

**QUATERNARY FAULTS AND FOLDS IN THE UNITED STATES:
PRELIMINARY REPORT ON RATES AND STYLES OF DEFORMATION**

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Our USGS/ILP II-2 compilation of Quaternary faults and folds in the U.S. has revealed some important comparisons about regional rates and styles of deformation. The most active region of the continental U.S. is the compressional and transpressional regimes along the Western Coast, where oblique motion between the NA and Pacific plates is accommodated along subduction and strike-slip faults as well as thrust and fold belts. Slip rates range from about 25 mm/yr to several mm/yr, whereas recurrence intervals (RI) for $M > 6.5$ surface rupturing faults are ca. 200-1000 yrs. Historical seismicity shows most of the active faults in this area.

The second most active region is the extensional regime of the Basin and Range and Rio Grande rift, where most faults are normal and slip at rates of < 2 mm/yr and more commonly < 0.2 mm/yr. Their RIs are commonly 2-50 kyr. Most of these faults have long histories of infrequent but repeated movement.

The Western U.S. contains large areas that are stable, where recurrent faulting has occurred but significant fault topography has not developed. Most of the Colorado Plateaus and Wyoming Basin provinces fit into this category. These faults have slip rates that are typically < 0.5 mm/yr and RI are > 20 -100 kyr.

The least active regime is in Eastern and Central U.S., composed of stable cratonic and passive-margin settings and situated in a compressional stress regime. Individual faults commonly show episodic earthquake behavior (clustered activity) and have blind source zones, but can they be the source of frequent large ($M > 7$) earthquakes with RI of 300-1000 yr over geologically short-lived intervals. However, these earthquake clusters are commonly 50-100 kyr or more apart, so long that the term recurrence may not be appropriate.

The oral presentation will focus on a visual comparison of the rates and style of deformation across the U.S. described above.