UNIVERSIDAD DE PANAMÁ

INSTITUTO DE GEOCIENCIAS

Second "Tsunami Ready Recognition Programme Summit", 20-21 April 2026

19th Intergovernmental Session of (ICG/CARIBE EWS), 22-24 April 2026

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Curacao, Kingdon of the Netherlands

Second "Tsunami Ready Recognition Programme Summit"

Tsunami Ready in Panama - Initiatives

DISASTER PREPAREDNESS PROGRAMME OF THE EUROPEAN COMMISSION HUMANITARIAN AID OFFICE (DIPECHO) Project: 2018 - 2019

Community: Barú District, Province of Chiriquí

Tsunami issues, in their general context, are led in Panama primarily by the National Tsunami Committee, the Institute of Geosciences (IGC-TWFP), and National Civil Protection System (SINAPROC-TNC).

The National Tsunami Committee is the highest-level technical body in Panama responsible for addressing tsunami-related matters in the Republic of Panama. It serves as an advisory body to national authorities and as a representative and liaison body on tsunami issues with international organizations.

It is composed of several interacting national agencies, national and international technical/scientific advisors, and five focal institutions: the National Civil Protection System (SINAPROC), the Panama Maritime Authority (AMP), the Institute of Geosciences (IGC), the Panama Fire Department (BCBRP), and the Tommy Guardia National Geographic Institute (IGNTG).

The **DIPECHO project** had preliminarily assessed (according to previous information gathered in Panama) the Puerto Armuelles area as a community to be evaluated in this project, but as the project progressed and more field information became available, it was assessed and decided to consider, at the communal and municipal level, the District of Bar ú and its five townships (Progreso, Baco, Rodolfo Aguilar Delgado, Puerto Armuelles, and Limones) as a community to be evaluated in the face of the threat of a tsunami, particularly the coastal areas of said district.

The **DIPECHO project** was carried out in Panama through the National Tsunami Committee and in Eng. Luis Mora, the latter as Consultant for Panama of UNESCO-IOC and liaison/coordinator of the UNESCO Multi-country Office San Jose.

Fifty-two vulnerable districts and 177 vulnerable townships have been identified (15 districts and 46 townships in the Caribbean region, and 37 districts and 131 townships in the Pacific region). Of the total number of districts and townships in the country, 69.5% and 28.5%, respectively, are vulnerable to tsunamis. The District of Barú has a population of 58,472 inhabitants, of which 29,672 are men and 28,800 are women, and is made up of 5 townships with the following population data, according to information obtained from the INEC (National Institute of Statistics and Census) of the Comptroller General of the Republic of Panama.

- **Progreso District: 29,672**
- **Puerto Armuelles District (main town): 21,368**
- **Rodolfo Aguilar Delgado District: 15,441**
- **Baco District: 7,906**
- **Limones District: 1,152**

Barú District (Source: Wikipedia)

ACTIVITIES DEVELOPED

1. Regional Tsunami Drill for Central America

On Monday, August 19, 2019, Panama participated as an observer in the room exercise of the Regional Tsunami Drill for Central America. This exercise constitutes the final phase of regional preparation for the DIPECHO project, in which Panama begins its activities the following day, August 20, 2019.

The Panama Maritime Authority, the Institute of Geosciences of the University of Panama, the Meritorious Fire Department, the National Civil Protection System, the President of the National Tsunami Committee and the consultant of the Intergovernmental Oceanographic Commission of UNESCO for the DIPECHO-Panama project participated in the drill.

2. National SOPs Workshop, in Panama City

On August 20-21, 2019, the first workshop " Formulation of Standard Operating Procedures (SOPs) for Tsunamis and Strengthening of Coordination Mechanisms between Scientific and Response Organizations " was held, corresponding to the DIPECHO PANAMA PROJECT.

3. Workshop for the preparation of Tsunami Flood Maps

Continuing with the implementation activities of the DIPECHO Project, on August 28-29, 2019, the Workshop for the preparation of tsunami flood maps was held at the facilities of the National Geographic Institute of Panama "Tommy Guardia".

4. Meeting with Authorities of the Province of Chiriquí and District of Barú

5. Meeting of SINAPROC and MEDUCA Regional with Local Authorities

6. Municipal SOPs Workshop, in Puerto Armuelles, Barú District

7. Workshop for the training and education of tsunami response teams

8. Definición y Confección de Rutas de Evacuación

9. Tsunami Simulation and Drills

PRODUCTS DELIVERED AND DEVELOPED

A. Elevation Maps and Evacuation Routes:

Bar ú District - Progreso Townships, Rodnships;olfo Aguilar y Puerto Armuelles Townships; Baco, Rodolfo Aguilar y Puerto Armuelles Townships; Puerto Armuelles Townships; Limones Townships.

