

MES virtual meeting
October 18, 2023

Attendees:

Nic Arcos (NOAA), Alex Baker (ASDHS), Regina Browne (VITEMA), Mike Crop (OEM), Mario Kaipat (CNMI HSEM), Laura Kong (NOAA), Jeff Lorens (NOAA), Summer Ohlendorf (NOAA), Graciela Rivera (VITEMA), Dave Snider (NOAA), Elyssa Tappero (WAEMD), Christa von Hillebrandt-Andrade (NOAA), Ethan Weller (WAEMD), Rick Wilson (CGS)

The featured speaker Graciela Rivera (SHMO at VITEMA) gave a talk on "How the USVI utilize other Federal Grants to strengthen the Tsunami Program". Slides are provided at the end of these meeting notes.

The following is a summary of the additional topics discussed:

- 1) [MES WorkPlan 2023-24](#) has been finalized and will be sent to Acting NTHMP Administrator.
- 2) Update on TsunamiReady Tiger Team (*presented by N.Arcos on behalf of T. Becker*):
 - The MES TsunamiReady Tiger Team was formed based on discussions of TsunamiReady during the NTHMP MES Summer meeting session.
 - 13 volunteers were identified at the summer meeting. (mix of States/Territories and NOAA)
 - The MES TsunamiReady Tiger Team will be **reviewing the Review and comment on TsunamiReady Recognition Program Instructions (NWS Directive 10-704) to try and address TsunamiReady Programmatic Concerns and Issues** that the NTHMP and TSTAP have brought up.
 - The team meets every other month until late spring/early summer.
 - The Tiger Team will use comments developed during the review of the TsunamiReady Directive to suggest changes to the TsunamiReady Guidelines, including adding new guidelines as needed.
 - The **draft recommendations will be shared with all MES in Spring 2024.**
 - Late spring/early summer 2024 will share draft recommendations with the NTHMP coordinating committee.
 - Summer Meeting 2024 will provide final recommendations to the NTHMP Coordinating Committee for submittal to NOAA/NWS
- 3) **NTWC exercise info:**

Seeking to finalize 2024 exercise dates ASAP-- please let Summer (summer.ohlendorf@noaa.gov) or Dave (david.snider@noaa.gov) know if there are any major conflicts or preferences within the following ranges of possible dates:
Pacifex: May 7-9 or May 21-23, 2024
Lantex: November 6-7, 2024 (Nov. 5 is Election Day & World Tsunami Awareness Day)

Surveys collecting feedback from 2023 and suggestions for 2024 are still open to internal and external partners:

Pacifex: https://docs.google.com/forms/d/e/1FAIpQLScOFCo9cOVs-r66ZQ6EylC4qp5POPep7ij-Q8cP8RITn8_xFA/viewform?usp=sf_link

Lantex: https://docs.google.com/forms/d/e/1FAIpQLSc9MOPgj3JNUSI5A0uBEuoaU9TLPdmqcGEMcL8YcFUzCrkNfA/viewform?usp=sf_link

- 4) The **CARIBE WAVE 24** exercise will be held on Thursday, March 21, 2024 at 15:00 UTC
Two scenarios: (1) Panama and (2) Puerto Rico Trench. PR Trench will have international and domestic products produced by PTWC.
Handbook expected in December 2023, with webinars on January 23, 24 and 25/February 27, 28 and 29 in English, Spanish and French.
TsunamZone will be activated in 2024 for participation registration.
- 5) MES announcements:
 - Nominations needed for Todd’s co-chair replacement identified. Need broad geographical representation (Regina Browne is from USVI, so western or Pacific representation is desired). All MES members are encouraged to consider this opportunity, noting that chair positions rotate so that the new co-chair is not expected to be lead Chair immediately. The MES is led by a Chair, First Vice Chair, and Second Vice Chair, each with one-year terms as a specific chair. Details are available in the [MES Terms of Reference](#).
 - [NTHMP Strategic Plan for 2024 - 2029](#) (final formatted version) on NTHMP website.
 - Next MES meeting (every other month, 3rd Wednesday): 20 December (Wednesday)

Hazard Mitigation Grant Program



USVI – Use of Alternative Funding for Tsunami Mitigation and Resilience

HMGP: Project Requirements

- Must include activities covered by the current approved and adopted Hazard Mitigation Plan
- Supports risk reduction activities and improves resiliency
- Eliminate or reduces the impact of future natural hazards
- Must provide a long-term solution for the community
- Must adhere to environmental, historical and economic policies
- Must be technically feasible and cost effective



