



2nd Webinar

Dr. Elizabeth Vanacore
Seismologist, Puerto Rico Seismic Network
ICG CARIBE-EWS CARIBE WAVE TT CHAIR

Christa G. von Hillebrandt-Andrade
Manager, NOAA NWS Caribbean Tsunami Warning Program
ICG CARIBE-EWS WG IV Chair

Stephanie Soto
Student Contractor
NOAA NWS Caribbean Tsunami Warning Program

February 23, 2021

Objectives

In this webinar, the importance of the following will be emphasized:

- Communication Systems
- Exercise evaluation

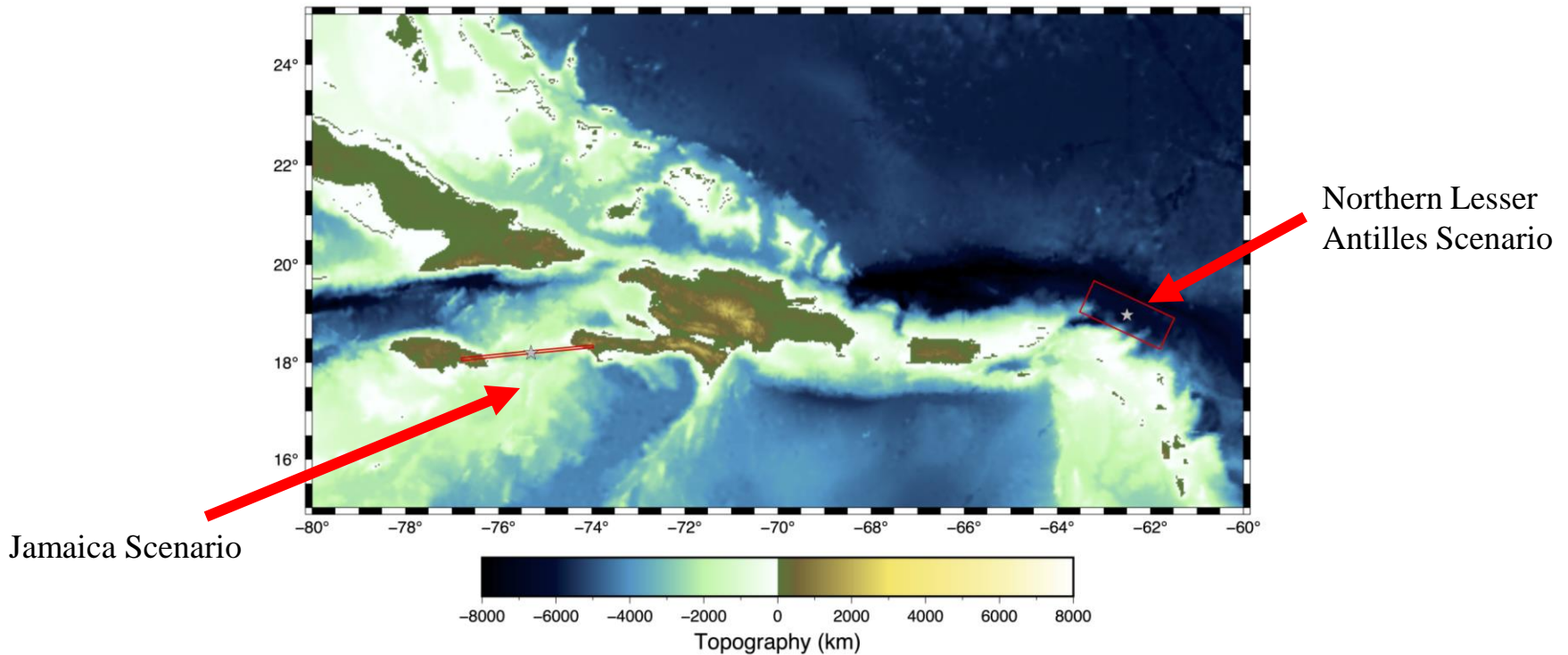
NOTE: The first webinar gave an overview of the simulated PTWC products, this will not be covered, please go to <https://www.weather.gov/ctwp/caribewave21> for the presentation and recording.

Goals / Metrics

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

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

PTWC products for Caribe Wave 21:

- On **March 11, 2021 at 1400 UTC**, the initial dummy message will be issued and disseminated over all its standard broadcast channels for the two scenarios.

Center	WMO ID	AWIPS ID	NWWS	GTS/WIS/ WMO	GEONET CAST AMERICAS	HRIT/ EMWIN*	AISR	Fax	Email
PTWC	WECA41 PHEB	TSUCAX	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Virtual Channel ID (VCID): “20” – EMWIN Priority [1 and 2 bulletins]

- To verify the current list as of December 2020 of officially designated UNESCO IOC CARIBE-EWS TWFP and NTWC check out:

http://www.ioc-tsunami.org/index.php?option=com_content&view=article&id=6&Itemid=22&lang=en

- **Username:** tsunami **Password:** bigwave
- For changes, email: **b.aliaga@unesco.org**

Appendix E. TWC Dummy (Start of Exercise) Message

PTWC ← Center

WECA41 PHEB 191400 ← WMO ID

TSUCAX ← AWIPS ID

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1400Z 11 MAR 2021

...TEST...CARIBE WAVE 21 TSUNAMI EXERCISE DUMMY MESSAGE.
REFER TO THE EXERCISE HANDBOOK. THIS IS AN EXERCISE ONLY...TEST...

THIS MESSAGE IS BEING USED TO START THE CARIBE WAVE 21 TSUNAMI EXERCISE AND TEST COMMUNICATIONS WITH UNESCO IOC CARIBE EWS NTWCS AND TWFPS. 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 CARIBEWAVE.INFO. THE EXERCISE PURPOSE IS TO EXERCISE AND EVALUATE THE CARIBE EWS TSUNAMI WARNING SYSTEM.

