



1st Webinar

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#CARIBEWAVE
#TSUNAMIREADY

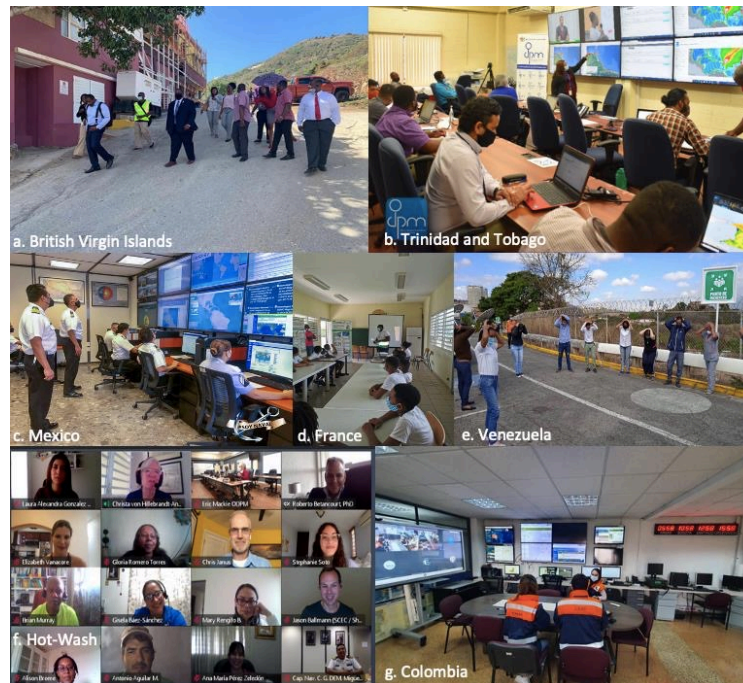
January 18, 2022

CARIBE WAVE 2021

CARIBE WAVE 21 was held under the circumstances of the pandemic on 11 March 2021. Each Member State and Territory determined its level of participation.

In the Caribbean and Adjacent Regions, **47** Member States and Territories participated in this exercise with a total of over **335,000** people engaged.

- The participation of MS represents a rate of **98%** (up from 92% in 2020).



CARIBE WAVE 21: British Virgin Islands (a) , Trinidad and Tobago (b) , and Mexico (c), France (d), Venezuela (e) Regional Hot-wash (f), Colombia (g).

#CARIBEWAVE
#TSUNAMIREADY

Objectives for CARIBE WAVE 22

1. Exercise and evaluate communications between Regional Tsunami Service Provider and Members States/Territories.

- A. Validate the **issuance** of tsunami products from the PTWC.
- B. Validate the **receipt** of tsunami products by CARIBE-EWS Tsunami Warning Focal Points (TWFPs) and/or National Tsunami Warning Centers (NTWCs).

2. Evaluate the tsunami procedures and programs within Members States/Territories.

- A. Validate **readiness** to respond to a tsunami.
- B. Validate the **operational readiness** of the TWFPs/NTWCs and/or The National Disaster Management Office (NDMO).
- C. Improve **operational readiness**. Before the exercise, ensure appropriate tools and response plan(s) have been developed, including public education materials.
- D. Validate that the **dissemination of warnings** and information/advice by TWFPs and NTWCs, to relevant in-country agencies and the public is accurate and timely.
- E. Evaluate the status of the implementation of the pilot CARIBE-EWS **TsunamiReady** recognition program.

Goals / Metrics

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

Exercise Handbook

- The CARIBE WAVE 22 exercise Handbook is available at, www.caribewave.org
- This manual includes:
 - Tsunami and earthquake scenarios description
 - Timelines
 - PTWC dummy message and simulated exercise threat messages
 - Travel times and expected wave heights
 - The website link to post-exercise evaluation questionnaire

CARIBE WAVE 22

[Weather.gov](#) > [Caribbean Tsunami Warning Program](#) > CARIBE WAVE 22

Caribbean Tsunami Warning Program
National Program

[Sea Level Stations](#) [Seismic Stations](#) [CARIBE EWS](#) [Preparedness/Education](#) [CARIBE WAVE](#) [About ITIC-CAR](#)

The Tsunami Exercise CARIBE WAVE 22 will be on **March 10, 2022**

Supporting Documents

- Western Muertos Trough scenario - [KMZ](#)
- Northern Panama scenario - [KMZ](#)
- PTWC Enhanced Products User's Guide - [PDF](#)

Webinars

- Webinar 1
 - English (January 18, 2022) - [registration](#)
 - Español (19 de enero de 2022) - [registration](#)
 - Français (20 janvier 2022) - [registration](#)
- Webinar 2
 - English (February 15, 2022) - [registration](#)
 - Español (16 de febrero de 2022) - [registration](#)
 - Français (17 février 2022) - [registration](#)

Additional Resources

- [US Tsunami Warning System](#)
- [UNESCO IOC](#)
- [Puerto Rico Seismic Network](#)
- [NOAA Tsunami Program](#)
- [TsunamiZone](#)

CARIBE WAVE 22 Scenarios by Member State/Territory

*scenarios decided by Caribe Wave organizers per Exercise Handbook

Western Muertos Trough	Northern Panama

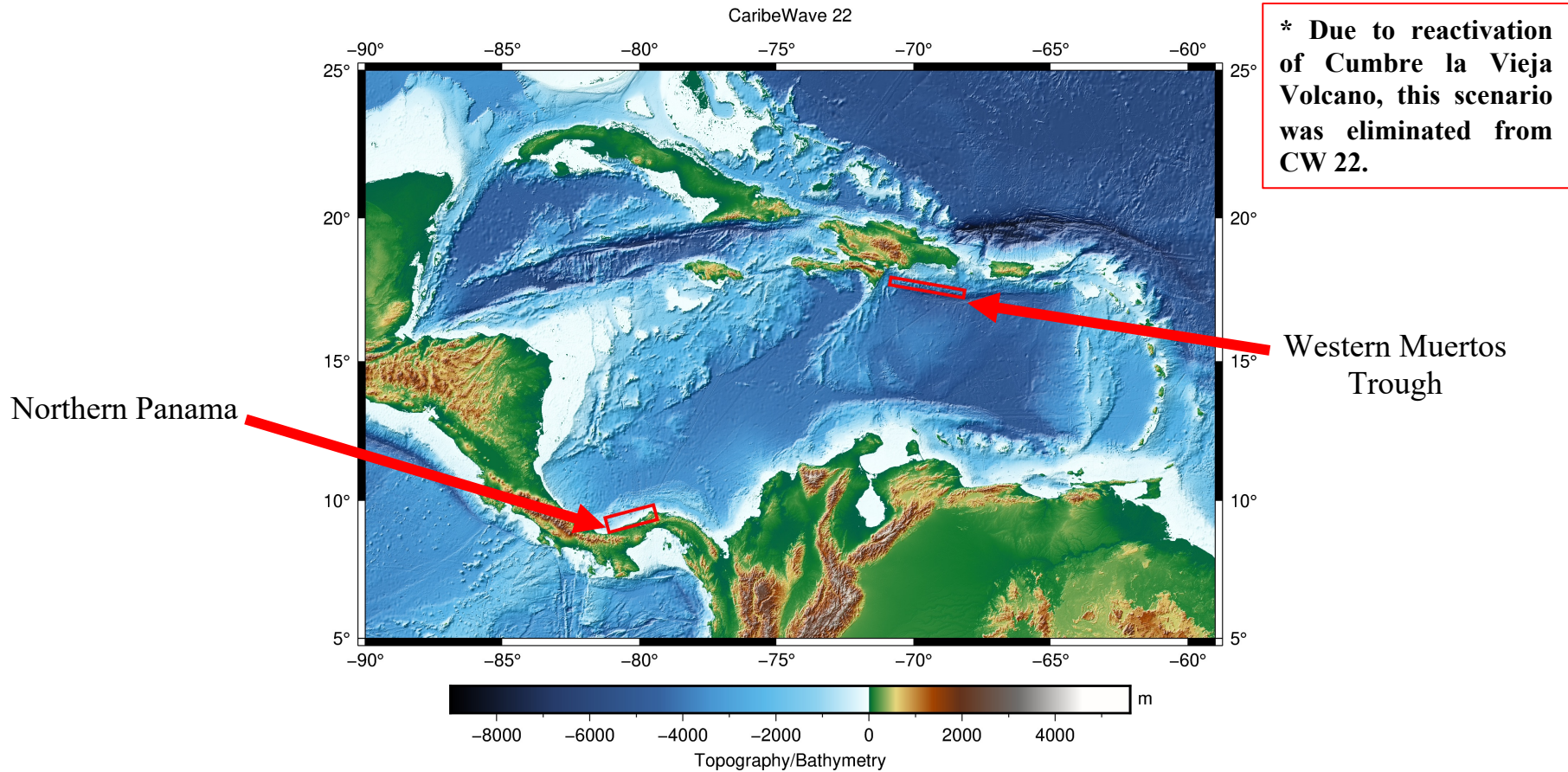


*Countries who have selected the scenario will be shown in this table.

#CARIBEWAVE
#TSUNAMIREADY

CARIBE WAVE 22

Earthquake and Tsunami Scenarios



Scenario	Origin Time	Mw	Epicenter
Western Muertos Trough	14:00:00 UTC	8.0	17.5°N, 69.5°W
Northern Panama	March 10, 2022	8.3	9.3°N, 80.3°W

Earthquake Impact Scenario Western Muertos Trough

Macroseismic Intensity Map USGS
ShakeMap: Muertos Trough
Mar 22, 2022 14:00:00 UTC M8.0 N17.59 W69.50 Depth: 3.5km
ID:Muertos_CaribeWave2022_se



Earthquake Shaking **Orange Alert**

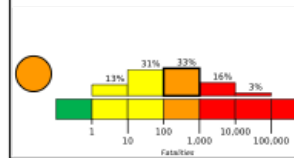


PAGER Version 1

M 8.0, Scenario Muertos Trough

Origin Time: 2022-03-22 14:00:00 UTC (Tue 09:00:00 local)
Location: 17.5864° N 69.5040° W Depth: 3.5 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

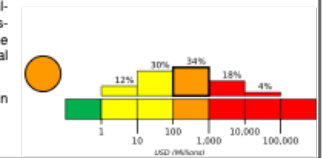
Estimated Fatalities



Orange alert for shaking-related fatalities and economic losses. Significant casualties and damage are likely and the disaster is potentially widespread. Past orange alerts have required a regional or national level response.

Estimated economic losses are less than 1% of GDP of Dominican Republic.

Estimated Economic Losses

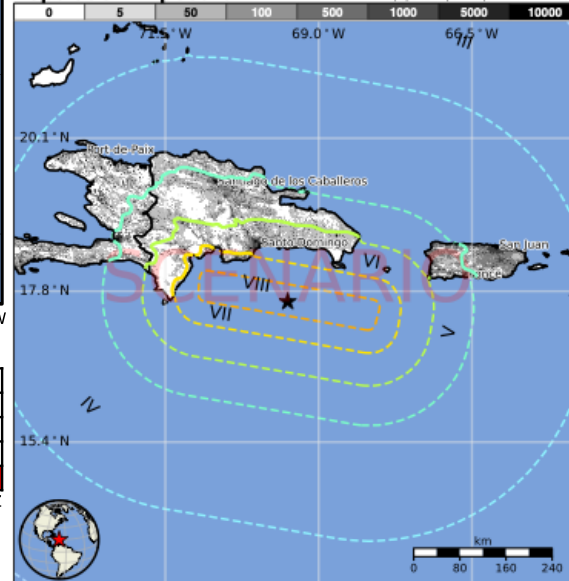


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)	-*	333k*	10,485k	8,086k	6,375k	554k	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures: None	Resistant Structures: None	Resistant Structures: None	Resistant Structures: V. Light	Resistant Structures: Light	Resistant Structures: Moderate	Resistant Structures: Mod./Heavy	Resistant Structures: Heavy	Resistant Structures: V. Heavy
	Vulnerable Structures: None	Vulnerable Structures: None	Vulnerable Structures: None	Vulnerable Structures: Light	Vulnerable Structures: Moderate	Vulnerable Structures: Mod./Heavy	Vulnerable Structures: Heavy	Vulnerable Structures: V. Heavy	Vulnerable Structures: V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are mud wall and informal (metal, timber, GI etc.) construction.

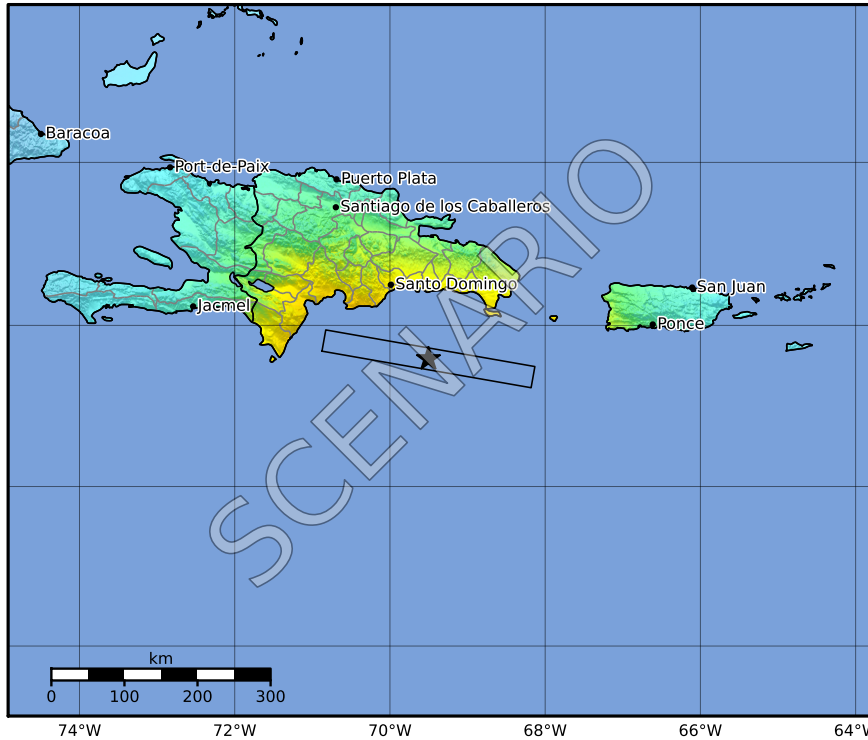
Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1979-03-23	61	6.6	VI(605k)	0
2003-09-22	272	6.4	IX(132k)	1
1984-06-24	45	6.7	VII(326k)	5

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

Selected City Exposure

MMI	City	Population
VII	Matanzas	4k
VII	Palmar de Ocoa	2k
VII	La Cienega	3k
VII	Paya	7k
VII	Sabana Buey	2k
VII	Nizao	7k
VI	Santo Domingo	2,202k
VI	Santo Domingo Este	700k
V	Santiago de los Caballeros	1,200k
V	Port-au-Prince	1,235k
IV	San Juan	418k



SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.0464	0.297	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.0215	0.135	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based on Worden et al. (2012) Version 1: Processed 2021-11-18T17:54:50Z
 Δ Seismic Instrument ○ Reported Intensity ★ Epicenter □ Rupture