B. Near Countryside Polygon

C. National SOPs, Panama

D. Municipal SOPs, Barú District

E. Tsunami Response Plan, Barú District

FINAL COMMENTS

A. Establishment of Alert-Alarm Mechanisms for notifying the community

1. Sirens are fundamental and, for now, the main means of mass dissemination that allows reaching the largest number of people in the community.

2. At the time of publication of version 1 of the Response Plan A In the Bar ú District, there is no siren network as an alert mechanism to warn the community, which is the system's greatest weakness. Therefore, implementing this is the top priority for the Barú District Commission, and they aim to do so as soon as possible.

B. Signage and signs

1. Signage is fundamental to the effective implementation of the Plan. This response ensures the community has clear and timely guidance on the actions previously instructed. Furthermore, it is essential for all transient residents temporarily in the area, who are therefore unfamiliar with the area, to understand the signage and warnings issued to the community..

2. At the time of publication of version 1 of the Response Plan A. In the Bar ú District, a certain quantity of signage is being produced (funded by UNESCO-IOC) for the Barú District Tsunami Commission to install in pre-defined locations once completed. However, this quantity of signage is insufficient to cover 100% of the vulnerable areas in the District, making achieving 100% coverage a current and ongoing task for the Bar ú District Tsunami Commission.

C. Preparation of the Community of the Barú District

The community of the Barú District is now, in general, much more aware of the threat and vulnerability to tsunamis.

Achieving an effective level of preparedness will depend on maintaining ongoing training, drills, and simulations, as well as completing the appropriate signage for evacuation routes and meeting points, and ensuring an adequate siren network to promptly alert the entire community in the event of a tsunami warning in the Barú District.

In response to DIPECHO Project:

1. A siren was requested from the company Petroterminal de Panamá (PTP) and PTP bought it.

2. Lack of support for the siren installation.

3. Tours and meetings with the mayor's office and the municipality are needed. but no supports.

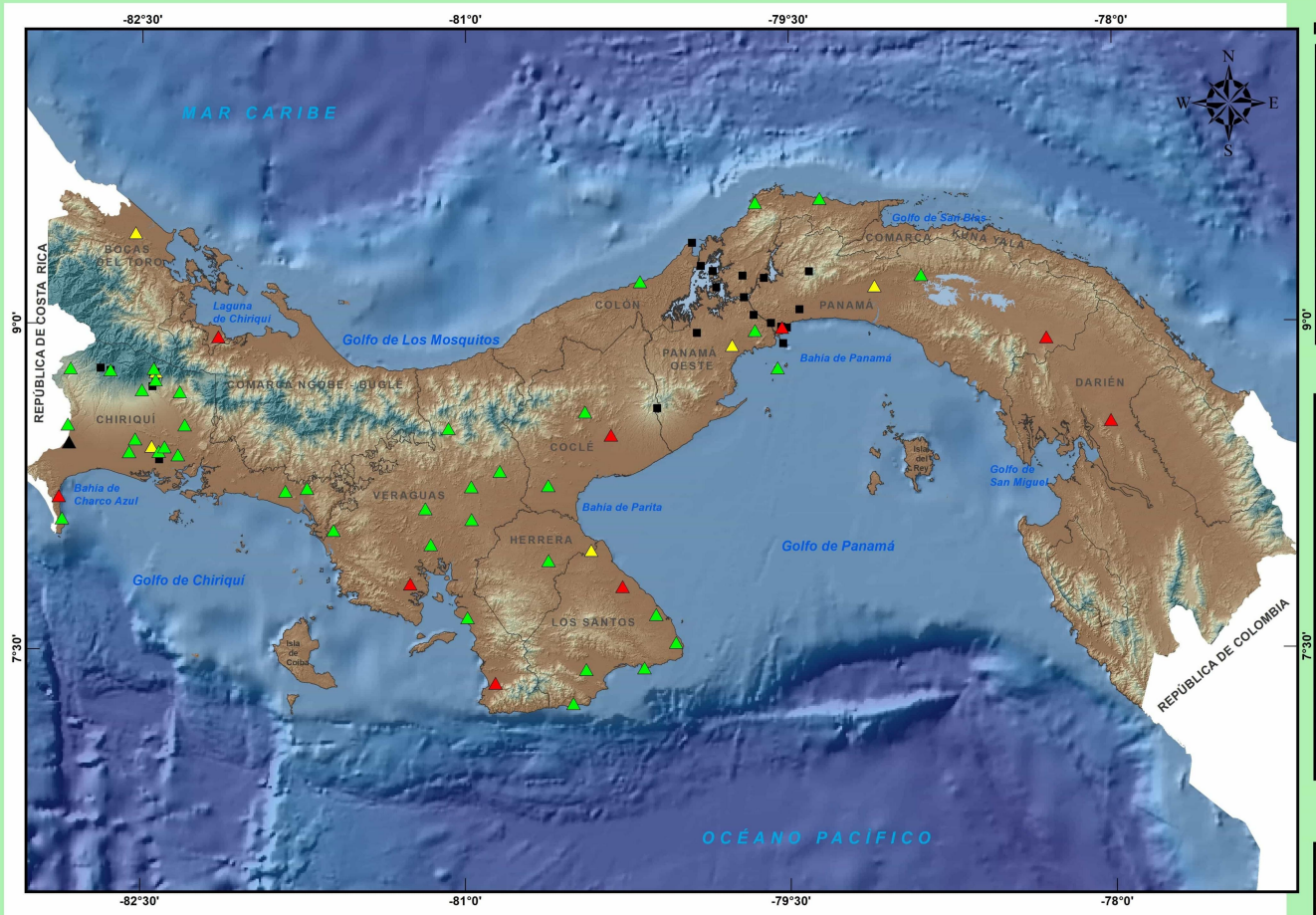
4. Request a courtesy meeting with the municipal government to request the installation of the siren, but no supports.

