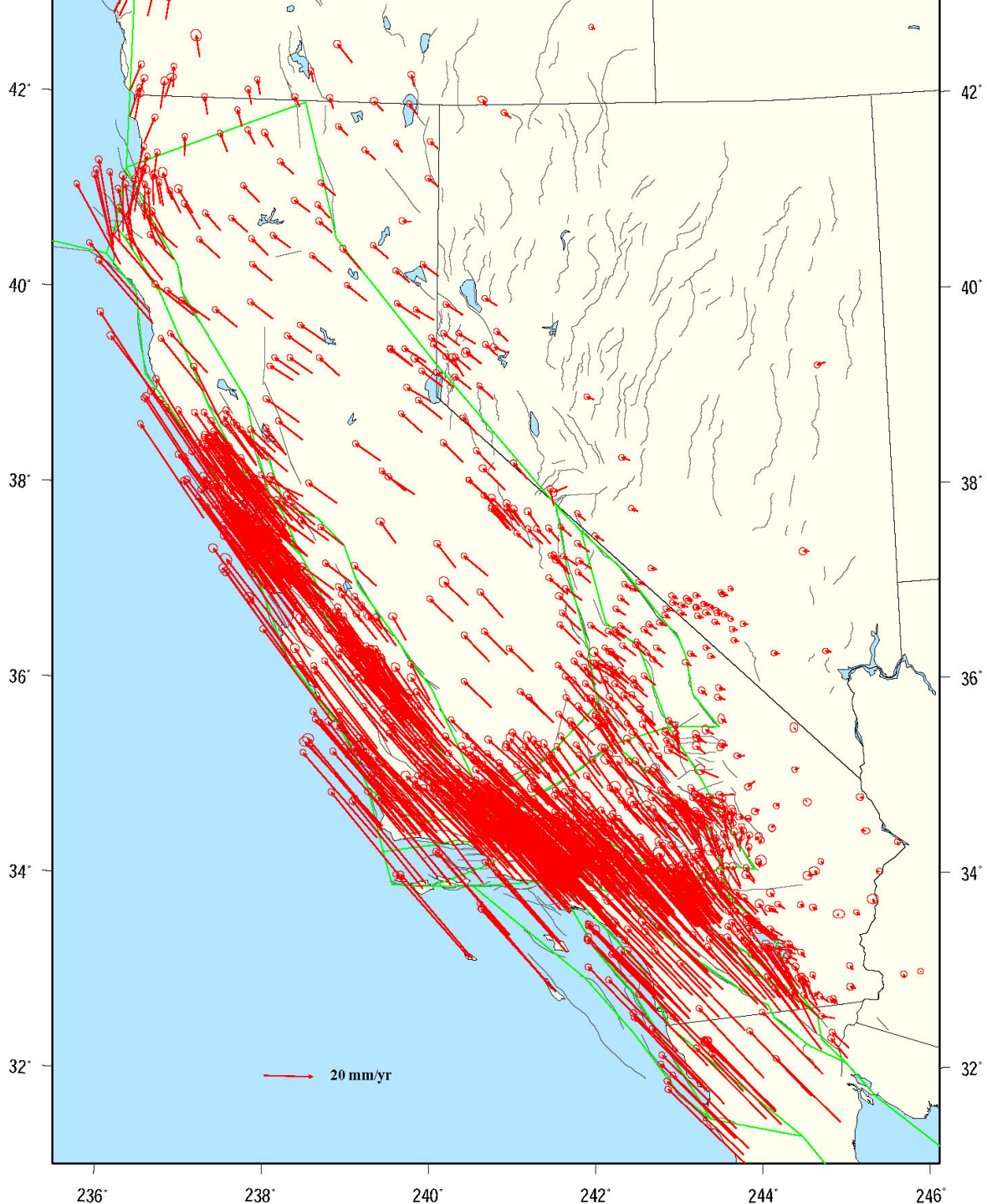
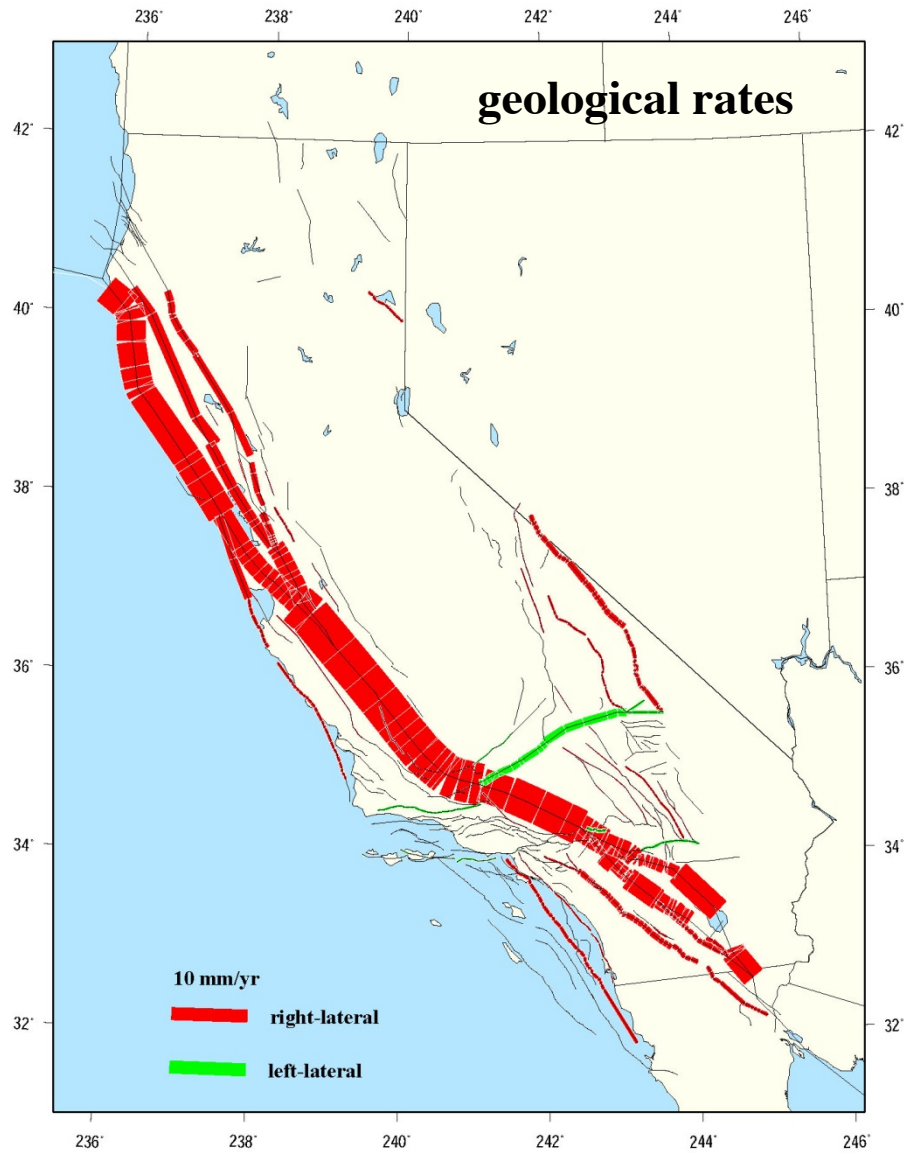
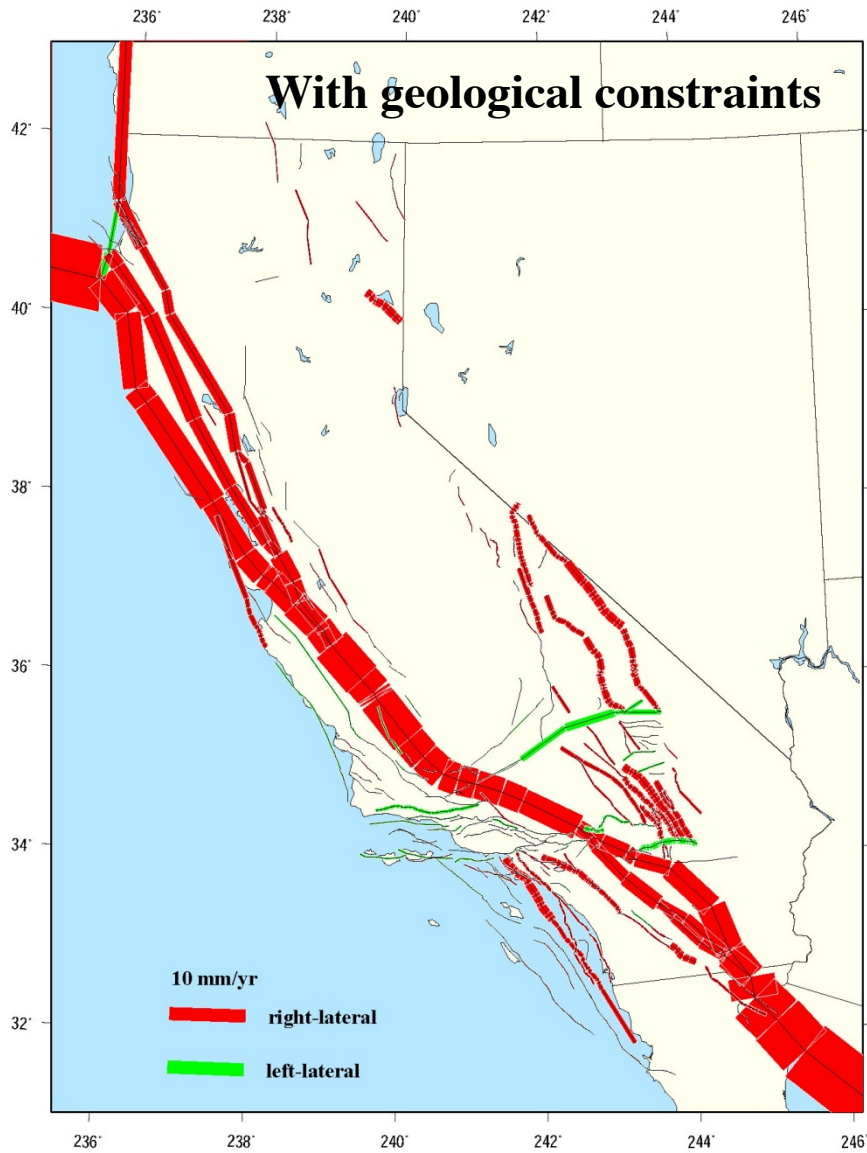
