

NTHMP Mitigation & Recovery Group

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Overview

- We have these products / plans / initiatives
- We want to coordinate with these groups
- We want to solicit expert input / advice / products
- We want to obtain info developed by NTHMP partners
- We want to provide info of use to NTHMP partners

NTHMP 2018 Strategic Plan

THEME 3: MITIGATION AND RECOVERY

The NTHMP envisions tsunami-resilient communities achieved through sound mitigation and recovery products and practices. Comprehensive tsunami mitigation and recovery planning is becoming a new focus for the NTHMP. A number of NTHMP partners and stakeholders are already engaged in mitigation- and recovery-related initiatives.⁵

An independent study conducted at the request of Congress confirmed that hazard mitigation activities reduce future losses and benefit society as a whole. A 2017 update to the original study found "mitigation funding can save the nation \$6 in future disaster costs, for every \$1 spent on hazard mitigation" (MMC 2006, 2017).⁶ The findings of another study conducted following two major earthquakes suggested that predisaster recovery plans facilitate housing reconstruction and allow communities to take advantage of postdisaster windows of opportunity to more effectively integrate mitigation into recovery (Wu

and Lindell 2004). When it comes to tsunamis, the aforementioned U.S. Geological Survey study also demonstrated the importance of resilience strategies, which include addressing tsunamis in all types of planning, mitigation and predisaster recovery planning in particular (Ross et al. 2013).

Through TWERA, Congress made recommendations for the NTHMP to improve mitigation and recovery planning, recognizing that this can improve community resilience. Similarly, the NTHMP external review report recommended that the NTHMP consider creating a new subcommittee or entity to focus more direct attention on mitigation and recovery planning (Goltz et al. 2017).

Goal 3.1: Mitigation and recovery strategies are initiated and incorporated into long-term community planning

Mitigation and recovery are important phases of the emergency management cycle. Both require a long-



As a result of the NTHMP-supported Project Safe Haven, the Ocoosa Elementary School in Westport, Washington, was the first tsunami vertical evacuation structure in the United States when it opened in 2016. Source: Pete Eckert, Eckert & Eckert Photography

⁵ See past NTHMP annual reports and publications: <http://www.weather.gov/nthmp/publications.html>

⁶ This study was based on 23 years of federally funded mitigation grants provided by FEMA, the U.S. Economic Development Administration, and the U.S. Department of Housing and Urban Development.



Following the 2011 Japan tsunami, California's Crescent City Harbor was rebuilt to be "tsunami resistant" with mitigation funding from federal, state, and local sources.

mitigation and recovery and incorporate them into future actions. This may include developing NTHMP guidelines and model practices for mitigation and recovery. Developing these guidelines and practices and implementing them would require engagement of stakeholders at all levels of government and private industry.

Strategy 3.1.2: Implement guidelines and model practices for mitigation and recovery

The NTHMP may develop an implementation plan involving stakeholders to determine the most effective way to implement mitigation and recovery guidelines and model practices at a local level.

NTHMP partners and stakeholders responsible for coastal mitigation and recovery planning include state and local emergency management agencies and building commissions, FEMA, the U.S. Army Corps of Engineers, harbor and community engineers, and land-use planning departments. Consultation with scientists and engineers involved with probabilistic tsunami hazard analysis and damage assessments is also essential to determining capabilities.

term vision to devise strategies and implement steps to reduce the impacts of tsunamis and plan for recovery in their wake. To help achieve this goal, the NTHMP will consider recommendations from the 2017 NTHMP external review report (Goltz et al. 2017).

Strategy 3.1.1: Develop guidelines and model practices for mitigation and recovery for communities and critical infrastructure

The NTHMP may encourage states to identify mitigation and recovery needs through stakeholder engagement. This input will be used in the NTHMP's consideration of methods to address tsunami



The TsunamiAlert newsletter (left) and the TsunamiZone.org website (right) are NTHMP-supported resources that further the sharing of tsunami news, best practices, and awareness and preparedness activities.