5. Prepare the documentation for the installation, permit, operation, and maintenance of the siren.

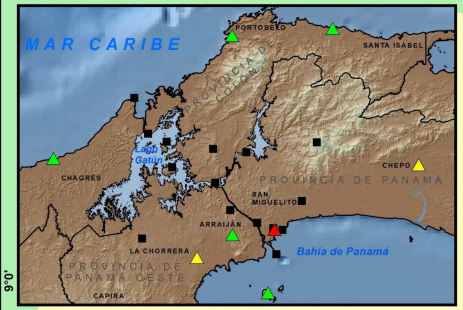
19th Intergovernmental Session of (ICG/CARIBE EWS)

Institute of Geosciences-University of Panama (Source: Institute of Geosciences-University of Panamá)

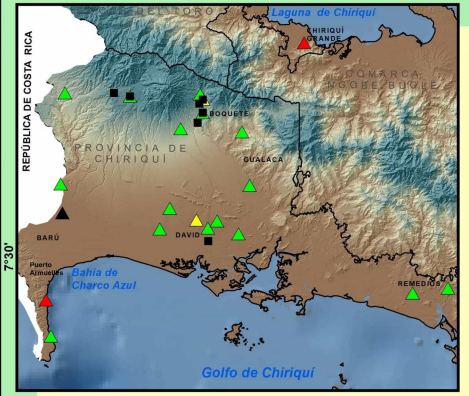
ESTACIONES SÍSMICAS DE LA UNIVERSIDAD DE PANAMÁ SEGÚN TIPO DE INSTRUMENTO Y REDES DE APOYO



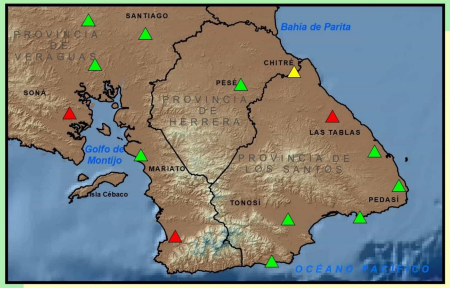
PANAMÁ CENTRO, PANAMÁ OESTE Y COLÓN



OCCIDENTE DE PANAMÁ



REGIÓN DE AZUERO



ESTACIONES SEGÚN LA RED

- △ Estaciones de la Red Sísmica de la Universidad de Panamá
- ■ Estaciones de las Redes de Apoyo Nacionales e Internacionales (Global Seismic Network, Raspberry Shake Network, Canal de Panamá, entre otras)

TIPO DE INSTRUMENTO

- ▲ Sismómetros de Banda Ancha
- ▲ Sismómetros de Periodo Corto
- ▲ Darién
- ▲ Raspberry Shake

ESCALA 1:2,000,000

0 40 80 120 160 Km

Elaborado con datos geoespaciales facilitados por la sección de Cartografía de la Contraloría General de la República, el Modelo Digital de Elevación SRTM de 30 m y la Grid GEBCO de 30 seg (2014)
Sistema de Coordenadas Geográficas. Datum WGS 84.

Instituto de Geociencias de la Universidad de Panamá.
Elaborado por: Yadira Echeverría Durán.
Información actualizada al mes de Junio de 2021.

Seismic Network from University of Panama (Source: Institute of Geosciences-University of Panama)

NATIONAL REPORT

Institute of Geosciences (IGC) - Tsunami Warning Focal Point (TWFP)

Activities from 2025 - 2026

1. Participation in the first Webinar for the Caribbean Wave 2025 (January 22, 2025).

2. We received messages from the PTWC and CATAC regarding a magnitude 7.6 earthquake that occurred at 23:23 UTC on Saturday, February 8 2025, with epicenter in the Cayman Islands (Monitoring sea level and aftershocks).

3. Participation in the post event assesment meeting related to the February 8 earthquake in the Cayman Islands (February 12, 2025).