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty. <http://earthquake.usgs.gov/data/pager/>

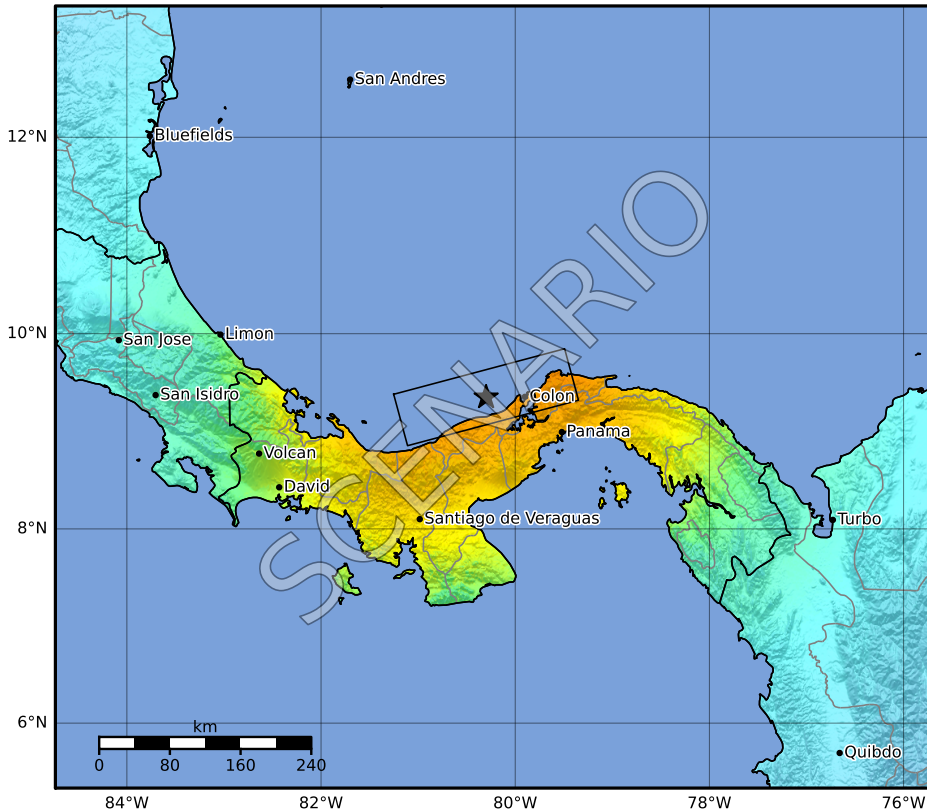
bold cities appear on map. (k=x1000)

Event ID: usMuertos_CaribeWave2022_se

Earthquake Impact Scenario

Northern Panama

Macroseismic Intensity Map USGS
 ShakeMap: Panama
 Mar 22, 2022 14:00:00 UTC M8.3 N9.35 W80.30 Depth: 25.0km
 ID:Panama_CaribeWave2022_se



SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
DAMAGE	None	None	None	Very light	Light	Moderate	Moderate/heavy	Heavy	Very heavy
PGA(%g)	<0.0464	0.297	2.76	6.2	11.5	21.5	40.1	74.7	>139
PGV(cm/s)	<0.0215	0.135	1.41	4.65	9.64	20	41.4	85.8	>178
INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based on Worden et al. (2012) Version 1: Processed 2021-11-18T17:50:40Z
 Δ Seismic Instrument ○ Reported Intensity ★ Epicenter □ Rupture



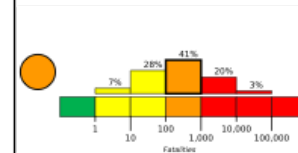
Earthquake Shaking **Red Alert**



M 8.3, Scenario Panama

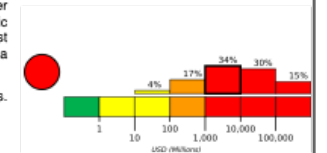
Origin Time: 2022-03-22 14:00:00 UTC (Tue 09:00:00 local)
 Location: 9.3500° N 80.3000° W Depth: 25.0 km
 FOR TSUNAMI INFORMATION, SEE: tsunami.gov

Estimated Fatalities



Red alert for economic losses. Extensive damage is probable and the disaster is likely widespread. Estimated economic losses are 4-50% GDP of Panama. Past events with this alert level have required a national or international level response. Orange alert for shaking-related fatalities. Significant casualties are likely.

Estimated Economic Losses

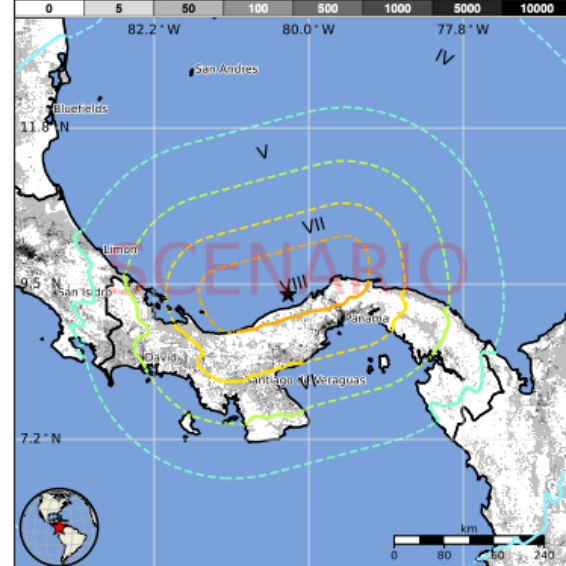


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (kx1000)	-*	835k*	6,565k	692k	935k	2,536k	279k	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE									
	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are a mix of vulnerable and earthquake resistant construction. The predominant vulnerable building types are mud wall and adobe block construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1982-08-19	394	6.8	V(1k)	0
1974-07-13	344	7.3	IX(2k)	11
1991-04-22	306	7.6	VII(213k)	75

Recent earthquakes in this area have caused secondary hazards such as tsunamis, landslides and liquefaction that might have contributed to losses.

Selected City Exposure

MMI City	Population
VIII Caciique	<1k
VIII Portobelo	1k
VIII Palenque	<1k
VIII Viento Frio	<1k
VIII Miramar	<1k
VIII Nombre de Dios	<1k
VIII Colon	77k
VII Panama	408k
VI David	83k
IV San Jose	335k
IV Monteria	272k

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty. <http://earthquake.usgs.gov/data/pager/>

bold cities appear on map. (k=x1000) Event ID: usPanama_CaribeWave2022_se

PTWC PRODUCTS

#CARIBEWAVE
#TSUNAMIREADY

For CARIBE WAVE 22, PTWC will issue the following products:

- On **10 March 2021, at 1400 UTC**, the initial dummy message will be issued and disseminated over all its standard broadcast channels for the two scenarios.
- PTWC will also issue a start of exercise message through its Twitter account at **1400 UTC**.
- As of **1407 UTC**, PTWC emails will be sent with all the simulated enhanced products (text and graphical) to the designated CARIBE-EWS, TWFP and NTWC for one of the scenarios.
 - By **25 February 2022**, each Member State is requested to complete the following survey (https://www.surveymonkey.com/r/CW22_ScenarioSelection) to select the scenario their country will use for the exercise.
 - Each country/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.**
 - To verify the current list 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

Appendix V. TWC Dummy (Start of Exercise) Messages

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 10 MAR 2022

...TEST...CARIBE WAVE 22 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 22 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.

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Dummy (Start of Exercise) Message

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

“This is a test message for the CARIBEWAVE22 tsunami exercise
#CaribeWave”

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

Western Muertos Trough Scenario

Message Chronology issued by the PTWC

Western Muertos Trough

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/10/22	1400	---- Earthquake Occurs ----	
3/10/22	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/10/22	1407	Initial Tsunami Threat Message #1	Email
3/10/22	1430	Tsunami Threat Message #2 with Forecast and Graphical Enhanced Products	Email
3/10/22	1500	Tsunami Threat Message #3 Supplement with Observations	Email
3/10/22	1600	Tsunami Threat Message #4 Supplement with Observations	Email
3/10/22	1700	Tsunami Threat Message #5 Supplement with Observations	Email
3/10/22	1800	Tsunami Threat Message #6 Supplement with Observations	Email
3/10/22	1900	Tsunami Threat Message #7 Supplement with Observations	Email
3/10/22	2000	Final Tsunami Threat Message #8	Email

PTWC Message #1

ZCZC

WECA41 PHEB 101407

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1407 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

* MAGNITUDE 8.2
* ORIGIN TIME 1400 UTC MAR 10 2022
* COORDINATES 17.6 NORTH 69.5 WEST
* DEPTH 3 KM / 2 MILES
* LOCATION DOMINICAN REPUBLIC REGION

TEST... EVALUATION ...TEST

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.2 OCCURRED IN THE DOMINICAN REPUBLIC REGION AT 1400 UTC ON THURSDAY MARCH 10 2022.

* THIS IS A TEST MESSAGE. BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TEST... TSUNAMI THREAT FORECAST ...TEST

* THIS IS A TEST MESSAGE. HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

DOMINICAN REP... HAITI... PUERTO RICO... US VIRGIN IS...
BONAIRE... ARUBA... SABA... SAINT KITTS... SINT
EUSTATIUS... MONTSERRAT... SINT MAARTEN... CUBA... BR
VIRGIN IS... TURKS N CAICOS... GUADELOUPE... ANGUILLA...
DOMINICA... CURACAO... VENEZUELA... COLOMBIA... SAINT
LUCIA... MARTINIQUE... BAHAMAS... SAINT VINCENT... SAINT
MARTIN... SAINT BARTHELEMY... CAYMAN ISLANDS... BARBUDA...
JAMAICA... GRENADA... ANTIGUA... BARBADOS... PANAMA... SAN
ANDRES PROVID... TRINIDAD TOBAGO... BERMUDA... COSTA
RICA... MEXICO AND HONDURAS

TEST... RECOMMENDED ACTIONS ...TEST

* THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

* THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THE REGION IDENTIFIED WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1415 03/10
JACAMEL	HAITI	18.1N 72.5W	1434 03/10
MAYAGUEZ	PUERTO RICO	18.2N 67.2W	1434 03/10

CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1438	03/10
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1443	03/10
ONIMA	BONAIRE	12.3N	68.3W	1452	03/10
SAN JUAN	PUERTO RICO	18.5N	66.1W	1453	03/10
ORANJESTAD	ARUBA	12.5N	70.0W	1455	03/10
SABA	SABA	17.6N	63.2W	1505	03/10
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1506	03/10
JEREMIE	HAITI	18.6N	74.1W	1509	03/10
BASSETERRE	SAINT KITTS	17.3N	62.7W	1510	03/10
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1512	03/10
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1513	03/10
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1514	03/10
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1517	03/10
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1517	03/10
GRAND TURK	TURKS N CAICOS	21.5N	71.1W	1518	03/10
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1519	03/10
THE VALLEY	ANGUILLA	18.3N	63.1W	1522	03/10
CAP HAITEN	HAITI	19.8N	72.2W	1522	03/10
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1523	03/10
ROSEAU	DOMINICA	15.3N	61.4W	1523	03/10
WILLEMSTAD	CURACAO	12.1N	68.9W	1524	03/10
MAIQUETIA	VENEZUELA	10.6N	67.0W	1525	03/10
SANTA MARTA	COLOMBIA	11.2N	74.2W	1527	03/10
CASTRIES	SAINT LUCIA	14.0N	61.0W	1530	03/10
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1532	03/10
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1532	03/10
BARCOA	CUBA	20.4N	74.5W	1532	03/10
MAYAGUANA	BAHAMAS	22.3N	73.0W	1533	03/10
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1536	03/10
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1536	03/10
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1538	03/10
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1539	03/10
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1541	03/10
CARTAGENA	COLOMBIA	10.4N	75.6W	1542	03/10
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1546	03/10
PALMETTO POINT	BARBUDA	17.6N	61.9W	1549	03/10
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1549	03/10
KINGSTON	JAMAICA	17.9N	76.9W	1550	03/10
SAINT GEORGES	GRENADA	12.0N	61.8W	1551	03/10
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1551	03/10
CUMANA	VENEZUELA	10.5N	64.2W	1552	03/10
GIBARA	CUBA	21.1N	76.1W	1552	03/10
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1552	03/10
MONTEGO BAY	JAMAICA	18.5N	77.9W	1554	03/10
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1555	03/10
RIOHACHA	COLOMBIA	11.6N	72.9W	1556	03/10
LONG ISLAND	BAHAMAS	23.3N	75.1W	1558	03/10
BRIDGETOWN	BARBADOS	13.1N	59.6W	1558	03/10

GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1602	03/10
ALIGANDI	PANAMA	9.2N	78.0W	1603	03/10
EXUMA	BAHAMAS	23.6N	75.9W	1606	03/10
CAT ISLAND	BAHAMAS	24.4N	75.5W	1607	03/10
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1607	03/10
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1608	03/10
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1609	03/10
CIENFUEGOS	CUBA	22.0N	80.5W	1609	03/10
PUERTO CARRETO	PANAMA	8.8N	77.6W	1610	03/10
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1610	03/10
PORT AU PRINCE	HAITI	18.5N	72.4W	1613	03/10
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1613	03/10
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1621	03/10
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1622	03/10
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1626	03/10
NASSAU	BAHAMAS	25.1N	77.4W	1634	03/10
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1634	03/10
ESSO PIER	BERMUDA	32.4N	64.7W	1637	03/10
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1639	03/10
COLON	PANAMA	9.4N	79.9W	1643	03/10
FREEPORT	BAHAMAS	26.5N	78.8W	1646	03/10
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1649	03/10
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1654	03/10
BIMINI	BAHAMAS	25.8N	79.3W	1659	03/10
COZUMEL	MEXICO	20.5N	87.0W	1659	03/10
PUERTO CORTES	HONDURAS	15.9N	88.0W	1703	03/10
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1705	03/10

TEST... POTENTIAL IMPACTS ...TEST

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN
ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE
EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON
THE INTERNET AT EARTHQUAKE.USGS.GOV.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT
MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF
COAST... US EAST COAST... AND THE MARITIME PROVINCES OF
CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER
MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST
MESSAGE.

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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>

Email christa.vonh@noaa.gov to request password.

