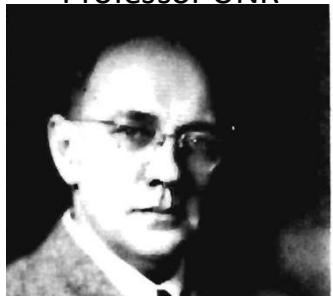
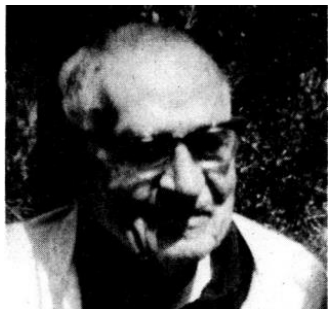




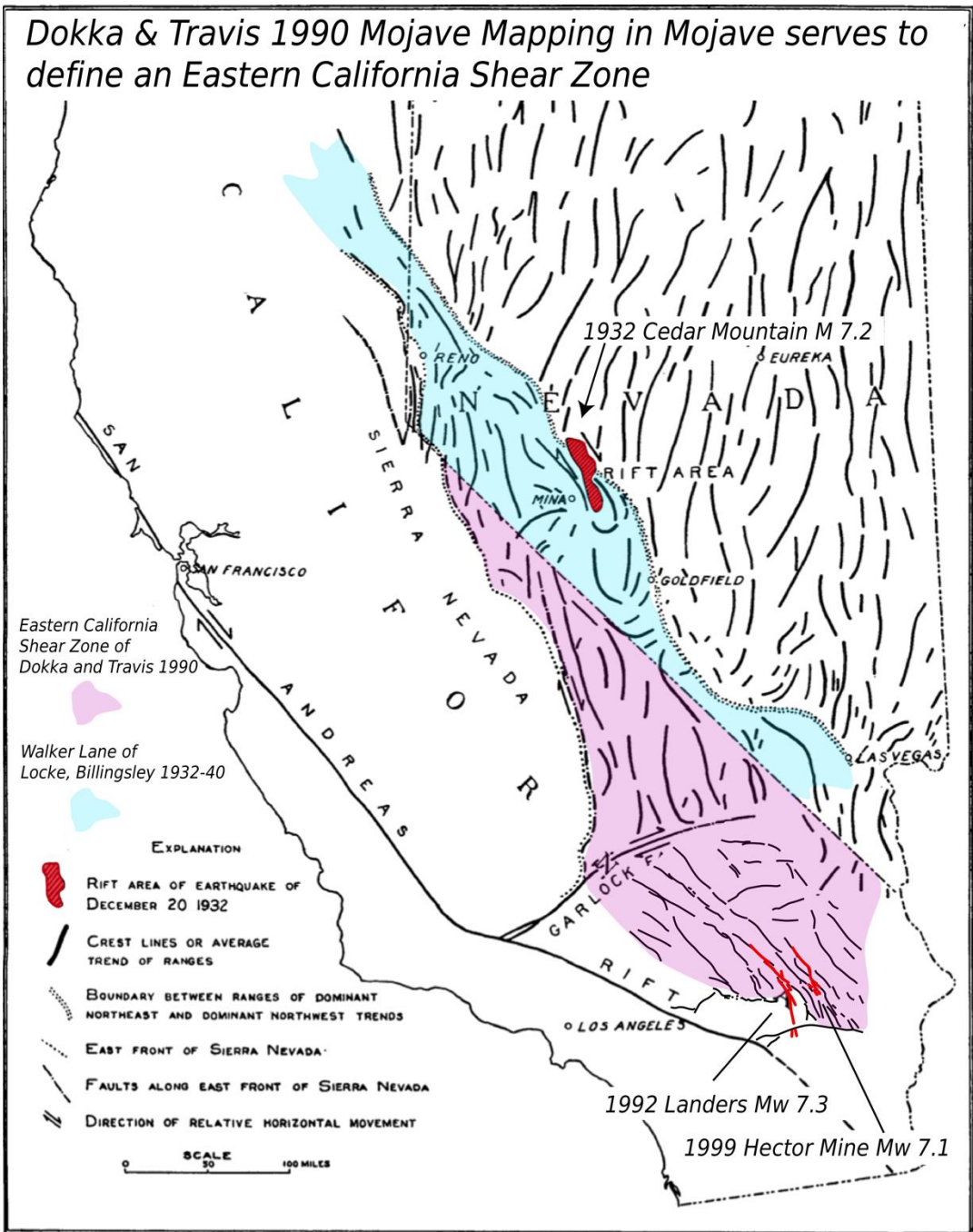
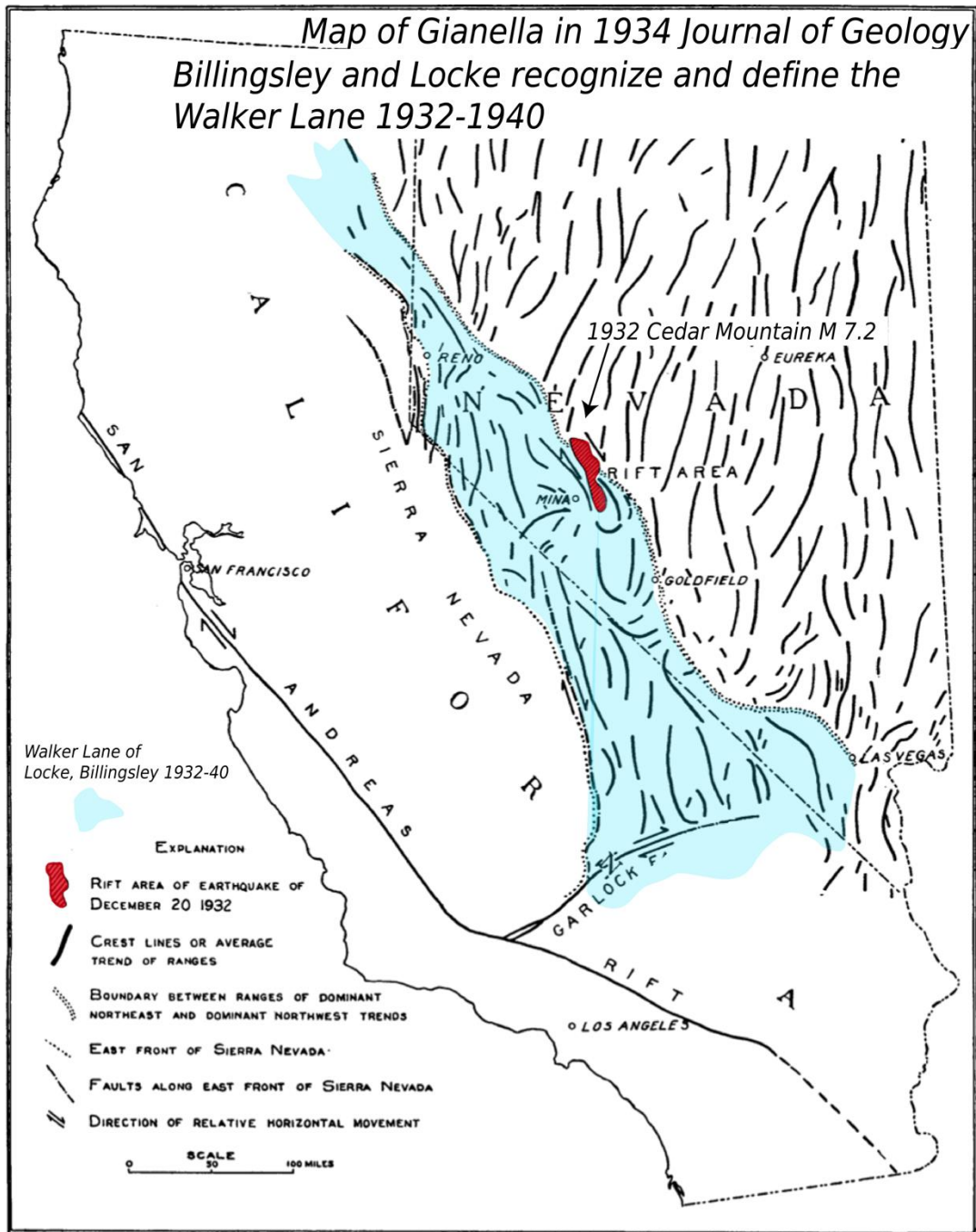
Vincent Gianella
1886-1983
UNR 1920
Columbia 1937
Professor UNR

