



# CARIBE WAVE 2021

## Summary Meeting



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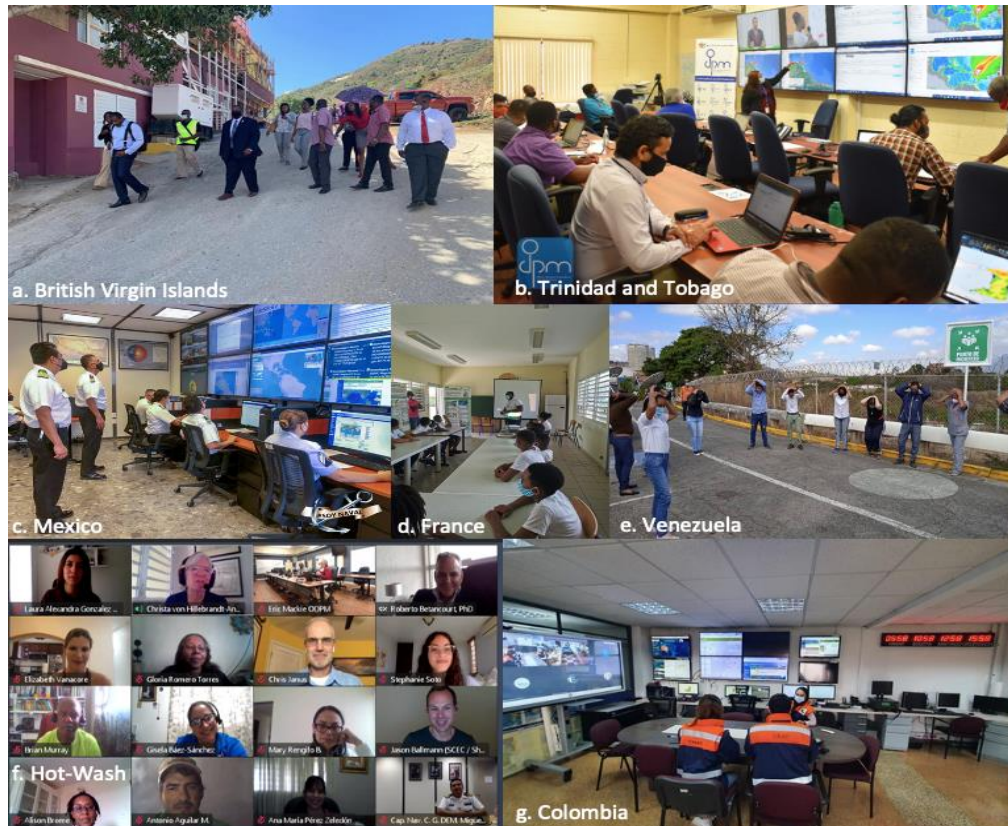
**April 27, 2021**

