



CARIBE WAVE 2020

Summary Meeting



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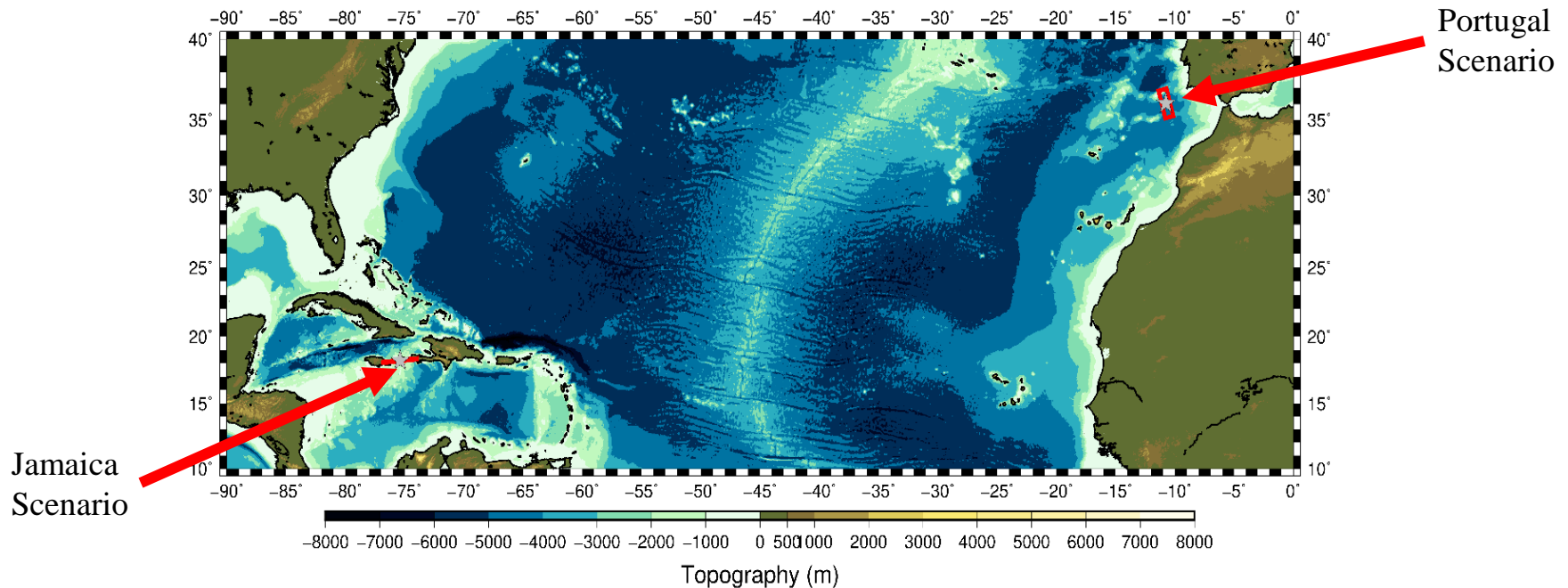
June 8, 2020

Objectives

- Discuss CARIBE WAVE 20 exercise held under different circumstances.
- Communications WMO/GTS
- Planning for CARIBE WAVE 21

CARIBE WAVE 20

Earthquake and Tsunami Scenarios



Scenario	Origin Time	Mw	Epicenter
Jamaica	14:00:00 UTC March 19, 2020	8.0	18.2°N, 75.3°W
Portugal		8.5	36.0°N, 10.7°W

Timeline

ACTION	DUE DATE
Circular Letter Issued by IOC to MS	✓ September 2019
Handbook Draft Circulated among ICG CARIBE EWS TNC/TWFP and TT CARIBE WAVE 20	✓ November 2019
Deadline for Comments	✓ December 2019
Exercise Handbook Available Online	✓ December 2019
1st Webinar CW	✓ 21 January 2020 – English ✓ 22 January 2020 – Spanish ✓ 23 January 2020 – French
2nd Webinar CW	✓ 26 February 2020 - English ✓ 27 February 2020 - Spanish ✓ 28 February 2020 – French
Countries Indicate Selected Scenario	✓ 10 March 2020
Exercise	✓ 19 March 2020
Exercise Evaluation Due	✓ 11 May 2020
Final Draft CARIBE WAVE 20 ✓ 5 June 2020	

COVID-19 Pandemic

- CARIBE WAVE 20 took place on March 19, 2020 under very different circumstances than previous years, given the COVID-19 pandemic.
- Instead of promoting a full tsunami exercise, the UNESCO IOC ICG/CARIBE-EWS agreed to focus on the communication systems at the regional level.
- It was left up to the Member States and Territories to decide if any additional activity would be carried out and whether to use the simulated messages for one of the two scenarios: Jamaica and Portugal.