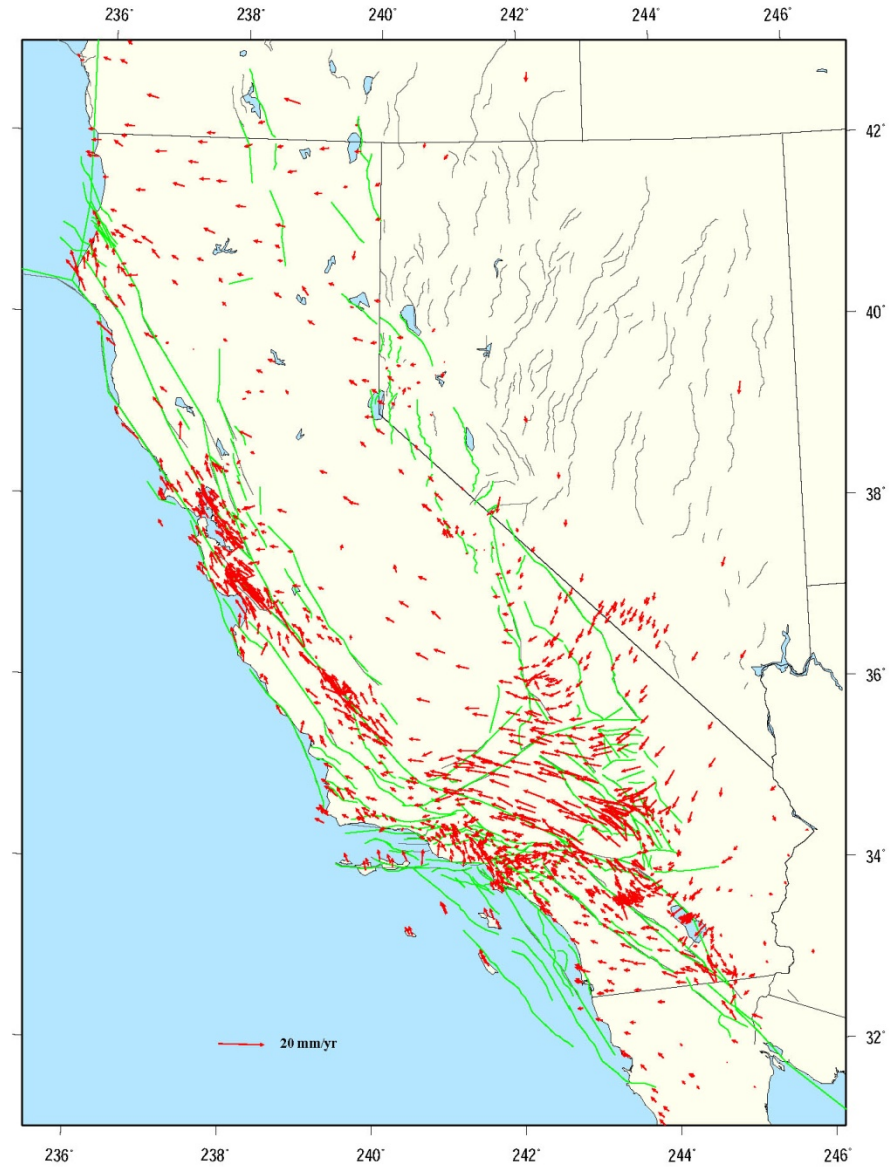
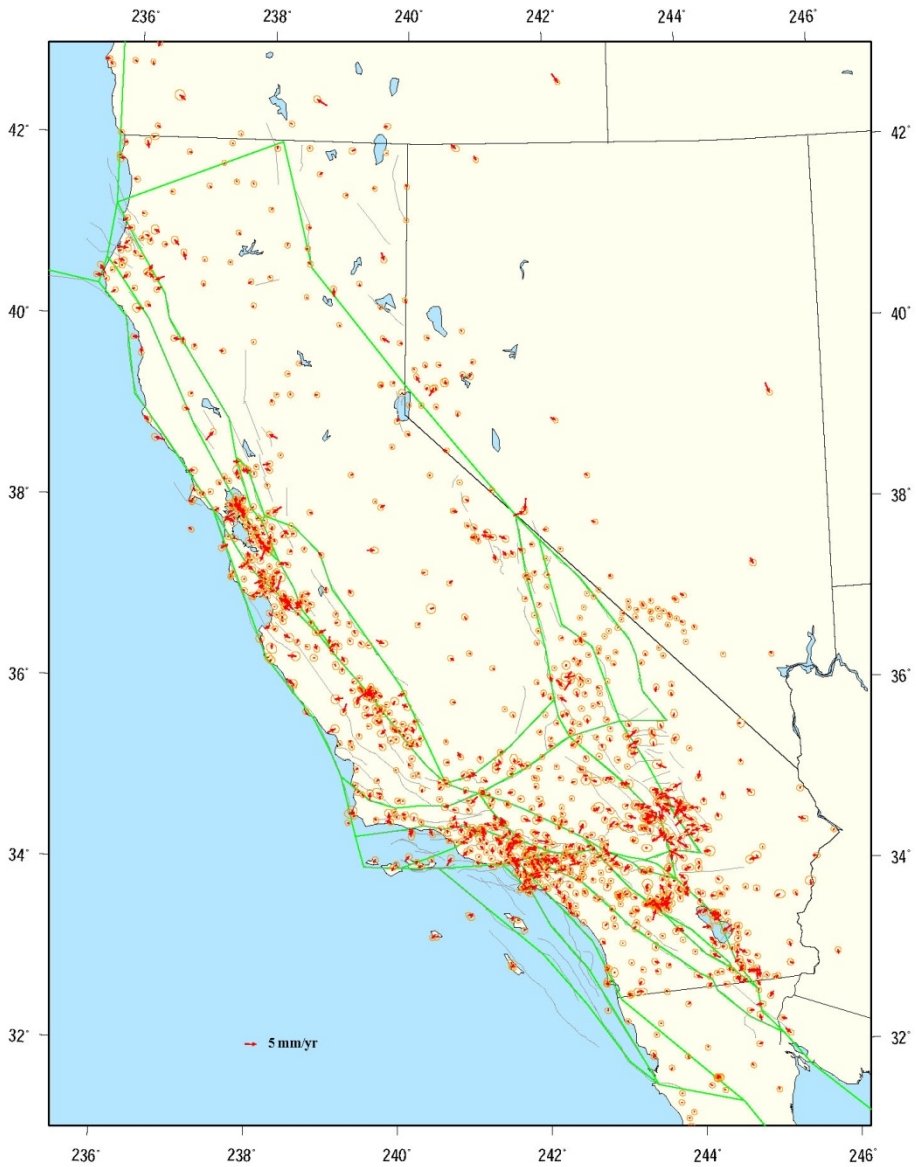