4. Participation in the second webinar for the Caribbean Wave 2025 (February 26, 2025).

5. Participation in the third webinar for the Caribbean Wave 2025 (March 14, 2025).

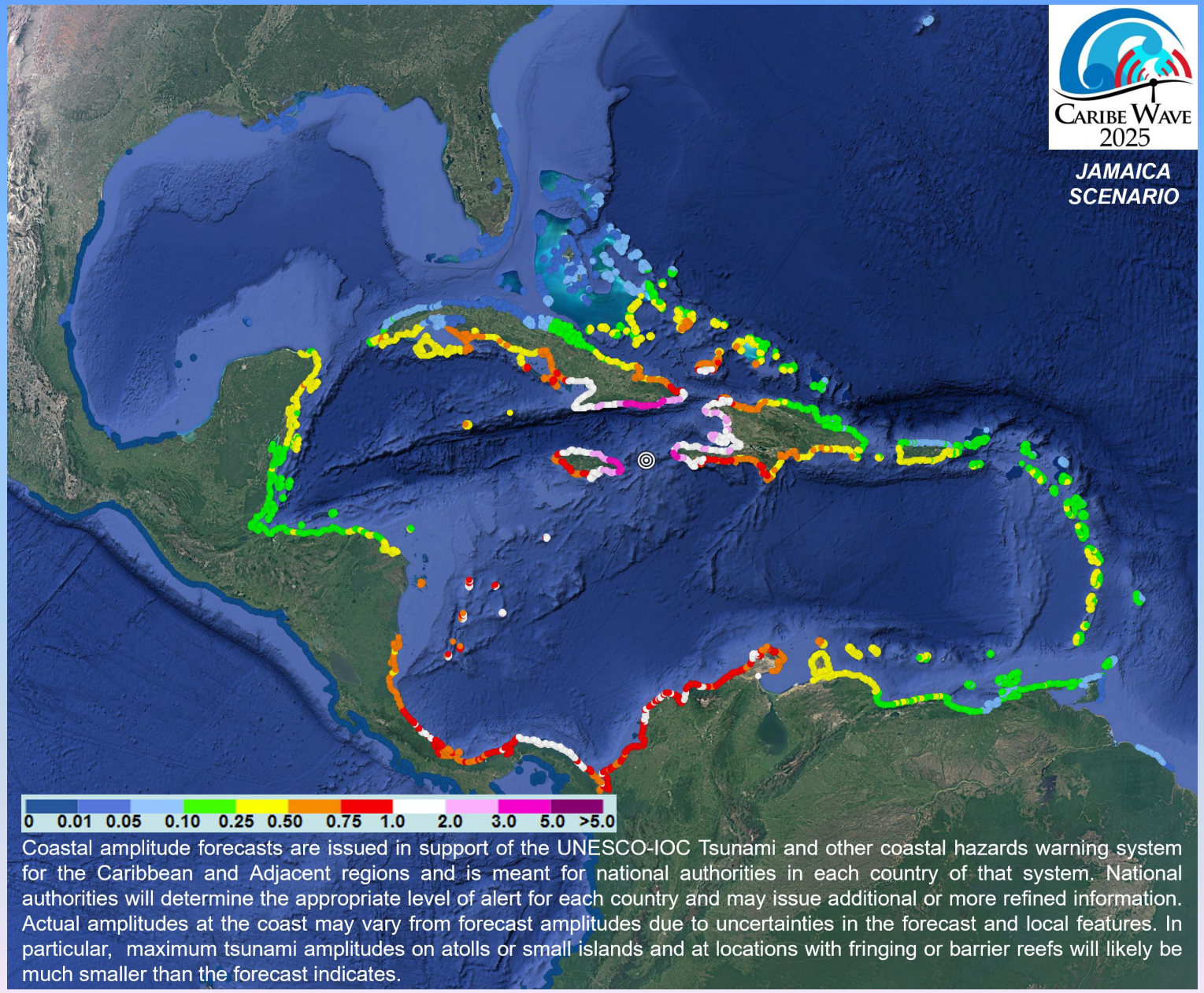
6. Participation in the the Caribbean Wave 2025 (March 20, 2025).

Scenarios:

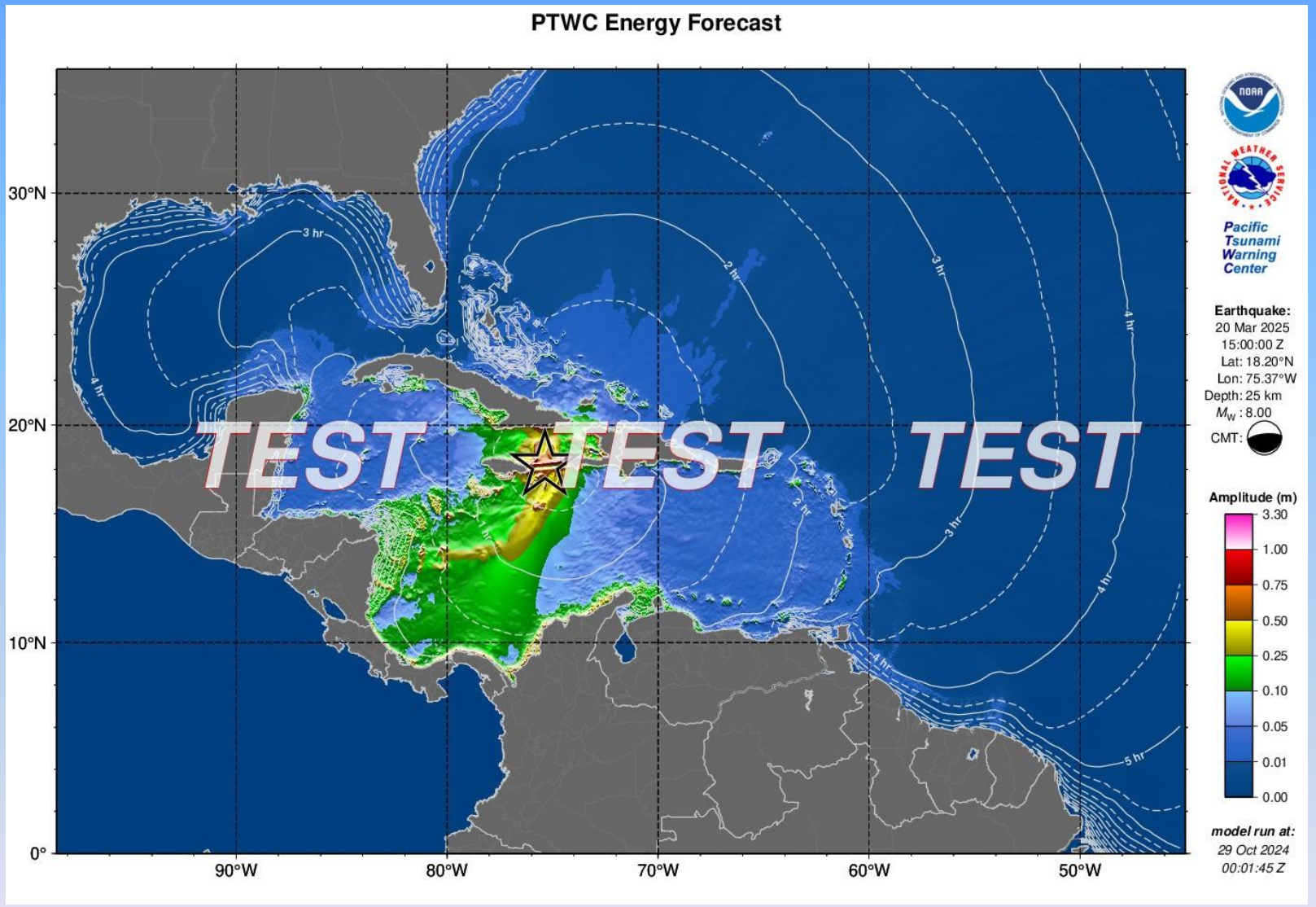
A. Tsunami caused by an 8.0 magnitude earthquake located in the Enriquillo-Plantain Garden fault zone (Selected by Panama).

