

NTHMP Summer Meeting Notes

Wednesday, August 20, 2014 - MMS/MES Workshop

Morning Presentations

1. Pat Lynett

- Modeling work justification for the approach California is taking to developing Tsunami Current Hazard Maps under contract with FEMA
- Development of current-damage relationships – categories of different damage levels discussed

Tim Walsh: How would a harbor know if it is on one line versus another?

Pat: Good question; will address shortly

Gary Chock: Are products looking at specific harbor or are results a categorical mean relationship?

Pat: categorical mean. First step to get an overview. Certainly can look at individual harbors

Tim: How did you get to 5-m grid?

Pat: Bi-linear interpolation to 5-meters; no additional data

Dmitry Nicolski: Are the results from MOST model?

Pat: Yes, this is MOST

- Ventura Harbor debris field example animation shown; helps get message about debris across to harbor

Tim: Do colors have meaning?

Pat: Just shows starting point of debris

- Sediment modeling-there are so many models that no matter which you choose, there will always be someone that says you are wrong.

2. Kevin Miller/Rick Wilson

Kevin:

- How California is using the results of Pat Lynett & USC modeling work
- Maritime response is not currently well coordinated; it is rather harbor by harbor
- Plan in place to create in-harbor hazard maps and guidance on how to use them during event.

Rick:

- How modeling results were translated to maps – Conducted hazard assessment to generate
- Dangerous current duration maps also created
- Tsunami Response Playbooks are developed for different scenarios and combined into one document; instructions for use need to be simple

Kevin again

- Offshore safety zones evacuation considerations
- 'Safe offshore depth': 30 fathoms (180ft). Previous safe depth 'rule of thumb' was 100ft.

- Vessel would not ground, navigatable wave speeds, and sufficient depth

George Priest: Not differentiating between local and distant tsunamis?

Kevin: Not yet

Rick: Both local and distant tsunamis were included in statistics but point well taken on separating these into two zones like Oregon

Tim: Playbook has some fine divisions. How many DART buoys does the forecast have to see before it is 'good?'

Marie Eble: Explains little accuracy difference between near field one - three DARTs and use of more DARTs. More do not necessarily produce better results. Currently investigating use of far field DARTs to produce 'better' local forecasts.

Rick: Overall, forecasts take 1.5 to 3 hours to develop and send out. Regarding divisions, yes divisions are fine, maybe too fine, but want to give harbors multiple options.

3. **George Priest**

- Oregon only provides guidance for a worst-case distant tsunami
- Oregon will probably not produce playbooks, at least not at this time
- Maritime guidance distinction made between local and distant tsunamis
- Product is a guidance pamphlet, again split between local and distant
- Maritime Dangers identified
- How far offshore do dangerous velocities exist:
 - i. local = 100 fathoms; distant = 30 fathoms
- Wind breaking work – wave behavior zones identified, including a 'breaking zone -- needs further justification and discussion
- Harry Yeh study of impact in Columbia River Estuary for 5.6m Cascadia Tsunami – must run models with dispersion or you would not see details of scope.

Vasily Titov: Have you looked at or thought of other products for maritime community guidance that show danger.

George: Will be happy to first produce maps. Oregon will follow California's lead.

4. **Christa von Hillebrandt-Andrade**

- Current velocity impact on ports and harbors are extremely important to characterize – Puerto Rico & Virgin Islands Ports & Harbors are heavily trafficked.
- How far is safe? Now use a standard guidance number
- Maritime traffic information tool available in real time on web site.
- Event specific risk analysis conducted: time of cruise ship in harbors was dominant variable.

Christa provides anecdotal stories based on her conversations with cruise ship Captains. She is consistently told that cruise ships can get underway in 5-mins.

**Christa is looking for a volunteer to attend Ports Security Conference Dominican Republic Oct 21-24 2014 →Participant heads turned to Pat Lynett

Tim: How much education and coordination is conducted.

Christa: Passengers are not given too much information

Elton Lewis: Hotels and Port Authorities frequently meet in Virgin Islands.

5. **Randy Clark:** U.S. Coast Guard

- USCG authorities that bring people together – a lot of practice in providing maritime guidance for hurricanes.
- USCG responsibilities listed in order. Number one is Self Preservation. If USCG can't protect self, assistance to others not possible. → Many USCG units are within tsunami inundation zones.
- Tools developed and are in use but USCG does not necessarily have authority over all infrastructures.
- USCG is willing to be flexible during response & recovery operations: example: passengers cannot be carried on fishing vessels under normal conditions. During emergency, novel solutions will be used once benefit versus risk is determined.

