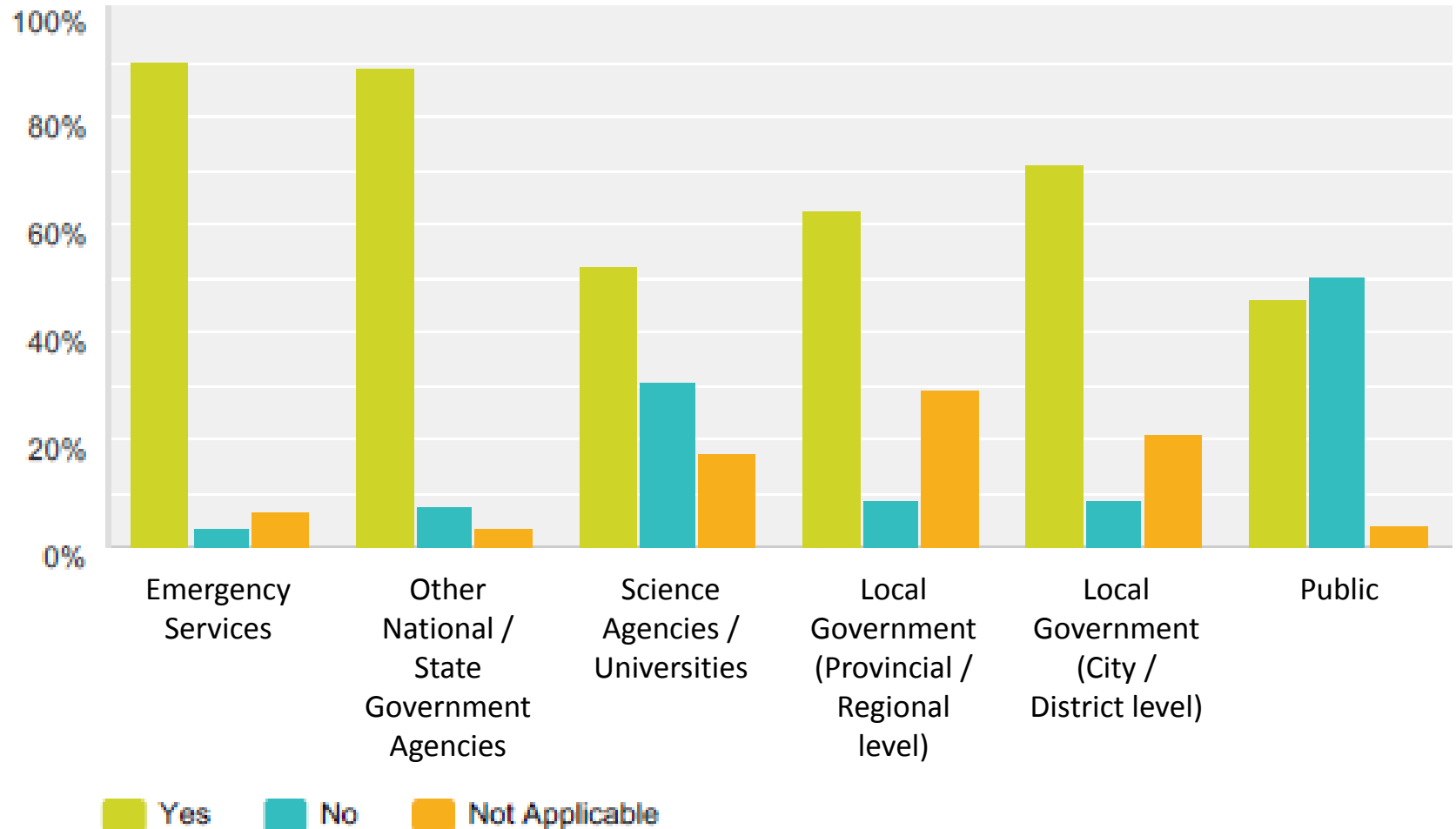


(equal to 2014)