Goals / Metrics

Goals	2013 Results	2014 Results	2015 Results	2016 Results	2017 Results	2018 Results	2019 Metrics	2019 Results	2020 Metrics	2020 Results
TWFP receive the dummy message	98%	94%	90%	84%	95%	100%	100%	89%	100%	97%
Participation of Member States of ICG CARIBE EWS with designated focal warning point	94%	98% (including two MS/Territory unofficial)	100%	100%	100%	97%	100%	100%	100%	92%
Community involvement (including agencies beyond TWFP)	75%	75%	66%	73%	82%	77%	95%	66%	95%	38%
Number of participants	44,000	191,000	191,420	332,812	679,985	643,403%	+10%	793,353	+10%	4,622
Countries who participate submit exercise questionnaire	90%	100%	91%	100%	100%	91%	100%	82%	100%	92%
Members State and territories are satisfied with exercise								82%	100%	76%

CARIBE WAVE 20

- CARIBE WAVE 20 was held successfully with a participation of **forty-four** of its forty-eight Member States and Territories, and a total of **4,622** people were directly engaged.
- It was expected that CW20 would surpass the 800,000 participants from 2019 given the earthquake activity in Puerto Rico, as well as the M 7.8 earthquake off Jamaica, Cuba and the Cayman Islands in January 2020.
- Over 102,000 people signed up on TsunamiZone.org to participate before the pandemic.
- But with the COVID-19 outbreak, the number of actual participants was much less than the registered number.

Participation

*Countries that did not provided a participation number but were part of the communication portion of the exercise.

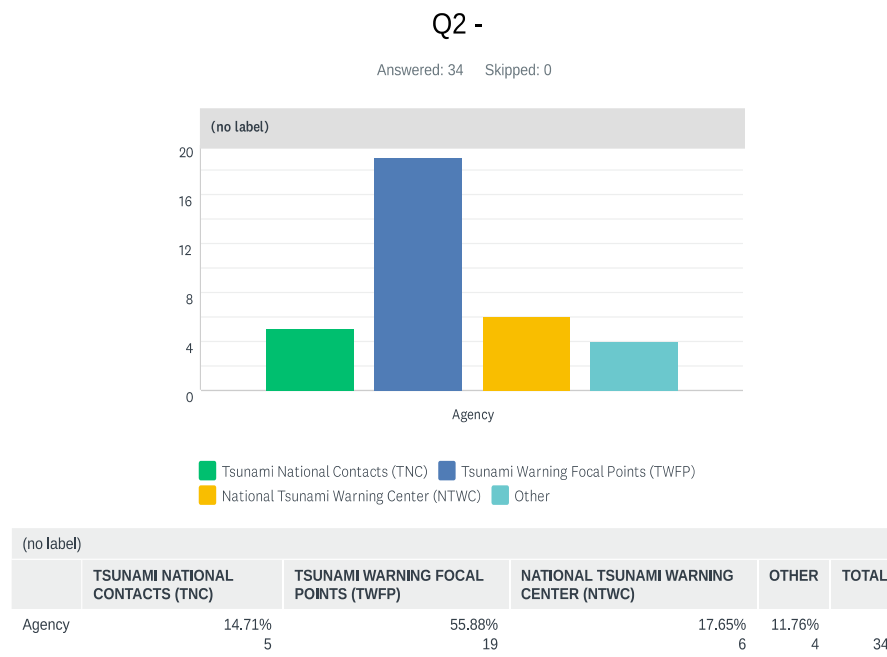
Country		Participants according to Member States	Participants according to Tsunami Zone
Antigua and Barbuda		1*	0
Bahamas		0	14
Barbados		2	507
Belize		1*	5
Brazil		5	13
Colombia		1	4
Costa Rica		4	39
Cuba		350	174
Dominica		2	440
Dominican Republic		1,547	1,547
France		5*	888
Grenada		1,000	21,591
Guatemala		20	30
Guyana		1*	0
Haiti		100	840
Honduras		1*	0
Jamaica		1*	3
Mexico		811	1,001
Netherlands	Aruba	1*	14
	Bonaire, Saba, Sint Eustatius	10	43
	Curacao	500	22
	Sint Maarten	1*	0

Country		Participants according to Member States	Participants according to Tsunami Zone
Nicaragua		90	90
Panama		1*	12
Saint Kitts and Nevis		1*	6,000
Saint Lucia		1*	80
Saint Vincent and the Grenadines		15	200
Suriname		0	0
Trinidad and Tobago		26	60
United Kingdom	Anguilla	0	1,250
	Bermuda	6	12
	British Virgin Islands	1*	264
	Cayman Islands	1*	171
	Montserrat	0	9
	Turks and Caicos	1*	6
United States	Puerto Rico	100	10,994
	US Virgin Island	10	1,177
Venezuela		5	55,255
TOTAL		4,622	102,755