PTWC Message #2

ZCZC
WECA41 PHEB 101430
TSUCAX

WMO ID

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1430 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

* MAGNITUDE 8.0
* ORIGIN TIME 1400 UTC MAR 10 2022
* COORDINATES 17.6 NORTH 69.5 WEST
* DEPTH 3 KM / 2 MILES
* LOCATION DOMINICAN REPUBLIC REGION

TEST... EVALUATION ...TEST

-
- * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.0 OCCURRED IN THE DOMINICAN REPUBLIC REGION AT 1400 UTC ON THURSDAY MARCH 10 2022.
 - * THIS IS A TEST MESSAGE. TSUNAMI WAVES HAVE BEEN OBSERVED.
 - * THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

DOMINICAN REPUBLIC.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

COLOMBIA... HAITI... VENEZUELA... ARUBA... BONAIRE...
CURACAO... AND PUERTO RICO AND VIRGIN ISLANDS.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1 METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

COSTA RICA... CUBA... NICARAGUA... PANAMA... ANGUILLA...
ANTIGUA AND BARBUDA... BARBADOS... DOMINICA... GRENADA...
GUADELOUPE... JAMAICA... MARTINIQUE... MONTSERRAT... SABA
AND SAINT EUSTATIUS... SAINT BARTHELEMY... SAINT KITTS AND
NEVIS... SAINT LUCIA... SINT MAARTEN... SAINT MARTIN...
SAINT VINCENT AND THE GRENADINES... SAN ANDRES AND
PROVIDENCIA... AND TRINIDAD AND TOBAGO.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST

- * THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

- * THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

* THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THREATENED REGIONS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES		ETA (UTC)
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1415 03/10
JACAMEL	HAITI	18.1N	72.5W	1434 03/10
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1434 03/10
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1438 03/10
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1443 03/10
ONIMA	BONAIRE	12.3N	68.3W	1452 03/10
SAN JUAN	PUERTO RICO	18.5N	66.1W	1453 03/10
ORANJESTAD	ARUBA	12.5N	70.0W	1455 03/10
SABA	SABA	17.6N	63.2W	1505 03/10
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1506 03/10
JEREMIE	HAITI	18.6N	74.1W	1509 03/10
BASSETERRE	SAINT KITTS	17.3N	62.7W	1510 03/10
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1512 03/10
PLYMOUTH	MONTSERRAT	16.7N	62.2W	1513 03/10
SIMPSON BAAI	SINT MAARTEN	18.0N	63.1W	1514 03/10
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1517 03/10
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1517 03/10
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1519 03/10
THE VALLEY	ANGUILLA	18.3N	63.1W	1522 03/10
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1523 03/10
ROSEAU	DOMINICA	15.3N	61.4W	1523 03/10
WILLEMSTAD	CURACAO	12.1N	68.9W	1524 03/10
MAIQUETIA	VENEZUELA	10.6N	67.0W	1525 03/10
SANTA MARTA	COLOMBIA	11.2N	74.2W	1527 03/10
CASTRIES	SAINT LUCIA	14.0N	61.0W	1530 03/10
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1532 03/10
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1536 03/10
BAIE LUCAS	SAINT MARTIN	18.1N	63.0W	1536 03/10
BAIE GRAND CASE	SAINT MARTIN	18.1N	63.1W	1539 03/10
SAINT BARTHELEM	SAINT BARTHELEMY	17.9N	62.8W	1541 03/10
CARTAGENA	COLOMBIA	10.4N	75.6W	1542 03/10
PALMETTO POINT	BARBUDA	17.6N	61.9W	1549 03/10
KINGSTON	JAMAICA	17.9N	76.9W	1550 03/10
SAINT GEORGES	GRENADA	12.0N	61.8W	1551 03/10
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1551 03/10
CUMANA	VENEZUELA	10.5N	64.2W	1552 03/10
SANT JOHN	ANTIGUA	17.1N	61.9W	1552 03/10
MONTEGO BAY	JAMAICA	18.5N	77.9W	1554 03/10
BAIE BLANCHE	SAINT MARTIN	18.1N	63.0W	1555 03/10
RIOHACHA	COLOMBIA	11.6N	72.9W	1556 03/10
BRIDGETOWN	BARBADOS	13.1N	59.6W	1558 03/10
ALIGANDI	PANAMA	9.2N	78.0W	1603 03/10
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1607 03/10
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1609 03/10
CIENFUEGOS	CUBA	22.0N	80.5W	1609 03/10
PUERTO CARRETO	PANAMA	8.8N	77.6W	1610 03/10

PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1610 03/10
PORT AU PRINCE	HAITI	18.5N	72.4W	1613 03/10
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1622 03/10
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1626 03/10
PIRATES BAY	TRINIDAD TOBAGO	11.3N	60.6W	1634 03/10
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1639 03/10
COLON	PANAMA	9.4N	79.9W	1643 03/10
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1654 03/10
PORT OF SPAIN	TRINIDAD TOBAGO	10.6N	61.5W	1705 03/10
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1720 03/10
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1729 03/10
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1819 03/10
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1833 03/10
PORLAMAR	VENEZUELA	10.9N	63.8W	1913 03/10
NUEVA GERONA	CUBA	21.9N	82.8W	2010 03/10
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	2057 03/10

TEST... POTENTIAL IMPACTS ...TEST

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- * THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- * THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

TEST... TSUNAMI OBSERVATIONS ...TEST

- * THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD
	LAT	LON	(UTC)	HEIGHT	(MIN)
DART 42407	15.3N	68.2W	1428	0.14M/ 0.5FT	24
MONA ISLAND PR	18.1N	67.9W	1423	1.91M/ 6.3FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

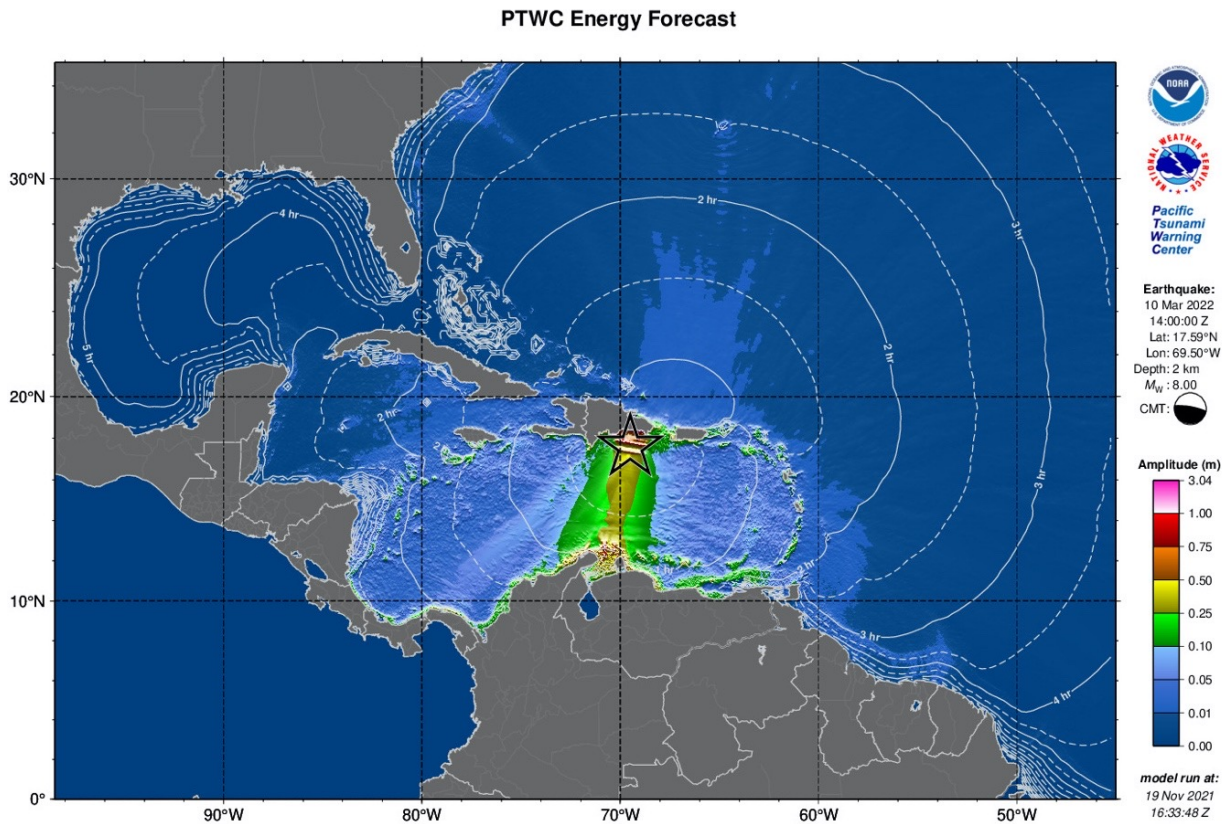
-
- * THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
 - * THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV.
 - * THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.
 - * THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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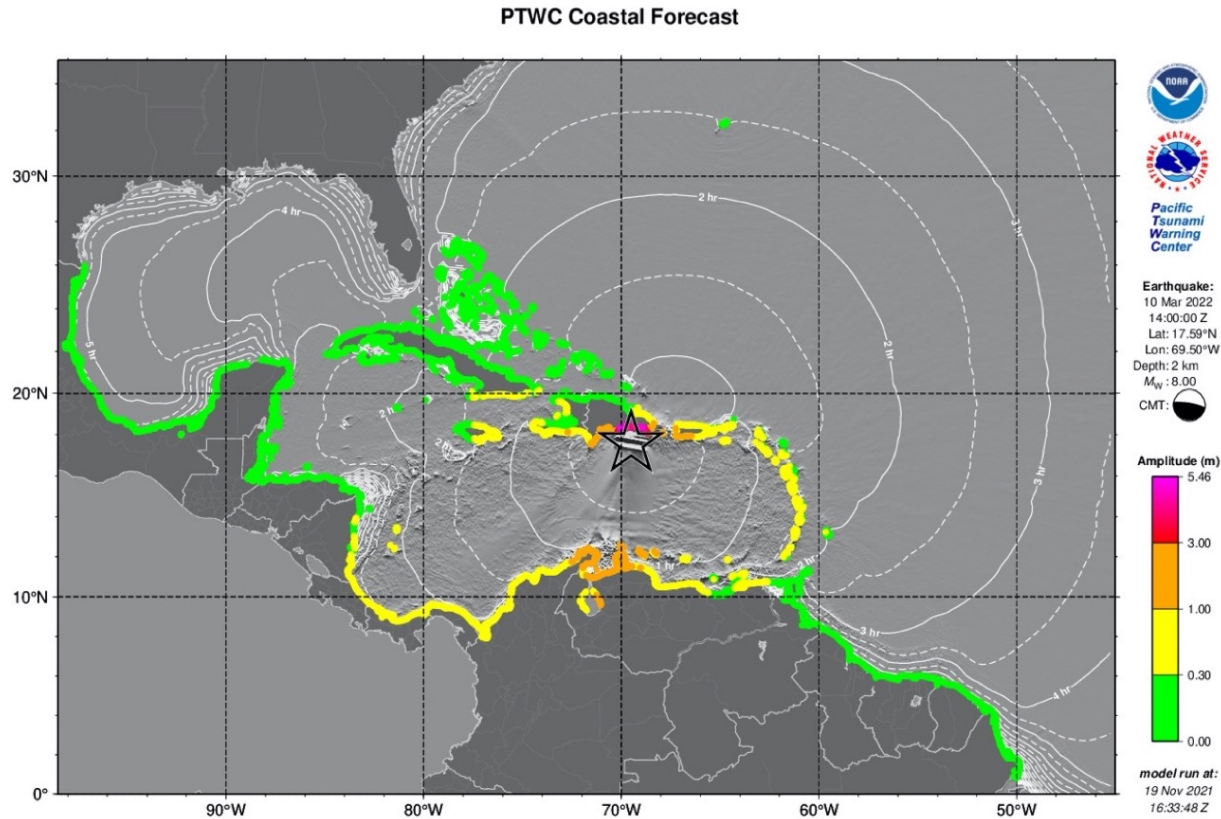
Energy Forecast for Tsunami Wave Heights Western Muertos Trough



RIFT maximum amplitude map based on the scenario for Western Muertos Trough.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

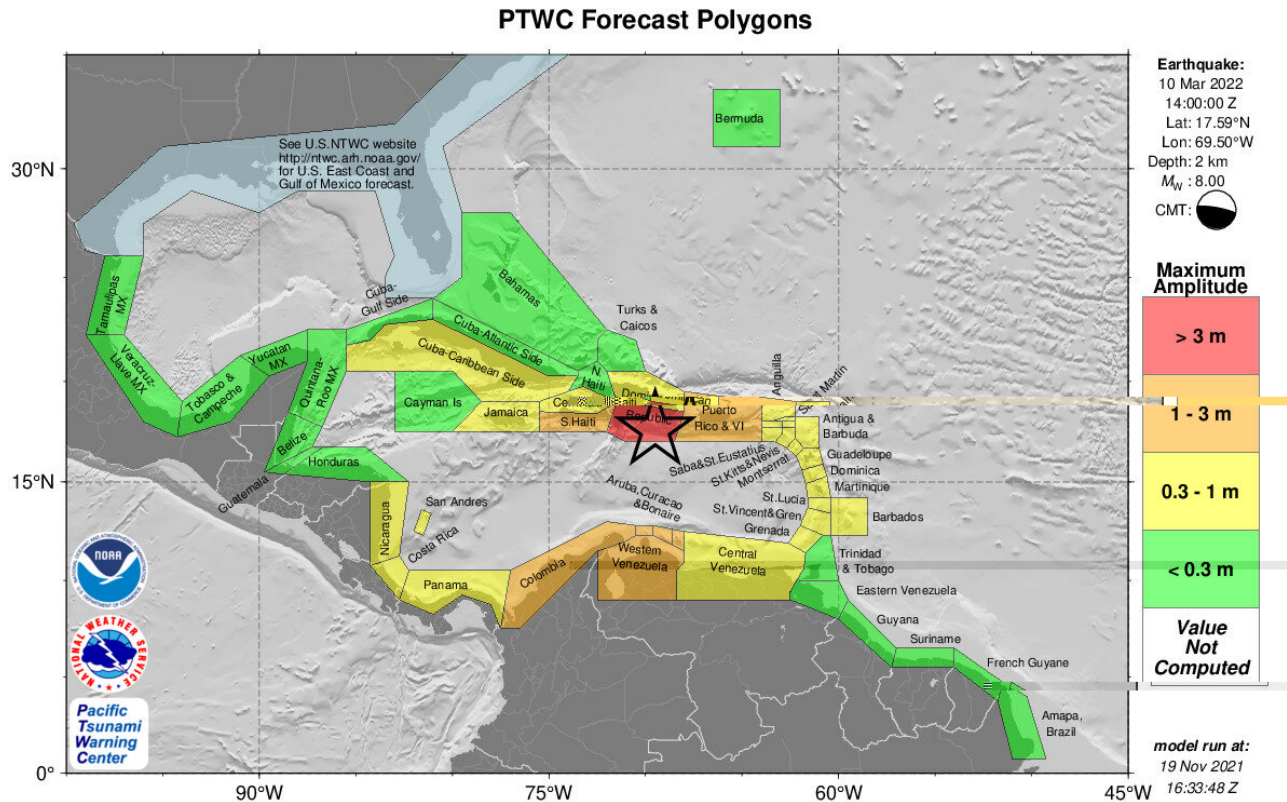
Coastal Forecast for Tsunami Wave Heights Western Muertos Trough



RIFT coastal tsunami amplitude map based on the scenario for Western Muertos Trough.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Polygons Forecast for Tsunami Wave Heights Western Muertos Trough

