

Island Caucus Notes

7/31/2023

Washington State:

Alerting Protocols

Capabilities Issues

Possible Washington can fill out the template by SOPs or plans to validate and perform leg work and then provide back to territory

Action Items:

Update of email list of active members in the Island Caucus to validate emails to send PR SOPs of Siren Protocols

Send to email from Wildoamaris to the entire updated protocols

1. Washington: Maximillion/Ethan
2. USVI
3. CMNI
4. PTWC
5. Other island members

Tsunami Ready Updates:

PR:

1. removal of signs being removed from municipalities and other signs being placed in the space
2. Community have been placing their own sign on the streets
 - a. Community involvement of their own signs that are being painted on the ground

Tsunami Supporters

PR:

1. Challenges to indicate that although the risk is the approach is still education of the task
2. PR has 16 and will be adding an additional 5 by the end of August
3. Feel free to speak to PR for support in gaining Tsunami supporters and challenges

Needs and Changes

1. PR Tsunami Supporter strategies to implement and improve their Tsunami Ready
2. Wildoamaris will share step by step approach to how she is able to execute this with the communities

- a. Allow employees of business/organizations to assist with the event of any tsunami threat
 - i. Bars
 - ii. Restaurants
 - iii. Initial Large Meeting
- b. Evacuation Plan Template
 - i. All supporting documentation provided
- c. Training for the Employees of the establishment to validate plan
 - i. Roles of each plan and how they play a part in the
- d. CERT training to support this program
 - i. 72 hours training
 - ii. Special focus on Tsunamis
- e. She will email information to all members

Action Items: Led by Island Caucus and ensure all smaller islands are a part of the study

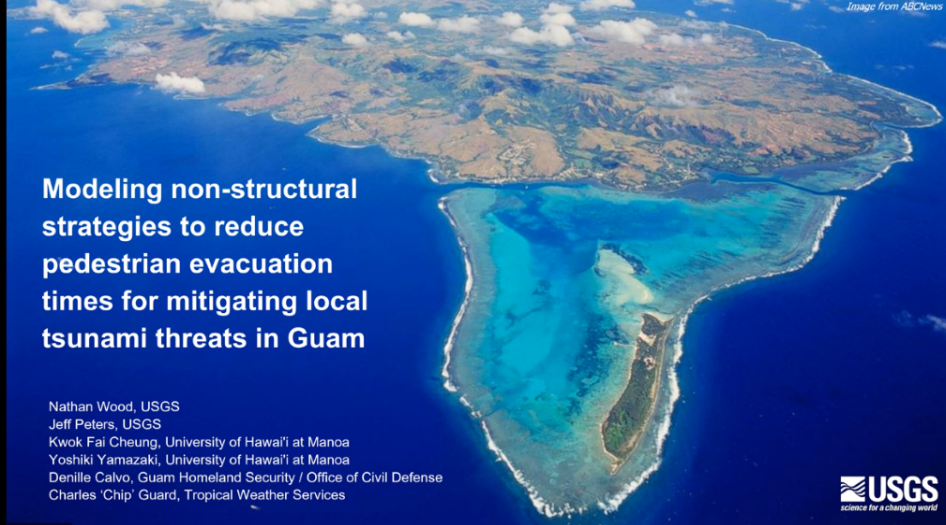
- 1. Mark Beth:
 - a. Social science to determine if that occurs truly to affect economics
- 2. Hawaii Visitor Bureau opposed by hotels or tsunami zone areas
 - a. Better to express to visitors that we are prepared in the event it does happen
 - b. Took years to overcome
- 3. Guam:
 - a. Safety and procedures people
- 4. Social science to do an assessment anecdotally to create a project to provide funding to social science to document if this is factual or not if the tourism or visitor bureaus truly create a block in this
- 5. Involve Tourist bureaus who are on board to express the support for other members
 - a. Continuous outreach and engagement consistently to deal with turnovers and ensuring the support is always constant
- 6. PR: Find one major hotel to have as a support for example a Marriott to be a champion
 - a. Supported approach allowed the support from other champions to become tsunami supporters
 - b. Sharing experiences and lessons learned to other businesses
 - c. Hotel La Macas is a champion in PR and participate in both Great Shakeout and Caribe Wave