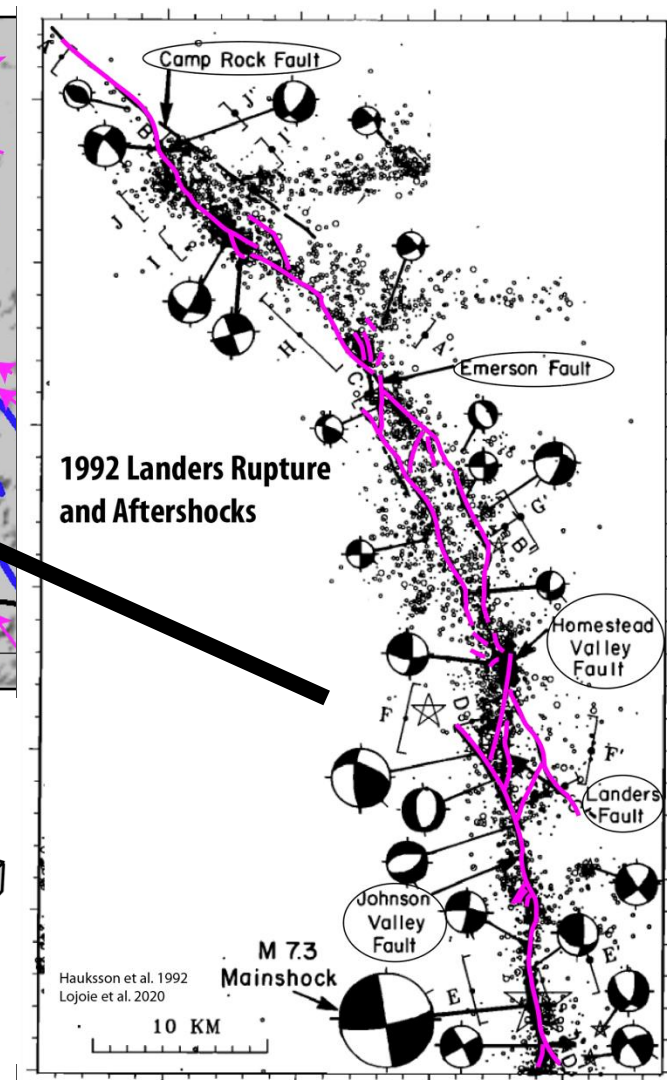
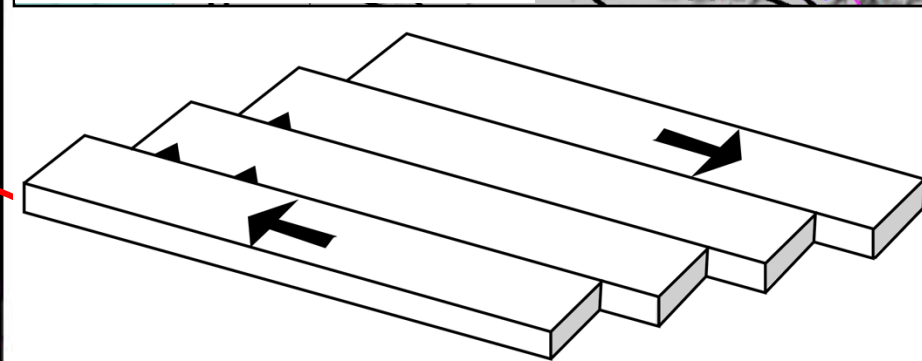
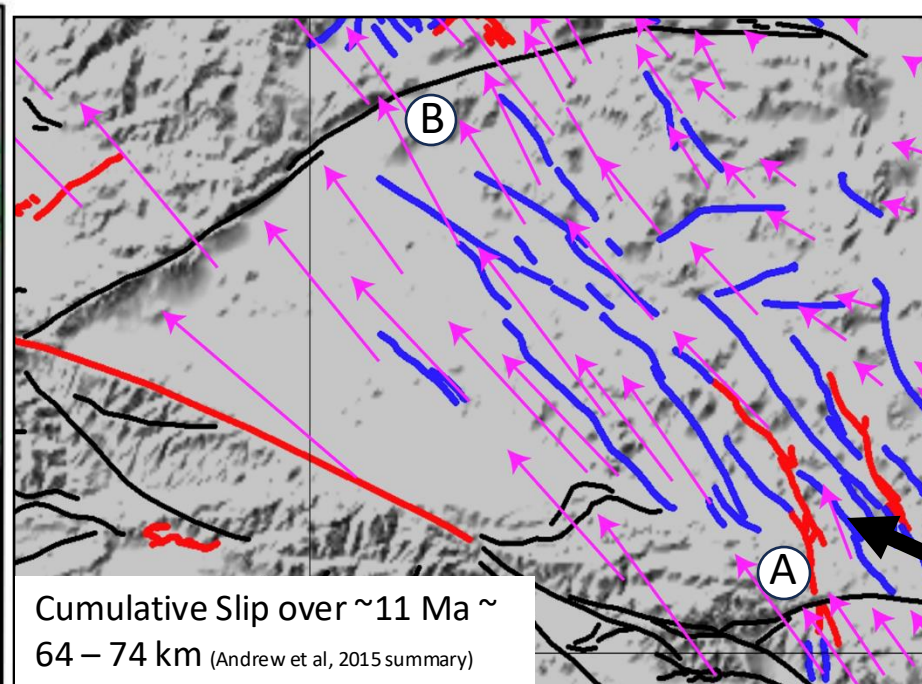
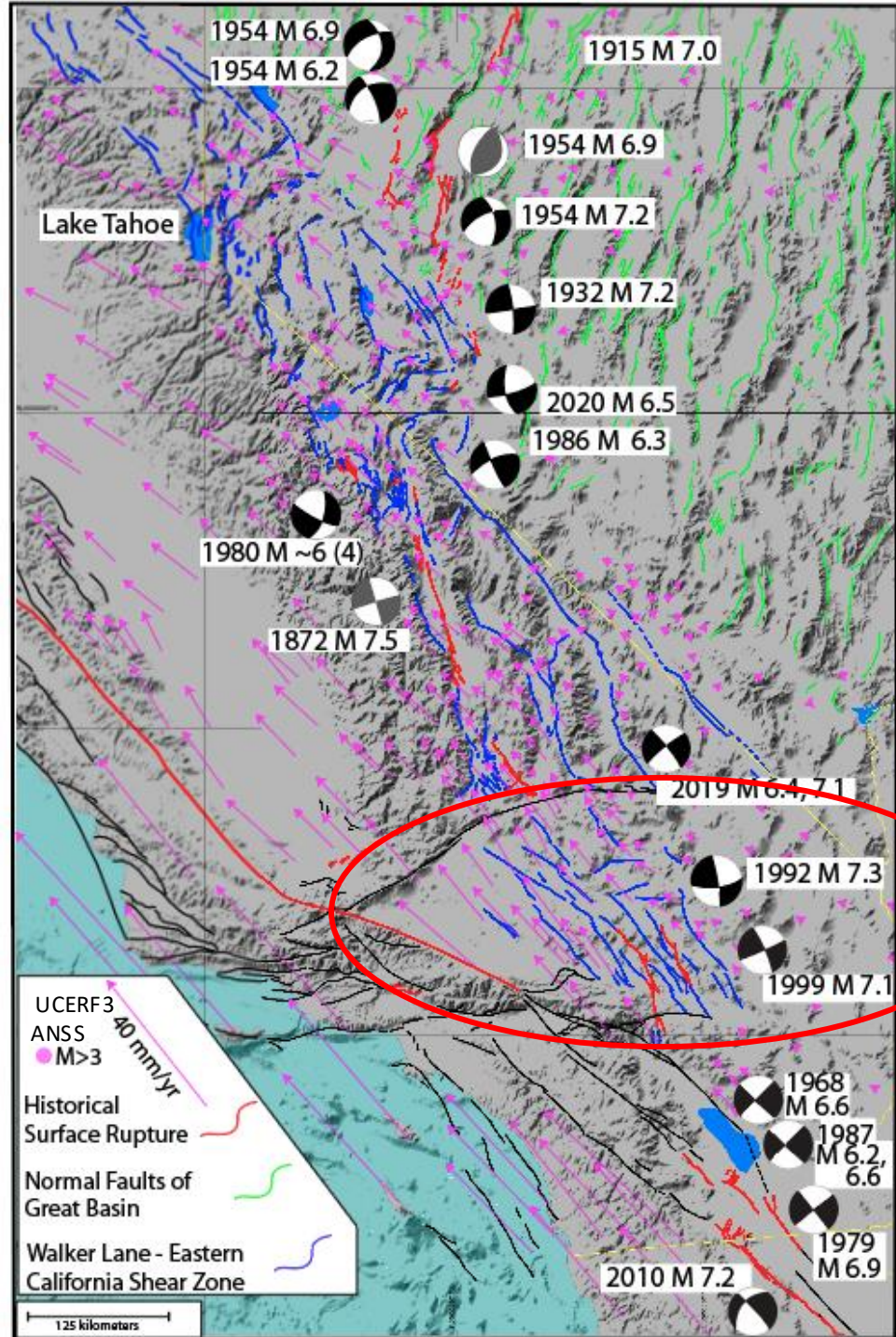


Paul Billingsley
1887 - 1962
Columbia 1908
Economic Geologist



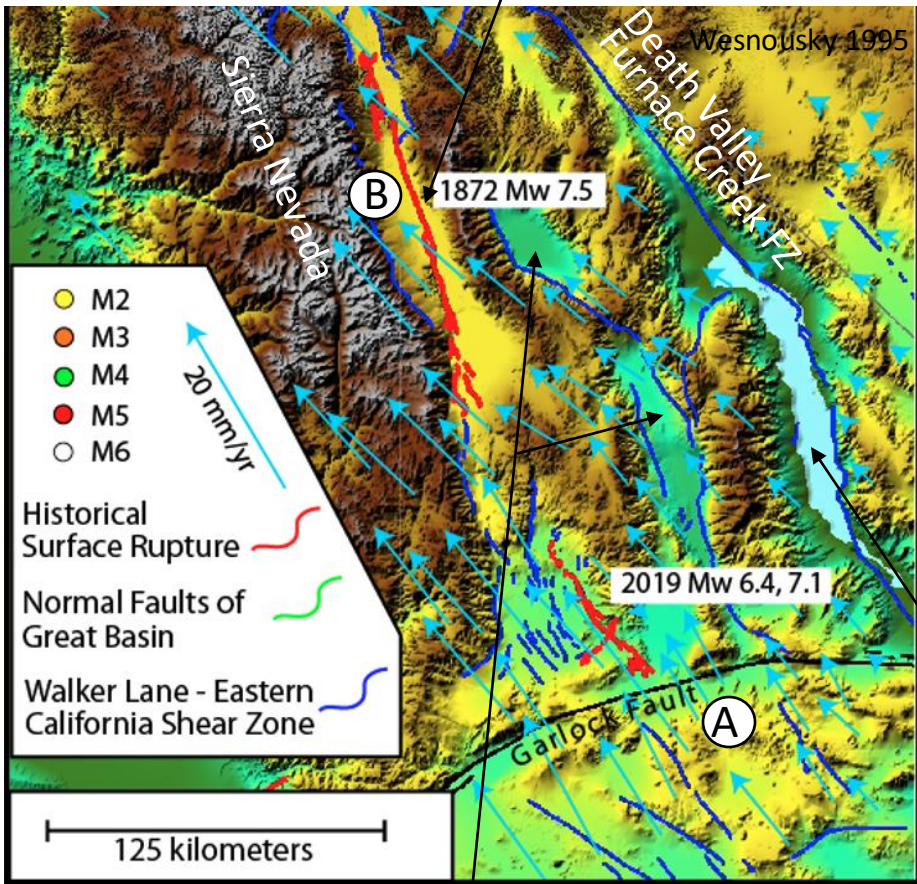
Augustus Locke
1883-1981
Harvard 1905
Economic Geologist