Evaluation Form

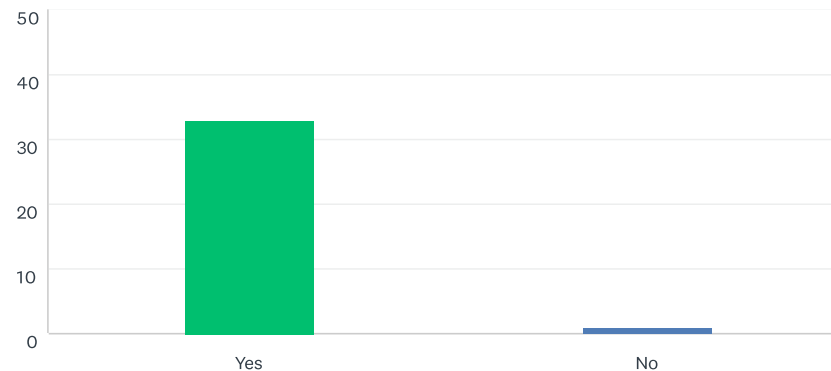
<https://www.surveymonkey.com/r/RevisedCW20>

- The questionnaire contained 12 questions for participating countries to provide feedback on the exercise communication test portion.
- Available from the day of the exercise, March 19 through May 11.
- Responses from 92% of MS and territories. A total of 34 surveys were completed.



Q4 Did your country's Tsunami Warning Focal Points/National Tsunami Warning Center receive the PTWC Caribe Wave 20 Dummy (Start of Exercise) Message?

Answered: 34 Skipped: 0

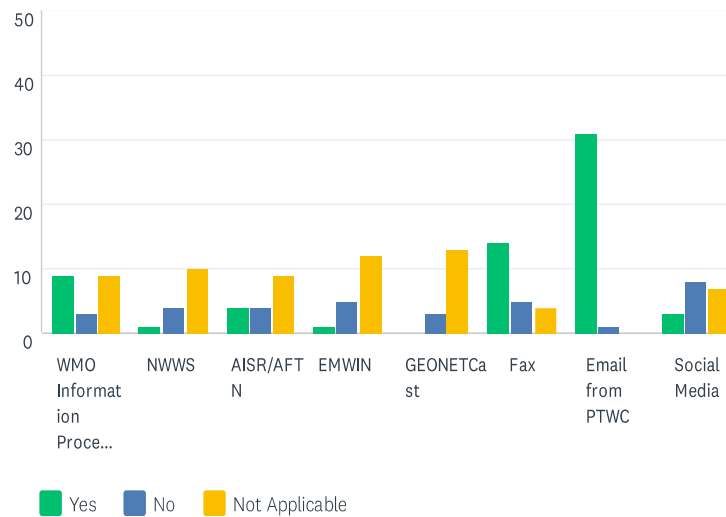


ANSWER CHOICES	RESPONSES	
Yes	97.06%	33
No	2.94%	1
TOTAL		34

The PTWC issued the “dummy” (start of exercise) message on March 19, 2020 at 1400 UTC and disseminated over all its standard broadcast channels.

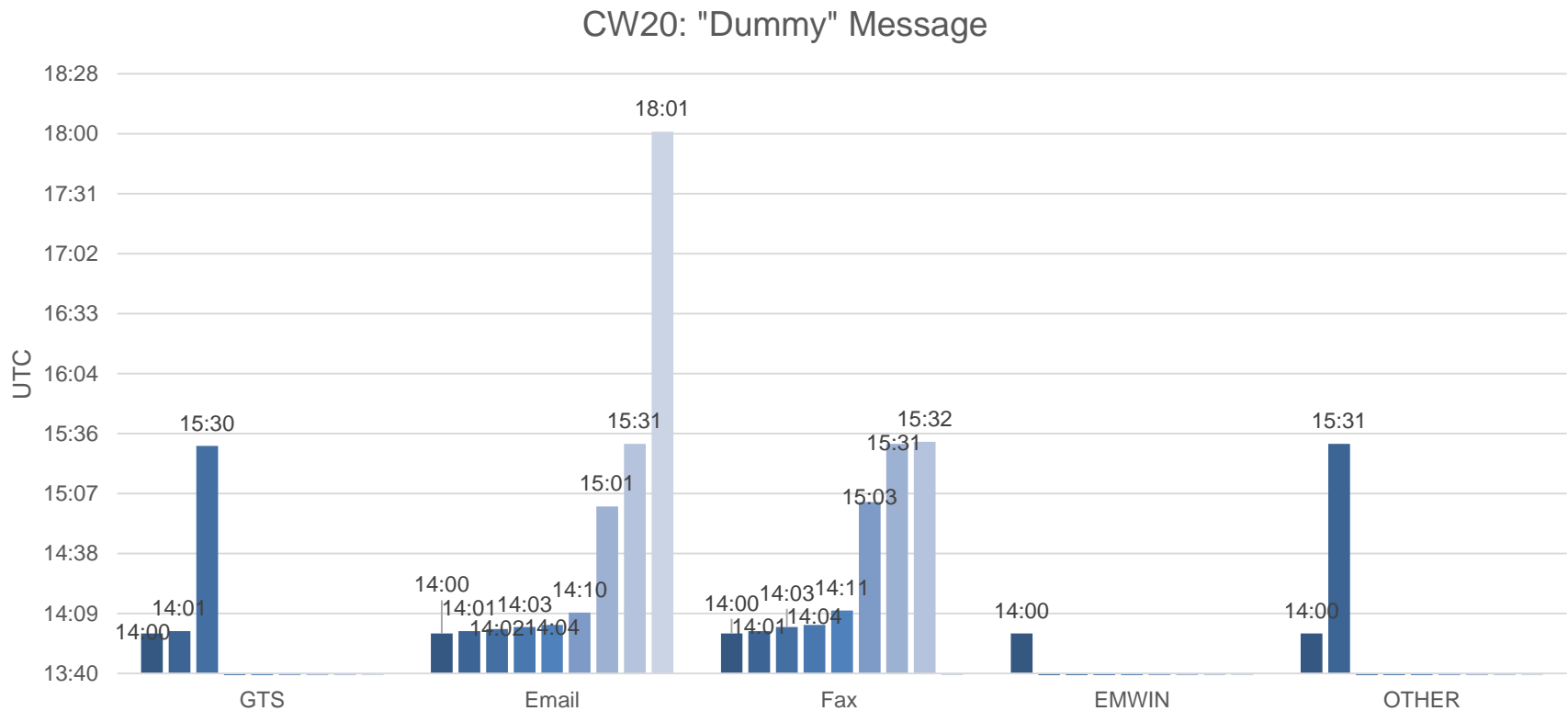
Q5 The PTWC issued the CARIBE WAVE 20 Dummy Message by several methods. Please check all methods through which the message was received by the TWFP/NTWC.