THIS IS ONLY AN EXERCISE.

\$\$

Dummy Social Media Message

Start of exercise messages will also be sent out by PTWC twitter accounts.

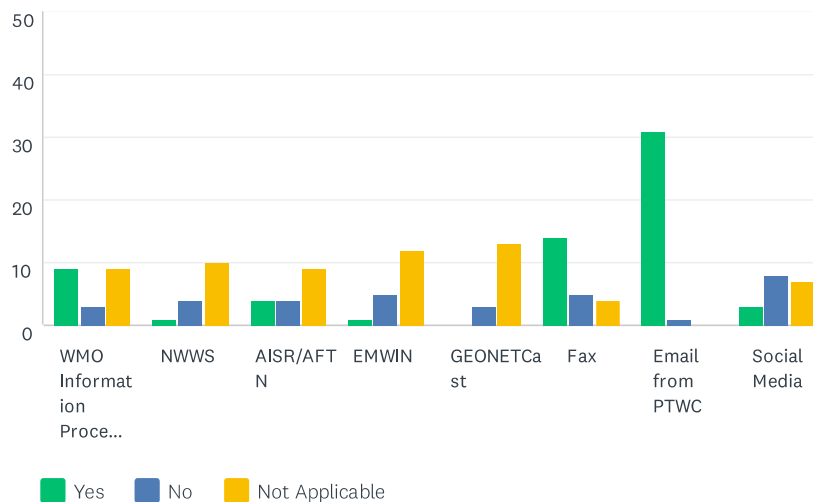
“This is a test message for the CARIBEWAVE21 tsunami exercise
#CaribeWave”

(Will be issued at 14h00 UTC to NWS_PTWC and NWS_CTWP
accounts/subscribers.)

Results of Communication Portion of CARIBE WAVE 20

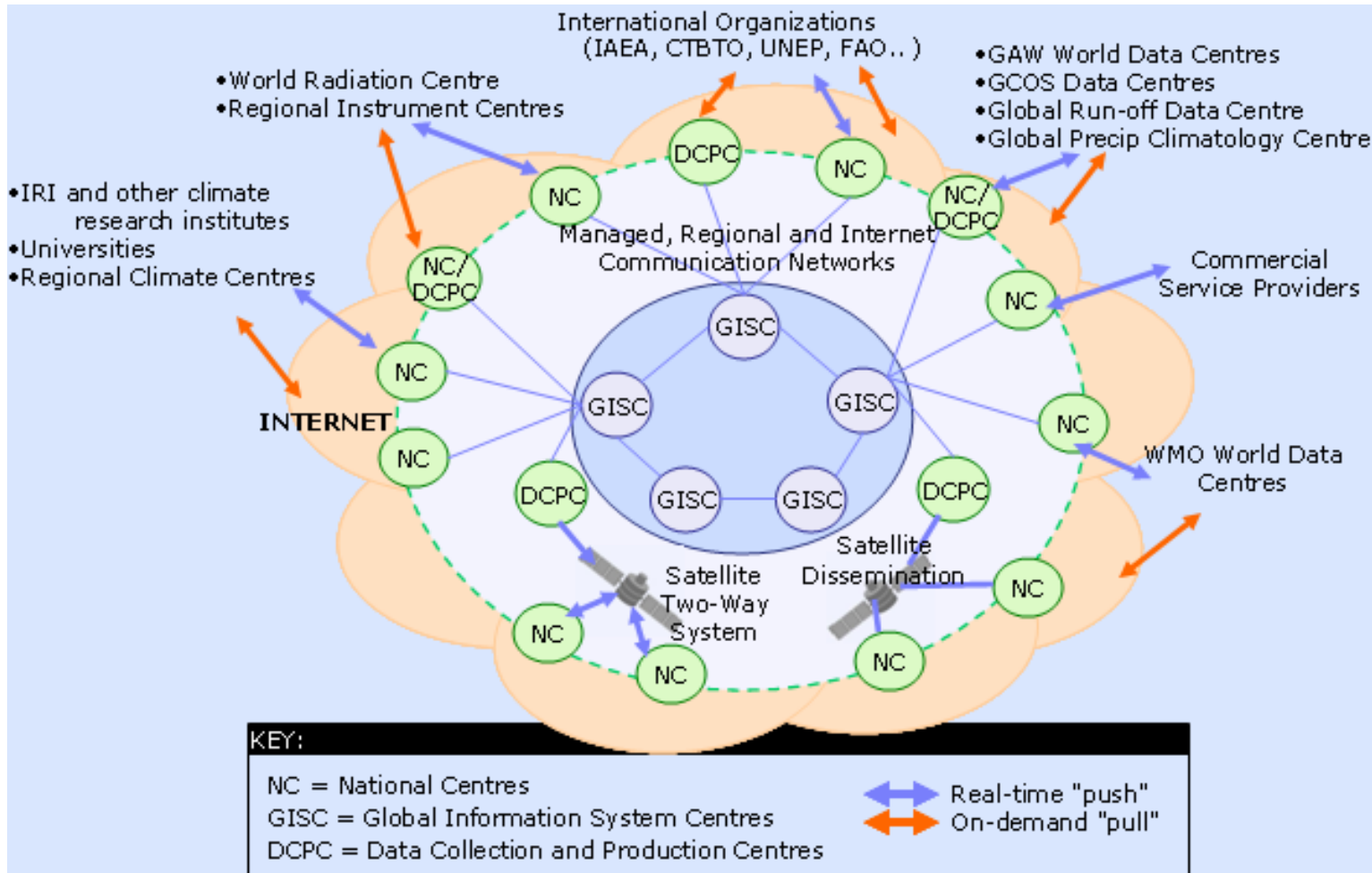
Q5 The PTWC issued the CARIBE WAVE 20 Dummy Message by several methods. Please check all methods through which the message was received by the TWFP/NTWC.