Action Items: Island Caucus can request to MES to request to Tsunami Supporters to frame as a positive at the local level so it can be a form of an incentive and benefits of being a champion of the program

- a. PR will reach out to hotel to get their experience and then get back to begin proposal for this approach
- b. Can be a national project potentially and with messaging and preparedness

Updates in Guam

1. Nathan Wood:



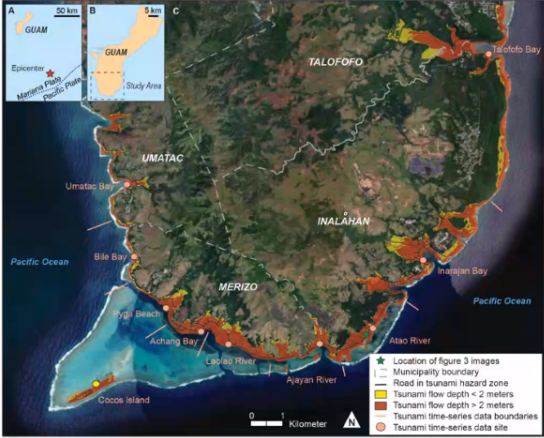
Modeling non-structural strategies to reduce pedestrian evacuation times for mitigating local tsunami threats in Guam

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USGS
science for a changing world

Study Overview


- Collaboration to model pedestrian evacuations on southern coast of Guam to local tsunami threats associated with a Mariana subduction zone earthquake
- Leveraged new tsunami-inundation modeling completed by University of Hawaii
- Evacuation modeling focused on potential roles of:
 - Reducing departure delays
 - Increasing travel speeds
 - Creating new evacuation corridors through heavy brush



The map shows the southern coast of Guam with various municipalities labeled: TALOFOFO, UMATAO, INALAHAN, MERIZO, and Tarofofo Bay. It highlights tsunami inundation zones in red and orange, and evacuation corridors in green. A legend includes: Location of figure 3 images, Municipality boundary, Road in tsunami hazard zone, Tsunami flow depth < 2 meters, Tsunami flow depth > 2 meters, Tsunami time-series data boundaries, and Tsunami time-series data site. Two inset photos (A and B) show dense brush and a road through brush.

Pedestrian Evacuation Modeling

- Used USGS Pedestrian Evacuation Analyst, which is a least-cost distance model
- Different scenarios
 - **Travel speeds:** impaired walk, slow walk, fast walk
 - **Departure delays:** 0 min, 1 min, 3 min, 5 min, and 10 min
 - **Changes in landcover assumption:** "Heavy brush" treated normally and then given SCV values like gravel (i.e., a new path)



The map shows land cover types: Bare land, Brush - heavy, Brush - light, Developed - impervious surface, Developed - open space, Unconsolidated shore, Water, and Wetland. It also shows tsunami time-series data sites and evacuation routes. A legend includes: Site of tsunami time-series data, Tsunami-inundation limit, and Land cover. A scale bar indicates 250 m.

Results of evacuation modeling

- Reducing departure delays had larger impact than increasing travel speeds or creating new evacuation paths
- Travel times to safety are less than wave-arrival times for almost all at-risk individuals in the tsunami-hazard zone if one assumes all three interventions are implemented

Municipality	Nearby Geographic Name	Residents in Hazard Zone	Number of residents with insufficient time to reach safety, given various departure-delay assumptions				
			No Delay	1 min	3 min	5 min	10 min
Unatate	Unatate Bay	156	0	0	0	0	144
Merizo	Rita Bay	124	2	2	2	4	124
Merizo	Pyga Beach	342	5	5	5	5	102
Merizo	Achang Bay	430	0	43	123	174	406
Merizo	Ladiao River	200	127	142	202	220	276
Merizo	Alayan River	21	0	0	0	0	21
Inailhan	Alayan River	10	0	7	7	7	10
Inailhan	Atao Beach	101	40	48	62	79	101
Inailhan	Inarajan Bay	201	0	0	14	14	209
Inailhan	Takofolo Bay	0	0	0	0	0	0
Takofolo	Takofolo Bay	64	0	0	0	0	42
Total		1035	204	206	421	522	1452