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Strategy 3.1.1: Develop guidelines and model practices for mitigation and recovery for communities and critical infrastructure

Strategy 3.1.2: Implement guidelines and model practices for mitigation and recovery

Goals for this group: **Year 1 priority = Maritime Mitigation**

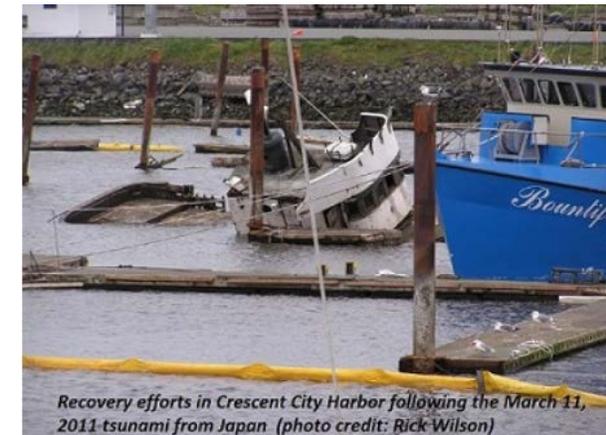
- Identify the **audience**
 - Who are the customers/stakeholders for this information?
 - What are their needs?
- Identify the **experts** outside of the NTHMP (engineers, maritime planners, US Coast Guard, cruise industry)
 - Whom do we invite to inform this work?
 - When should they be involved? In which type of discussions?
- Develop guidance for **mitigation projects/strategies/activities**:
 - Simple/generic table of projects/strategies/activities that all NTHMP partners and customers can use for inclusion in their mitigation and recovery planning documents.
 - Washington
 - American Samoa
 - Oregon
 - California
 - International
- Develop separate **guidance** or add to existing NTHMP guidance for both NTHMP partners and customers. This could include a template for a web-platform through the NTHMP website or individual state websites.

Focus & work to date: Maritime M&R Work Group

- ✓ Discussed and developed work plan tasks via teleconference calls.
- ✓ Created draft generic guidance for harbors and ports to integrate into their LHMP and apply for HMPG funding.
- ✓ Developed set of PPT slides for presentations to communities and harbors.
- ✓ Requested list of existing maritime M&R strategies from NTHMP partners.
- ✓ Engaged outside maritime partners and product users on needs.
- ✓ Progress and future work will be discussed at summer MES and MMS meetings.

Future M&R work topic areas:

- ASCE/Building Code/state-level mitigation strategies and PTHA work
- TsunamiReady Tier 2 product guidance
- Debris plan guidance (inspired by recent workshop in Oregon)



Recent Conference Calls and Discussions:

5.15.2019 (Discussion highlights) AS, WA, CA, ITIC, USGS, (Guam pre-reported)

- Engaging maritime/port authorities, private sector, etc.
- Developing a non-tech guide for completing Mitigation Projects.
 - What are the steps, who needs to be involved...
- 2-pager that would help for maritime projects
- User-guides that could be gathered from/given to partners
 - Share Cruise Industry Report/Brochures; Plans for Int'l Guidance; Fuel Dock Video
- Developing generic Haz Mit Project form
- Getting Tsunami into Coast Guard's Standard Operating Protocols.
- Outreach, SOP alerting/response (including local/tribal ... levels)
- Mitigation comments:
 - **WA:** *Huge monumental efforts. Maritime has a lot of partners. We're just getting started. Would love to have this as a discussion going forward for NTHMP.*
 - **AS:** *We neglect our mariners. Captain of port is in Honolulu. Want to bring everyone together to the table, from the beginning – that's the key to success.*

Recent Conference Calls and Discussions:

7.24.2019 (Discussion highlights) AS, WA, CA, USGS

- Framing the message, focus on products: **Preliminary Webinar for Customers**
- 3-tiered approach:
 - Harbor masters (other authorities may be at this level e.g. USCG)
 - Cruise lines (discussed having a workshop: webinar – to deliver outreach/tools)
 - Regular boat owners/private citizens living on the water.
- SAFRR tsunami scenario study focused on the ports of LA/LB, and the benefits of not having to shut down the ports
 - working on a **story map** to better convey the SAFRR tsunami scenario information (originally published as 4-page fact sheet and 1,000-page report)
 - USGS: *There seems to be a need to focus on maritime mitigation specifically (separate from general tsunami mitigation)*
- Create guidance on how to message this work
 - How quickly can they recover?
 - Use bullet points from SAFRR Report
- Mitigation Table
 - Basically 2 categories. First, response strategies, then hard strategies (physically preventing tsu from impacting sites)