# Alert Dissemination

## Q42 3C.2: The alert was disseminated to:

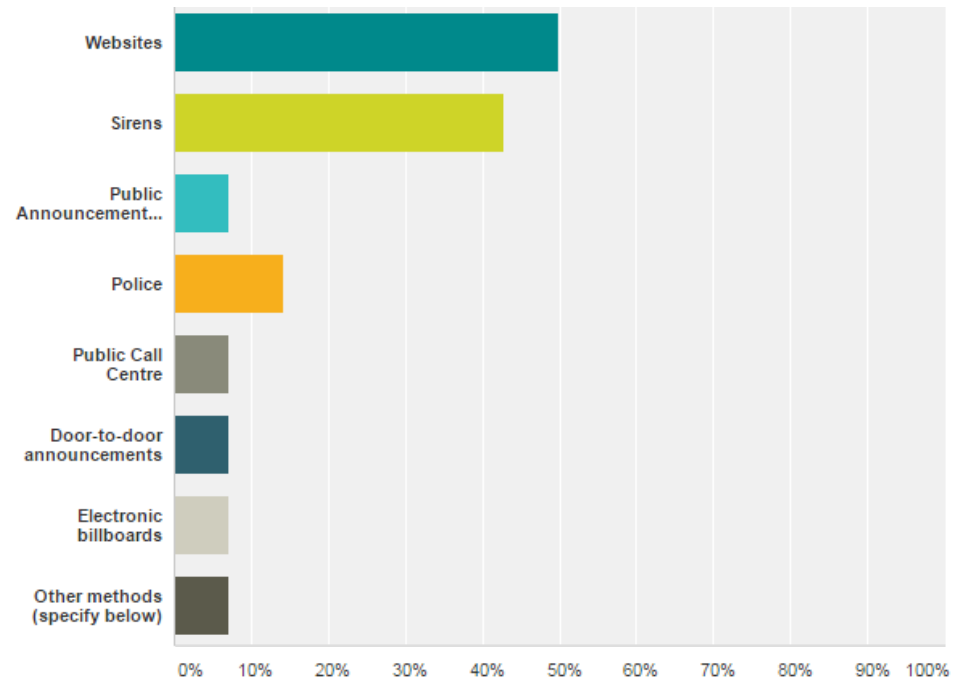
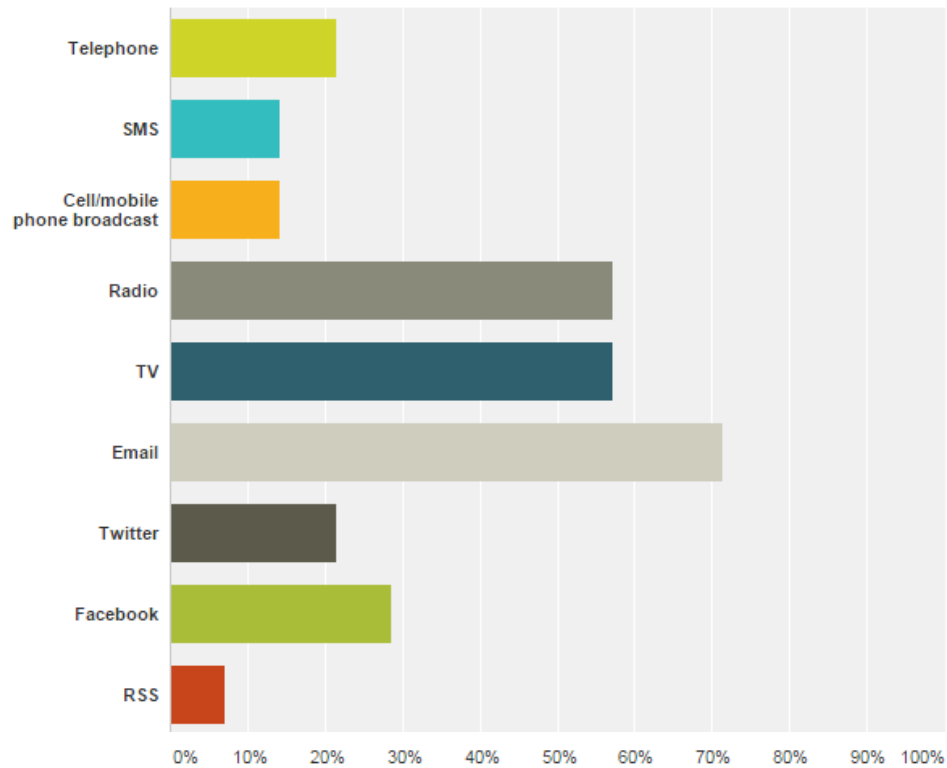
Answered: 31 Skipped: 8





# Alert Dissemination

Q59 3E.3: If you answered 4es to Q3E.1, how was the warning/information communicated to the public? Check all that apply.



