

Forecasting large earthquakes along the Wasatch Front, Utah

April 13 2017

There is a 43% probability that the Wasatch Front region in Utah will experience at least one magnitude 6.75 or greater earthquake, and a 57% probability of at least one magnitude 6.0 earthquake, in the next 50 years, say researchers speaking at the 2017 Seismological Society of America's (SSA) Annual Meeting.

In their report released in 2016, the Working Group on Utah Earthquake Probabilities, established by the Utah Geological Survey and the U.S. Geological Survey, presented their first forecast for large earthquakes along faults in the Wasatch region, running roughly from Nephi, Utah north to the Utah-Idaho border. (A map of the region is available from the USGS.) The Working Group's project is the first comprehensive study of large earthquake risk in the U.S. West outside of California.

At the SSA Annual Meeting, Ivan Wong of Lettis Consultants International and colleagues will discuss the detailed forecast from the 2016 report, including their findings that at least 22 large earthquakes have ruptured parts of the Wasatch [fault](#) zone between Nephi and Brigham City, Utah in the past 6000 years. The data also suggest that some segments of the fault may be more likely to rupture than others, based on the average time between earthquakes. For instance, the segment of the fault around Brigham City ruptures on average every 1100 years, but has not experienced an [earthquake](#) in 2500 years.

More information: "Forecasting Large Earthquakes along the Wasatch Front, Utah: Final Results from the Working Group on Utah

Earthquake Probabilities" and "Time-Dependent Probabilistic Hazard along the Wasatch Front, Utah Using the Working Group on Utah Earthquake Probabilities Model" will be presented at the SSA Annual Meeting on Thursday, April 20. All presentation abstracts for the 2017 SSA Annual Meeting can be accessed at meetings.seismosoc.org/abstracts

Provided by Seismological Society of America

Citation: Forecasting large earthquakes along the Wasatch Front, Utah (2017, April 13) retrieved 1 May 2024 from <https://phys.org/news/2017-04-large-earthquakes-wasatch-front-utah.html>

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