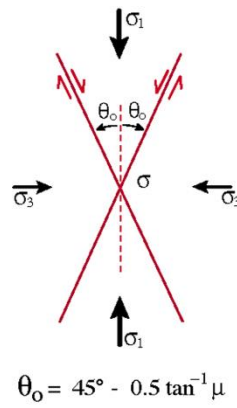
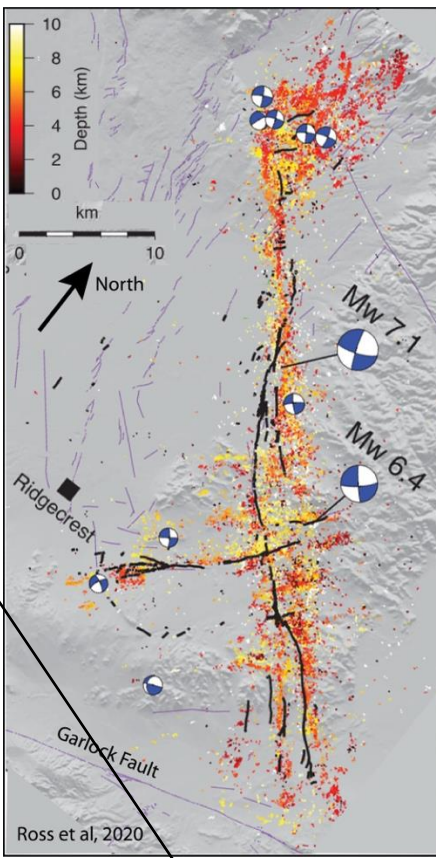


- Brought to discussion difficulty in defining limits of future earthquake ruptures.
- Triggered increased seismicity throughout Walker Lane (and elsewhere too)
- Portended recognition of discrepancy between geodetic and geologic slip rates (geology ~6±2 mm/yr (oskin et al 2010)).

Owen Valley



2019 Ridgecrest

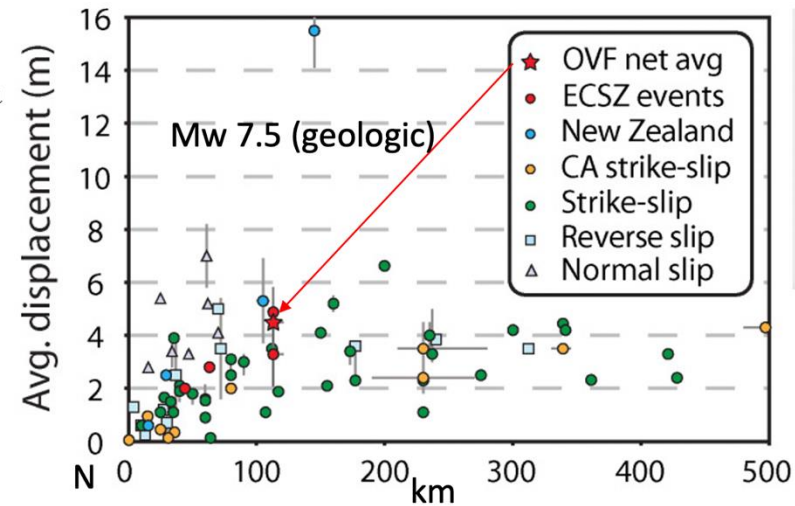
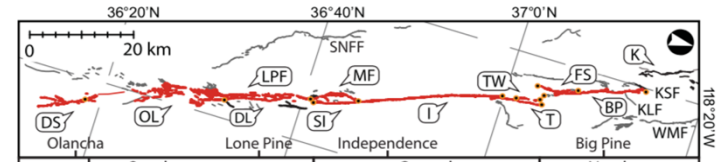


$\theta_o = 45^\circ - 0.5 \tan^{-1} \mu$

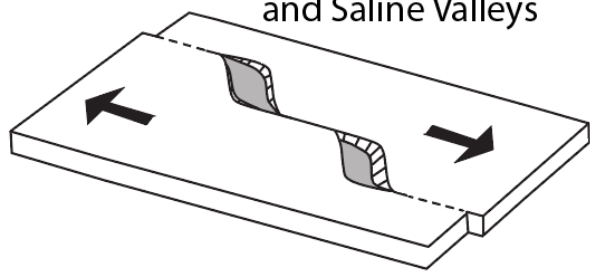
optimal failure planes for Mohr-Coulomb ($\sim 28^\circ$ for $\mu = .75$)

1872 Owens Valley

Haddon, Amos... et al (2016)

