



## 2<sup>nd</sup> Webinar

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**February 21, 2023**

# Objectives

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

- Exercise Updates
- Communication Methods
- Registration
- Post-exercise questionnaire
- Media (Uploading Pictures/Videos)

**NOTE:** The first webinar gave an overview of the simulated PTWC products, this will not be covered. For the presentation and recording please go to [caribewave.org](http://caribewave.org).

# NEW: CARIBE WAVE Website!

UNESCO IOC IOC Tsunami NOAA US Tsunami NOAA Tsunami

## ITIC International Tsunami Information Center

Home > Intergovernmental > Tsunami Exercises > International Exercises > Caribbean

Search... Search Advanced

### Home

#### Contact ITIC

#### General Info

- World Tsunami Day
- Hawaii Information
- American Samoa Info
- About Tsunamis
- Am I in Danger?
- What to Do?
- Aware, Educate
- Photo, Video, Graphic
- Quick Info - Media
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- About ITIC

#### Technical Info

- Current Warnings
- About Warnings
- Tsunami Events
- Earthquake Monitors
- Sea Level Monitors
- Research
- Meetings
- Tools & Products
- Library
- ITST Tsunami Survey
- Marine Ports Guide
- Vertical Evac Guide

#### Intergovernmental

- Global System
- Pacific (PTWS)
- Info Centers
- ITIC Training
- Tsunami Exercises
- UNESCO/IOC Tsunami Ready Programme

### Caribbean

- CARIBE WAVE 11 - March 23, 2011
- CARIBE WAVE 13 - March 29, 2013
- CARIBE WAVE 14 - March 26, 2014
- CARIBE WAVE 15 - March 23, 2015
- CARIBE WAVE 16 - March 17, 2016
- CARIBE WAVE 17 - March 21, 2017
- CARIBE WAVE 18 - March 15, 2018
- CARIBE WAVE 19 - March 14, 2019
- CARIBE WAVE 20 - March 10, 2020
- CARIBE WAVE 21 - March 11, 2021
- CARIBE WAVE 22 - March 10, 2022
- CARIBE WAVE 23 - March 23, 2023

### CARIBE WAVE Exercise

Preparing for tsunami risk in the Caribbean

This is how countries and communities help prepare for the tsunami risk in the Caribbean

CARIBE WAVE 23

March 23, 2023 at 1400 UTC

REGISTER YOUR PARTICIPATION FOR THE EXERCISE HERE

Click to see and download the CARIBE WAVE Exercise video in: English Spanish French

UNESCO IOC NOAA

ITIC CTIC IOTIC NEAMTIC

ITIC CARIBBEAN OFFICE (ITIC-CAR)

Quick Links

- Current Warnings
- Most Recent Tsunami

Find us on Facebook

Resources

UNESCO IOC Tsunami Ready

Preparing communities to be ready for the next tsunami

Tsunami Awareness Poster

Available in English, Chinese, French, Japanese, Korean, Portuguese, Singapore.

Global & Regional

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Global & Regional

# Goals / Metrics

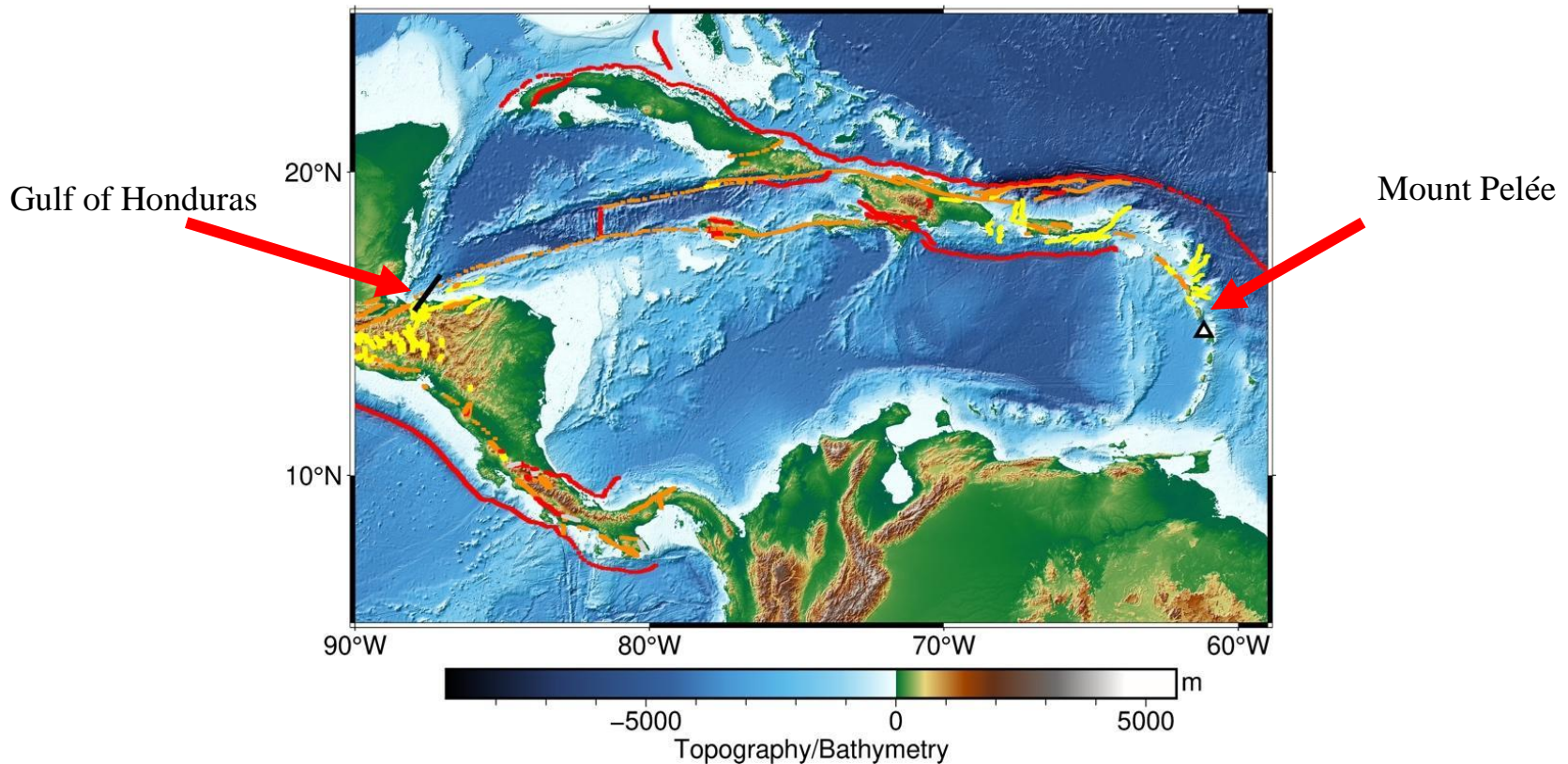
Goals	2016 Results	2017 Results	2018 Results	2019 Results	2020 Results	2021 Results	2022 Results	2023 Metrics
<b>TWFP receive the dummy message</b>	84%	95%	100%	89%	97%	97%	91%	100%
<b>Participation of Member States of ICG/CARIBE-EWS with designated focal warning point</b>	100%	100%	97%	100%	92%	98%	100%	100%
<b>Community involvement (including agencies beyond TWFP)</b>	73%	82%	77%	66%	38%	56%	43%	95%
<b>Number of participants*</b>	332,812	679,985	643,403	793,353	4,622	333,518	413,281	+10%
<b>Countries who participate submit exercise questionnaire</b>	100%	100%	91%	82%	92%	95%	100%	100%
<b>Members State and territories are satisfied with exercise</b>				82%	76%	96%	88%	100%



