



USGS National Seismic Hazard Map (NSHMP) Workshop on Ground Motion Prediction Equations (GMPEs) for the 2014 Update

December 12-13, 2012



I-House, Berkeley, CA (<http://ihouse.berkeley.edu/>)

Hosted by the Pacific Earthquake Engineering Research Center

Participants should register for this workshop (free of charge). All attendees are invited to participate during the discussion sessions. On Thursday afternoon, we welcome short presentations from interested individuals on outlined topics. You may bring a maximum of three slides to the meeting (alternatively, you can email your slides to sanazr128@yahoo.com prior to the meeting). We will set up ReadyTalk for those who cannot attend the workshop in person and would like to connect online. Please monitor the PEER announcement page for information on ReadyTalk.

Announcement and Registration:

<http://peer.berkeley.edu/events/2012/08/nshmp-workshop/>
<https://geohazards.usgs.gov/mailman/listinfo/nshmp-nga>

Agenda:

Wednesday Dec 12, 8:00am-3pm: Central Eastern U.S. (CEUS)

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| 8:00 – 8:15 am | Introduction | (Mark Petersen) |
| 8:15 – 8:45 am | CEUS GMPEs considered for 2014 maps | (Sanaz Rezaeian) |
| 8:45 – 12:00 pm | Underlying parameters and issues in development of CEUS GMPEs | |
| | Trade-off between Stress-Drop and Geometric-Spreading (15 min + 5 min QA) | (Dave Boore) |
| | Geometric spreading from coda-normalized S-wave amplitudes (15 min + 5 min QA) | (Art Frankel) |
| | Regionalization and its effects on ground motions, Gulf Coast issues, and Geometric-Spreading from Virginia aftershocks | |
| | (10 min + 5 min QA) | (Martin Chapman) |
| | (10 min + 5 min QA) | (Walter Mooney) |
| | (10:00 – 10:15 am) -- Break | |

Kappa, Conversion from hard rock to 760m/s (10 min + 5 min QA)	(Dave Boore)
(10 min + 5 min QA)	(Norm Abrahamson)
GMPEs in Canadian National Hazard Maps (15 min + 5 min QA)	(Gail Atkinson)
Constraints on GMPEs using Wenchuan data (10 min)	(Zhenming Wang)
Discussion (45 min)	(All)

12:00 – 1:00 pm Lunch

1:00 – 2:00 pm	Residual studies using NGA-East database of recorded ground motions	
	Total residuals (20 min)	(Chris Cramer)
	Accounting for mixed-effects (20 min)	(Christine Goulet)
	Overview of EPRI 2004.06 review project (20 min)	(Youngs / Mueller)
2:00 – 2:20 pm	Sensitivity of hazard maps to CEUS GMPEs	(Morgan Moschetti)
2:20 – 2:50 pm	Discussion on weighting and other issues for CEUS GMPEs	(Mark Petersen)
2:50 – 3:00 pm	Break	

Wednesday Dec 12, 3pm-5pm: Subduction Zone

3:00 – 3:15 pm	Introduction	(Mark Petersen)
3:15 – 3:30 pm	BChydro GMPE	(Norm Abrahamson)
3:30 – 4:10 pm	Other GMPEs	(Gail Atkinson) (Bob Youngs) (Zhao)
4:10 – 4:30 pm	Sensitivity of hazard maps to GMPEs	(Mark Petersen)
4:30 – 5:00 pm	Discussion on weighting and other issues for Subduction Zone GMPEs?	(Mark Petersen)

Thursday Dec 13, 8am-2pm: Western U.S. (WUS)

8:00 – 8:15 am	Introduction	(Sanaz Rezaeian)
8:15 – 8:35 am	Summary of NGA-W2 project and database	(Yousef Bozorgnia)
8:35 – 10:35 am	NGA-W2 GMPEs: Developers introduce their new models and describe why they should be implemented or replace their previous models in the NSHMP (20 min each + 20 min QA for all)	(Abrahamson-Silva) (Boore, Stewart) (Campbell-Bozorgnia) (Chiou-Youngs) (Idriss)

10:35–10:50 am Break

10:50 –11:10 am	Additional epistemic uncertainty in NGA-W2	(Bob Youngs)
11:10 –11:30 am	Graizer-Kalkan GMPE	(Vladimir Graizer)
11:30 –12:00 pm	Sensitivity of hazard maps to WUS GMPEs	(Sanaz Rezaeian)

12:00 – 1:00 pm Lunch

1:00 – 1:25 pm	Discussion on weighting and other issues for WUS GMPEs	(Mark Petersen)
1:25 – 1:40 pm	New studies on site amplification factors	(Jonathan Stewart)
1:40 – 2:00 pm	New studies on directivity modelling	(Paul Spudich)

Thursday Dec 13, 2pm-5pm: Discussions & Summary of Workshop

All attendees are invited to speak or show a maximum of three slides on each of the following topics. We also welcome discussions on other topics not listed below - contact the moderators.

- Implementation of directivity models
- Are the NGA-W2 GMPEs appropriate for WUS locations outside CA?
- Transition region between East & West
- Directionality issues (GeoMean, GMRotI50, RotD50, RotD100) (Jack Baker, 15min)

3:00 – 3:15 pm : Break

- Advantages and disadvantages of having one standard GMPE model (i.e., a statistical model that is a combination of all others.)
- Future Map Needs:
 - Maps for the vertical ground motion
 - Maps for damping ratios other than 5%
 - Maps for Vs30 other than 760m/s
 - Maps for inelastic response spectrum
 - Maps for PGV
 - Maps for single station sigma
 - Urban hazard maps

4:30 – 5:00 pm : Closing Notes (Mark Petersen)