

NTHMP MMS meeting 27 May 2021

Participants:

J. Allan, C. Allen; K. Carrigan, K.F. Cheung, M. Eble, D. Eungard, K. Gately, S. Grilli, J. Kirby, L. Kozlosky, J. Horillo, D. Nicolsky; S. Ohlendorf, S. Ross, I. Sears, R. Wilson, R. Watlington, A. Williamson.

Topics covered:

1. DEM updates (NCEI)
2. Powell Center Update (S. Ross)
3. Sediment transport update (J.Kirby/S. Grilli)
4. Tsunami Debris Modeling (R. Wilson)
5. Tsunami landslide modeling (P. Lynett/R.Wilson)
6. MMS Co-chairs discussion (All)
7. Other business
 - i. Update to NTHMP product list (current version is from 2010)
 - ii. Updated MMS modeling and Meteotsunami guidance documents posted to https://nws.weather.gov/nthmp/mapping_subcommittee.html

Summer introduced Dr. Amy Williamson to the MMS. Amy is the new duty geoscientist with the NTWC.

1. DEM Updates (K. Carrigan)

Juan de Fuca, WA – Completed and provided to WA folks

Working on southern Oregon (Brookings)... ~50% complete

To follow, Alaska followed by South San Francisco bay, CA.

Kelly mentioned that tiled DEMs have now been completed for all the GoM and most of East Coast (product of CoastalAct).

2. Powell Center Updates (S. Ross)

Lot's going on...

Cascadia meeting still on for January 10-14th, 2021.

Coordinating with other groups such as the Southern Cascadia SZ working group (meeting June 3rd and June 9th), National Seismic Hazard Map, and the separate Powell Center group on Cascadia recurrence to make sure they are all working together

Working on setting dates for a Pacific sources workshop scheduled for ~summer/fall 2022 (possibly August).

Work on the AK tsunami sources logic tree continues (funding from NTHMP and NEHRP). The NSHM group at the USGS is starting its update of AK (hasn't been done since ~2007) and are using findings from the AK Powell Center meeting. At the most recent meeting of the NSHM group, several folks from original Alaska Powell Center workshop presented including Rob Witter, Hong Kie Theo, Jeff Freymueller. Hong Kie is currently working on tying all the branches of the AK tsunami sources logic tree together.

Following on from the US East Coast, Gulf Coast and Caribbean Territories, workshop on tsunami sources, S. Grilli, J. Horillo and P. Lynett will be working on a new PTHA logic tree for tsunami landslide sources.

Action item: None.

3. Sediment Transport update (J. Kirby/S. Grilli)

Planning to have a meeting this summer. Would like to include Japanese experts, but major challenge is due to the time difference... punting on the idea.

Goal is to have the meeting spread over 2 days targeting the following:

- Initial meeting focused on categories of modeling that should be covered.
- Second day directed at identifying potential benchmarks that could be used in a modeling workshop.

Working on a draft. Would like to do it before the end of the July but haven't lined up participants yet (~half dozen people have expressed an interest). Format of meeting should make it flexible. Working on sending out invitations ASAP.

Jon: be good to include Japanese scientists.

Jim/Stephen: time zone challenges makes this difficult. Thinking is to stick with US scientists for this initial meeting, but include Japanese experts in a 2022 benchmarking workshop.

Stephan: maybe we should look at debris also (e.g. work by Dan Cox).

Jim: one is more morphological change, while the other is structural, not sure want to pile both together.

Action item: Jim will notify interested folks with dates for the initial sediment transport workshop.

4. Tsunami Debris Modeling (R. Wilson)

Rick confirmed that CA is requesting funding for a Tsunami Debris workshop as part of their FY21 proposal. Goal is to evaluate different tsunami debris models, that will feed into a benchmarking workshop. D. Cox and P. Lynett will be co-leaders of the group. With P. Lynett likely to be involved in the sediment transport modeling workshop allowing for some crossover between disciplines.

An important goal of this effort will be to get a better handle on what products would be useful to emergency managers, community leaders and state agencies.

Timeline – ~summer 2022.

Dmitry: noted that it would be important to evaluate effects from the Tohoku EQ... only recent one with a lot of debris and significant data. Not much data in US.