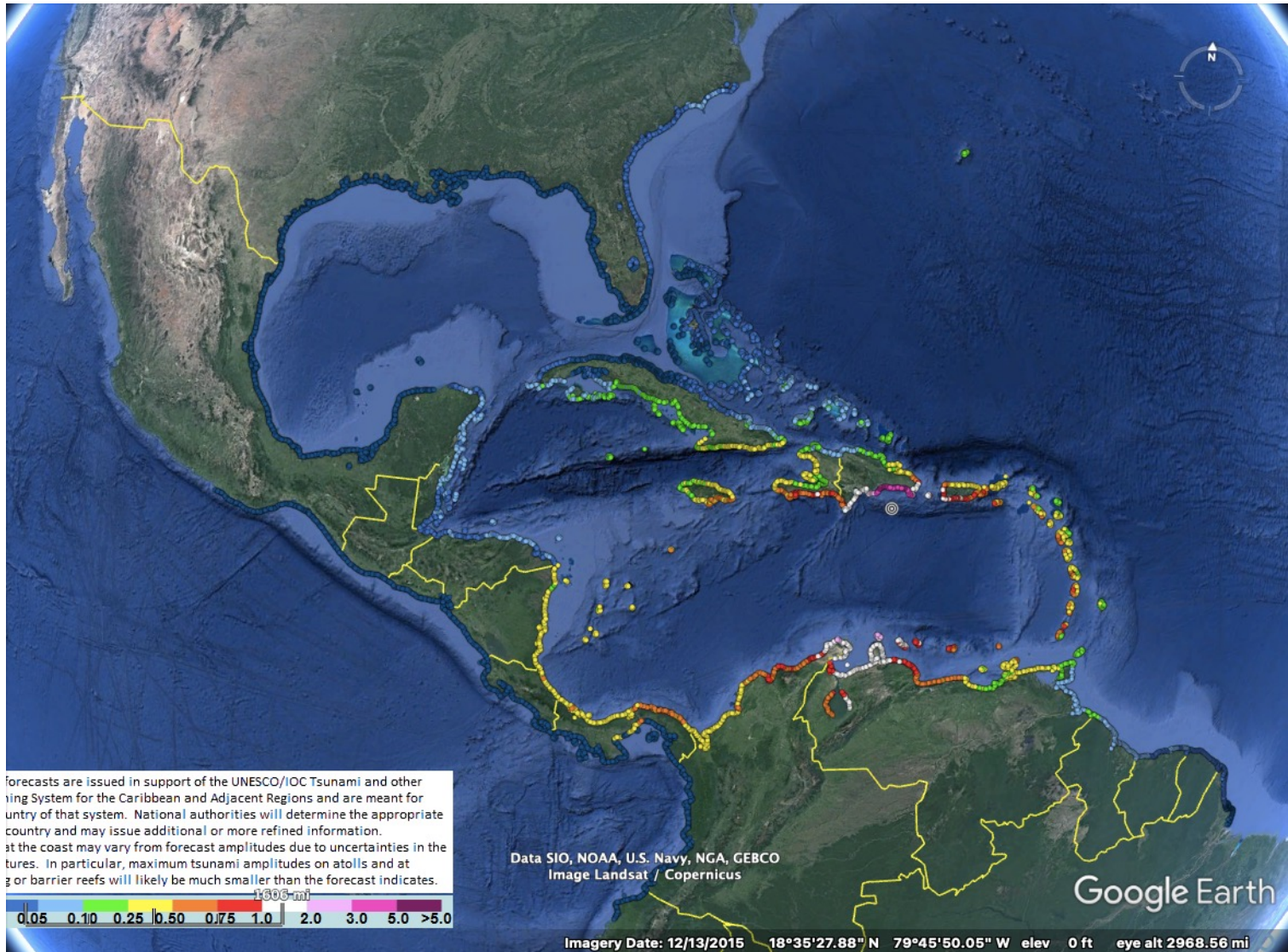


RIFT forecast polygons for the Caribbean region on the Western Muertos Trough scenario.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

KMZ

Western Muertos Trough



Forecast Statistics for Regional Polygons*

Western Muertos Trough

Region_Name	Coastal Forecast (meters)				Offshore Forecast (meters)				Total Points
	Maximum	Mean	Median	STD	Maximum	Mean	Median	STD	
Caribbean_Coast_of_Dominican_Republic	5.5	2.20	1.40	1.40	3.0	0.90	0.60	0.67	151
Aruba	2.8	2.20	2.20	0.38	1.3	0.74	0.63	0.25	13
Caribbean_Coast_of_Colombia	2.0	0.69	0.57	0.38	0.97	0.21	0.17	0.15	316
Curacao	1.8	1.20	1.20	0.26	0.93	0.48	0.46	0.19	26
Western_Coast_of_Venezuela	1.7	1.10	1.10	0.29	0.80	0.24	0.19	0.19	255
Bonaire	1.4	0.99	0.94	0.14	0.75	0.44	0.40	0.17	15
Puerto_Rico_and_Virgin_Islands	1.3	0.60	0.55	0.25	0.76	0.20	0.16	0.13	224
Central_Coast_of_Venezuela	1.0	0.37	0.34	0.15	0.62	0.16	0.12	0.09	347
Caribbean_Coast_of_Haiti	1.0	0.70	0.70	0.15	0.63	0.22	0.20	0.10	98
Caribbean_Coast_of_Panama	0.84	0.47	0.46	0.13	0.45	0.17	0.15	0.09	206
Saint_Lucia	0.79	0.48	0.54	0.18	0.42	0.20	0.18	0.09	28
Grenada	0.78	0.48	0.53	0.22	0.32	0.16	0.15	0.06	28
Atlantic_Coast_of_Dominican_Republic	0.76	0.25	0.22	0.16	0.45	0.09	0.07	0.08	150
Martinique	0.69	0.45	0.47	0.12	0.62	0.18	0.15	0.10	40
Saint_Vincent_and_the_Grenadines	0.67	0.49	0.48	0.12	0.30	0.17	0.16	0.06	25
Jamaica	0.63	0.36	0.34	0.13	0.41	0.13	0.11	0.07	146
Guadeloupe	0.61	0.37	0.37	0.11	0.29	0.14	0.13	0.05	67
Saint_Kitts_and_Nevis	0.61	0.40	0.38	0.11	0.33	0.15	0.13	0.07	28
Dominica	0.60	0.41	0.41	0.09	0.19	0.12	0.11	0.03	30
Montserrat	0.59	0.42	0.40	0.09	0.20	0.13	0.12	0.03	11
San_Andres_and_Providencia	0.52	0.34	0.31	0.08	0.25	0.12	0.10	0.05	18
Saba_and_Saint_Eustatius	0.52	0.39	0.36	0.07	0.24	0.15	0.14	0.06	5
Caribbean_Coast_of_Costa_Rica	0.52	0.44	0.43	0.04	0.35	0.19	0.18	0.06	48
Caribbean_Coast_of_Nicaragua	0.50	0.31	0.30	0.07	0.14	0.04	0.04	0.03	137
Antigua_and_Barbuda	0.45	0.27	0.20	0.11	0.17	0.12	0.12	0.03	32
Gulf_of_Gonave_Coast_of_Haiti	0.45	0.24	0.25	0.07	0.26	0.07	0.06	0.04	155
Saint_Martin	0.44	0.37	0.35	0.03	0.15	0.14	0.15	0.01	7
Sint_Maarten	0.44	0.39	0.38	0.03	0.16	0.13	0.13	0.02	5
Caribbean_Coast_of_Cuba	0.40	0.14	0.11	0.10	0.22	0.03	0.02	0.03	519
Anguilla	0.39	0.31	0.32	0.08	0.17	0.14	0.14	0.02	8
Saint_Barthelemy	0.39	0.32	0.39	0.11	0.16	0.13	0.13	0.02	6
Barbados	0.32	0.19	0.19	0.05	0.16	0.09	0.09	0.03	20
Trinidad_and_Tobago	0.30	0.14	0.17	0.06	0.12	0.04	0.04	0.03	107
Atlantic_Coast_of_Haiti	0.28	0.11	0.10	0.04	0.09	0.03	0.03	0.01	74
Cayman_Islands	0.20	0.12	0.11	0.03	0.05	0.03	0.04	0.01	11
Bermuda	0.19	0.16	0.16	0.02	0.19	0.06	0.04	0.04	15
Atlantic_Coast_of_Cuba	0.15	0.03	0.01	0.03	0.07	0.01	0.00	0.01	425
Bahamas	0.15	0.03	0.02	0.03	0.07	0.01	0.00	0.01	1151
Atlantic_Coast_of_Venezuela	0.13	0.09	0.10	0.02	0.04	0.01	0.01	0.01	107
Turks_and_Caicos_Islands	0.12	0.07	0.07	0.02	0.06	0.03	0.02	0.01	119
Guyana	0.11	0.07	0.07	0.01	0.03	0.01	0.01	0.00	112
Quintana_Roo_Mexico	0.09	0.06	0.06	0.01	0.04	0.01	0.01	0.01	194
Yucatan_Mexico	0.08	0.01	0.00	0.02	0.01	0.00	0.00	0.00	69
Belize	0.08	0.05	0.05	0.01	0.02	0.01	0.01	0.00	151
Caribbean_Coast_of_Honduras	0.07	0.05	0.05	0.01	0.05	0.01	0.01	0.01	193
Suriname	0.07	0.05	0.05	0.01	0.03	0.01	0.01	0.00	107
Gulf_of_Mexico_Coast_of_Cuba	0.06	0.01	0.01	0.01	0.02	0.00	0.00	0.00	117
Caribbean_Coast_of_Guatemala	0.05	0.03	0.04	0.01	0.01	0.01	0.01	0.00	35
French_Guyane	0.04	0.02	0.02	0.01	0.02	0.01	0.00	0.00	87
Amapa_Brazil	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	170

*Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on small islands will likely be much smaller than the forecast indicates.

PTWC Message #8

ZCZC
WECA41 PHEB 102000 **WMO ID**
TSUCAX **AWIPS ID**

TEST...TSUNAMI MESSAGE NUMBER 8...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
2000 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST FINAL TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

- * MAGNITUDE 8.0
- * ORIGIN TIME 1400 UTC MAR 10 2022
- * COORDINATES 17.6 NORTH 69.5 WEST
- * DEPTH 3 KM / 2 MILES
- * LOCATION DOMINICAN REPUBLIC REGION

TEST... EVALUATION ...TEST

- * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.0 OCCURRED IN THE DOMINICAN REPUBLIC REGION AT 1400 UTC ON THURSDAY MARCH 10 2022.
- * THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS PASSED AND THERE IS NO FURTHER THREAT.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST

* THIS IS A TEST MESSAGE. THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

TEST... RECOMMENDED ACTIONS ...TEST

- * THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.
- * THIS IS A TEST MESSAGE. PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.
- * THIS IS A TEST MESSAGE. REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

TEST... POTENTIAL IMPACTS ...TEST

- * THIS IS A TEST MESSAGE. MINOR SEA LEVEL FLUCTUATIONS UP TO 30 CM ABOVE AND BELOW THE NORMAL TIDE MAY OCCUR IN COASTAL AREAS NEAR THE EARTHQUAKE OVER THE NEXT FEW HOURS... AND CONTINUING FOR UP TO SEVERAL HOURS.

TEST... TSUNAMI OBSERVATIONS ...TEST

- * THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	GAUGE COORDINATES		TIME OF MEASURE	MAXIMUM TSUNAMI HEIGHT	WAVE PERIOD
	LAT	LOX	(UTC)		(MIN)
BEAUFORT NC	34.7N	76.7W	1845	0.07M/	0.2FT 28
PORT OF BELIZE BZ	17.5N	88.2W	1827	0.05M/	0.2FT 24
CORN ISLAND NI	12.3N	83.1W	1738	0.54M/	1.8FT 20
CEIBA CABOTAGE HN	15.8N	86.8W	1721	0.06M/	0.2FT 20
PUERTO CORTES HN	15.8N	88.0W	1717	0.08M/	0.2FT 20
PUERTO MORELOS MX	20.9N	86.9W	1708	0.10M/	0.3FT 18
PUERTO MORELOS MX	20.9N	86.9W	1701	0.10M/	0.3FT 24

PUERTO MORELOS MX	20.9N	86.9W	1702	0.10M/	0.3FT	18
ROATAN ISLAND HN	16.3N	86.5W	1650	0.05M/	0.2FT	28
LIMON CR	10.0N	83.0W	1650	0.64M/	2.1FT	18
BERMUDA UK	32.4N	64.7W	1651	0.32M/	1.1FT	20
BERMUDA BIO STA UK	32.4N	64.7W	1651	0.21M/	0.7FT	22
SCARBOROUGH TT	11.2N	60.7W	1639	0.23M/	0.7FT	26
SAPZURRO CO	8.7N	77.4W	1631	0.55M/	1.8FT	22
EL PORVENIR PA	9.6N	78.9W	1622	1.20M/	3.9FT	24
PORT AU PRINCE HT	18.5N	72.4W	1621	0.35M/	1.1FT	28
SAN ANDRES CO	12.6N	81.7W	1625	0.40M/	1.3FT	18
TORTOLA VI UK	18.4N	64.6W	1618	1.01M/	3.3FT	14
GEORGE TOWN KY	19.3N	81.4W	1605	0.15M/	0.5FT	18
BARBUDA AG	17.6N	61.8W	1606	0.24M/	0.8FT	24
PORT ST CHARLES BB	13.3N	59.6W	1609	0.29M/	1.0FT	26
GANTERS BAY ST LUCI	14.0N	61.0W	1606	0.79M/	2.6FT	22
PRICKLEY BAY GD	12.0N	61.8W	1601	0.89M/	2.9FT	22
PORT ROYAL JM	17.9N	76.8W	1601	0.76M/	2.5FT	26
ISLA NAVAL CO	10.2N	75.8W	1557	0.76M/	2.5FT	16
LE ROBERT MARTINIQU	14.7N	60.9W	1555	0.31M/	1.0FT	22
CALLIAQUA VC	13.1N	61.2W	1549	0.93M/	3.0FT	26
BLOWING POINT AI	18.2N	63.1W	1546	0.58M/	1.9FT	22
PARHAM AT	17.1N	61.8W	1543	0.29M/	1.0FT	18
DESIRADE GUADELOUPE	16.3N	61.1W	1548	0.24M/	0.8FT	28
POINT A PITRE GP	16.2N	61.5W	1547	0.47M/	1.5FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1538	0.85M/	2.8FT	14
SAINT MARTIN FR	18.1N	63.1W	1543	0.55M/	1.8FT	26
CULEBRA IS PR	18.3N	65.3W	1538	1.08M/	3.5FT	28
SANTA MARTA CO	11.2N	74.2W	1534	1.04M/	3.4FT	28
LE PRECHEUR MARTINI	14.8N	61.2W	1530	0.62M/	2.0FT	22
ROSEAU DM	15.3N	61.4W	1530	0.66M/	2.2FT	16
CHARLOTTE-AMALIE VI	18.3N	64.9W	1531	0.46M/	1.5FT	28
CAP HAITIEN HT	19.8N	72.2W	1536	0.14M/	0.5FT	22
PORTSMOUTH DM	15.6N	61.5W	1536	0.82M/	2.7FT	28
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1530	0.53M/	1.7FT	16
DESHAIES GUADELOUPE	16.3N	61.8W	1529	0.75M/	2.5FT	18
GRAND TURK ISLAND T	21.4N	71.1W	1527	0.11M/	0.4FT	20
BASSETERRE KN	17.3N	62.7W	1516	0.35M/	1.1FT	24
PUERTO PLATA DO	19.8N	70.7W	1518	0.22M/	0.7FT	26
ISABELII VIEQUES PR	18.2N	65.4W	1508	0.89M/	2.9FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1508	1.09M/	3.6FT	26
ORANGESTAD AW	12.5N	70.0W	1501	3.57M/	11.7FT	26
SAN JUAN PR	18.5N	66.1W	1507	0.70M/	2.3FT	26
ARECIBO PR	18.5N	66.7W	1500	0.58M/	1.9FT	20
ESPERANZA VIEQUES P	18.1N	65.5W	1459	0.88M/	2.9FT	22
LIMETREE VI	17.7N	64.8W	1455	0.84M/	2.8FT	22
ST CROIX VI	17.7N	64.7W	1452	0.74M/	2.4FT	16
YABUCA PR	18.1N	65.8W	1448	1.20M/	3.9FT	24
MAYAGUEZ PR	18.2N	67.2W	1447	1.30M/	4.3FT	14

