ShakeMap Workshop, Oct 8/9, 2009, U.C. Berkeley, California

"*NetOps-IV: ShakeMap 'Top Gun' Workshop and Training*"

Group photo in front of Hearst Mining Building (base isolated structure, as part of a retrofit, ~100 m. from Hayward Fault)

– Workshop Agenda –

Thursday, October 8th

8:30 Gathering

8:45 – 9:00 Welcome/Logistics [Wald/Hellweg]

9:00 – 9:10 Self Introductions [All]

9:10 – 10:20 Overview & Update [Wald]

- Introduction/Motivation [Wald]
- ShakeMap, ShakeCast, PAGER; Global ShakeMap
- ShakeMap Atlas, USGS Web Pages, Atlas, Archives, Literature

10:20 – 10:40 Coffee Break

10:40 – 12:15 What's New in Version 3.5 [Worden/Lin/Wald]

- Combining Intensity & Ground Motions
- SGM/Intensity Conversions [Worden/Wald]
- GMPEs, Grid-based processing, Uncertainty, plotreg, other enhancements
- Discussion; Questions & Answers

12:15 – 13:15 Other R&D

- ShakeCast Update [Lin/Wald]
- Boatwright, other contributions [TBS]

13:15 – 15:00 Lunch

15:00-16:30 Regional Implementations [5-10 min each*]

- NEIC/Global ShakeMap (GSM) [Lin, Wald]
- N. California [Bundock/Lombard/Boatwright]
- S. California [Flagg]
- Utah [Pankow]
- Pacific Northwest [Bodin/Hartog]
- Alaska [Ruppert]
- Nevada [Biasi]
- Hawaii [Okubo, Lin]
- Northeast [Kim]
- Puerto Rico [Huerfano]
- Canada [Woodgold]

16:30 – 17:00 Version 3.5 Installation, Upgrade, & Tools [Lin/Worden]

17:00 – 17:30 Discussion [All]

19:00 Optional Group Dinner *[Jupiter www.jupiterbeer.com]*

Friday, October 9th

8:30 – 11:00 Version 3.5 Software Continued [Lin/Worden/Wald]

- Customization/Configuration
- Rerunning historic and scenario events
- Operations: Repeats, communications, etc.
- Development [SVN, Modules, GMPE's, Help: shake-dev]

10:20 – 10:40 Coffee Break

11:00 – 12:15 Discussion/Feedback/Issues/Q/A [All]

- Regional Coordination, Back up Strategies, Scenarios [Wald]
- Earthquake Scenario Project (ESP) [Wald]

12:15 – 13:30 Lunch

13:30 – 14:30 Future Directions [All]

- RSN Configuration [Wald, Lin, Worden, All]
- Software Enhancements
- Backup Strategies
- Features, Functions, R&D, implementation, coordination

14:30 – 15:30 Software & Implementation Troubleshooting [All; Lin/Worden]

15:30 Adjourn

* Structured Format: Status, Stations, Operations, Operators, Users, Backup Strategy, Event Examples, Future Plans. Accompanied document to be submitted prior to Workshop attendance (see attachment).

Attendees

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Attendees [Tentative]

	Name	Institution	Email
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4	Vince Quitoriano	USGS, San Diego	vinceq@usgs.gov
5	Richard Allen	U.C. Berkeley	rallen@berkeley.edu
6	Peggy Hellweg	U.C. Berkeley	peggy@seismo.berkeley.edu
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32	Mitch Robinson	U.A., Fairbanks	mitch@giseis.alaska.edu

Notes & ToDo

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Discussion Points Summary:

Immediate Action Items:

- Request: ANSS/MP to provide cell for Bundock for NC ShakeMap operations & support.
- Request: ANSS/PAS to provide cell for Worden for operational backup to SC ShakeMap; Access to SC ShakeMap for B. Worden & K. Lin should be provided & verified.