B. Tsunami caused by an 8.5 earthquake located 270 km off the coast of Portugal.

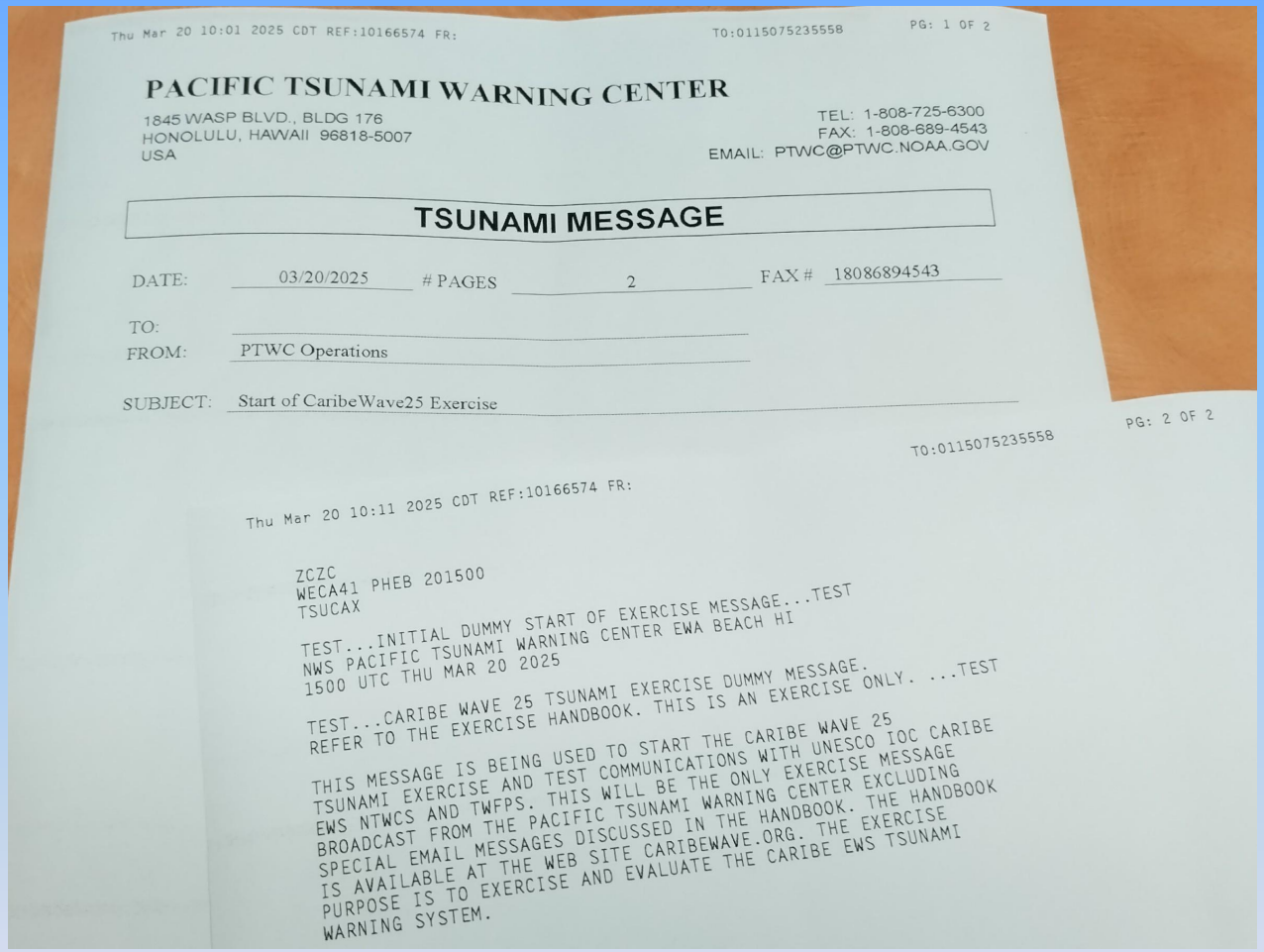
We put into practice communications with the National Civil Protection System (SINAPROC) using E-mails, WhatsApp and Fax.



Scenario selected for Panama: Jamaica-Enriquillo Plantain Garden fault zone (Source: UNESCO)



PTWC Energy Forecast (Source: PTWC)



Thu Mar 20 10:01 2025 CDT REF:10166574 FR: TO:0115075235558 PG: 1 OF 2

PACIFIC TSUNAMI WARNING CENTER

1845 WASP BLVD., BLDG 176
HONOLULU, HAWAII 96818-5007
USA

TEL: 1-808-725-6300
FAX: 1-808-689-4543
EMAIL: PTWC@PTWC.NOAA.GOV

TSUNAMI MESSAGE

DATE: 03/20/2025 # PAGES 2 FAX # 18086894543

TO:
FROM: PTWC Operations

SUBJECT: Start of CaribeWave25 Exercise

TO:0115075235558 PG: 2 OF 2

Thu Mar 20 10:11 2025 CDT REF:10166574 FR:

ZCZC
WECA41 PHEB 201500
TSUCAX

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 20 2025

TEST...CARIBE WAVE 25 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 25
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.

Initial Dummy Start of Exercise Message by Fax (Source: PTWC)

6. Participation in the Tsunami monitoring and warning course generated by volcanoes (April 16, 2025).

7. Participation in the ICG/Caribe-EWS XVIII (5-7 & 9 of May, 2025) Online (Working Group 1: Risk Knowledge).

8. Participation in a Regional Webinar: Early Warnings for All-Tsunami Warnings Communication and Dissemination in the Americas and Caribbean (November 6, 2025).

9. Participation in the first Webinar for the Caribbean Wave 2026 (January 21, 2026).

Topics: Comments on the Caribbean Wave 2025; Goals for the Caribbean Wave 2026; Scenarios