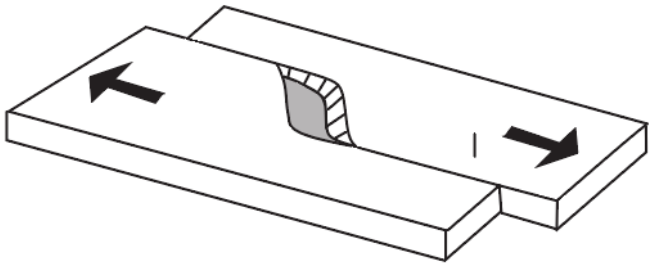


Paired pull-apart basins of Panamint and Saline Valleys

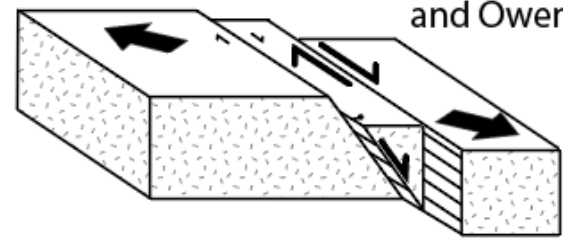


Wesnousky 2021

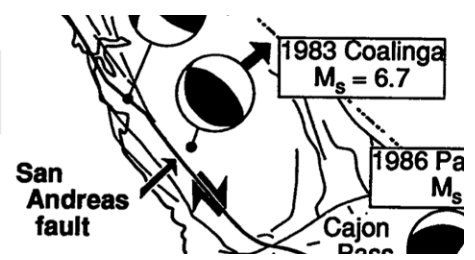
Pull Apart Basin of Death Valley

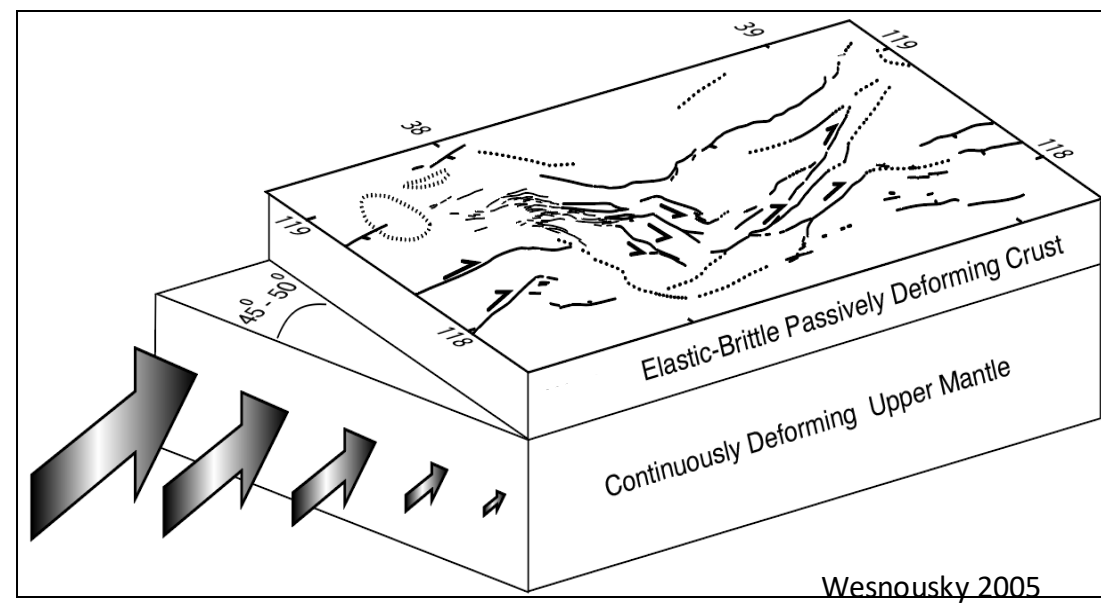
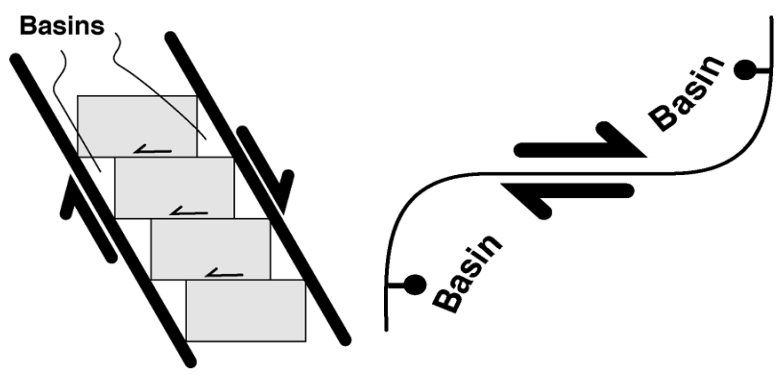
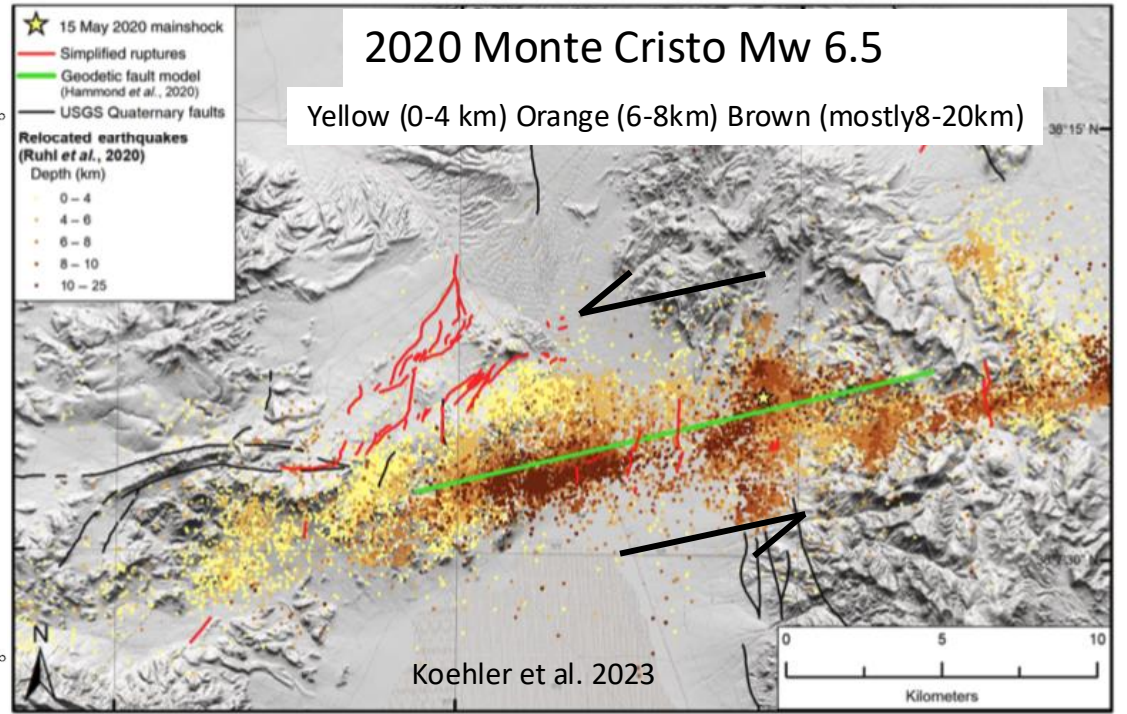
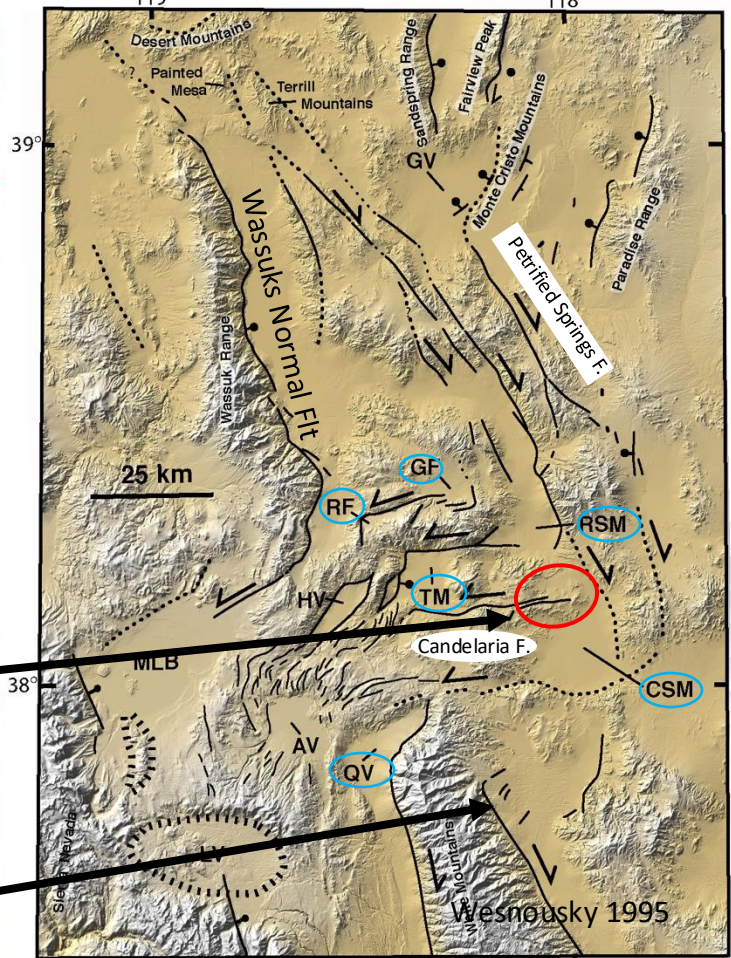
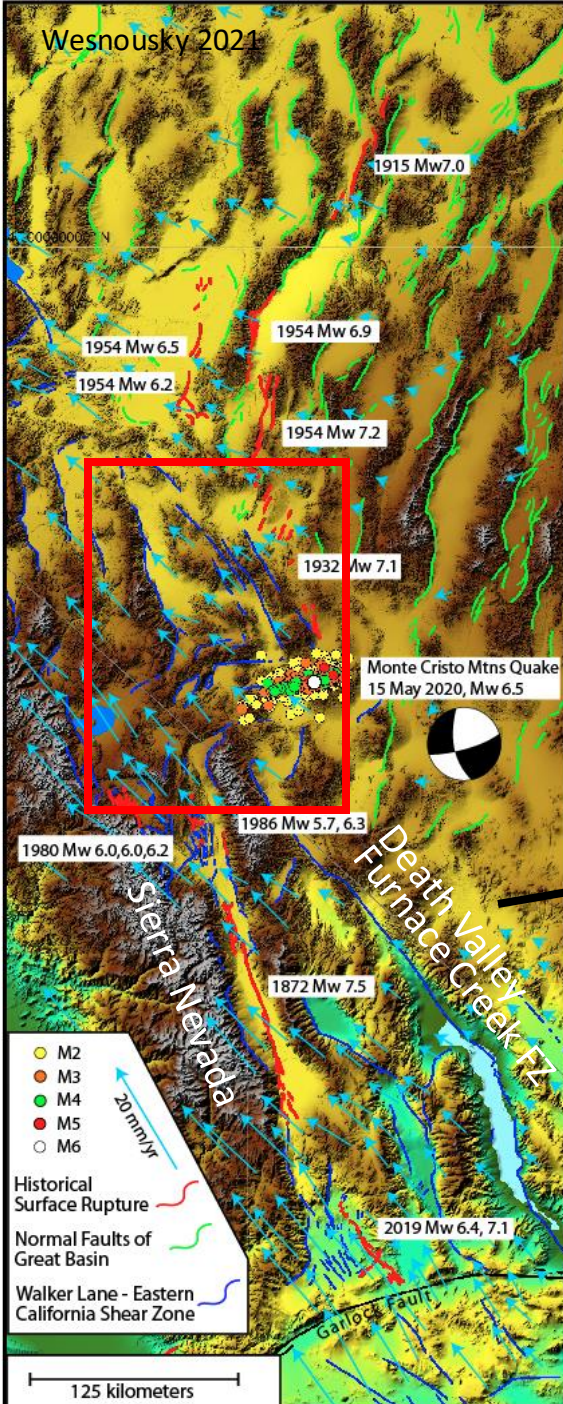