Answered: 33 Skipped: 1



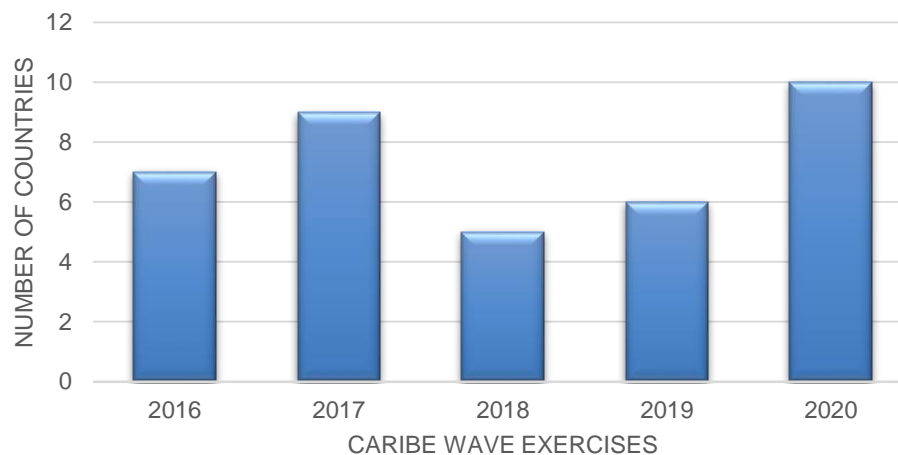
As in past years, the most common methods to receive the Dummy message were the Email and Fax.

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



GTS/WMO usage over the years

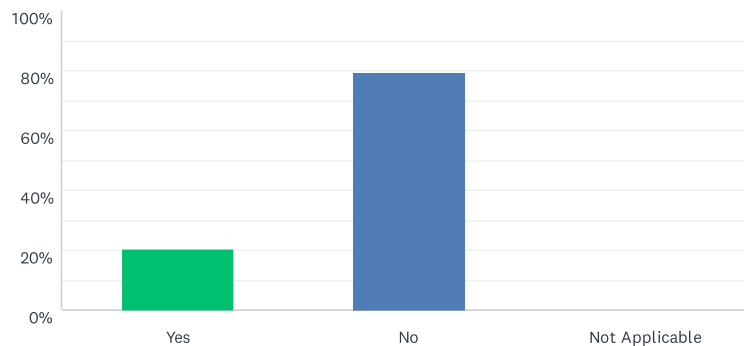
CARIBE WAVE: GTS/WMO Usage



GTS/WIS					
Country	2016	2017	2018	2019	2020
Antigua and Barbuda	14:15	14:05	14:03	14:00	14:00
Barbados		14:16	14:00	14:00	14:01
Belize		14:00			
Brazil		14:16			
France	14:06	14:16	14:01		14:01
Grenada		14:05		14:00	14:00
Haiti				14:00	14:00
Jamaica	14:05				14:00
NL Aruba		14:00	14:02		
NL Curacao	14:06			14:00	15:30
NL Saba, Sint Eustatius, Bonaire	14:06	14:18	14:02	14:02	14:01
Puerto Rico (USA)					14:00
UK Cayman Islands	15:06				
Venezuela	14:05	14:05			14:00

Q7 Were there any problems with the receipt of PTWC CARIBE WAVE 20 Dummy (Start of Exercise) Message?

Answered: 34 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	20.59%	7
No	79.41%	27
Not Applicable	0.00%	0
TOTAL		34

Barbados: Neither the alert nor the dummy message was received on the EMWIN, the fax attempted to print the dummy message but was unsuccessful.

