INTERGOVERNMENTAL COORDINATION GROUP FOR THE TSUNAMI AND OTHER COASTAL HAZARDS WARNING SYSTEMS FOR THE CARIBBEAN AND ADJACENT REGIONS
Sixteenth Session, April 24-28, 2023 (Costa Rica)

NATIONAL REPORT
BARBADOS

BASIC INFORMATION

1. ICG/CARIBE EWS Tsunami National Contact (TNC)

The person designated by a Member State to an Intergovernmental Coordination Group (ICG) to represent his/her country in the coordination of international tsunami warning and mitigation activities. The person is part of the main stakeholders of the national tsunami warning and mitigation system. The person may be the Tsunami Warning Focal Point, from the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.

Name:	[redacted]
Title:	[redacted]
Organization:	[redacted]
Postal Address:	[redacted]
E-mail Address:	[redacted]
Emergency Telephone Number:	[redacted]
Emergency Fax Number:	[redacted]
Cellular Number:	[redacted]
Web Page:	[redacted]

2. ICG/CARIBE EWS Tsunami Warning Focal Point/Tsunami Warning Centre (TWFP/TWC)

The 24 x 7 contact person, or other official point of contact or address, is available at the national level for rapidly receiving and issuing tsunami event information (such as warnings). The Tsunami Warning Focal Point either is the emergency authority (civil defense or other designated agency responsible for public safety), or has the responsibility of notifying the emergency authority of the event characteristics (earthquake and/or tsunami), in accordance with national standard operating procedures. The Tsunami Warning Focal Point receives international tsunami warnings from the PTWC, or other regional warning centres.

Name:	[redacted]
Title:	[redacted]
Responsible Organization:	[redacted]
Postal Address:	[redacted]

E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:
Emergency Cellular Number:
Web Page:

National Tsunami Warning Centre (if different from the above)
(Same as above)

3. Tsunami Advisor(s), if applicable
(Person, Committee or Agency managing Tsunami Mitigation in country)

Name:
Title:
Organization:
Postal Address:
E-mail Address:
Telephone Number:
Fax Number:
Cellular Number:
Web Page:

Name:
Title:
Organization:
Postal Address:
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:
Cellular Number:
Web Page:

The Technical Standing Committee on Coastal Hazards (TSCCH) is also an advisory Committee. The Committee comprises representatives from the:

1. Coastal Zone Management Unit (CZMU), (Co-Chair)
2. Department of Emergency Management (DEM), (Co-Chair)
3. The Barbados Meteorological Services (BMS),
4. The Barbados Police Service (TBPS)
5. Barbados Government Information Service (BGIS),
6. Ministry of Innovation, Science & Smart Technology: Telecommunications Unit,
7. Planning and Development Office
8. The Ministry of Home Affairs and Information
9. The Ministry of Finance, Economic Affairs and Investment
10. The Ministry of Tourism and International Transport,
11. Ministry of Energy and Business Development

12. The Barbados Defence Force (BDF)
13. The Barbados Fire Service (BFS),
14. Ministry of Transport, Works and Water Resources; Drainage Division,
15. Ministry of the Environment and National Beautification (Blue Economy): Fisheries Division,
16. Ministry of Education, Technological and Vocational Training (METVT),
17. National Conservation Commission (NCC),
18. Barbados Hotel and Tourism Association (BHTA),
19. Barbados National Union of Fisherfolk Organizations (BARNUFO),
20. Barbados Light and Power Company Limited (BL&P),
21. Barbados Port Inc. (BPI),
22. Ministry of Youth, Sports and Community Empowerment,
23. Ministry of People Empowerment and Elder Affairs (MPEEA),
24. Barbados Council for the Disabled (BCD),
25. Barbados Chamber of Commerce and Industry (BCCI),
26. Barbados Building Standards Authority,
27. Caribbean Institute for Meteorology and Hydrology (CIMH),
28. Caribbean Disaster Emergency Management Agency (CDEMA) and a
29. Community Representative.

4. Tsunami Standard Operating Procedures for a Local Tsunami (when a local tsunami threat exists, less than 1-hour travel time)

5. Tsunami Standard Operating Procedures for a Regional Tsunami (when a regional tsunami threat exists, 1-3 hour travel time)

6. Tsunami Standard Operating Procedures for a Distant Tsunami (when a distant tsunami threat exists, more than 3 hour travel time)

For each situation, please provide the following:

- ***What organization identifies and characterizes tsunamigenic events?***

  Currently, the Pacific Tsunami Warning Centre (PTWC) is responsible for identifying and characterizing tsunamigenic events and disseminating threat information messages on threats to the Warning Focal Point which is the Barbados Meteorological Services (BMS) who receives the message on the Global Telecommunications System (GTS), Emergency Managers Weather Information Network (EMWIN), Fax, web and e-mail. The BMS then disseminates the threat messages locally by telephone, e-mail, Common Alerting Protocol (CAP), BMS Insight Application, and VHF/UHF Radio.

