



101- NTHMP PARTNERS PUERTO RICO TSUNAMI PROGRAM



University of Puerto Rico Mayaguez - PR Seismic Network – PRSN

Puerto Rico Emergency Management Bureau – PREMB

National Weather Service San Juan WFO – NWS SJU

NWS - Caribbean Tsunami Warning Program - CTWP

COMMUNITY



CONTENT



The PR Tsunami Program (UPRM)

- Victor Huerfano
- Elizabeth Vanacore
- Roy Ruiz

The role of the NWS

- Ernesto Morales (WCM)

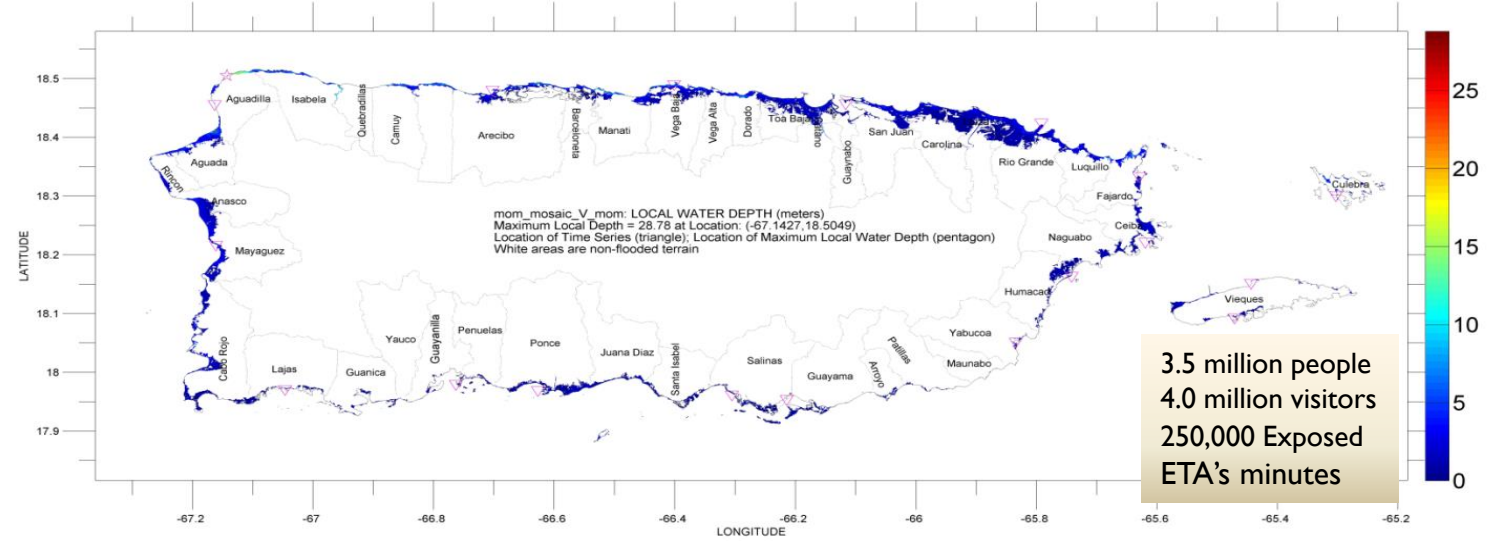
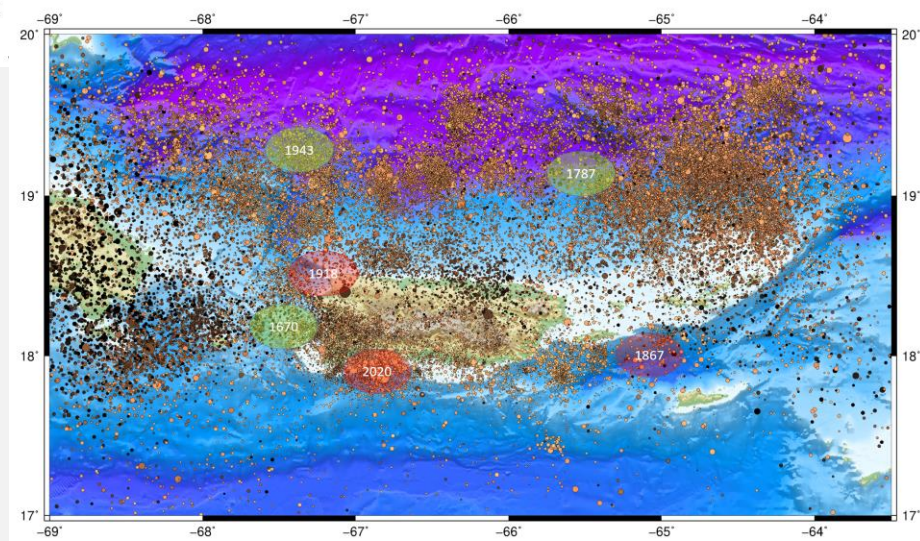
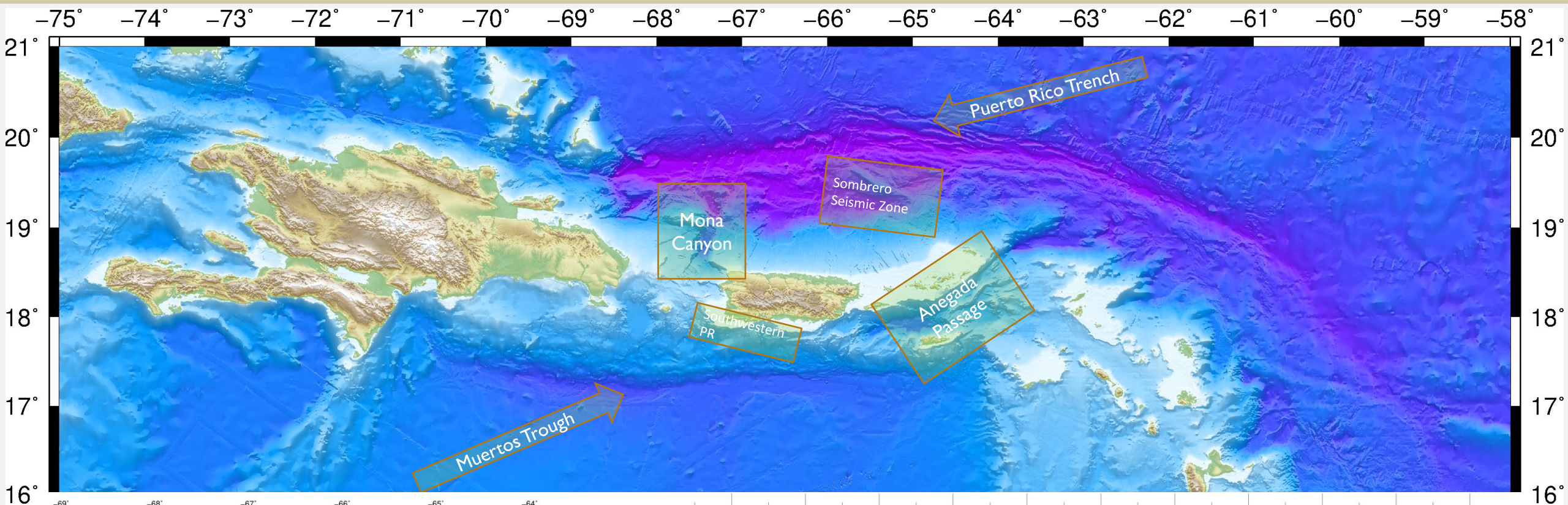
The Puerto Rico Emergency Management Bureau