# CARIBE WAVE 23

## Earthquake and Tsunami Scenarios

CARIBE WAVE 23



Scenario	Origin Time	Mw	Epicenter
Gulf of Honduras	14:00:00 UTC 23 March 2023	7.6	16.07°N, 87.54°W
Mount Pelée			14.48°N, 61.10°W

# PTWC Dummy Message for CARIBE WAVE 23:

- On **March 23, 2023 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 January 2023 of officially designated UNESCO IOC CARIBE-EWS TWFP and NTCWC check out:

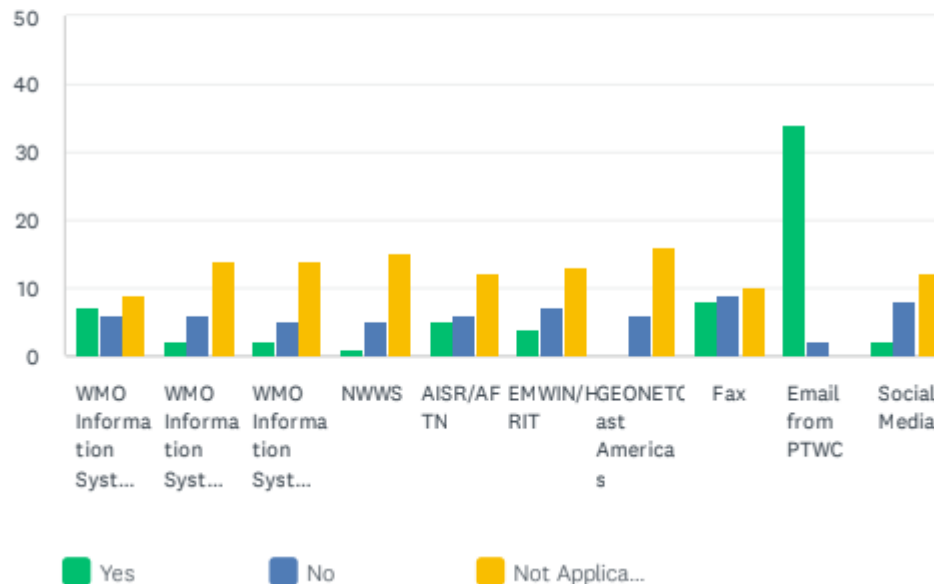
[http://www.ioc-tsunami.org/index.php?option=com\\_content&view=article&id=6&Itemid=22&lang=en](http://www.ioc-tsunami.org/index.php?option=com_content&view=article&id=6&Itemid=22&lang=en)

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

# Results of Communication Portion of CARIBE WAVE 22

Q5 The PTWC issued the CARIBE WAVE 22 Dummy Message by several methods. Please check all methods through which the message was received by the TWFP/NTWC.

Answered: 37 Skipped: 1



WMO has expressed their concern about the 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.

## Appendix VI. TWC Dummy (Start of Exercise) Messages

PTWC ← **Center**  
WECA41 PHEB 231400 ← **WMO ID**  
TSUCAX ← **AWIPS ID**

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST  
NWS PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS  
ISSUED AT 1400Z 23 MAR 2023

...TEST...CARIBE WAVE 23 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 23 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.ORG. THE EXERCISE PURPOSE IS TO EXERCISE AND EVALUATE THE CARIBE EWS TSUNAMI WARNING SYSTEM.

THIS IS ONLY AN EXERCISE.

\$\$

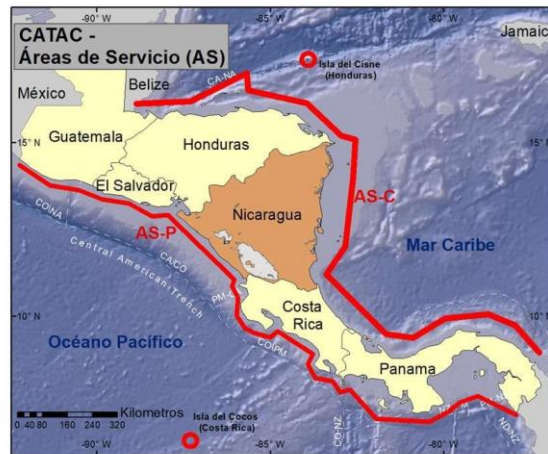


# CATAC Dummy Message

On March 23, the initial dummy message will be issued at **1400 UTC** and disseminated over its standard broadcast channels.

