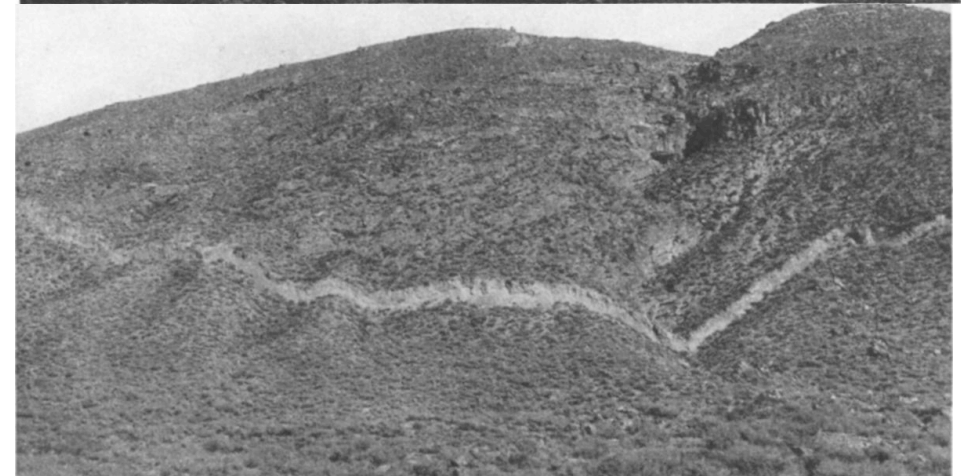
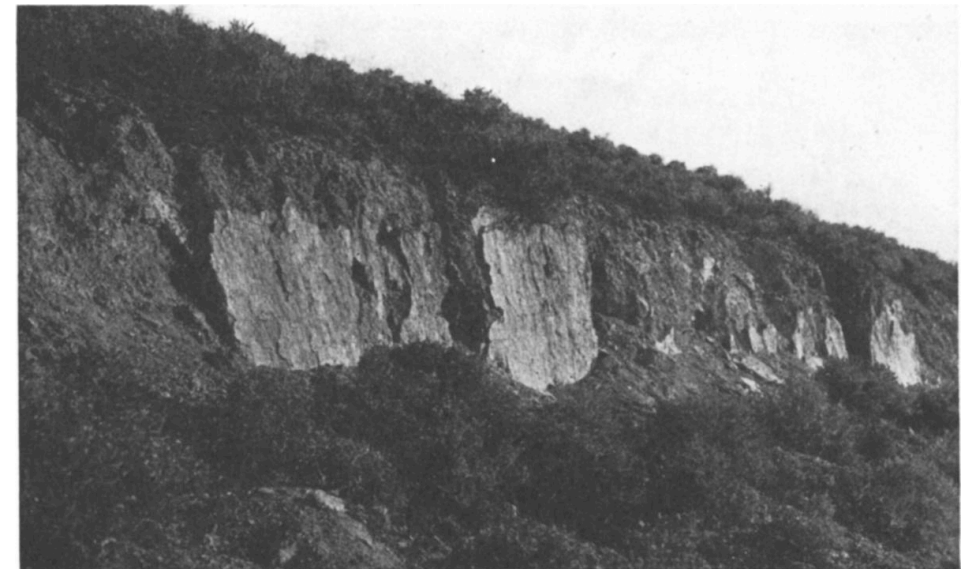
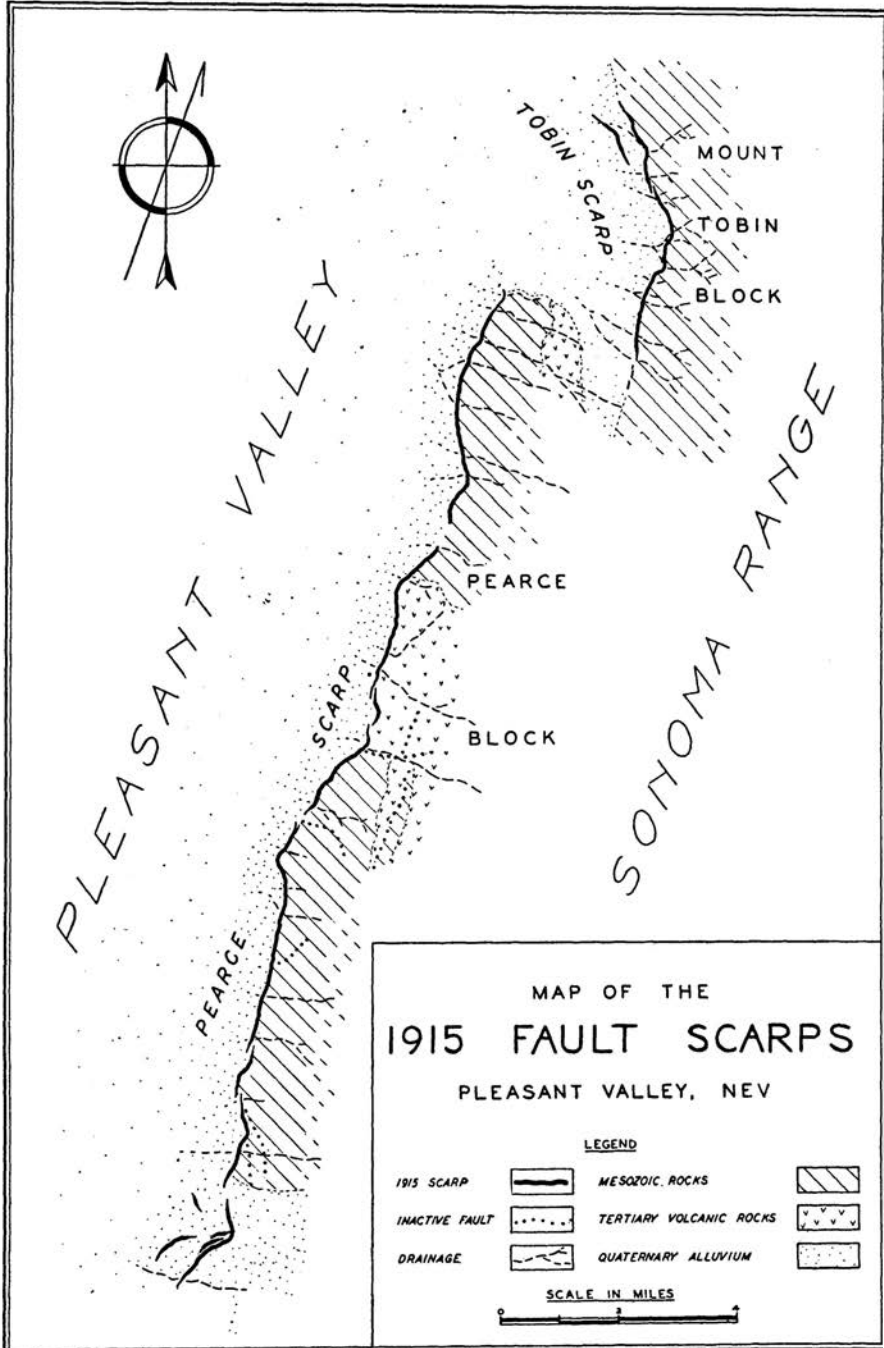
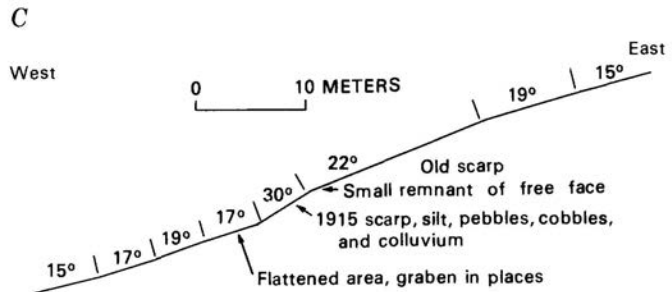
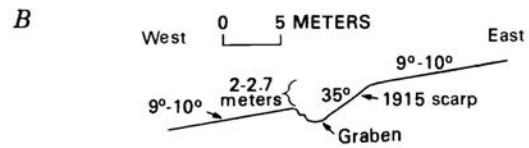
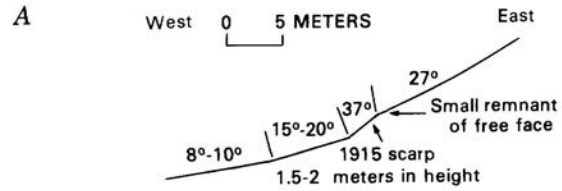
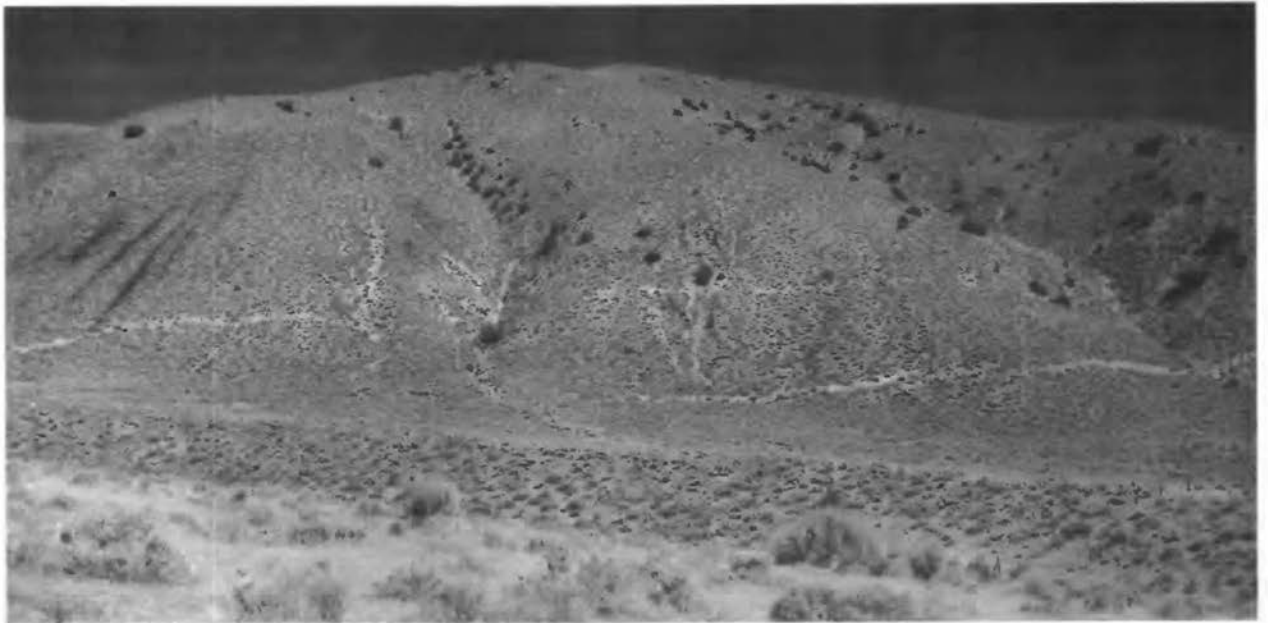
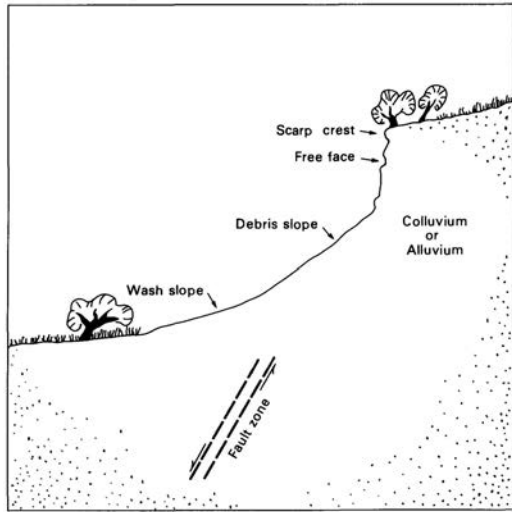