# Objectives

- Summary of CARIBE WAVE 21
- Evaluation form results

# CARIBE WAVE 21

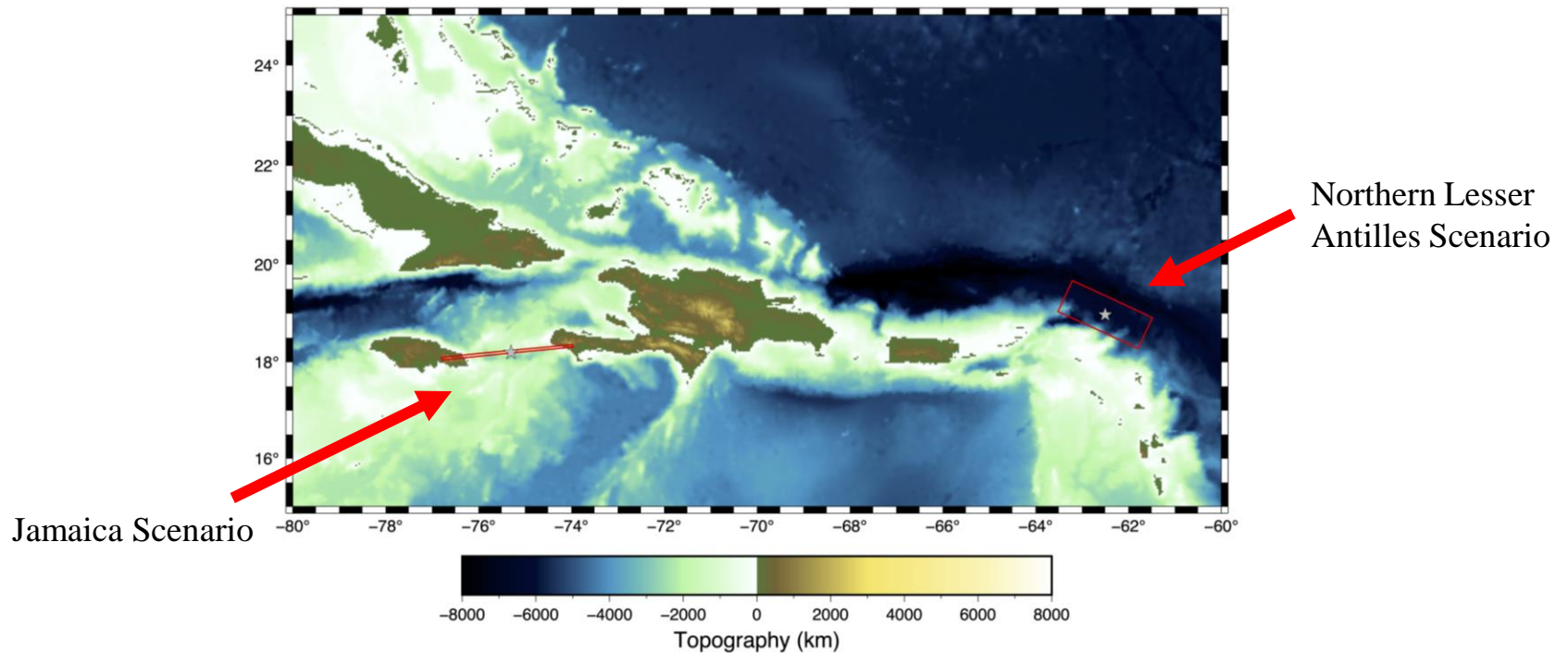
- CARIBE WAVE 21 was held successfully on March 11, 2021.
- **Forty-seven** of its forty-eight Member States and Territories participated, and a total of **333,515** people were directly engaged.



- It was left up to the Member States and Territories to determine if any additional activity would be carried out and whether to use the simulated messages for one of the two scenarios: Jamaica and Northern Lesser Antilles.

# CARIBE WAVE 21

## Earthquake and Tsunami Scenarios



Scenario	Origin Time	Mw	Epicenter
Jamaica	14:00:00 UTC March 11, 2021	8.0	18.2°N, 75.3°W
Northern Lesser Antilles		8.5	18.9°N, 62.4°W

# Timeline

ACTION	DUE DATE
Circular Letter Issued by IOC to MS	✓ September 2020
Handbook Draft Circulated among ICG CARIBE EWS TNC/TWFP and TT CARIBE WAVE 21	✓ September 2020
Deadline for Comments	✓ October 2020
Exercise Handbook Available Online	✓ November 2020
1 <sup>st</sup> Webinar CW	✓ 26 January 2021 – English ✓ 27 January 2021 – Spanish ✓ 28 January 2021 - French
2 <sup>nd</sup> Webinar CW	✓ 23 February 2021 - English ✓ 24 February 2021 - Spanish ✓ 25 February 2021 - French
Countries Indicate Selected Scenario	✓ 26 February 2021
Exercise	✓ 11 March 2021
Exercise Evaluation Due	✓ 26 March 2021
Final Draft Caribe Wave 21 Report ✓ 9 April 2021	

# Goals / Metrics

Goals	2016 Results	2017 Results	2018 Results	2019 Metrics	2019 Results	2020 Metrics	2020 Results	2021 Metrics	2021 Results
<b>TWFP receive the dummy message</b>	84%	95%	100%	100%	89%	100%	97%	100%	97%
<b>Participation of Member States of ICG CARIBE EWS with designated focal warning point</b>	100%	100%	97%	100%	100%	100%	92%	100%	98%
<b>Community involvement (including agencies beyond TWFP)</b>	73%	82%	77%	95%	66%	95%	38%	95%	56%
<b>Number of participants</b>	332,812	679,985	643,403%	+10%	793,353	+10%	4,622	+10%	333,515
<b>Countries who participate submit exercise questionnaire</b>	100%	100%	91%	100%	82%	100%	92%	100%	95%
<b>Members State and territories are satisfied with exercise</b>					82%	100%	76%	100%	96%

# Participation

\*Number taken from TsunamiZone.org for cases where countries did not report number of participants in the survey.