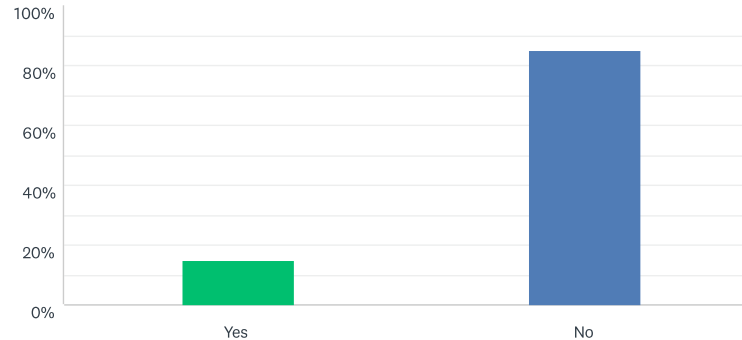
Guyana: It came a few hours late.

Jamaica: Not received on Intl AFTN and AISR passworded reset problems. The AISR password scenario needs revisiting.

Panama: I didn't receive by email.

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: 34 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	14.71%	5
No	85.29%	29
TOTAL		34

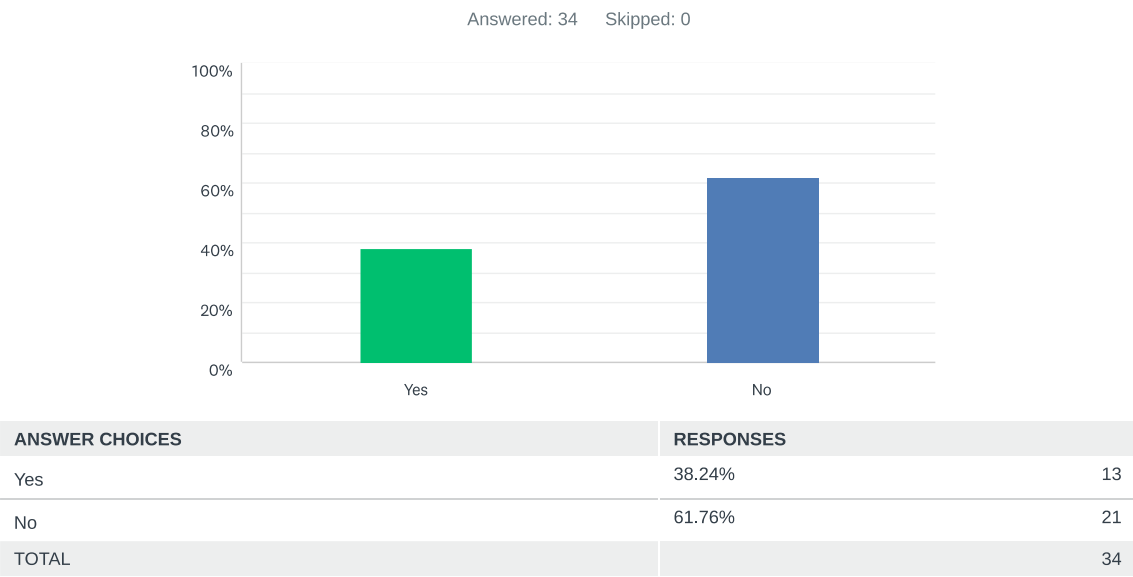
Dominican Republic: Puerto Rico Seismic Network

Mexico: Puerto Rico Seismic Network.

UK-British Virgin Islands: Puerto Rico Seismic Network sent a text and they also called and provided information pertaining to the exercise.

USA-Puerto Rico: From Puerto Rico Seismic Network (email, RSS, SMS, automatic call, fax, PREMA radio, Ring Down, Web Page, Social Media).

Q9 Did the TWFP/NTWC prepare and issue messages to relevant in-country agencies for CARIBE WAVE 20? If yes, please mention the agencies.



Cuba: National General Staff of Civil Defense.

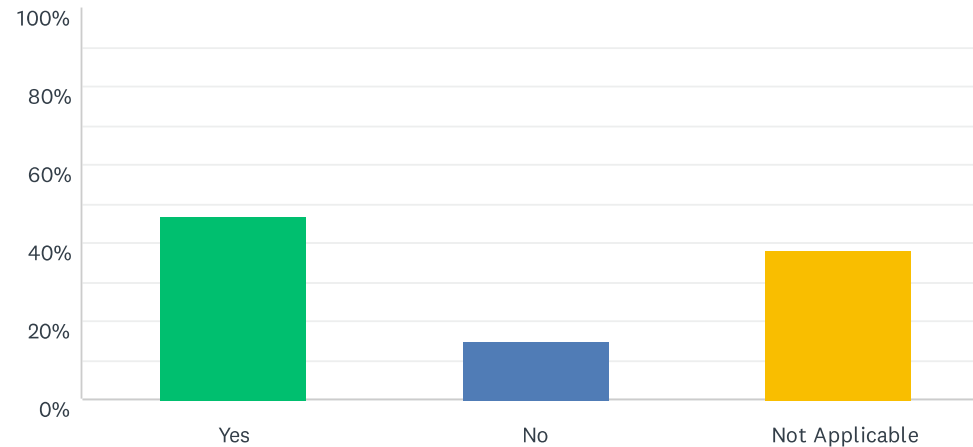
France: For Civil Protection

Mexico: Civil Protection, Naval Command, Military Command, and Harbor Captains.