Historical surface rupture examples

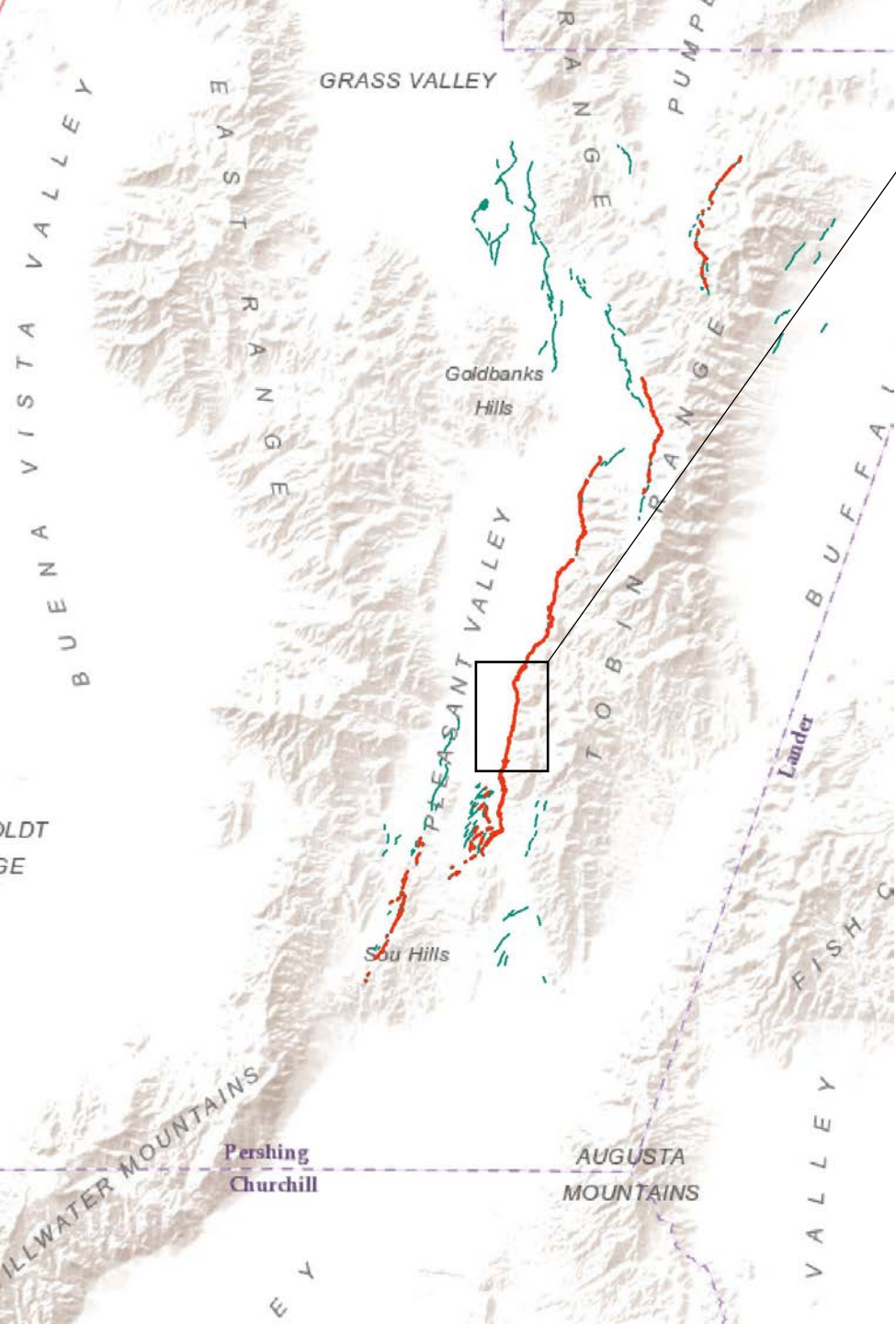
1915 Pleasant Valley earthquake



1915, M_s 7.6	Pleasant Valley, Nevada	5.8 m displ.	59 Km length	Wallace (1984)
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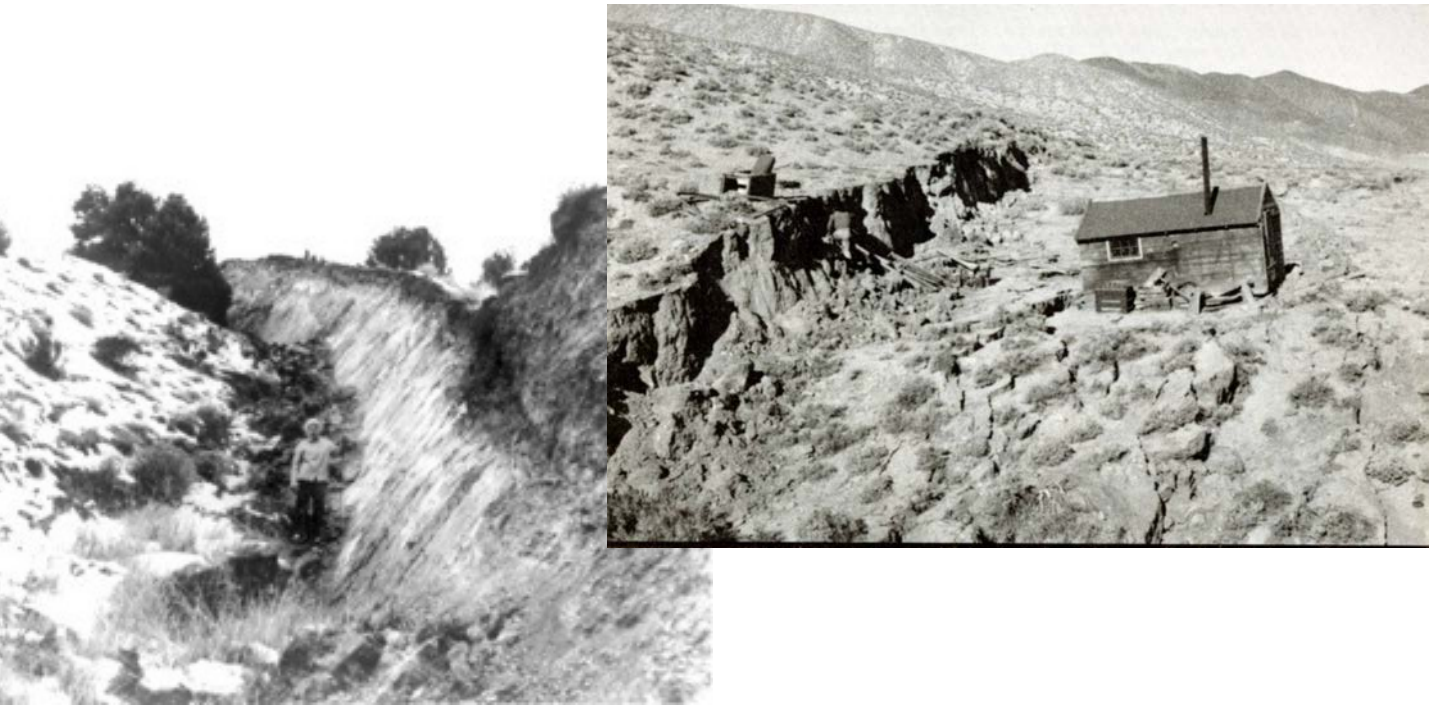
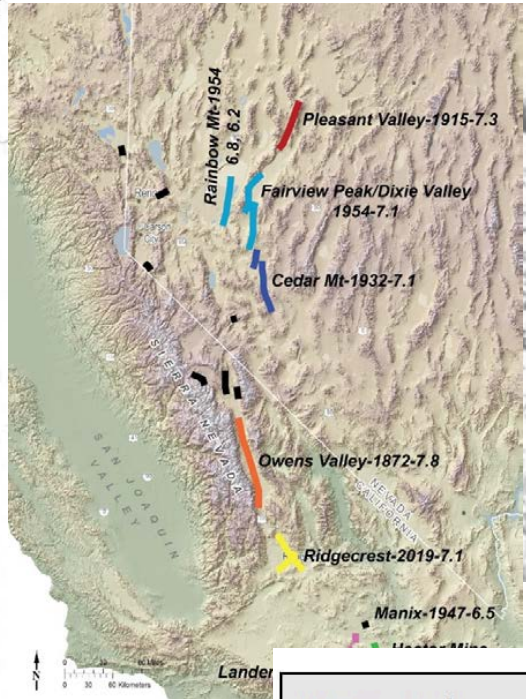
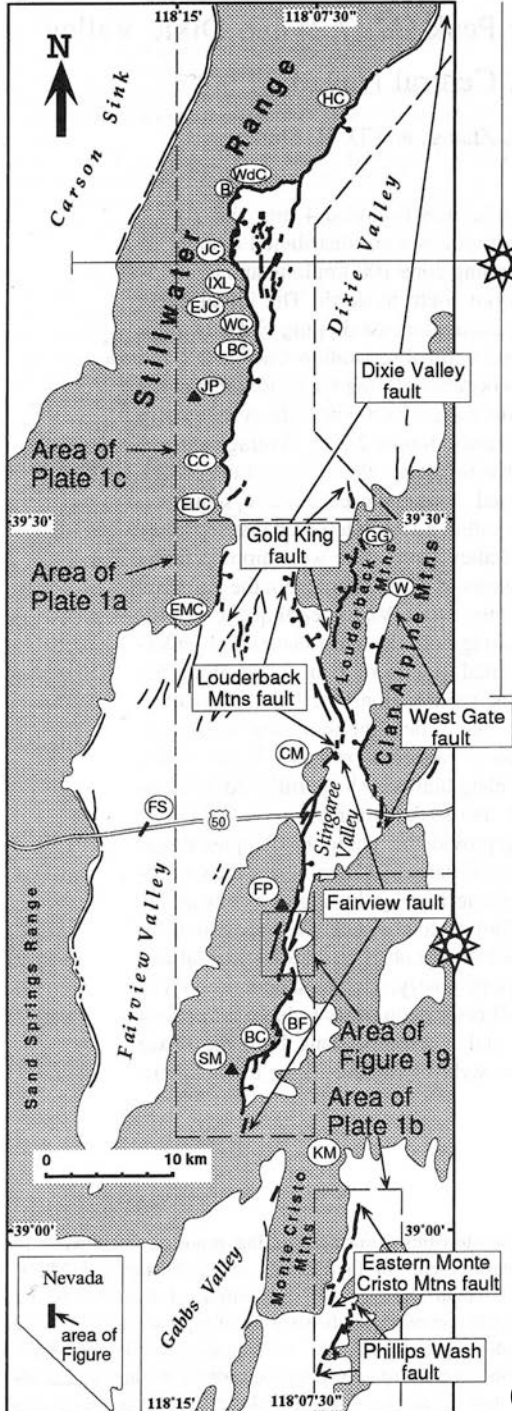


Wallace, 1984

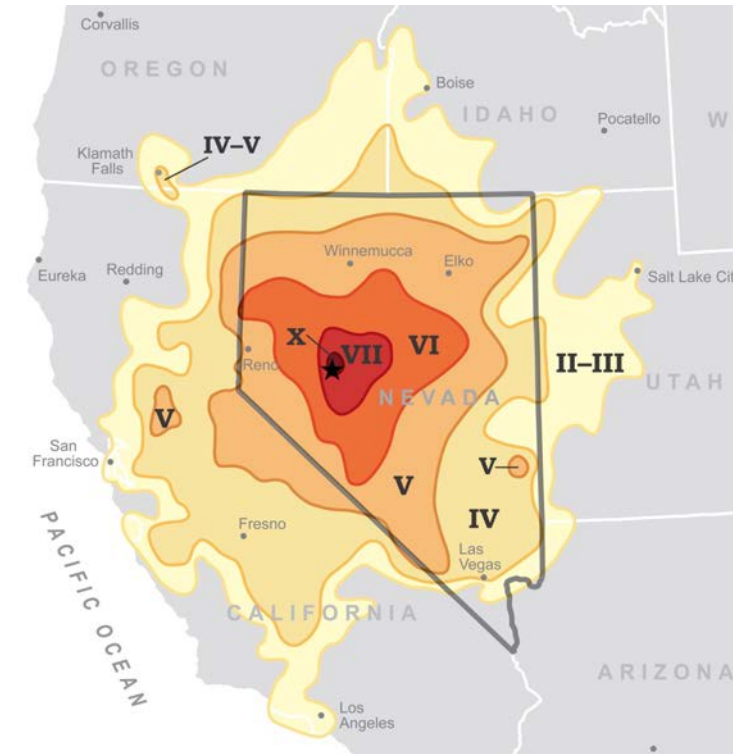
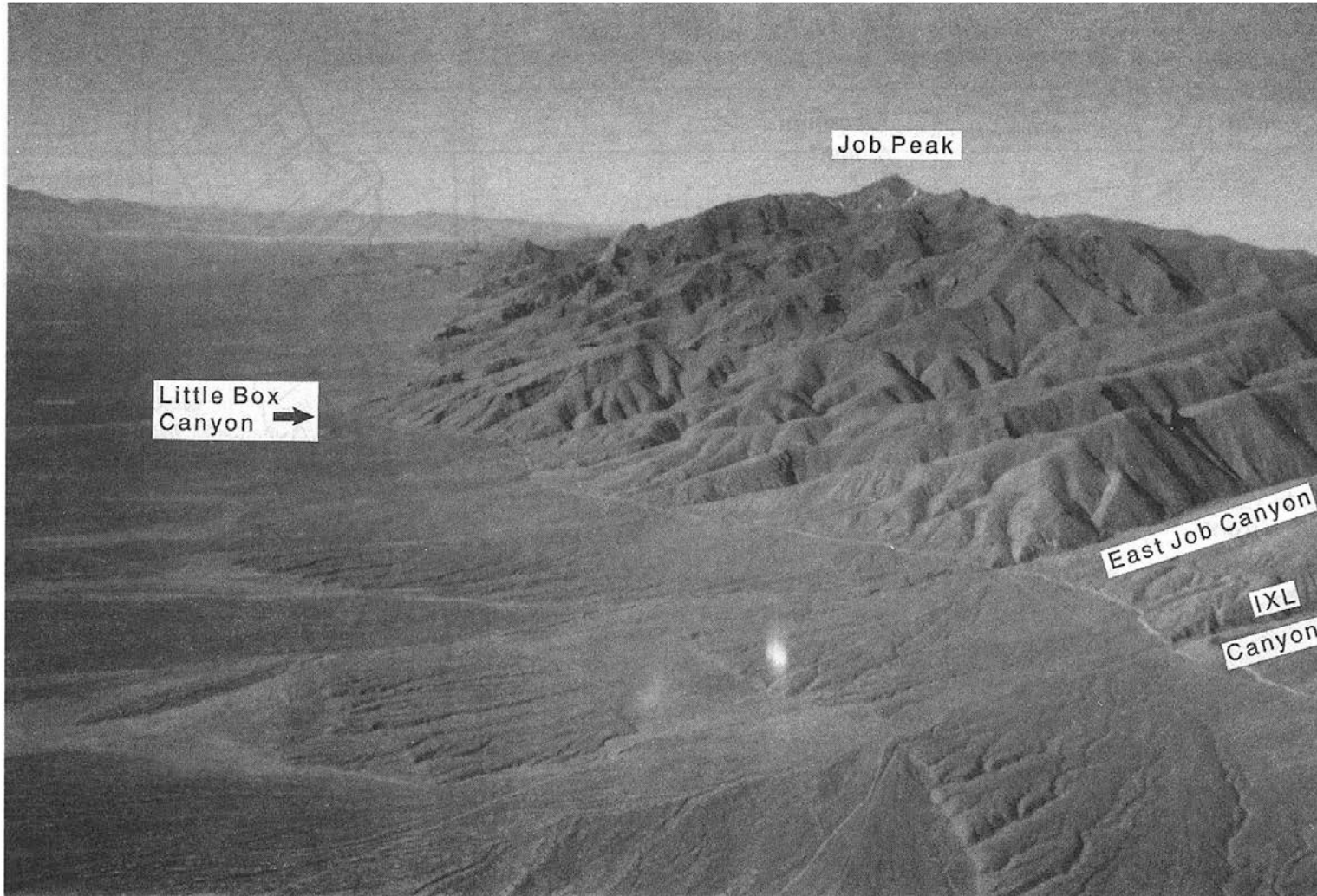


Historical surface rupture examples

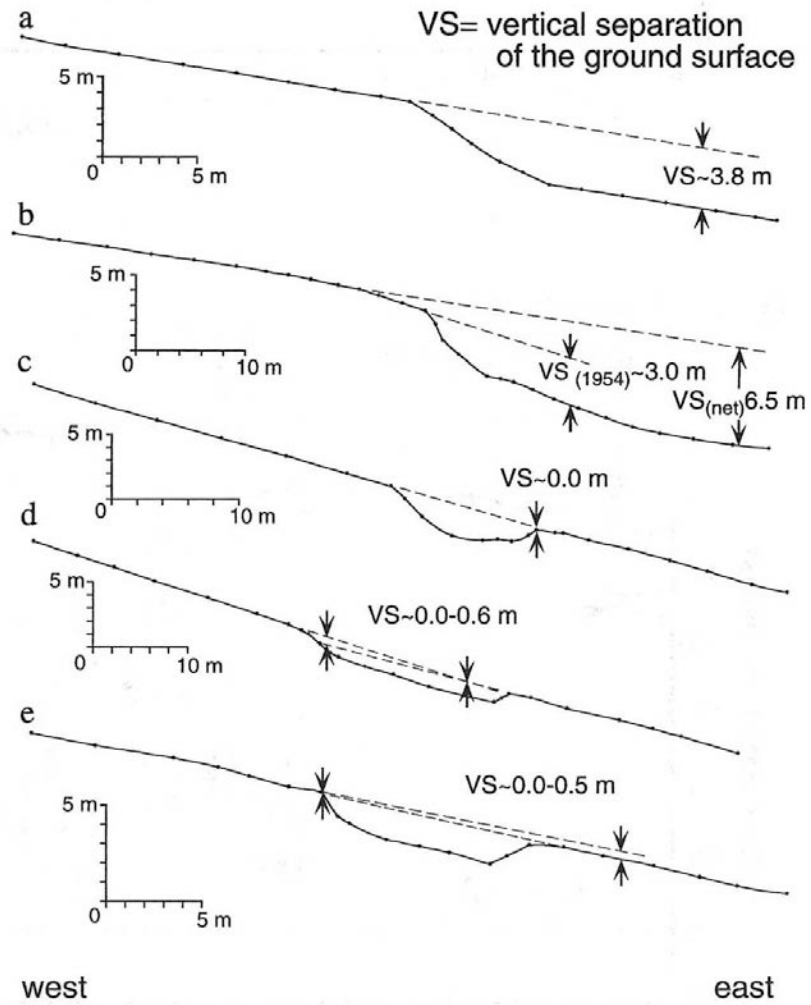
1954 Fairview Peak and Dixie Valley earthquakes