PUNTA CANA DO	18.5N	68.4W	1440	2.03M/	6.6FT	20
DART 42407	15.3N	68.2W	1428	0.14M/	0.5FT	24
BARAHONA DO	18.2N	71.1W	1432	3.05M/	10.0FT	22
MONA ISLAND PR	18.1N	67.9W	1423	1.91M/	6.3FT	16

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

* THIS IS A TEST MESSAGE. THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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Northern Panama Scenario

Message Chronology issued by the PTWC

Northern Panama

Date	Time (UTC)	PTWC	
		Type of Product	Transmission Method
3/11/22	1400	---- Earthquake Occurs ----	
3/10/22	1400	Dummy	NWWS, GTS, EMWIN, AISR, Fax, Email
3/10/22	1407	Initial Tsunami Threat Message #1	Email
3/10/22	1430	Tsunami Threat Message #2 with Forecast and Graphical Enhanced Products	Email
3/10/22	1500	Tsunami Threat Message #3 with Forecast and Supplement with Observations	Email
3/10/22	1600	Tsunami Threat Message #4 with Forecast and Supplement with Observations	Email
3/10/22	1700	Tsunami Threat Message #5 with Forecast and Supplement with Observations	Email
3/10/22	1800	Tsunami Threat Message #6 with Forecast and Supplement with Observations	Email
3/10/22	1900	Tsunami Threat Message #7 with Forecast and Supplement with Observations	Email
3/10/22	2000	Final Tsunami Threat Message #8	Email

PTWC Message #1

ZCZC

WECA41 PHEB 101407

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 1...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1407 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

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**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

* MAGNITUDE 8.3
* ORIGIN TIME 1400 UTC MAR 10 2022
* COORDINATES 9.4 NORTH 80.3 WEST
* DEPTH 25 KM / 16 MILES
* LOCATION PANAMA

TEST... EVALUATION ...TEST

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.3 OCCURRED IN PANAMA AT 1400 UTC ON THURSDAY MARCH 10 2022.

* THIS IS A TEST MESSAGE. BASED ON THE PRELIMINARY EARTHQUAKE PARAMETERS... WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TEST... TSUNAMI THREAT FORECAST ...TEST

* THIS IS A TEST MESSAGE. HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

PANAMA... COSTA RICA... SAN ANDRES PROVID... COLOMBIA...
NICARAGUA... HAITI... CAYMAN ISLANDS... ARUBA...
JAMAICA... CUBA... BONAIRE... DOMINICAN REP... BAHAMAS...
CURACAO... PUERTO RICO... TURKS N CAICOS... US VIRGIN IS
AND VENEZUELA

TEST... RECOMMENDED ACTIONS ...TEST

- * THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.
- * THIS IS A TEST MESSAGE. PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND LOCAL AUTHORITIES.

TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

- * THIS IS A TEST MESSAGE. ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE FOR PLACES WITHIN THE REGION IDENTIFIED WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	REGION	COORDINATES	ETA (UTC)
COLON	PANAMA	9.4N 79.9W	1443 03/10
PUERTO LIMON	COSTA RICA	10.0N 83.0W	1446 03/10
ALIGANDI	PANAMA	9.2N 78.0W	1448 03/10
PROVIDENCIA	SAN ANDRES PROVI	12.6N 81.7W	1450 03/10
SAN ANDRES	SAN ANDRES PROVI	13.4N 81.4W	1455 03/10
BOCAS DEL TORO	PANAMA	9.4N 82.2W	1456 03/10
PUERTO CARRETO	PANAMA	8.8N 77.6W	1503 03/10
CARTAGENA	COLOMBIA	10.4N 75.6W	1509 03/10
PUERTO OBALDIA	PANAMA	8.7N 77.4W	1517 03/10
PUNTA CARIBANA	COLOMBIA	8.6N 76.9W	1526 03/10
SANTA MARTA	COLOMBIA	11.2N 74.2W	1527 03/10
BARRANQUILLA	COLOMBIA	11.1N 74.9W	1542 03/10
PUNTA GORDA	NICARAGUA	11.4N 83.8W	1545 03/10
JACAMEL	HAITI	18.1N 72.5W	1558 03/10
CAYMAN BRAC	CAYMAN ISLANDS	19.7N 79.9W	1610 03/10
ORANJESTAD	ARUBA	12.5N 70.0W	1612 03/10
JEREMIE	HAITI	18.6N 74.1W	1614 03/10
KINGSTON	JAMAICA	17.9N 76.9W	1615 03/10
SANTIAGO D CUBA	CUBA	19.9N 75.8W	1616 03/10
RIOHACHA	COLOMBIA	11.6N 72.9W	1617 03/10
GRAND CAYMAN	CAYMAN ISLANDS	19.3N 81.3W	1618 03/10
ONIMA	BONAIRE	12.3N 68.3W	1622 03/10
SANTO DOMINGO	DOMINICAN REP	18.5N 69.9W	1628 03/10
MONTEGO BAY	JAMAICA	18.5N 77.9W	1634 03/10

BARACOA	CUBA	20.4N	74.5W	1637	03/10
CIENFUEGOS	CUBA	22.0N	80.5W	1638	03/10
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1643	03/10
WILLEMSTAD	CURACAO	12.1N	68.9W	1646	03/10
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1647	03/10
CAP HAITEN	HAITI	19.8N	72.2W	1649	03/10
CABO ENGANO	DOMINICAN REP	18.6N	68.3W	1653	03/10
WEST CAICOS	TURKS N CAICOS	21.7N	72.5W	1653	03/10
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1654	03/10
GIBARA	CUBA	21.1N	76.1W	1657	03/10
MAYAGUANA	BAHAMAS	22.3N	73.0W	1657	03/10
MAIQUETIA	VENEZUELA	10.6N	67.0W	1659	03/10
PUERTO PLATA	DOMINICAN REP	19.8N	70.7W	1700	03/10
SAN JUAN	PUERTO RICO	18.5N	66.1W	1706	03/10

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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TEST... POTENTIAL IMPACTS ...TEST

- * THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.
- * THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.
- * THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.
- * THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR BE SWEEPED OUT TO SEA.

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

- * THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.
- * THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV.
- * THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.
- * THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

PTWC Message #2

ZCZC

WECA41 PHEB 101430

WMO ID

TSUCAX

AWIPS ID

TEST...TSUNAMI MESSAGE NUMBER 2...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1430 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...

...TEST TSUNAMI THREAT MESSAGE TEST...

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INFORMATION
ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL
HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS
AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT
SYSTEM.

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THE
APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE
ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

* MAGNITUDE 8.3
* ORIGIN TIME 1400 UTC MAR 10 2022
* COORDINATES 9.4 NORTH 80.3 WEST
* DEPTH 25 KM / 16 MILES
* LOCATION PANAMA

TEST... EVALUATION ...TEST

* THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY
MAGNITUDE OF 8.3 OCCURRED IN PANAMA AT 1400 UTC ON
THURSDAY MARCH 10 2022.

* THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA...
HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING MORE THAN 3
METERS ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS
OF

NICARAGUA... PANAMA... AND SAN ANDRES AND PROVIDENCIA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 1 TO 3 METERS
ABOVE THE TIDE LEVEL ARE POSSIBLE ALONG SOME COASTS OF

COLOMBIA... COSTA RICA... AND JAMAICA.

* THIS IS A TEST MESSAGE. TSUNAMI WAVES REACHING 0.3 TO 1
METERS ABOVE THE TIDE LEVEL ARE POSSIBLE FOR SOME COASTS OF

CUBA... DOMINICAN REPUBLIC... HAITI... HONDURAS...
MEXICO... VENEZUELA... ANTIGUA AND BARBUDA... ARUBA...
BAHAMAS... BONAIRE... CAYMAN ISLANDS... CURACAO...
GUADELOUPE... MARTINIQUE... MONTSERRAT... PUERTO RICO AND
VIRGIN ISLANDS... SABA AND SAINT EUSTATIUS... SAINT KITTS
AND NEVIS... SAINT LUCIA... AND SAINT VINCENT AND THE
GRENADINES.

* THIS IS A TEST MESSAGE. ACTUAL AMPLITUDES AT THE COAST MAY
VARY FROM FORECAST AMPLITUDES DUE TO UNCERTAINTIES IN THE
FORECAST AND LOCAL FEATURES. IN PARTICULAR MAXIMUM TSUNAMI
AMPLITUDES ON ATOLLS OR SMALL ISLANDS AND AT LOCATIONS WITH
FRINGING OR BARRIER REEFS WILL LIKELY BE MUCH SMALLER THAN
THE FORECAST INDICATES.

* THIS IS A TEST MESSAGE. FOR ALL OTHER AREAS COVERED BY THIS
MESSAGE... THERE IS NO TSUNAMI THREAT ALTHOUGH SMALL SEA
LEVEL CHANGES MAY OCCUR.

TEST... RECOMMENDED ACTIONS ...TEST

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TEST... ESTIMATED TIMES OF ARRIVAL ...TEST

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LOCATION	REGION	COORDINATES		ETA(UTC)
COLON	PANAMA	9.4N	79.9W	1443 03/10
PUERTO LIMON	COSTA RICA	10.0N	83.0W	1446 03/10
ALIGANDI	PANAMA	9.2N	78.0W	1448 03/10
PROVIDENCIA	SAN ANDRES PROVI	12.6N	81.7W	1450 03/10
SAN ANDRES	SAN ANDRES PROVI	13.4N	81.4W	1455 03/10
BOCAS DEL TORO	PANAMA	9.4N	82.2W	1456 03/10
PUERTO CARRETO	PANAMA	8.8N	77.6W	1503 03/10
CARTAGENA	COLOMBIA	10.4N	75.6W	1509 03/10
PUERTO OBALDIA	PANAMA	8.7N	77.4W	1517 03/10
PUNTA CARIBANA	COLOMBIA	8.6N	76.9W	1526 03/10
SANTA MARTA	COLOMBIA	11.2N	74.2W	1527 03/10
BARRANQUILLA	COLOMBIA	11.1N	74.9W	1542 03/10
PUNTA GORDA	NICARAGUA	11.4N	83.8W	1545 03/10
JACAMEL	HAITI	18.1N	72.5W	1558 03/10
CAYMAN BRAC	CAYMAN ISLANDS	19.7N	79.9W	1610 03/10
ORANJESTAD	ARUBA	12.5N	70.0W	1612 03/10
JEREMIE	HAITI	18.6N	74.1W	1614 03/10
KINGSTON	JAMAICA	17.9N	76.9W	1615 03/10
SANTIAGO D CUBA	CUBA	19.9N	75.8W	1616 03/10
RIOHACHA	COLOMBIA	11.6N	72.9W	1617 03/10
GRAND CAYMAN	CAYMAN ISLANDS	19.3N	81.3W	1618 03/10
ONIMA	BONAIRE	12.3N	68.3W	1622 03/10
SANTO DOMINGO	DOMINICAN REP	18.5N	69.9W	1628 03/10
MONTAGO BAY	JAMAICA	18.5N	77.9W	1634 03/10
BARACOA	CUBA	20.4N	74.5W	1637 03/10
CIENFUEGOS	CUBA	22.0N	80.5W	1638 03/10
GREAT INAGUA	BAHAMAS	20.9N	73.7W	1643 03/10
WILLEMSTAD	CURACAO	12.1N	68.9W	1646 03/10
MAYAGUEZ	PUERTO RICO	18.2N	67.2W	1647 03/10
CAP HAITEN	HAITI	19.8N	72.2W	1649 03/10
CHRISTIANSTED	US VIRGIN IS	17.7N	64.7W	1654 03/10
GIBARA	CUBA	21.1N	76.1W	1657 03/10
MAYAGUANA	BAHAMAS	22.3N	73.0W	1657 03/10

MAIQUETIA	VENEZUELA	10.6N	67.0W	1659 03/10
SAN JUAN	PUERTO RICO	18.5N	66.1W	1706 03/10
PUERTO CORTES	HONDURAS	15.9N	88.0W	1713 03/10
COZUMEL	MEXICO	20.5N	87.0W	1713 03/10
SABA	SABA	17.6N	63.2W	1715 03/10
LONG ISLAND	BAHAMAS	23.3N	75.1W	1716 03/10
BASSETERRE	SAINT KITTS	17.3N	62.7W	1717 03/10
SAN SALVADOR	BAHAMAS	24.1N	74.5W	1717 03/10
PORT AU PRINCE	HAITI	18.5N	72.4W	1718 03/10
PLYMOUTH	MONTSEERRAT	16.7N	62.2W	1718 03/10
SINT EUSTATIUS	SINT EUSTATIUS	17.5N	63.0W	1720 03/10
BASSE TERRE	GUADELOUPE	16.0N	61.7W	1720 03/10
CASTRIES	SAINT LUCIA	14.0N	61.0W	1724 03/10
KINGSTOWN	SAINT VINCENT	13.1N	61.2W	1725 03/10
EXUMA	BAHAMAS	23.6N	75.9W	1727 03/10
FORT DE FRANCE	MARTINIQUE	14.6N	61.1W	1728 03/10
ANEGADA	BR VIRGIN IS	18.8N	64.3W	1729 03/10
CUMANA	VENEZUELA	10.5N	64.2W	1731 03/10
CROOKED ISLAND	BAHAMAS	22.7N	74.1W	1732 03/10
CHARLOTTE AMALI	US VIRGIN IS	18.3N	64.9W	1734 03/10
CAT ISLAND	BAHAMAS	24.4N	75.5W	1735 03/10
ELEUTHERA ISLAN	BAHAMAS	25.2N	76.1W	1744 03/10
ANDROS ISLAND	BAHAMAS	25.0N	77.9W	1752 03/10
SAINT JOHNS	ANTIGUA	17.1N	61.9W	1757 03/10
TRUJILLO	HONDURAS	15.9N	86.0W	1759 03/10
PALMETTO POINT	BARBUDA	17.6N	61.9W	1800 03/10
NASSAU	BAHAMAS	25.1N	77.4W	1805 03/10
FREEPORT	BAHAMAS	26.5N	78.8W	1817 03/10
ROADTOWN	BR VIRGIN IS	18.4N	64.6W	1821 03/10
ABACO ISLAND	BAHAMAS	26.6N	77.1W	1822 03/10
BIMINI	BAHAMAS	25.8N	79.3W	1830 03/10
PUNTO FIJO	VENEZUELA	11.7N	70.2W	1832 03/10
SANTA CRZ D SUR	CUBA	20.7N	78.0W	1913 03/10
GOLFO VENEZUELA	VENEZUELA	11.4N	71.2W	1931 03/10
PUERTO CABEZAS	NICARAGUA	14.0N	83.4W	1944 03/10
NUEVA GERONA	CUBA	21.9N	82.8W	2029 03/10
PORLAMAR	VENEZUELA	10.9N	63.8W	2055 03/10

TEST... POTENTIAL IMPACTS ...TEST

* THIS IS A TEST MESSAGE. A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

* THIS IS A TEST MESSAGE. IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION OF THE SHORELINE.