- Wildaomaris Gonzalez

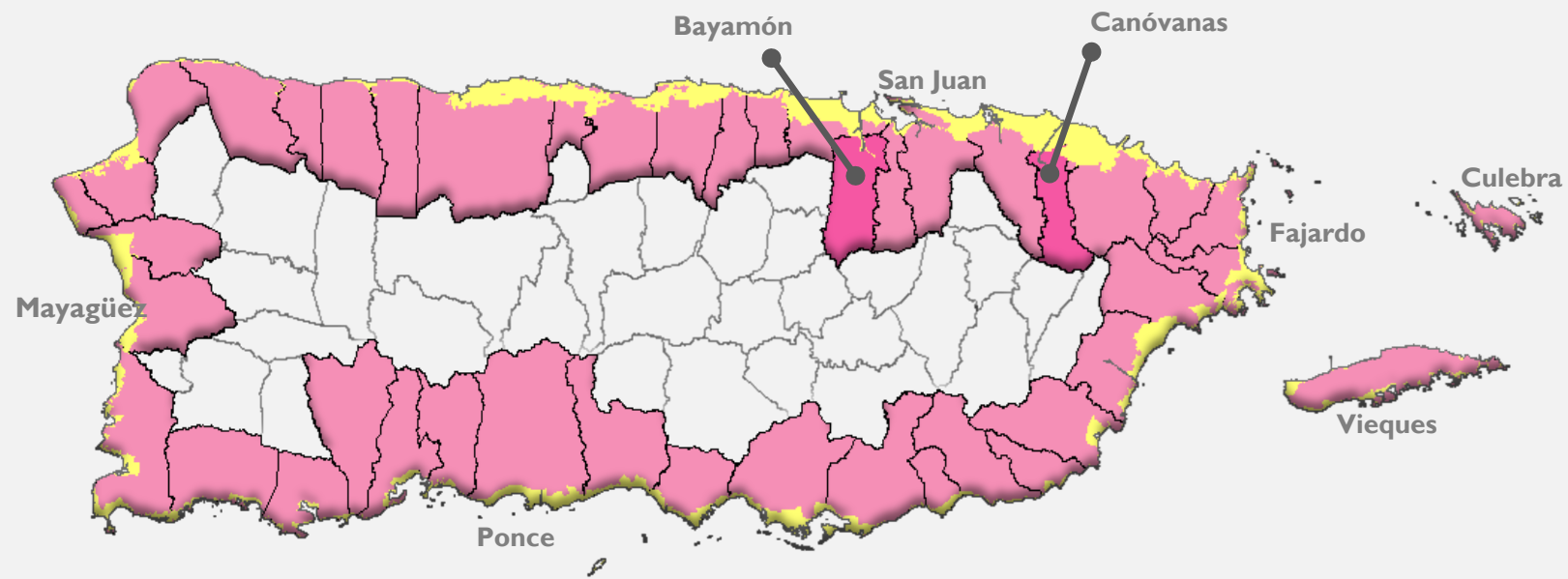
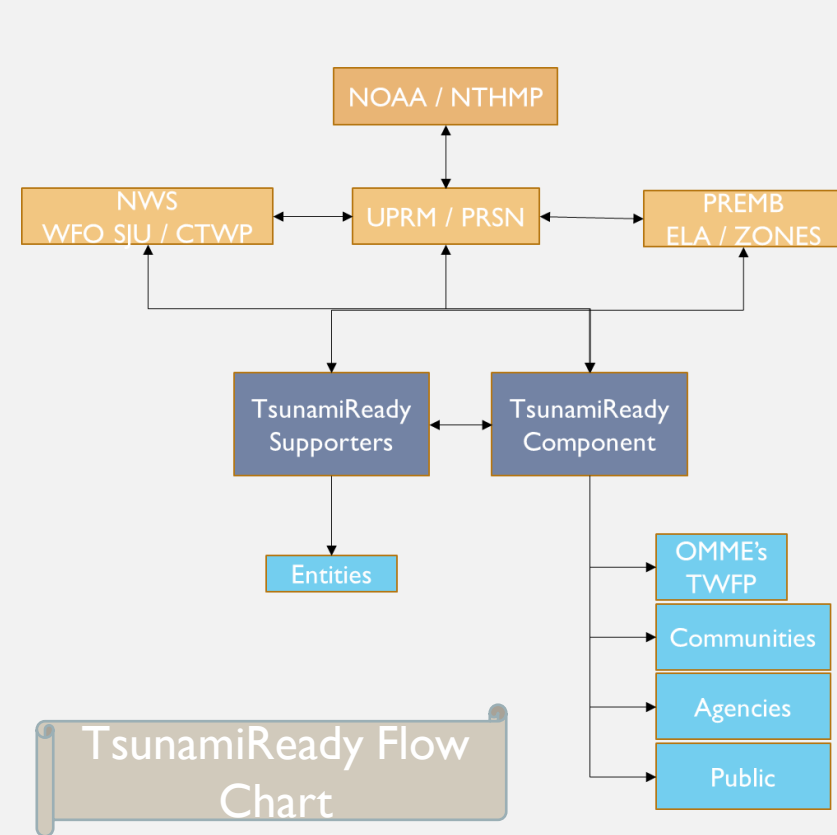
Invited Speaker:

