

Mapping & Modelling Subcommittee Meeting

USGS, Menlo Park, CA

Jan 29th, 2014

MMS Initial Discussion

- New maritime hazard products will require a workshop to validate tsunami models for currents (*co-locate with the NTHMP Annual Meeting 2015*)
- The rules of procedure tied to the TWEA document are outdated, and should be revisited by the coordinating committee. We want to be clear that our strategic plan is clearly in line with NTHMP fundable activities.

National Hazard Assessment

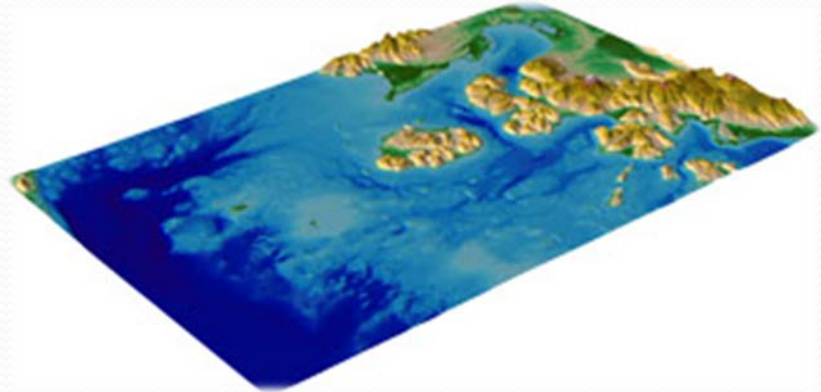
- **This is not probabilistic and it's not a risk assessment, it IS qualitative hazard.**
- Among other things, new in the update are catalog earthquakes since 2006, which puts American Samoa in the “high” hazard category
- Community Vulnerability Appendix (Nate Woods)

Discussion:

- Meteotsunamis **should** be included
- Dollar damages are not adjusted for inflation in the database, but total damage amounts which have been adjusted **should** be discussed within the document
- AK & HI local tsunami hazard are very different, and we need to make sure that is clear, as both are listed as “high”

DEM Development, CY2013 Status

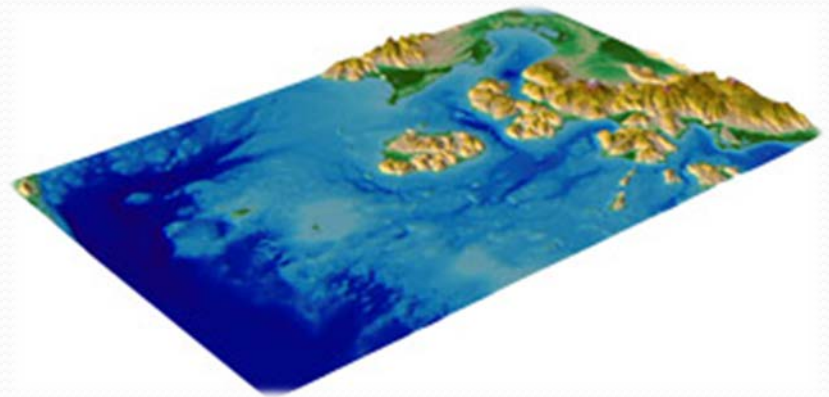
- Cold Bay and King Cove, Alaska – Completed
- Chignik and Perryville, Alaska – In Progress
- Skagway and Haines, Alaska – traded with UAF
- Ketchikan, Alaska – In Progress



NGDC hosted Amy Macpherson from UAF for DEM development training.

DEM Development, FY2014 Status

1. Puerto Rico
2. Miami Beach
3. Tampa
4. Puget Sound
5. (Nikolski)



USGS Tsunami Sources Working Group

The benefits of collaboration:

- individual consultation on source characterization
- a consistent national approach to source identification and professional review
- input on probabilistic characterization of tsunami sources
- Better align the USGS CMT/FFM event products with operational TWCs forecasting sources (exp. Slab1.0 and SIFT source database strike, dip, slip parameters)

MMS multi-state projects for FY14-15 proposals

1. Maritime hazard products (OR, CA, PR, possibly HI; others interested in observing)
2. Two/multi-level evacuation (OR, CA, possibly HI)
3. PTHA, potential for evaluating our products compared with ASCE product (CA & OR, with WA and AK observing; HI other funding)

National guidance for mapping/modeling activities

Objective: 1) Make it as simple as possible for the end user, and 2) Develop in consistent, accurate, and cost-effective way

- 1. Maritime planning and playbooks**
- 2. Evacuation/Response playbooks**
- 3. Probabilistic work**

Develop a user working group of end users (similar to CA and OR-MAC), for advice on which products to develop, get local EM & harbor master input, test them out!