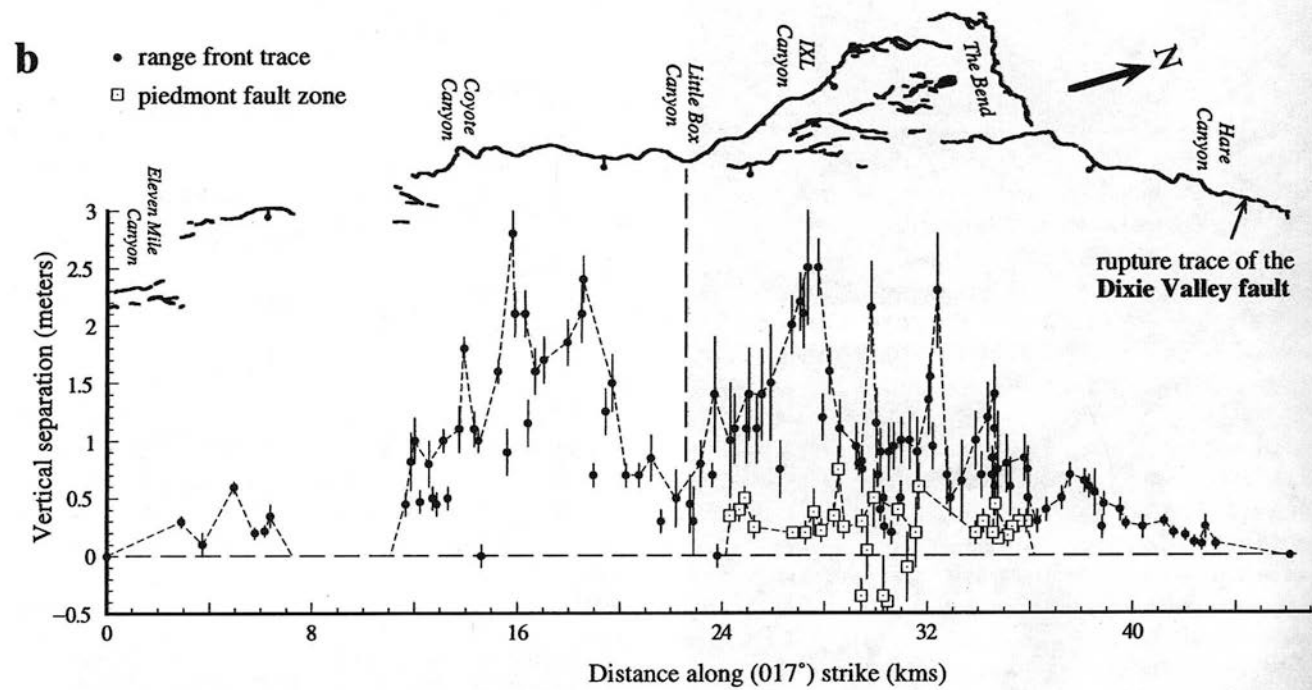
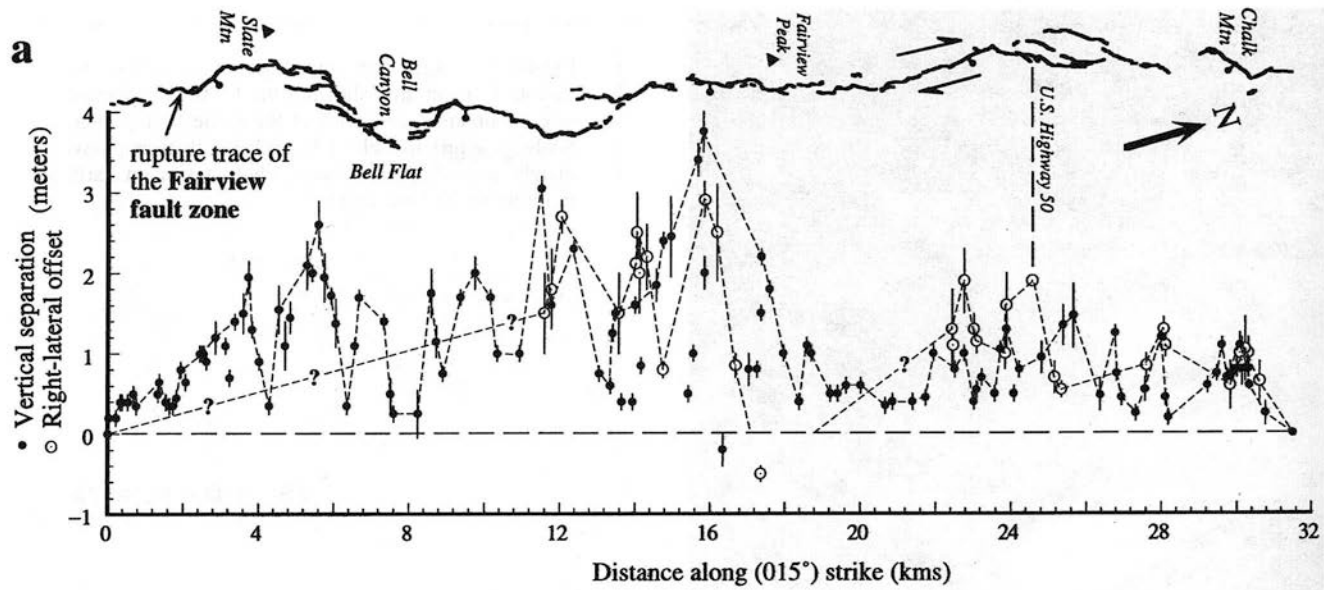
Date and magnitude	Area/fault	Maximum displacement ^a (m)	Length of rupture ^a (km)	References
a. Ruptures studied immediately after the earthquake				
1954, M_s 6.8	Dixie Valley, Nevada	3.8	45	Slemmons (1957)
1954, M_s 7.2	Fairview Peak, Nevada	4.8	67	Slemmons (1957)

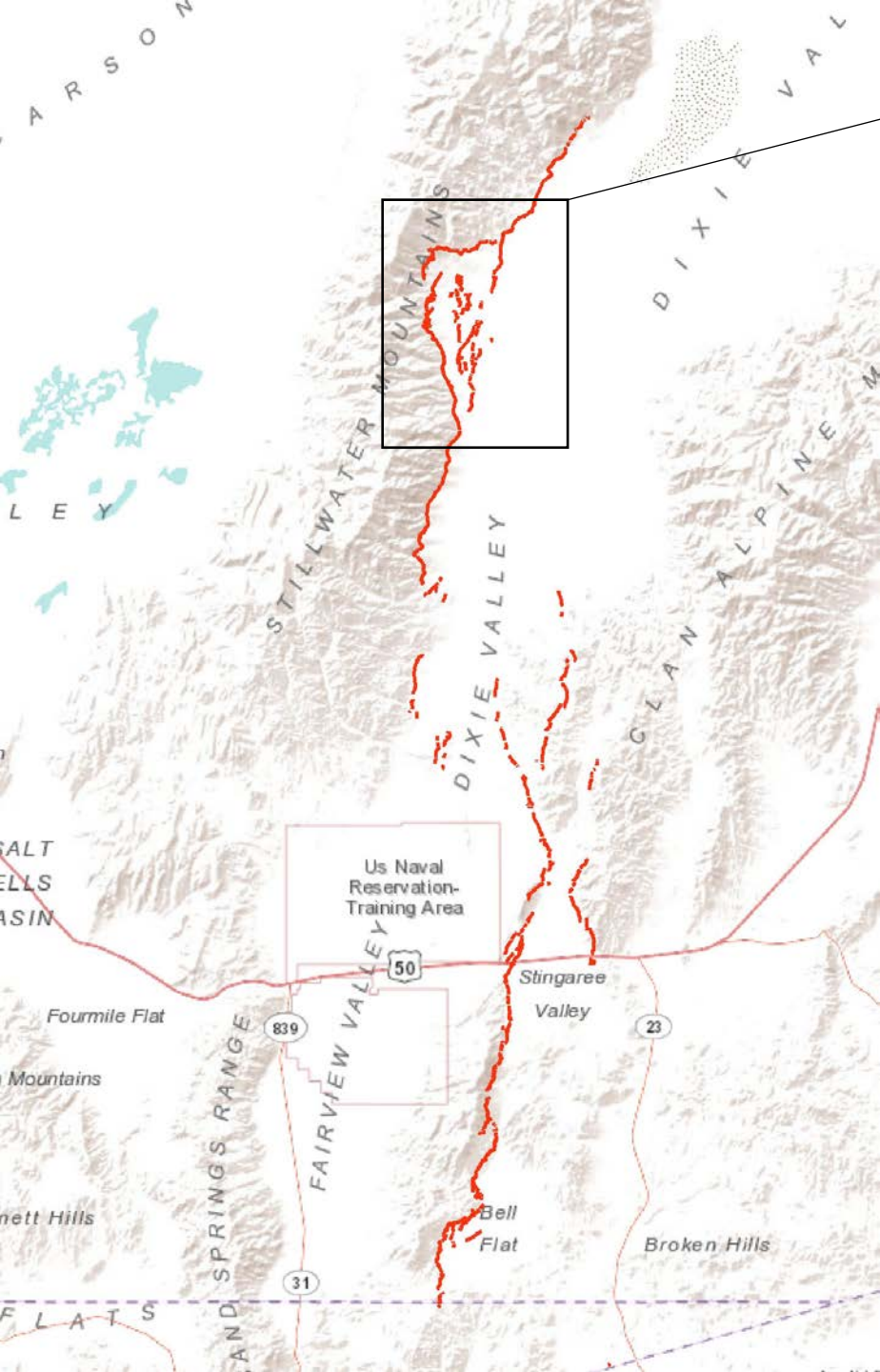


Caskey et al., 1996

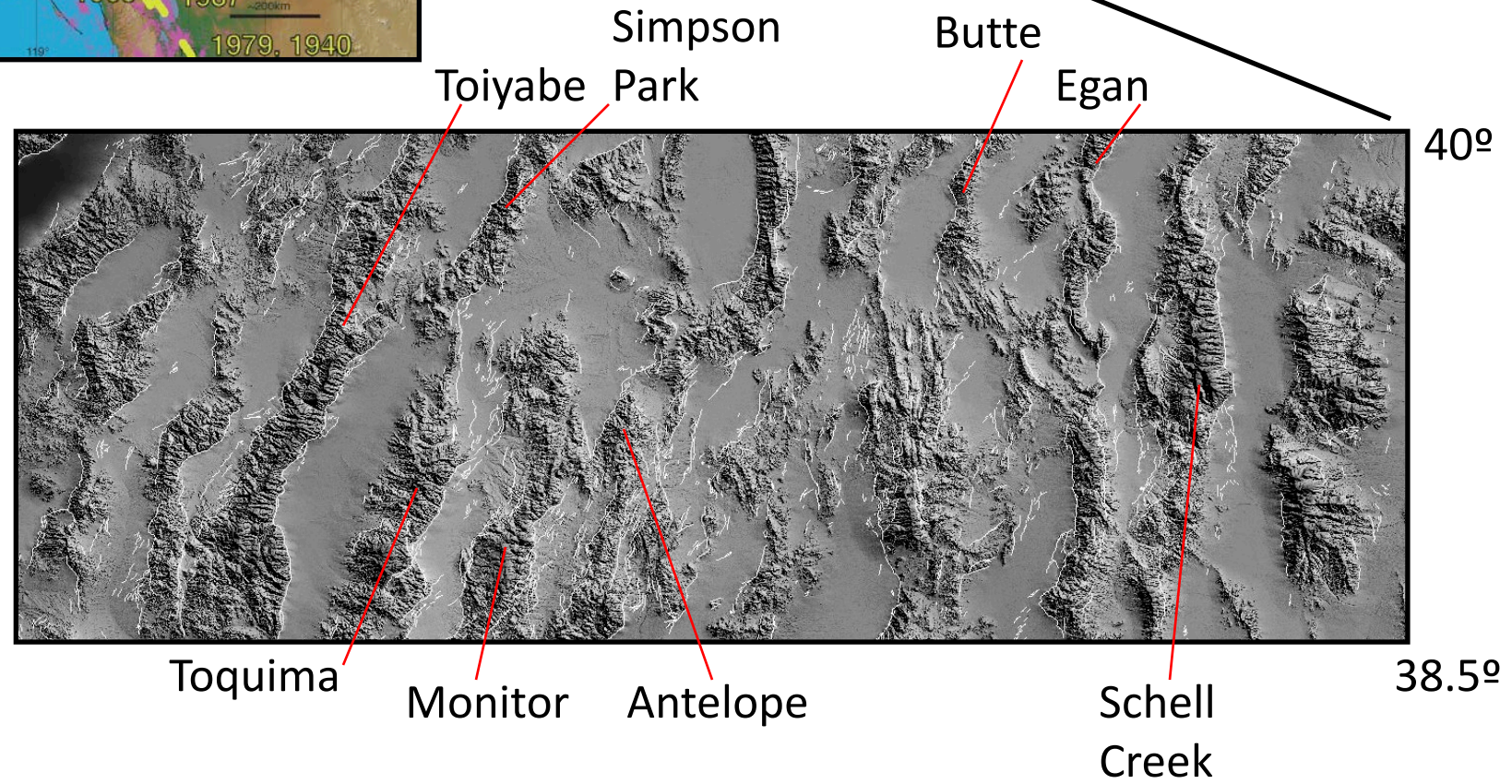
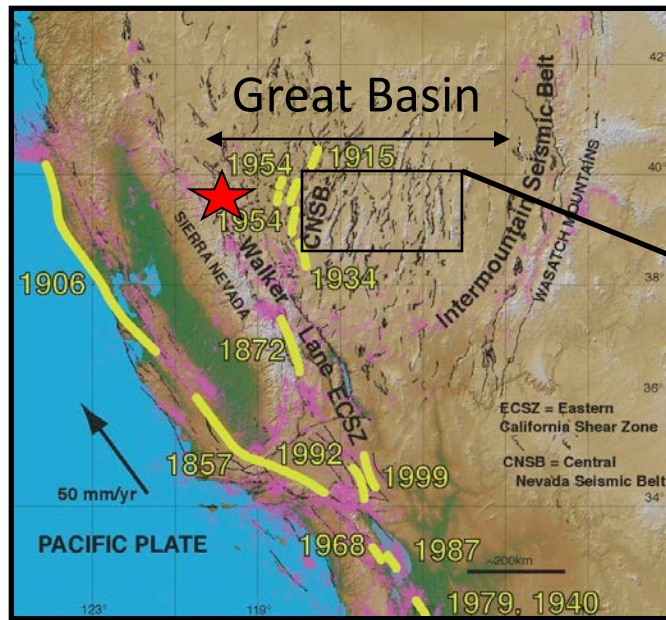