- Ada Monzon,
Meteorologist

RISK AND HAZARD MANAGEMENT : ASSESSMENT

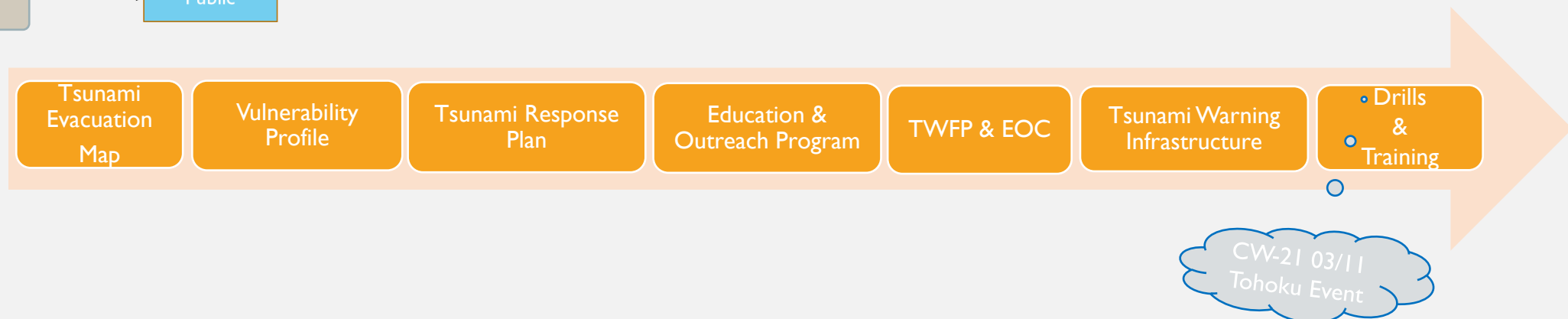


THE TSUNAMIREADY AND SUPPORTERS PROGRAM

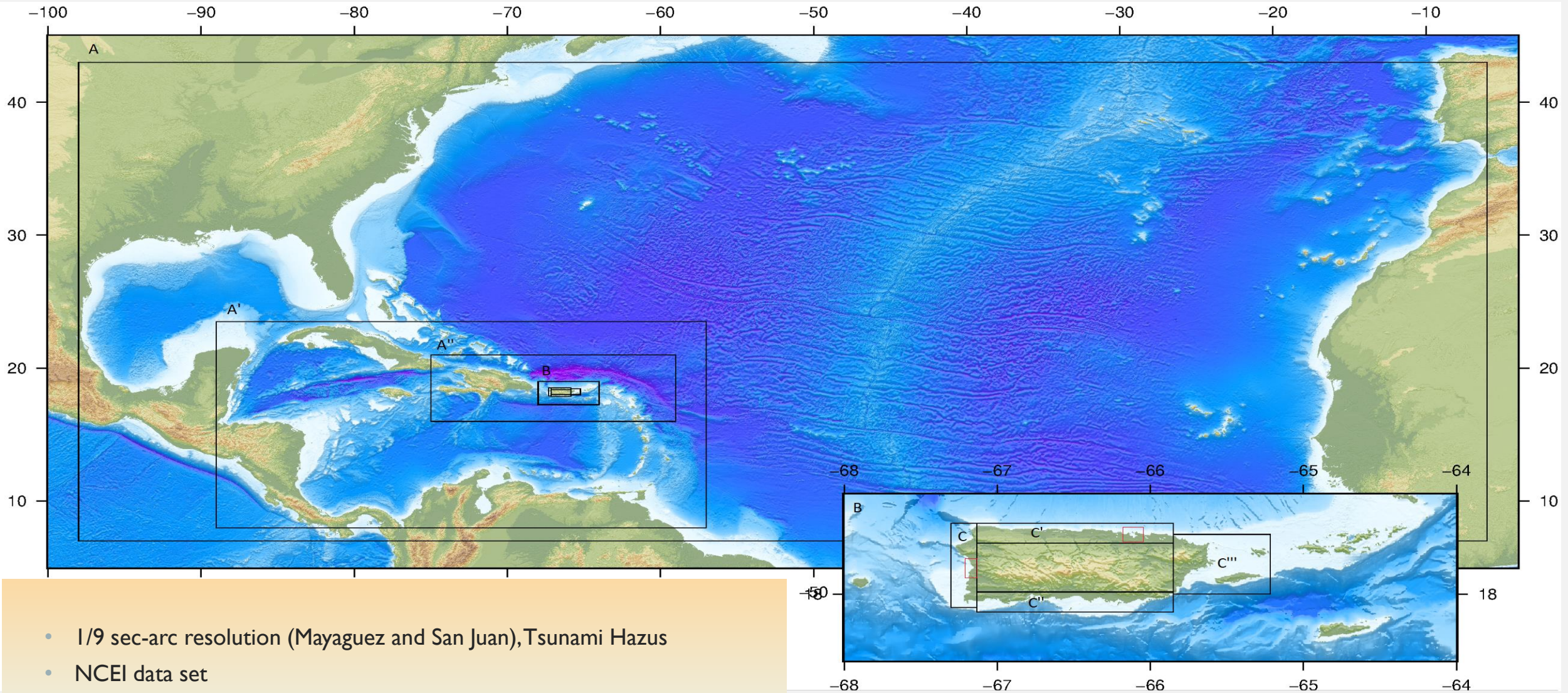


46 - TsunamiReady Communities

16 - TsunamiReady Supporters



PROJECTS AND INITIATIVES : TSUNAMI EVACUATION UPDATE



- 1/9 sec-arc resolution (Mayaguez and San Juan), Tsunami Hazus
- NCEI data set
- HySEA tsunami model (+ variable friction)
- Upgraded earthquake sources (+ USGS)
- Community Pedestrian Evacuation Maps (+ PR TMP)

PROJECTS AND INITIATIVES : SOCIAL SCIENCE COMPONENT

AMATEUR RADIO – ARRL & FRS (Family Radio Service)

- WEA, EAS, Sirens, **Social Media**, media, etc.



VERTICAL EVACUATION ESTRATEGY

- Developing and implementing a vertical evacuation strategy involves
- serious decisions that often have no clear-cut answer (FEMA P646A)



Elevated platform used on Okushiri Island (<http://ioc3.unesco.org/itic/printer.php?id=20>)

TSUNAMIREADY PROGRAM - Perception of Residents

- We are looking for ways to improve our program to better serve you.



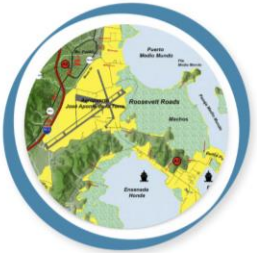
PROJECTS AND INITIATIVES : THE TSUNAMI ONLINE MODULES



Module 2: How Do I Read the Evacuation Maps and Map Tool?

The PRSN evacuation maps and Map Tool are tsunami resources that support the development of a family or individual tsunami response plan. This module focuses on learning how to read these maps, particularly identifying key symbols and information.

Begin Module



Module 3: How Do I Use the Evacuation Maps and Map Tool?

The PRSN evacuation maps and Map Tool include a series of features and options that may seem daunting. This module focuses on using these tsunami maps, including the differences between the maps, when to use each, and how to use the interactive Map Tool features.

Interactive Activity

Move your mouse over the map (for mobile devices, touch the map) to further explore the evacuation map symbols. If you identify the following symbols correctly, a small window/tooltip with the symbol's name will pop up on the map.

Can you find...?