Country	Participants according to Member States	Participants according to Tsunami Zone
Antigua and Barbuda	65*	65
Bahamas	7*	7
Barbados	97	101
Belize	20*	20
Brazil	11*	11
Colombia	70	57
Costa Rica	2	15
Cuba	250	170
Dominica	20	10
Dominican Republic	200	206
France (Martinique, Guadeloupe, Guyane, St. Barthelemy, St. Martin)	84,790	84,790
Grenada	7,603	7,605
Guatemala	0*	0
Guyana	10	8
Haiti	100	42
Honduras	10	0
Jamaica	148	632
Mexico	560	250

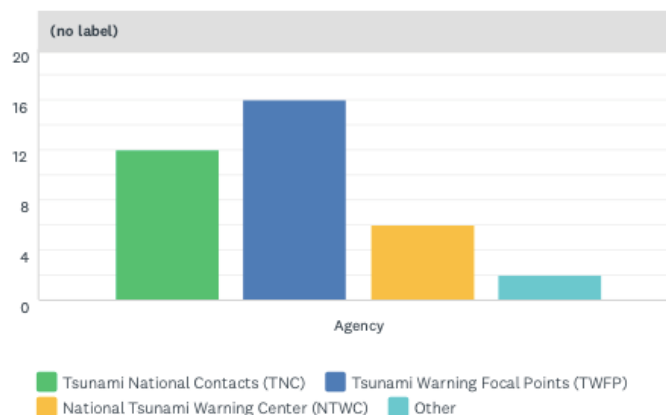
Country		Participants according to Member States	Participants according to Tsunami Zone
Netherlands	Aruba	1,100*	10,280
	Bonaire, Saba, Sint Eustatius	20	16
	Curacao	50	122
	Sint Maarten	100	75
Nicaragua		90	100
Panama		12	644
Saint Kitts and Nevis		4,500	4,500
Saint Lucia		228	228
Saint Vincent and the Grenadines		15	27
Suriname		0*	0
Trinidad and Tobago		346*	346
United Kingdom	Anguilla	1,250 *	1,250
	Bermuda	50	220
	British Virgin Islands	1,184	14
	Cayman Islands	3,888	3,888
	Montserrat	0*	0
	Turks and Caicos	78*	78
United States	Puerto Rico	90,255	90,255
	US Virgin Island	4,000	3,374
Venezuela		132,398	132,389
TOTAL		333,518	341,770

# Evaluation Form

- The questionnaire contained 27 questions for participating countries to provide feedback on the exercise.
- Available from the day of the exercise, March 19 through May 11.
- Responses from 97% of MS and territories. A total of 36 surveys were completed from forty-five of the forty-eight Member States and Territories.

Q2 -

Answered: 36 Skipped: 0



(no label)					
	TSUNAMI NATIONAL CONTACTS (TNC)	TSUNAMI WARNING FOCAL POINTS (TWFP)	NATIONAL TSUNAMI WARNING CENTER (NTWC)	OTHER	TOTAL
Agency	33.33%	44.44%	16.67%	5.56%	
	12	16	6	2	36

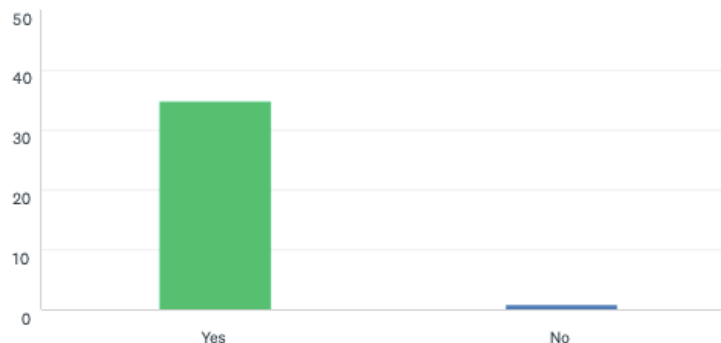


# Evaluation Form – Dummy Message

- The PTWC issued the “dummy” (start of exercise) message on March 11, 2021 at 1400 UTC and disseminated over all its standard broadcast channels.

Q4 Did your country's Tsunami Warning Focal Points/National Tsunami Warning Center receive the PTWC Caribe Wave 21 Dummy (Start of Exercise) Message?

Answered: 36 Skipped: 0



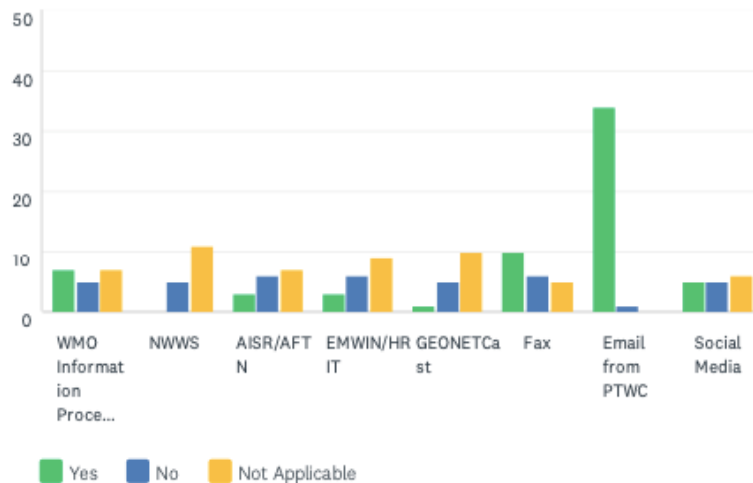
ANSWER CHOICES	RESPONSES	
Yes	97.22%	35
No	2.78%	1
TOTAL		36

# Evaluation Form – Dummy Message

- As in past years, the most common methods to receive the Dummy message were the Email and Fax.