- ***What is the threshold or criteria for declaring a potential tsunami emergency?***

  Prior to March 2014, the BMS received the information in the form of a warning message. Now, the information is received in the form of a watch/threat message. This message in then analyzed and determined whether the system should be activated.

  IF IT IS DETERMINED THAT WAVE HEIGHTS OF ONE (1) METRE OR GREATER ABOVE THE NORMAL HIGH TIDE ARE LIKELY TO AFFECT THE ISLAND, THEN A POTENTIAL TSUNAMI EMERGENCY IS DECLARED.

- ***What organization acts on the information provided by the agency responsible for characterizing the potential tsunami threat?***

  The DEM is the organization where the National Emergency Management System (NEMS) is activated. However, DEM is not a 24-hour agency; therefore, if there is an event outside of normal working hours (i.e., 8:15 am – 4:30 pm), or on weekends, the 24-hour agencies such as the Barbados Fire Service, Barbados Defence Force and The Barbados Police Service will act on the information. In the instance where the Tsunami threat does not give ample time to filtrate the information through the NEMS the Barbados Meteorological Services warns the public.

- ***How is the tsunami information (warning, public safety action, etc) disseminated within country? Who is it disseminated to?***

  There is a Mass Alerting and Dissemination Tsunamis Warning Protocol (Figure 1) specifically designed for Barbados using mass media: radio, television, social media, BMS Insight Application and the Common Alerting Protocol (CAP) system. All cellular vendors (i.e., FLOW Barbados and Digicel) also provide texting services to all cellular users at a cost. The message is also conveyed on the Emergency Telecommunication System: UHF Astro, VHF and the emergency services mobile sirens may also be used. The CAP system and BMS Insight Application is also used and disseminates information to users who have signed up through email or by downloading the application. CAP also issues radio interrupts currently to four (4) radio stations- Slam 101.1, Y103.3, CITA 90.1, The One 98.1.

  The information is disseminated to the general public, coastal communities, tourism and private Sectors, the public utilities sector and the decision-makers.

The following procedures outline the steps to be taken in alerting and informing the relevant authorities and the public in the event of a tsunami threat to Barbados:

- Each meteorologist on shift at the Barbados Meteorological Service must ensure that all equipment and software programs used for receiving Tsunami Alert Messages from the Pacific Tsunami Warning Center (PTWC) are completely functional and current. This includes the California Integrated Seismic Network (CISN) program for earthquake alerts, and BMS Apparatus software.

- Any malfunctioning of these programs or equipment should be documented in the office log and immediately drawn to management's attention.

LOCAL/ REGIONAL EARTHQUAKE EVENTS:

(Events occurring within the area bounded by 5°N - 20°N and 50°W - 70°W)

1. An earthquake in close proximity to Barbados greater than 3.0 in magnitude shall be logged.

2. If shaking is felt ***** or significant local alerts of possible earthquake occurrence are received:

- The Duty Meteorologist should consult the CISN display for assistance in verifying or confirming the activity,
- Gather all relevant information such as date, time of origin, co-ordinates and location and the depth and magnitude of the earthquake.

***In the case there is shaking of a severe nature, the operations building shall be evacuated as personnel seek to protect life and limb. This will cause a delay in dissemination of messages as the building(s), both operational and back up needs to be reassessed for operational safety.**

Note: *The CISN program cannot confirm or deny whether a tsunami has been generated. However, based on established guidelines, an earthquake of magnitude 7.1 or greater within the Caribbean, and magnitude 6.5 or greater within the Atlantic region can possibly generate a tsunami.*

3. Once the earthquake event has been confirmed by the CISN display, this shall become priority. The Duty Meteorologist with the assistance of the Meteorological Assistants shall:
    - Immediately alert DEM and all First Responders via the Astro Radio network,
    - Alert the news media via fax or CAP alert,
    - Provide the basic initial information.

This must be done while monitoring for official communication from the PTWC.