Nicaragua: Civil Defense and Executive secretariat of the National System for Care and Prevention of Disasters (SINAPRED).

Q10 Did the exercise planning at the regional level go well?

Answered: 34 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	47.06%	16
No	14.71%	5
Not Applicable	38.24%	13
TOTAL		34

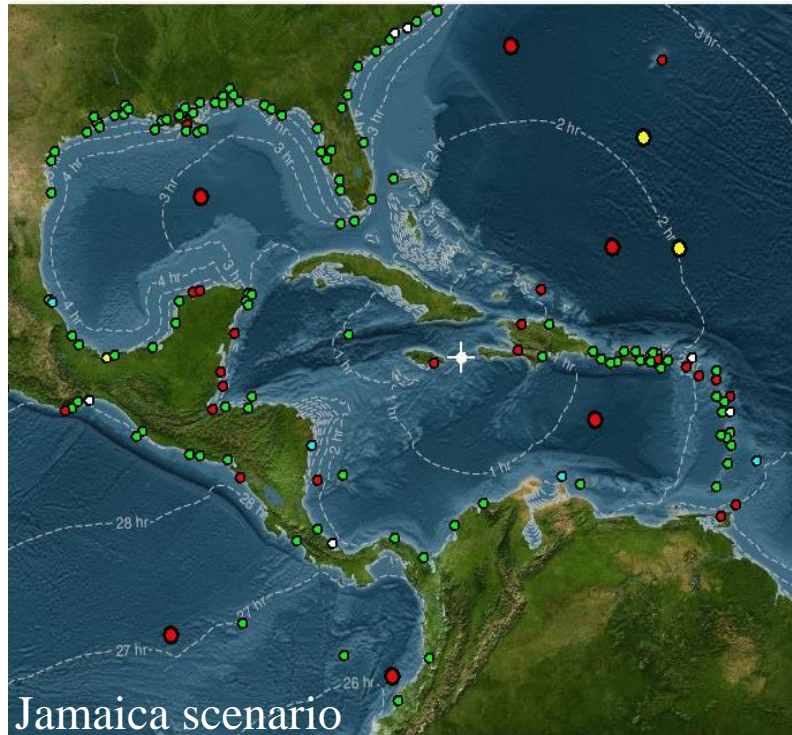
Belize: No exercise took place due to the pandemic.

Dominican Republic: A series of meetings had been established to organize the exercise in advance, but due to COVID-19 the coordination got affected.

NL-Curacao: Due to COVID-19, we didn't proceed with the exercise this year.

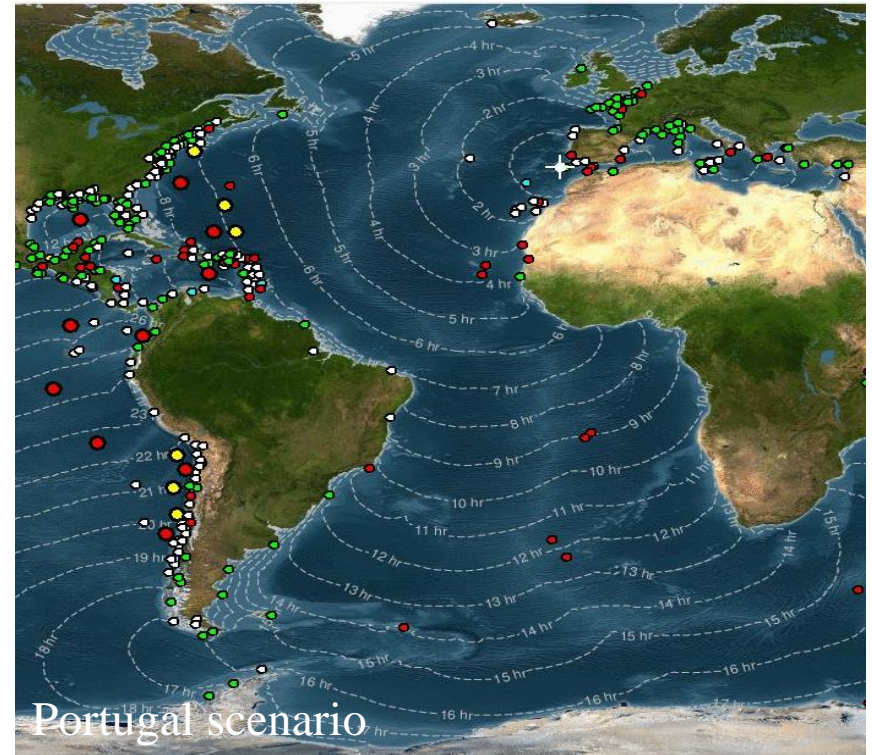
Status of Sea Level Stations during the exercise