Answered: 33 Skipped: 1



Note low numbers of TWFP/NTWCs using GTS/WIS – it is important to verify with the Met Services that they are using these systems for the receipt of tsunami messages. 40% of NTWC/TWFP are Hydro Met Offices, this number should be 19

WMO Information System (WIS)



WMO WIS / GTS reception

- If you have direct access to GTS
 - You will receive a message with GTS header WECA41 PHEB through your GTS link.
- If you **don't** have direct access to GTS
 - You can subscribe to the reception of Tsunami Warnings through a WMO Global Information System Center (GISC).
 - You will receive a message with GTS header WECA41 PHEB on your registered FTP, SFTP server or via email.

WMO WIS / GTS reception

- If you **don't** have direct access to GTS
 - Register on <https://gisc.dwd.de>
 - When registering pick your Organization or use Public
 - After Login go to Subscriptions -> Internet subscriptions
 - Click Edit Destinations and click +
 - Enter details for delivery (ftp or sftp server, or email)
 - Click Edit Subscriptions and click +
 - Choose Tsunami_warnings from the default product package drop down
 - **Do NOT tick Copy products**
 - Click Create subscription and Save
- Now you are set to receive Tsunami Warnings from WIS

Having problems? Write to wis@wmo.int with subject: help Tsunami Warning

Dr. Enrico Fucile, WMO

NOAA Satellite Broadcast Overview

Robert Gillespie and Seth Clevenstein

GEONETCast Americas (GNC-A)

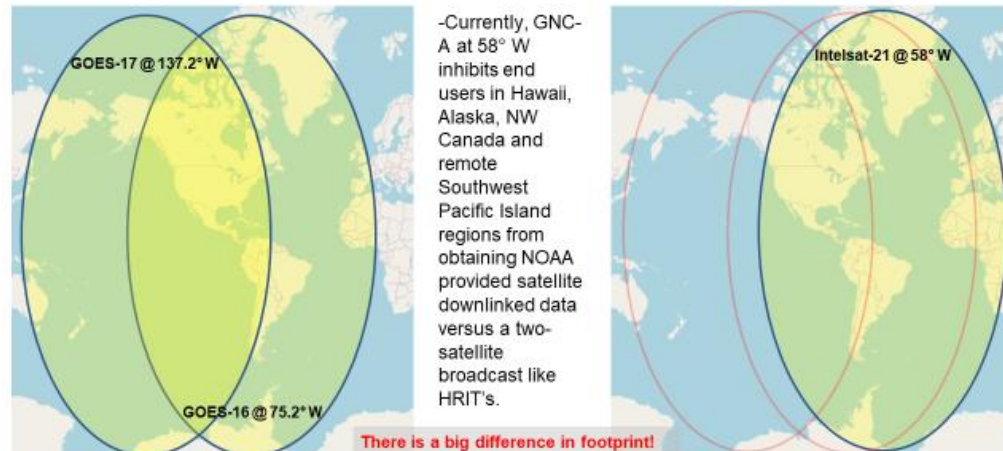
–A commercial satellite broadcast funded by NOAA to cover the America’s. Data is provided to the broadcast from multiple countries/organizations. GNC-A is a part of a global satellite network to distribute earth observational data at a sustained and cost-effective manner.

High Rate Information Transmission/Emergency Managers Weather Information Network (HRIT/EMWIN)

–HRIT/EMWIN is a NOAA provided broadcast available from either GOES-R series East/West satellites. Both satellite broadcasts are limited in bandwidth, thus products available are limited or in lower resolution compared to GNC-A.

	High Rate Information Transmission/Emergency Managers Weather Information Network	GEONETCast Americas
Satellite	GOES @ 75.2° and 137° W	Intelsat 21 @ 58° W
Center Downlink Frequency	1694.1 MHz (L band)	4080.0 MHz (C band)
Data Rate	400 Kbps	20 Mbps
Modulation	BPSK	QPSK
Polarization	Linear	Vertical
Data Format	CCSDS/CGMS LRIT	DVB-S2

HRIT East & West versus GNC-A Footprint



Where to Find Tsunami Warning on GNC-A

Robert Gillespie and Seth Clevenstein

—In addition to the RF antenna equipment, GNC-A users must have FAZZT Kencast client software in order ingest the broadcast

—Requires a one-time licensing fee

—Within the GNC-A broadcast, there are twelve International Services Communication Systems (ISCS) folders/channels for various product transmissions.

—Users will find all tsunami warnings, watches and advisories (WWA) within the folder labeled: **“ISCS-WARN”**

—ISCS-WARN has the highest broadcast priority

—All Tsunami WWA’s will arrive as text (TXT) files

—GNC-A users must activate this channel to receive warnings within FAZZT configuration settings.

Name

- EUMETSAT
- GOES-R-RGB-Composites
- ISCS-GRIB2
- ISCS-SURFACE
- ISCS-UA
- ISCS-FCAST
- INPE
- ISCS-WARN
- ISCS-BUFR
- ISCS-RADAR
- GOES-R-GLM-Products
- USEPA
- ISCS-PIC
- ISCS-ADMIN
- RANET
- NOAA-NESDIS
- ISCS-SAT
- ISCS-ANLZ-CLIMATE
- IMN-CostaRica
- CONAE
- ISCS-GRIB1
- MARN-EI Salvador
- NADM
- CIMSS