Note: *The Pacific Tsunami Warning Center (PTWC) will only issue tsunami bulletins for earthquakes of magnitude 6.0 or greater. The first bulletin may not be issued until about 5 - 6 minutes after the earthquake event has occurred.*

If the magnitude of the earthquake is such that tsunami generation is possible, then this information shall also be relayed as a means of providing an advance alert.

Note: *The Director of the BMS, if not present, shall be informed. If unable to reach the Director, then the Deputy Director or any other senior personnel shall be informed. However, any inability to contact these persons shall not delay the dissemination of the information to other relevant authorities.*

All times of events and communications must be clearly logged using the Log of Events Table, which is stored in the Tsunami Forms Drawer. This includes the receipt of messages from the

PTWC, the transmission of messages whether by e-mail, fax, Astro Radio or by telephone, the termination of the tsunami watches and warnings.

4. Once the first official tsunami message from the PTWC has been received and evaluated, the Duty Meteorologist with the assistance of the Meteorological Assistants shall:

- Update First Responders via Astro radio,
- Update the media, the Director of the DEM and the Director of the BMS via telephone.

If there is no tsunami threat then a Tsunami Information Statement shall be prepared and disseminated via the Common Alerting Protocol (CAP) server, BMS Insights App, email list and the BMS Website.
If a possible tsunami threat is indicated, then a Tsunami Warning shall be prepared and disseminated via the Common Alerting Protocol (CAP) server, e-mail list and the BMS Website/Application.

5. The Duty Meteorologist shall continue to monitor for updated information from the PTWC and relay the updated information to:
   - Local officials via Astro radio,
   - The Common Alerting Protocol (CAP) server,
   - E-mail list and
   - The BMS Website/Application

6. Once the information received from PTWC indicate that the tsunami threat has diminished, the Duty Meteorologist, with the assistance of the Meteorological Assistants, shall this information to:
   - All First Responders via the Astro radio and
   - The media, the Director of the DEM and the Director of the BMS via telephone.

7. In collaboration with the Director of the DEM or designate and the Duty Meteorologist shall correspond with the Barbados Coast Guard about the sea conditions by telephoning (246) 536-2900. Once the information received indicate that conditions along the coastal areas are safe, a tsunami termination bulletin shall be prepared and disseminated via the CAP server, e-mail list and the BMS Website/Application.

6. Tsunami Standard Operating Procedures for a Distant Tsunami (when a distant tsunami threat exists, more than 3 hours travel time)

DISTANT EARTHQUAKE EVENTS

(Events occurring outside of the area bounded by 5°N - 20°N and 50°W - 70°W)

1. For distant earthquakes events, the Duty Meteorologist should await the official tsunami messages and products from the PTWC. However, in the case of CISN display alerting of an earthquake event greater than 7.1 magnitude in the Caribbean or greater than magnitude 6.5 in the Atlantic, then the potential for tsunami generation exists. The Duty Meteorologist should consult the RIFT (Real- time Inundation Forecast of Tsunami) Model Regional Tsunami Scenarios guide as an early assessment tool.

   Note: *These scenarios are all for magnitude 8.4 earthquakes, which represents "worst case" scenarios.*

2. Once the official tsunami message has been received from the PTWC, steps 3 to steps 6 of the local/ regional earthquake event procedure shall be followed as instructed below.

3. Once the first official tsunami message from the PTWC has been received and evaluated, the Duty Meteorologist with the assistance of the Meteorological Assistants shall:
   - Update First Responders via Astro radio,
   - Update the media, the Director of the DEM and the Director of the BMS via telephone.

   If there is no tsunami threat then a Tsunami Information Statement shall be prepared and disseminated via the Common Alerting Protocol (CAP) server, e-mail list and the BMS Website/Application.
   If a possible tsunami threat is indicated, then a Tsunami Warning shall be prepared and disseminated via the Common Alerting Protocol (CAP) server, e-mail list and the BMS Website/Application.

4. The Duty Meteorologist shall continue to monitor for updated information from the PTWC and relay the updated information to:
   - Local officials via Astro radio,
   - The Common Alerting Protocol (CAP) server,

- E-mail list and
- The BMS Website/Application.

5. Once the information received from PTWC indicate that the tsunami threat has diminished, the Duty Meteorologist with the assistance of the Meteorological Assistants shall relay this information to:
    - All First Responders via the Astro radio and
    - The media via email, and to the Director of the DEM and the Director of the BMS via telephone.