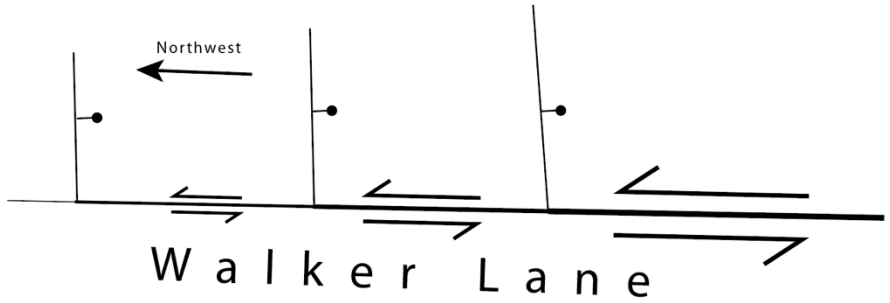
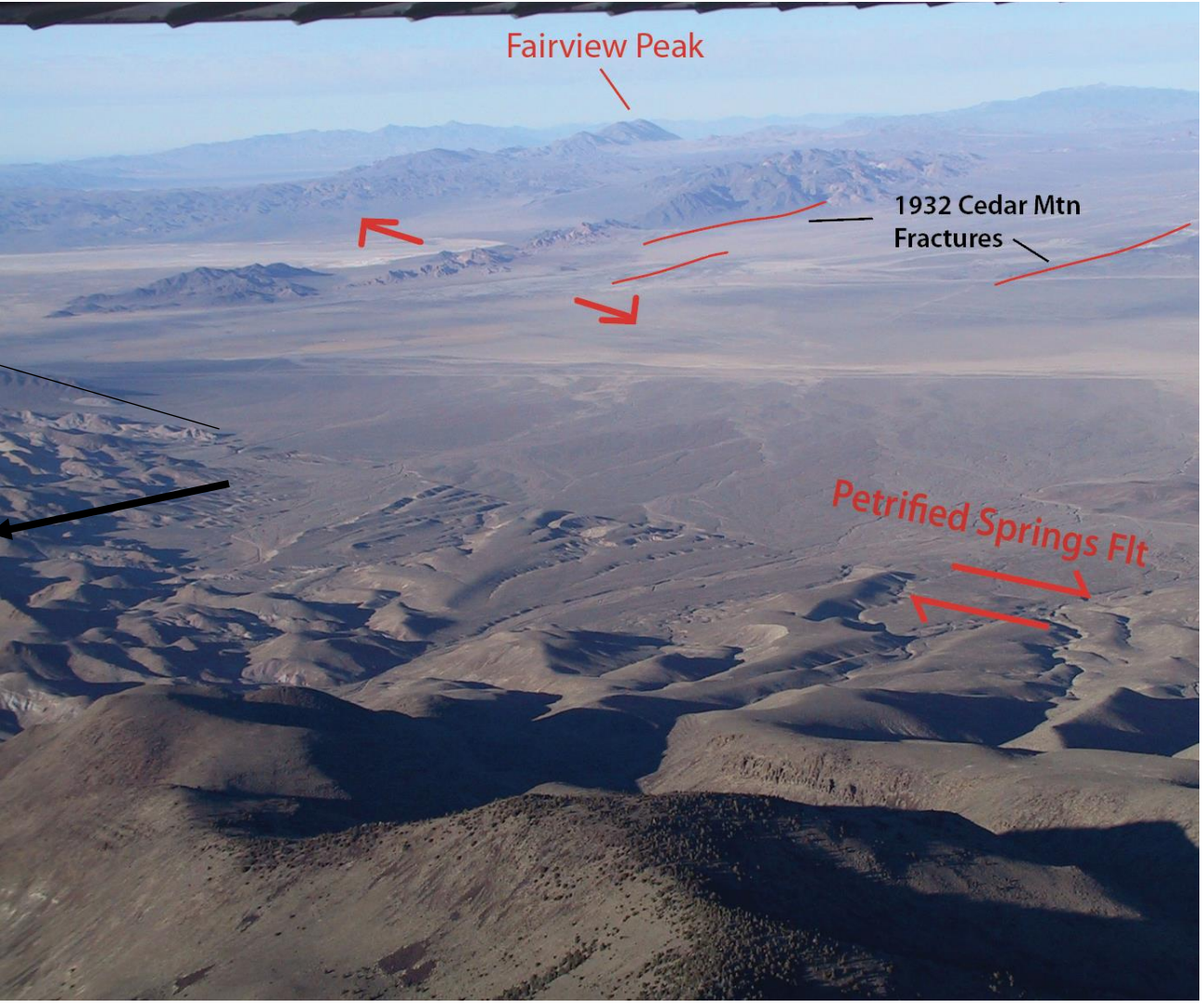
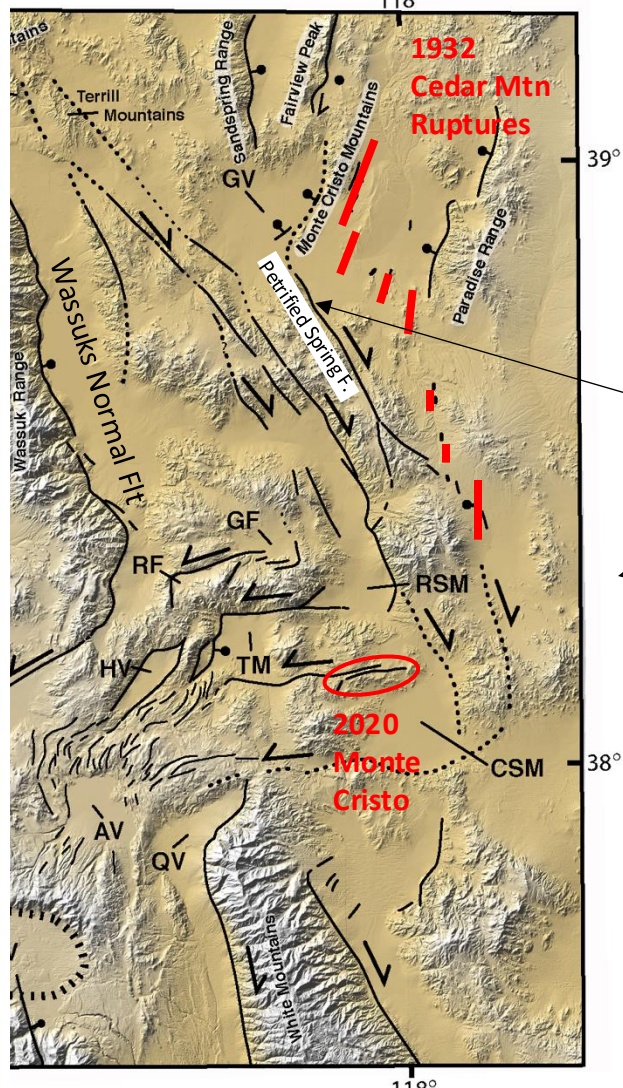
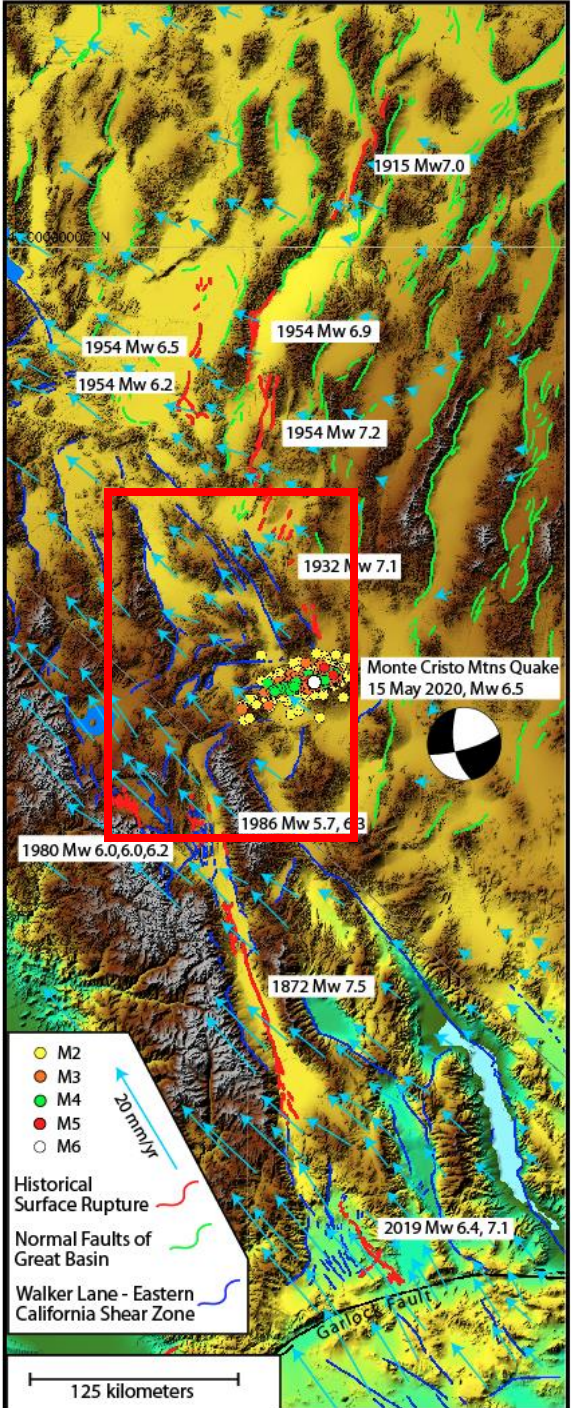
Partitioning of oblique slip on parallel strike-slip and dip slip faults of Sierran Range Front and Owens Valley