Virgin Islands Territorial
Emergency Management Agency
(VITEMA)

United States Virgin Islands
Hazard Mitigation Plan

2019-Update

Tsunami of 1867

- In 1867 a massive earthquake impacted the Virgin Islands causing a tsunami on November 18th. The tsunami was one of the most powerful ever recorded in the Lesser Antilles with waves reaching heights of more than 10 meters (over 32.8 feet.)
- For the USVI it is no longer a question of if, but one of when. Our goal is to educate, prepare and provide life saving measures for our community.

TSUNAMIS

In the event of a tsunami, plan to act quickly.



Guidelines for Design of Structures for Vertical Evacuation from Tsunamis

Third Edition

FEMA P-646 / August 2019



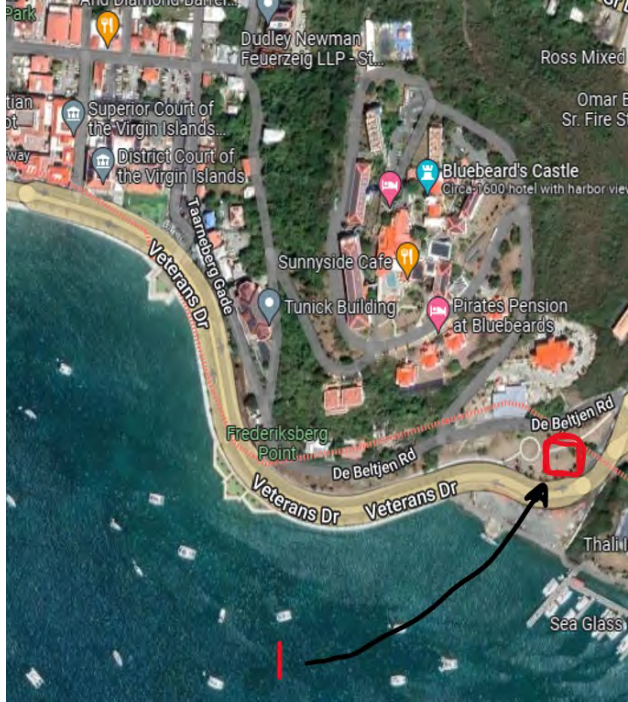
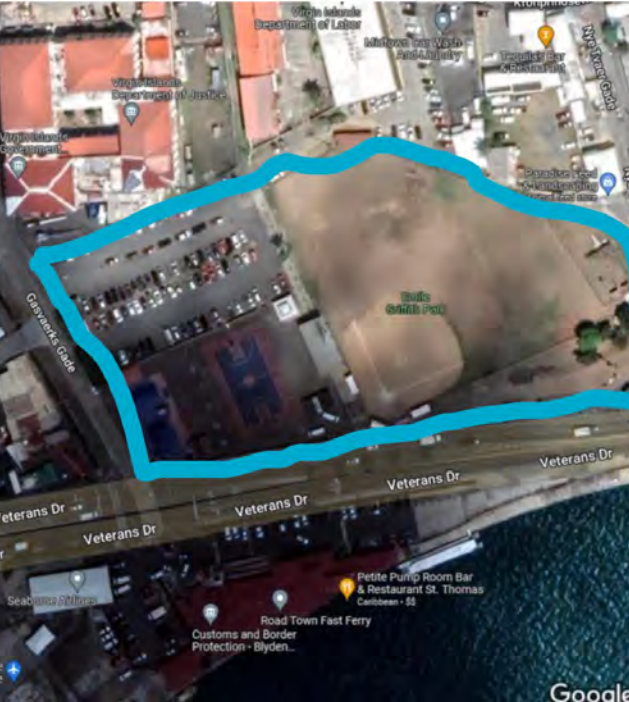
USVI Vertical Tsunami Evacuation Structures

- Five (5) Phase I approved projects for Tsunami Shelters
- Subrecipient – Department of Public Works
- Obligated Amount - \$592,569.60 each
- Total Estimated Project Cost - \$4.9M each
- Project will provide artificial high ground through vertical evacuation structures that residents near to coast can reach before a tsunami strikes.
- Current funding provides for a technically feasible scope of work, 60% designs and additional confirmed eligibility requirements required by FEMA Publication - 646.
- Three (3) in the Charlotte Amalie area of St. Thomas
- Two (2) in St. Croix major town areas – Christiansted and Frederiksted

St. Croix Parking Garages Tsunami Vertical Tower Sites

- Highly populated, neighborhoods, and a busy businesses and the main tourist centers of St. Croix.
- Provides a much-needed evacuation sites with the necessary height and strength designed specifically to provide life saving access to a secure and near and readily available location for residents and visitors in the island busiest areas.