CAPT Michael White comment: Pays to coordinate with USCG and keep their needs in mind.

Michael: Key partners are Corps of Engineers. USCG focus is on response, whether local or distant. Advice to mariners: If you are out, stay out. It is eye opening to hear what might happen offshore (Oregon presentation). Now sees that USCG will have a safety issue on- and offshore.

Michael: What are potential currents in Everett?

Tim: order of 9 knots

Michael: Yes, we will have some vessels adrift.

Rick: Thanks very much. It is good to get USCG perspective

DISCUSSION

Low hanging fruit first:

- Offshore guidance-discussion
- Rick, Kevin, Marie, Tim offer comments about consistent products but perhaps separating brochures by vessel types: recreational, commercial, and large (container, cruise)
- CAPT Nathan Knapp →USCG now has electronic charts in place. Placing electronic aids (mother supply and aid ship locations, hospital ships...)on these charts would be beneficial in real time.

John S. Are now beginning to look at different ports with PMEL but USCG endorsement rather than an NTHMP endorsement carries more significant to this group.

Rick: Agrees, but still may need guidance from NTHMP

CAPT White: NTHMP folks work with local USCG for contingency planning

Randy Clark: Harbor safety commission is really important to work with.

Rick: Could NTHMP recommendation lead to a USCG policy endorsement?

CAPT White: Could it work? Absolutely is possible but it needs to tie into National HQ. Line will be drawn between professional mariners and recreational vessels.

Rick: This is already being done in Hawaii

BREAK

6. **Pat Lynett** – Harbor Vulnerability Analysis

- Working towards coming up with a harbor vulnerability map
- Work involves looking at the different components that exist in a harbor setting (cleats, pilings, navigation buoys, single point moorings, large vessel chain anchors)
- Ongoing work: Single point mooring failure

Question: Should we also look at momentum flux and other

Pat: should come up with guidelines before other effects included.

Question: Effect of acceleration-front of bore

Pat: Do not have resolution to resolve the bore

7. **Tamra Biasco** – FEMA perspective

- Familiarization of FEMA programs to respond to disasters and help people
- Discussed Local Hazard Mitigation Plans and funding provided under program
- All funding is competitive

Rick: Would detailed mitigation plans for harbors provide an edge for them to get funding?

Tamra: More related to need but more information is always helpful.

8. **Rick Wilson**

- New work with FEMA support to produce harbor mitigation plans and community recovery planning guidelines

DISCUSSION:

Rick: Would guidelines on mitigation and recovery be a priority and useful?

Rocky Lopes: Notes that Rick missed later part of Tsunami Ready discussions in MES meetings Tuesday. From a Tsunami Ready perspective, Rocky would be very interested in guidance on long-term recovery.

Chip Guard: After inundation runs, flood zones were identified, the GSA decided they would not rent federal facilities in inundation zones. Wondered if anyone else has run into this.

Rick: Discusses the disclaimer on California maps that they are not meant for land use decisions. Rick has seen restrictions by some government agencies despite disclaimer.

Randy Clark: Marine transportation recovery plan does not get into long term recovery or land use. The plan is more designed to restoring the capability and not pre-existing conditions.

John: Pacific county Washington work – now looking at post-tsunami recovery strategy

Rick: Agrees that looking at big picture would be beneficial

Ann Gravier: Recovery position recently filled in Alaska. There are now people in long-term recovery positions in States who should be included in conversations.

QUESTIONS

****Is this the type of planning that should be an NTHMP focus?***

Kevin Richards: If not being considered now, 'shame on you.' This is always a priority for all States.

John: Goes back to who should be authority on maritime guidance. Should provide best information to authority stakeholders to make decisions. Meet State decision makers and those in authority on their terms and give them what they need.

Ann: Following on John's comments, it is important for new information to get to where it belongs. Funding is leaning towards multi-hazard so need to be flexible and leverage other programs. Don't end up reinventing the wheel. Should work with FEMA.

Rick: California has seen communities wanting to look at multi-hazards like Sea Level Rise and storms when addressing tsunamis.

George: Just struck him that USCG is not on the steering committee.

Rocky: Will make a note to add USCG representation to coordinating committee agenda.

Gary: HAZUS tsunami module has come up periodically. He expresses the need to proceed with caution. Still some issues that have been identified and need to be corrected in future development.

Tamra: Clarifies that a 'black box' has not been developed. A contractor is now amassing data as proof of concept.

LUNCH BREAK

Afternoon – Continued maritime products and planning discussion:

Rick: Noted need for making maritime products more in line with recommendation from National Academy of Science Report where products should be consistent across state boundaries, accurate, and cost-effective. Displayed table showing maritime products/plans for each state/territory/federal agency to identify where common goals/products exist.