Center	WMO ID	AWIPS ID	NWWS	GTS/WIS/WMO	GEONET CAST AMERICAS	HRIT/ EMWIN*	AISR	Fax	Email
CATAC	MNMG	Not Applicable	Not Applicable	Yes	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Yes

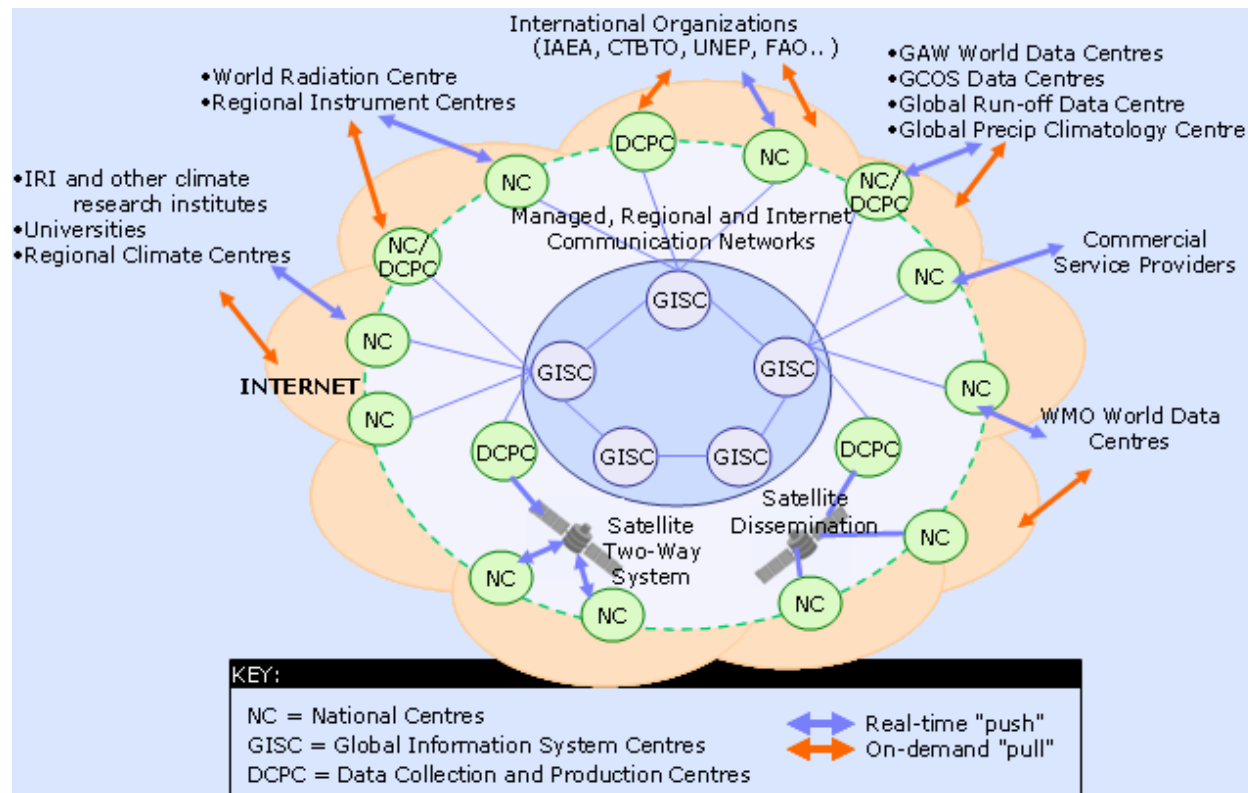
Only Central American countries and regions by agreement with the center will receive the message.



CATAC – Areas of responsibility



# 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](mailto:wis@wmo.int) with subject: help Tsunami Warning

# NOAA Satellite Broadcast Overview

## GEONETCast Americas (GNC-A)

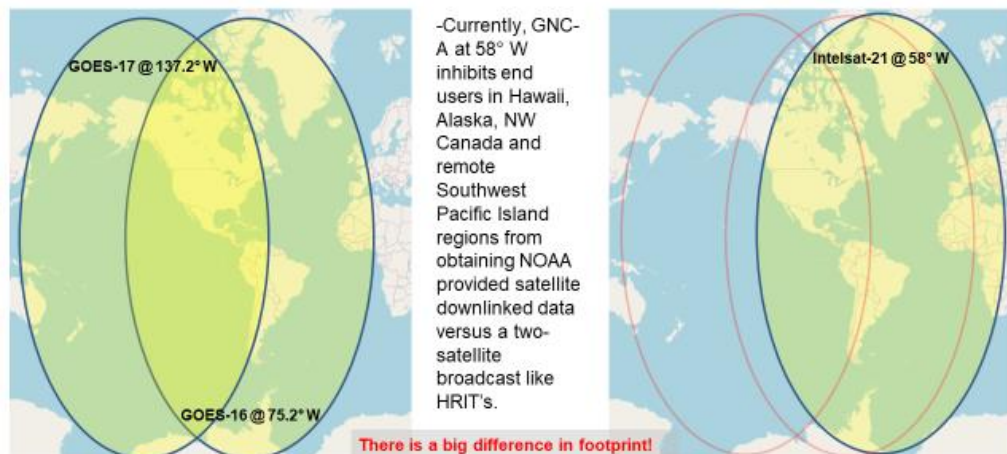
–A commercial satellite broadcast funded by NOAA to cover the America's. Data is provided to the broadcast from multiple countries/organizations. GNC-A is a part of a global satellite network to distribute earth observational data at a sustained and cost-effective manner.