- T_WSLG31BGSF091718_C_KWBC_20210209172112_24248564-4908
- T_SECA42TJSJ091716RRA_C_KWBC_20210209171711_24248564-4907-TMASJU
- T_WEXX20PAAQ091714_C_KWBC_20210209171518_15991038-5544
- T_WEXX20PAAQ091714_C_KWBC_20210209171518_15991038-5545-TSUAT1
- T_WEXX30PAAQ091714_C_KWBC_20210209171518_15991038-5546-TSUATE
- T_WEXX20PAAQ091714_C_KWBC_20210209171511_24248564-4905-TSUAT1
- T_WSMC31GMMC091713_C_KWBC_20210209171511_24248564-4906
- T_WWFJ40NFFN091700_C_KWBC_20210209171218_15991038-5543
- T_WWFJ40NFFN091700_C_KWBC_20210209171211_24248564-4904

U.S. Atlantic, Gulf of Mexico, Canada	Example: WEXX20 PAAQ Example: WEXX20 PAAQ Example: WEXX20 PAAQ	TSUAT1	NTWC	Segmented Tsunami Warnings, Watches, and Advisories
	Example: WEXX30 PAAQ Example: WEXX30 PAAQ Example: WEXX30 PAAQ	TSUATE	NTWC	Tsunami Warnings, Watches, and Advisories
	Example: WEXX40 PAAQ Example: WEXX40 PAAQ Example: WEXX40 PAAQ	TSUSPA	NTWC	Spanish Tsunami Warnings, Watches, and Advisories
	Example: WEXX32 PAAQ	TIBATE	NTWC	Tsunami Information Statements
	Example: WEXX42 PAAQ	TIBSPA	NTWC	Spanish Tsunami Information Statements

Example from a recent NTWC Tsunami Routine Communications Test US East & Gulf Coast received via GNC-A on February 9th, 2021 at 17:15 UTC

GNC-A Known User Community

Robert Gillespie and Seth Clevenstein

GNC-A Points of Entry

in red are CARIBE EWS NTWC/TWFP



- | | | | |
|--------------------|--------------------|---------------------------|-------------------|
| • Barbados | CIMH | Honduras | COPECO |
| • Belize | NMS-Belize | Haiti | UHM |
| • Costa Rica | AEROPUERTO-JSM | Panama | SERVIR-CATHALAC |
| • Costa Rica | IMN Costa Rica | Dominican Republic | ONAMET |
| • Costa Rica | AEROPUERTO-LIBERIA | Mexico | CONAGUA-SMN |
| • Cuba | INSMET | Mexico | CONAGUA-Ciudad de |
| • El Salvador | MARN-Aeropuerto | Mexico | CONAGUA-Chiapas |
| | Llopango | Mexico | CONAGUA-Yucatán |
| • El Salvador | MARN-Puerto | Mexico | CONAGUA-Veracruz |
| | Acajutla | Mexico | UNAM-ICML |
| • El Salvador | MARN-Puert | Mexico | CENAPRED |
| | Corsain | Mexico | UABC |
| • El Salvador | MARN-Universidad | Mexico | INEGI |
| | de El Salvador | Mexico | AEM-CICESE |
| | | Mexico | UNAM |
| • El Salvador | MARN-Las Mercedes | | |
| • Guatemala | INSIVUMEH | | |

Where to Find Tsunami Warning on HRIT/EMWIN

Robert Gillespie and Seth Clevenstein

—In addition to the RF antenna equipment, users must have software available to ingest/visualize the data

—Within the HRIT/EMWIN broadcast, there are a total of three National Weather Service provided EMWIN channels (VCID 20 -22)

—Users will find all tsunami warnings, watches and advisories (WWA) within VCID 20, as a priority 1 message

—VCID 20 priority 1 and 2 data have the highest broadcast priority

— All Tsunami WWA's will arrive as text (TXT) files wrapped within a .Irit file extension

—Will need to be unwrapped to visualize

VCID #	Product Name
0	Admin Text
1	Mesoscale Imagery
2	CMI Band 2
7	CMI Band 7
8	CMI Band 8
9	CMI Band 9
13	CMI Band 13
14	CMI Band 14
15	CMI Band 15
17	G17 CMI Band 13
20	EMWIN – High Priority
21	EMWIN - Graphics
22	EMWIN – Low Priority
24	NHC Maritime Graphics Products
25	GOES-16 Level II Products
30	DCS Admin
32	DCS Data New Format

A_SNAU01AMMC091700_C_KWIN_20210209171517_738012-2-OBSU01AU.Irit
A_FTPA32KWBC091715_C_KWIN_20210209171504_737995-2-TAFWBCFJ.Irit
A_UBCA90KWBC091715_C_KWIN_20210209171503_737990-2-UABA90CA.Irit
A_FTUS80KWBC091715_C_KWIN_20210209171506_737999-2-TAFALLUS.Irit
A_NWUS51KALY091714_C_KWIN_20210209171501_737988-2-LSRALYNY.Irit
A_NWUS55KBYZ091714_C_KWIN_20210209171455_737979-2-LSRBYZMT.Irit
A_FNUS76KHXX091714_C_KWIN_20210209171441_737970-2-FWSHXXCA.Irit
A_SXMS50KWAL091714_C_KWIN_20210209171446_737972-2-MISDCPSV.Irit
A_WEXX30PAAQ091714_C_KWIN_20210209171454_737978-1-TSUATEUS.Irit
A_WEXX20PAAQ091714_C_KWIN_20210209171454_737977-1-TSUAT1US.Irit
A_WEXX20PAAQ091714_C_KWIN_20210209171449_737974-1-TSUAT1US.Irit
A_SXMS50KWAL091714_C_KWIN_20210209171436_737964-2-MISDCPSV.Irit
A_FTFJ31NFFN091700_C_KWIN_20210209171433_737957-2-TAFJ31FJ.Irit
A_SXMS50KWAL091713_C_KWIN_20210209171432_737954-2-MISDCPSV.Irit
A_NWUS51KALY091714_C_KWIN_20210209171429_737949-2-LSRALYNY.Irit
A_SXMS50KWAL091714_C_KWIN_20210209171432_737955-2-MISDCPSV.Irit
A_SAU580KWBC091714_C_KWIN_20210209171428_737945-2-SAHOURLY.Irit
A_SAU570KWBC091700_C_KWIN_20210209171427_737943-2-SAHOURLY.Irit
A_SPU580KWBC091714_C_KWIN_20210209171428_737946-2-MISS80US.Irit
A_SAU570KWBC091714_C_KWIN_20210209171427_737942-2-SAHOURLY.Irit
A_SPU570KWBC091714_C_KWIN_20210209171427_737944-2-MISS70US.Irit
A_SXPA50KWAL091713_C_KWIN_20210209171425_737937-2-MISA50US.Irit
A_SXMS50KWAL091713_C_KWIN_20210209171425_737936-2-MISDCPSV.Irit

