

## UTAH EARTHQUAKE RESEARCH PRIORITIES FOR 2013

The 2012 Utah Earthquake Working Groups and the Utah Geological Survey defined priorities for earthquake research in Utah in 2013, provided for consideration in responding to the U.S. Geological Survey National Earthquake Hazards Reduction Program (NEHRP) Request for Proposals (<http://earthquake.usgs.gov/research/external/>).

### **Faults**

- Studies of faults should focus on those structures that have been identified as a priority by the 2012 Utah Quaternary Fault Parameters Working Group listed below:

#### Highest Priority (not in order of priority)

- Acquire new paleoseismic information in data gaps along the five central segments of the Wasatch fault zone – e.g., (a) Brigham City segment rupture extent (north and south ends); (b) long-term earthquake record northern Provo segment; and, (c) long-term earthquake record southern Weber segment.
- Penultimate event Provo segment, Wasatch fault zone
- West Valley fault zone – Taylorsville fault

### **Ground Shaking/Site Conditions**

- As part of urban hazard map efforts, two issues have been raised by the Ground Shaking Working Group in comparing the results of several ground motion modeling approaches: (1) the effect of the East Bench-Warm Springs stepover on ground motions, and (2) an apparent drop-off in the ground motions in the simulations relative to the Next Generation of Attenuation (NGA) models west of the Wasatch fault. Research to address these issues is encouraged by the Ground Shaking Working Group.
- In addition to basin effects, the amplification and de-amplification effects of the shallow unconsolidated sediments need to be incorporated into the urban hazard maps. Research to develop amplification factors to be used in the urban hazard maps using empirical data and/or site response modeling is encouraged by the Ground Shaking Working Group.