Municipality	Nearby Geographic Name	Residents in Hazard Zone	Residents with insufficient time to evacuate assuming fastest SCV = 3			Residents with insufficient time to evacuate assuming fastest SCV = 0.9091		
			Impaired Walk	Slow Walk	Fast Walk	Impaired Walk	Slow Walk	Fast Walk
Unatate	Unatate Bay	156	0	0	0	0	0	0
Merizo	Rita Bay	124	2	0	0	0	0	0
Merizo	Pyga Beach	342	5	5	5	0	0	0
Merizo	Achang Bay	430	0	0	0	0	0	0
Merizo	Ladiao River	200	127	142	215	14	14	0
Merizo	Alayan River	21	0	0	0	0	0	0
Inailhan	Alayan River	10	0	0	0	0	0	0
Inailhan	Atao Beach	101	40	33	15	7	0	0
Inailhan	Inarajan Bay	201	0	0	0	0	0	0
Inailhan	Takofolo Bay	0	0	0	0	0	0	0
Takofolo	Takofolo Bay	64	0	0	0	0	0	0
Total		1035	204	179	95	60	14	0

Summary

- Article and USGS data release with all GIS files and tables are both published
- Will soon become Open Access (i.e., free to download) but I can provide PDF copy now

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Modeling non-structural strategies to reduce pedestrian evacuation times for mitigating local tsunami threats in Guam

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<https://www.sciencedirect.com/science/article/abs/pii/S2212420923003394>

USGS ScienceBase Catalog

Publication Title: Pedestrian evacuation time maps, flow depth time series, and population estimates for the island of Guam tsunami evacuation zone

Publication Date: 2023-07-17

Year Period: 2023

Citation: Wood, N., and Cheung, K.F., Yamazaki, Y., 2023. Pedestrian evacuation time maps, flow depth time series, and population estimates for the island of Guam tsunami evacuation zone. U.S. Geological Survey data release. <https://doi.org/10.5060/1548970>

Summary: These datasets support the findings in the journal article entitled "Modeling non-structural strategies to reduce pedestrian evacuation times for mitigating local tsunami threats in Guam" as described in the abstract below. Reducing the potential for loss of life from local tsunamis is challenging for emergency managers given the need for safe procedures between different varieties of sites for all risk individuals to evacuate. There has been considerable attention paid to developing the construction of hazard-mitigation evacuation structures for areas where there is a high risk to individuals. This strategy may not be feasible in all areas, particularly in rural communities for multiple reasons. We explore the influence of three non-structural interventions (including departure delays, increasing travel speeds, and changing departure times) to reduce evacuation times for at-risk individuals in island communities and use the US territory of Guam as our case study. We model pedestrian-based times out of a coastal evacuation zone to a destination generated by a 6.0 M earthquake under the scenario outlined above. Evacuation modeling results indicate that reducing departure delays has a larger impact than increasing travel speeds or changing evacuation times through better route planning for the number of at-risk individuals who reach their zone of egress. Travel times to safety are shorter than best times of expected wave arrival for all at-risk individuals in the evacuation zone if one assumes all three interventions are implemented.

Map >

Communities

Tags

Harvest Set: USGS Science Data Catalog (SDC)

Theme: evacuation, emergency, geospatial, tsunami, vulnerability

File(s) Upload

USGS Scientific Topic Keyword: Geography, Land Use Change

<https://www.sciencebase.gov/catalog/item/638e5260d34ed907bf7bc838>

Action Items: Request from Chip Deadline for Hurricane and Typhoons with the All hazards Siren systems

- Each member can go back and look at their processes
 - AAR
 - Communications
 - Response specifically
 - What works
 - Why it didn't work
 - What needs to be fixed or addressed
- Tentative Deadline: Prior to the next quarterly meeting
- Chip will send outline to begin this process