* THIS IS A TEST MESSAGE. IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT THE TIME OF THE MAXIMUM TSUNAMI WAVES.

* THIS IS A TEST MESSAGE. PERSONS CAUGHT IN THE WATER OF A
TSUNAMI MAY DROWN... BE CRUSHED BY DEBRIS IN THE WATER... OR
BE SWEEPED OUT TO SEA.

TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

* THIS IS A TEST MESSAGE. THE NEXT MESSAGE WILL BE ISSUED IN
ONE HOUR... OR SOONER IF THE SITUATION WARRANTS.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE
EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON
THE INTERNET AT EARTHQUAKE.USGS.GOV.

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT
MAY BE FOUND AT WWW.TSUNAMI.GOV.

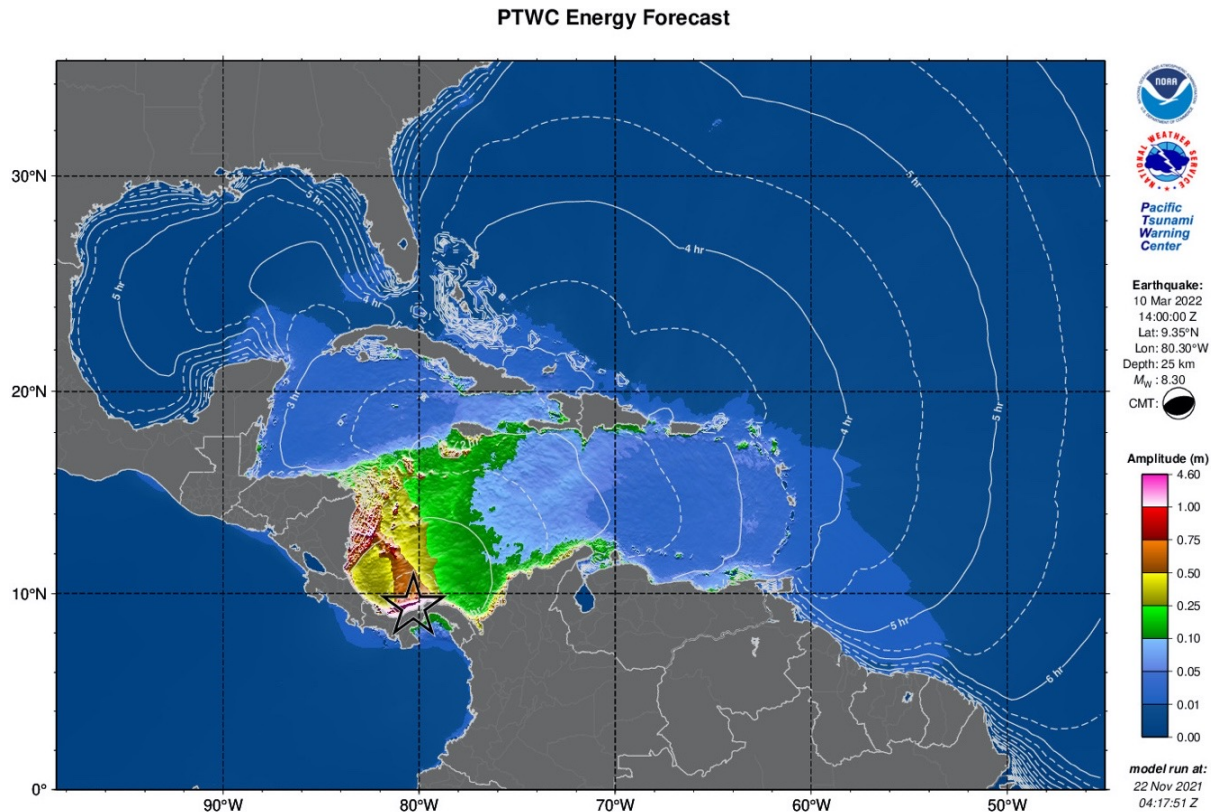
* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF
COAST... US EAST COAST... AND THE MARITIME PROVINCES OF
CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER
MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST
MESSAGE.

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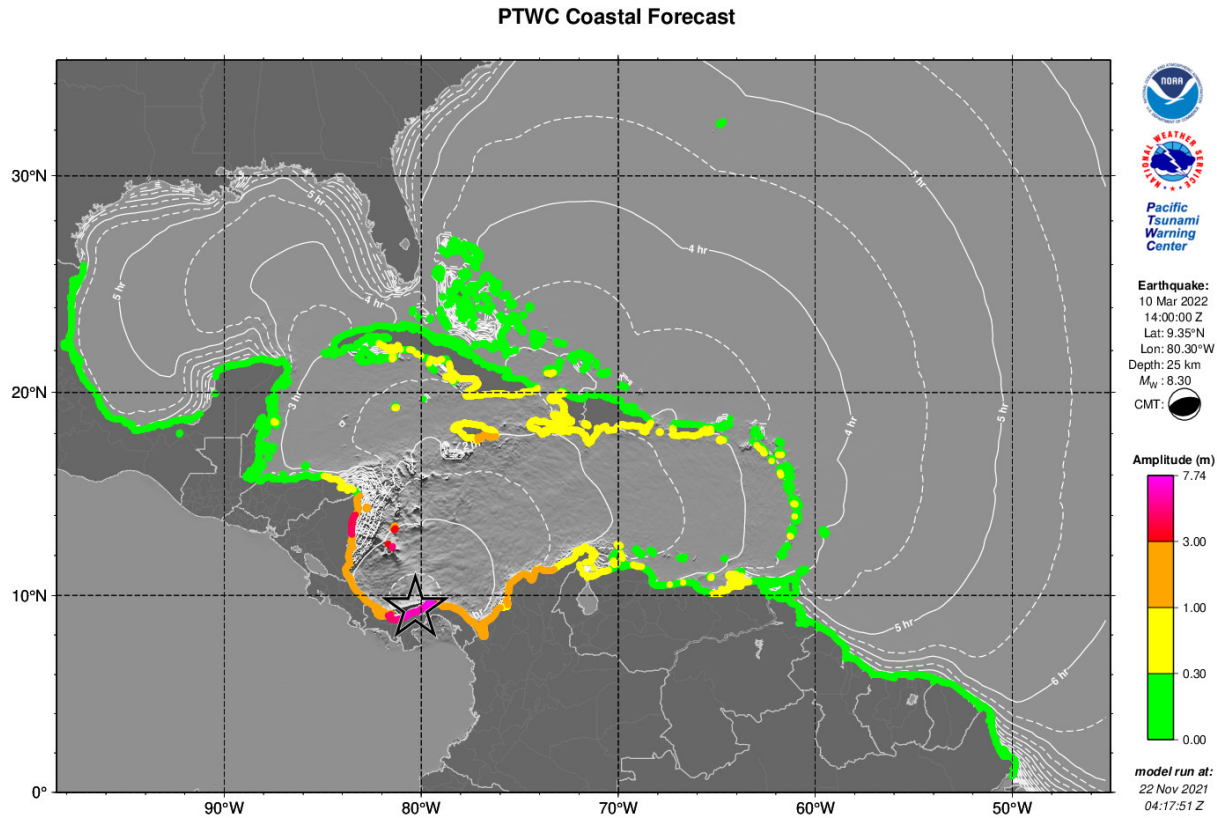
Energy Forecast for Tsunami Wave Heights Northern Panama



RIFT maximum amplitude map based on the scenario for Northern Panama.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

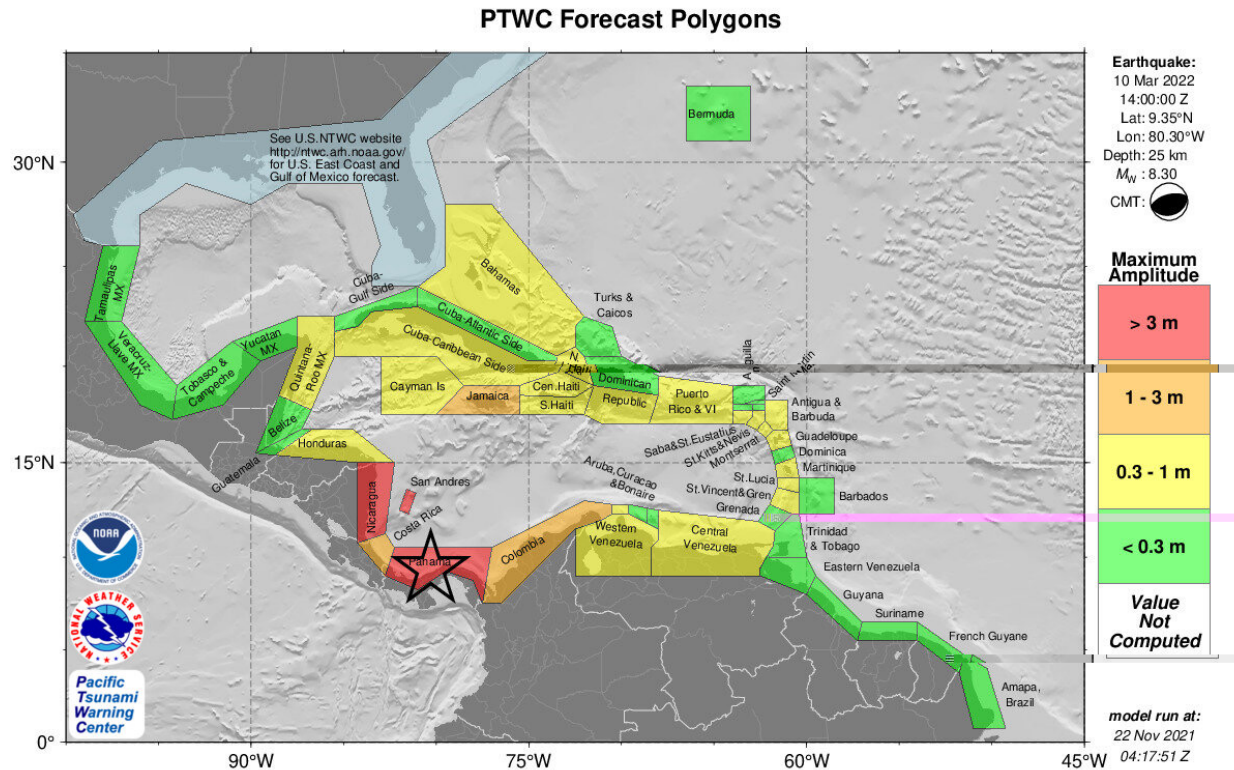
Coastal Forecast for Tsunami Wave Heights Northern Panama



RIFT coastal tsunami amplitude map based on the scenario for Northern Panama.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

Polygons Forecast for Tsunami Wave Heights Northern Panama

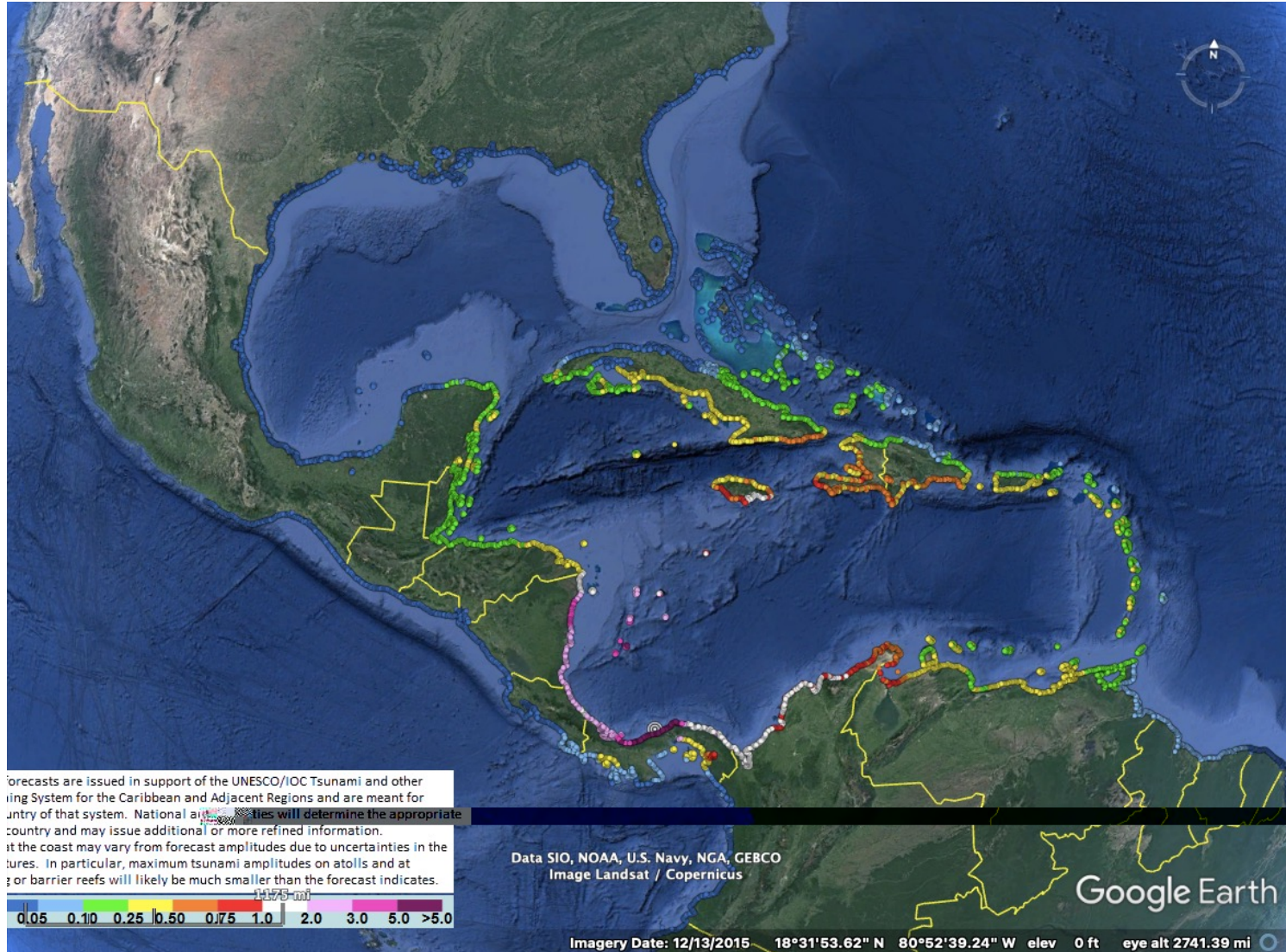


RIFT forecast polygons for the Caribbean region on the Northern Panama.