6. In collaboration with the Director of the DEM or designate, the Duty Meteorologist shall correspond with the Barbados Coast Guard about the sea conditions by telephoning (246)536-2900. Once the information received indicate that conditions along the coastal areas are safe, a tsunami termination bulletin shall be prepared and disseminated via the CAP server, e-mail list and the BMS Website/Application.

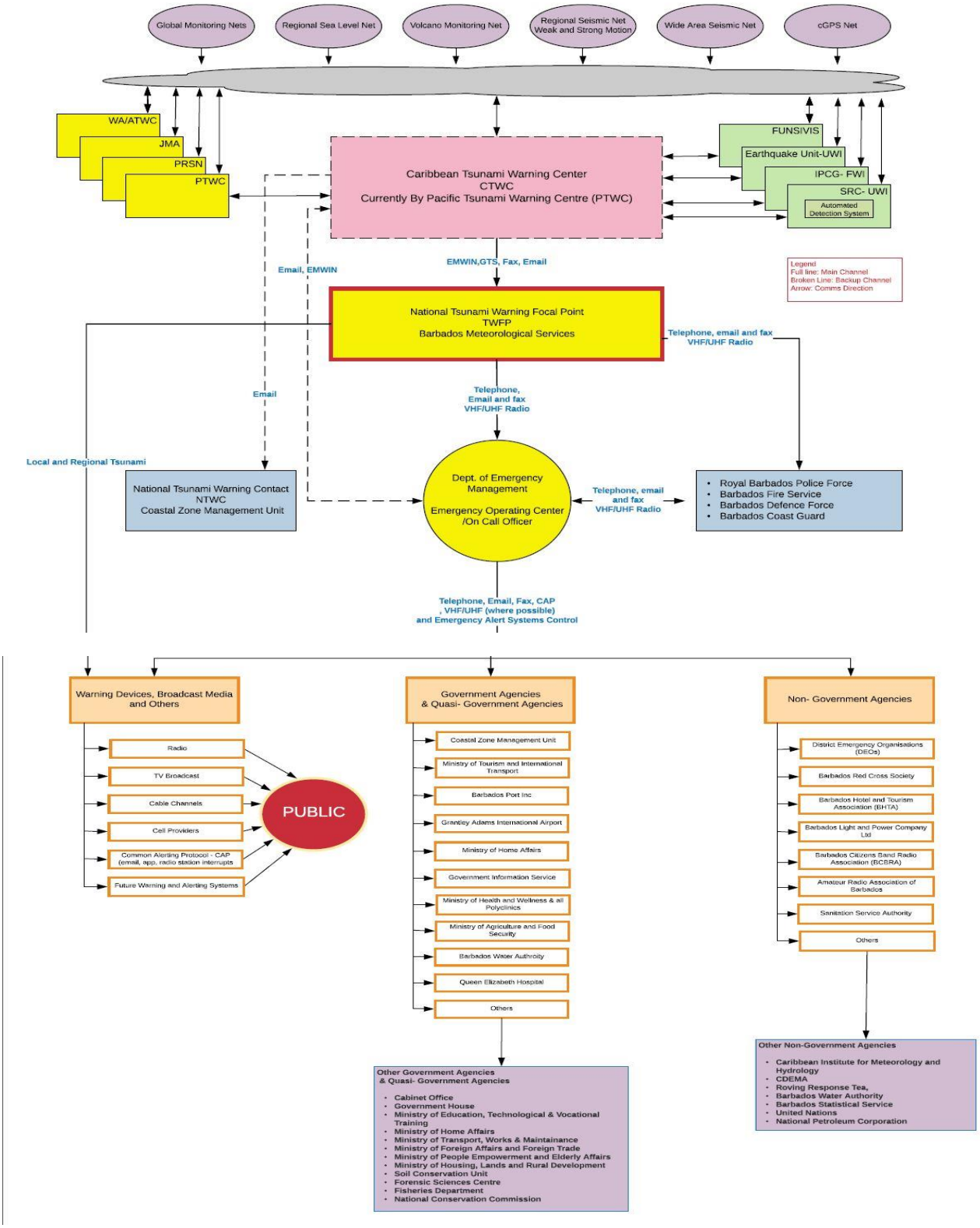

Figure 1. Barbados Tsunami Warning Protocol

- ***How is the emergency situation terminated?***

  The emergency situation is terminated when the "All Clear" is issued by the Warning Focal Point/Warning Centre, indicating that the threat is over.

- ***For Distant Tsunami Procedures:***

  What actions were taken in response to threat messages issued by PTWC and/or US NTWC, during the intersessional period?