Issues of Geodetic Based Slip Rate Estimates and Its Application to the Seismic Hazard Analysis

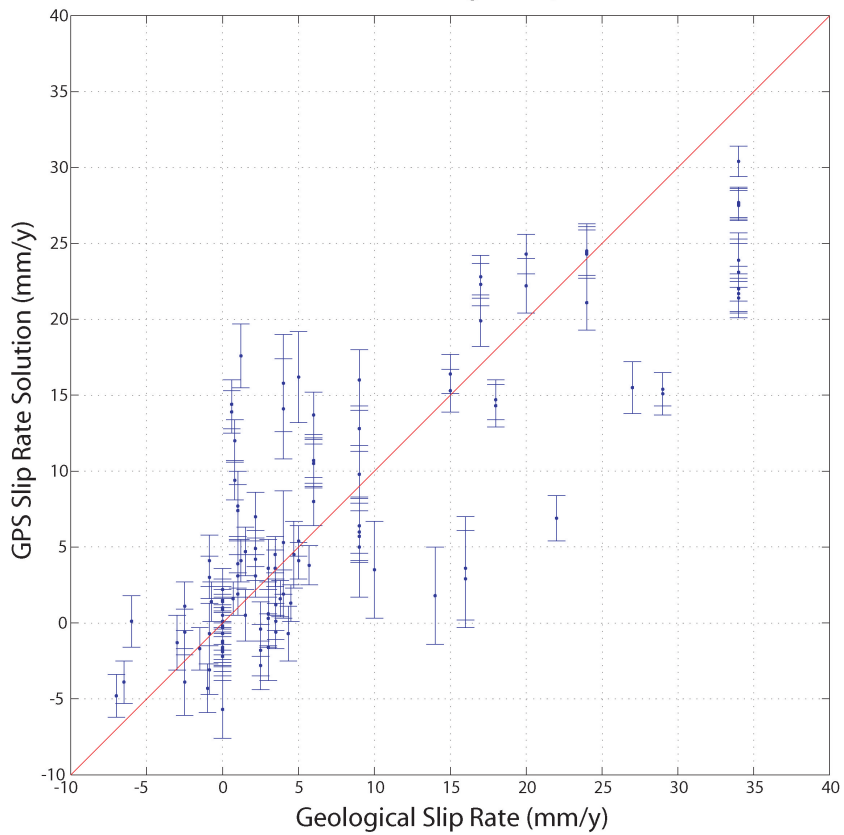
Yuehua Zeng
USGS



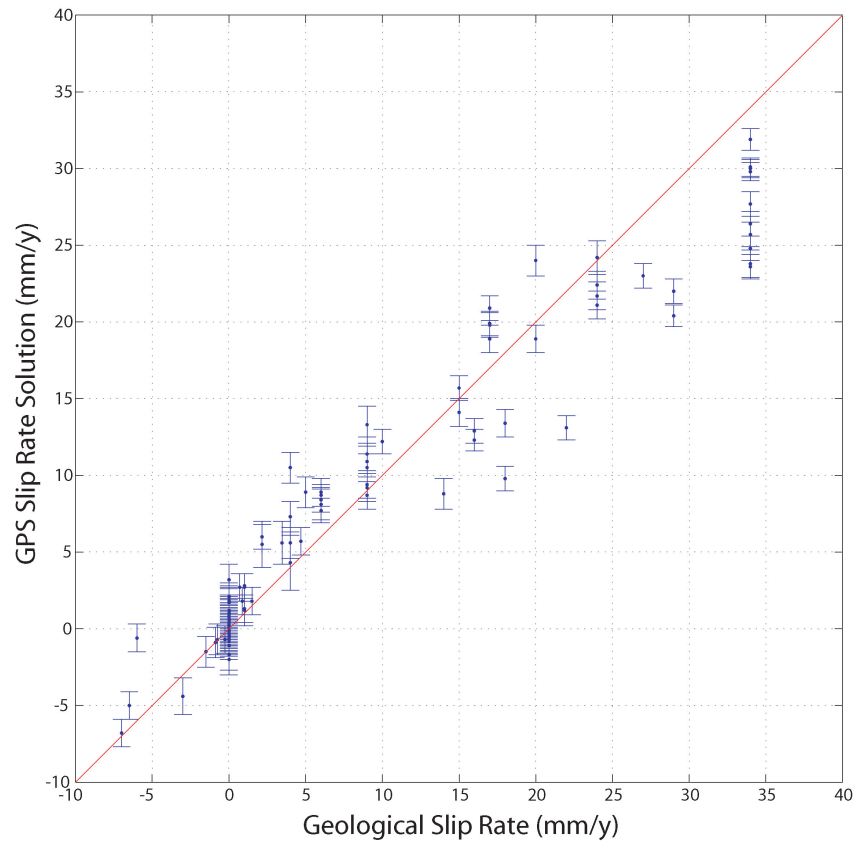




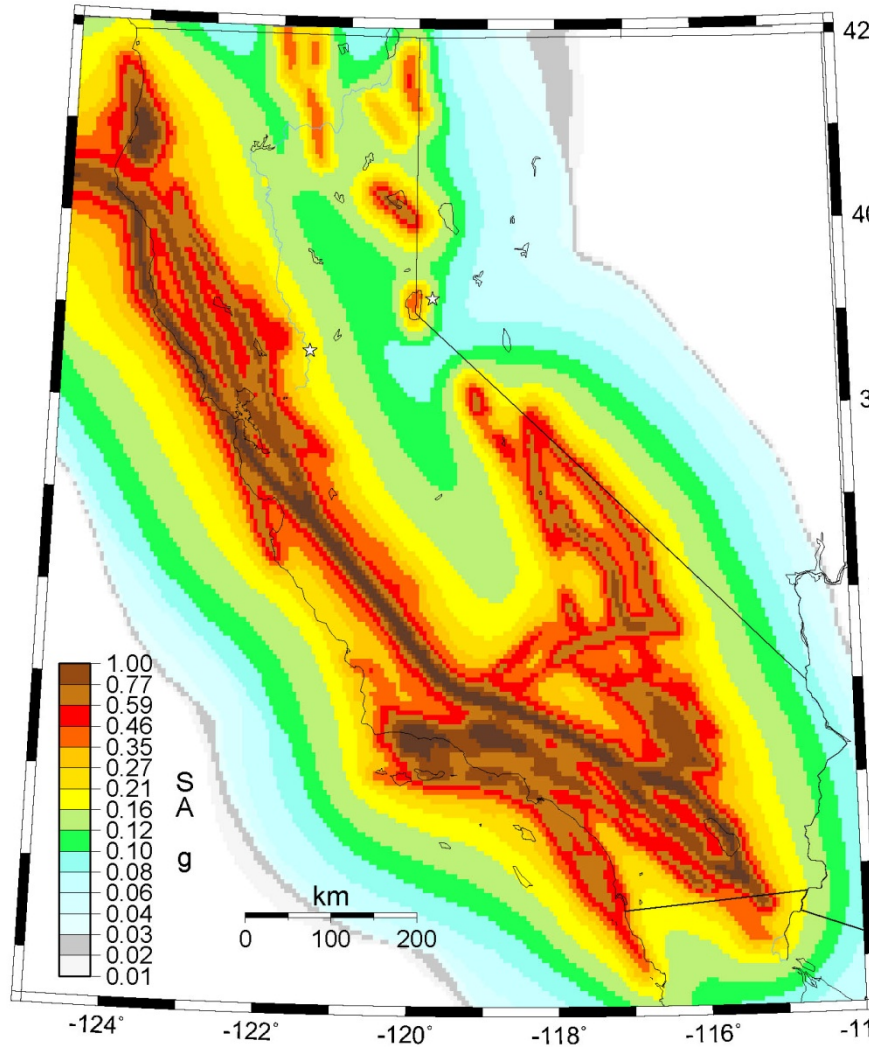
GPS Solutions without Geological Slip Rate Constraints



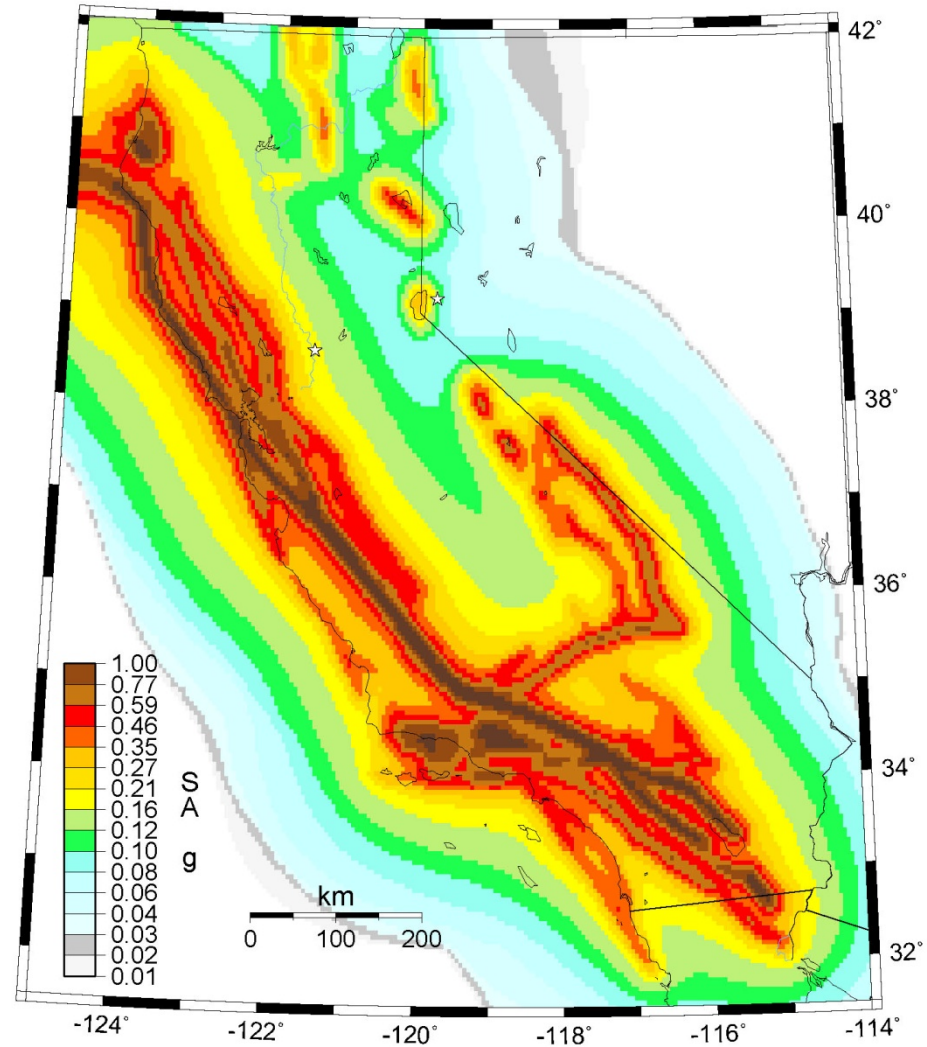
GPS Solutions with Geological Slip Rate Constraints