During a real event, this product will only be made available to officially designated Tsunami Warning Focal Points and National Tsunami Warning Centers.

KMZ

Northern Panama



Forecast Statistics for Regional Polygons*

Northern Panama

Region_Name	Coastal Forecast (meters)				Offshore Forecast (meters)				Total Points
	Maximum	Mean	Median	STD	Maximum	Mean	Median	STD	
Caribbean_Coast_of_Panama	7.7	3.30	2.20	2.00	4.6	1.80	1.30	1.10	229
San_Andres_and_Providencia	5.3	2.90	2.80	0.82	1.8	1.00	1.10	0.33	18
Caribbean_Coast_of_Nicaragua	4.7	2.60	2.30	1.00	2.7	1.20	1.20	0.39	139
Caribbean_Coast_of_Costa_Rica	2.6	2.20	2.10	0.19	2.2	1.40	1.40	0.38	48
Caribbean_Coast_of_Colombia	1.4	0.98	1.00	0.20	1.3	0.54	0.52	0.23	315
Jamaica	1.3	0.72	0.67	0.29	0.82	0.29	0.24	0.16	146
Caribbean_Coast_of_Haiti	0.91	0.63	0.61	0.10	0.74	0.21	0.19	0.10	101
Caribbean_Coast_of_Dominican_Republic	0.83	0.56	0.58	0.11	0.51	0.23	0.22	0.10	158
Western_Coast_of_Venezuela	0.78	0.37	0.29	0.18	0.31	0.13	0.12	0.05	199
Gulf_of_Gonave_Coast_of_Haiti	0.77	0.53	0.51	0.09	0.39	0.17	0.16	0.06	155
Caribbean_Coast_of_Cuba	0.71	0.30	0.30	0.15	0.36	0.09	0.08	0.05	638
Atlantic_Coast_of_Haiti	0.46	0.27	0.26	0.10	0.20	0.09	0.09	0.03	74
Puerto_Rico_and_Virgin_Islands	0.43	0.26	0.26	0.09	0.54	0.12	0.10	0.08	224
Caribbean_Coast_of_Honduras	0.42	0.26	0.25	0.08	0.85	0.19	0.14	0.16	193
Central_Coast_of_Venezuela	0.42	0.28	0.28	0.07	0.25	0.10	0.10	0.05	399
Saint_Kitts_and_Nevis	0.39	0.27	0.27	0.05	0.22	0.11	0.10	0.05	28
Bahamas	0.36	0.05	0.03	0.05	0.33	0.02	0.01	0.03	1209
Guadeloupe	0.36	0.20	0.18	0.07	0.17	0.09	0.08	0.03	67
Cayman_Islands	0.34	0.26	0.24	0.05	0.13	0.10	0.10	0.01	11
Montserrat	0.34	0.27	0.26	0.03	0.14	0.08	0.08	0.03	11
Aruba	0.34	0.32	0.33	0.03	0.15	0.11	0.11	0.02	13
Quintana_Roo_Mexico	0.33	0.23	0.22	0.04	0.27	0.07	0.06	0.04	252
Antigua_and_Barbuda	0.32	0.17	0.13	0.09	0.32	0.13	0.11	0.08	32
Martinique	0.31	0.20	0.21	0.07	0.13	0.07	0.06	0.02	40
Saba_and_Saint_Eustatius	0.31	0.26	0.25	0.03	0.10	0.08	0.07	0.02	5
Saint_Vincent_and_the_Grenadines	0.31	0.23	0.25	0.06	0.16	0.07	0.07	0.03	25
Atlantic_Coast_of_Cuba	0.30	0.10	0.10	0.06	0.17	0.03	0.02	0.02	438
Saint_Lucia	0.30	0.19	0.21	0.06	0.17	0.07	0.06	0.03	28
Bonaire	0.30	0.24	0.23	0.02	0.20	0.10	0.09	0.04	15
Curacao	0.30	0.26	0.26	0.02	0.13	0.09	0.09	0.02	26
Grenada	0.28	0.20	0.24	0.06	0.12	0.06	0.06	0.02	28
Dominica	0.27	0.19	0.19	0.04	0.10	0.06	0.05	0.02	30
Gulf_of_Mexico_Coast_of_Cuba	0.26	0.07	0.04	0.07	0.05	0.02	0.01	0.01	137
Yucatan_Mexico	0.24	0.08	0.01	0.09	0.12	0.02	0.02	0.02	84
Belize	0.23	0.19	0.20	0.02	0.22	0.07	0.07	0.04	194
Caribbean_Coast_of_Guatemala	0.23	0.20	0.21	0.01	0.14	0.09	0.09	0.03	35
Anguilla	0.23	0.19	0.21	0.05	0.21	0.17	0.18	0.04	8
Saint_Martin	0.23	0.22	0.22	0.01	0.23	0.18	0.19	0.04	7
Sint_Maarten	0.23	0.23	0.23	0.01	0.15	0.10	0.10	0.03	5
Atlantic_Coast_of_Dominican_Republic	0.22	0.11	0.09	0.04	0.26	0.05	0.04	0.04	157
Saint_Barthelemy	0.22	0.18	0.22	0.05	0.14	0.12	0.12	0.02	6
Atlantic_Coast_of_Venezuela	0.20	0.08	0.07	0.03	0.06	0.03	0.03	0.01	121
Trinidad_and_Tobago	0.18	0.11	0.11	0.04	0.12	0.05	0.05	0.02	127
Turks_and_Caicos_Islands	0.16	0.08	0.07	0.04	0.10	0.04	0.03	0.02	119
Barbados	0.10	0.08	0.08	0.01	0.06	0.03	0.03	0.01	20
Guyana	0.07	0.06	0.06	0.00	0.05	0.02	0.02	0.01	113
Suriname	0.06	0.06	0.06	0.00	0.02	0.02	0.02	0.00	101
French_Guyane	0.04	0.03	0.03	0.00	0.01	0.01	0.01	0.00	82
Bermuda	0.04	0.04	0.04	0.00	0.03	0.02	0.02	0.00	15
Veracruz_Mexico	0.03	0.02	0.02	0.00	0.01	0.00	0.00	0.00	224
Amapa_Brazil	0.03	0.02	0.02	0.00	0.01	0.00	0.00	0.00	156
Tabasco_and_Campeche_Mexico	0.02	0.02	0.02	0.00	0.01	0.00	0.01	0.00	101
Tamaulipas_Mexico	0.02	0.02	0.02	0.00	0.01	0.01	0.01	0.00	156

*Actual amplitudes at the coast may vary from forecast amplitudes due to uncertainties in the forecast and local features. In particular, maximum tsunami amplitudes on small islands will likely be much smaller than the forecast indicates.

PTWC Message #8

ZCZC
WECA41 PHEB 102000
TSUCAX



TEST...TSUNAMI MESSAGE NUMBER 8...TEST
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
2000 UTC THU MAR 10 2022

...THIS MESSAGE IS FOR TEST PURPOSES ONLY...
...TEST FINAL TSUNAMI THREAT MESSAGE TEST...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

THIS IS A TEST MESSAGE. THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEM FOR THE CARIBBEAN AND ADJACENT REGIONS AND IS MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

THIS IS A TEST MESSAGE. NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED INFORMATION.

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

TEST... PRELIMINARY EARTHQUAKE PARAMETERS ...TEST

- * MAGNITUDE 8.3
- * ORIGIN TIME 1400 UTC MAR 10 2022
- * COORDINATES 9.4 NORTH 80.3 WEST
- * DEPTH 25 KM / 16 MILES
- * LOCATION PANAMA

TEST... EVALUATION ...TEST

- * THIS IS A TEST MESSAGE. AN EARTHQUAKE WITH A PRELIMINARY MAGNITUDE OF 8.3 OCCURRED IN PANAMA AT 1400 UTC ON THURSDAY MARCH 10 2022.
- * THIS IS A TEST MESSAGE. BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS EARTHQUAKE HAS PASSED AND THERE IS NO FURTHER THREAT.

TEST... TSUNAMI THREAT FORECAST...UPDATED ...TEST

- * THIS IS A TEST MESSAGE. THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

TEST... RECOMMENDED ACTIONS ...TEST

- * THIS IS A TEST MESSAGE. GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.
- * THIS IS A TEST MESSAGE. PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.
- * THIS IS A TEST MESSAGE. REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

TEST... POTENTIAL IMPACTS ...TEST

- * THIS IS A TEST MESSAGE. MINOR SEA LEVEL FLUCTUATIONS OF UP TO 1 FOOT ABOVE AND BELOW THE NORMAL TIDE MAY CONTINUE OVER THE NEXT FEW HOURS.

TEST... TSUNAMI OBSERVATIONS ...TEST

- * THIS IS A TEST MESSAGE. THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH RESPECT TO THE NORMAL TIDE LEVEL.

GAUGE LOCATION	TIME OF MAXIMUM		WAVE		
	COORDINATES	MEASURE	TSUNAMI	PERIOD	
	LAT	LONG	(UTC)	HEIGHT	(MIN)
PUERTO BILWI NI	14.0N	83.4W	1958	6.17M/20.2FT	18
PORT OF SPAIN TT	10.6N	61.5W	1859	0.18M/ 0.6FT	28
BERMUDA UK	32.4N	64.7W	1858	0.06M/ 0.2FT	22
PORT OF BELIZE BZ	17.5N	88.2W	1837	0.32M/ 1.0FT	24
TORTOLA VI UK	18.4N	64.6W	1829	0.41M/ 1.4FT	20
SCARBOROUGH TT	11.2N	60.7W	1821	0.16M/ 0.5FT	26
BARBUDA AG	17.6N	61.8W	1816	0.13M/ 0.4FT	20
PORT ST CHARLES BB	13.3N	59.6W	1804	0.13M/ 0.4FT	16
GANTERS BAY ST LUCI	14.0N	61.0W	1802	0.34M/ 1.1FT	20
PARHAM AT	17.1N	61.8W	1801	0.18M/ 0.6FT	20
BLOWING POINT AI	18.2N	63.1W	1755	0.37M/ 1.2FT	18
LE ROBERT MARTINIQU	14.7N	60.9W	1758	0.14M/ 0.5FT	18
ISLA MUJERES MX	21.3N	86.7W	1748	0.38M/ 1.2FT	24
SAINT MARTIN FR	18.1N	63.1W	1748	0.31M/ 1.0FT	18
CULEBRA IS PR	18.3N	65.3W	1750	0.44M/ 1.4FT	28
DESIRADE GUADELOUPE	16.3N	61.1W	1751	0.13M/ 0.4FT	18
PRICKLEY BAY GD	12.0N	61.8W	1750	0.39M/ 1.3FT	20
POINT A PITRE GP	16.2N	61.5W	1749	0.28M/ 0.9FT	22
CHARLOTTE-AMALIE VI	18.3N	64.9W	1745	0.36M/ 1.2FT	26
LAMESHURBAYSTJOHNVI	18.3N	64.7W	1742	0.35M/ 1.2FT	22

CALLIAQUA VC	13.1N	61.2W	1736	0.37M/	1.2FT	24
FORT DE FRANCE MQ	14.6N	61.1W	1737	0.40M/	1.3FT	28
CEIBA CABOTAGE HN	15.8N	86.8W	1739	0.23M/	0.8FT	18
ROSEAU DM	15.3N	61.4W	1731	0.37M/	1.2FT	14
LE PRECHEUR MARTINI	14.8N	61.2W	1728	0.34M/	1.1FT	18
PORTSMOUTH DM	15.6N	61.5W	1728	0.39M/	1.3FT	24
DESHAIES GUADELOUPE	16.3N	61.8W	1732	0.38M/	1.2FT	26
PORT AU PRINCE HT	18.5N	72.4W	1730	1.02M/	3.3FT	22
BASSETERRE KN	17.3N	62.7W	1727	0.36M/	1.2FT	22
CARRIE BOW CAY BZ	16.8N	88.1W	1724	0.25M/	0.8FT	26
PUERTO CORTES HN	15.8N	88.0W	1721	0.29M/	1.0FT	16
ISABELII VIEQUES PR	18.2N	65.4W	1720	0.38M/	1.2FT	22
SIAN KAN MX	19.3N	87.4W	1720	0.28M/	0.9FT	26
PUERTO MORELOS MX	20.9N	86.9W	1719	0.31M/	1.0FT	22
PUERTO MORELOS MX	20.9N	86.9W	1716	0.31M/	1.0FT	18
PUERTO MORELOS MX	20.9N	86.9W	1721	0.31M/	1.0FT	28
SAN JUAN PR	18.5N	66.1W	1720	0.14M/	0.5FT	24
ARECIBO PR	18.5N	66.7W	1715	0.15M/	0.5FT	26
PUERTO PLATA DO	19.8N	70.7W	1709	0.11M/	0.4FT	28
ESPERANZA VIEQUES P	18.1N	65.5W	1705	0.58M/	1.9FT	28
LIMETREE VI	17.7N	64.8W	1700	0.60M/	2.0FT	22
ST CROIX VI	17.7N	64.7W	1702	0.42M/	1.4FT	16
ROATAN ISLAND HN	16.3N	86.5W	1658	0.28M/	0.9FT	28
YABUCOA PR	18.1N	65.8W	1703	0.57M/	1.9FT	22
MAGUEYES ISLAND PR	18.0N	67.0W	1703	0.60M/	2.0FT	28
CAP HAITIEN HT	19.8N	72.2W	1657	0.22M/	0.7FT	16
MAYAGUEZ PR	18.2N	67.2W	1657	0.53M/	1.8FT	18
PUERTO EL BLUFF NI	12.0N	83.7W	1649	3.37M/	11.1FT	20
PUNTA CANA DO	18.5N	68.4W	1646	0.62M/	2.0FT	24
MONA ISLAND PR	18.1N	67.9W	1644	0.50M/	1.6FT	26
BARAHONA DO	18.2N	71.1W	1628	0.68M/	2.2FT	18
BULLEN BAY CURACAO	12.2N	69.0W	1631	0.39M/	1.3FT	26
GEORGE TOWN KY	19.3N	81.4W	1621	0.40M/	1.3FT	26
PORT ROYAL JM	17.9N	76.8W	1629	1.84M/	6.0FT	26
DART 42407	15.3N	68.2W	1626	0.05M/	0.2FT	20
ORANGESTAD AW	12.5N	70.0W	1625	0.54M/	1.8FT	22
CORN ISLAND NI	12.3N	83.1W	1602	3.83M/	12.6FT	22
SANTA MARTA CO	11.2N	74.2W	1536	2.01M/	6.6FT	16
SAPZURRO CO	8.7N	77.4W	1527	1.78M/	5.8FT	24
ISLA NAVAL CO	10.2N	75.8W	1524	1.48M/	4.8FT	14
BOCAS DEL TORO PA	9.4N	82.3W	1510	3.88M/	12.7FT	20
SAN ANDRES CO	12.6N	81.7W	1455	4.81M/	15.8FT	24
LIMON CR	10.0N	83.0W	1456	3.22M/	10.6FT	22
EL PORVENIR PA	9.6N	78.9W	1445	2.37M/	7.8FT	16

* THIS IS A TEST MESSAGE. FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT WWW.TSUNAMI.GOV.