## 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-18 @ 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

—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	T_WSG131BGSF091718_C_KWBC_20210209172112_24248564-4908
GOES-R-RGB-Composites	T_SECA42TJSJ091716RRA_C_KWBC_20210209171711_24248564-4907-TMASJU
ISCS-GRIB2	T_WEXX20PAAQ091714_C_KWBC_20210209171518_15991038-5544
ISCS-SURFACE	T_WEXX20PAAQ091714_C_KWBC_20210209171518_15991038-5545-TSUAT1
ISCS-UA	T_WEXX30PAAQ091714_C_KWBC_20210209171518_15991038-5546-TSUATE
ISCS-FCAST	T_WEXX20PAAQ091714_C_KWBC_20210209171511_24248564-4905-TSUAT1
INPE	T_WSMC31GMMC091713_C_KWBC_20210209171511_24248564-4906
<b>ISCS-WARN</b>	T_WWFJ40NFFN091700_C_KWBC_20210209171218_15991038-5543
ISCS-BUFR	T_WWFJ40NFFN091700_C_KWBC_20210209171211_24248564-4904
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-El Salvador	
NADM	
CIMSS	

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 NTWC Tsunami Routine Communications  
Test US East & Gulf Coast received via GNC-A on February  
9<sup>th</sup>, 2021 at 17:15 UTC**



# GNC-A Known User Community

## GNC-A Points of Entry in red are CARIBE EWS NTWC/TWFP



• Antigua and Barbuda*		Guatemala	INSIVUMEH
• Barbados*	CIMH	Honduras	COPECO
• <b>Belize</b>	<b>NMS-Belize</b>	Haiti	UHM
• Costa Rica	AEROPUERTO-JSM	Panama	SERVIR-CATHALAC
• Costa Rica	IMN Costa Rica	<b>Dominican Republic</b>	<b>ONAMET</b>
• Costa Rica	AEROPUERTO-LIBERIA	Mexico	CONAGUA-SMN
		Mexico	CONAGUA-Ciudad de
• Cuba	INSMET	Mexico	CONAGUA-Chiapas
• Dominica*		Mexico	CONAGUA-Yucatán
• El Salvador	MARN-Aeropuerto	Mexico	CONAGUA-Veracruz
	Llopango	Mexico	UNAM-ICML
• El Salvador	MARN-Puerto	Mexico	CENAPRED
	Acajutla	Mexico	UABC
• El Salvador	MARN-Puert	Mexico	INEGI
	Corsain	Mexico	AEM-CICESE
• El Salvador	MARN-Universidad	Mexico	UNAM
	de El Salvador	<b>Puerto Rico</b>	<b>PRSN</b>
• El Salvador	MARN-Las Mercedes	Saint Kitts and Nevis*	
• Grenada*		Saint Vincent and the Grenadines*	

\* To be installed by February 2022

# Where to Find Tsunami Warning on HRIT/EMWIN

- 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\_NWUS55KBVZ091714\_C\_KWIN\_20210209171455\_737979-2-LSRBVZMT.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\_SPUS80KWBC091714\_C\_KWIN\_20210209171428\_737946-2-MISS80US.Irit  
 A\_SAU570KWBC091714\_C\_KWIN\_20210209171427\_737942-2-SAHOURLY.Irit  
 A\_SPUS70KWBC091714\_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 NTWC Tsunami Routine Communications Test US East & Gulf Coast received via HRIT/EMWIN on February 9<sup>th</sup>, 2021 at 17:15 UTC**

# Helpful Web Links and Contact Information

## Websites

### **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](https://ntwc.ncep.noaa.gov/?page=product_list)

## Contacts

### **GNC-A and HRIT/EMWIN Broadcast POC**

#### **HRIT/EMWIN Program Manager**

Ian Avruch – [ian.avruch@noaa.gov](mailto:ian.avruch@noaa.gov)  
or  
[hrit.manager@noaa.gov](mailto:hrit.manager@noaa.gov)

#### **GEONETCast Americas Program Manager**

John Cornicelli – [john.cornicelli@noaa.gov](mailto:john.cornicelli@noaa.gov)  
or  
Primary Email POC – [GNC.Americas@noaa.gov](mailto:GNC.Americas@noaa.gov)

#### **EMWIN and ISCS**

Primary Email - [nws.emwin.support@noaa.gov](mailto:nws.emwin.support@noaa.gov)

# Dummy (Start of Exercise) Message

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

“This is a test message for the CARIBEWAVE23 tsunami exercise  
#CaribeWave”

(Will be issued at 14h00 UTC to NWS\_PTWC and NWS\_CTWP  
accounts/subscribers.)

# 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 **10 March 2023**, each Member State must complete the following survey ([https://www.surveymonkey.com/r/CW23\\_ScenarioSelection](https://www.surveymonkey.com/r/CW23_ScenarioSelection)) 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 ITIC-CAR, the organizers will decide for which scenario the PTWC will send the products.

**CARIBE WAVE 23 Scenarios by Member State/Territory**  
*As of 15-February-2023*

<b>Gulf of Honduras</b>	<b>Mount Pelée</b>
Cayman Islands	Aruba
Guatemala	Barbados
Honduras	Brazil
Mexico	NL – (Bonaire, Sint Eustatius, Saba)
Nicaragua	Trinidad and Tobago
Panama	UK – (British Virgin Islands)
	US - (Puerto Rico and US Virgin Islands)
	Venezuela

\*PTWC has prepared the corresponding simulated domestic products

**DEADLINE TO SELECT A SCENARIO: FRIDAY, 10 March 2023**



# Message Chronology issued by the PTWC

## Gulf of Honduras

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/23/23	1400	- - - - E a r t h q u a k e   O c c u r s - - - -	
3/23/23	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/23/23	1407	Initial Tsunami Threat Message #1	Email
3/23/23	1425	Tsunami Threat Message #2 with Forecast and Graphical Enhanced Products	Email
3/23/23	1445	Tsunami Threat Message #3	Email
3/23/23	1530	Tsunami Threat Message #4	Email
3/23/23	1630	Tsunami Threat Message #5	Email
3/23/23	1730	Tsunami Threat Message #6	Email
3/23/23	1830	Final Tsunami Threat Message #7	Email

# Message Chronology issued by the PTWC

## Mount Pelée

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/23/23	1350	- - - - Volcano Flank Collapse Occurs - - - -	
3/23/23	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/23/23	1407	Initial Tsunami Threat Message #1	Email
3/23/23	1430	Tsunami Threat Message #2	Email
3/23/23	1500	Tsunami Threat Message #3	Email
3/23/23	1530	Tsunami Threat Message #4	Email
3/23/23	1600	Tsunami Threat Message #5	Email
3/23/23	1630	Final Tsunami Threat Message #6	Email



# CATAC Simulated Messages

The Central America Tsunami Advisory Center (CATAC) will send the simulated products as of **1403 UTC** for the Gulf of Honduras scenario to Central American countries and regions by agreement with the center.