Caskey et al., 1996

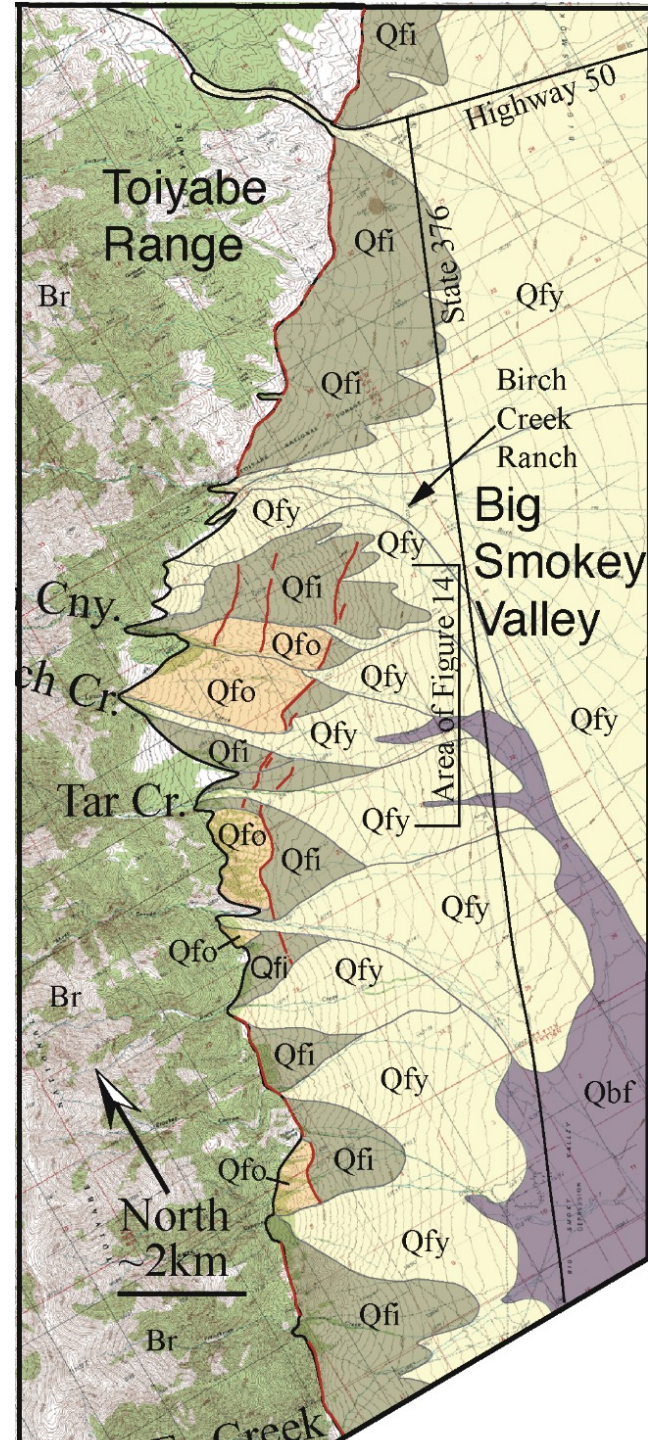
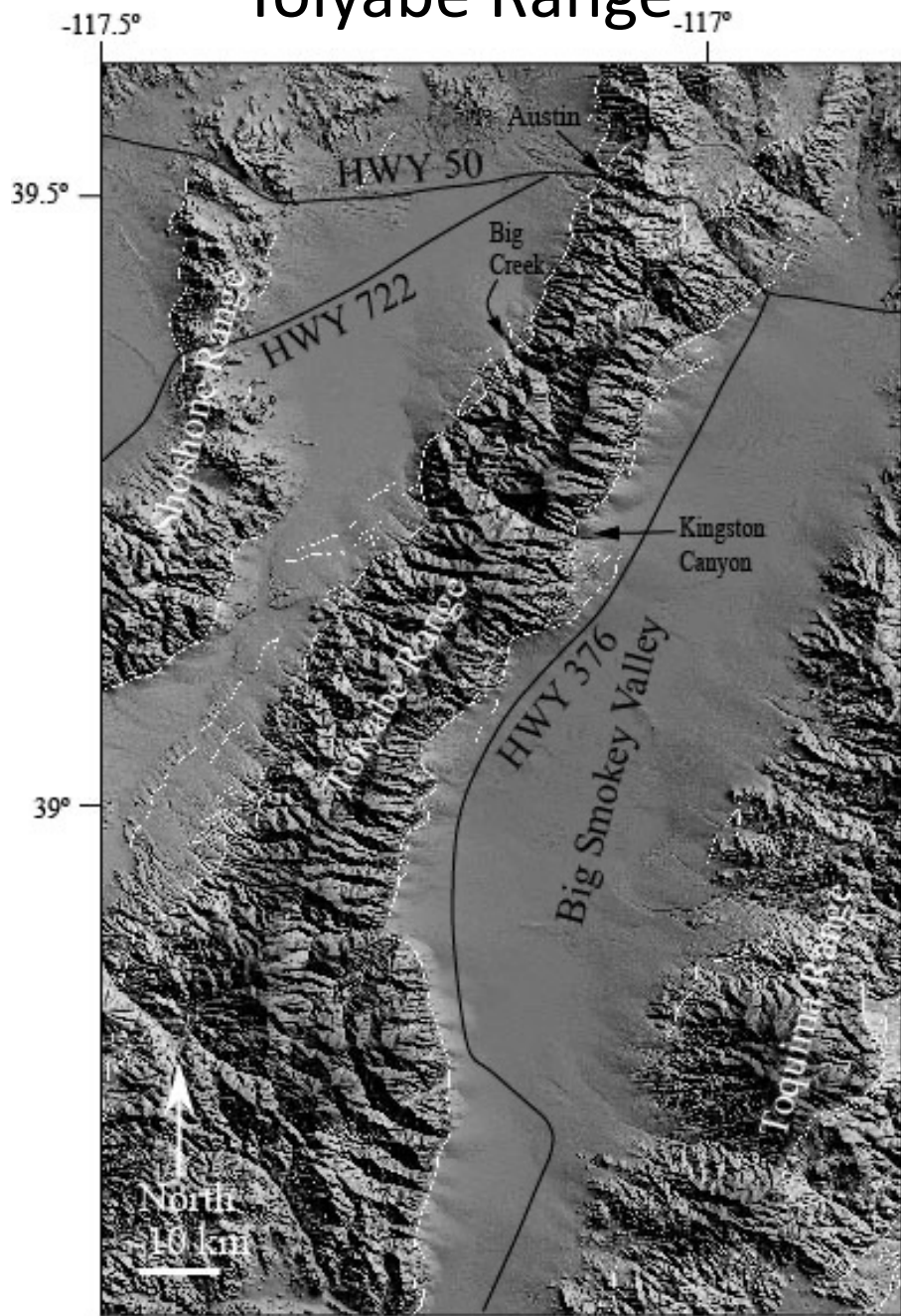




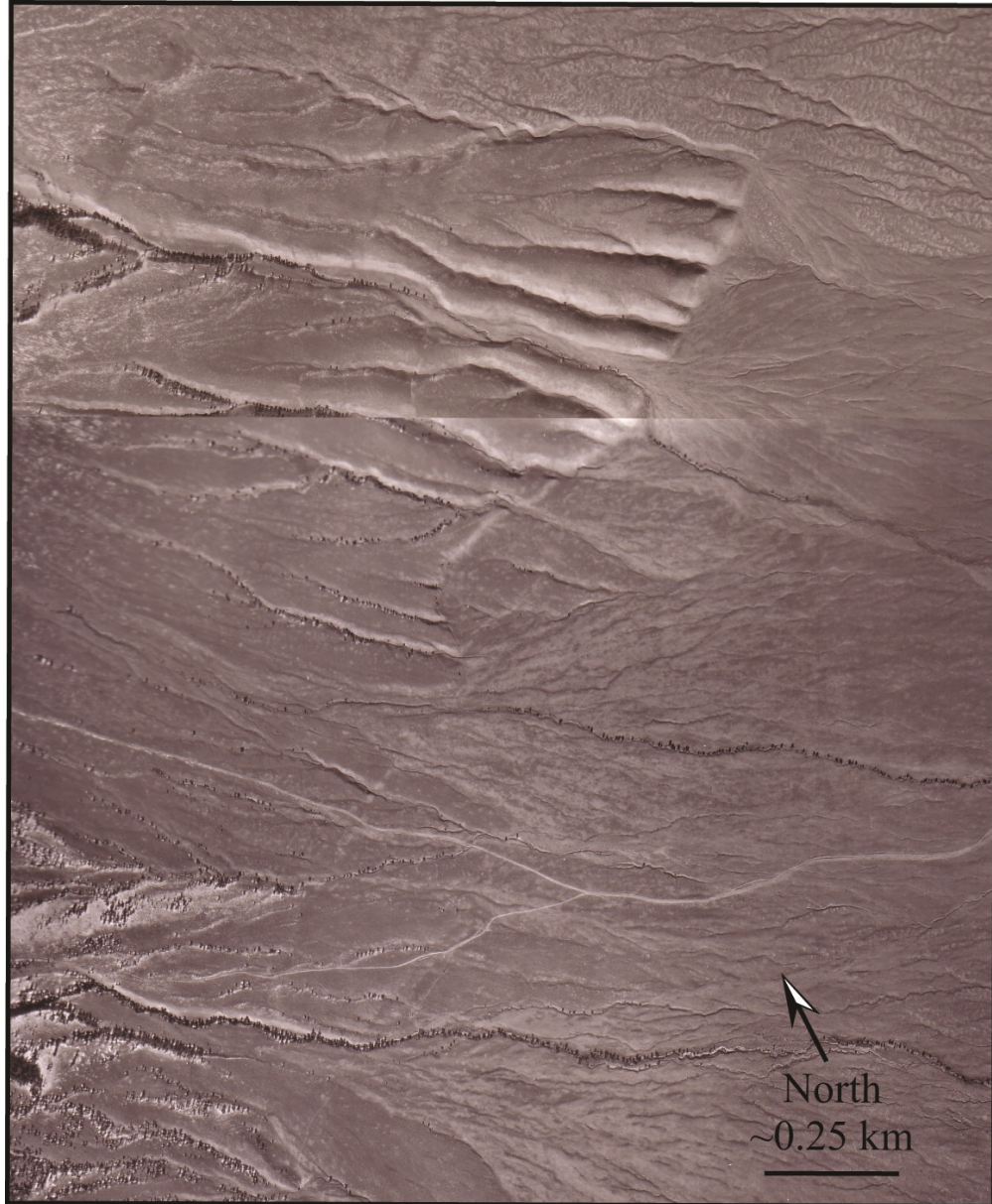
Fault mapping across US HWY 50 central Basin and Range

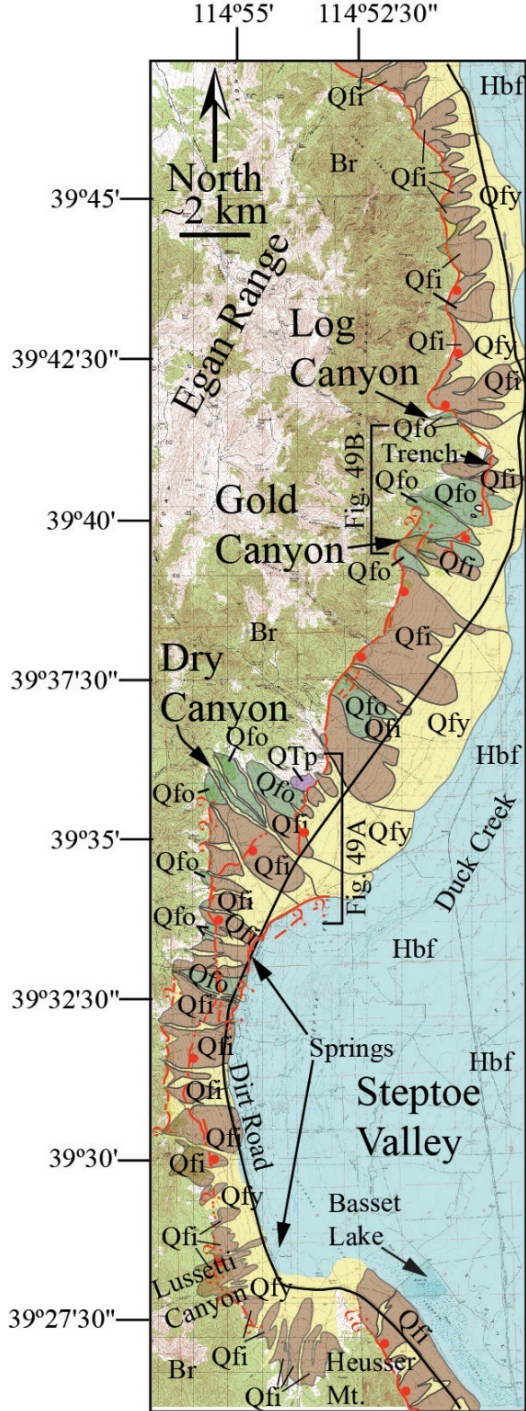


Toiyabe Range

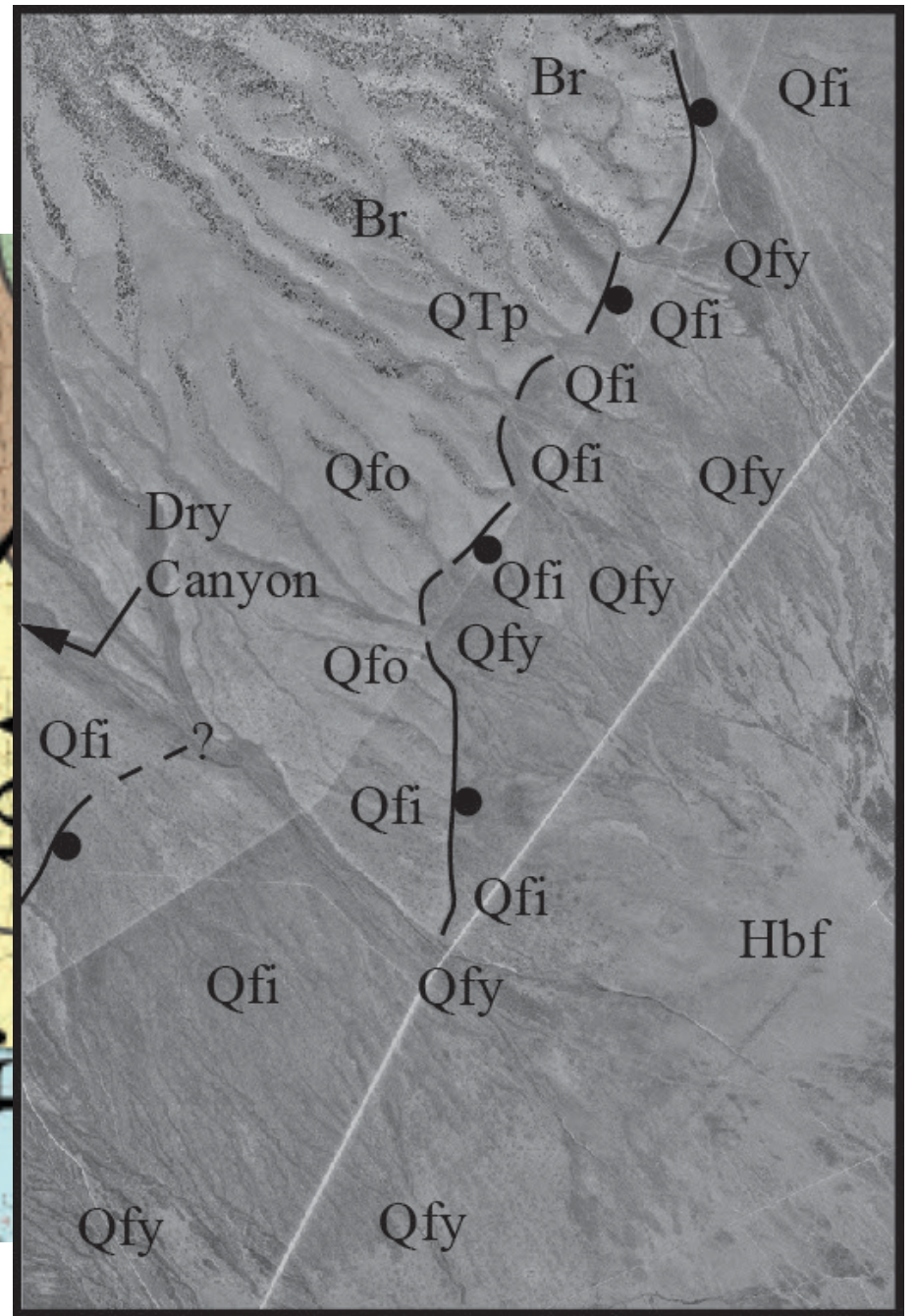
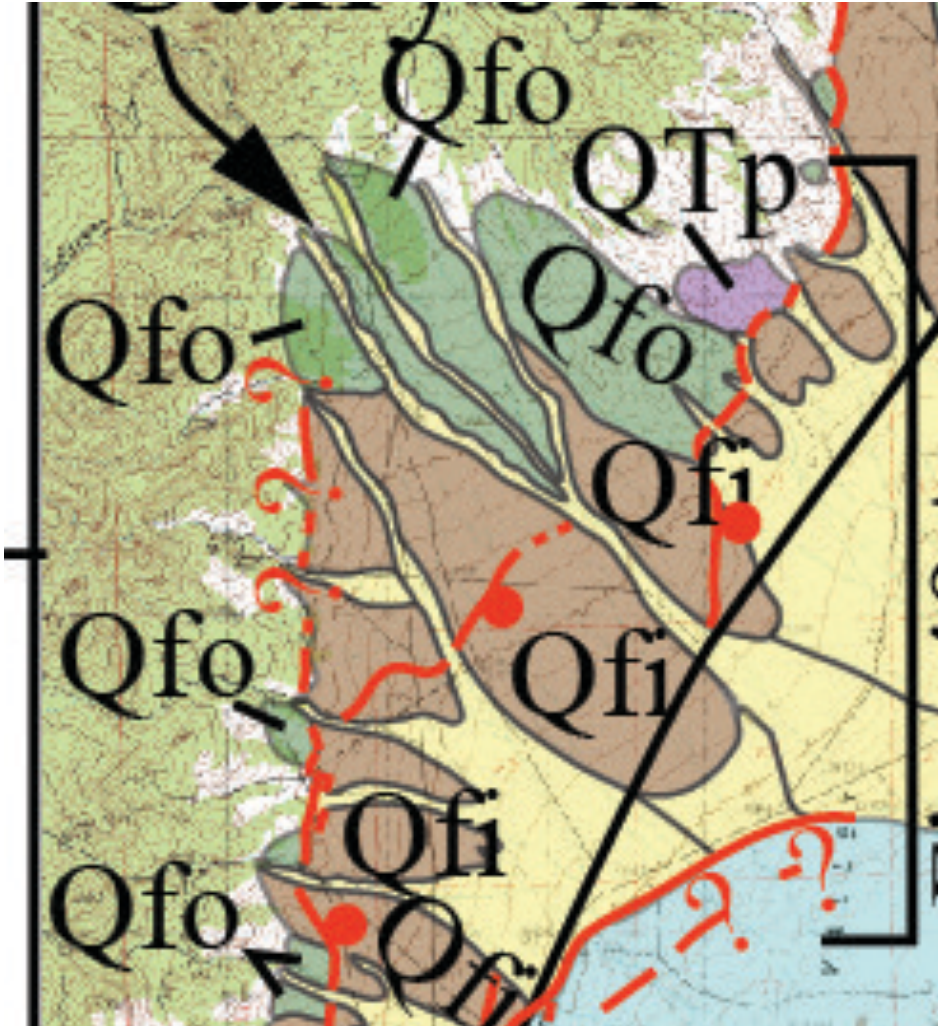


