

# Mapping and Modeling Sub-Committee Meeting

Oregon State Office Building  
800 NE Oregon Street  
hosted by Oregon Department of Geology & Mineral Industries  
Portland, OR 97232  
Room 1E

28-30 January 2020

## AGENDA

### Tuesday 28 January (09:30 – 14:50)

Item-by-Item documentation of status (Completed / Incomplete / In Progress...)

#### 1. **Powell Center (USGS, 20 min) – Ongoing**

- 3 workshops to date (initial, Alaska, Gulf/EastCoast)
- Proposing shift in schedule to address Cascadia sources in summer 2020.
- Workshop on Pacific sources moved to 2021.
- Broad discussion about PTHA (needs/problems). Usage... planning vs evacuation maps.
- Messaging of PTHA... PTHA useful for telling public/EM how likely something is
- MMS requesting NTHMP CC write a letter to ASCE requesting that ASCE provide underlying source information. Rick to draft letter and share with MMS than CC.

#### 2. **Tsunami Source Database (California, 20 min) – Database compilation complete.**

- CA developed spreadsheet summarizing source database (spreadsheet form)
- primary work on determinist tsu DB complete. Page of definitions (MMS to review)
- CA to share with MMS for final look over/check. Rick to summarize possible next steps
  - Should add'l info on existing DB be collected?
  - How should new and prob tsu srcs be collected and defined in the DB? What can MMS and NTHMP do with the tsu src DB?
  - Utilize consistent srcs between states
  - Recommend min recurrent time for tsu srcs used in evac maps?
  - What is the long-term solution?
- CA to host or approach NCEI to host spreadsheet database. DB = summarizes (sources/modeling undertaken) information compiled to date for each state, point of contacts... This is a minimalistic level
- Initial NCEI costs to setup and host ~\$40k.
- Possibly could be expanded to include more information including source/deformation models etc.

#### 3. **Maritime Guidance (California, 30 min) – Mostly completed**

- CA to share web link. MMS to review
- No longer funded task
- Keep in work plan but transition to MRPG to bring MES and others in for review.

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## **4. Post-tsunami field data teams and collection tools (MMS & ITIC, 30 min) - Ongoing**

- Bruce/Laura provide overview of plans. Need for coordinated response, with protocols defined for post-disaster tsunamis surveys that could impact the US and its territories.
- Recognizes need for some kind of clearing house (CH) to make data available to people who need the data as quickly as possible
- No immediate need for MMS input.

## **5. Currents Modeling Criteria (MMS, 30 min) - Ongoing**

- Guidance document to develop/summarize (Jon, Dmitry, Alex (WA), Nick) – borrow text liberally from MMS/MES currents workshop report

## **6. Landslide Modeling Guidance (East Coast, 30 min) - Ongoing**

- Stephan provided an overview of work accomplished to-date.
- Proceedings for LS workshop: published and posted. Had 7 benchmarks and 14-15 models evaluated. Not all models ran all benchmarks.
- Reviewed and edited landslide guidance document. **95% complete**
- Guidance document presently does not recommend a minimum number of benchmarks to evaluate... does not specify some acceptable error range. Stephen and Jim to complete
- Group recommended deleting references to Powell Center work until such time these results have been documented either in a report or paper.
- Kirby/Grilli finalizing landslide modeling peer reviewed paper

## **7. Sediment Transport Guidance (East Coast, 30 min) - Ongoing**

- Reviewed need for sediment transport benchmarking workshop
- Tsunamis cause large-scale modifications to exposed coastal shorelines during inundation events. In particular, currents can lead to large morphological changes in harbors and other navigational facilities, disrupting their use.
- Sediment transport models have been shown to be qualitatively accurate in a range of settings.
- Appears to be more quantitative data out there for benchmarking (e.g. various examples from the Sendai coast... Sugawara et al (2019)).
- Conversely, physical model data are not ideal for benchmarking since lab tests often employ time scales which are too short compared to the spatial scales used.
- Concept document circulated among SEDTRAN working group. Phased approach...
- Phase 1, focused on evaluating the efficacy of sediment transport models, data availability for benchmarking and overall approach.
- Phase 2, would be a second workshop that evaluates the actual models against benchmarked data.
- Review comments to Kirby by Jan 31.

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## **8. NCEI DEM Development (NCEI, 30-min) – Ongoing**

- Identified priorities in Alaska, Washington and Oregon
- Dmitry noted they have developed a tool to edit DEMs on a point by point basis (in Matlab). Can be shared with people.
- MMS to still consider/evaluate future needs beyond CY2020
- Will discuss priorities further at the next MMS phone conference
- Group recommended that we reevaluate priorities by the middle of the year in order to make any necessary adjustments.

## **9. MeteoTsunami Guidance (Gulf Coast; Great Lakes, 30 min) – Ongoing**

- Overview of MT guidance by Juan, with recommendations on data inputs, model simulations etc.
- GLs overview of MT hazard – Heuristic modeling approach – goal is to get to forecasting based on atmospheric conditions. Resolving wave height is well established... problem is currents as needs highly detailed (<3 m resolution) bathymetry. Appear to be having some success.
- Multiple fatalities in the GLs
- MT more common than led to believe, with identified cases from around the world. (mainly northern/southern latitudes... equatorial regions not so much)
- Possible future workshop needed on modeling/forecasting to move to the next level
- Juan to share with Philip and Chen for their review. Once this resolved, share with MMS for their review. Once approved by MMS, this will close out this task for now, until a future workshop is planned.

## **10. Mitigation & Recovery Planning Working Group (MRPWG) – In progress**

- Provided overview of goals/objectives of WG
- Reviewed proposed work plan tasks.
- Recommended removing PTHA... part of MMS future annual work plan.

## **11. Mapping & Modeling Guidance Update (MMS, 30 min) – Ongoing**

- **To be discussed in a future phone call**
- Will include discussion on friction usage (0 vs .025 vs .03 vs landscape)

## **12. Hazard Assessment Gap Analysis (JA, 30 min) – Ongoing**

- This task was discussed in the joint MMS/MES session
- Jon provided an overview of status. Broad structure of the spreadsheet is complete. Looking to MMS and MES to finalize their respective sections
- Will solicit members of the work group to provide a final look over. A brief guidance document will also be produced to accompany the spreadsheet.

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### **13. Proposal for MMS-endorsed projects in NTHMP Grant year 2020** **Brief 'around-the-room' description or list of planned NTHMP Grant Fy20** **projects**

- Sediment transport workshop
- Cascadia workshop
- California PTHA for Alaska

#### **Wednesday 29 January - Lightning Briefs**

Alaska  
American Samoa  
California

#### **Thursday 30 January**

East Coast  
Hawaii  
Oregon  
Puerto Rico  
Washington  
Gulf Coast  
USGS  
NOAA – Great Lakes  
NOAA – NCEI