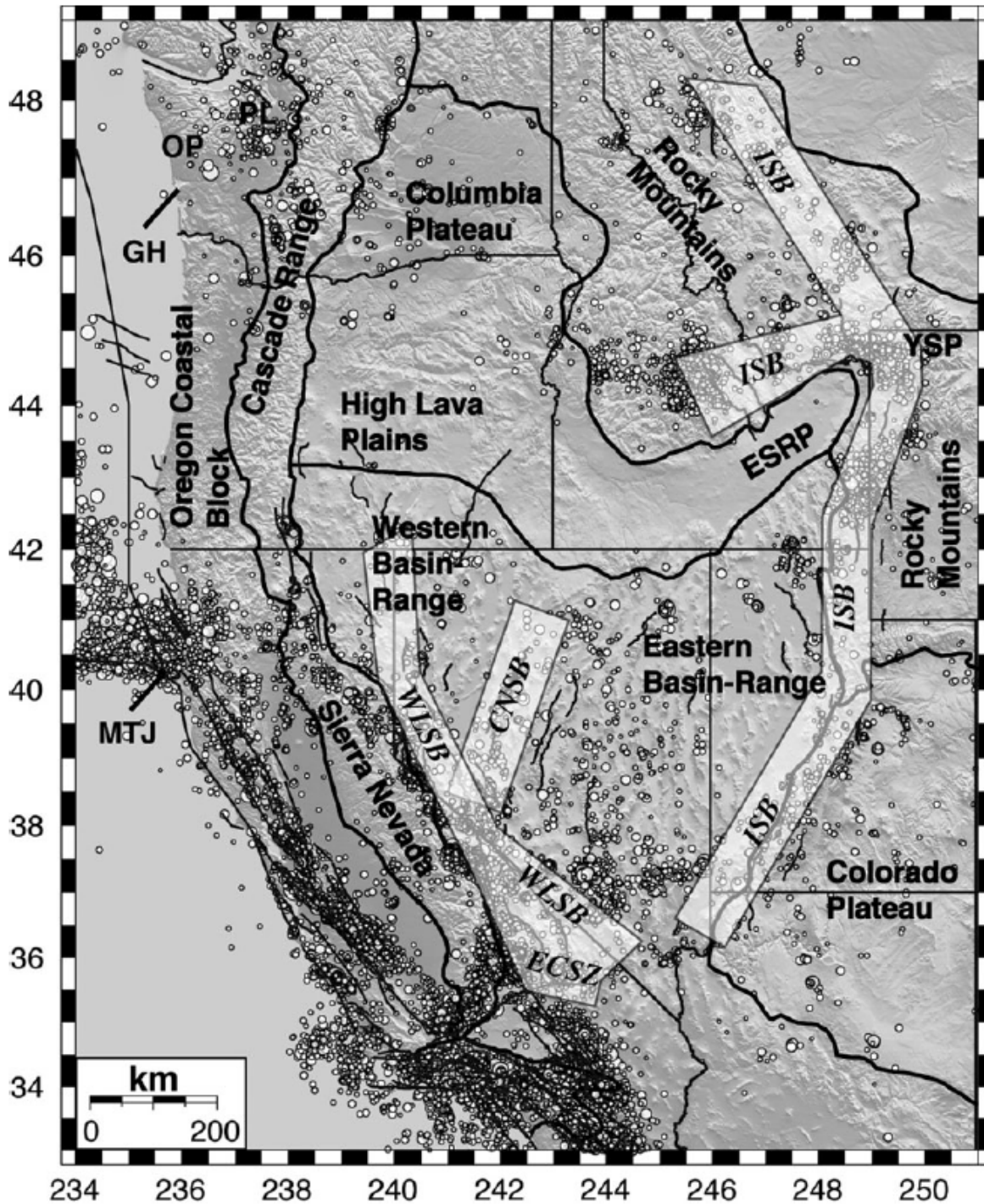
CA Geodetic 1-Hz SA w/2%PE50Y. 760 m/s Rock



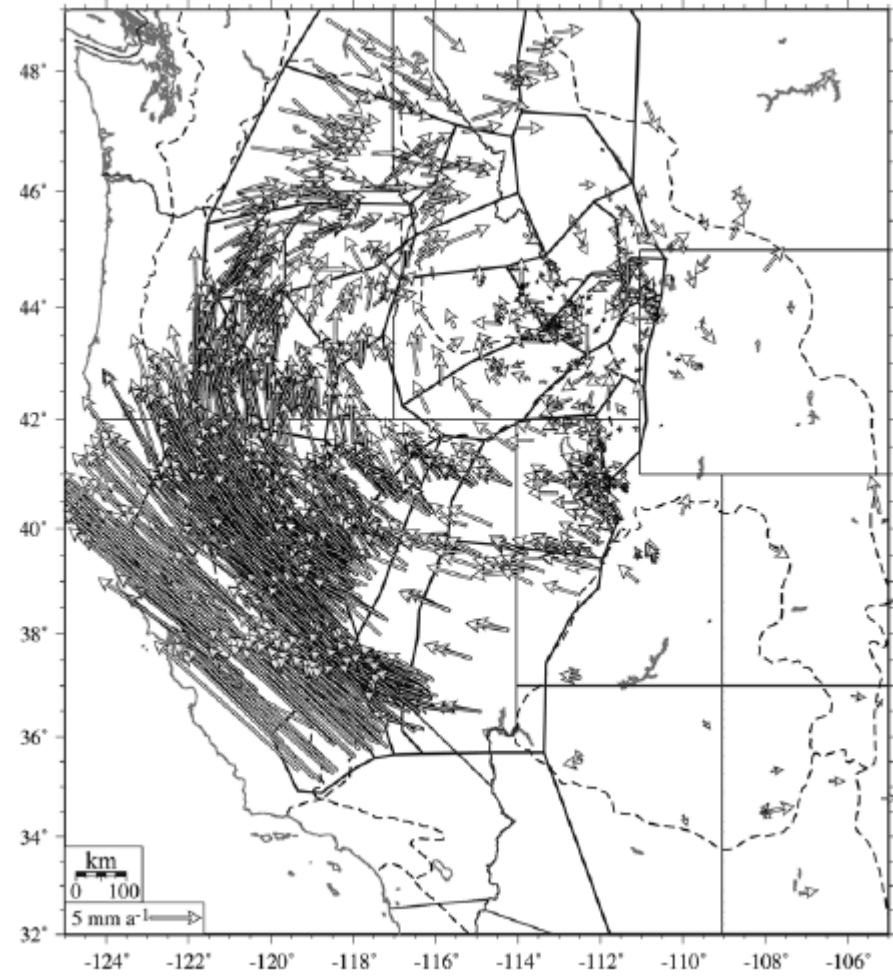
CA Geologic 1-Hz SA w/2%PE50Yr. 760 m/s Rock



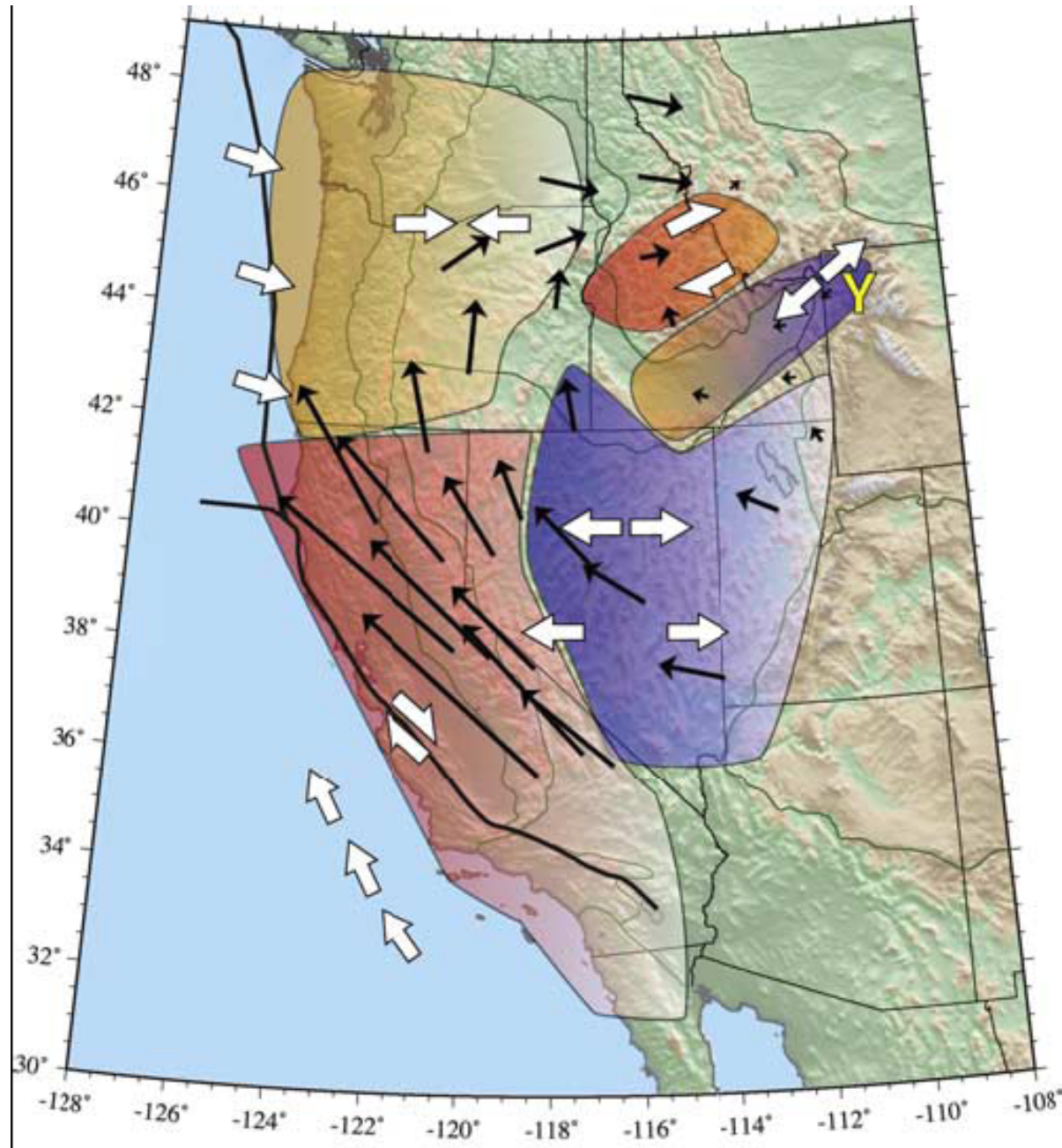
- **Geodetic Workshop on Western US Geodetic Block Models and Fault Slip Estimates**
- Tentative Date: 10/19/2012 in San Francisco
- Models are considered ...