  No threat messages were issued in the period under review. Therefore, no action was taken.

7. National Sea Level Network

Table 1: Summary of Sea Level Stations on Barbados's coastline

Station Name	Location	Latitude	Longitude	Sensors
Port St. Charles	*St. Peter Northwest Coast*	13.263	-59.6446	*Tide Gauge (working) Radar Sensor (working) Aqua Bubbler (working) Pressure Level (working)*
Barbados Coast Guard	*St. Michael*	*Not provided*	*Not provided*	*Radar Sensor (working)*
Bridgetown Port	*St. Michael*	13.108	-59.629	*Sea Level Station (Decommissioned)*
Consett Bay	*St. John*	13.17994	-59.4664	*Radar Sensor (working)*

FIGURE 2 : SEA LEVEL STATIONS – PORT ST. CHARLES

FIGURE 3: RADAR SENSOR LOCATION – BARBADOS COAST GUARD

FIGURE 4: RADAR SENSOR LOCATION – CONSETT BAY, ST. JOHN

8. Information on Tsunami occurrences/Tsunami Exercises

Please include sea level observations, pictures, wave arrival descriptions, public, media, or other responses to warnings, lessons learned, etc.

The DEM, through its TSCCH, spearheaded the Coastal Hazards and Earthquake Smart Month in March 2023. One of the focal activities during this month was Exercise Caribe Wave, which acted as a vessel to practise and evaluate the emergency operations procedures of agencies and businesses on the island with respect to the tsunami hazard. Evaluating the viability of the National Tsunami Warning Protocol and Standard Operating Procedures (SOPs), the National Tsunami Disseminating Protocol and exercising and evaluating earthquake safety and evacuation procedures serve as a continuation to the on-going task of preparation, planning and response.

Figure 5: Members of the National Emergency Management System in the National Emergency Operations Centre responding to the tsunami threat. (Caribe Wave 2023)

9. Web sites (URLs) of national tsunami-related web sites

DEM Website: https://dem.gov.bb/
DEM Facebook Page: https://www.facebook.com/dem246/
DEM Twitter Page: https://twitter.com/dem_barbados
DEM Instagram: https://www.instagram.com/dem.barbados/?hl=en
Government Information Service (GIS) Website: gisbarbados.gov.bb/
GIS Facebook Page: https://www.facebook.com/gisbarbados/
GIS Twitter: https://twitter.com/gisbarbados/
GIS Instagram: https://www.instagram.com/gisbarbados/?hl=en
Public Affairs Department (PAD)Facebook: https://www.facebook.com/padbarbados/
Public Affairs Department Twitter: https://twitter.com/padbarbados
PAD Instagram: https://www.instagram.com/padbarbados/
Barbados Meteorological Services (BMS): https://www.barbadosweather.org/
BMS Facebook: https://www.facebook.com/BarbadosMeteorologicalService/
BMS Instagram: https://z-p42.www.instagram.com/barbadosmetservices/?hl=es

10. Summary plans of future tsunami warning and mitigation system improvements. *This information will be used to aid the development of the CARIBE EWS Implementation Plan.*

- Continued updating of the Standard Operating Procedures (SOPs) and Protocols for Tsunami Warnings

- Continued implementation and testing of the CAP and the BMS Insight Application. The Caribe Wave 2023 exercise highlighted some areas for improvement which will be addressed in the near term.

- The National Hazard Mitigation Committee was established as a Standing Committee of the Emergency Management Advisory Council (EMAC) and developed a draft national hazard mitigation policy and plan. This committee continues to provide support to the National Tsunami and Coastal Hazards Programme.

- Continued implementation of the National Coastal Risk Information and Planning Platform (NCRIPP) which aims to enable risk-based decision-making in the areas of physical development planning and emergency management planning through the probabilistic assessment of natural hazards which impact the coast. As such, the NCRIPP will provide up to date scientific information to support the completion of the Coastal Evacuation Plan, Evacuation routes and the identification of Hazard and Safe Zones as well as the erection of evacuation signs in coastal communities. To date the NCRIPP has completed vulnerability, hazard and risk assessments for tsunami and other coastal hazard scenarios and the planning platform to support decision-making and is awaiting integration with government agencies.

- Barbados continues to support the Caribbean Tsunami Information Center (CTIC) as host country.

- Continue working with communities (householders, public and private sector institutions) to encourage increased levels of preparedness.

- Coastal Community Vulnerability Assessments are being implemented to provide a profile of communities for inclusion in the National Vulnerability Grid.