# Other Aspects of the Exercise

# Member State Participation

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



# Media Arrangements

- Sample press release was included in Handbook which could be adapted as necessary.
- UNESCO IOC issued a press release before exercise
- 48% of the survey respondents indicated that the exercise had media coverage (down from 54% in 2014)



# Real Events/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.
- It was suggested that 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.
- **NO** real events requiring action on behalf of the TWC took place during the event
- **NO** false alarms were reported

# Other 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, 2013, 2014, 2015 Manuals
- CARIBE WAVE 2011, 2013, 2014 Reports
- PTWC Communications Plan for the Caribbean

<b>Notification Subscription Services</b>
<a href="#">Pacific Center (RSS/Emails)</a>
<a href="#">National Center (RSS/Email)</a>
<b>Carib. Sea Level Stations</b>
<a href="#">Inventory of Stations</a>
<a href="#">(Google map)</a>
<a href="#">IOC Sea Level Monitoring Facility</a>
<a href="#">Status of Sea Level Data Availability</a>
<b>Seismic Stations</b>
<a href="#">IRIS CARIBE EWS Virtual Seismic Network</a>
<a href="#">Sistema de Monitoreo de Estaciones RSPR</a>
<a href="#">Status of Seismic Data Availability</a>
<b>Communications Systems</b>
<a href="#">EMWIN</a>
<a href="#">NOAA Weather Radios</a>
<a href="#">GTS</a>
<b>NOAA Tsunami Program</b>
<a href="#">CTWP Presentations</a>
<a href="#">Tsunami Database</a>
<b>CARIBE EWS</b>
<a href="#">IOC Tsunami Programme Home</a>
<a href="#">Organizational Structure &amp; Governance</a>
<a href="#">Communication Plan</a>
<a href="#">Communication Test</a>
<b>Preparedness</b>
<a href="#">2015 CARIBE WAVE/LANTEX Exercise</a>
<a href="#">2014 CARIBE WAVE/LANTEX Exercise</a>
<a href="#">2013 CARIBE WAVE/LANTEX Exercise</a>
<a href="#">2011 CARIBE WAVE/LANTEX Exercise</a>
<b>Education</b>
<a href="#">Tsunami Messages</a>
<a href="#">COMET: Warning Systems</a>
<a href="#">JetStream</a>
<a href="#">NOAA Education</a>
<b>CTWP Activities</b>
<a href="#">Calendar</a>
<b>CTWP Office</b>
<a href="#">Staff</a>
<a href="#">CTWP News</a>
<a href="#">CTWP Homepage</a>

# Exercise Manual

- The exercise manual was made available thru various websites including CTWP and PRSN
- It includes 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 the website link to evaluation questionnaire.

Intergovernmental Oceanographic Commission  
technical series

**118**



**EXERCISE CARIBE WAVE/LANTEX 15**  
**A Caribbean and Northwestern Atlantic**  
**Tsunami Warning Exercise**  
**SW Caribbean Scenario**  
**25 March 2015**