Several jumped out:

- Benchmarking tsunami current models – which will be addressed in early 2015 by MMS.
- In-harbor current map products – potentially addressed by using new guidance document
- Offshore safety depth and planning – potentially addressed by Work Group with Coast Guard
- Maritime tsunami brochures – templates exist but they need to have consistent information and verbiage, and should address various boating communities with unique needs (recreational, commercial, and large vessels)

More notes on afternoon maritime discussions may follow.

ACTIONS FROM MARITIME PORTION OF WORKSHOP:

- 1. Develop Work Group with NTHMP volunteers (George, Christa, Kevin R., Kevin M., Erv, and Rick) and Coast Guard to address guidance on offshore safety for vessels**
- 2. MMS to complete maritime tsunami products guidance document, and then share it with MES for consideration**
- 3. NTHMP should consider addition of Coast Guard, Navy, and US Army Corps of Engineers as members of Coordinating Committee (voting or non-voting members?)**

Afternoon Presentations

1. Laura Kong/Kevin Richards/Rick Wilson

- Post tsunami protocols for use by states to guide and monitor field teams
- State-level tsunami observer programs in HI and CA for data collection during and after a tsunami

Barry Eakins: How is the media handled?

Ann: In Alaska, it will be a huge challenge to get people to Alaska to conduct post event assessment.

Rick: Confirms from USGS conversations, the challenges of getting surveys accomplished post event.

Rick: What looks good in this and do you like the idea of doing a protocol in your plans?

Kevin R: Hawaii is a good test bed-pro=isolated place; con=isolated place...

John S: Doesn't have to worry about people getting to the coast because there are no roads so access will be by helicopters.

Tim: Nothing much on the coast. Communities are retirement...

John S: WA State tries to take guidelines and incorporate them into social science.

Remote sensing is probably the most cost effective way to collect data in WA State. No training, coordinating, or mobilization effort needed.

Rick: Part of protocol is contacts. This could be a list through NTHMP. Also, brought up to Mike Angove want for a tsunami web-camera network focused on harbor and areas of strong currents.

Gary: Protocol idea is all feeling good. Under a real circumstance, should be aware that whatever is set up will be subject to review. Process needs to be fair. Can't just authorize participants based on familiarity.

Vasily: Example of failure in Hawaii to collect post Tohoku event data.

Gary: Takes issue with the comment that 'if you're invited, you get to go, and if not invited, you don't get to go.'

Rick: Recommends working with concerned field team groups and addressing concern. However, positives are that states will be in better communication with field teams.

ACTIONS FROM PROTOCOL PORTION OF WORKSHOP:

- 1. HI and CA will work together to develop an example state-level protocol document that can be used by other states as template**
- 2. Groups like GEER, EERI and ASCE which develop post-event field teams will continue to be engaged**

2. Paula Dunbar

- Tsunami Hazard Assessment update will follow USGS National Seismic Hazard Map approach.
- Only going to publish the changes.

Thursday August 21, 2014 - Joint MES-MMS meeting in morning

8:30 - 9:00 AM Joint MES/MMS discussion on workshop, *Subcommittee Co-chairs*

Rick: Is it a priority for MES to produce maritime preparedness and response guidance?

Tamra: Not a priority at this time because MES is not sure what products are available, and not sure how they should be used.

Kevin Miller: Perhaps after MMS establishes guidance on maritime products, MES can then work towards follow up guidance.

Rick: Should states work on these products under multi-state projects?

John: States can develop consistent products that address specific local needs; multi-state projects not really needed

Kevin R: Agreed with John, state communities are so unique that not all products will work for all communities

Rick: Warned that NTHMP has to make a better effort to conform with similar products and actions, in line with NAS report.

John: Agreed.

9:00 - 9:30 AM Joint MES/MMS - Grad Student Intern interim report on Return of Investment from NTHMP grants FY08 - FY13, *Deputy Tsunami Program Manager Rocky Lopes*

Rocky: Review of Return of Investment information. Requested volunteers for developing introduction and executive summary. John S., Kevin R., Kevin M., George P., Tamra B., and Laura K. volunteered. Rocky will follow up with them to arrange meetings and facilitate report-writing.

John S: Need for synthesizing information into percentages of completions, not pure numbers. Needs to be digested by decision makers.

Rick: Recommends that the NTHMP Fact Sheet that is part of the education planning integrate some of the information from the RoI findings and made a higher priority for completions.

More information on this report will follow later in the year and will be reported to the NTHMP Coordinating Committee.