* THIS IS A TEST MESSAGE. COASTAL REGIONS OF THE US GULF COAST... US EAST COAST... AND THE MARITIME PROVINCES OF CANADA SHOULD REFER TO U.S. NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND AT WWW.TSUNAMI.GOV.

THIS IS A TEST MESSAGE. DO NOT TAKE ACTION BASED ON THIS TEST MESSAGE.

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TEST... NEXT UPDATE AND ADDITIONAL INFORMATION ...TEST

* THIS IS A TEST MESSAGE. THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.

* THIS IS A TEST MESSAGE. AUTHORITATIVE INFORMATION ABOUT THE EARTHQUAKE FROM THE U.S. GEOLOGICAL SURVEY CAN BE FOUND ON THE INTERNET AT EARTHQUAKE.USGS.GOV.

Central American Tsunami Advisory Center CATAC



Participation at CW 2022 – tsunami products for the Central American countries

1. Text messages in Spanish

- Similar Format as PTWC
- Use of local times:
1) Central America; 2) Panama

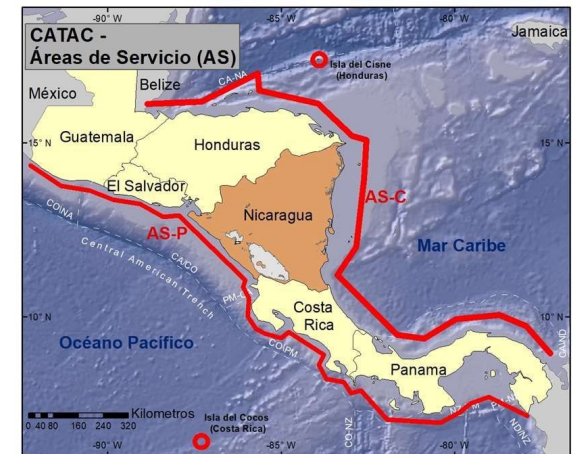
2. Text messages in English

- PTWC format
- Use of UT

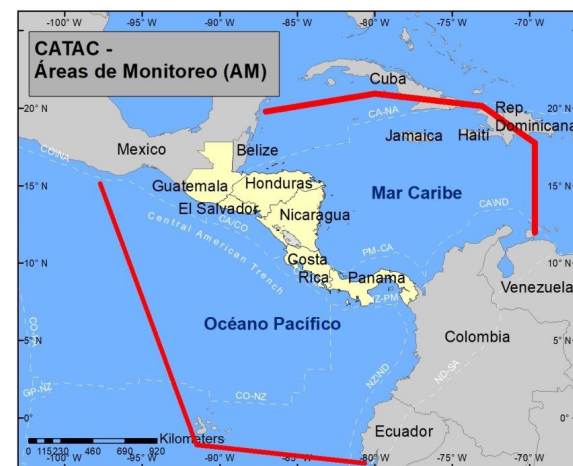
3. Graphic products (SeisComP TOAST)

- Prediction of amplitudes at Sea Gauges
- Amplitudes at coastal zones

4. Tsunami propagation movie (MPG3)

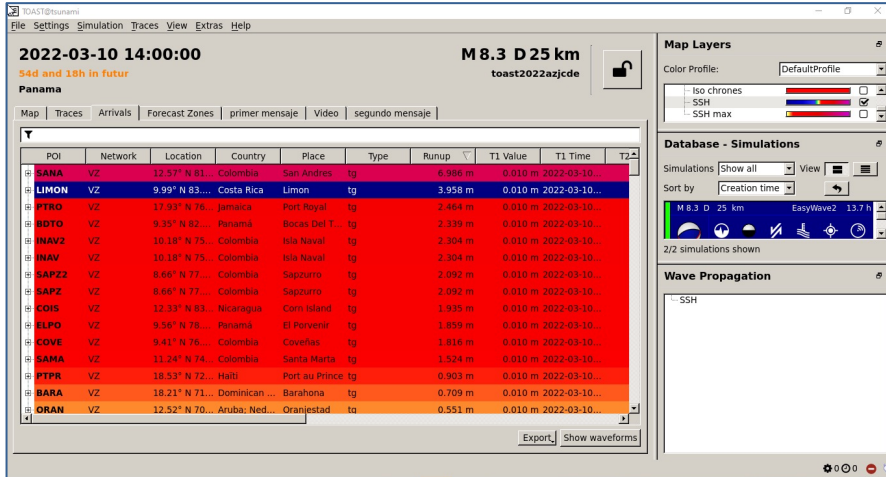


CATAC – Areas of responsibility

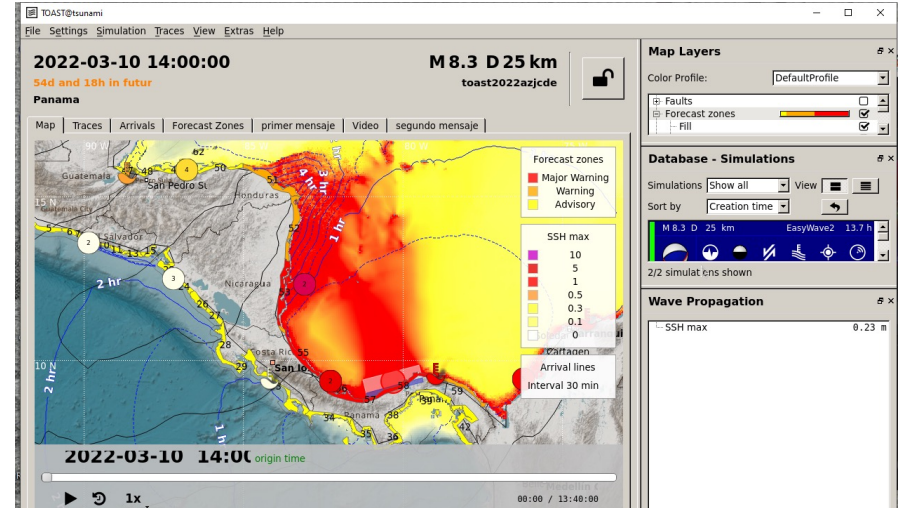


CATAC – Areas of monitoring

Tsunami products prepared with SeisComP TOAST

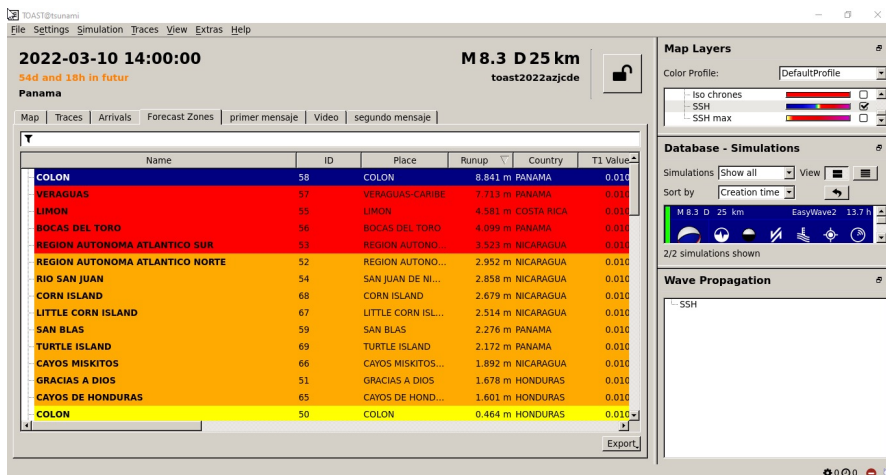


List: Predicted amplitudes at Sea Gauges



Graphical products:

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



List: Predicted amplitudes at coastal zones

Central American Tsunami Advisory Center CATAC



Participation at CW 2022 – tsunami products for the Central American countries

Distribution methods:

1. Text messages in Spanish: email

2. Textmessages in English: WMO/GTS

3. Graphic products: email, WhatsApp, Telegram, CATAC webpage

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 homepage of The TsunamiZone. At the top, there is a navigation bar with links for Home, TsunamiZone Regions, Other Languages, Contact Us, Search, and Login. Below this is a large banner image of a person walking on a beach. The website's logo, "The TsunamiZone", is prominently displayed. A secondary navigation bar includes "Register Here" (highlighted with a red box), Know Your Zone, Who is Participating?, How to Participate?, Resources, News & Events, and Partners & Sponsors. A green alert banner states "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 "ESPAÑOL" and "FRANÇAIS", and a video player for "How to Plan a Tsunami Walk!". The right column, titled "2021-22 OFFICIAL ACTIVITIES", lists events such as "November 5 World Tsunami Awareness Day", "March 10, 2022 CARIBE WAVE 2022", "March 2022 Lantex 2022 Pacifex 2022", and "March 21 - 25, 2022 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.

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 2022 tsunami preparedness activities!

[ESPAÑOL](#)
[FRANÇAIS](#)



[View Other TsunamiZone Videos and Resources](#)

2021-22 OFFICIAL ACTIVITIES

November 5

[World Tsunami Awareness Day](#)

March 10, 2022

CARIBE WAVE 2022

March 2022

Lantex 2022

Pacifex 2022

March 21 – 25, 2022

[California's Tsunami Preparedness Week](#)

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 »



PARTICIPATION TOTALS

45 participants are registered in the 2022 TsunamiZone (as of 01/12/2022 3:25 AM PST).

Category	Participants	Participation totals for each area	Total
Individuals/Families	8	Anguilla	0
Childcare and Pre-Schools	0	Antigua and Barbuda	0
K-12 Schools and Districts	0	Aruba	0
Colleges and Universities	0	Bahamas	0
Local Government	0	Barbados	0
State Government	0	Belize	0
Federal/National Government (Including Military)	0	Bermuda	0
Tribes/Indigenous Peoples	0	Bonaire	0
Businesses	0	Brazil	0
Hotels and Other Lodgings	0	British Virgin Islands	0
Healthcare	0	Cayman Islands	0
Senior Facilities/Communities	0	Colombia	0
Disability/AFN Organizations	0	Costa Rica	0
Non-Profit Organizations	0	Cuba	0
Neighborhood Groups	0	Curacao	0
Preparedness Organizations	37	Dominica	0
Faith-based Organizations	0	Dominican Republic	0
Museums, Libraries, Parks, etc.	0	France	0
Volunteer/Service Clubs	0	Grenada	0
Youth Organizations	0		
Animal Shelter/Service Providers	0		
Agriculture/Livestock Sector	0		
Volunteer Radio Groups	0		
Science/Engineering Organizations	0		
Media Organizations	0		
Other	0		

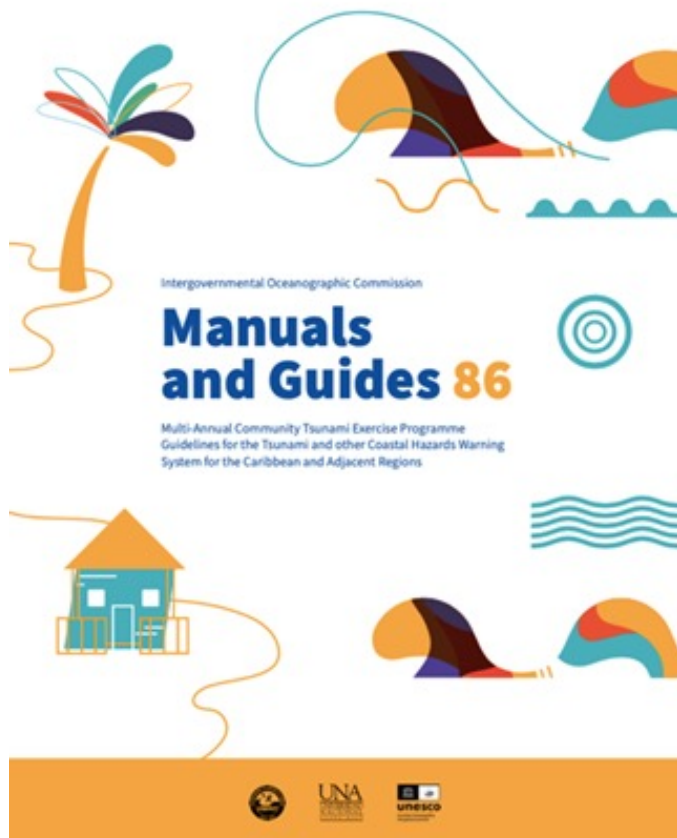
As of 18 Jan 2022, 45 participants have registered on the website.

Tsunami Zone Representative:
Jason Ballmann

Resources

- **NEW:** 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. <https://www.weather.gov/ctwp/caribewave22>
- **NEW:** 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 2022 Handbooks - <https://www.weather.gov/ctwp/caribewave22>
- CARIBE WAVE 2013 through 2021 Final and Media Report - <https://www.weather.gov/ctwp/caribewave22>
- PTWC Communications Plan for the Caribbean - <https://www.weather.gov/ctwp/caribewave22>
- Questions on the exercise can be addressed to the members of the CARIBE WAVE 22 Task Team.

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://www.weather.gov/ctwp/caribewave22>

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 COVID-19 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 ITIC-CAR (www.caribewave.org).
- Send links of other national pages to christa.vonh@noaa.gov to include on ITIC-CAR.
- This presentation is available on ITIC-CAR website (<https://www.weather.gov/ctwp/caribewave22>).
- The use of the #CARIBEWAVE and #TSUNAMIREADY hashtags are encouraged to be used before and during the exercise.
- CARIBE WAVE video (available during the end of February)

CARIBE WAVE 22 Task Team

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Timeline

ACTION	TIMELINE
Handbook Draft Circulated among ICG CARIBE EWS TNC/TWFP and TT CARIBE WAVE 22	✓ December 2021
Deadline for Comments	✓ December 2021
Circular Letter Issued by IOC to MS	✓ January 2022
Exercise Handbook Available Online	✓ January 2022
1st Webinar CW (Overview, PTWC Products)	18 January 2022 – English 19 January 2022 – Spanish 20 January 2022 - French
2nd Webinar CW (Update, Communication Methods, Registration, Questionnaire, Uploading Pictures/Videos)	15 February 2022 - English 16 February 2022 - Spanish 17 February 2022 - French
Countries Indicate Selected Scenario	25 February 2022
Exercise	10 March 2022
Exercise Evaluation Due	31 March 2022
Final Draft Caribe Wave 22 Report 13 April 2022	

Next Webinar

- The second webinar in English will be held on February 15, 2022.
- The following will be emphasized:
 - Exercise Updates
 - Communication Methods
 - Registration
 - Post Exercise Questionnaire
 - Media (Uploading Pictures/Videos)
- For registration, visit <https://www.weather.gov/ctwp/caribewave22>

Questions, Comments

Thank you for participating!

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