**Volume 1**

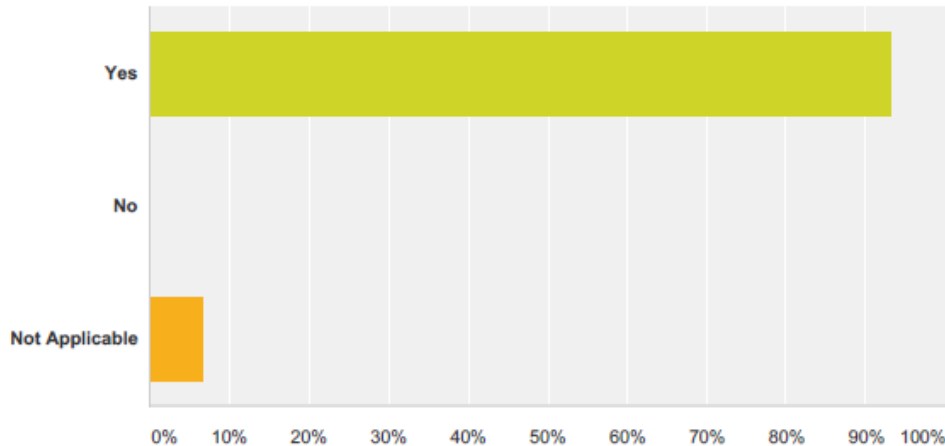
**Participant Handbook**

UNESCO

# Satisfaction with resources

**Q71 4.10:CARIBE WAVE/ LANTEX 15 Handbook provided an appropriate level of detail.**

Answered: 30 Skipped: 9

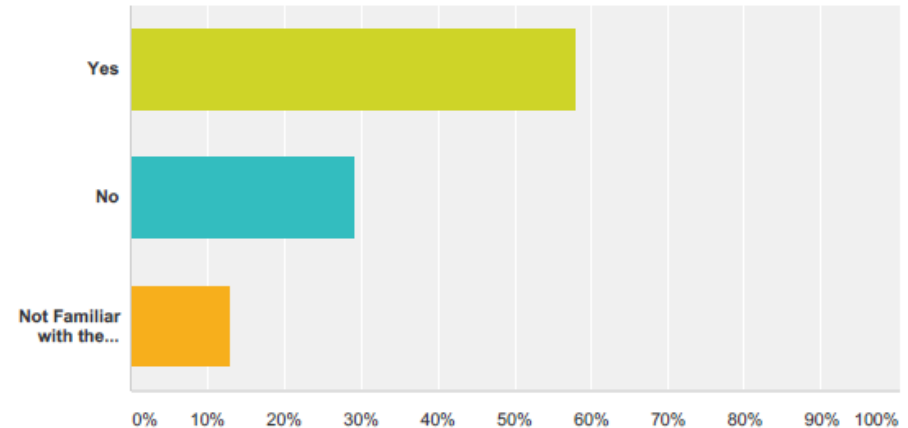


(equal to 93% in 2014)

**Q73 4.12:Was the IOC How to Plan, Conduct, and Evaluate Tsunami Exercises guideline**

**(<http://www.srh.noaa.gov/srh/ctwp/?n=caribewave2014>) used in preparing for the exercise?**

Answered: 31 Skipped: 8



(down from 58% in 2014)

**81% of the respondents were satisfied with the planning, conduct, format and style of the exercise**  
(down from 86% in 2014)

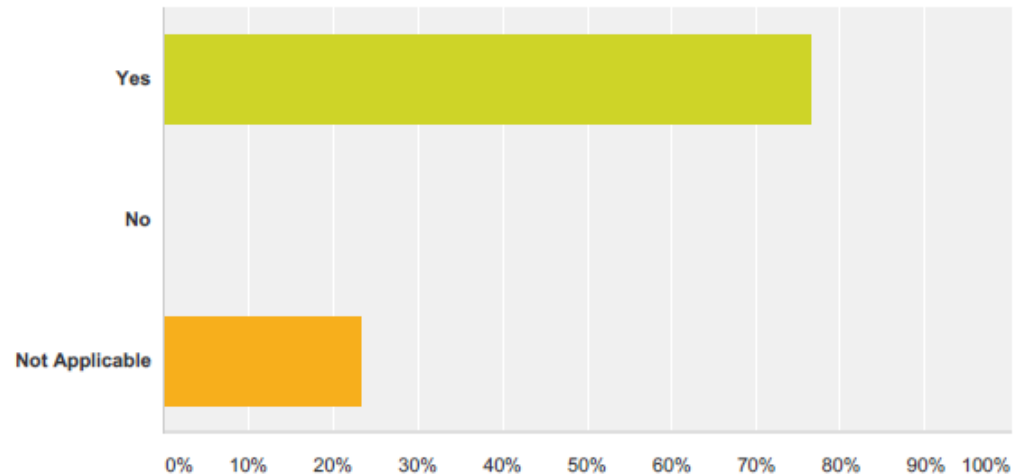


# Webinars

- ✓ 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

Q72 4.11:CARIBE WAVE/LANTEX 15  
Webinars were helpful in preparing for the exercise.

Answered: 30 Skipped: 9



- 34 Member States/Territories participated in the webinars (up from 16 in 2014)
- 76.7% of the participants found the webinars to be helpful. (down from 79.3% in 2014)

# Websites

Materials were posted to CTWP and PRSN websites.