Tsunami MITIGATION Resources (for assisting Product Development)	Level 1: Recommended	Level 2: Advanced
“NTHMP Offshore Safe Depth Guidance” (NTHMP)	X	
Draft “Mitigation Examples for LHMPs” table (M&R)	X	
Draft “Mitigation Assessments and Strategies” table (M&R)	X	X
Draft “TsunamiReady Tier 1 and 2 for ports/harbors” document (M&R)	X	X
Draft “Maritime Tsunami Website for NTHMP” (NTHMP, CA)	X	X
Various Tsunami Response Planning documents (CA, HI, OR, AK)	X	X
State Hazard Mitigation Plans – Tsunami Chapter/Annex	X	X
Local Hazard Mitigation Plans – Tsunami Chapter/Annex	X	X
“Maritime Guidance” in Spanish (PR)	X	X
“Tsunami Guideline Plan for Operators of Caribbean Ports” (PR, NOAA)	X	X
“Hawaii Boaters Hurricane and Tsunami Safety Manual” (HI)	X	X
“Cruise Industry Report” (ITIC, PR)	X	X
“Tsunami Hazard Mitigation Guidance – Seismic Hazards Act” (CA)	X	X
“Harbor Improvement Reports” and tsunami assessment tools (CA, FEMA)		X
“Design of Piers and Wharves” (ASCE 61-14; UFC 4-152-01)		X
Maintenance and Construction Criteria Waterfront Facilities (DOD-UFC)		X
Coastal Engineering Manual (US Army Corps EM 1110-2-1100)		X
“World Assoc. for Waterborne Trans. Infra.” (PIANC WG 153)		X
“Guidance for Design of Vertical Evacuation for Tsunamis” (FEMA P-646)		X
“Tsunami Loads and Effects” (ASCE 7-16)		X
“Waterfront Facilities Inspection & Assessment Manual” (ASCE/COPRI)		X
Local Coastal Plans (CA Coastal Commission)	X	X

Tsunami RECOVERY Resources (for assisting Product Development)	Level 1: Recommended	Level 2: Advanced
Draft “TsunamiReady Tier 1 and 2 for ports/harbors” document (M&R)	X	X
Draft “Tsunami Debris Guidance” document/assessment tools (OR, CA)	X	X
Draft “Harbor Inspection Forms/Guidance” – 4 docs (CA, M&R)	X	X
Draft “Recovery Guidance for Communities” (CA, FEMA)	X	X
“Federal Disaster Recovery Framework” (FEMA)	X	X
“Public Assistance Program and Policy Guide” (FEMA)	X	
“Public Assistance Debris Monitoring Guide” (FEMA)	X	
Local Emergency Response Plans (County/City EOP)	X	X

Prototype Maritime Guidance Website:

<https://sites.google.com/view/tsunami-maritime-guidance/mitigation>

<https://sites.google.com/view/tsunami-maritime-guidance/recovery>

MES Mitigation and Recovery (M&R) Work Group Recommendation: Continue a formal M&R Working Group based on topics and initiatives of interest to NTHMP members, leveraging existing programs and expertise within and outside the NTHMP structure based on the initiative.

The 2017 Tsunami Warning, Education, and Research Act (TWERA) identified the need for additional M&R work by the NTHMP, and the 2017 NTHMP External Review report suggested that this area should be considered for incorporation into the NTHMP. The 2018-2023 NTHMP Strategic Plan includes a theme to address M&R issues over the next five years through development of products and implementation of guidance for NTHMP members and communities to use. Formed in July of 2018, the formal MES M&R Working Group which works with both subcommittees provides a venue for MES (and MMS) to address M&R issues without taking away time from its normal education, outreach, preparedness, and response planning activities.

- Limit the impact on the MES and MMS by reducing its workload regarding M&R projects.
- Limit the impact on the NTHMP members time and funding by working with **volunteers** and **leveraging** outside-funded projects.

Request: Continuation of the volunteer-based MES M&R Work Group. Consider allowing longer term (more than one year) renewal cycle so that Work Group can develop and implement an Annual Work Plan which might take multiple years to complete.