

UTAH EARTHQUAKE RESEARCH PRIORITIES FOR 2016

The 2015 Utah Earthquake Working Groups, hosted by the Utah Geological Survey (UGS), defined priorities for earthquake research in Utah in 2016. The priorities will be incorporated into the U.S. Geological Survey Earthquake Hazards Program (EHP) External Research Support Request for Proposals (<http://earthquake.usgs.gov/research/external/>) for the Intermountain West.

Faults

The Utah Quaternary Fault Parameters Working Group identified the following highest priority faults for additional study in 2016 (not in priority order):

- Acquire new paleoseismic information to address data gaps for (a) the five central segments of the Wasatch fault zone, (b) the northern segment of the Oquirrh fault zone, and (c) the East and West Cache fault zones. Examples of paleoseismic data to be acquired include surface rupture extent, earthquake timing, displacement, and fault geometry.
- Acquire earthquake timing information for the Utah Lake fault zone to investigate the relation of earthquakes on that fault system to large earthquakes on the adjacent Provo segment of the Wasatch fault zone (coseismic or independent rupture, fault pairs?)
- Use recently acquired LiDAR data to more accurately map the traces of the Wasatch, West Valley, and Hurricane fault zones, and search for and map previously undiscovered mid-valley Quaternary faults.
- Acquire high-resolution aerial imagery (LiDAR, Structure from Motion, etc.), and map high-risk (chiefly urban) Utah hazardous faults to identify new paleoseismic trench sites.

Liquefaction

The Utah Liquefaction Advisory Group identified five priorities for FY2016:

- Development of probabilistic liquefaction hazard maps for Davis County.
- Develop a lateral spread database—Expand liquefaction database to include lateral spread.
- Downtown Salt Lake fault/deformation investigations incorporating geophysical research—Combine available geophysical research to create a database that allows detailed mapping of marker beds and deformation in the downtown area.
- Data archiving to establish a subsurface geotechnical database for professional and public use. Leverage statewide resources (UGS, Utah Department of Transportation, University of Utah, etc.) to combine and build on existing geotechnical databases.

- Form a multiagency data standardization committee to formalize data standards and formats for geotechnical datasets to discuss collaboration and funding options for determining geotechnical database format and attribute standardization.