## Countries:

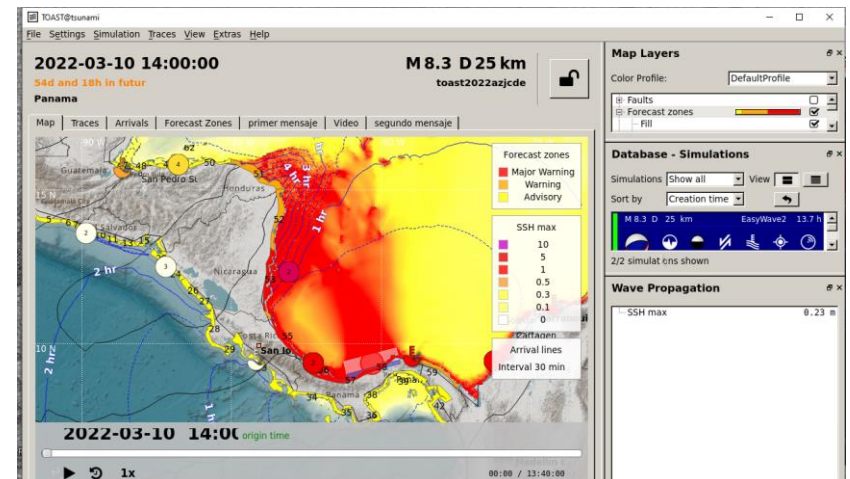
1. Threat messages in Spanish: email
2. Graphic products: email

## PTWC:

1. Text message in English: email
2. Graphic products: email

In addition, the products will be published on CATAC's website: <http://catac.ineter.gob.ni/>

For questions, please email [wilfried.strauch@yahoo.com](mailto:wilfried.strauch@yahoo.com)



## Graphical products:

1. Predicted amplitudes at Sea Gauges
2. Predicted amplitudes at coastal zones
3. Tsunami propagation movie

# Message Chronology issued by the CATAC Gulf of Honduras

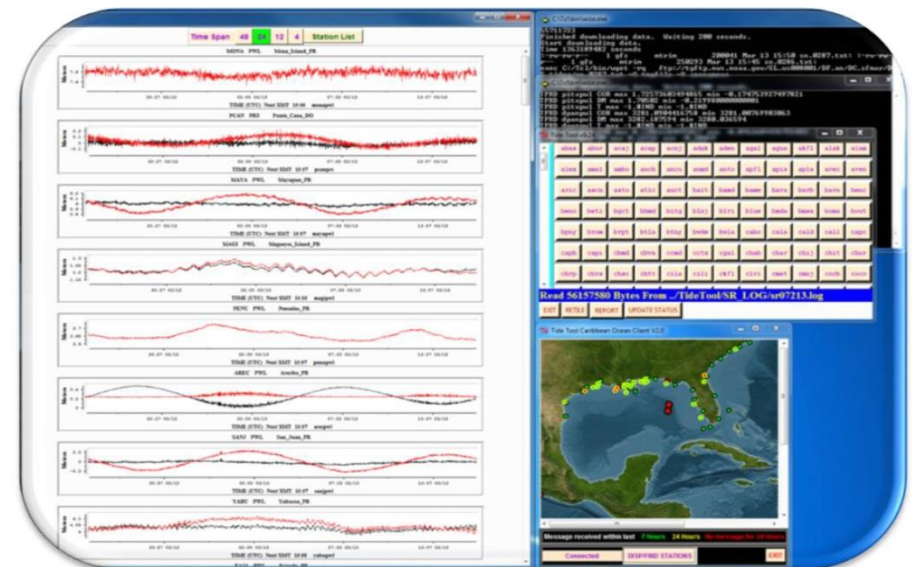
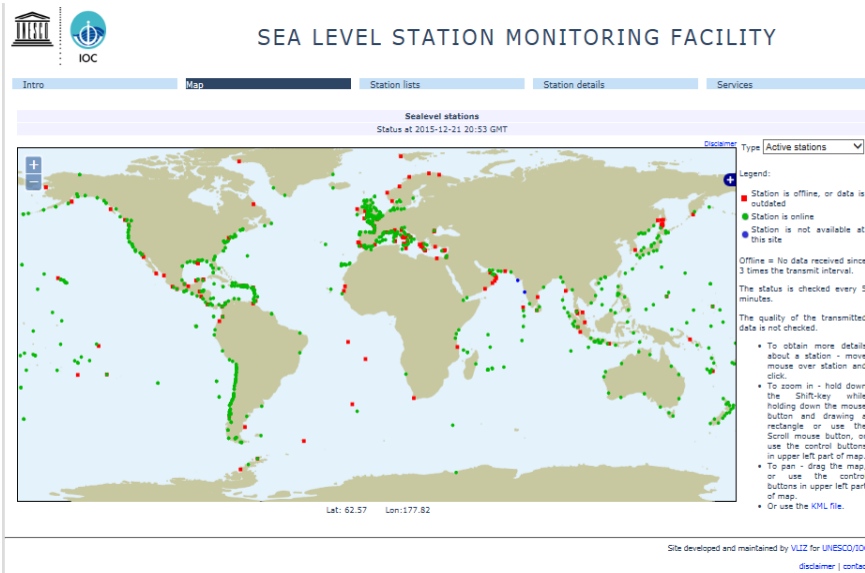
Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/23/23	1400	- - - - E a r t h q u a k e O c c u r s - - - -	
3/23/23	1400	Dummy	GTS, Email
3/23/23	1403	Initial Tsunami Threat Message #1	Email
3/23/23	1409	Tsunami Threat Message #2	Email
3/23/23	1430	Tsunami Threat Message #3	Email
3/23/23	1500	Tsunami Threat Message #4	Email
3/23/23	1600	Tsunami Threat Message #5	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](mailto:stuart.weinstein@noaa.gov)



# Member State Participation The *TsunamiZone* Registration

TsunamiZone registration is used to track the number of people and organizations participating in the exercise.

