

## **Current Status of Research in Earthquake Geology in the USA**

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In the past decade geological studies of earthquake effects and paleoearthquake chronologies in the USA have advanced in 6 areas. First, on active faults in the western USA trenching to depths >10 m is now common, as exemplified by the 17 m-deep Albuquerque trenches and the 23 m-deep Wasatch fault megatrench. Contiguous large-diameter boreholes have been used to create trench-like exposures where trenching is infeasible. Second, geophysical methods such as seismic tomography are being refined to image near-surface fault offsets. Third, offshore active faults are being studied with high-resolution multi-frequency seismic surveys and coring. As a result, submarine fault zone landforms and stratigraphy can now be interpreted for slip rate, age of earthquakes, and sometimes displacement per event. Fourth, new rapid C-14 AMS dating services permit trench workers to receive dates in 24-48 hours, so they can enlarge excavations and test stratigraphic models while the trench is still open. Fifth, studies have been expanded for off-fault deformation such as seismically-induced landslides, sackungen, and liquefaction. These studies are critical in areas where causative faults do not outcrop or are poorly preserved, such as in the Pacific Northwest and Mississippi Valley. Sixth, the tectonic geomorphology of neotectonic regions is being analyzed by GIS techniques applied to DEMs. This has resulted in identification of previously unrecognized faults, some of which have yielded evidence of Quaternary faulting from field surveys.