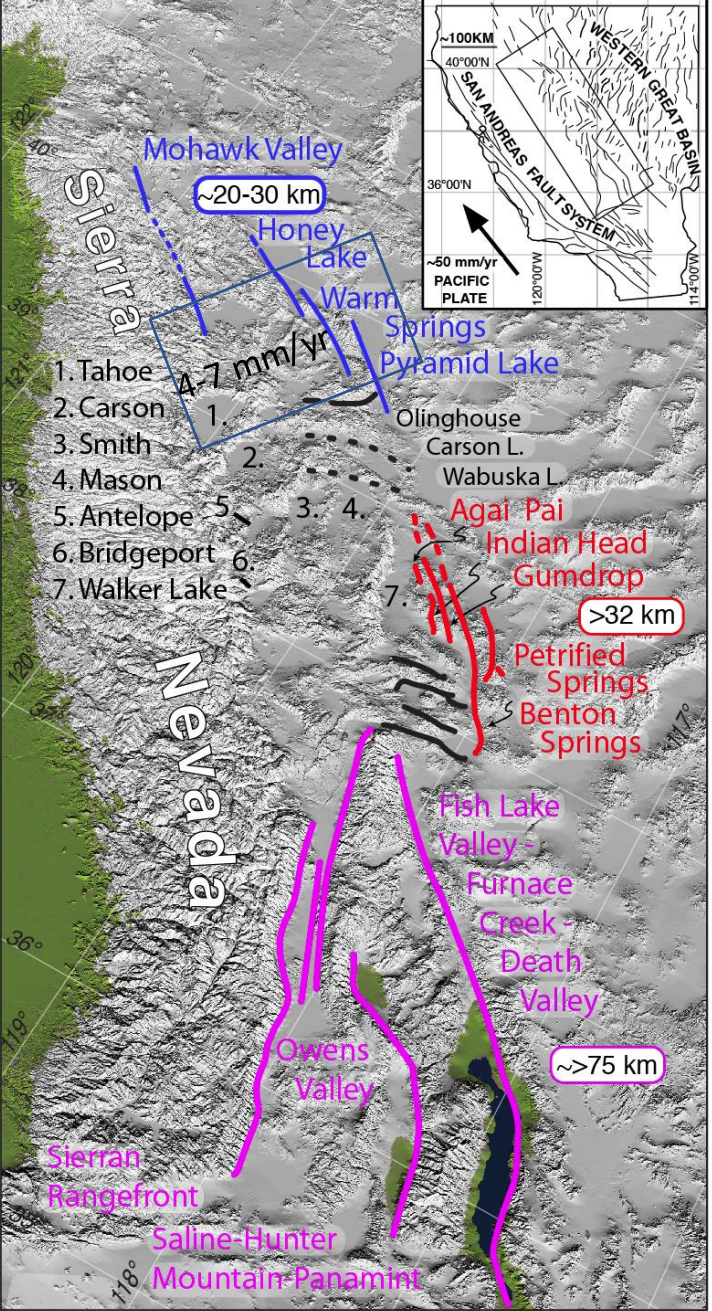
Jones & Wesnousky 1992



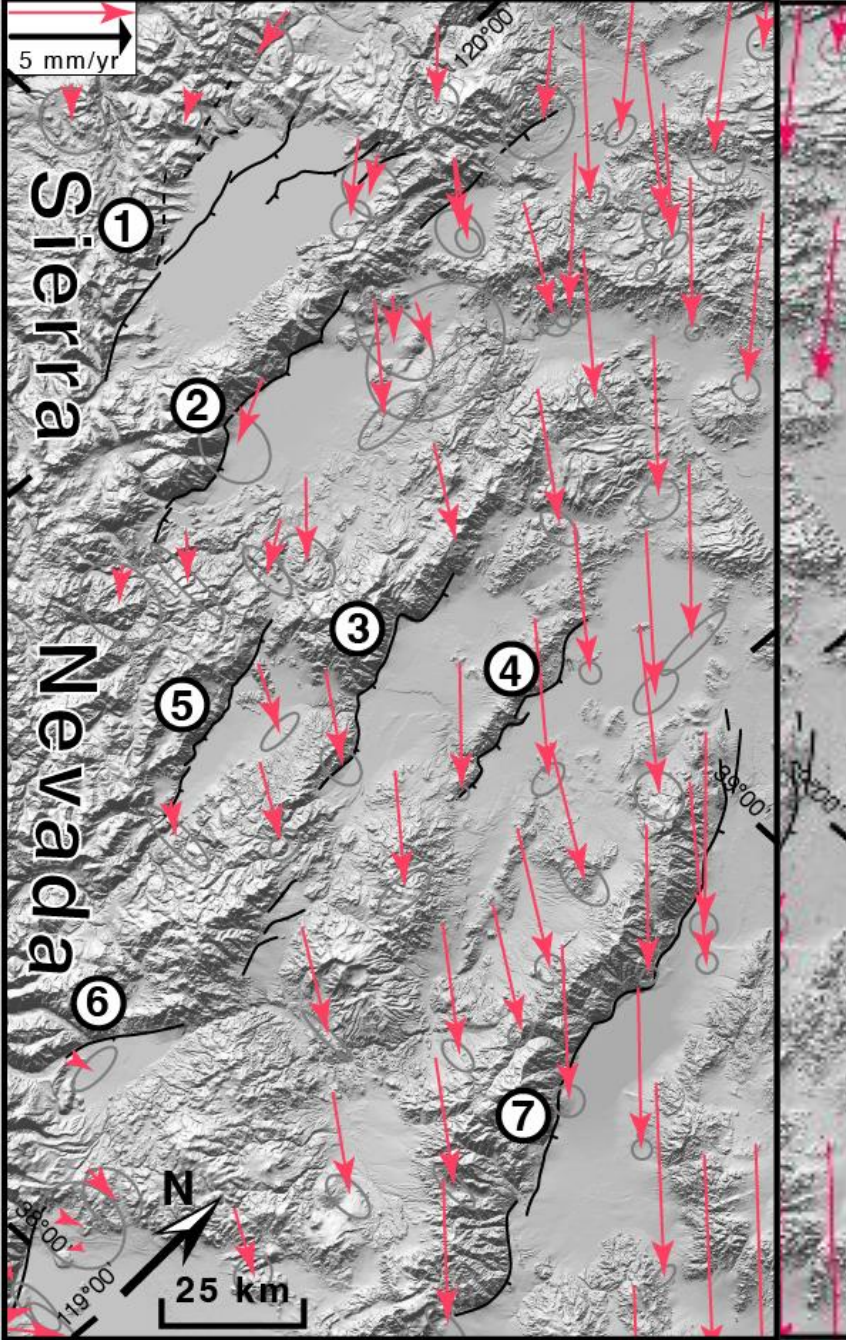




Walker Lane Strike Slip decreases northwestward at the expense of normal 'pull apart' basins and ranges of the Basin and Range



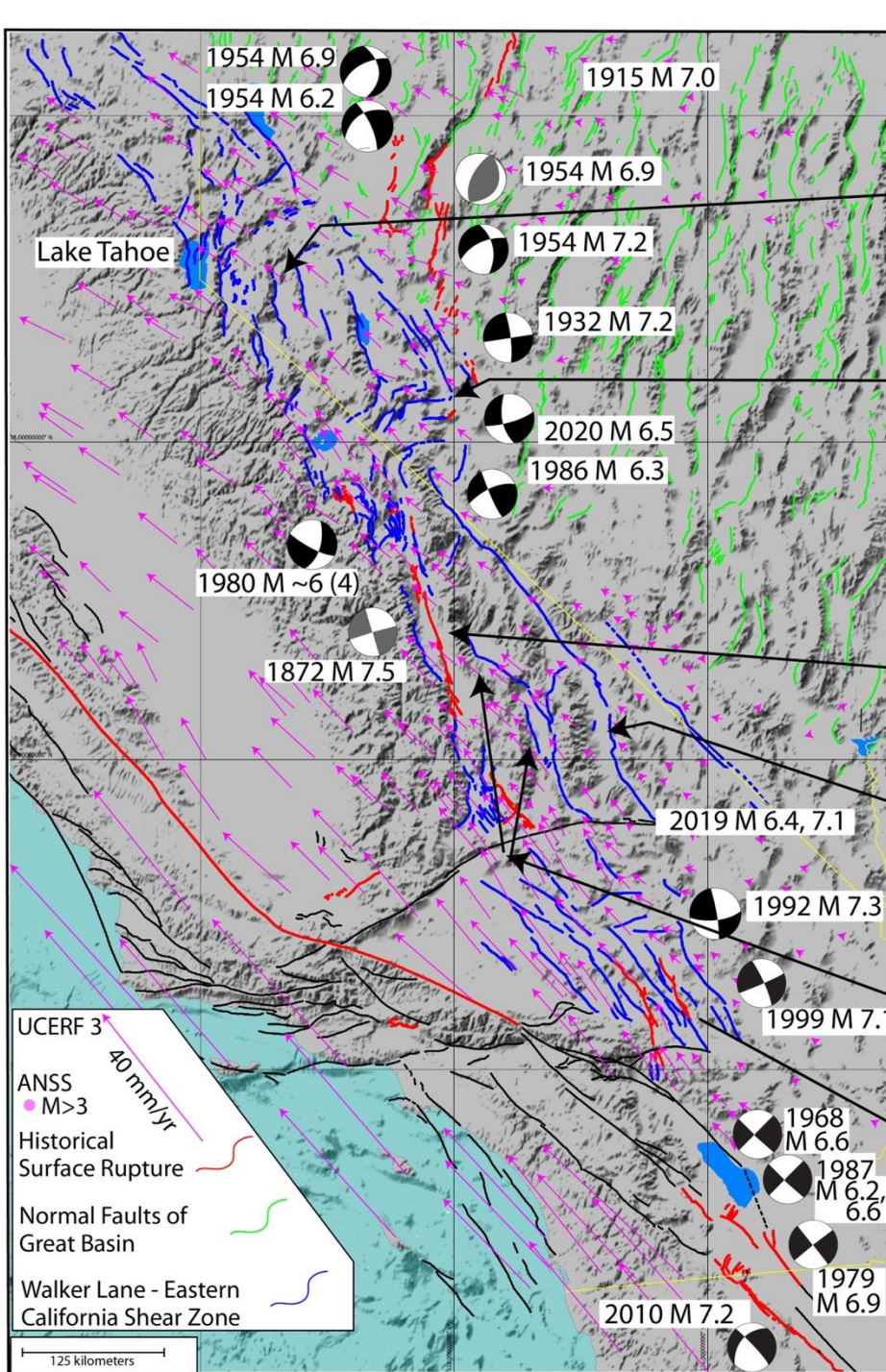
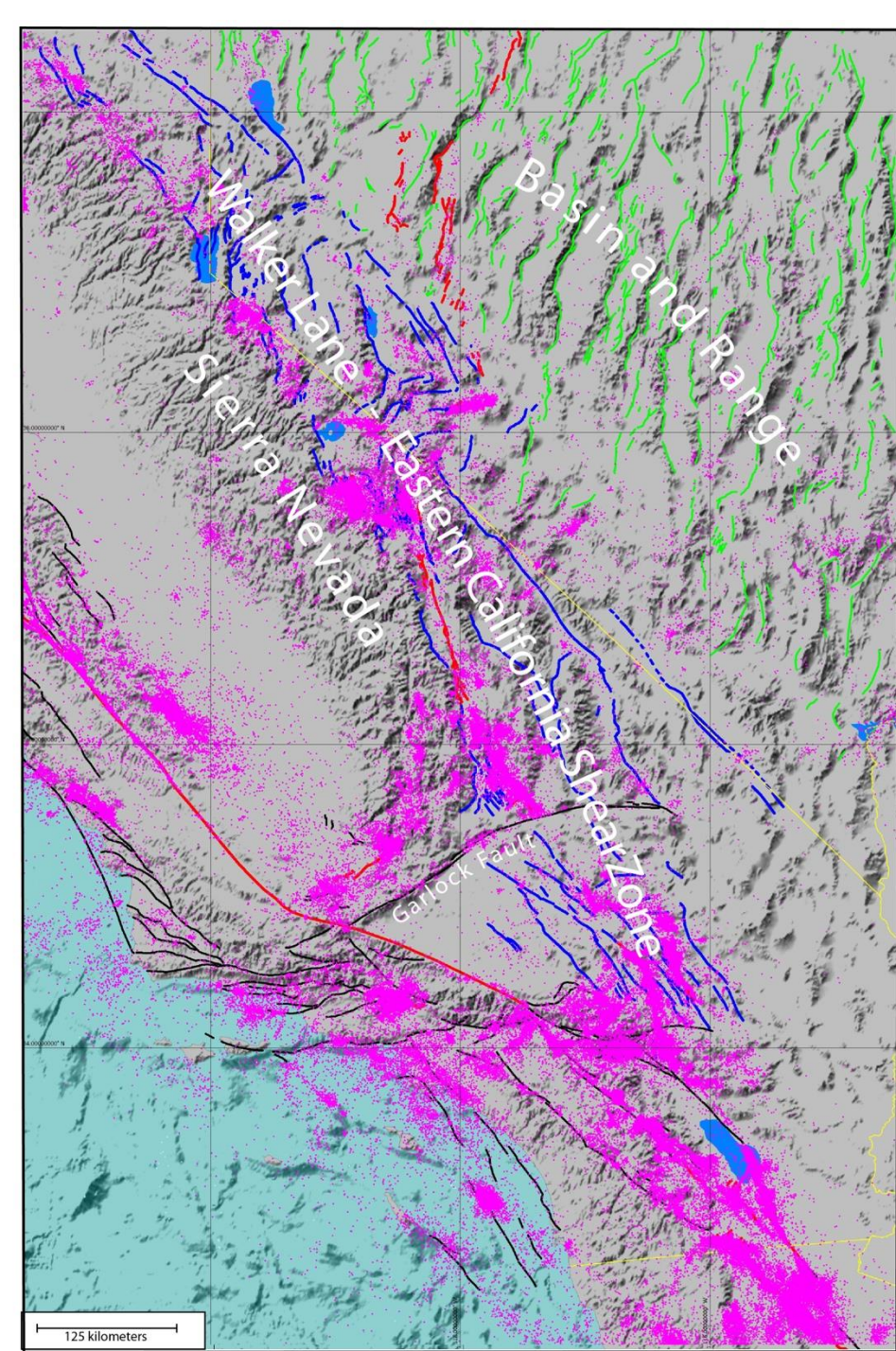
Wesnousky et al. 2012