Example from a recent NTWC Tsunami Routine Communications Test US East & Gulf Coast received via HRIT/EMWIN on February 9th, 2021 at 17:15 UTC

Helpful Web Links and Contact Information

Robert Gillespie and Seth Clevenstein

More GEONETCast America Broadcast Information

– <https://geonetcast.wordpress.com/>

More HRIT/EMWIN Broadcast Information

– <https://www.noaasis.noaa.gov/>

– <https://www.weather.gov/emwin/>

More information about GNC-A and EMWIN NWS product baseline

– <https://www.weather.gov/iscs/baseline>

More about Tsunami WMO Headers, AWIPS ID's and Origin

– https://ntwc.ncep.noaa.gov/?page=product_list

GNC-A and HRIT/EMWIN Broadcast POC

HRIT/EMWIN Broadcast Manager

Seth Clevenstein – Seth.Clevenstein@noaa.gov

GEONETCast Americas Product POC

Primary Email POC – GNC.Americas@noaa.gov

EMWIN and ISCS Program Manager

Robert Gillespie – Robert.Gillespie@noaa.gov

or

Primary Email - nws.emwin.support@noaa.gov

Simulated Tsunami Messages

As of **1407 UTC**, PTWC emails will be sent with all the simulated products to the designated CARIBE-EWS, TWFP and NTWC for one of the scenarios.

- By **26 February 2021**, each Member State must complete the following survey (<https://forms.gle/NptfCm4xRMw4Bgrw6>) to select the scenario their country will use for the exercise.
- Each country and territory will choose one scenario and decide if and how to disseminate messages within its area of responsibility.
- If the Member State does not inform the PTWC and CTWP, the organizers will decide for which scenario the PTWC will send the products.

CARIBE WAVE 21 Scenarios by Member State/Territory

Jamaica	Northern Lesser Antilles
Cayman Islands	Antigua and Barbuda
Colombia	Aruba
Costa Rica	Barbados
Cuba	Brazil
Guyana	British Virgin Islands*
Haiti	Dominica
Jamaica	Dominican Republic
Mexico	Grenada
Costa Rica	Guyana
Nicaragua	NL Bonaire, Saba, Saint Eustatius
Panama	Puerto Rico*
	Saint Kitts and Nevis
	Trinidad and Tobago
	US Virgin Islands*

*PTWC has prepared the corresponding simulated domestic products
DEADLINE TO SELECT A SCENARIO: February 26

Message Chronology issued by the PTWC Jamaica

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/11/21	1400	---- Earthquake Occurs ----	
3/11/21	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/11/21	1407	Tsunami Threat Message #1	Email
3/11/21	1415	Tsunami Threat Message #2	Email
3/11/21	1425	Tsunami Threat Message #3 and Graphic Enhanced Products	Email
3/11/21	1500	Tsunami Threat Message #4	Email
3/11/21	1600	Tsunami Threat Message #5	Email
3/11/21	1700	Tsunami Threat Message #6	Email
3/11/21	1800	Tsunami Threat Message #7	Email
3/11/21	1900	Tsunami Threat Message #8	Email
3/11/21	2000	Tsunami Threat Message #9	Email
3/11/21	2100	Tsunami Threat Message #10	Email
3/11/21	2200	Tsunami Threat Message #11	Email
3/11/21	2300	Final Tsunami Threat Message #12	Email