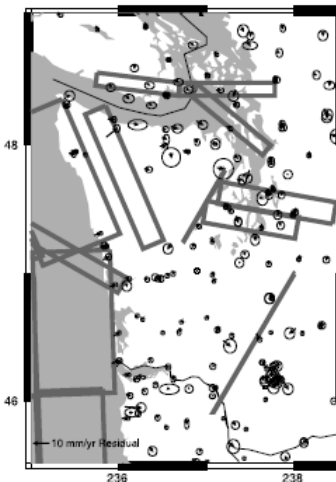
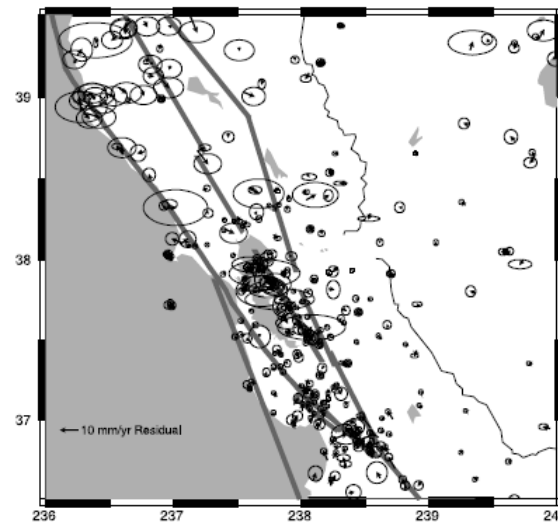
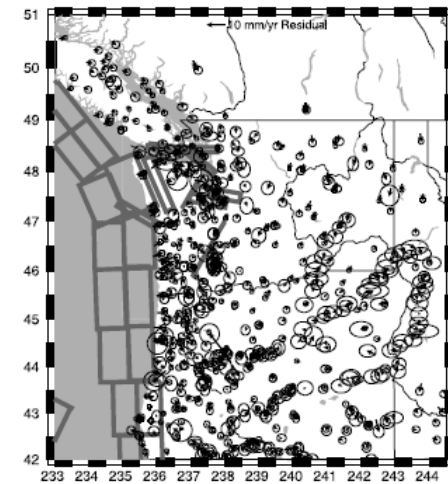
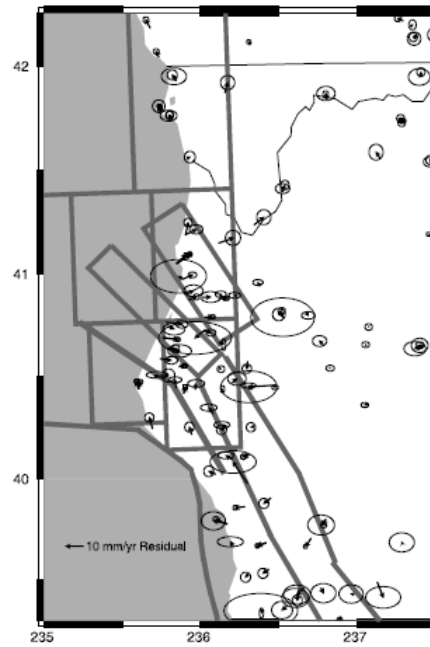
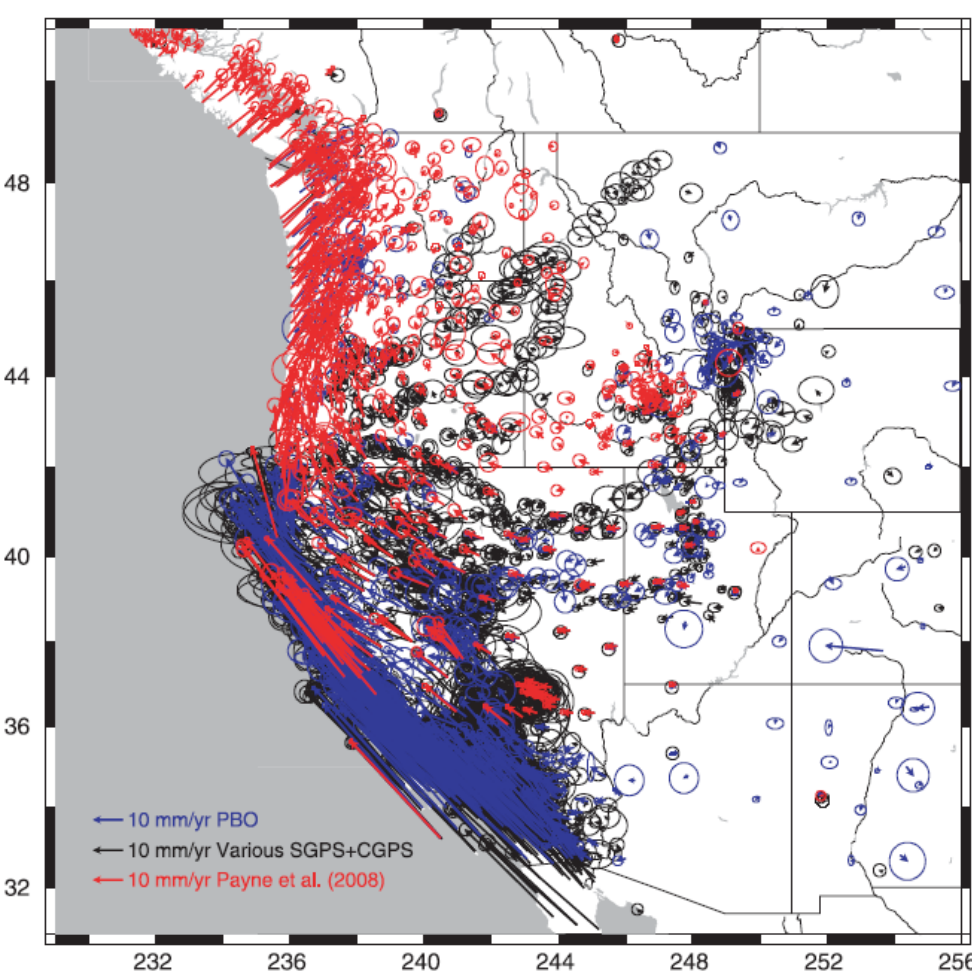
Puskas and Smith, 2009