**CARIBE WAVE/LANTEX 2015**

- [INERCO IOC Circular Letter](#) Announcing CARIBE WAVE/LANTEX 2015
- [CaribeWave 2015 Task Team Meeting Presentation](#)
- The participants **HANDBOOKS** are available for
  - [EN Caribbean \(Caribbean I/O/OCG Form\)](#)
  - [ES Caribbean \(Caribbean I/O/OCG Form\)](#)
  - [FR Caribbean \(Caribbean I/O/OCG Form\)](#)

**Webinar 1 for CARIBE WAVE/LANTEX 2015:**

- [English](#): 19:00 UTC, Tuesday, January 20, 2015 - [Presentation](#)
- [Spanish](#): 19:00 UTC, miércoles, 21 de enero de 2015
- [French](#): 19:00 UTC, jeudi, 22 janvier de 2015

**Webinar 2 for CARIBE WAVE/LANTEX 2015:**

- [English](#): 19:00 UTC, Tuesday, February 24, 2015
- [Spanish](#): 19:00 UTC, miércoles, 25 de febrero de 2015
- [French](#): 19:00 UTC, jeudi, 26 février de 2015

Additional Websites for CARIBE WAVE/LANTEX 2015

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

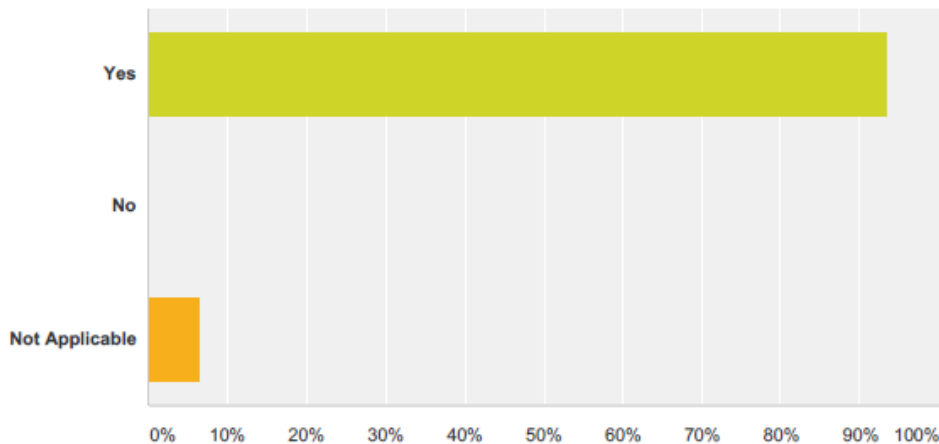
Thanks and PLEASE contact me with any questions.

Christa G. von Hillebrandt-Andrade  
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 c/o Puerto Rico Seismic Network  
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Q70 4.9: The CARIBE WAVE/LANTEX 15 exercise website pages (eg. [caribewave.info](http://caribewave.info), [prsn.uprm.edu](http://prsn.uprm.edu)) were useful.

Answered: 31 Skipped: 8



(up from 89% in 2014)

Magnitude	Agency	Local Time (GMT-4)	Latitude	Longitude	Depth (Km)	Region
3.74 Md	RSPR	2015-01-21 01:48:57	18.417	-67.7213	123	MONA PASSAGE
3.81 Md	RSPR	2015-01-18 21:07:27	17.8971	-63.8365	126	LEEWARD ISLANDS
3.01 Md	RSPR	2015-01-02 19:05:02	17.9231	-68.5055	101	EASTERN DOMINICAN REPUBLIC
3.83 Md	RSPR	2014-12-31 10:06:16	18.5448	-68.9261	163	EASTERN DOMINICAN REPUBLIC
3.79 Md	RSPR	2014-12-28 22:04:21	19.2135	-64.3338	32	SOMBRERO SEISMIC ZONE
3.69 Md	RSPR	2014-12-21 18:14:48	19.0165	-65.1793	24	SOMBRERO SEISMIC ZONE

# CARIBE WAVE/LANTEX 2015 Task Team

<u>Person</u>	<u>Telephone #</u>	<u>Email</u>
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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>
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# Special Thanks

In addition to those in Task Team

- Victor Huérfano and Gisela Báez-Sánchez from PRSN, for setting up the electronic registration and updates to PRSN website
- Dennis Cain, NWS SR for updates to CTWP website with CARIBE WAVE/LANTEX materials
- Students Jean-Edouard Faucher, Gwendelyn Monge, Fernando Martínez, Pedro Matos, and Fernanda Ramos from CTWP

# 2016 Proposal

- In ICG VIII it was decided that exercises be conducted every year
- Proposed date: March 16, 2016
- Proposed Scenario(s)
  - Venezuela
  - North of Dominican Republic

# Potential Scenario

# Questions, Comments

Thank you

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