Message Chronology issued by the PTWC for Northern Lesser Antilles

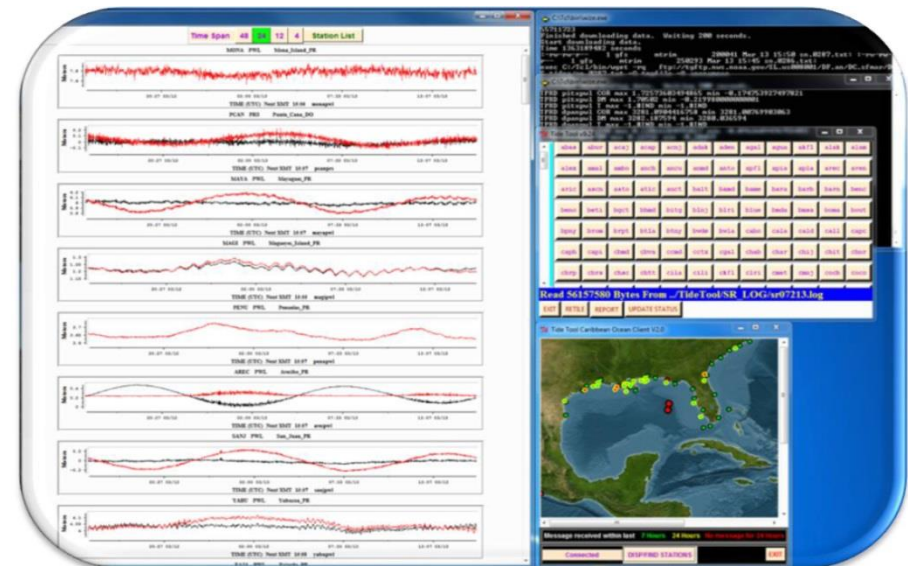
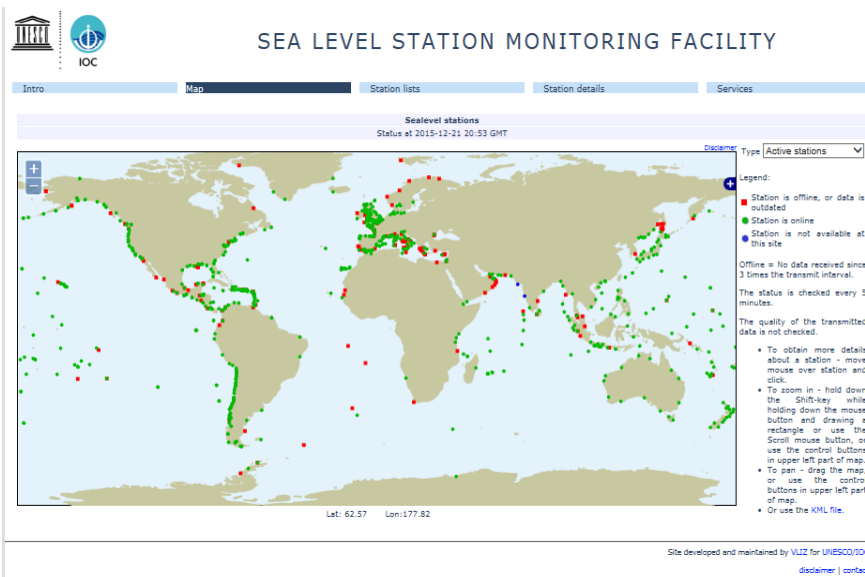
Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/11/21	1400	----- Earthquake Occurs -----	
3/11/21	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/11/21	1407	Tsunami Threat Message #1	Email
3/11/21	1415	Tsunami Threat Message #2	Email
3/11/21	1425	Tsunami Threat Message #3 and Graphic Enhanced Product	Email
3/11/21	1445	Tsunami Threat Message #4	Email
3/11/21	1500	Tsunami Threat Message #5	Email
3/11/21	1600	Tsunami Threat Message #6	Email
3/11/21	1700	Tsunami Threat Message #7	Email
3/11/21	1800	Tsunami Threat Message #8	Email
3/11/21	1900	Tsunami Threat Message #9	Email
3/11/21	2000	Tsunami Threat Message #10	Email
3/11/21	2100	Tsunami Threat Message #11	Email
3/11/21	2200	Tsunami Threat Message #12	Email
3/11/21	2300	Tsunami Threat Message #13	Email

Sea Level Monitoring

As good practice for the exercise, corresponding authorities are encouraged to check out sea level readings in real time on the IOC Sea Level Monitoring Facility and Tide Tool which can also be run with the earthquake parameters.

IOC Sea Level Monitoring Facility
<http://www.ioc-sealevelmonitoring.org/>

Tide Tool
stuart.weinstein@noaa.gov



Member State Participation The *TsunamiZone* Registration

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



The screenshot shows the homepage of The TsunamiZone. The navigation bar at the top includes links for Home, TsunamiZone Regions, Other Languages, Contact Us, Search, and Login. Below this is a banner image of a person walking on a beach. The main navigation bar includes Register Here, Know Your Zone, Who is Participating? (highlighted with a red box), How to Participate?, Resources, News & Events, and Partners & Sponsors. A green alert bar displays "No Tsunami Warning, Advisory, Watch, or Threat". The main content area is divided into two columns. The left column, titled "WELCOME TO THE TSUNAMIZONE!", contains introductory text, language options for Spanish and French, and a video player for "How to Plan a Tsunami Walk!". The right column, titled "2021 OFFICIAL ACTIVITIES", lists events such as "CARIBE WAVE 2021" and "California's Tsunami Preparedness Week".

TWFP and NTWC should register on TsunamiZone to be part of the statistical count. Independent of registering, they will receive the simulated bulletins from PTWC.



The
TsunamiZone

Alert Status from
[tsunami.gov](#)

No Tsunami Warning, Advisory, Watch, or Threat

WELCOME TO THE TSUNAMIZONE!

Everyone, everywhere should know how to be prepared for tsunamis and what to do to be safe. This is true for people who live or work near the ocean, but also for anyone who may visit someday. Are you in the Zone?

TsunamiZone.org provides [suggestions](#) and [resources](#) for your family or organization to "[know your zone](#)" and to [learn](#) how to be safe.

Be counted among people and organizations worldwide by [registering](#) your 2021 tsunami preparedness activities!



[View Other TsunamiZone Videos and Resources](#)

[ESPAÑOL](#)

[FRANÇAIS](#)

2021 OFFICIAL ACTIVITIES

March 11

[CARIBE WAVE 2021](#)

March 22 – 26

[California's Tsunami Preparedness Week](#)

November 5

[World Tsunami Awareness Day](#)

Ongoing activities:

Visit the [Virtual Fair](#) hosted by the Redwood Coast Tsunami Work Group to learn about earthquake and tsunami hazards of California's North Coast.

<https://www.tsunamizone.org/>

Countries can keep track of registration by clicking on « Who is Participating »

* There are currently 38,240 participants registered on TsunamiZone as of February 23

PARTICIPATION TOTALS

76,623 participants are registered in the 2021 TsunamiZone (as of 02/23/2021 3:25 AM PST).