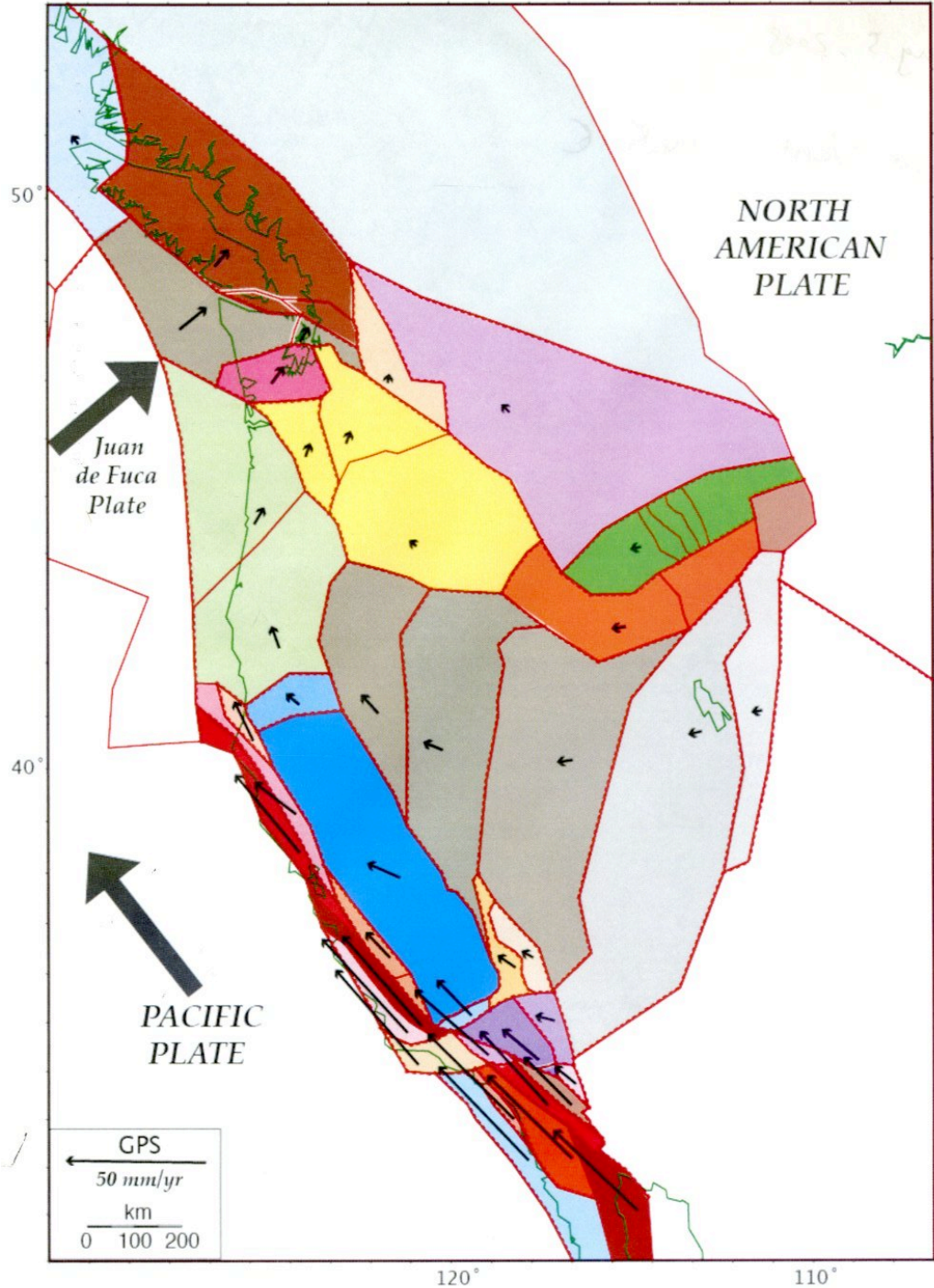


Puskas and Smith, 2009



Pollitz et al., 2010

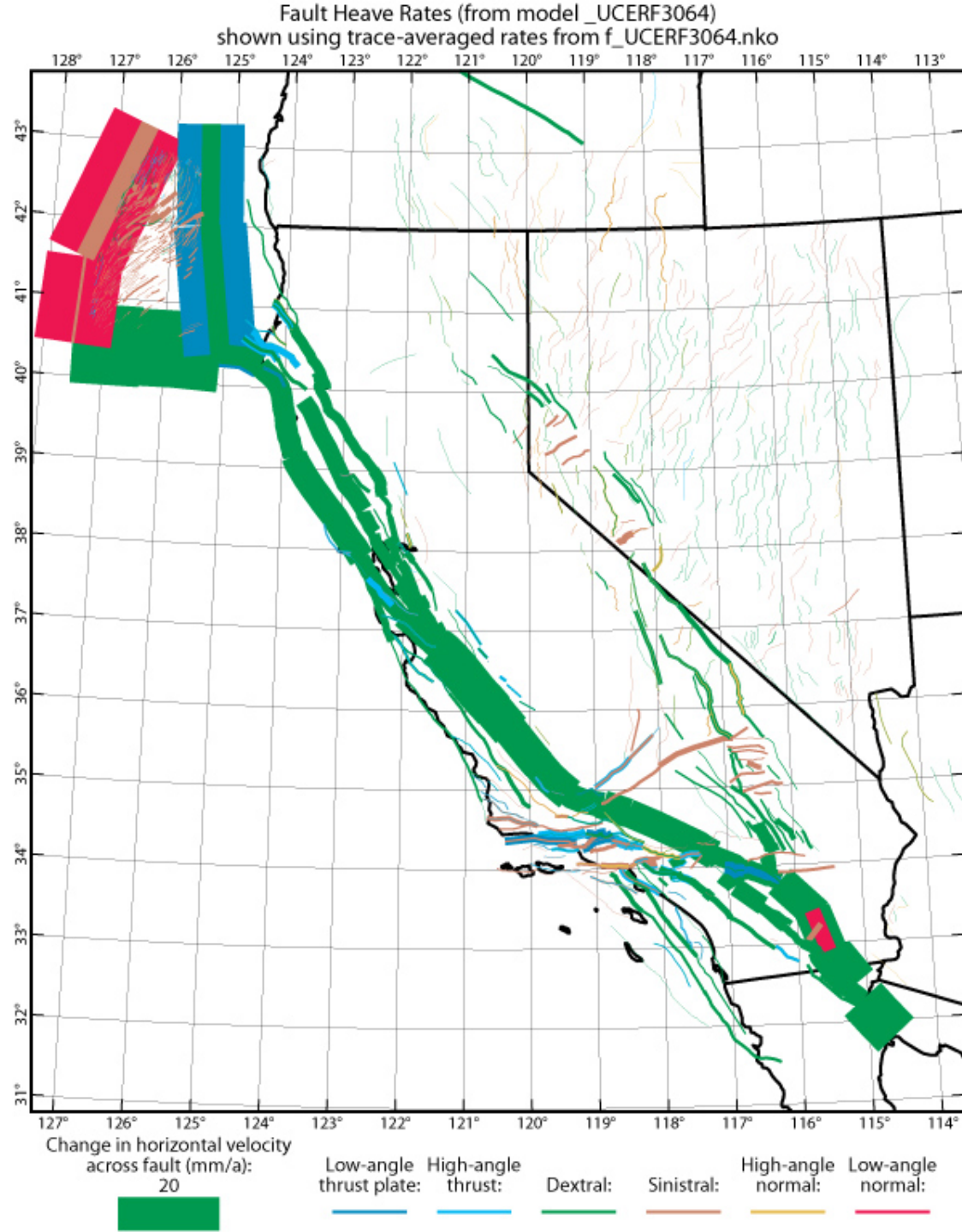


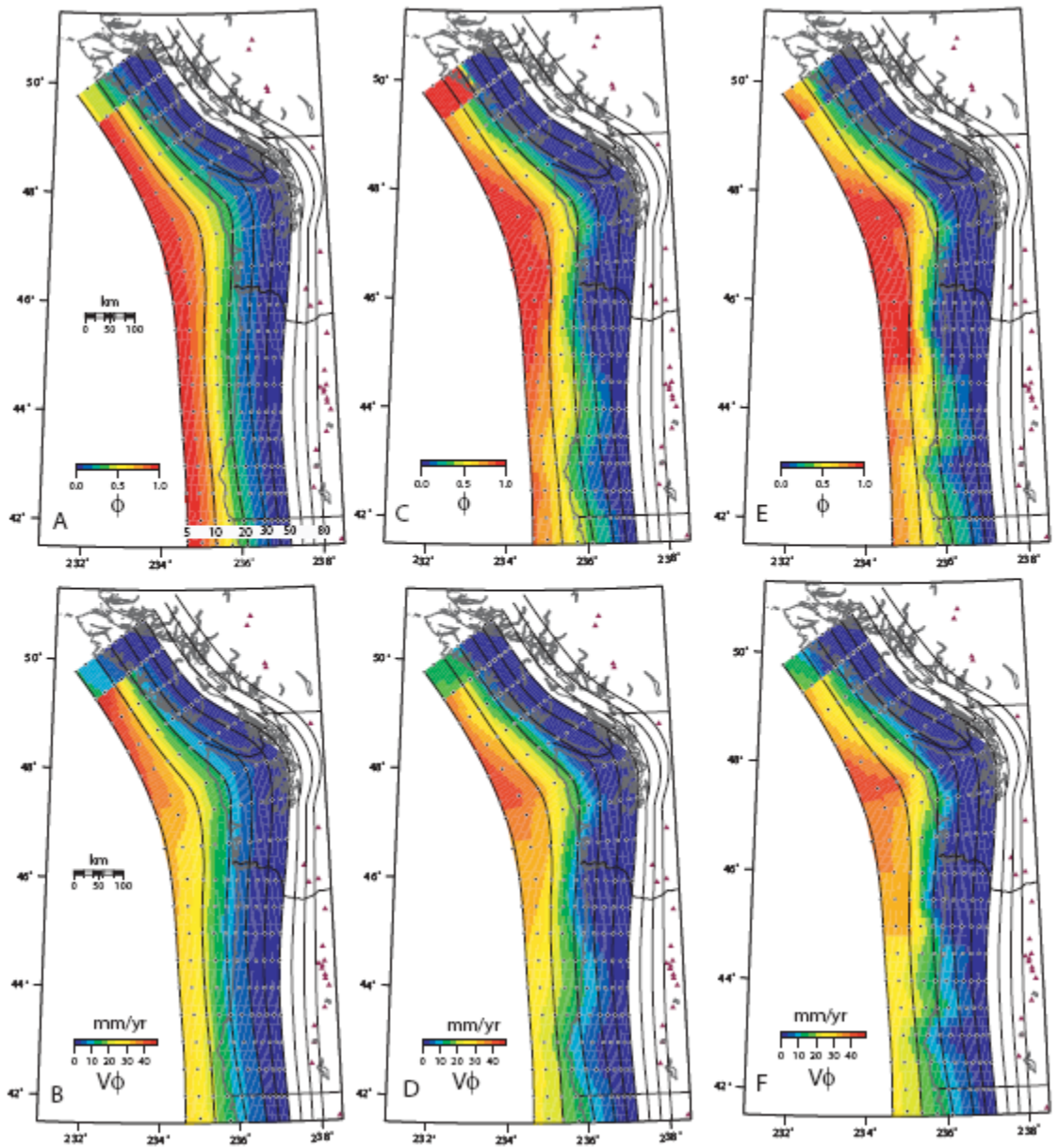


Peter Bird, UCLA

**Long-term-average
fault heave rates
of the
preferred model
UCERF3064**

**(oblique slip is
shown with two
superposed
ribbons)**





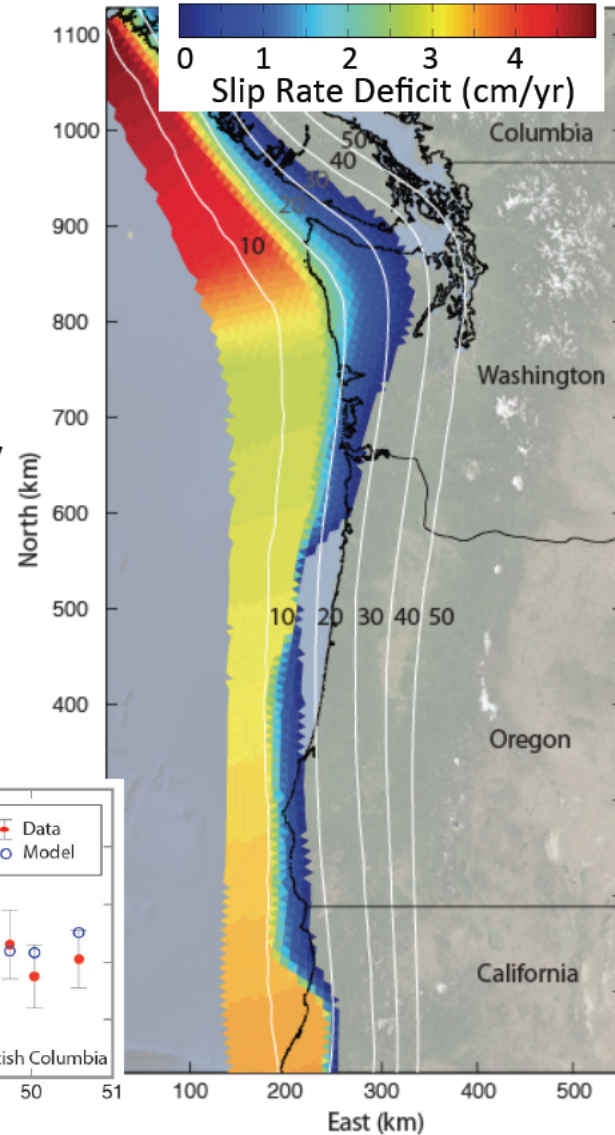
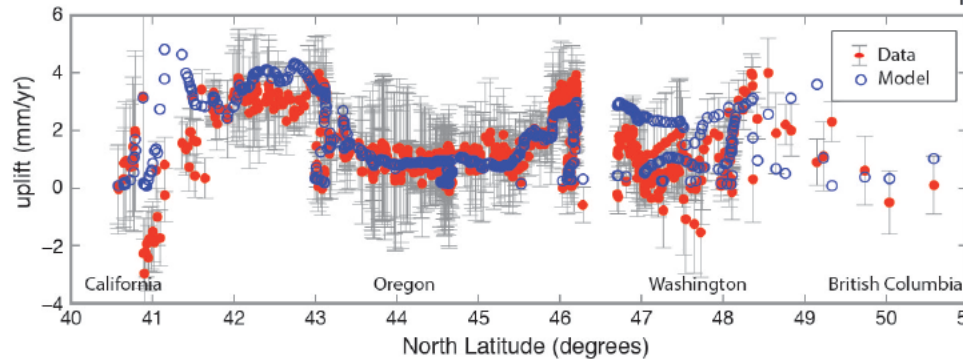
Smooth factor = 0.0