- The completion of more Tsunami Ready designated coastal communities.

Detection System:

- Training for Emergency Response personnel and Warning Centre personnel is also being targeted to improve the capacity of the National System.

- The Coastal Zone Management Unit has worked towards ensuring that the Port St Charles Tide Gauge, Radar Sensor, Aqua Bubbler, Pressure Level monitor is fully functioning.

NATIONAL PROGRAMMES AND ACTIVITIES INFORMATION

11. EXECUTIVE SUMMARY

Brief statement of no more than one page addressing all items discussed in the Narrative section of the National Report (below)

The Department of Emergency Management in conjunction with the Coastal Zone Management Unit continue to collaborate as co-chairs of the Technical Standing Committee on Coastal Hazards. This standing committee is tasked with the responsibility for the development and implementation of the National Coastal Hazards and Earthquake Programme in Barbados. Emphasis is being placed on the public education and awareness programme regarding these particular hazards with focus on the involvement of coastal communities, the private sector - especially the Tourism sector, the disabled community and the youth population.

Attention is also being placed on the further enhancement of the Mass Notification and Alerting Mechanisms by improving the National Multi-Hazard Early Warning System. In addition, the scientific information and data requirements necessary to influence and enhance the Programme are being pursued.

12. NARRATIVE

Detailed description of innovations or modifications to National tsunami warnings procedures or operations since last National Report, tsunami research projects, tsunami mitigation activities and best practices (especially in preparedness and emergency management), tsunami exercises, as well as public education programmes or other measures taken to heighten awareness of the tsunami hazard and risk.

Modifications to National tsunami warnings procedures or operations

Technical Standing Committee on Coastal Hazards

During the 2020-2023 period the TSCCH was significantly impacted by COVID-19 restrictions. However, the TSCCH was able to convene virtually and was able to achieve the Tsunami Ready designation for Shermans to Mullins and start the process for achieving Tsunami Ready designation for two new coastal segments (i.e., St. James Central and Christ Church West).

Global Tsunami Recognition

In June 2020, Barbados under the guidance of TSCCH achieved its' first Global Tsunami Ready Recognition for the area Shermans, St. Lucy to Mullins in St. Peter. Barbados received support from the Caribbean Tsunami Information Centre (CTIC) and the European Commission Humanitarian Aid Department's Disaster Preparedness Programme (DIPECHO) in this endeavour. An official ceremony was held in September 2020 to commemorate Barbados' achievements.

In 2022, Barbados launched the Tsunami Ready initiative for two communities, Porters to Holders Hill, St. James and Garrison, St. Michael to Rendezvous, Christ Church. Barbados received support from the Caribbean Tsunami Information Centre (CTIC), International Tsunami Information Center Caribbean Office (ITIC-CAR), The National Oceanic and Atmospheric Administration (NOAA), the United States Agency for International Development (USAID) and the National University of Costa Rica. These two communities are expected to receive their official Tsunami Ready certification by the end of 2023.

Barbados Tsunami Warning Protocol and Standard Operating Procedures

The BMS introduced an additional tool for impact-based forecasting in 2020. This was followed by the introduction of the BMS Insights Application for smart phones in 2021. The impact-based forecasting tool and the BMS Insights App both serve to notify the public and all stakeholders of pending hazard events.

A Community Emergency Operations Plan Template was developed and made available for adaptation by community emergency response groups. Five (5) District Emergency Organisations – St. Lucy, St. Peter, St. James North, St. James Central and Christ Church West adapted the template and now have Community Emergency Operations Plans for their areas.

Common Alerting Protocol: Mass Notification System

At present, work is being undertaken with relation to the upgrade of the CAP Mass Alerting System to improve its operability and reach. This includes refining the system to achieve seamless interoperability with our various established social media channels as well as to ensure there is full operability of the mechanism responsible for activating the local radio stations interrupts.

Public Education and Awareness Programme

The Barbados population has been kept abreast of tsunami and other coastal hazards through public awareness and education activities which targets coastal communities, the Tourism Sector stakeholders, the disabled community, school population and the general public. The table below captures these public awareness and promotional activities geared at the various segments of the Barbadian population during the period January 2022 - March 2023.

Table 2: National Tsunami Public Awareness Programme January 2022 - March 2023.