- The 6 assembly points
- The emergency siren near Parque Barbosa
- The only hospital within the evacuation zone

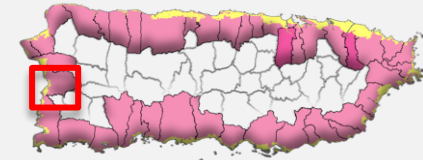


<https://www.uprm.edu/prtsunamiedu>

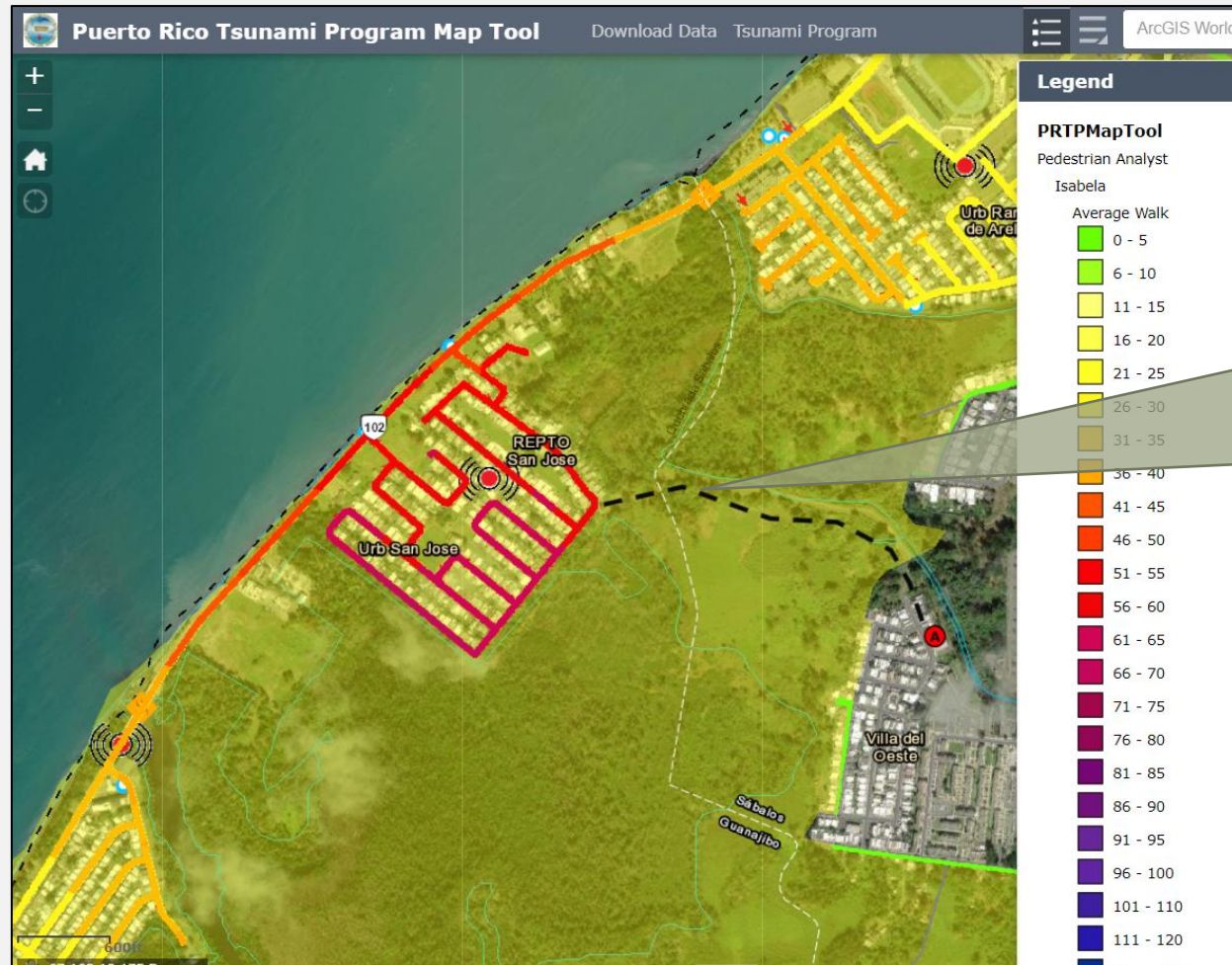
Online Modules:

- Increase Accessibility
 - English and Spanish
 - On Demand
- Permit Modern Pedagogy
- Designed so that a single module can be done during a coffee break
- Interactive rather than Passive
- COVID friendly!