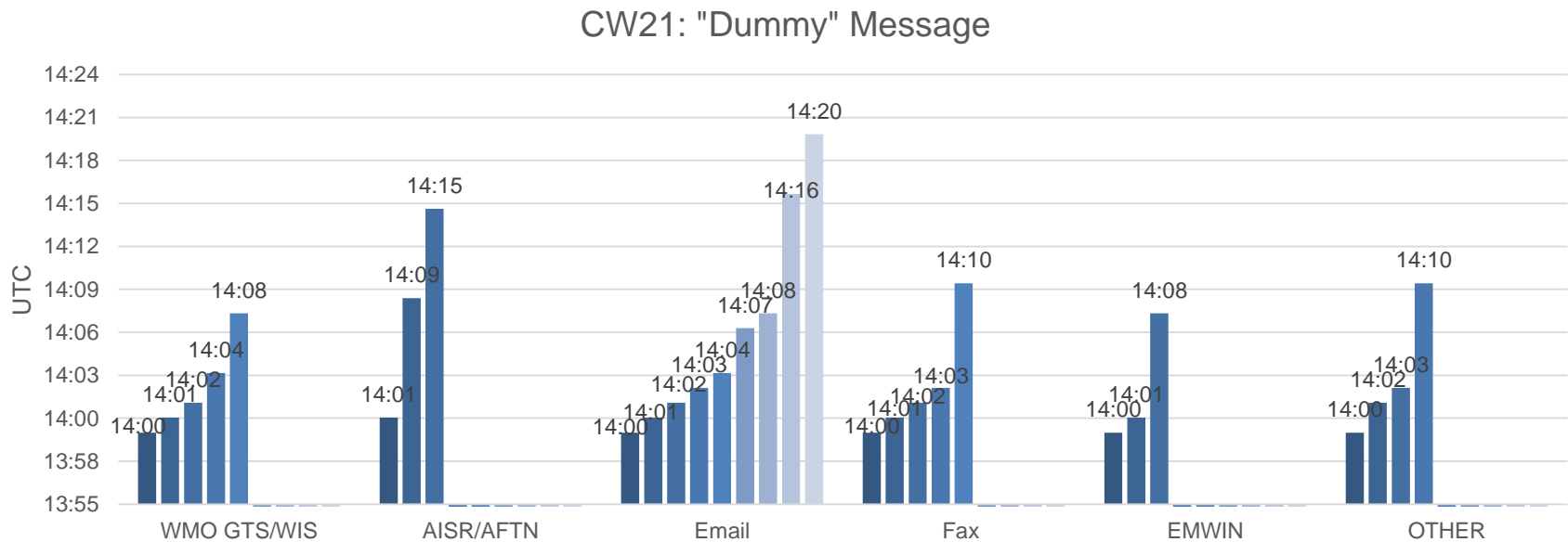
Q5 The PTWC issued the CARIBE WAVE 21 Dummy Message by several methods. Please check all methods through which the message was received by the TWFP/NTWC.

Answered: 36 Skipped: 0



# Evaluation Form – Dummy Message

- The time at which the message was received by the TWFP/NTWC in the different systems.

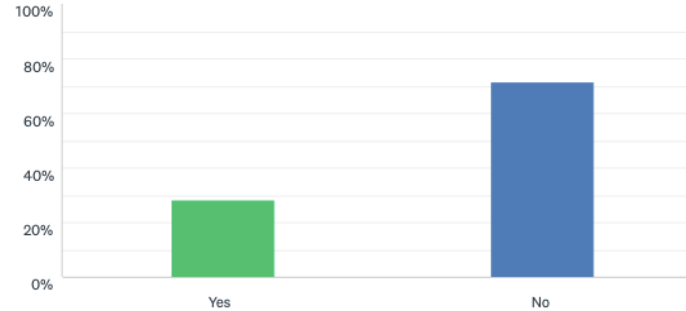


- It is crucial to seek other communication systems to avoid messages delays.