Toiyabe Range

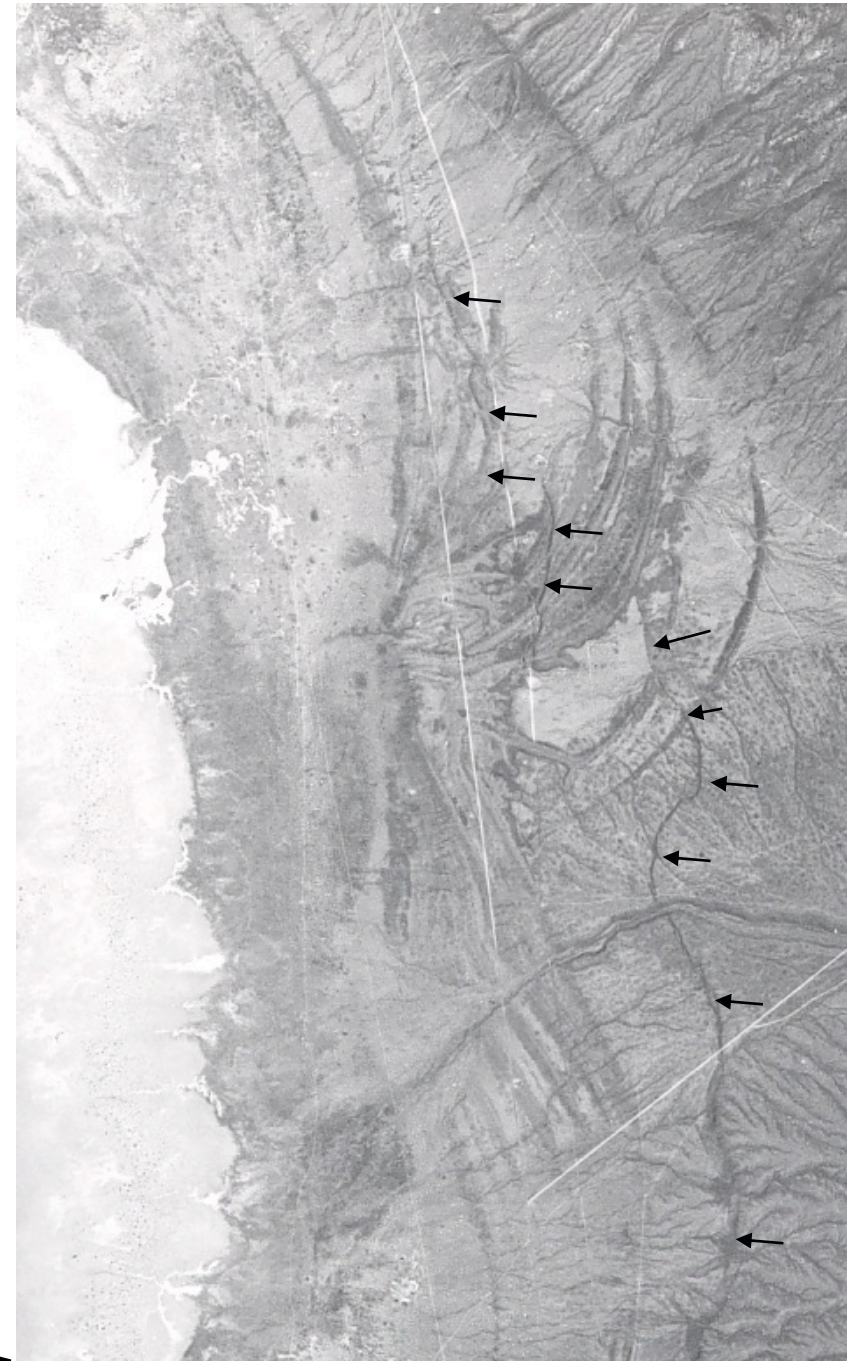
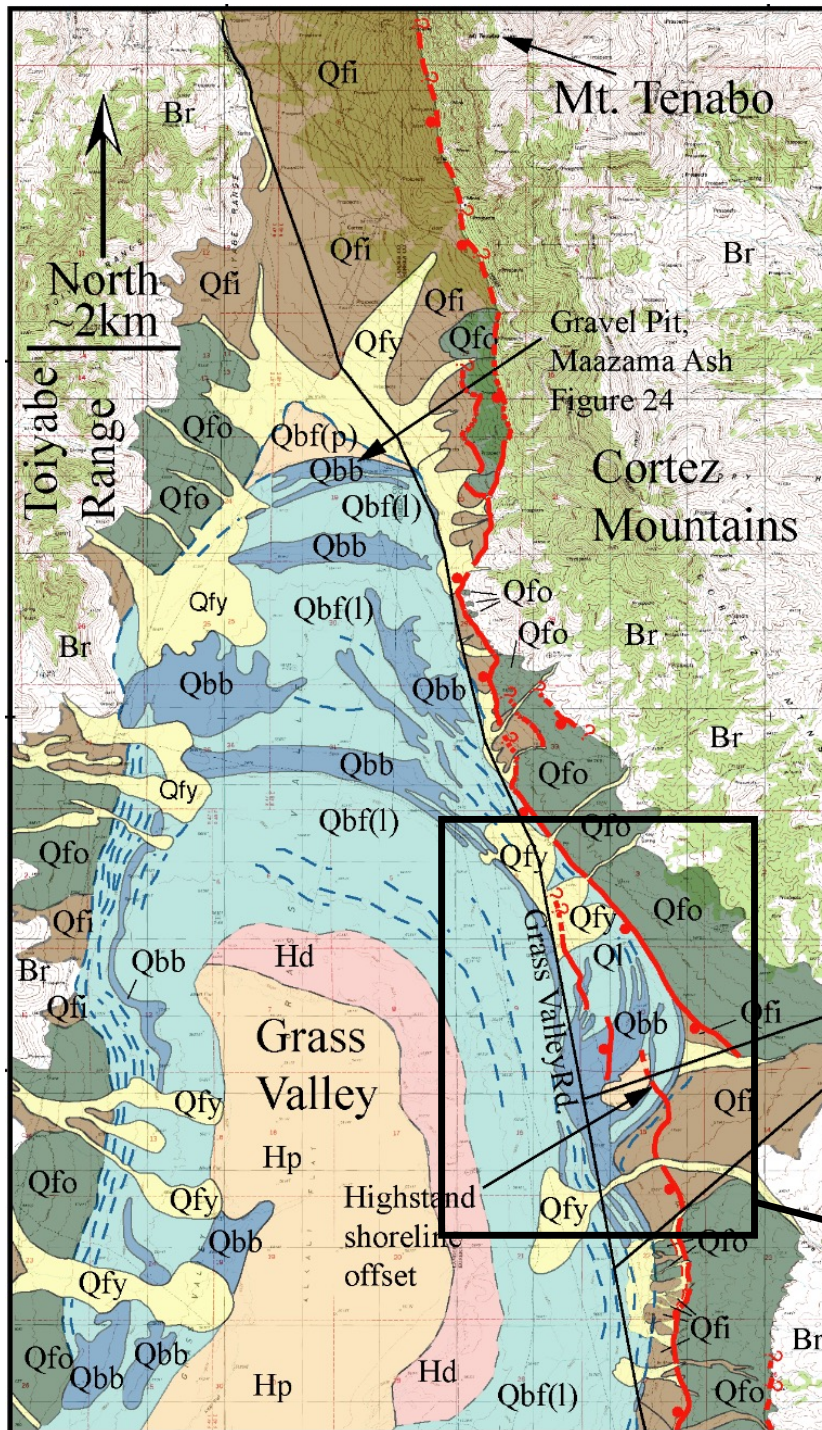




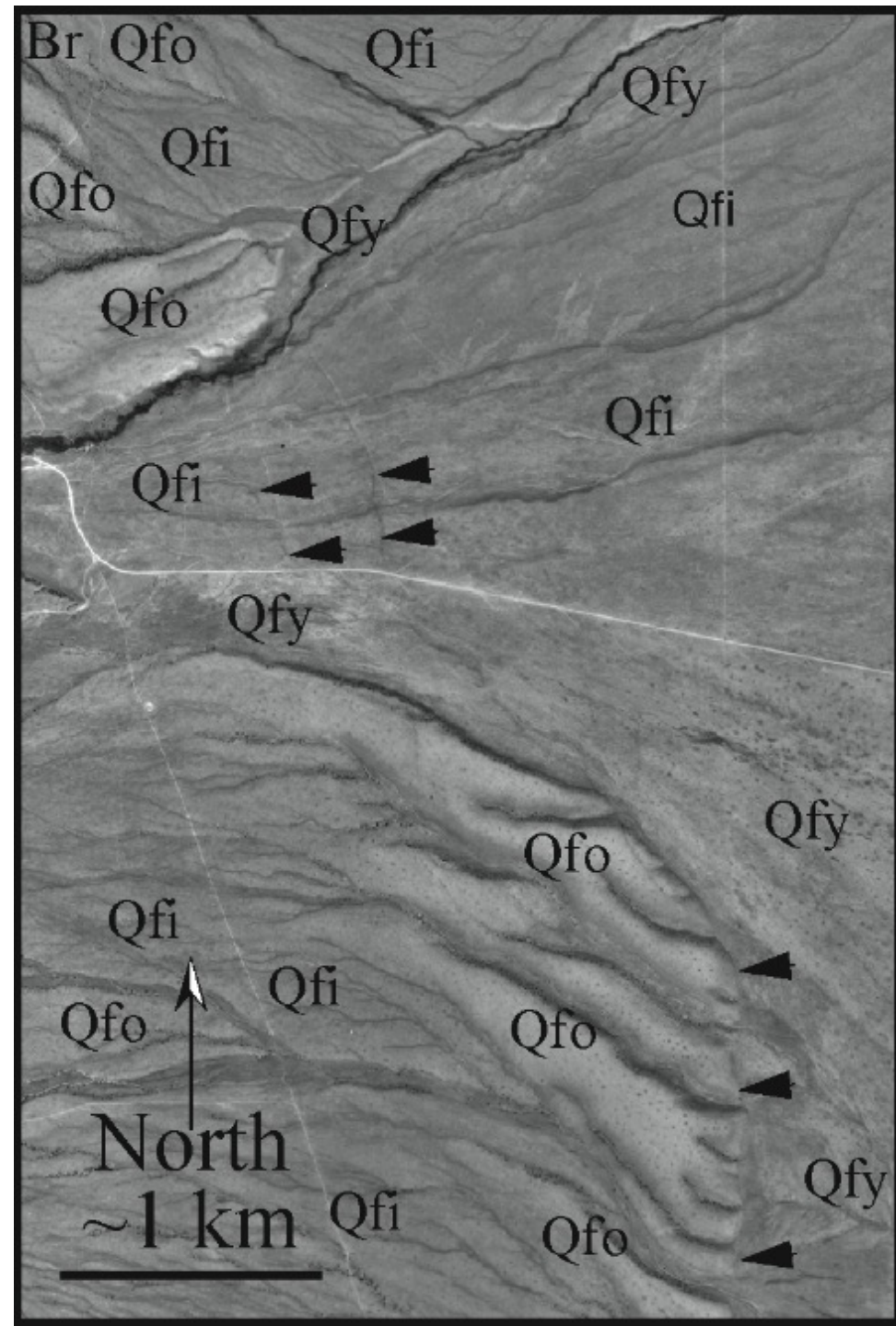
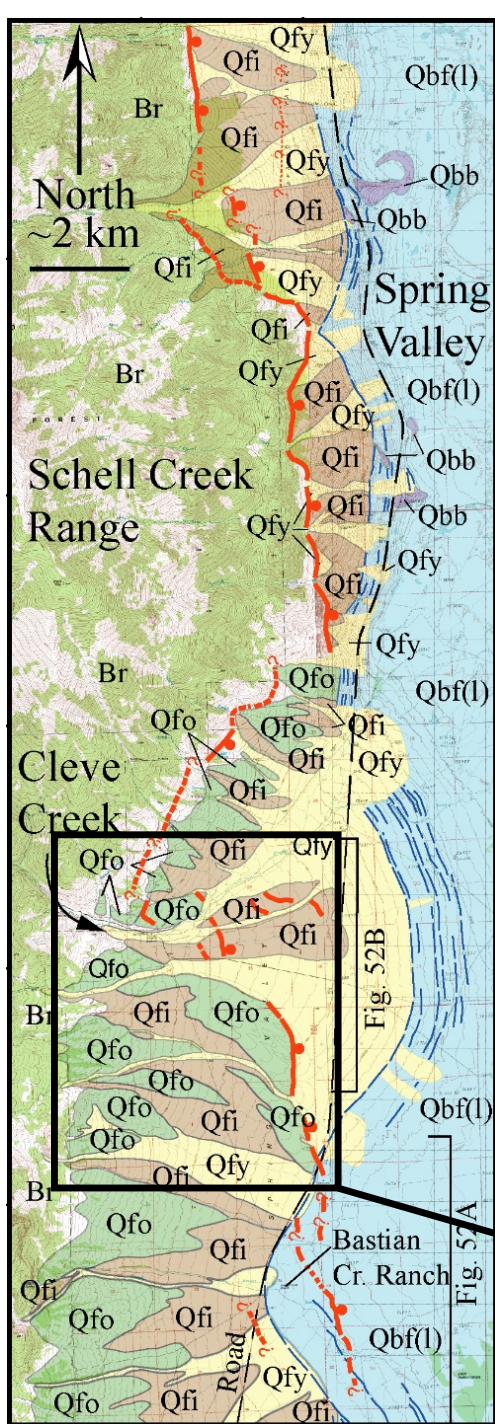
Egan Range

