

Feedback from Others, and Establishing Consensus

Goals of UCERF Meeting

- Do you think that the USGS should apply the UCERF 3.0 model to the National Seismic Hazard Maps? (i.e., you feel that the model is sufficiently vetted and represents better science than applied in UCERF 2.0.)
- Do you think that the model will be ready by the end of 2012? Will we need to hold another workshop to show final UCERF 3.0 results or could we do this in some other way e.g., internet?
- How would you recommend that we revise the model?
- Do you think that we should update UCERF 2.0 (e.g., catalogs, faults, new deformation models, multi-segment ruptures, etc.) and wait until UCERF 3.0 is more mature before applying it to the hazard maps and building codes?
- Do you think that we should use a weighted combination of UCERF 2 and UCERF 3 models?

Comparison of New UCERF3 model to UCERF2 model used in NSHMs

- Includes new poorly known faults
- Incorporates a new catalog (updated since 2008 and uses $M \geq 2.5$)
- Considers aftershocks (no declustering)
- Uses new deformation models
- Uses new methodology for calculating earthquake rates of single and multi-segment ruptures (Grand Inversion implies more objective method with built-in assumptions). UCERF3 contains 220,000 unique ruptures whereas UCERF2 has about 8,000 ruptures.
- Uses new M-Area relations (Shaw – for most part yields lower M/slip for given length/area)
- Models M-frequency distributions differently (Characteristic and GR models)
- Contributes more moment in earthquakes than UCERF 2.0; “UCERF2 underestimates the total moment rate”.
- Applies M 7.2, M7.6, and M8 background earthquakes anywhere off the faults
- Applies a complex logic tree with 720 branches (for one fault model)