# Evaluation Form - Dummy Message

Q8 Did the Tsunami Warning Focal Point / National Tsunami Warning Center receive any message from an organization other than the PTWC (e.g. Puerto Rico Seismic Network, Caribbean Disaster Emergency Management Agency)? If yes, please use the comment box to indicate the agencies you received the message from.

Answered: 35 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	28.57%	10
No	71.43%	25
TOTAL		35

**Costa Rica:** We received a Dummy Message from CATAC.

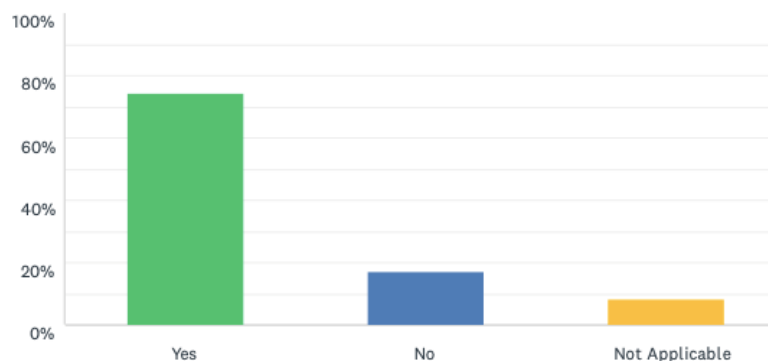
**Dominican Republic:** Puerto Rico Seismic Network.

**Guatemala:** Email from CATAC.

# Evaluation Form - Threat Messages

Q10 Did your TWFP/NTWC receive by email from PTWC the simulated exercise messages (Jamaica or Northern Lesser Antilles scenario) at the times specified in the Exercise Manual?

Answered: 35 Skipped: 1



ANSWER CHOICES		RESPONSES	
Yes		74.29%	26
No		17.14%	6
Not Applicable		8.57%	3
TOTAL			35

**Colombia:** Bulletin #3 was not received. The other bulletins were received within the times established in the CARIBE WAVE 21 exercise manual.

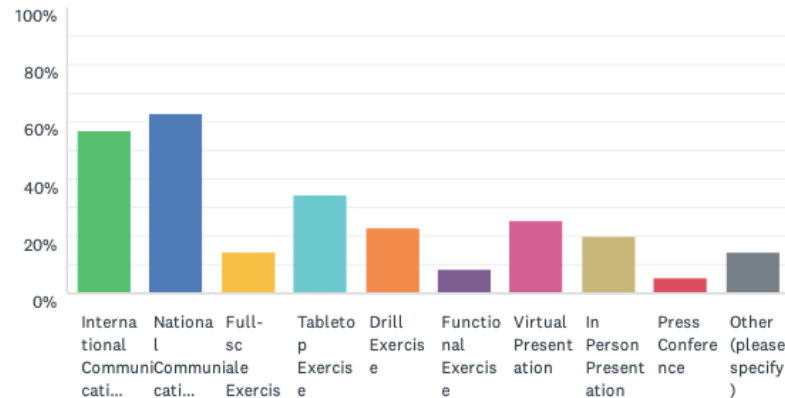
**Guyana:** The messages arrived within one minute of the scheduled time. Two Message 5 were received. The enhanced graphic products came in message 5 and not message 3.

**Grenada:** No email was received.

# Evaluation Form – Type of Participation

Q11 In light of the coronavirus pandemic, in what way was your country able to participate in the CW21?

Answered: 35 Skipped: 1



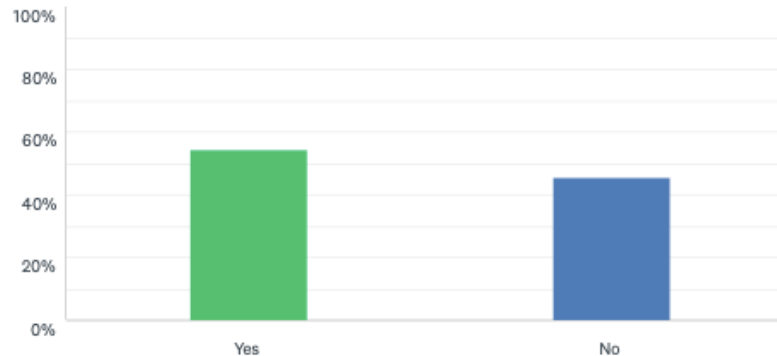
ANSWER CHOICES	RESPONSES	
International Communication Test Portion (PTWC-TWFP/NTWC)	57.14%	20
National Communication Test Portion	62.86%	22
Full-scale Exercise	14.29%	5
Tabletop Exercise	34.29%	12
Drill Exercise	22.86%	8
Functional Exercise	8.57%	3
Virtual Presentation	25.71%	9
In Person Presentation	20.00%	7
Press Conference	5.71%	2
Other (please specify)	14.29%	5
Total Respondents: 35		

# Evaluation Form – Tsunami Ready

According to Member States and Territories, there are about 102 communities recognized for TsunamiReady® or Tsunami Ready.