Public Awareness Activities	***Target Audience***	***Collaborating Agencies/ Entities***
Television and Radio Public Service Announcements (PSAs)	*General Public*	• *TSCCH* • *GIS* • *Private Media Houses*
March Madness Game Show	*General Public*	• *DEM* • *CBC* • *Barbados Red Cross* • *Barbados Light and Power Company Limited* • *Eden Lodge Youth Charitable Trust* • *Coastal Zone Management Unit* • *Popular Discounts* • *Jordan's Supermarket* • *Sol Barbados Limited.*
Coastal Hazard Trivia Segments	*General Public*	• *TSCCH* • *Private Sector Business Agencies*
• *World Tsunami Awareness Day – Community Outreach* • *Coastal Sundown Hike* • *Tsunami Ready 5k Walk and Run*	*General Public*	• *TSCCH* • *Private Business Sector*
• *Coastal Hazards and Earthquake Smart Month*	*General Public*	• *TSCCH* • *Media Houses* • *Public Business Sector*

Public Awareness Activities	***Target Audience***	***Collaborating Agencies/ Entities***
Community Awareness and Outreach Events for the Porters to Holetown and Garrison to Rendezvous Tsunami Ready Project Areas	*General Public: Community residents, businesses and other stakeholders in the communities identified for recognition*	• *TSCCH*
Media Campaign	*General Public*	• *Public Information and Education Sub-Committee of the TSCCH.* • *Private Media Houses*
National Earthquake Preparedness Day	*General Public*	• *Public Information and Education Sub-Committee of the TSCCH.* • *Private Business Sector Entities*
Caribe Wave Exercise: Pre – Exercise Sensitisation and Actual Event	• *General Public* • *Private Business Sector Entities* • *Tsunami Ready Communities Designees* • *Coastal Communities* • *National Emergency Management System*	• *TSCCH* • *Private Sector Business Agencies* • *Voluntary Organizations (BCBRA, DEOs)*

*****Other planned activities were severely impacted by the Covid-19 pandemic therefore they were cancelled. These included a Run Tsunami Run 2022. An overwhelming number of businesses donated generously towards the Run Tsunami Run activity. Sponsorship was received for an ambulance and two (2) paramedics from Island Care Ambulance Services. In addition, three hundred and fifty (350) T-shirts were sponsored by CZMU, MTIT and CDB. This generosity was also seen with prize donations from the following businesses: Atlantis Submarines, A&A Auto Parts & Accessories, Mark's Auto Spares, Burger King, Paulo's Churrasco, Seahorse Restaurant & Bar, Pig On De Rock, Do It Best Home Centre, Eddies Trading Co Ltd, Soothing Touch Da Spa, Harrison's Cave, Savannah Beach Hotel and Dallas Discounts.

Figure 6: World Tsunami Awareness Day – Community Outreach – November 5th 2022

Figure 7: Coastal Sundown Hike November 5th 2022

Figure 8: Launch of Coastal Hazards Month – Children learning about the Tsunami Hazard March 1st 2023