Future work/meetings/workshops

- Workshop Objective: to validate the application of tsunami models for use in maritime hazard planning (*co-locate with the NTHMP Annual Meeting 2015*)
- Work Group Tiger Team America Delta Subcommittee: to develop the proposal, benchmarks, documentation, and prepare for the workshop
- Use Japan observational data for this benchmarking, (near source inundation, far source inundation, offshore/near shore, and inland velocities)

Next MMS meeting

- Review maritime products
 - end user feedback,
 - final product and state guidelines,
 - related TWC output
- Finalize Maritime Workshop preparations

**National Tsunami Hazard Mitigation Program (NTHMP)
Mapping and Modeling Subcommittee (MMS) Meeting Notes**

Wednesday, January 29, 2014

USGS Menlo Park Campus, California Room

Attendees:

Kara Gately, co-chair - National Tsunami Warning Center

Rick Wilson, co-chair – California

Aimee Devaris (portion of meeting) – NOAA, Alaska Region

Rocky Lopes (portion of meeting) – NOAA, Tsunami Program

Marie Eble – Pacific Marine Environmental Lab

Vasily Titov – Pacific Marine Environmental Lab

Stephanie Ross (portion of meeting) – U.S. Geological Survey

George Priest – Oregon

Tim Walsh – Washington

Dmitry Nicolsky – Alaska

Elena Suleimani – Alaska

Kwok Fai Cheung – Hawaii

Juan Horrillo – Gulf Coast

Jim Kirby – East Coast

Victor Huerfano – Puerto Rico

Sue McLean – National Geophysical Data Center

Paula Dunbar (on phone; portion of meeting) – National Geophysical Data Center

Kelly Carignan (on phone; portion of meeting) – National Geophysical Data Center

Joseph Zhang (on phone; portion of meeting) - Oregon

Overview of MMS meeting agenda, review previous MMS meeting notes/outcomes, and discuss NTHMP Strategic Plan

Reviewed agenda and notes from summer/2013 meeting in Seattle.

Discussed benchmarking workshop. The inundation modeling benchmarking workshop (2011) was funded (travel and hosting), but the work done for the workshop was not. Model development is not funded... which was a point for discussion.

Section 5 (c) (1) The funding panel committee looks at this...

Included:

Inputs to mapping and modeling

Application of a model

(Development of benchmarking tests is ok...)

Dem/Grid generation

Not Included:

Acquisition of raw data (bathy etc.)

Development and benchmarking of a model

(Rocky) MMS Proposals should: Explain what we intend to do, and explain how it follows these (above) rules.

The finding was that the proposal review criteria for funding (from Section 5c) is outdated, and should be discussed by the coordinating committee. Our Strategic Plan, which includes benchmarking model currents, is potentially in conflict with fundable activities. Rules of procedure are going to be re-written, CC will assign a panel to work on it.

Maritime products will require a workshop that will need funding for the travel, a database to store benchmarks, development of benchmark criteria and benchmarking, comparison analysis and the production of a workshop report. Benchmarking of maritime models/products this is basic testing, and has to be done.

The MMS is not a grant recipient, so money for the workshop would need to go to a grantee (qualifying entity that would handle the funds). Grant money given to this state recipient, will not count against that states other funding requests.

Proposed to hold workshop concurrent with next NTHMP CC meeting, January 2015, to save travel costs.

ACTION: California (CGS) will work with Pat Lynett from USC to develop a 2014 proposal for the MMS and this workshop.

Discuss National Hazard Assessment update

Paula Dunbar made presentation to MMS summarizing work on NHA update.

- Updates with new catalog quakes since 2006, and paleo-earthquake data
- A main major outcome of the update is that American Samoa is now in the “high” hazard category
- This is not probabilistic and it’s not a risk assessment, it IS qualitative hazard.
- Summarization of recent USGS documentation GoM and Atlantic tsunami sources.
- An appendix on Community Vulnerability (Nate Woods)
- Meteotsunami **should** be included, Vasily offered to help.
- Dollar damages are not adjusted for inflation... keep the database as is, but discuss total damage amounts in the document, with adjusted inflation
- AK & HI local tsunami hazard are very different, and we need to make sure that is clear, as both are listed as “high”
- If anyone knows of earlier or more accurate TG installation dates let Paula know
- Q. from Jim about the accuracy of & of deaths after the tsunami warning centers were established

ACTION: Paula updated the presentation for the following day’s NTHMP discussion

DEM prioritization

ANY data source that can help the forecast or DEM development - let NGDC know.