Tide Tool Client V3.10 (CARIBBEAN)



Data Latency <10 Mins <70 Mins <7 Hours <24 Hours > 24 Hours

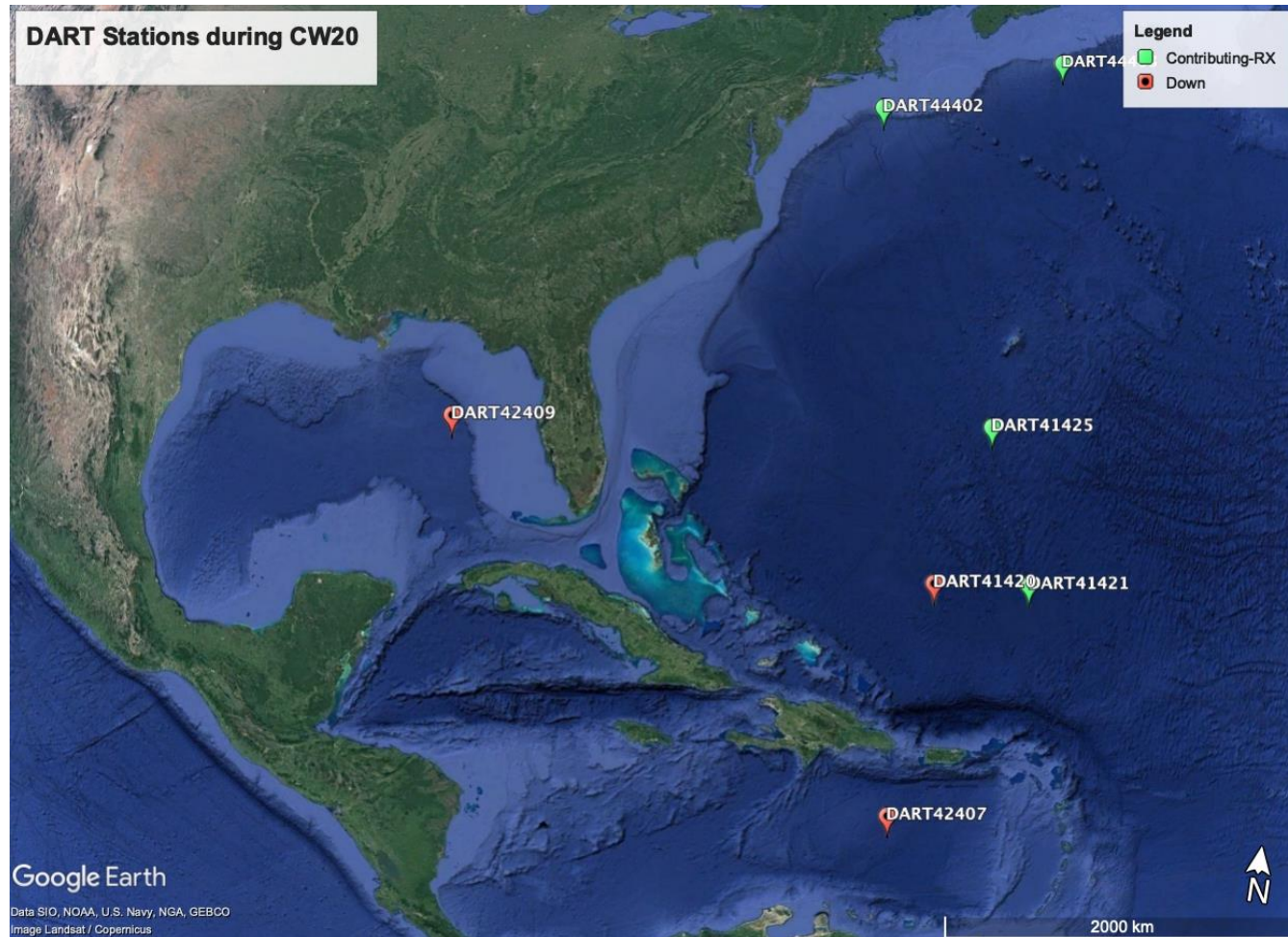
Tide Tool Client V3.10 (ATLANTIC OCEAN)



Data Latency <10 Mins <70 Mins <7 Hours <24 Hours > 24 Hours

- The PTWC provided simulated forecasted maximum wave heights for 45 CARIBE EWS stations in the simulated bulletins.
- Only about 73% of these sea level stations were online on the IOC Sea Level facility during the exercise period.

DART had 4 of 7 stations streaming data in the Caribbean/Gulf and Atlantic thru the National Buoy Center



Media Arrangements

The hashtag tracker Brand24 was used to monitor #CaribeWave20 from February 22 to March 23 and its data supported the high turnout expectations: the social media posts reached over 850,000 people worldwide.