St. Thomas Tsunami Vertical Towers – Charlotte Amalie

- Different options for use will be part of the assessment for these three sites.
- Charlotte Amalie Griffith Park
- Charlotte Amalie East End Veteran’s Drive
- Charlotte Amalie Vendor’s Plaze
- Charlotte Amalie East End Charlotte Amalie is a very busy location in the island of St. Thomas including multiple stores and businesses, residential areas and schools. Additionally, Charlotte Amalie is a very popular cruise destination which can increase the population in the town district by tens of thousands in any given day.



Tsunami Public Education and Resiliency Program – Phase I Approval

- Project Subrecipient – Virgin Islands Territorial Emergency Management Agency (VITEMA)
- Phase I Obligation Amount \$74,240.00 – allows for FEMA to obtain additional information to confirm technical feasibility and cost effectiveness.
- Complete Project Total - \$849K
- Purpose of the project is to develop and implement a public education program and install approximately 500 tsunami hazard signs across the territory. These signs will serve as means to educate and provide warning for residents and visitors about the risk of tsunami.

Introduction
A tsunami consists of a series of waves or sea waves that can be generated by an earthquake, volcanic eruption (landslide or subsidence).

In deep water, the tsunami can travel as fast as 500 miles per hour, depending on the speed of a commercial jet. Near the shore, however, a tsunami slows down, the distance between its waves decreases and the waves height increases.

The tsunami may arrive within minutes, but waves and strong currents may affect the coastal areas for hours. The wave height could be one or two kilometers everything along its path, when flooding and when receding.

To define the evacuation route for the USVI and U.I. (25 nautical miles profiles was used. It was established within 2 miles of the coast, another factor considered. The evacuation criteria was based on historical events, tsunami modeling results from Puerto Rico and the U.I. and the US National Tsunami Hazard Mitigation Program guidelines.

Significant Tsunamis in US Virgin Islands and VI Caribbean*

Year	Earthquake Magnitude	Episodic	Area Impacted	Maximum wave height (feet)
1700	>8.8	Cholera Paralytic	St. John	27
1918	7.5	US Virgin Islands	St. John	80(100)
1970	7.0	St. John	St. John VI	26
1992	7.8	Thompson	St. John	18

For Your Safety Remain Alert:

- National tsunami signs are a variety of long configuration and as they are level change.
- Tsunami alert messages issued by the US National Weather Service Tsunami Warning Centers and the Puerto Rico Seismic Network.
- Evacuation orders issued by the USVI Government through VITEMA.
- Use **Tsunami Ready**SM
- Have an emergency backpack on hand.
- Study the evacuation map and identify the evacuation route, evacuation routes, assembly points and high ground.
- When a tsunami message is received, cooperate and follow all instructions from emergency management authorities.

* NOAA National Oceanic and Atmospheric Administration (NOAA) National Oceanic and Atmospheric Administration (NOAA) National Oceanic and Atmospheric Administration (NOAA) National Oceanic and Atmospheric Administration (NOAA)



Applications in FEMA Review

VITEMA - All Hazards Project Outdoor Notification System



- Purpose of this project is the expansion of the Territory's early warning system to strengthen the communication capabilities and alert the public of potential catastrophic events, including tsunami's, hurricanes, earthquakes, and other weather-related disasters. This system will have the capability to utilize the Public Alert and Warning System (IPAWS), our nation's standardized alert and warning infrastructure. It will allow for both tone and voice capable warning. It will also provide steel poles with an electronic siren with solar powered back up. This project will also increase the number of sirens currently in the Territory.
- Application Total Project Cost - \$2.6M



VITEMA Hazard Mitigation & Planning & Preparedness Contact Information

Territorial Hazard Mitigation Officer

Graciela Rivera

Graciela.Rivera@vitema.vi.gov

Deputy Director Planning & Preparedness

Regina Browne

Regina.Browne@vitema.vi.gov