The screenshot shows the TsunamiZone website homepage. At the top is a navigation bar with links: Home, TsunamiZone Regions, Other Languages, Contact Us, Search, and Login. Below this is a large banner image of a coastal landscape with a person running. The TsunamiZone logo is on the left. A red box highlights the 'Register Here' link in the main navigation bar. Below the banner is a green status bar that reads 'No Tsunami Warning, Advisory, Watch, or Threat'. The main content area is divided into two columns. The left column has a 'WELCOME TO THE TSUNAMIZONE!' header, followed by text about preparedness, links for 'ESPAÑOL' and 'FRANÇAIS', and a graphic with the text 'Know how to recognize a tsunami, and what to do to save your life.' The right column is titled 'OFFICIAL ACTIVITIES' and lists various events: March 23 (CARIBE WAVE 2023), March 26-31 (Alaska's Tsunami Preparedness Week), March 27-31 (California's Tsunami Preparedness Week), April (Hawaii's Tsunami Awareness Month), June (LANTEX 2023), and November 5 (World Tsunami Awareness Day). It also mentions ongoing activities like the Virtual Fair.

Home TsunamiZone Regions Other Languages Contact Us Search Login

The TsunamiZone

Register Here Know Your Zone Who is Participating? How to Participate? Resources News & Events Partners & Sponsors

Alert Status from [tsunami.gov](https://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 2023 tsunami preparedness activities!

**ESPAÑOL**  
**FRANÇAIS**

**Know how to recognize a tsunami, and what to do to save your life.**

**2022 World Tsunami Awareness Day was Saturday, November 5**

**OFFICIAL ACTIVITIES**

**March 23**  
[CARIBE WAVE 2023](#)

**March 26 – 31**  
[Alaska's Tsunami Preparedness Week](#)

**March 27 – 31**  
[California's Tsunami Preparedness Week](#)

**April**  
[Hawaii's Tsunami Awareness Month](#)

**June**  
LANTEX 2023


**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.

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.




[Home](#)
[TsunamiZone Regions](#)
[Other Languages](#)
[Contact Us](#)
[Search](#)
[Login](#)



[Register Here](#)
[Know Your Zone](#)
[Who is Participating?](#)
[How to Participate?](#)
[Resources](#)
[News & Events](#)
[Partners & Sponsors](#)

Alert Status from [tsunami.gov](https://tsunami.gov)


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[Hawaii's Tsunami Awareness Month](#)

**June**  
 LANTEX 2023

**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 »

## 2023 CARIBBEAN PARTICIPATION TOTALS

91,019 participants are registered in the 2023 TsunamiZone (as of 02/20/2023 3:25 AM PST).

Category	Participants	Participation totals for each area	Total
<a href="#">Individuals/Families</a>	674		
<a href="#">Childcare and Pre-Schools</a>	1,436	<a href="#">Antigua and Barbuda</a>	0
<a href="#">K-12 Schools and Districts</a>	21,946	<a href="#">Aruba</a>	458
<a href="#">Colleges and Universities</a>	21,916	<a href="#">Bahamas</a>	0
<a href="#">Local Government</a>	6,383	<a href="#">Barbados</a>	110
<a href="#">State Government</a>	15,185	<a href="#">Belize</a>	0
<a href="#">Federal/National Government (Including Military)</a>	10,771	<a href="#">Brazil</a>	17
<a href="#">Tribes/Indigenous Peoples</a>	0	<a href="#">Colombia</a>	38
<a href="#">Businesses</a>	902	<a href="#">Costa Rica</a>	50
<a href="#">Hotels and Other Lodgings</a>	455	<a href="#">Cuba</a>	0
<a href="#">Healthcare</a>	6,190	<a href="#">Curacao</a>	119
<a href="#">Senior Facilities/Communities</a>	331	<a href="#">Dominica</a>	4
<a href="#">Disability/AFN Organizations</a>	165	<a href="#">Dominican Republic</a>	54
<a href="#">Non-Profit Organizations</a>	1,265	<a href="#">France</a>	8,025
<a href="#">Neighborhood Groups</a>	149	<a href="#">Guadeloupe</a>	252
<a href="#">Preparedness Organizations</a>	2,169	<a href="#">Martinique</a>	7,773
<a href="#">Faith-based Organizations</a>	15	<a href="#">Saint Barthelemy</a>	0
<a href="#">Museums, Libraries, Parks, etc.</a>	0	<a href="#">Saint Martin</a>	0
<a href="#">Volunteer/Service Clubs</a>	0	<a href="#">Other France</a>	0
<a href="#">Youth Organizations</a>	100	<a href="#">Grenada</a>	10,698
<a href="#">Animal Shelter/Service Providers</a>	14	<a href="#">Guatemala</a>	30
<a href="#">Agriculture/Livestock Sector</a>	27	<a href="#">Guyana</a>	10
<a href="#">Volunteer Radio Groups</a>	250	<a href="#">Guyane</a>	0
<a href="#">Science/Engineering Organizations</a>	316	<a href="#">Haiti</a>	118
<a href="#">Media Organizations</a>	29	<a href="#">Honduras</a>	0
<a href="#">Other</a>	331	<a href="#">Jamaica</a>	315
		<a href="#">Mexico</a>	659
		<a href="#">Netherlands</a>	13
		<a href="#">Bonaire</a>	1
		<a href="#">Sint Eustatius</a>	12
		<a href="#">Saba</a>	0
		<a href="#">Other Netherlands</a>	0
		<a href="#">Nicaragua</a>	20
		<a href="#">Panama</a>	9,117
		<a href="#">Saint Kitts and Nevis</a>	300
		<a href="#">Saint Lucia</a>	3

**As of 20 Feb 2023, 91,019 participants have registered on the website.**

# Media Arrangements

- UPRM PRSN Tsunami Media Guide (English and Spanish) and Tsunami Program Portal:

<http://www.prsn.uprm.edu/mediakit/>

<https://redsismica.uprm.edu/english/tsunami/>

- UWI 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.
  - The use of the #CARIBEWAVE and #TSUNAMIREADY hashtags are encouraged to be used before and during the exercise.