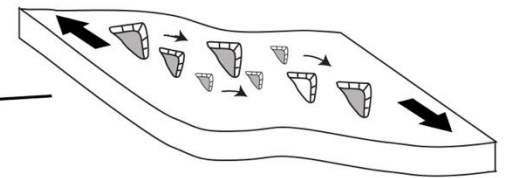
Geodesy: Bormann, Hammond, Kreemer



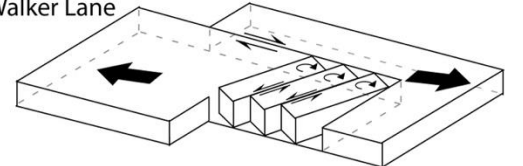
Wax Model: Jim Brune



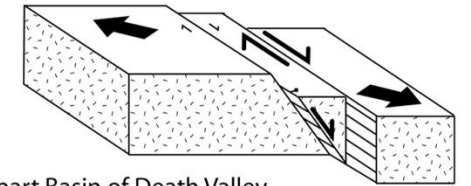
Accommodation of transtension in absence of major strike-slip faults in northern Walker Lane



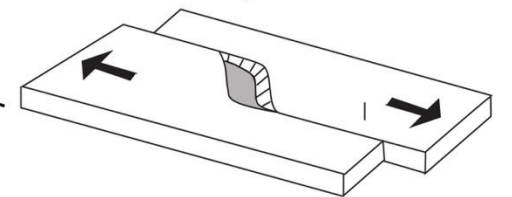
Block rotations producing left lateral faults and basins in Central Walker Lane



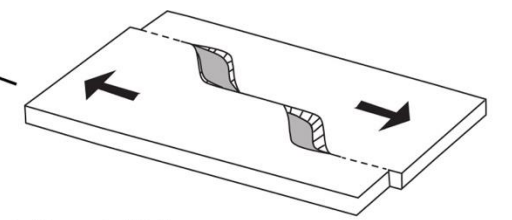
Partitioning of oblique slip on parallel strike-slip and dip slip faults of Sierran Range Front and Owens Valley



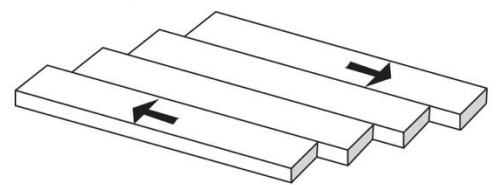
Pull Apart Basin of Death Valley



Paired pull-apart basins of Panamint and Saline Valleys



Simple Shear in Mojave



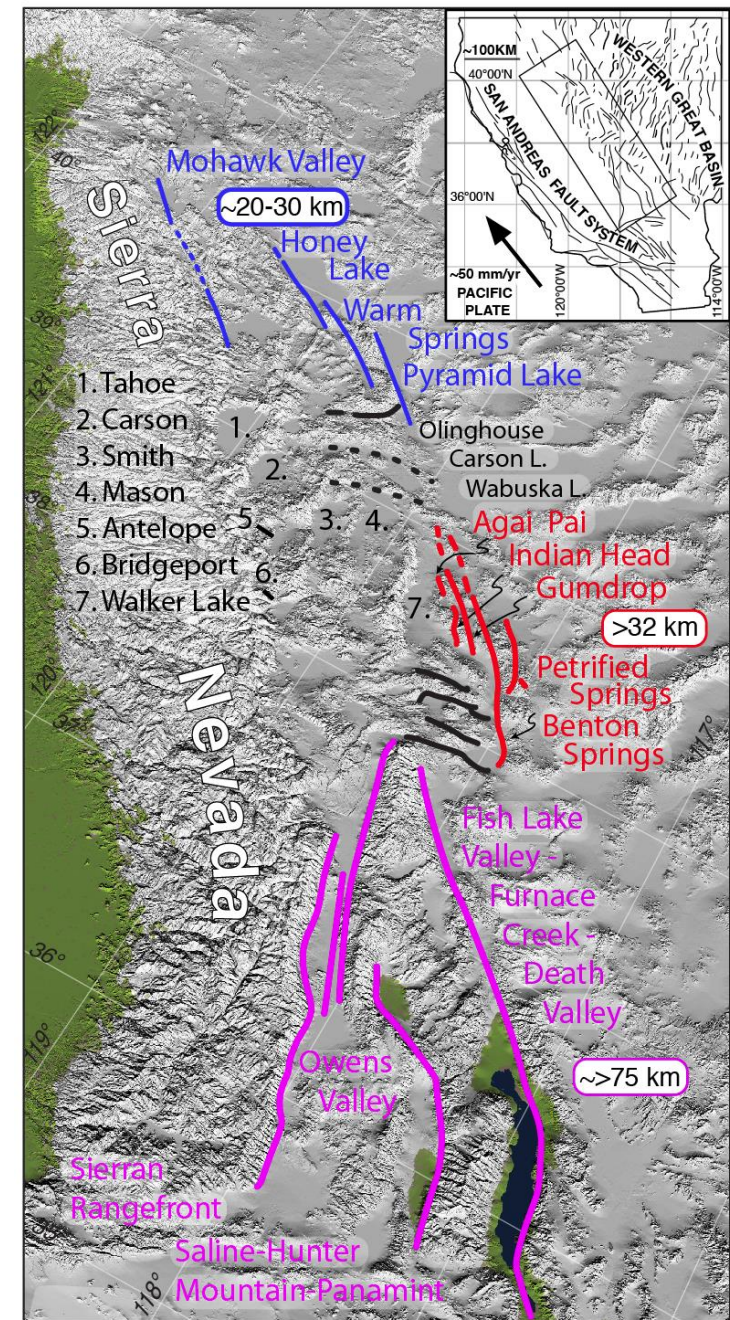
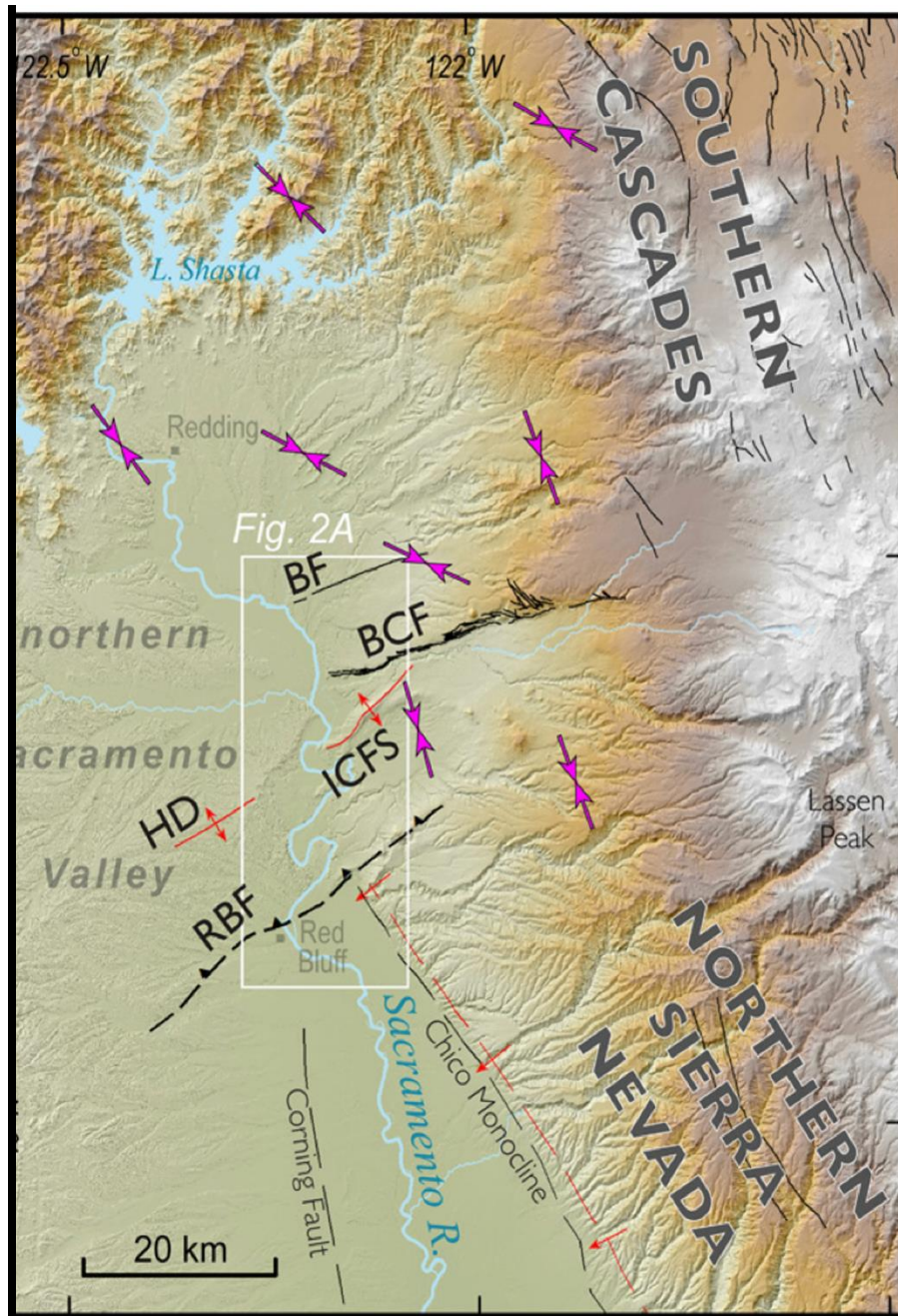
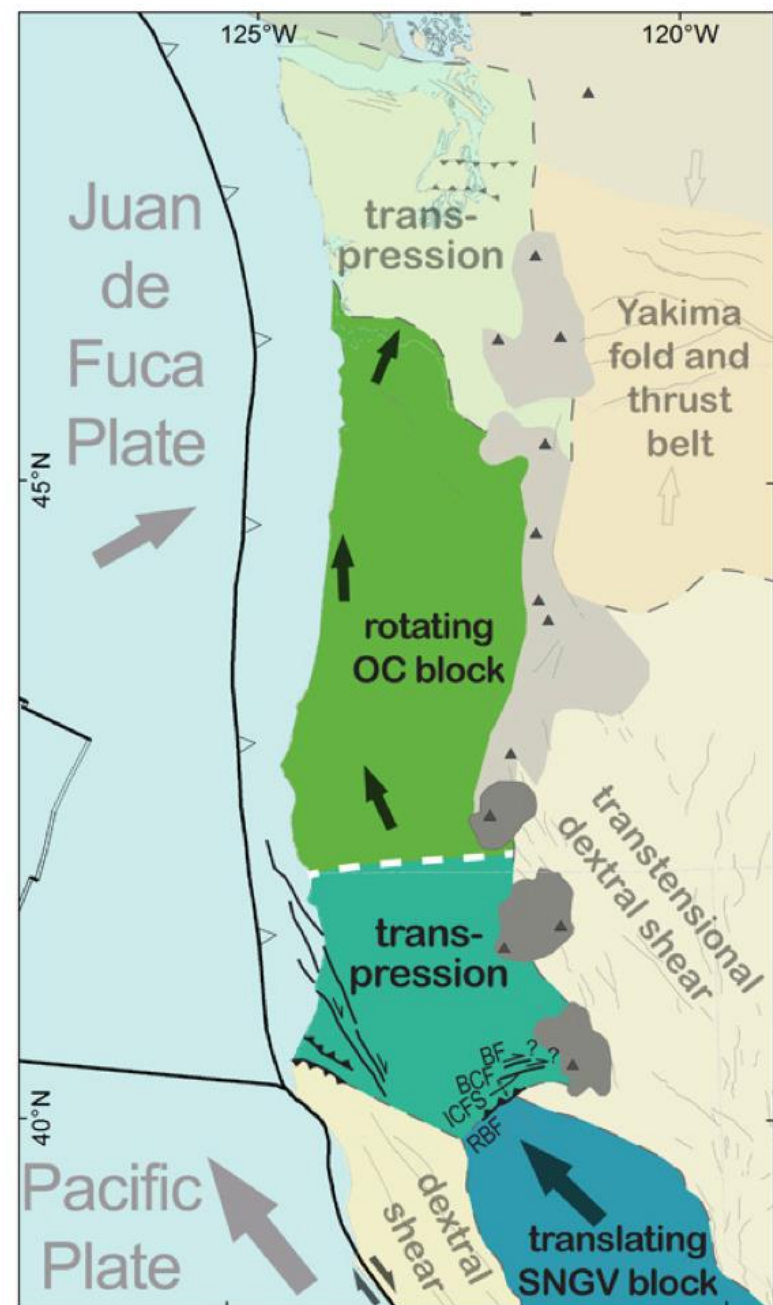