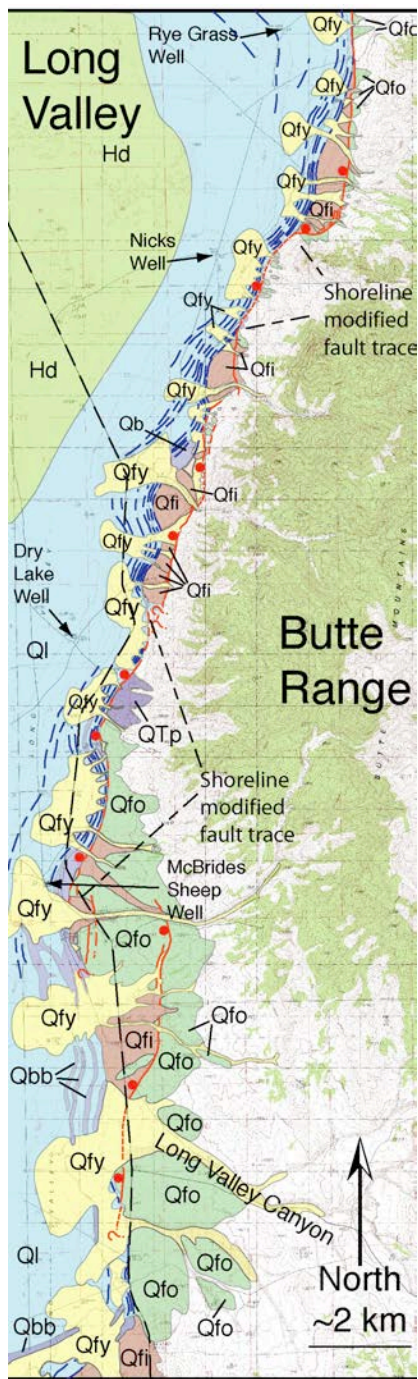


Simpson Park Range

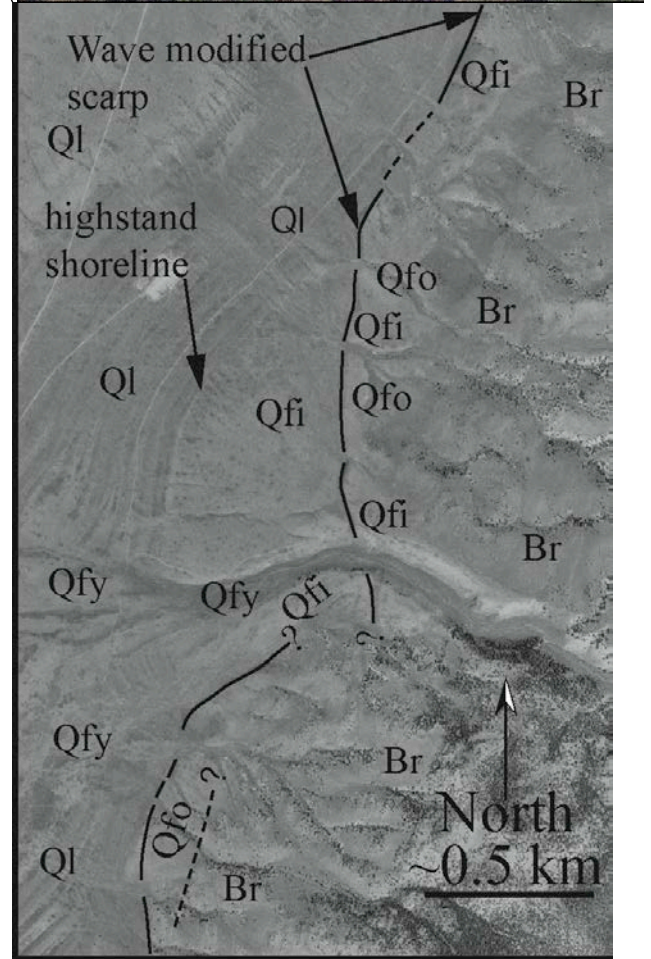
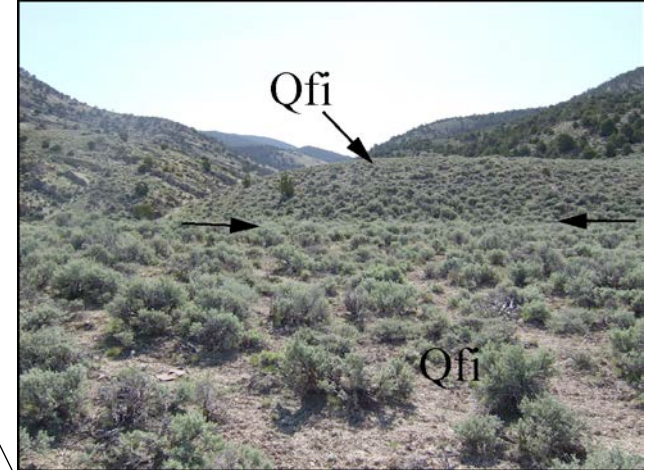
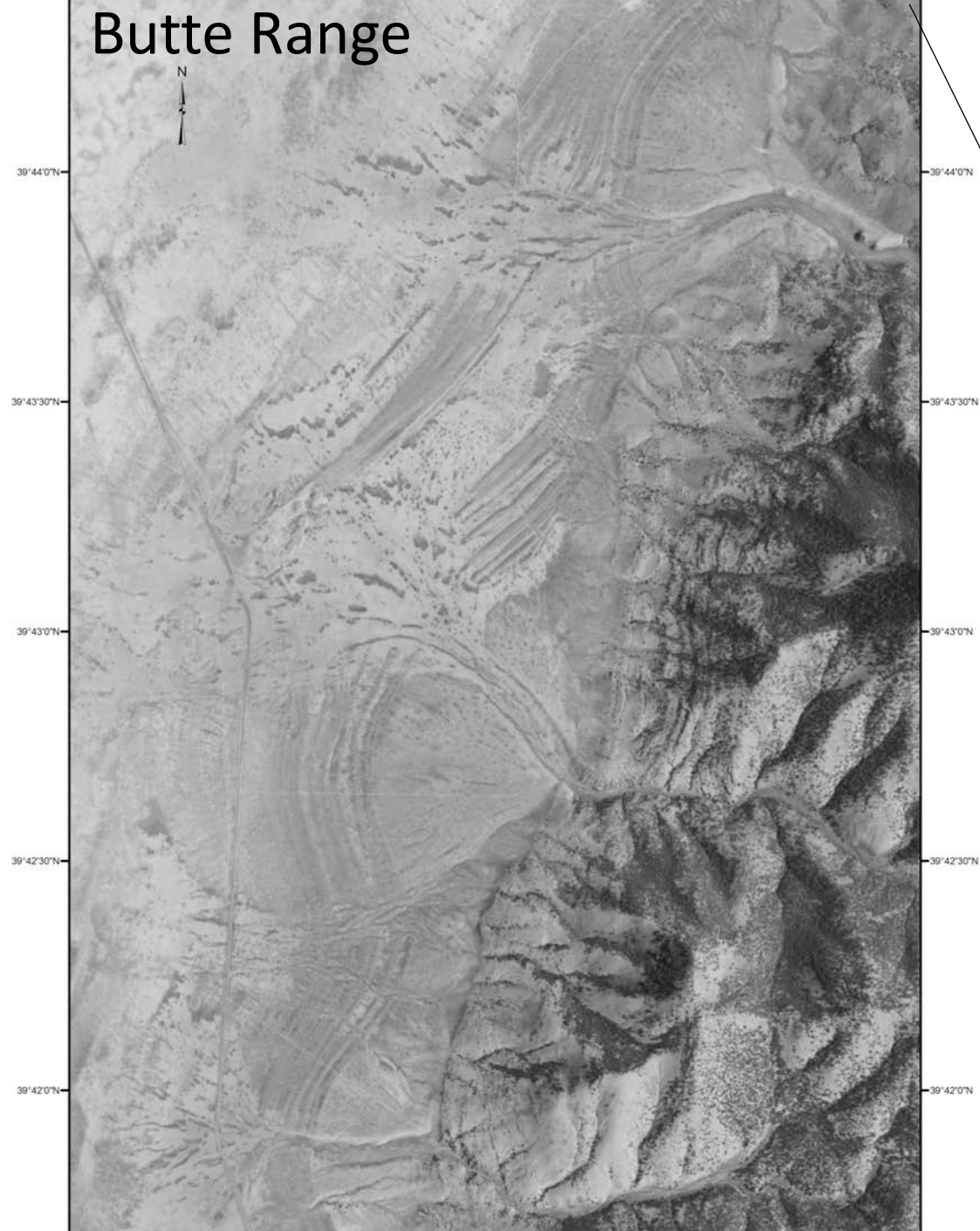


Schell Creek Range

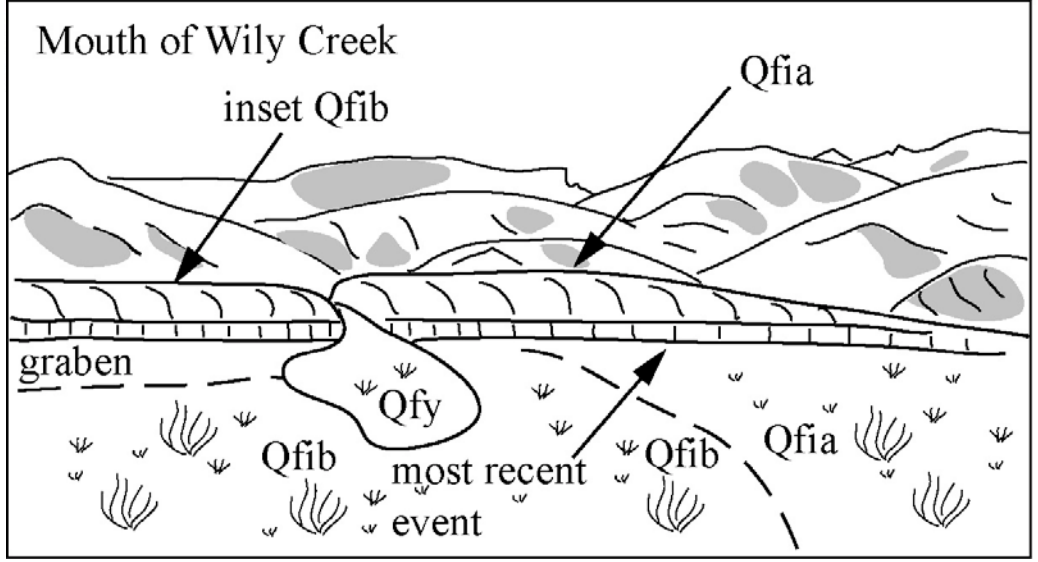
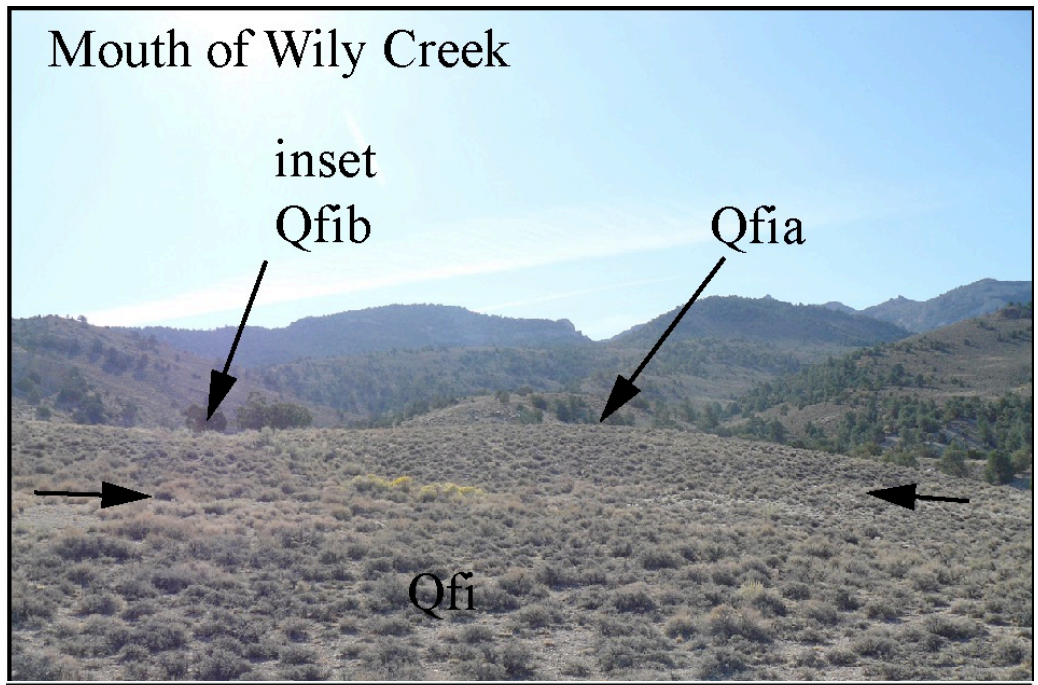