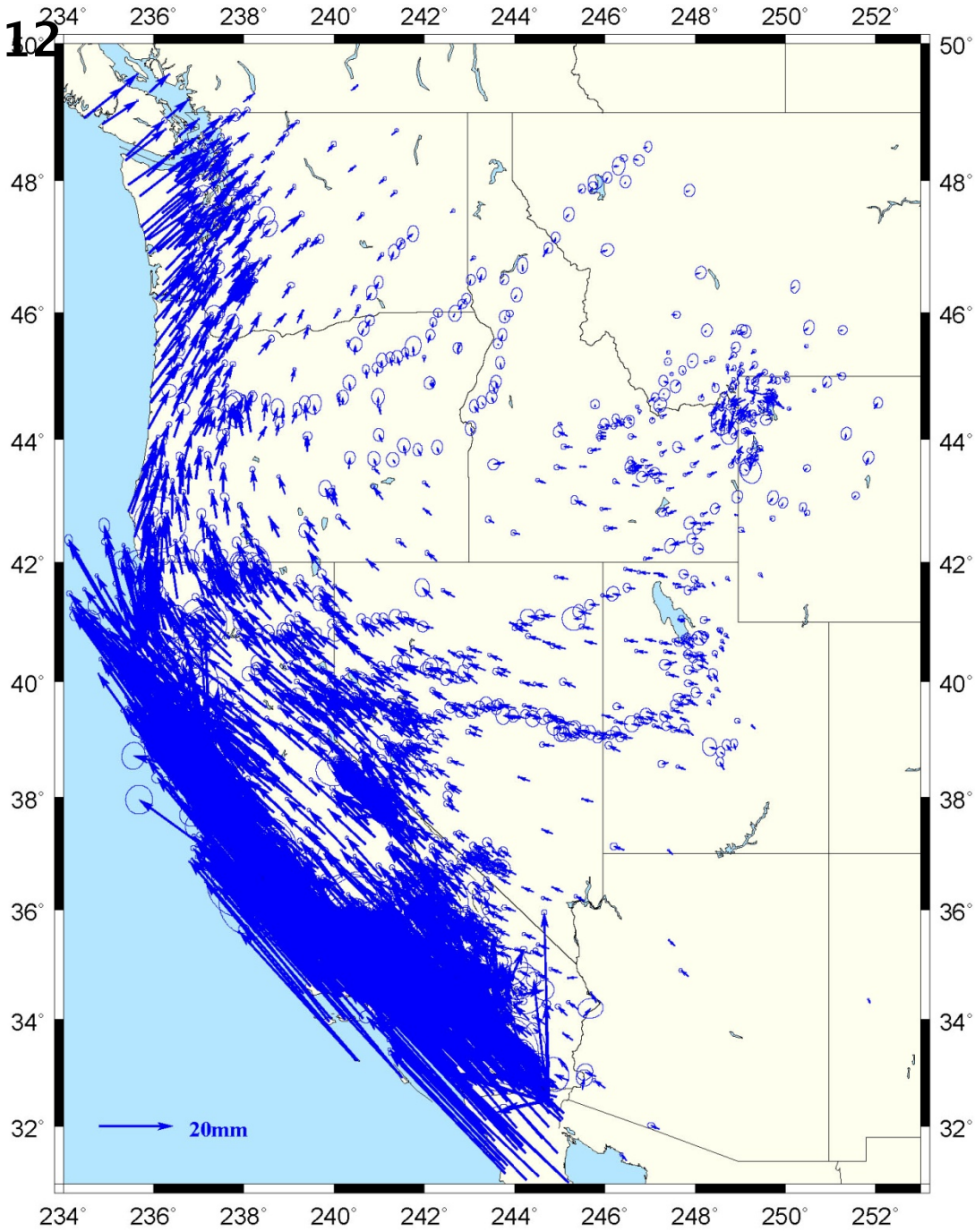
Smooth factor = 0.2

Smooth factor = 0.6

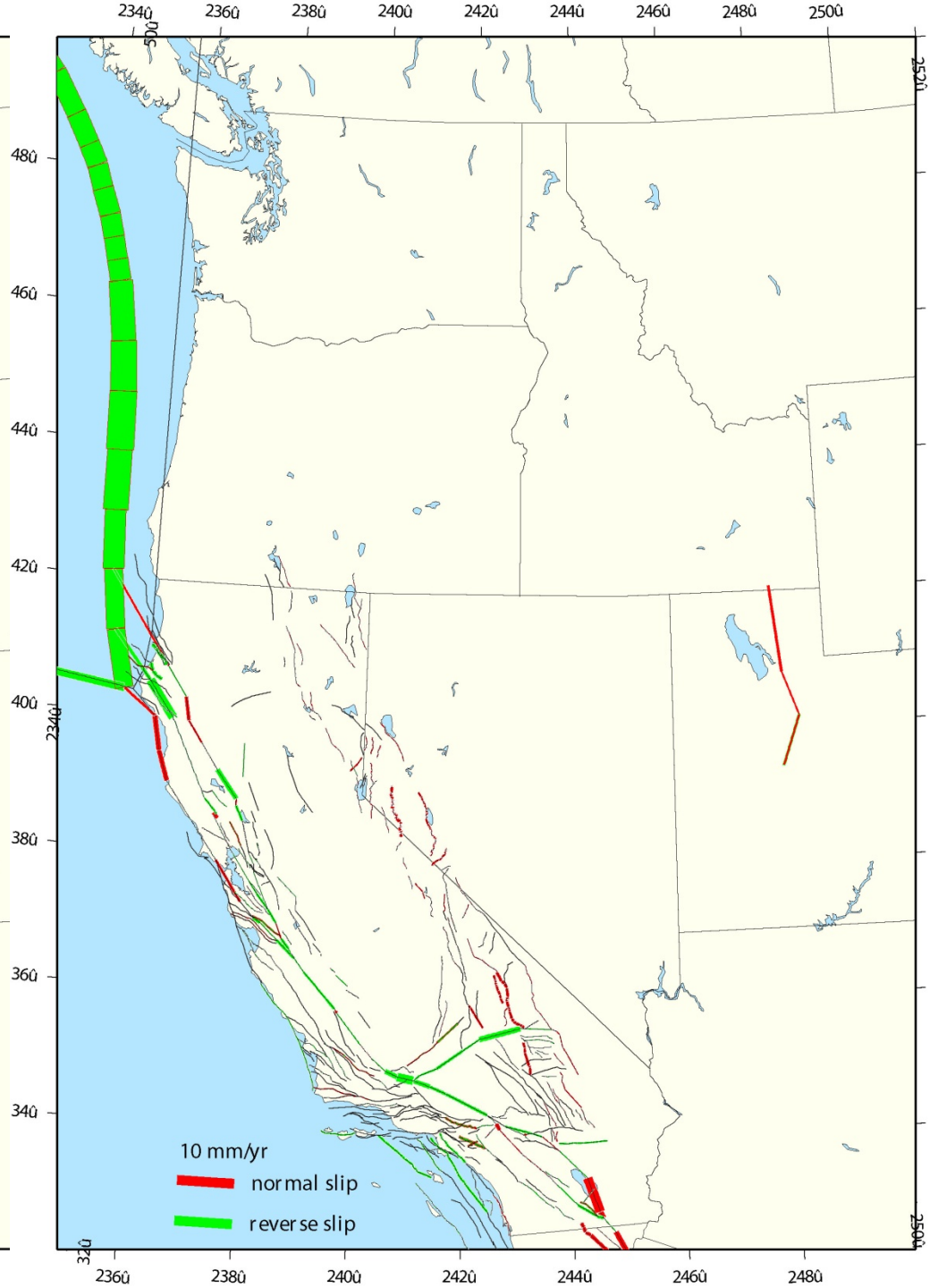
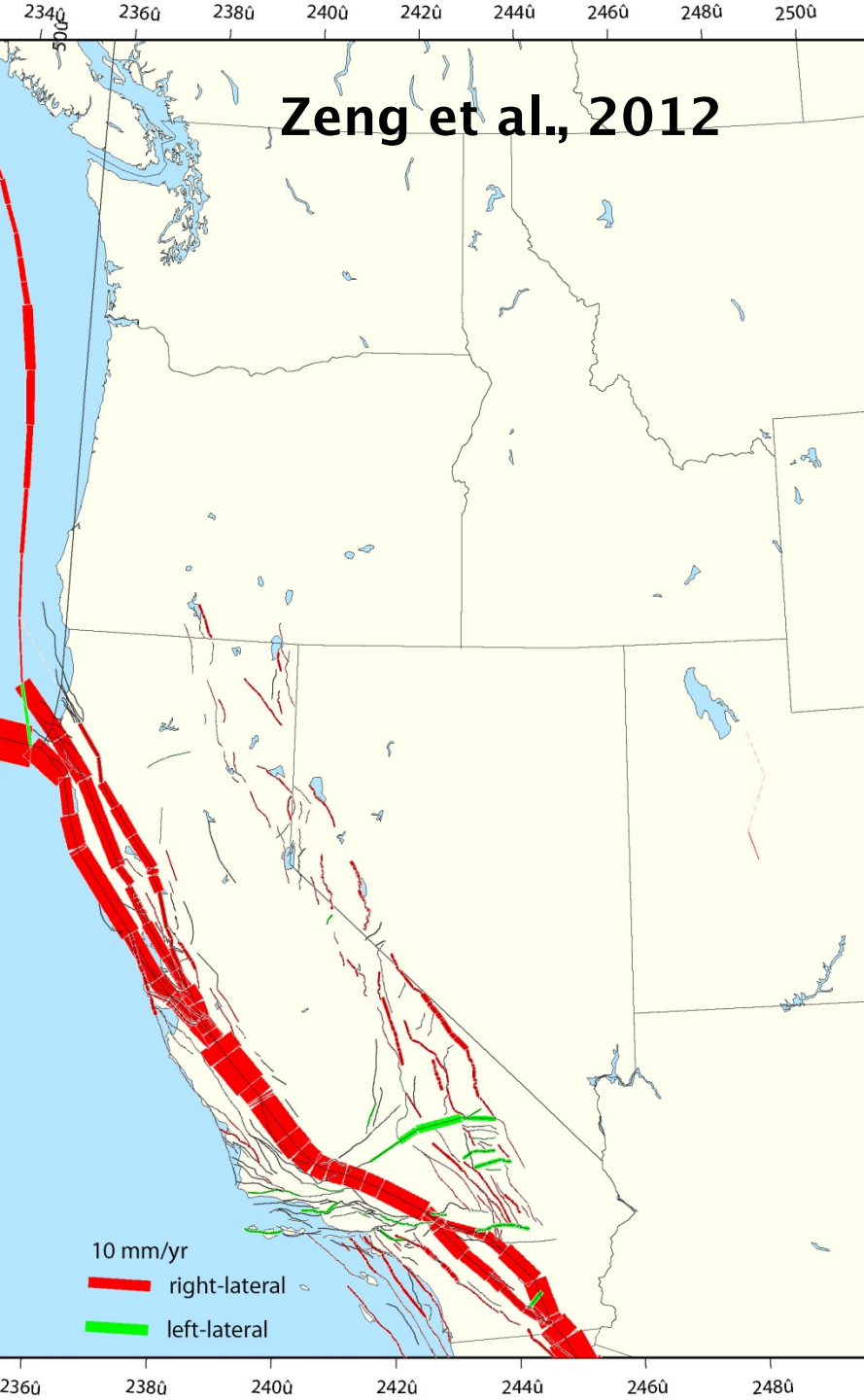
Summary