# CW Videos/Photos Sharing

## Ways to share your exercise pictures/videos:

### 1. Tsunami Zone Website

(<https://www.tsunamizone.org/share/>)

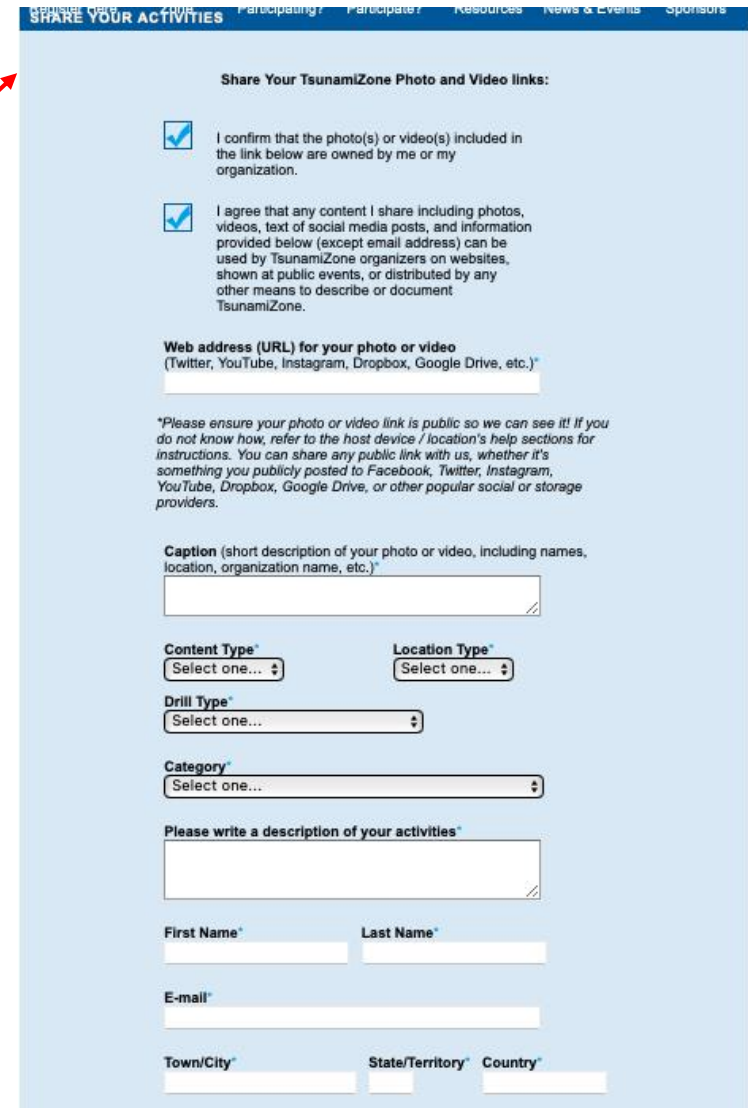
- Only accepts website or/and social media links

### 2. Post-Exercise Questionnaire (available after the exercise).

- Accepts website or/and social media links

### 3. Email

– To [christa.vonh@noaa.gov](mailto:christa.vonh@noaa.gov) and  
[stephanie.soto@noaa.gov](mailto:stephanie.soto@noaa.gov)



**SHARE YOUR ACTIVITIES** Participating? Participated? Resources News & Events Sponsors

**Share Your TsunamiZone Photo and Video links:**

☒ I confirm that the photo(s) or video(s) included in the link below are owned by me or my organization.

☒ I agree that any content I share including photos, videos, text of social media posts, and information provided below (except email address) can be used by TsunamiZone organizers on websites, shown at public events, or distributed by any other means to describe or document TsunamiZone.

**Web address (URL) for your photo or video**  
(Twitter, YouTube, Instagram, Dropbox, Google Drive, etc.)\*

\*Please ensure your photo or video link is public so we can see it! If you do not know how, refer to the host device / location's help sections for instructions. You can share any public link with us, whether it's something you publicly posted to Facebook, Twitter, Instagram, YouTube, Dropbox, Google Drive, or other popular social or storage providers.

**Caption** (short description of your photo or video, including names, location, organization name, etc.)\*

**Content Type\*** **Location Type\***

Select one... Select one...

**Drill Type\***

Select one...

**Category\***

Select one...

**Please write a description of your activities\***

**First Name\*** **Last Name\***

**E-mail\***

**Town/City\*** **State/Territory\*** **Country\***

# 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 23 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 23**” 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 23, 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/CaribeWave23>
  - The deadline for completing the evaluation is 13 April 2023.
    - This questionnaire includes feedback on PTWC, CATAC, Risk Knowledge and SOPs, Tsunami Ready.
    - It contains 42 questions, 14 pages, and should take no more than 20 minutes.

# Post-Exercise Evaluation Form

## Questionnaire

5. The PTWC issued the CARIBE WAVE 23 **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 System (GTS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WMO Information System (WIS (GISC Email))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WMO Information System (WIS (GISC FTP))	<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 Americas	<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 23 **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 System (GTS)	<input type="text"/>	<input type="text"/>	<input type="text"/>
WMO Information System (WIS (GISC Email))	<input type="text"/>	<input type="text"/>	<input type="text"/>
WMO Information System (WIS (GISC FTP))	<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 Americas	<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

31. Is your country implementing the UNESCO/IOC Tsunami Ready Recognition Programme (or TsunamiReady®)?

🗨 0

- ☐ Yes, national institutions are starting to talk about it
- ☐ Yes, the national level is organizing itself to allow municipalities to make the request (the NTRB is constituted)
- ☐ Yes, some municipalities want to get involved in the process
- ☐ Yes, some municipalities have started to take steps to obtain recognition (the Local TRB has been set up)
- ☐ Yes, one or more applications are underway or communities are recognized
- ☐ No

Comments:

32. Would your country be interested in implementing the UNESCO/IOC Tsunami Ready Recognition Programme?

🗨 0

- ☐ Yes - Please provide further information on the timeline, needs and/or support.
- ☐ No - Why are you not interested?