Figure 9: Press and Media Launch of Coastal Hazards Month March 1st 2023

Figure 10: National Earthquake preparedness day flyer March 03, 2023

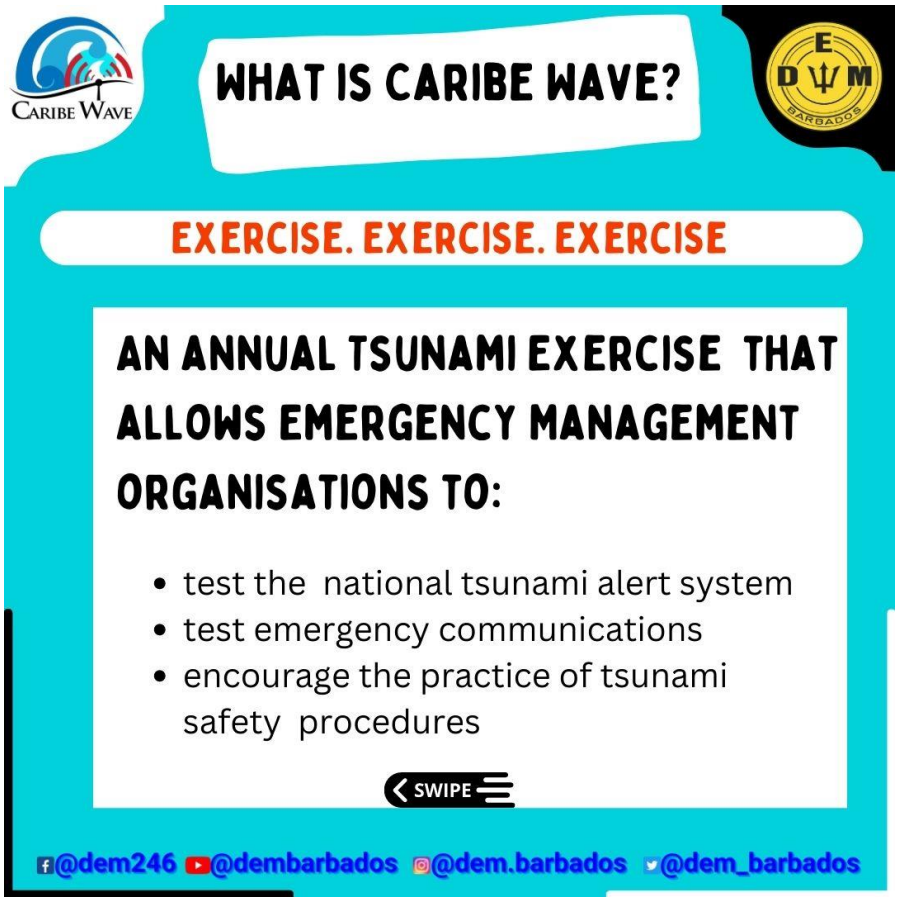

Figure 11: Public information graphic on Caribe Wave March 23, 2023

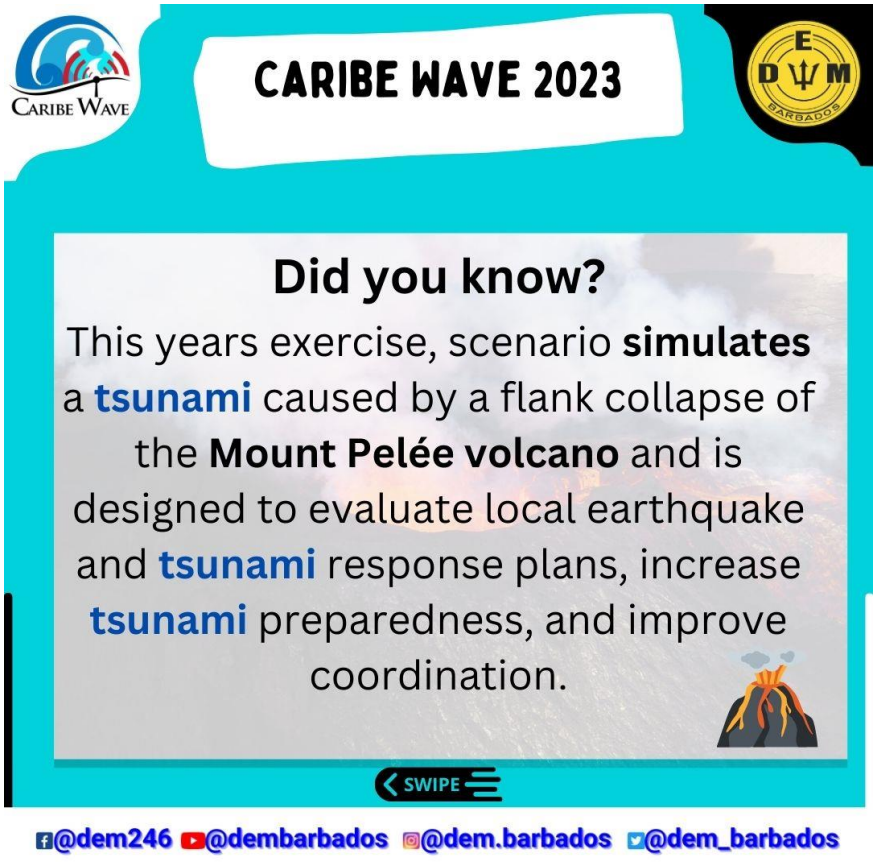

Figure 12: Public information graphic on Caribe Wave March 23, 2023

Figure 13: SEOC operation infographic on Caribe Wave March 23, 2023

Figure 14 : School presentation March 23, 2023

Figure 15: Presentation on Tsunami at the Arthur Smith Primary School on March 23, 2023

Figure 16: Evacuation of Hotel Staff and guests as part of Caribe Wave March 23, 2023

Figure 17: Evacuation of Hotel Staff and guests as part of Caribe Wave March 23, 2023

Figure 18: Evacuation of Hotel Staff and guests as part of Caribe Wave March 23, 2023

Figure 19: Tsunami Ready 5k Walk and Run March 26, 2023