Q17 Is your country implementing the Community Performance Based Tsunami Recognition Program (TsunamiReady® or Tsunami Ready)?

Answered: 35 Skipped: 1



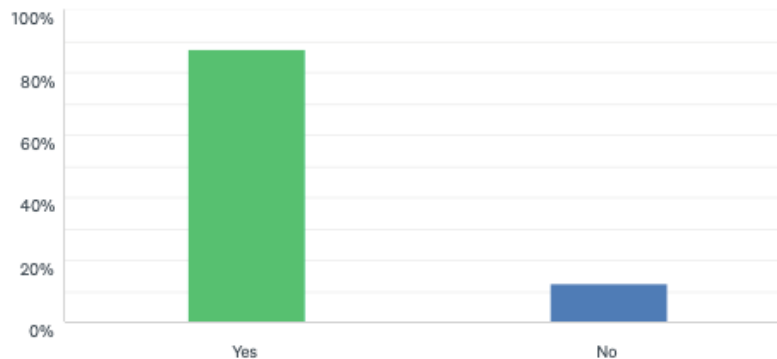
ANSWER CHOICES	RESPONSES	
Yes	54.29%	19
No	45.71%	16
TOTAL		35

# Evaluation Form – Tsunami Ready

The results indicated that 87% of the countries are interested in implementing Tsunami Ready, with 342 as total number of target communities to be recognized.

Q18 Is your country interested in implementing the Community Performance Based Tsunami Recognition Program (TsunamiReady® or Tsunami Ready)?

Answered: 16 Skipped: 20



ANSWER CHOICES		RESPONSES	
Yes		87.50%	14
No		12.50%	2
TOTAL			16

## Countries Interested in Implementing TR

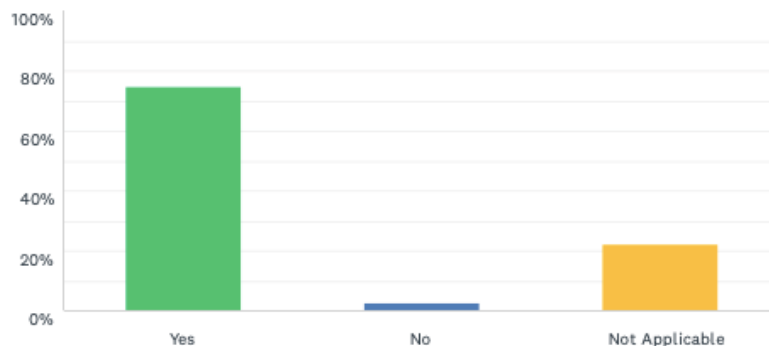
Brazil
Colombia
Cuba
Dominica
France
Guatemala
Guyana
Haiti
Mexico
NL Bonaire, Saba, Sint Eustatius
NL Curacao
NL Sint Maarten
Saint Lucia
Venezuela



# Evaluation Form – Planning

## Q25 Did the exercise planning go well?

Answered: 36 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		75.00%	27
No		2.78%	1
Not Applicable		22.22%	8
TOTAL			36