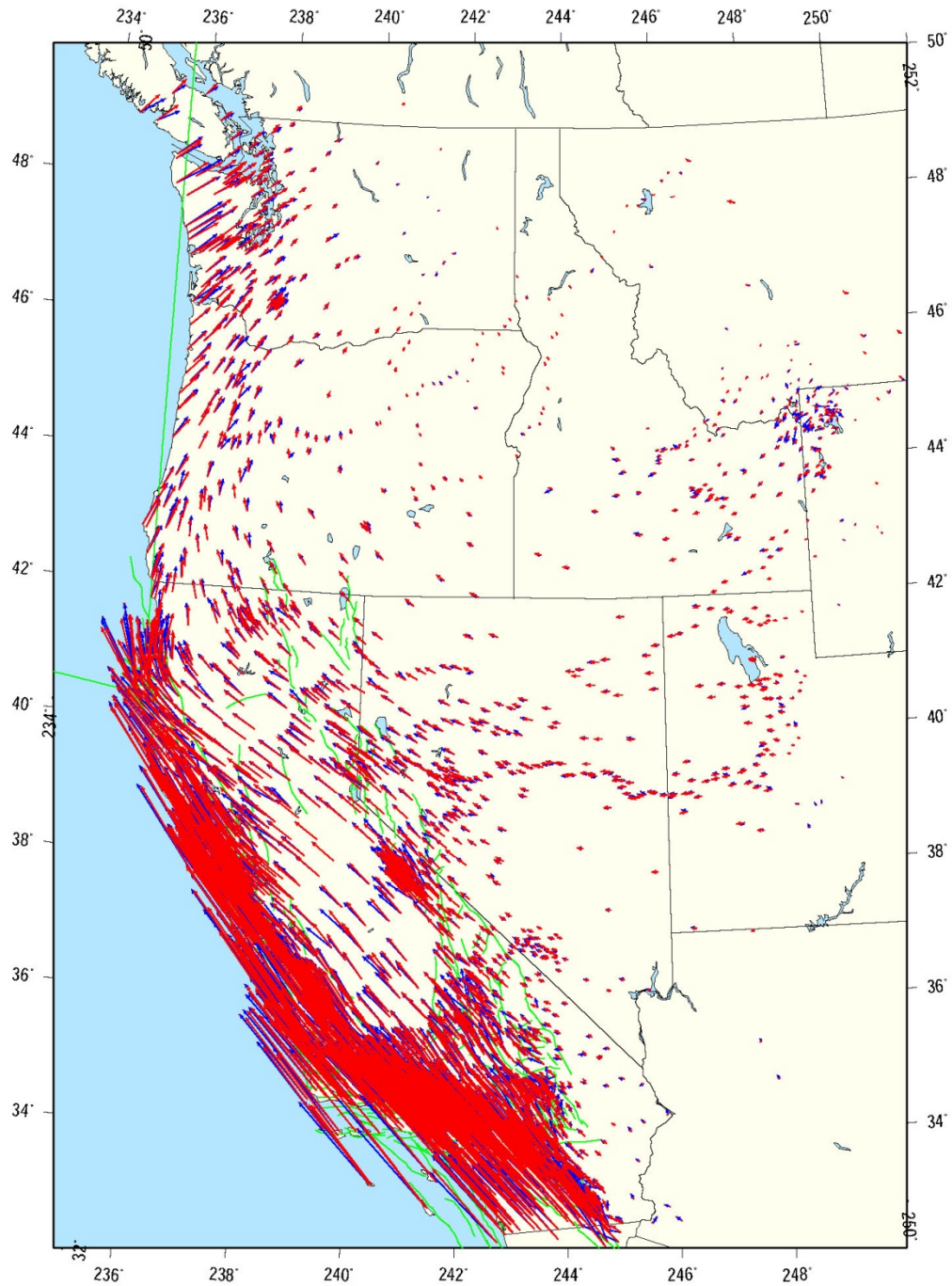
- A Cascadia locking model constrained by leveling and horizontal strain rates from GPS.
- Wide locked zone in WA and CA; Narrow in OR.
- M_0 Accumulation Rate: $0.9-1.4 \times 10^{22}$ Nm/century
- M_w Accumulation Rate: 8.5-8.7 per century
- Leveling data consistent with segment boundary offshore OR, although not uniquely resolved.

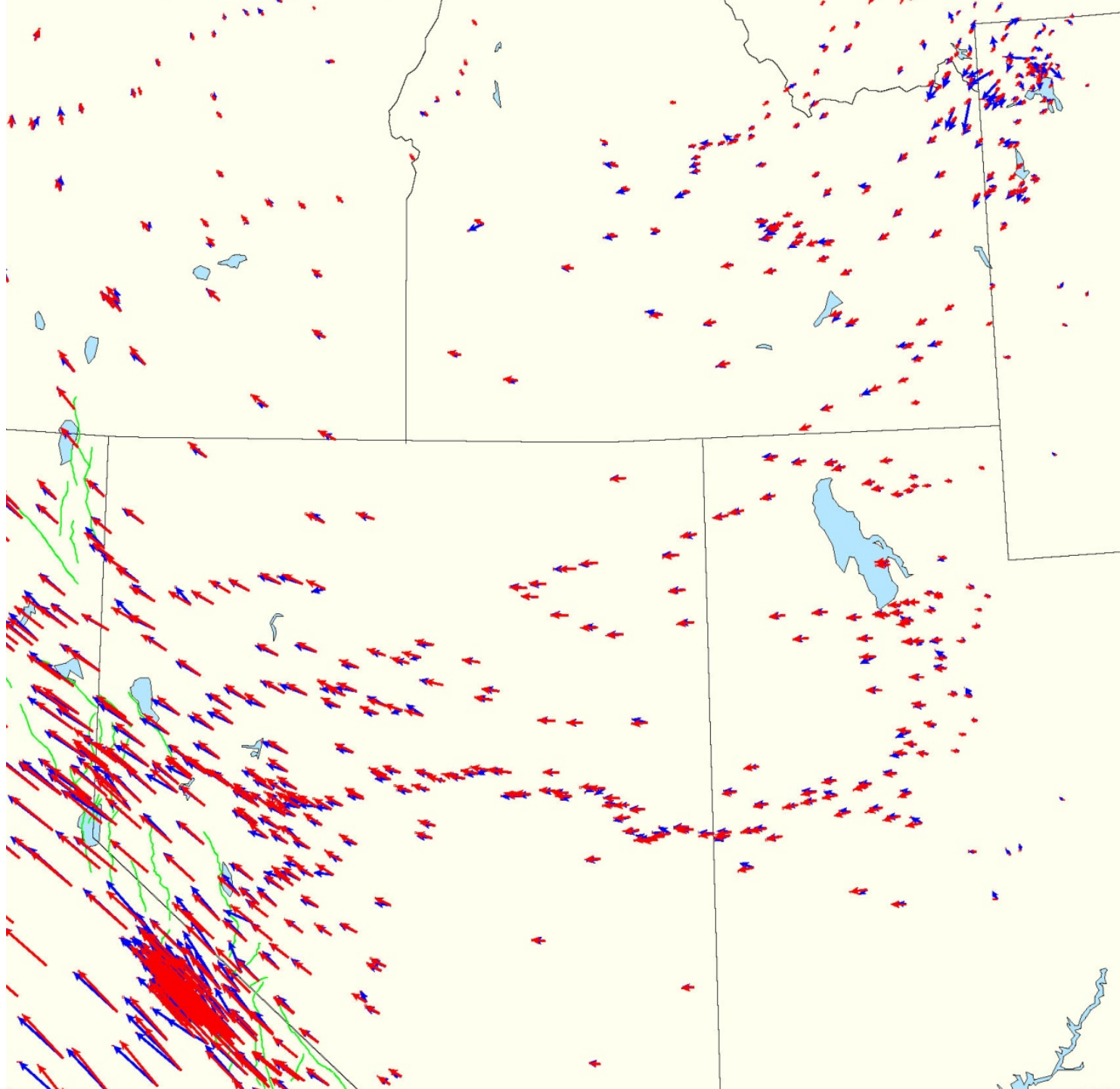




Zeng et al., 2012







Geodetic Workshop

- **Workshop on Western US Geodetic Block Models and Fault Slip Rate Estimates**
- Tentative Date: 10/19/2012 in San Francisco