 Mentions



 Social Media Reach



Communication Portion of the Exercise



Participation of The Barbados Department of Emergency Management, the Puerto Rico Seismic Network and the Caribbean Tsunami Warning Program.

CARIBE WAVE 20 Task Team

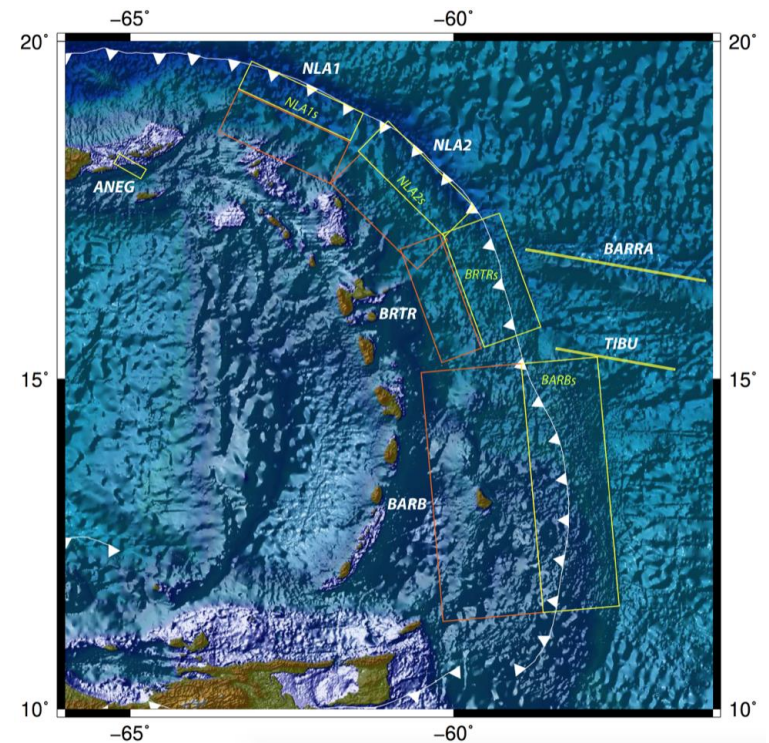
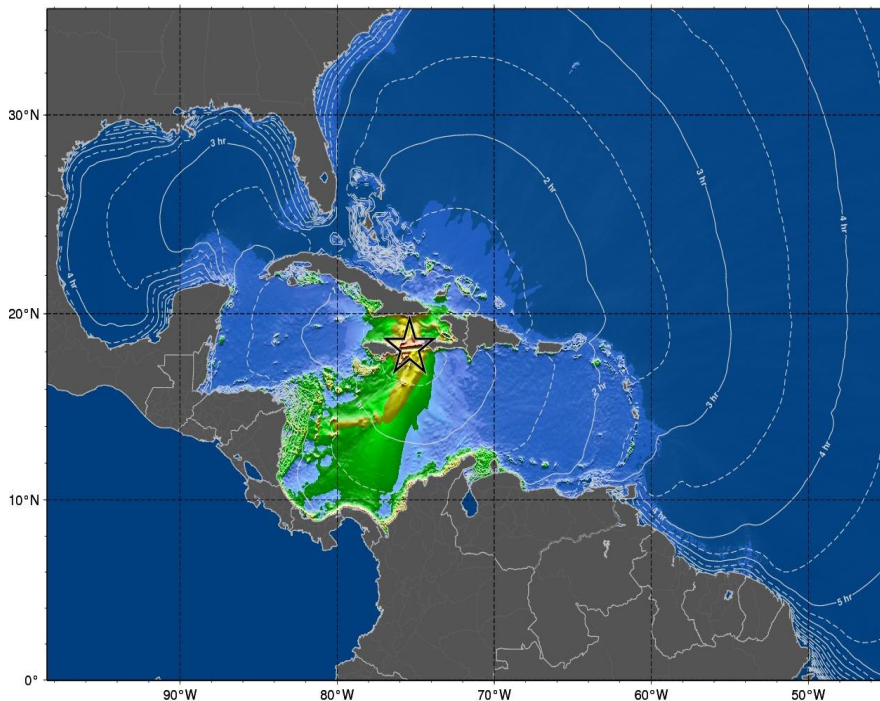
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Resources

- IOC Manuals “[How to plan, conduct and evaluate tsunami exercises](#)” and “[Module on Tsunami Exercise](#)” are useful resources.
- CARIBE WAVE 2011 through 2020 Handbooks.
- CARIBE WAVE 2013 through 2019 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
- Questions on the exercise can be addressed to the members of the Caribe Wave 20 Task Team.

Planning for CARIBE WAVE 21

- The date proposed for the exercise is March 11, 2021 at 14:00 UTC.
- Scenarios:
 - Jamaica
 - M8.0 earthquake along the Enriquillo-Plaintain Garden Fault Zone
 - Northern Lesser Antilles
 - M8.6 earthquake along the Interplate Seismogenic Zone



CARIBE WAVE 21 Task Team

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Questions, Comments

Thank You!



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