RSN Specifics:

- All: Some RSN's will make ShakeMap in their area even if epicenter is outside area (i.e., widely felt NV event felt in Salt Lake City). How to deal with multiple events on server, multiple product streams, etc.
- NN: High resolution map for Reno based on more sta's, better Vs30
- NC: Review repeater issues. 50 Netquakes contributing to SM!
- LDSN/NE: ShakeMap to be run at NEIC after CISN software upgrade (see separate email). Need to add DYFI data to runs.
- Canada: Concern with Ottawa's use of vertical components as proxy for horizontal motions; also no clipping check for BB/verticals, and no strong motion instruments for their ShakeMap. Also, trigger from amp's rather than epicenter is a concern.
- AEIC: Need high resolution Anchorage map?
- HI: New site condition map available soon? Replace topo Vs30?

General Development Issues

- Improve IPEs/GMPEs/GMICEs – evaluate, create new as needed.
- No obvious resolution of GMPE's for CA/NC/SC.
- Explore correlation of EIS alert level to peak MMI contours (Marano)
- High resolution inset maps; finer sampling grids & web pages. Requires separate runs, but all products for inset as well as main maps?
- Don't rerun scenarios until comfortable with V3.5 configs & coordintate with RNS/Golden.

- Post-event communications: increase post-significant event communications from RSN ShakeMap operator to NEIC ShakeMap personnel.
- *Shake* run age-based configuration to avoid notification from reruns of old events.
- Test real-time geocoding for DYFI ShakeMap input versus using population centroid rather than geographic centroid for ZIP. Ask Rukstales to investigate or use Landscan.
- Brian Flagg: potential for backup bootable ShakeMap software on flash drive.

General Questions:

- How to add hypocentral mislocation uncertainty?
- Implement Wald et al. '99 PGA/PGV saturation?
- Lombard's discussion on Fault type in eq2xml; from db? Command line option?
- Future Development Considerations: Python/Java?
- More flexibility in contour configuration.
- Should the basin depth correction be removed from data prior to bias and interpolation and then added back at the end (in the same way the site correction is)?
- Is site corrections uncertainty included in GMPE uncertainty? [YES]
- More detailed fault model needed (subfaults; XML) for directivity
- Would be good to make a scenario fact sheet for scenario users to inform what they are and how to use them
- Landslide and liquefaction probability maps (we're working on it!)
- Currently, not able to use multiple GMPEs, hope to include functionality in the future

Miscellaneous software modifications (not prioritized):

- "Not reviewed" message can go should be eliminated; however, can we put a "text message" in the input directory that's printed where the "not reviewed" now appears on the maps?
- Remove obtuse "design spectral message"
- Move "Regression" dir to "GMPE", make IPE dir.
- remove the CDMG directory?

- GMPE testing option: Plot GMPE for various Mag/Dist's.
- *Genex* should not allow hazus.zip file generation if spectral values are not run (-psa); also they must correspond to current, not an earlier run; generate error message if attemped.
- Document Wan's testing tools & directory
- Native vs. converted in the same sector. Toss converted sta's in sectors with native?

Presentations

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List of Presentations (all on flash drive)

ShakeMap Group:

- ShakeMap.FutureR&D.Wald.ppt
- ShakeMap.Scenarios.Wald.ppt
- ShakeMap.Details.Wald.ppt
- CompositeShakeMap.Worden.ppt
- ShakeCast.Berkeley.Lin.10.08.ppt
- ShakeMap.Overview.Wald.ppt
- ShakeMap_SW_Implementation.Berkeley.Lin.10.09.ppt
- ShakeMap_SW_Overview.Berkeley.Lin.10.08.ppt

ShakeMap Operators:

- Some on flash drive, others available on request
- Provided by all regions, SC still missing (B. Flagg).

Documents

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Documents [on flash drive]

- ShakeMap.2009.Workshop.Agenda.doc
- Release_Notes_V3_5.doc
- SoftwareGuideV3_5.doc

References

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[TO BE DISTRIBUTED IN FOLDER VIA FLASH DRIVE]

ShakeMap

http://earthquake.usgs.gov/eqcenter/shakemap/background.php#references

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ShakeCast

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PAGER http://earthquake.usgs.gov/eqcenter/pager/prodandref/index.php

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