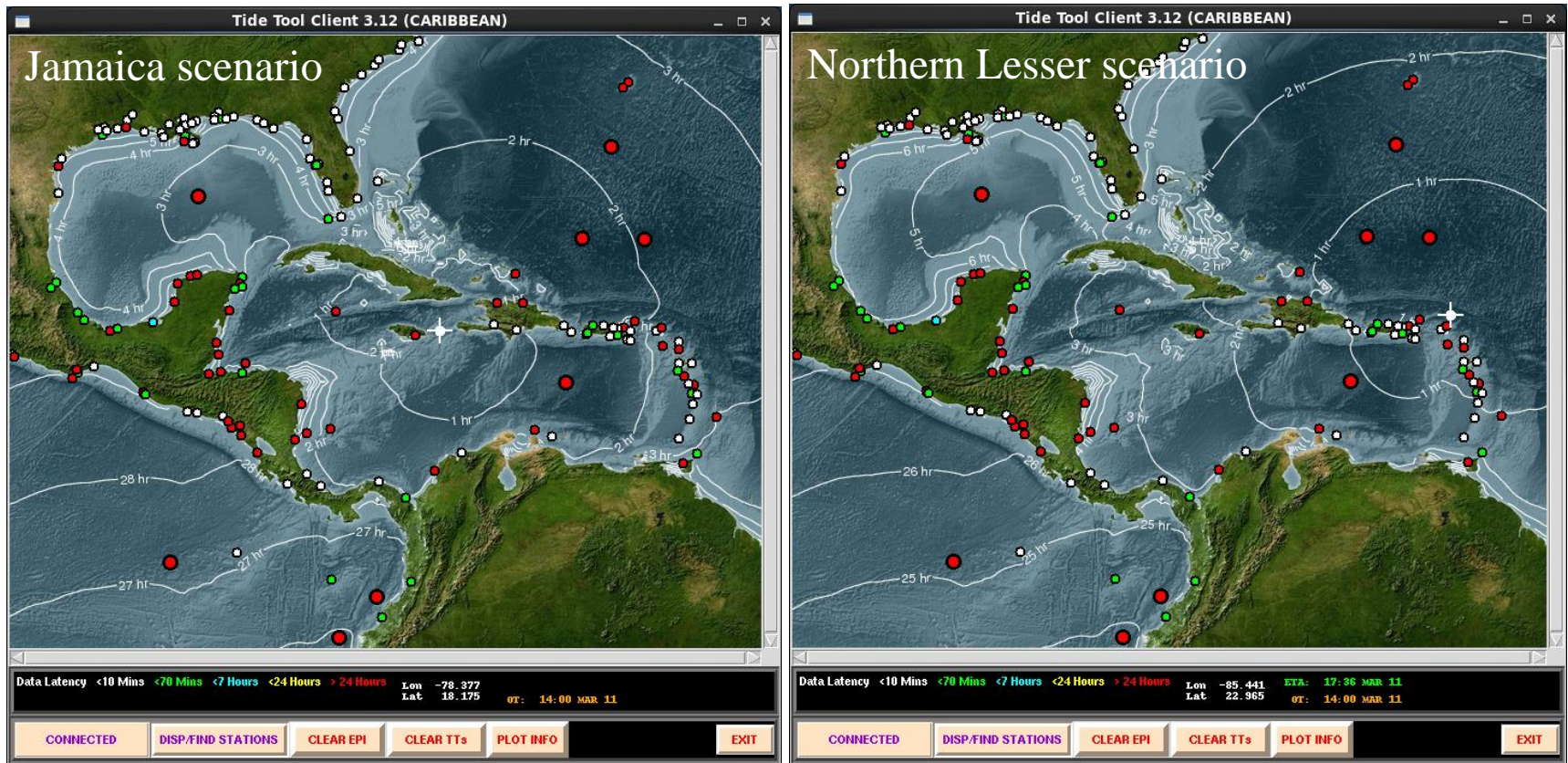
**Grenada:** Overall the exercise went well, however, there were areas identified for improvement.

**Jamaica:** COVID-19 condition led to cancellations of local activities/exercise.

**Saint Lucia:** There was not much opportunity to engage a local community to have an evacuation exercise due to COVID-19 restriction.

**Venezuela:** Despite the restrictions imposed by the pandemic, the objectives and goals proposed for this exercise were achieved.