10. Participation in the second Webinar for the Caribbean Wave 2026 (February 25, 2026).

11. Participation in the the Caribbean Wave 2025 (March 19, 2026).

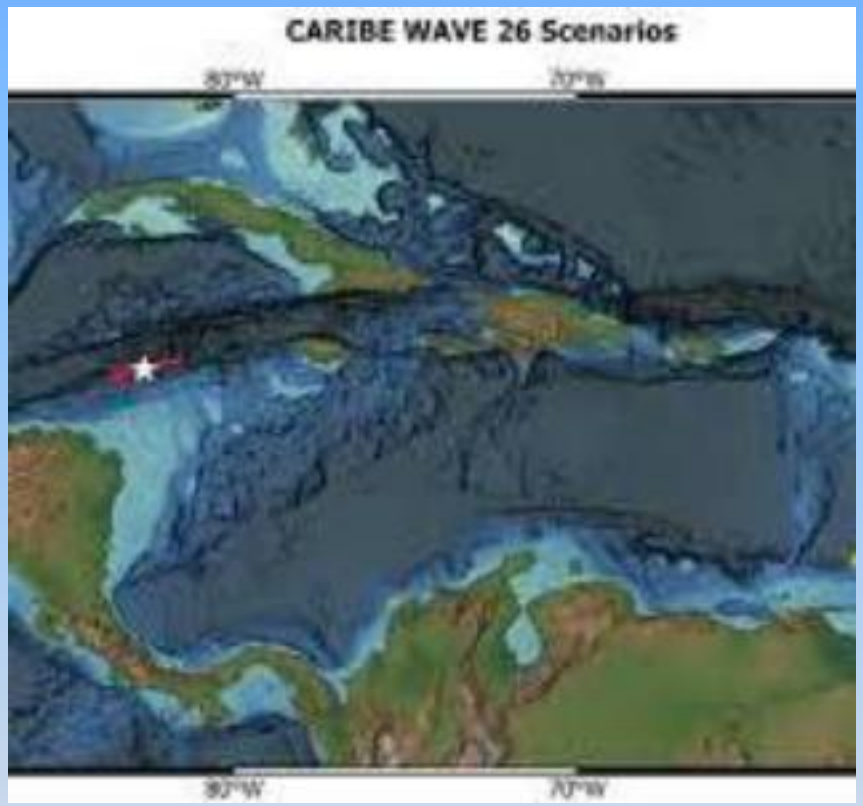
Scenarios:

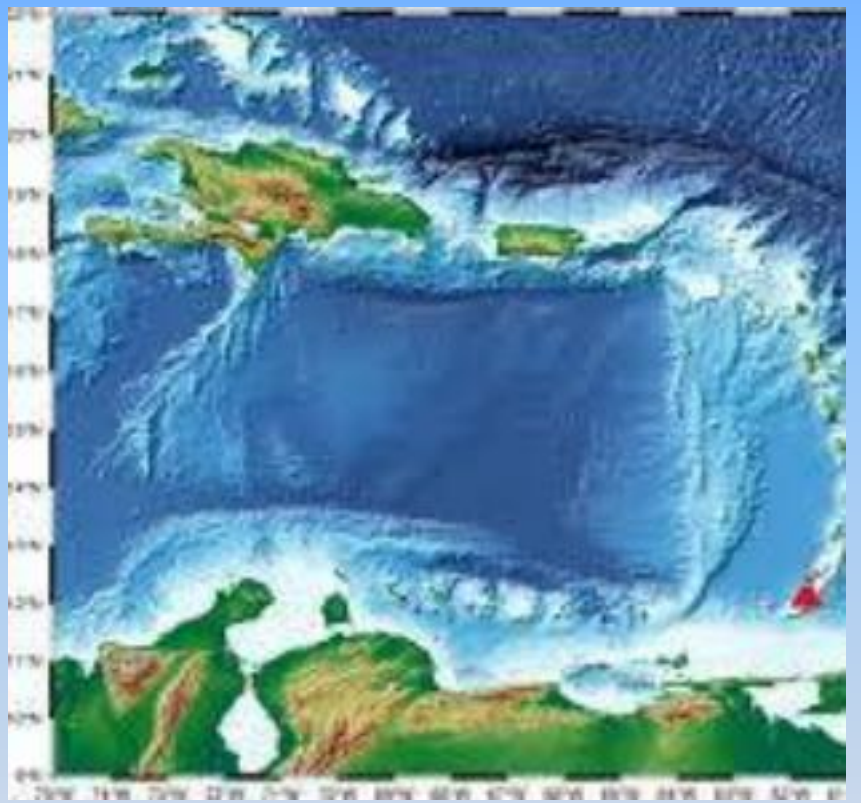
A. Tsunami caused by an 7.6 magnitude earthquake located at southwest of Cayman Islands (Selected by Panama).

B. Tsunami caused by an eruption/collapse of Kick 'em Jenny volcano.

Sign: Tsunami Hazard Zone

We put into practice communications with the National Civil Protection System (SINAPROC) using E-mails, WhatsApp, Instagram.