Category	Participants	Participation totals for each area	Total
Individuals/Families	240		
Childcare and Pre-Schools	541	Alaska	0
K-12 Schools and Districts	12,615	California	38,368
Colleges and Universities	37,097	North Coast	75
Local Government	4,146	Shasta Cascade	0
State Government	5,844	Bay Area	1,540
Federal/National Government (Including Military)	342	Delta Sierra	0
Tribes/Indigenous Peoples	0	Inyo-Mono	0
Businesses	1,556	Central Valley South	0
Hotels and Other Lodgings	60	Central Coast	35,000
Healthcare	3,025	Southern California Coast	1,395
Senior Facilities/Communities	275	Inland Southern California	0
Disability/AFN Organizations	308	San Diego	98
Non-Profit Organizations	706	Multiple Counties	260
Neighborhood Groups	250	Caribbean	38,240
Preparedness Organizations	8,413	Anguilla	0
Faith-based Organizations	0	Antigua and Barbuda	65
Museums, Libraries, Parks, etc.	0	Aruba	5
Volunteer/Service Clubs	0	Bahamas	3
Youth Organizations	0	Barbados	100
Animal Shelter/Service Providers	0	Belize	20
Agriculture/Livestock Sector	0	Bermuda	219
Volunteer Radio Groups	199	Bonaire	0
Science/Engineering Organizations	313	Brazil	0
Media Organizations	0	British Virgin Islands	14
Other	693	Cayman Islands	1
		Colombia	36
		Costa Rica	15
		Cuba	0
		Curacao	100
		Dominica	10
		Dominican Republic	0
		France	0
		Grenada	357
		Guadeloupe	60
		Guatemala	0
		Guyana	8
		Guyane	0
		Haiti	11
		Honduras	0
		Jamaica	0
		Martinique	4,851
		Mexico	1
		Montserrat	0
		Netherlands	0
		Nicaragua	90
		Panama	301
		Puerto Rico	22,401
		Saba	0
		Saint Barthelemy	0
		Saint Kitts and Nevis	1,500
		Saint Lucia	228
		Saint Martin	0
		Saint Vincent and the Grenadines	0
		Sint Eustatius	0
		Sint Maarten	0
		Suriname	0
		Trinidad and Tobago	107
		Turks and Caicos Islands	3
		US Virgin Islands	147
		Venezuela	7,587

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:

<http://www.uwiseismic.com>

- Handbook sample press release, which can be adapted as necessary.
- Social media: **#CaribeWave**

Actions in Case of a Real Event

- In the case of a real event occurring during the exercise, the PTWC will issue the corresponding messages for the event. Such messages will be given full priority and a decision will be made by the PTWC whether to issue the Caribe Wave 21 dummy messages and to send email messages to corresponding recipients.
- In the case of smaller earthquakes, PTWC will issue the corresponding Tsunami Information Statement and the exercise will not be disrupted.
- All documentation and correspondence relating to this exercise is to be clearly identified as “**CARIBE WAVE 21**” and “**Exercise.**”

Procedures 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 misinterpretation by media or the public.
- Recommended text in case of false alarm:

“There is NO TSUNAMI threat for [location]. We are aware of an erroneous tsunami [alert level] for our area. Please disregard; we have not issued a tsunami [alert level]. The annual CARIBE WAVE tsunami exercise is underway and communication systems are being tested. [Name of agency] is reviewing this incident.”

Post-Exercise Evaluation Form

- Each CARIBE-EWS member state and territory is requested to provide feedback on the exercise.
 - This feedback will assist the ICG/CARIBE-EWS in the evaluation of Caribe Wave 21, the development of subsequent exercises, and help response agencies document lessons learned.
 - To facilitate feedback, the online evaluation survey can be accessed at the following link: <https://www.surveymonkey.com/r/CaribeWave21>
 - The deadline for completing the evaluation is 26 March 2021.
 - This questionnaire was reduced to reflect the decision and other priorities organizations and communities may have at this time considering the COVID-19.
 - It contains 27 questions, 10 pages, and should take no more than 15 minutes.

Post-Exercise Evaluation Form

Questionnaire

5. 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.

	Yes	No	Not Applicable
WMO Information Process (e.g., GTS, WIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NWWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AISR/AFTN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EMWIN/HRIT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GEONETCast	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Email from PTWC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

6. The PTWC issued the CARIBE WAVE 21 **Dummy Message** by several methods. Please indicate the time at which the message was received by the TWFP/NTWC in the different systems.

	Hour	Minutes	Time Zone
WMO Information Process (e.g., GTS, WIS)	<input type="text"/>	<input type="text"/>	<input type="text"/>
AISR/AFTN	<input type="text"/>	<input type="text"/>	<input type="text"/>
EMWIN/HRIT	<input type="text"/>	<input type="text"/>	<input type="text"/>
GEONETCast	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fax	<input type="text"/>	<input type="text"/>	<input type="text"/>
Email from PTWC	<input type="text"/>	<input type="text"/>	<input type="text"/>
Social Media	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other means	<input type="text"/>	<input type="text"/>	<input type="text"/>

Post-Exercise Evaluation Form

Questionnaire

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

Yes

No

Comments:

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

Yes

No

Comments:

19. What is the target number of Tsunami Ready communities (including communities which have been recognized) in your country/territory that are targeted for TsunamiReady® or Tsunami Ready recognition?

Communities

Comments:

20. Does the TWFP/NTWC/NDMO have standard operating procedures in place for the receipt and dissemination of tsunami products?