NOAA FY13 DEMS

- Kodiak AK
- Long Beach CA
- BC complete but no topo from CHS
- Bermuda complete (but lacking LIDAR data – will need an update later)

NTHMP FY13 DEMs

- Ketchikan (end of Feb.)
- Skagway & Haines (will be completed by Amy at UAF, no eta)
- Cold Bay and King Cove
- Chignik and Perryville (in progress)

CSC completed a model for northern Mariana Island, check that out. Fai knows there’s LIDAR data, (NOS/PRIMO data), should also be LIDAR data for Am. Samoa. **Fai to share the data with NGDC or provide the appropriate contact.**

Alaska MAP USGS (new LIDAR data coming -> when we need a contact www.alaskamap.org)

FY14 NOAA proposed DEMs:

1. U.S. Virgin Is. (recommend update, data available)
2. High-resolution updates for California (likely update, data available)
3. Community centered American Samoa (likely update, Fai provide data or contacts)
4. *Northern Mariana Islands (possible update; Marie checked; this is a recent PMEL DEM)*
5. *East Coast Canada (possible new DEM; requires data collaboration)*
6. *Tofino, BC (possible new DEM; requires data collaboration)*
7. *Chile regional (desired new development; requires data collaboration)*

FY14 NTHMP proposed DEMs:

1. Puerto Rico (update; new data available; need extents)
2. Miami Beach (update; new data available; need extents)
3. Tampa (update; new data available; need extents)
4. Puget Sound (update needed 12/2014; new data available; need extents)
5. Postage Stamp for Nikolski

Discuss recommendations for USGS source characterization

Stephanie Ross was at the MMS meeting to represent the USGS. Walter Mooney is the chair of the USGS Tsunami Source Work Group. Steve Kirby will be giving the briefing the following day for the USGS work group.

Discussed the sources states currently use and questions for the working group. Everyone was in favor of a higher level of coordination between NTHMP, states, and USGS.

Consistency of source was a reoccurring topic. Adjustment of max slip for local sources, guidelines for how to create sources, advise on the feasibility of a particular source, and the impact of those sources on planning of multiple states.

A common location to document the sources was discussed.

Key overarching areas where a source working group can help include:

1. Individual consultation with states and a consistent national approach to source id and review.
2. Update of TWC forecasting source database to better align with SLAB1.0.
3. Working towards probabilistic characterization of sources.

ACTION: All states send Rick a brief description covering magnitude, maximum slip and location for their existing evacuation mapping sources.

Discuss potential multi-state mapping/modeling projects for FY14-15 proposals

Get clarification from Rocky on how multi-state proposals should be discussed in state proposals.

1. Maritime products -> California has been working on products for in-harbor currents, safe offshore depths, and guidance for use of these products. Oregon Marine Advisory Committee (MAC) has been formed. WA and CA are a part of that group; HI and other states/territories may join, Kara was made a member to represent NOAA and the NTWC. Guidance will come out of this work.
 - a. The methodology should be well defined and followed by all.
 - b. The final product should be consistent for each state.
 - c. TWC will be part of the collaboration as well.
2. Multi-level evacuation planning playbooks – being discussed by CA and HI as potential multi-state project. TWC should collaborate also.
3. Potential for evaluation our products compared with ASCE product (PTHA): CA and OR will collaborate on this.

Discuss draft national guidance for various mapping/modeling activities

Objective: Make it as consistent and cost effective across state boundaries, and as simple as possible for the end user.

Develop a user working group of end users (utilize the MAC), for advice on which products to develop, get local EM & harbor master input, test them out:

- Maritime hazard planning & tsunami mitigation, and playbooks – **Rick's got a draft document for guidance that he'll be sending out for review in the next few weeks.**
- Evacuation/Response playbooks
- Probabilistic work
- Evacuation modeling

Discuss/Plan tsunami current model benchmarks and workshop

See discussion at beginning of meeting and below.

Discuss and schedule future work/meetings/workshops

MMS work group: to develop the proposal, the benchmarks development and documentation, and prepare for the workshop. CA will work with Pat Lynett to develop MMS proposal for workshop and documentation.

Possibly we could use Japan observational data for this benchmarking? It's got near source inundation, far source inundation, offshore/near shore, and inland velocities... however, the exact source mechanism is still be debated. Observational inland flow velocities and near shore coastal currents should be included.

Possible new benchmarking suggestions: new inundation validation, new landslide problems

Jim, Joseph, Fai, someone from NOAA (Kara or Marie) as work group members. Pat Lynett mentioned he is willing to help take the lead.

Workshop to coincide with next NTHMP Annual Meeting (January 2015)

Workshop purpose: to validate the application of (NOAA benchmarked) tsunami models for use in maritime planning.

Next MMS meeting in summer or fall of 2014: review maritime products, end user feedback, final product and guidelines, related TWC output, benchmarks and plans for benchmark workshop.