PROJECTS AND INITIATIVES : EMPOWERING COMMUNITIES – SELF MANAGEMENT

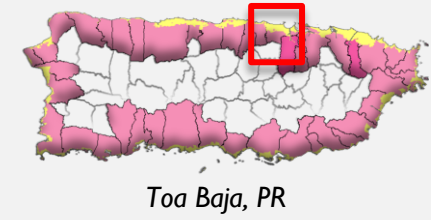


Mayaguez, PR



San José Community, Mayagüez
Night evacuation drill
World Tsunami Awareness Day 2019

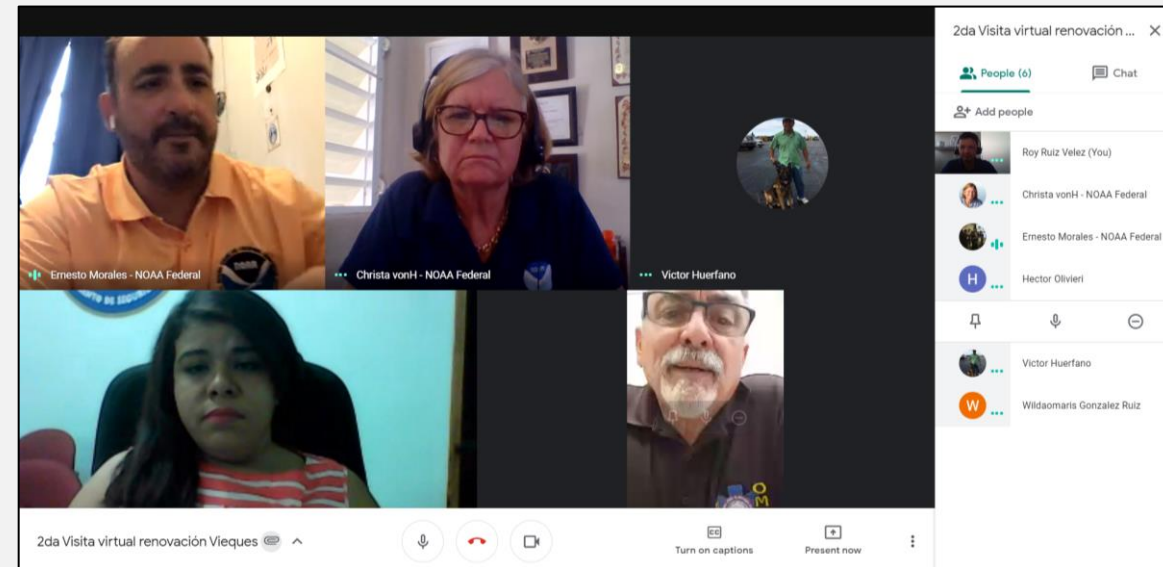
PROJECTS AND INITIATIVES : EMPOWERING COMMUNITIES – SELF MANAGEMENT



Toa Baja evacuation route signaling initiative.

PREMB :TSUNAMI PROGRAM “COOP” INITIATIVE DURING PANDEMIC

- Because COVID-19 pandemic, the PR Tsunami Program create a methodology to continue working on our mission:
 - ✓ “COVID-19 Pandemic tsunami services guidelines” document based on the guidelines released by UNESCO-IOC Tsunami Task Teams and ICGs. A new work plan was needed to accomplish the mission
 - ✓ Using technology to assist during the process: videos, photos, teleconferencing, others
 - ✓ Virtual workshops/meetings
 - ✓ Remote assistance for EOC
 - ✓ The renewal process continue



- PREMB support the 46 TsunamiReady Communities to update their tsunami evacuation response plan, beside COVID-19 Pandemic.
 - During pandemic the logistic change – distribution of face mask, physical distance during evacuation and at the Assembly point
 - Shelters – ensure sufficient space for distancing at the shelters
 - ✓ Ex. Only 1 family per classroom
 - ✓ Identify other structures to use as shelters or places to build a temporary shelter



PREMB : PROMOTING MULTI-HAZARD DRILLS SUCH AS COVID QUAKE

- ✓ To demonstrate the operational coordination between local and regional offices during a mass search and rescue operations, deal with medical surge and mass casualty incident after a major earthquake and tsunami that has disrupted most of the utilities including water, power, transportation, and communications within 24 hours.
- ✓ To demonstrate the ability of the municipalities to receive, develop, and disseminate a public notification systems regarding a significant disaster. (i.e. an earthquake during pandemic within the first 24 hours).