Comments:

33. Do you know the target number of the UNESCO/IOC Tsunami Ready communities in your country/territory for TsunamiReady® or Tsunami Ready recognition? 🗨 0

- ☐ Yes - Indicate the number and name of communities
- ☐ No

Number and name of communities:

# Resources available at caribewave.org

- Manual 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.
- PTWC Enhanced Products and Staging for the Caribbean and Pacific, English
- IOC Manuals “[How to plan, conduct and evaluate tsunami exercises](#)” and “[Module on Tsunami Exercise](#)” are useful resources.
- CARIBE WAVE 2011 through 2023 Handbooks
- CARIBE WAVE 2013 through 2022 Final and Media Report
- PTWC Communications Plan for the Caribbean

Questions on the exercise can be addressed to the members of the CARIBE WAVE 23 Task Team.

# Video on PTWC Graphical Tsunami Forecast Products for the CARIBE-EWS



UNESCO IOC / NOAA  
International Tsunami Information Center  
Tsunami Training Video, September 2021

## **Pacific Tsunami Warning Center (PTWC)** **Graphical Tsunami Forecast Products** **for the CARIBE-EWS**

Dr. Charles “Chip” McCreery  
Director, PTWC



Video link: <https://vimeo.com/showcase/8956022>

Password: training

# COVID-19 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](https://tsunamizone.org)
- Note the CARIBE EWS guidance for Tsunamis:
  - [http://www.ioc-tsunami.org/index.php?option=com\\_content&task=viewDocumentRecord&docID=26796](http://www.ioc-tsunami.org/index.php?option=com_content&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.

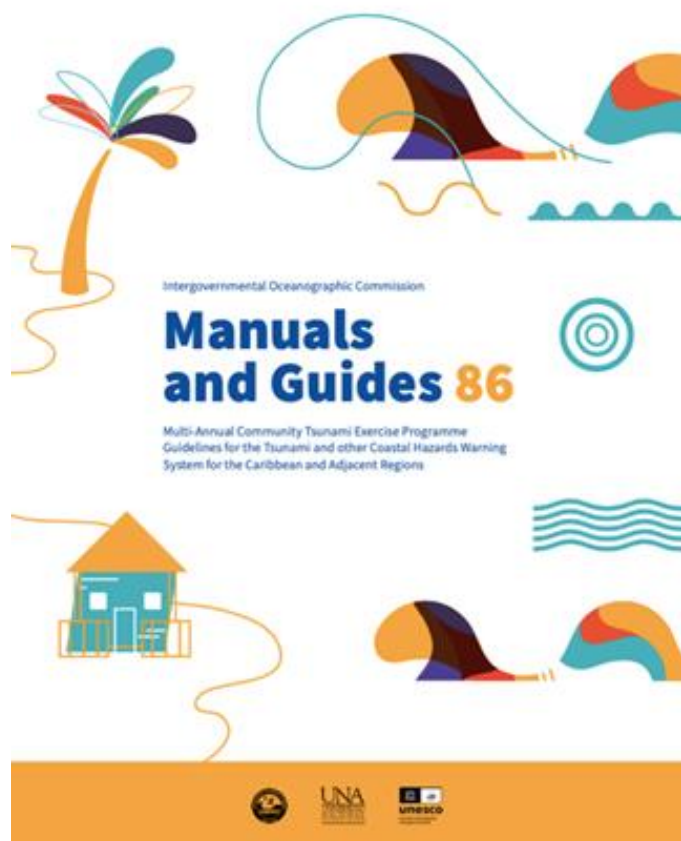
It is also important to recall that for the case of local tsunamis the natural tsunami warning signals should be the trigger for immediate self-evacuation. Persons along low-lying coasts should self-evacuate and not wait for their National Tsunami Warning Center to issue a tsunami warning.

### 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**



# Manual 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



- 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 <https://unesdoc.unesco.org/ark:/48223/pf0000380540.locale=en>

# Participation of people with disabilities in CARIBE WAVE 23

- According to the Development Dialogue (2021), persons with disabilities make up 15 percent of the world's population.
- This group of people are disproportionately affected by disaster impacts and are often not included in prevention, response, and recovery.
- It is important to engage persons with disabilities and their representative organizations in annual exercises such as CARIBE WAVE.
- Cutting-edge technology aimed at co-creating early warning and preparedness solutions that are inclusive and accessible to people with disabilities are suggested to be tested during the tsunami exercise to address this barrier.

<https://developmentdialogues.org/>

# Additional Info

- Additional materials will be added to ITIC-CAR ([www.caribewave.org](http://www.caribewave.org)).
- Send links of other national pages to [christa.vonh@noaa.gov](mailto:christa.vonh@noaa.gov) to include on ITIC-CAR.
- This presentation is available on ITIC-CAR website.
- CARIBE WAVE video (available at ITIC-CAR website)

# CARIBE WAVE 23 Task Team

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# Timeline

ACTION	TIMELINE
<b>Circular Letter Issued by IOC to MS</b>	✓ November 2022
<b>Handbook Draft Circulated among ICG CARIBE EWS, TWFP/NTWC contacts and TT CARIBE WAVE 23</b>	✓ December 2022
<b>Deadline for Comments</b>	✓ December 2022
<b>Exercise Handbook Available Online</b>	✓ January 2023
<b>1<sup>st</sup> Webinar CW (Overview, PTWC Products)</b>	✓ 24 January 2023 – English ✓ 25 January 2023 – Spanish ✓ 26 January 2023 – French
<b>2<sup>nd</sup> Webinar CW (Update, Communication Methods, Registration, Questionnaire, Uploading Pictures/Videos )</b>	21 February 2023 - English 22 February 2023 - Spanish 23 February 2023 – French
<b>Countries Indicate Selected Scenario</b>	10 March 2023
<b>Exercise</b>	23 March 2023
<b>Hot-Wash</b>	4 April 2023
<b>Exercise Evaluation Due</b>	13 April 2023
<b>Final Draft Caribe Wave 23 Report 24 April 2023</b>	

# Questions, Comments

Thank you for participating

[elizabeth.vanacore@upr.edu](mailto:elizabeth.vanacore@upr.edu)

[christa.vonh@noaa.gov](mailto:christa.vonh@noaa.gov)