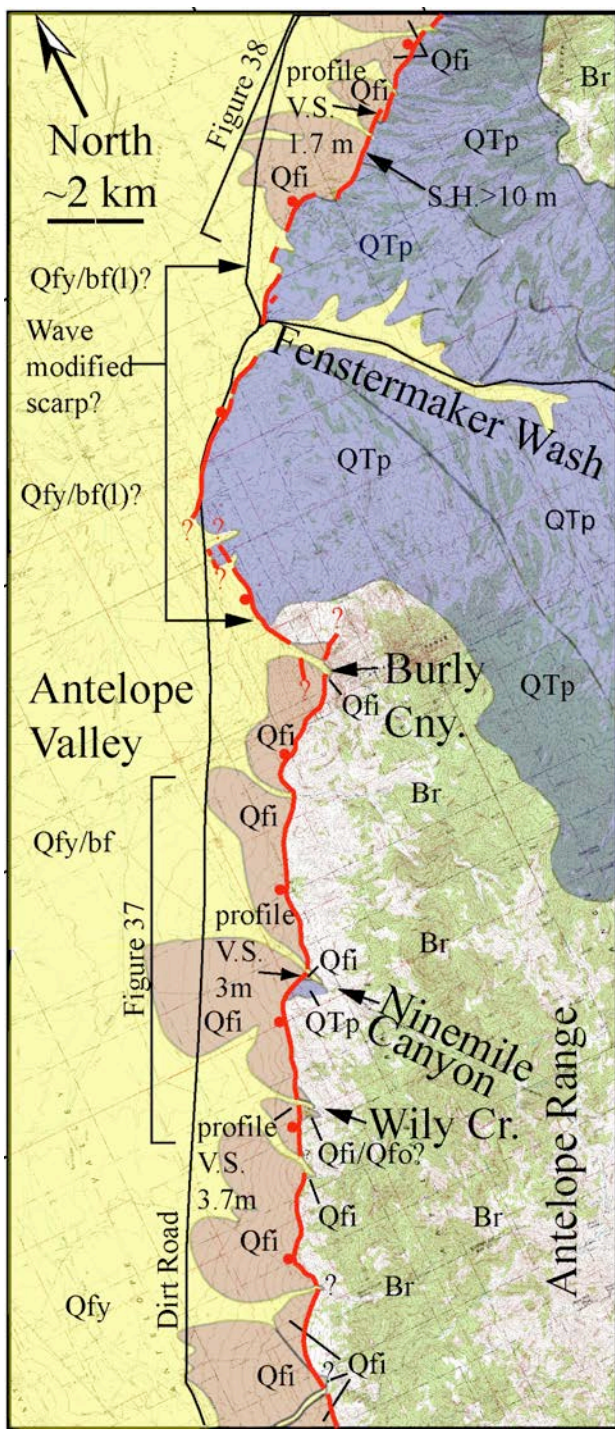
Butte Range



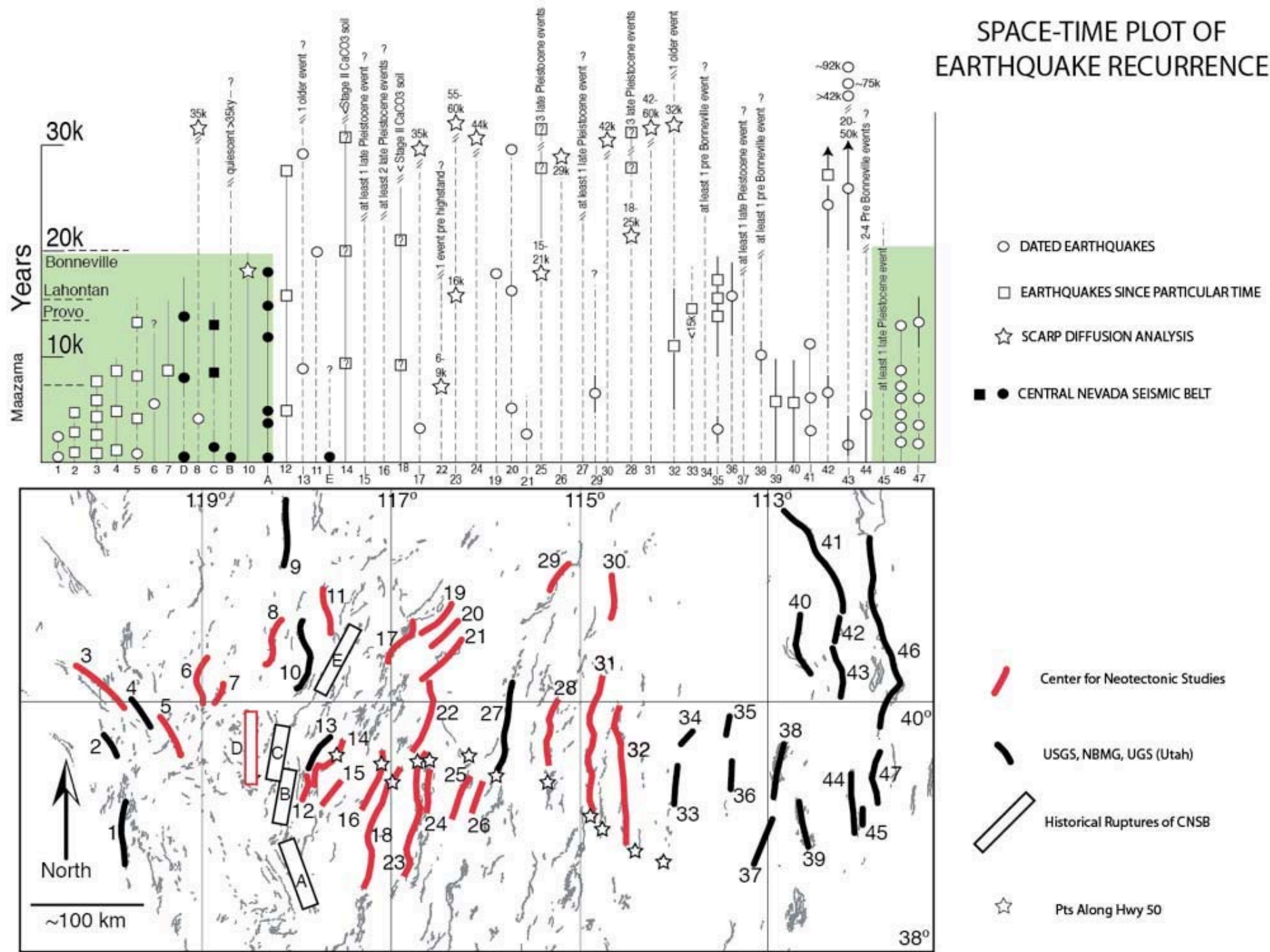
Antelope Range



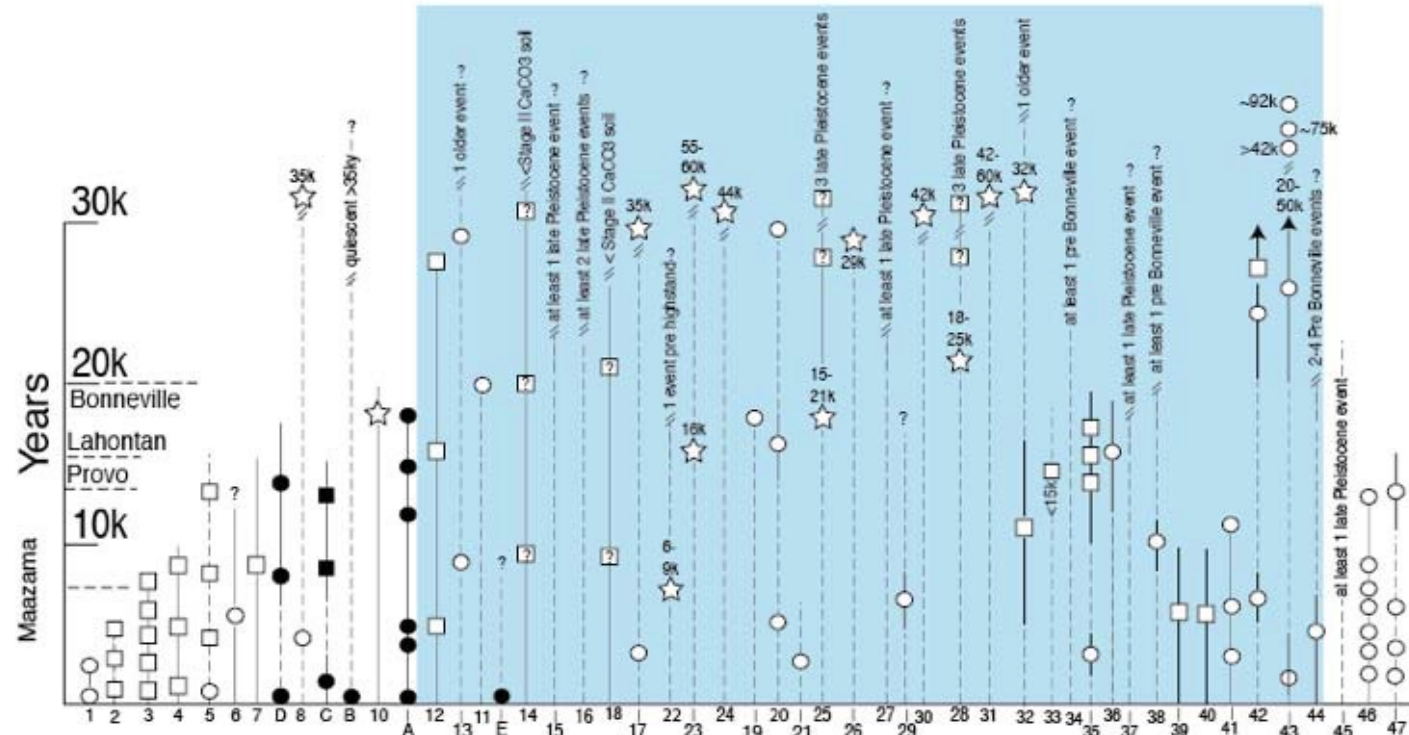
3 events recorded in scarp.



SPACE-TIME PLOT OF EARTHQUAKE RECURRENCE



SPACE-TIME PLOT OF EARTHQUAKE RECURRENCE



- DATED EARTHQUAKES
- EARTHQUAKES SINCE PARTICULAR TIME
- ☆ SCARP DIFFUSION ANALYSIS
- CENTRAL NEVADA SEISMIC BELT

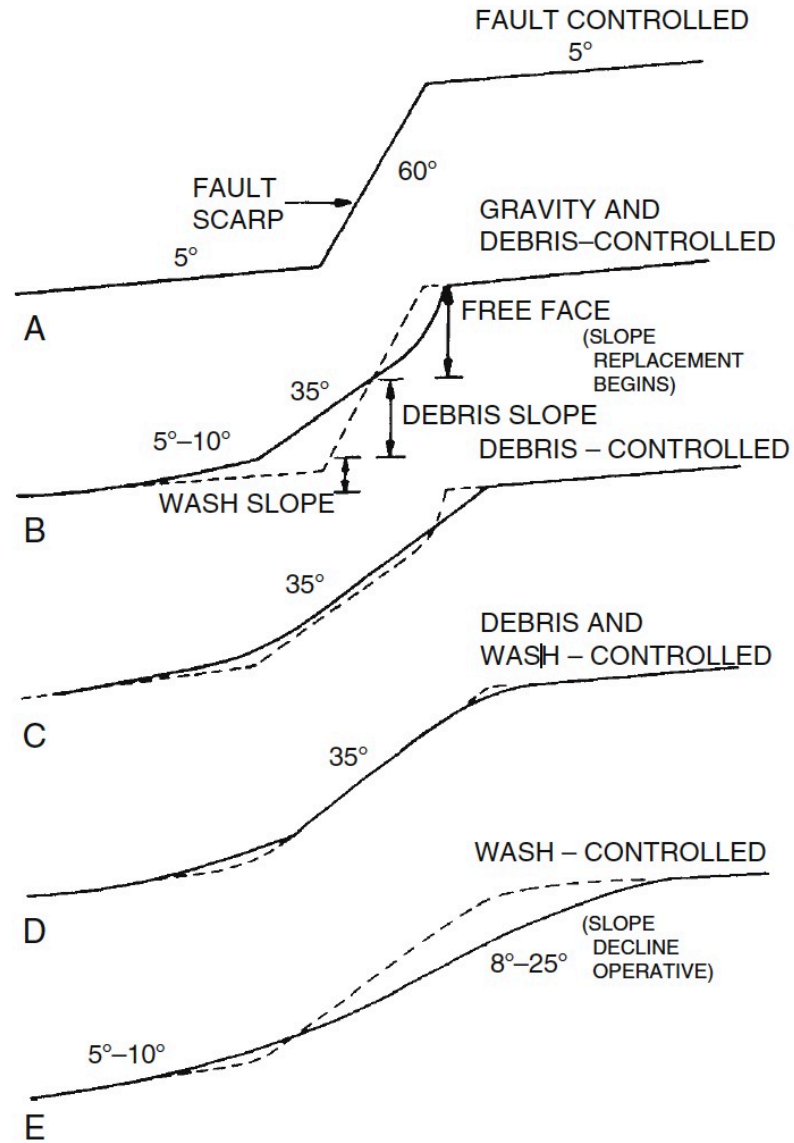
Fault	Vertical Separation (60 ky)	Extension	Strike	E-W Component of Extension
13. Clan Alpine	6 m	3.5 m	27°	3.1 m
·	·	·	·	·
·	·	·	·	·
SUM	91.3 m	58.5 m		48.4 m

Fault	Vertical Separation (20 ky)	Extension	Strike	E-W Component of Extension
13. Clan Alpine	1.2 m	0.7 m	27°	0.6 m
·	·	·	·	·
·	·	·	·	·
SUM	35.4 m	24.5 m		19.3 m

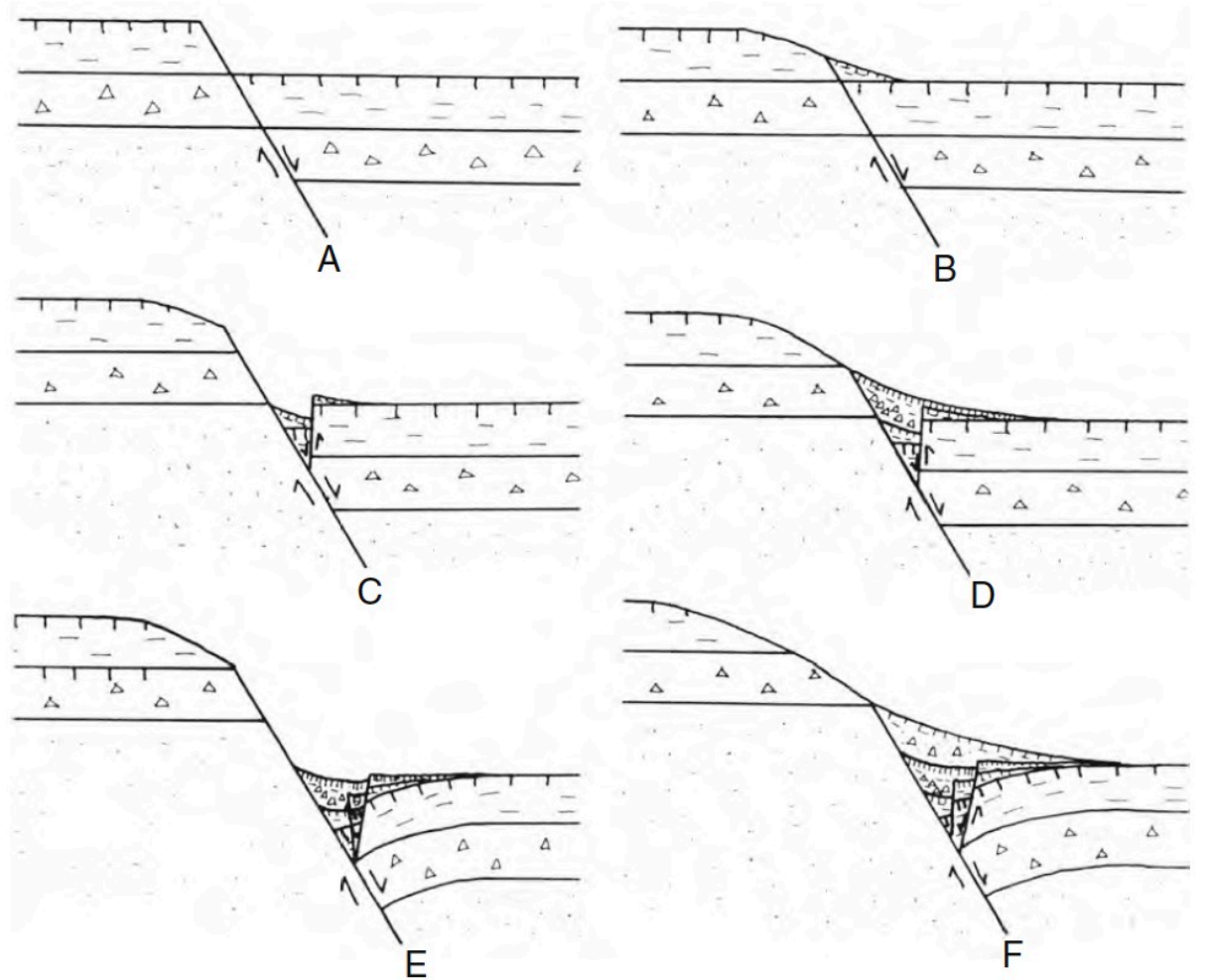
48.4 m / 60 ky
= **0.8 mm/yr**

19.3 m / 60 ky
= **1.0 mm/yr**

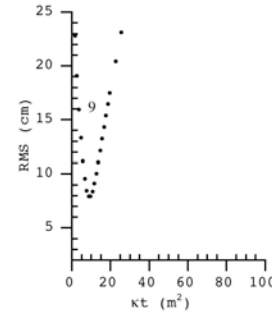
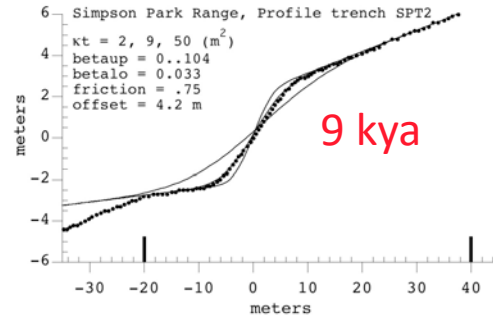
Colluvial facies related to scarp degradation



