

## AGENDA

### BASIN AND RANGE PROVINCE EARTHQUAKE WORKING GROUP II (BRPEWGII) MEETING

November 14-16, 2011

Utah Department of Natural Resources (1<sup>st</sup> Floor Meeting Rooms)  
1594 West North Temple, Salt Lake City, Utah

#### Monday, November 14

- 12:00 – 1:00 Lunch [Room 1060, adjacent to meeting room]
- 1:00 – 3:30 **Issue S1:** How should the magnitude-frequency relations for a single Basin and Range Province (BRP) fault be characterized? Does existing seismological data help define this relationship? (Discussion Leaders – David Schwartz and Jim Pechmann) [Room 1050]
- 3:30 – 3:45 Break [Room 1060]
- 3:45 – 6:15 **Issue G1:** How should we calculate  $M_{max}$  for BRP faults based on rupture lengths, fault areas, and available displacement data ( $M_{max}$  of 7.5 currently is used in the NSHMs and is based on the magnitude of the 1959 Hebgen Lake earthquake)? What is the source or explanation of the discrepancy between  $M$  calculated using surface-rupture length versus using the average or maximum displacement (site bias, underestimation of surface rupture length, other?)? How should the discrepancy in the magnitude determined from these two measurements be handled in the NSHMs? (Discussion Leaders – Susan Olig and Chris DuRoss) [Room 1050]

#### Tuesday, November 15

- 7:00 – 7:30 Continental breakfast [Room 1010]
- 7:30 – 10:00 **Issue S2:** How should the “smoothing” of seismicity be handled in the NSHMs? The current NSHMs use a radial smoothing process, but recent precarious rock studies in California and western Nevada suggest that anisotropic smoothing (i.e. along faults) might be more appropriate? If anisotropic smoothing is used, should it be applied universally across the entire BRP? (Discussion Leaders – Mark Petersen and Jim Brune) [Room 1060]
- 10:00 – 10:15 Break [Room 1010]
- 10:15 – 12:30 **Issue G2:** How should antithetic fault pairs be modeled in the NSHMs? For example, what is the relation and seismogenic significance of fault pairs such as the East and West Cache faults, and strands of the Salt Lake City segment of the Wasatch fault and the West Valley fault zone? (Discussion Leaders – Kathy Haller and Mike Hylland) [Room 1060]
- 12:30 – 1:00 Lunch [Room 1010]

- 1:00 – 3:30 **Issue S3:** Does the rate of earthquakes represented on the NSHMs need to match the rate of historical earthquakes? If not, what level of mismatch is acceptable? (Discussion Leaders – Chuck Muller and Ivan Wong) [Room 1060]
- 3:30 – 3:45 Break [Room 1010]
- 3:45 – 6:15 **Issue G3:** The USGS seeks guidance on how to estimate the uncertainty for the slip rates on BRP normal-slip faults, especially for faults that have little or no slip-rate data. The method used in California to estimate the uncertainty has varied the upper and lower bounds of the slip rate by plus-or-minus 50%. Thus the uncertainty bounds for a fault that has a slip rate of 5 mm/yr would be 7.5 mm/yr and 2.5 mm/yr. Do these bounding values encompass the fifth and ninety-fifth percentiles for this fault? (Discussion Leaders – Kathy Haller and Steve Wesnousky) [Room 1060]

### Wednesday, November 16

- 7:00 – 7:30 Continental breakfast [Room 1060]
- 7:30 – 10:00 **Issue S4:** What are the sources and levels of uncertainty in the earthquake magnitudes contained in the seismicity catalogs used in the NSHMs? (Discussion Leaders – Chuck Muller and John Anderson) [Room 1050]
- 10:00 – 10:15 Break [Room 1060]
- 10:15 – 12:30 **Issue G4:** Based on the recommendations from BRPEWG I, the current USGS NSHMs use a dip of  $50^{\circ} \pm 10^{\circ}$  for normal faults in the BRP. Are the  $50^{\circ}$  dip value and the  $\pm 10^{\circ}$  uncertainty range valid and acceptable to cover the probable range of dips for BRP normal faults? (Discussion Leaders – Tony Crone) [Room 1050]
- 12:30 – 1:00 Lunch [Room 1060]
- 1:00 – 3:00 **Wrap-up Discussion:** Briefly revisit issues as necessary, finalize consensus recommendations. [Room 1050]