NWS, SAN JUAN WEATHER FORECAST OFFICE

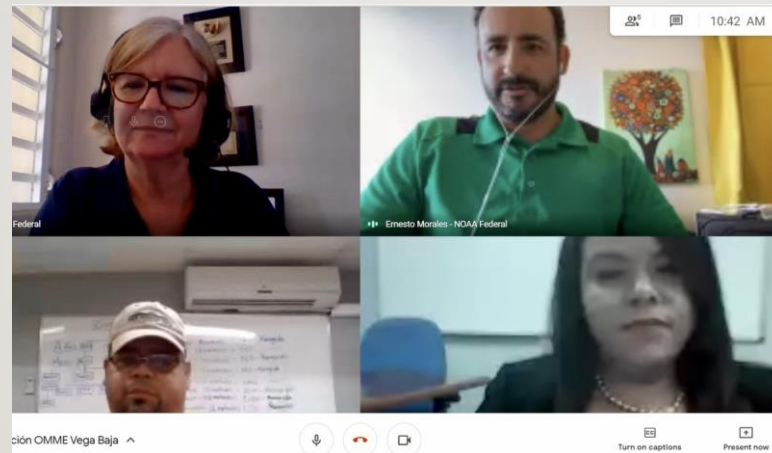
ERNESTO MORALES

WARNING COORDINATION METEOROLOGIST

BEFORE 2020



AFTER 2020



PROGRAM CONTINUITY

Building

- Trust
- Relationship
- Understanding
- Needs
- Service

• Communities

- 46 in Puerto Rico
- 3 in U.S. Virgin Islands

• Supporters

- 16 in Puerto Rico

INVITED SPEAKER : ADA MONZON



- She is the first female meteorologist from Puerto Rico.
- The first woman that is an American Meteorological Society Fellow and Certified Broadcaster Meteorologist in Latin America.
- Is the Founder and President of the Eco Exploratorio: Science Museum of Puerto Rico, and is a producer of disaster mitigation educational campaigns (STEM).
- She is the meteorologist for Univision Radio (WKAQ 580 am), lenteviral.com, and WAPA TV.
- Her professional career began as a meteorologist at the U.S. National Weather Service (NWS) as a Forecaster and Warning and Preparedness Meteorologist. She was a Professor at the UPR, Río Piedras, worked with FEMA Division Mitigation and consulting work on hurricane preparedness.
- Among her awards are: The AMS Joanne Simpson Mentorship Award, The Silver Medal of the US Department of Commerce, Distinguished Alumni of the Faculty of Natural Sciences of the University of Puerto Rico, STAR Award-Univision Television Group, and Recipient of the AMS Award for Excellence in Science Reporting by a Broadcast Meteorologist.

<https://youtu.be/w3yHT69wfMg?t=425>

PUERTO RICO TSUNAMIREADY TEAM : QUESTIONS ??

Puerto Rico TsunamiReady Program Committee:

Co-PI:



Ernesto Morales
WCM
NWS SJU WFO



Dr. Víctor Huérfano
UPRM - PRSN Director
Project PI



Wildaomaris González
PR Tsunami Program Manager
PREMB



Christa von Hillebrandt
Program Manager
NWS - CTWP



Dr. Elizabeth Vanacore
Associate Research Professor
UPRM - PRSN
Project Co-PI

Tsunami Program Coordinators at UPRM - PRSN:

Outreach and Education Personnel at UPRM - PRSN:



Roy Ruiz Vélez
Research Associate
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Abimael Castro
Research Associate
UPRM - PRSN



Gisela Báez, M.S.
Geophysics Data Analyst
UPRM - PRSN
Caribe Wave Coordinator



Glorymar Gómez
Outreach and Education
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Jesenia Figueroa
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Alejandro Torres
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Mark Álvarez
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