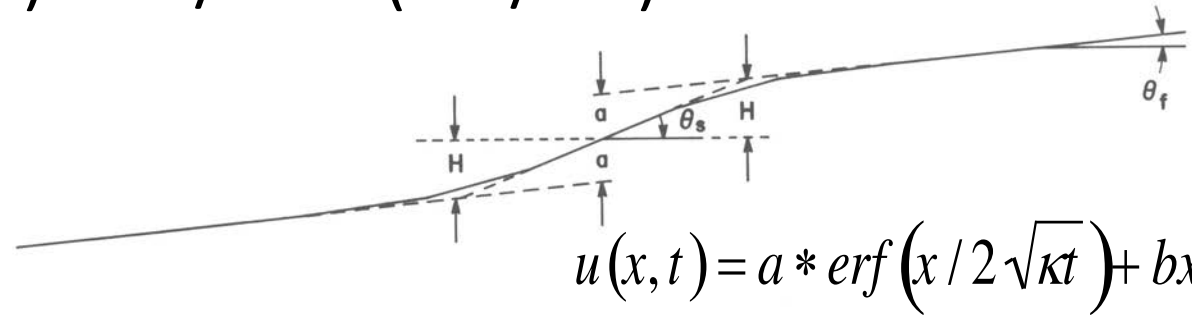
Subsurface colluvial stratigraphy



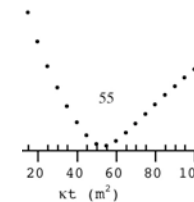
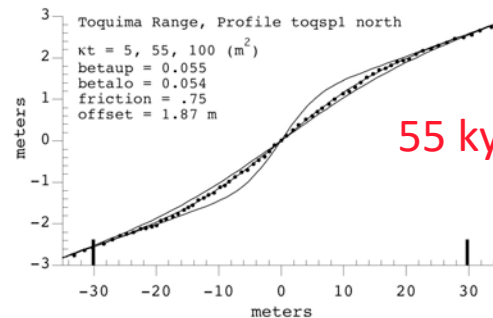
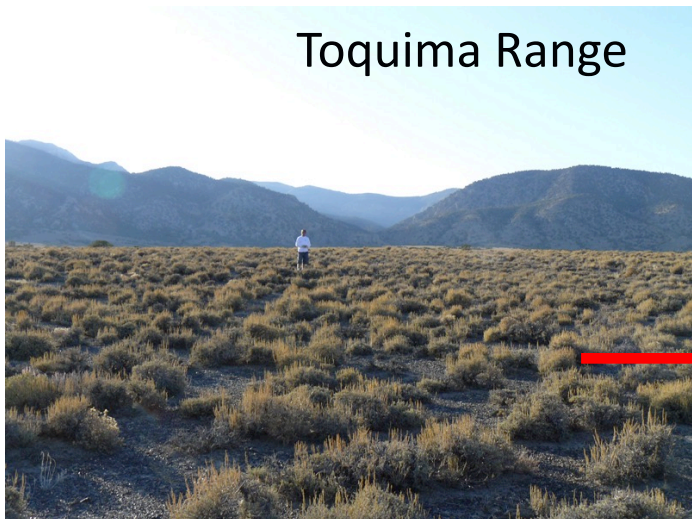
Diffusion Analyses of Scarp Profiles



$$u(x,t) = \frac{du}{dt} - \kappa \left(\frac{d^2u}{dx^2} \right) = 0$$



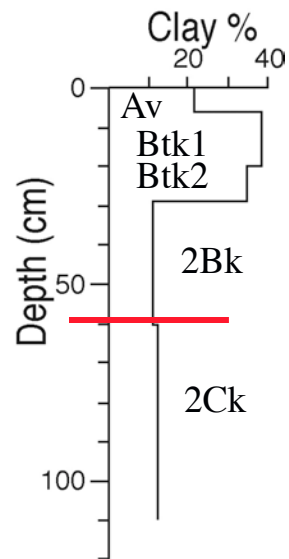
Knowing slopes, offsets, and estimate of mass diffusivity (m^2/time) Age of scarp can be estimated



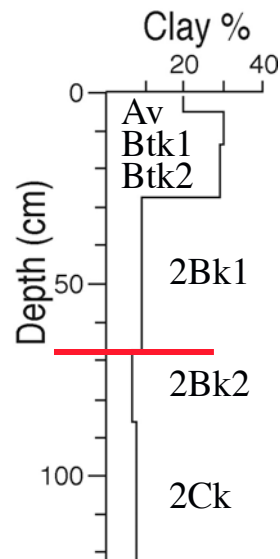
Soil pit exposures and clay % depth profiles

Used to correlate map units and better understand the age of faulted deposits

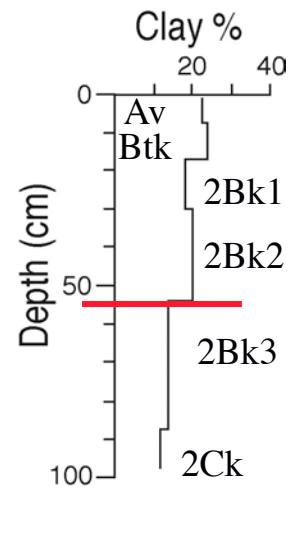
Desatoya



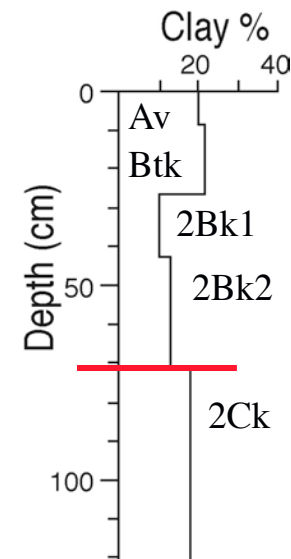
Toiyabe



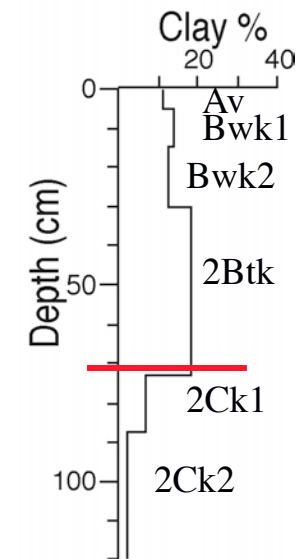
Butte



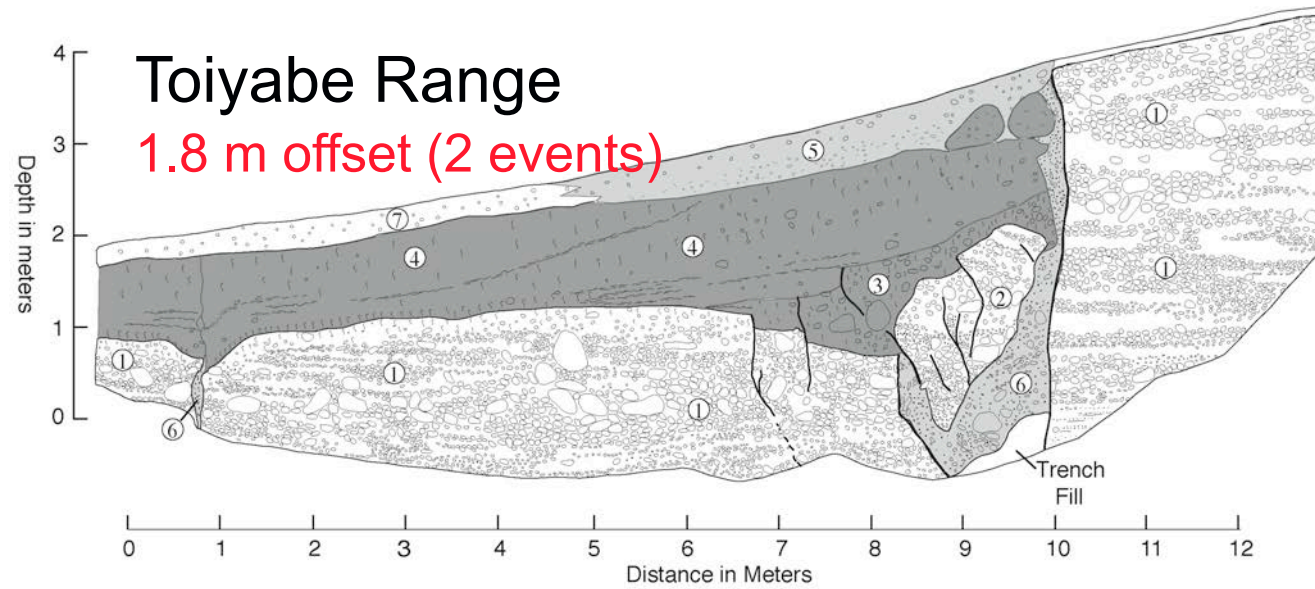
Egan



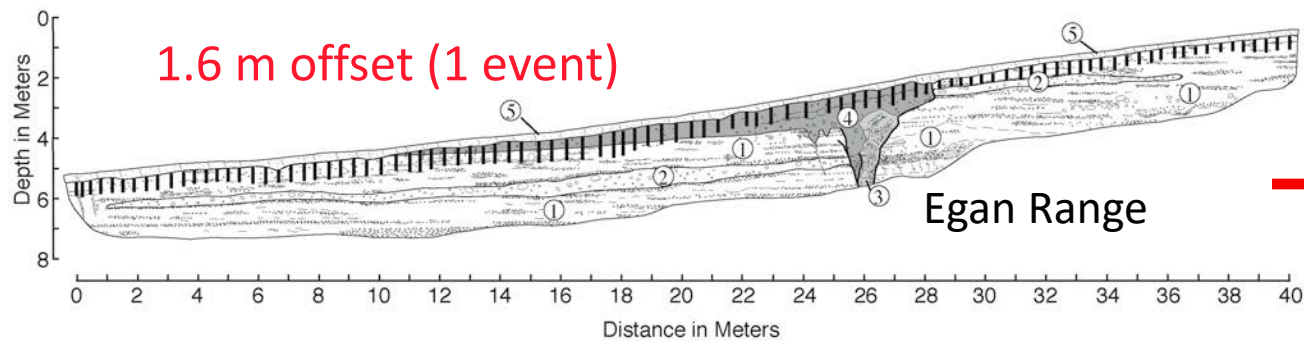
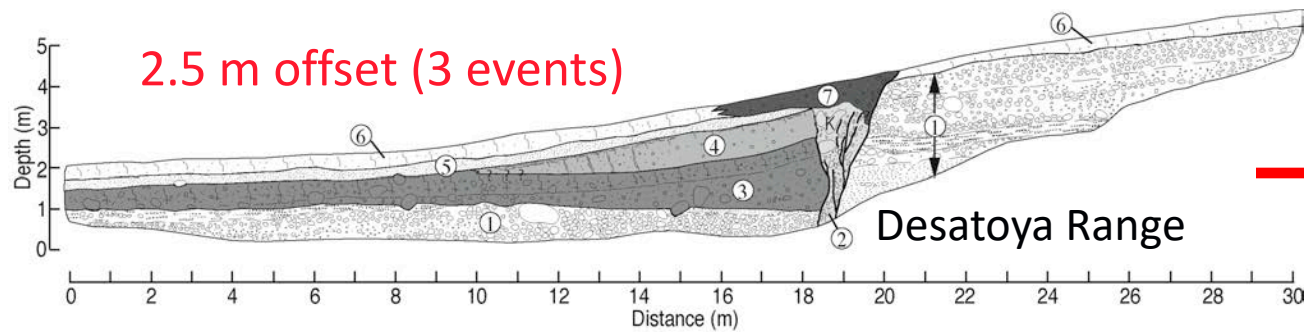
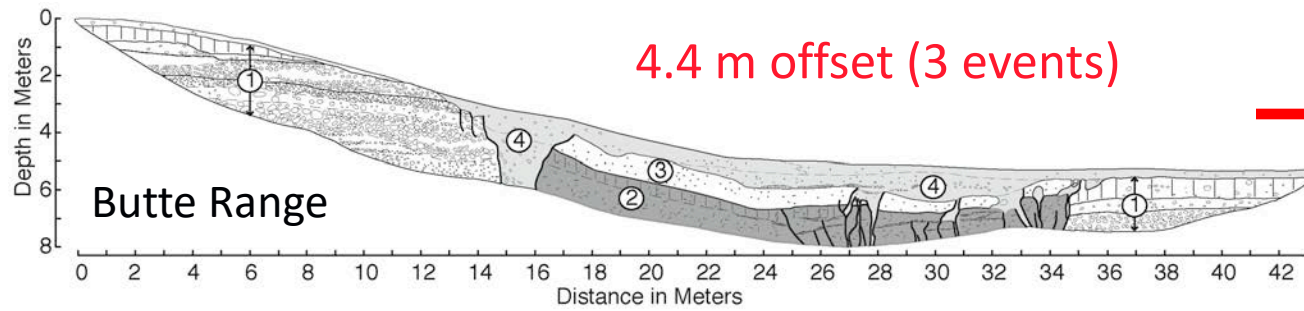
Schell Creek

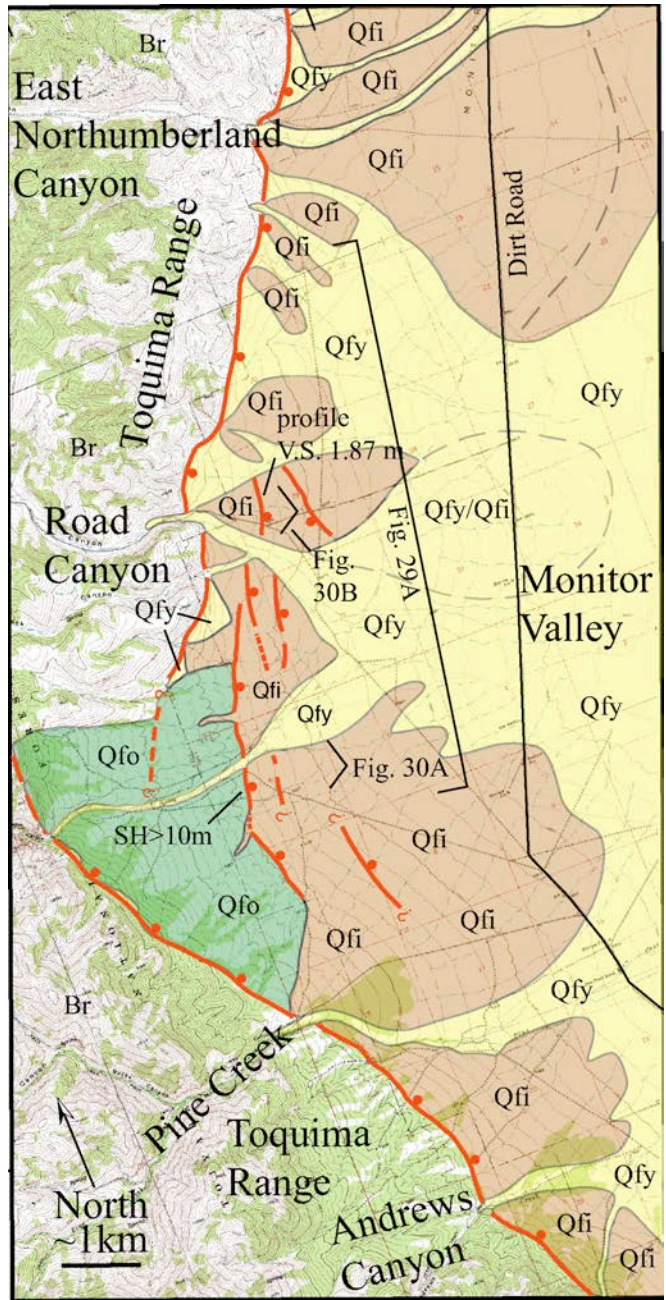


Trenching



Trench Exposures





Some extra maps