Caribe Wave 2026 Scenarios: Cayman Island and Kick 'em Jenny (Source: UNESCO)

Recepción de mensajes del PTWC y CATAC en el Instituto de Geociencias (Red Sísmica Nacional)

Message received from the PTWC

-----Mensaje reenviado -----
De: ptwc@ptwc.noaa.gov <ptwc@ptwc.noaa.gov>
Para: "echichaco@yahoo.com" <echichaco@yahoo.com>
Enviado: jueves, 19 de marzo de 2026, 10:00:28 a.m. EST
Asunto: Start of CaribeWave26 Exercise

ZCZC
WECA41 PHEB 191500
TSUCAX

TEST...INITIAL DUMMY START OF EXERCISE MESSAGE...TEST
NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
1500 UTC THU MAR 19 2026

TEST...CARIBE WAVE 26 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 26
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.

$$

Message received from CATAC

Centro de Asesoramiento de Tsunami para América Central - CATAC

XXXXXXX ESTE ES SOLO UN EJERCICIO XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

AVISO: Este mensaje se publica únicamente a título informativo como apoyo a los países de América Central. Las autoridades nacionales son responsables de determinar el nivel de alerta y efectuar las medidas adecuadas para su país, según sus protocolos de actuaciones.

Boletín sobre tsunami N° 04

Emisión: 2026-03-19 10:00 Hora de Centroamérica
2026-03-19 11:00 Hora de Panamá
2026-03-19 16:00 Hora (UTC)

Un terremoto ha ocurrido en el Mar Caribe, con los siguientes parámetros preliminares:

Magnitud : 7.6
Fecha : 19/03/2026
Hora : 09:00 Hora de Centroamérica, 10:00 Hora de Panamá, 15:00 Hora UTC
Latitud : 17.646 N
Longitud : 82.629 O
Profundidad : 10 Km
Ubicación : Islas Caimán

Evaluación:

Se ha registrado un tsunami que afecta a las costas del Mar Caribe de los países de Honduras y en menor medida al resto de países de América Central.
Las autoridades nacionales, deben tomar acciones correspondientes a sus planes de respuestas.

Resultados de la simulación de tsunami:

Estimados de Tiempos de Arribo (ETA) en hora local y Altura Máxima (AM) de olas del tsunami, en diferentes puntos de pronóstico:

Sitio	País	ETA (Hora local)	AM(m)
Isla del Cisne	HONDURAS	2026-03-19 15:09:45	2.52
Cabo Gracias a Dios	HONDURAS	2026-03-19 16:05:15	0.64
Colón	HONDURAS	2026-03-19 16:34:15	0.60

Mediciones en estaciones del nivel del mar:

Código	Coordenadas(°)	País	ETA (hora UTC)	AM(m)
VZ.PCOR	15.84N 87.96O	Honduras	2026-03-19 17:38:45	0.57
VZ.GEOR	19.30N 81.38O	Islas Caimán	2026-03-19 15:50:15	0.42
VZ.BDTO	9.35N 82.26O	Panamá	2026-03-19 22:34:45	0.29
VZ.PRBA	15.69N 88.62O	Guatemala	2026-03-19 19:56:45	0.29
VZ.TELA	15.78N 87.45O	Honduras	2026-03-19 20:58:00	0.27
VZ.CEIB	15.79N 86.76O	Honduras	2026-03-19 20:57:00	0.22
VZ.CABC	16.80N 88.08O	Belice	2026-03-19 21:07:30	0.20
VZ.POBE	17.47N 88.20O	Belice	2026-03-19 18:37:30	0.19
VZ.RTAS	16.35N 86.54O	Honduras	2026-03-19 22:05:45	0.16
VZ.PTRO	17.93N 76.85O	Jamaica	2026-03-19 20:30:00	0.10
VZ.ELPO	9.56N 78.95O	Panamá	2026-03-19 20:38:30	0.10
VZ.COIS	12.33N 83.07O	Nicaragua	2026-03-19 22:32:15	0.05
VZ.LIMON	9.99N 83.02O	Costa Rica	2026-03-19 21:12:45	0.03

12. Participation in the Caribe Wave 2026 Post Exercise "Hotwash" Meeting (March 26, 2026).

13. Caribe Wave 2026 Assessment (March 30, 2026).

Final Considerations

- The Republic of Panama, through its National Focal Points (TWFP), its National Tsunami Warning Center (NTWC), and the Panama National Tsunami Committee, has contributed to Working Group 1 (WG 1) Risk Knowledge; and Working Group 3 (WG 3): Tsunami Warning Dissemination and Communication.

- Approximately 55,000 people have been trained since the start of the CARIBE WAVE exercises and in previous years.

- The private sector has been incorporated into the activities of the National Tsunami Committee of Panama over the years.

- An electronic siren was donated to the Committee by a private company for use in the Alert Systems, which was received but not yet installed.

- There was a possibility that a community in the Barú District, Chiriquí Province, could be recognized as the first "Tsunami Ready" community in the Republic of Panama. This didn't happen due to the pandemic; however, the DIPECO Project did an excellent work.

- The National Tsunami Plan of the Republic of Panama is in an advanced stage.


Thank you very much
for your attention
eric.chichacor@up.ac.pa