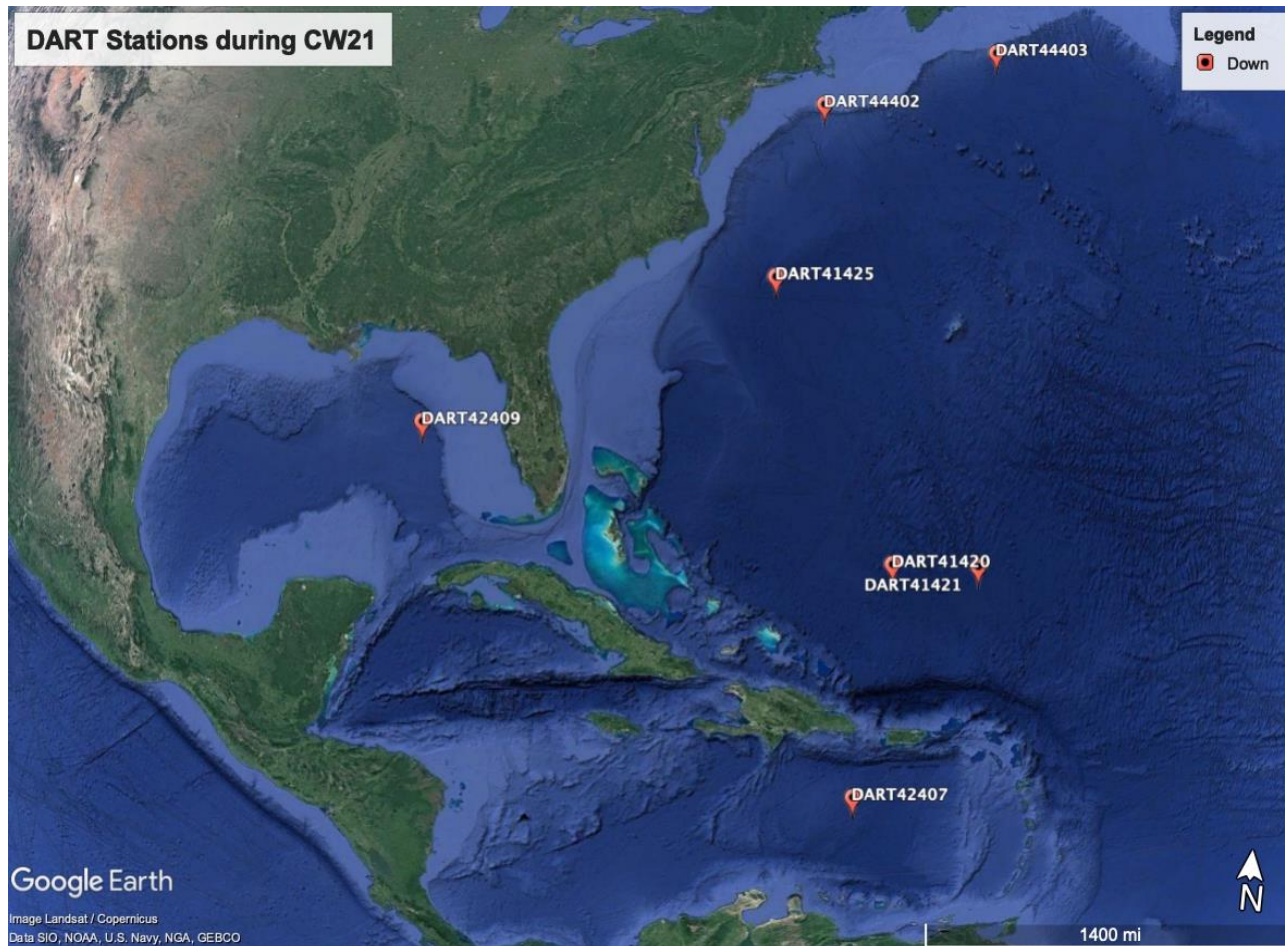
# Status of Sea Level Stations during the exercise



- The PTWC provided simulated forecasted maximum wave heights for 50 CARIBE EWS stations in the simulated bulletins.
- Only about 60% of these sea level stations were online on the IOC Sea Level facility during the exercise period.

# Status of DART's

All the 7 DART stations were not streaming data in the Caribbean/Gulf and Atlantic thru the National Buoy Center during the day of the exercise.



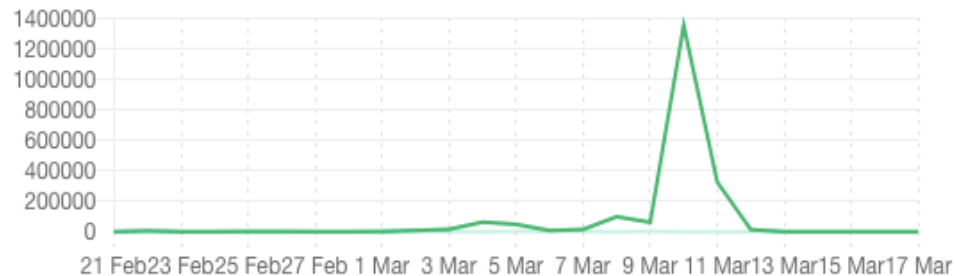


# Media Arrangements

 Mentions



 Social Media Reach



- The hashtag tracker Brand24 was used to monitor #CaribeWave21 from February 21 to March 17.
- Its data resulted in over 300 mentions on social media outlets and posts reaching over 2 million people worldwide

# CARIBE WAVE 21 Task Team

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# Hot-Wash

- For the first time the CARIBE WAVE 21 Task Team organized a post-exercise "hot-wash" webinar to permit Member States and Territories discuss and provide feedback on the exercise in an open forum.
- Some feedback included the receipt of the dummy message and the different types of exercise that were carried out at different countries.



# Resources

- IOC Manuals “[How to plan, conduct and evaluate tsunami exercises](#)” and “[Module on Tsunami Exercise](#)” are useful resources.
- CARIBE WAVE 2011 through 2021 Handbooks.
- CARIBE WAVE 2013 through 2020 Final and Media Report.
- User's guide for the Pacific Tsunami Warning Center Enhanced Products for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE-EWS). Available at [www.caribewave.info](http://www.caribewave.info)
- Questions on the exercise can be addressed to the members of the Caribe Wave 21 Task Team.

Questions, Comments

Thank You!



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