Yes

No

Comments:

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
- .Multi-Annual Community Tsunami Exercise Programme
Guidelines for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions. Available at www.caribewave.info

Multi-Annual Community Tsunami Exercise Programme Guidelines for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions

Intergovernmental Oceanographic Commission
Manuals and Guides

86



Multi-Annual Community Tsunami Exercise Programme

Guidelines for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions

(Draft 2: 06/08/2020)

UNESCO

- Draft 2: 06/08/2020 – major update of previous draft titled “Methodological Guidelines”
- This guide is recommended for Member States to consider Caribe Wave Exercises.
- Provides community leaders to conduct and evaluate a tsunami evacuation exercise with a methodology and tools.
- It is particularly relevant for bodies that would be directly exposed to the effects of a tsunami such as local government, schools, associations, and businesses.
- This guide aims to encourage a shared culture of exercises to develop between the municipal authorities tasked with ensuring the safety of those living in their area and community leaders – stakeholders in the social and economic life of the area.
- Posted on CW 21 website on Caribewave.info

COVID Considerations

- Note that social/physical distancing and quarantine/lock down measure may still be in effect.
- It is encouraged that MS consider on-line/virtual events or activities to engage the public.
- Participation by the public does not need to be a full tsunami walk, encourage people to check their emergency plan/tsunami route/supplies and register on tsunamizone.org
- Note the CARIBE EWS guidance for Tsunamis:
 - http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewDocumentRecord&docID=26796

UNESCO/IOC

ICG/CARIBE EWS

Tsunami Services and Evacuation/Sheltering Considering Physical Distancing Practices

Context

The current COVID-19 response has required changes in workloads, work venues as well as physical distancing practices worldwide. This may create ambiguity or confusion with regards to warning services and tsunami response actions, like evacuation, and the implementation of national response plans. This document clarifies the status of the regional tsunami services, as well as suggests best practices for local and national actions.

Regional Tsunami Services

The Pacific Tsunami Warning Center, as the UNESCO IOC CARIBE EWS Tsunami Service Provider (TSP), continues to operate 24 x 7 to provide tsunami services to the Caribbean and Adjacent Regions according to the [CARIBE EWS Users Guide](#).

In the case that operations were affected, a communication will be issued to its stakeholders, including the CARIBE EWS Tsunami Warning Focal Points (TWFP) and National Tsunami Warning Centers (NTWC). In such circumstances alternative arrangements for regional warning services would be put in place as much as feasible.

Coordination is also maintained with the Caribbean Tsunami Warning Program (CTWP), the Caribbean Tsunami Information Center (CTIC) and the Central American Tsunami Advisory Centre (CATAC).

It is important to reiterate that each country is solely responsible for the safety of its own population from tsunami hazards. The country's NTWC or Emergency Management Agency (EMA) is the authority for issuing a tsunami warning for any or all of its coasts, as the CARIBE EWS TSP information is only advisory.

It is also important to recall that for the case of local tsunamis the natural tsunami warning signals should be the trigger for immediate self-evacuation. Persons along low-lying coasts should self-evacuate and not wait for their National Tsunami Warning Center to issue a tsunami warning.

National and Local Tsunami Services and Evacuation/Sheltering Best Practices during COVID-19

1. 24/7 arrangements of the national agencies to provide timely warnings to the local and national authorities, media and the public, when their action is required.
2. When the NTWC and/or the Emergency Management Agency issues a tsunami warning, the desired action for the public is to evacuate from at-risk locations.
3. The public needs to continue to use natural warning signs for tsunamis as cues for response, i.e. if people are near the coast and experience any of a tsunami's natural warning signs, they should quickly leave at-risk locations and move inland or to higher ground. The natural tsunami warning signs are strong or long ground shaking (from an earthquake), a sudden change of the sea level or a loud roar from the sea (from a tsunami).
4. Immediate life-safety is the priority when evacuations are directed. It is important that the public understands that **AN EVACUATION ORDER TAKES PRIORITY OVER THE STAY-AT-HOME**

Additional Info

- Additional materials will be added to CTWP (www.caribewave.info).
- Send links of other national pages to christa.vonh@noaa.gov to include on CTWP.
- This presentation is available on CTWP website (<https://www.weather.gov/ctwp/caribewave21>).

CARIBE WAVE 21 Task Team

Person	Telephone #	Email
Elizabeth Vanacore, PRSN CARIBE WAVE Chair	1-787-833-8433	elizabeth.vanacore@upr.edu
Silvia Chacón-Barrantes, CARIBE EWS Chair; SINAMOT Costa Rica	506-830-96690	silviach@una.ac.cr
Dan McNamara Chair WG 1 Monitoring and Detection Systems	303-273-8550	mcnamara@usgs.gov
Nicolas Arcos Chair WG 2 Hazard Assessment	1-303-497-3158	nicolas.arcos@noaa.gov
Emilio Talavera Chair WG 3 Tsunami Related Services	505-224-92761 ext. 102	emilio.talavera@gf.ineter.gob.ni
Christa von Hillebrandt-Andrade Chair WG 4 Preparedness, Readiness and Resilience Manager NOAA/CTWP	1-787-249-8307	christa.vonh@noaa.gov
Alberto López Ivan Wong Matt Hornback Richard D Koehler Scientific Experts – Jamaica Scenario		alberto.lopez3@upr.edu wong@lettisci.com mhornback@smu.edu rkoehler@unr.edu
Alberto López Scientific Expert – Northern Lesser Antilles Scenario		alberto.lopez3@upr.edu
Ronald Jackson Director CDEMA	246-425-0386	ronald.Jackson@cdema.org
Claudia Herrera Melgar Executive Secretary CEPREDENAC	502-2390-0200	iajche@cepredenac.org memendez@cepredenac.org
Major Roselly Pepin Deputy Chief EMIZ Antilles	596-59-05-81	roselly.pepin@martinique.pref.gouv.fr
Bernardo Aliaga Technical Secretary UNESCO	33-1-45683980	b.aliaga@unesco.org
Charles McCreery Cindi Preller Director PTWC	1-808-689-8207 1-808-725-6306	charles.mccreery@noaa.gov cindi.preller@noaa.gov
David Wald, USGS Scientific Expert – Earthquake Impact Products	1-303-273-8441	wald@usgs.gov
Alison Brome Director CTIC	246-243-7626	a.brome@unesco.org

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 st Webinar CW	26 January 2021 – English 27 January 2021 – Spanish 28 January 2021 - French
2 nd 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 2 April 2021	

Questions, Comments

Thank you for participating

elizabeth.vanacore@upr.edu

christa.vonh@noaa.gov