Rick: great point, and yes that will be a focus. Noted that the presentation by D. Cox on debris modeling emphasized the role of the earthquake in causing initial damage, from which the tsunami contributes further, with all that material being deposited well on shore. Evaluating land-based debris movement and waterborne debris in and around harbors important.

Jon: Aren't the fragility curves Dan and others are using fed by data from Tohoku?

Rick: To a certain extent. From the ASCE work, I've learned that there's not a lot of sharing. Hard to get debris information from the Japanese (base level information), so there's a bit of a gap there. But we should be learning from that experience. Debris was a big issue in their recovery.

Corina: tell ASCE how frustrating it is when YOU don't share your data!

Action item: None.

5. Landslide Modeling (R. Wilson)

Jon: Asked about the status of the landslide modeling group.

Rick indicated that Pat Lynett intends to start holding landslide modeling meetings on a regular basis – not yet started... very soon. Maybe meetings every couple of weeks or monthly, ramping up to a larger workshop in 2022.

Stephan: noted that the task was included as part of their NTHMP FY21 proposal, which supports time to work with Pat on the methodology. Haven't made a schedule yet. Hoping to host a series of meetings to discuss the methodology.

Corina: in thinking about debris modeling (see presentation by Dan Cox), the modeling is still using bare earth topography. Adding buildings is future area of research. Could NCEI assist with developing DEM models that incorporate the building landscape?

Kelly: it's possible. Lidar is often processed to remove it. Would require re-analyzing the raw lidar files. I don't know how easy it would be.

Stephan: Jim and I and our groups did some work on it. Makes a significant difference on the resultant velocities and forces. If you view movies from Tohoku – buildings get destroyed and becomes debris. What Dan Cox demonstrated in his modeling work is a great step, but need more ways to improve on and validate the modeling.

Jon: Noted that many state programs have been developing building footprints as part of statewide risk assessments. Suggested that these data could be assimilated into DEM models.

Jim: I'd caution about dumping new work on NCEI to develop DEMs with building footprints. These data involve so much local information. Example – a resort community might have lots of buildings with multiple floors.

Stephan: could do coarse grid to ID high risk (first generation maps). Second generation maps could include some of those simulations of high risk areas.

Action item: None.

6. Modification to MMS Terms of Reference – addition of a 2nd state co-chair * nomination & vote if consensus is to propose 2nd state co-chair to CC

J.Allan introduced the notion of modifying the MMS terms of reference to include a third co-chair to the MMS. The suggestion is that the third co-chair would be a state representative though the language is expressed in such a way that it could be anyone from the MMS.

Daniel (WA): change to second state partner to at large, opens up to university or special interest group.

Marie: it's implied.

Corina: I thought that at first, but ..

Marie: strike "be selected from"

Jon: made various minor adjustments to the language surrounding co-chairs. Final version reads:

“Chairpersons are voted on by MMS Members at the Annual NTHMP meeting and are then approved by a majority of the NTHMP Coordinating Committee. MMS chairs shall have at least two but no more than three equal Co-Chairs selected from the body of the MMS. One Co-Chair

shall be a representative from a Federal agency (eq. NOAA, USGS, FEMA) and the second representative shall be from one of the member states. A third co-chair may be proposed for approval of the CC and should be selected from member states. Co-Chairs will serve for two years with rotation staggered to maintain continuity in leadership. The federal Co-Chair is elected in even years, and the State Co-Chair is elected in odd years. Integral, is ensuring there is overlap in tenure to ensure continuity of operations, while allowing for ease of transition as new co-chairs are appointed.”

Motion put forward by D. Nicolsky to adopt. Motion seconded by C. Allen.

MMS voted to adopt without any objections.

Follow-up discussion... Dmitry recommended including in a footnote definitions for should/shall/must.

Action item: CC will vote to adopt amendment at the next meeting in July

7. Other business

Marie Eble announced her retirement. Will remain engaged with Powell Center group.

Jon: Noted that the mapping and modeling guidance updates are now posted to the MMS website along with the new Meteotsunami guidance.

Corina: Noted that ground-breaking has begun on a second tsunami vertical evacuation structure at Tokeland, WA and organized by the Shoalwater Bay tribe. Will be a tower.