FIG. 01



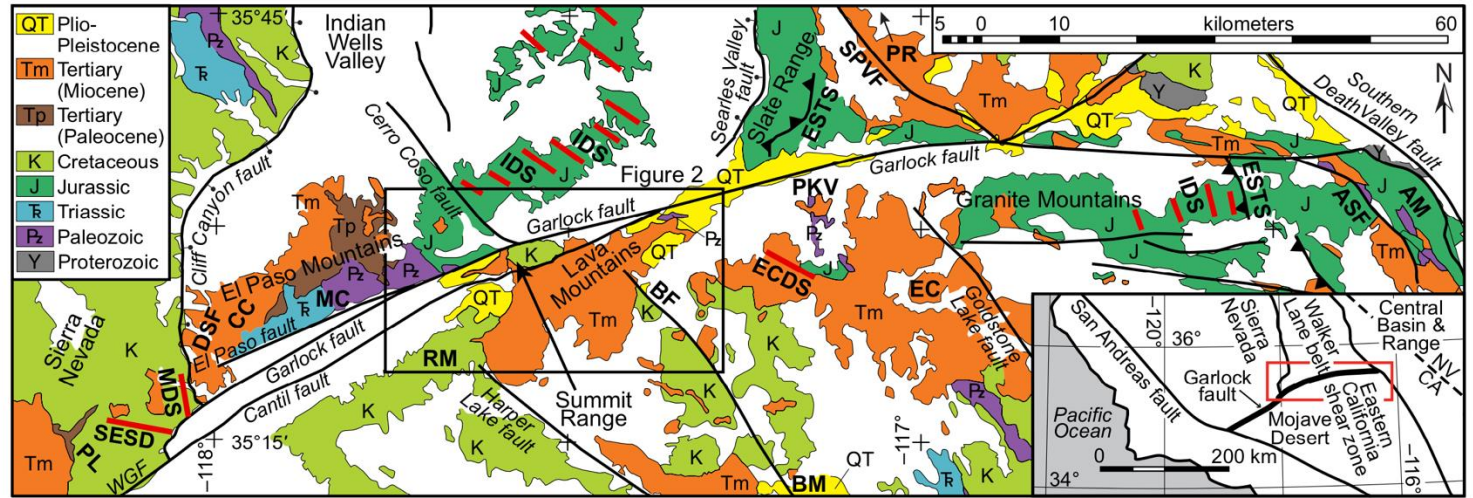
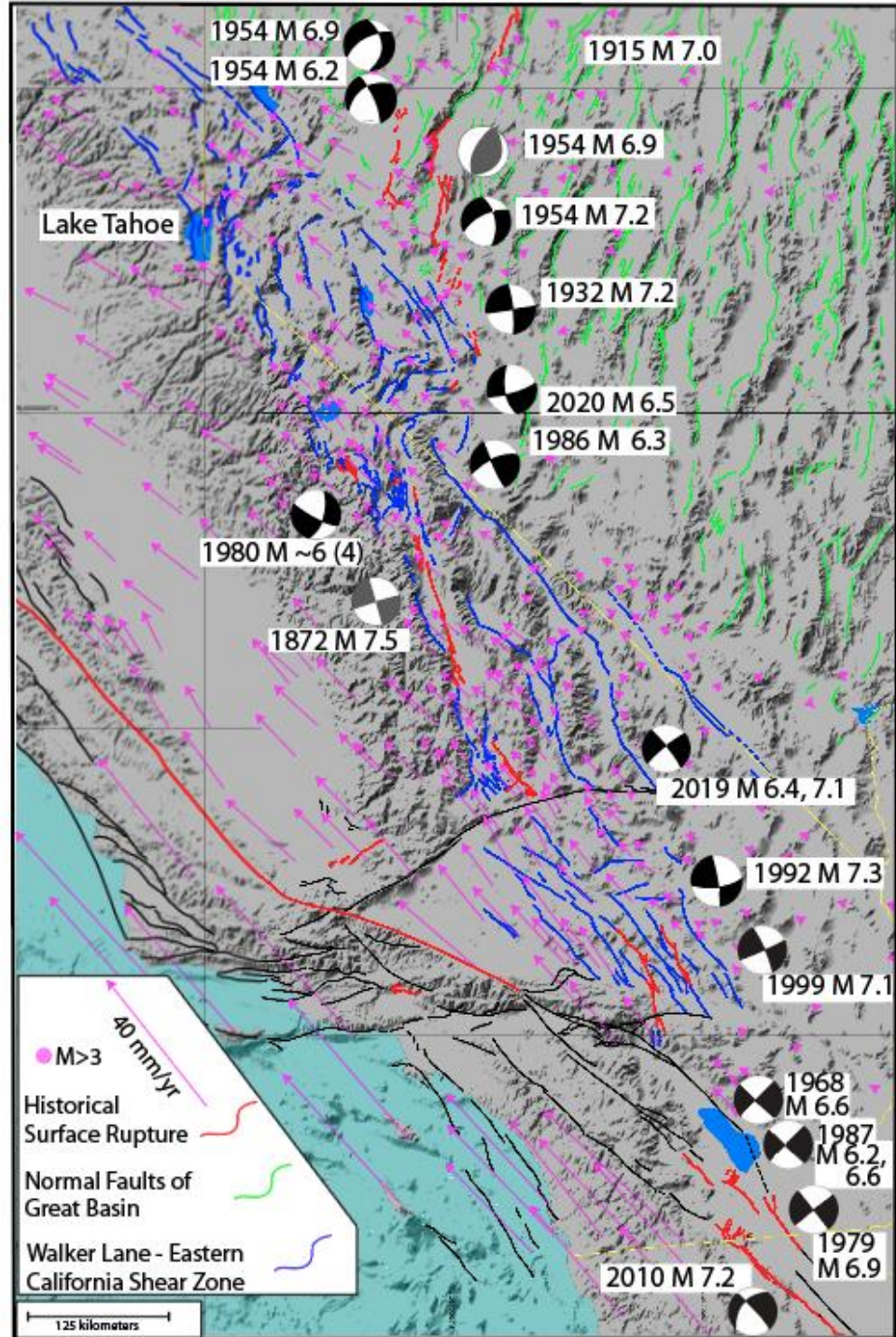
Angster et al. 2020



Garlock Fault

Platt and Becker 2013
Dolan et al, 2016

Mapping of rocks emplaced before and after creation of Garlock places initiation at ~11 Ma and long term slip rate of 6-9 mm/yr (Platt and Becker 2013)– with marked variations above and below these values in Holocene (Dolan et al. 2016)



Platt and Becker (2010) w.r.t. reference frame half the geodetically inferred PA-NA plate motion

