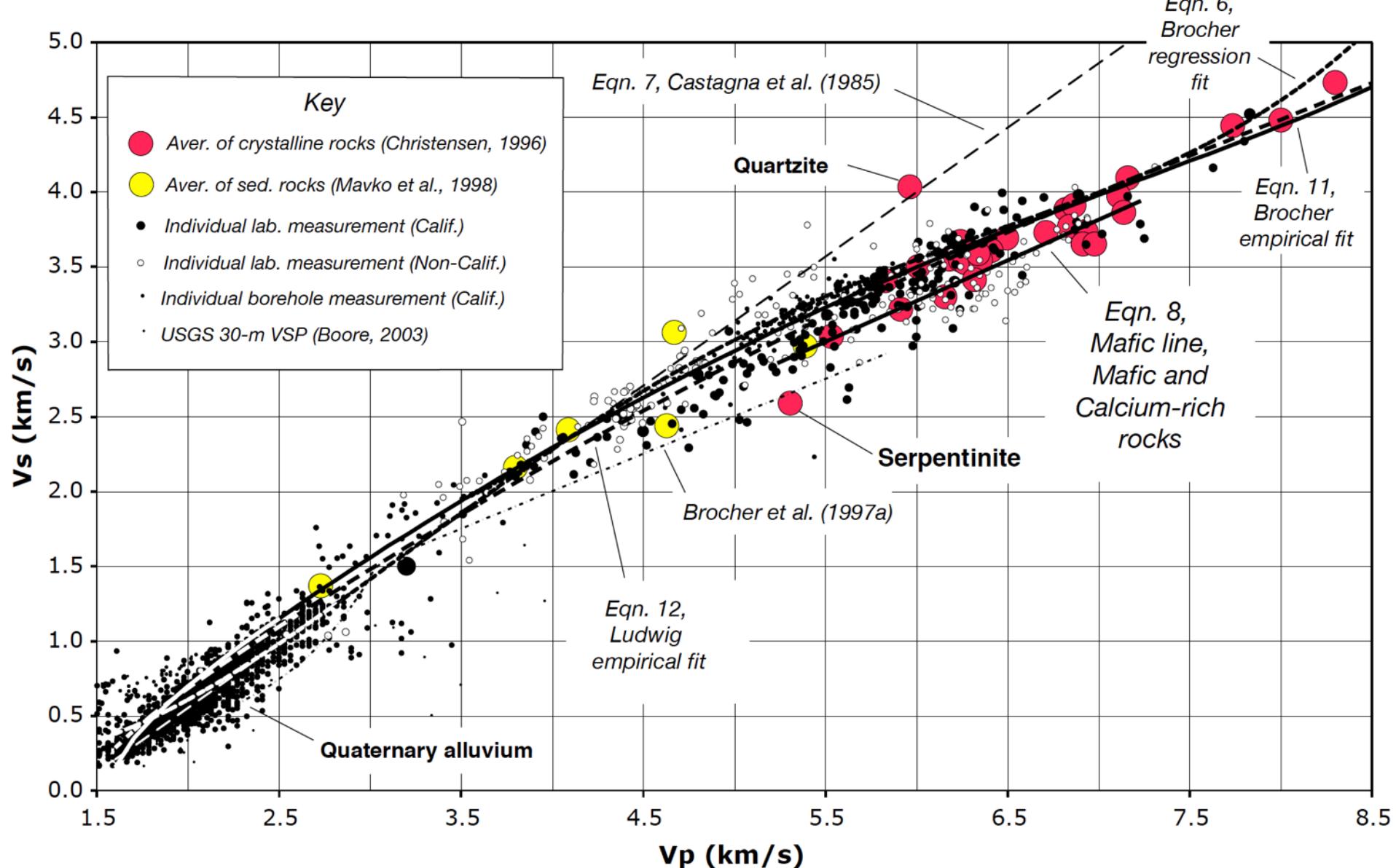


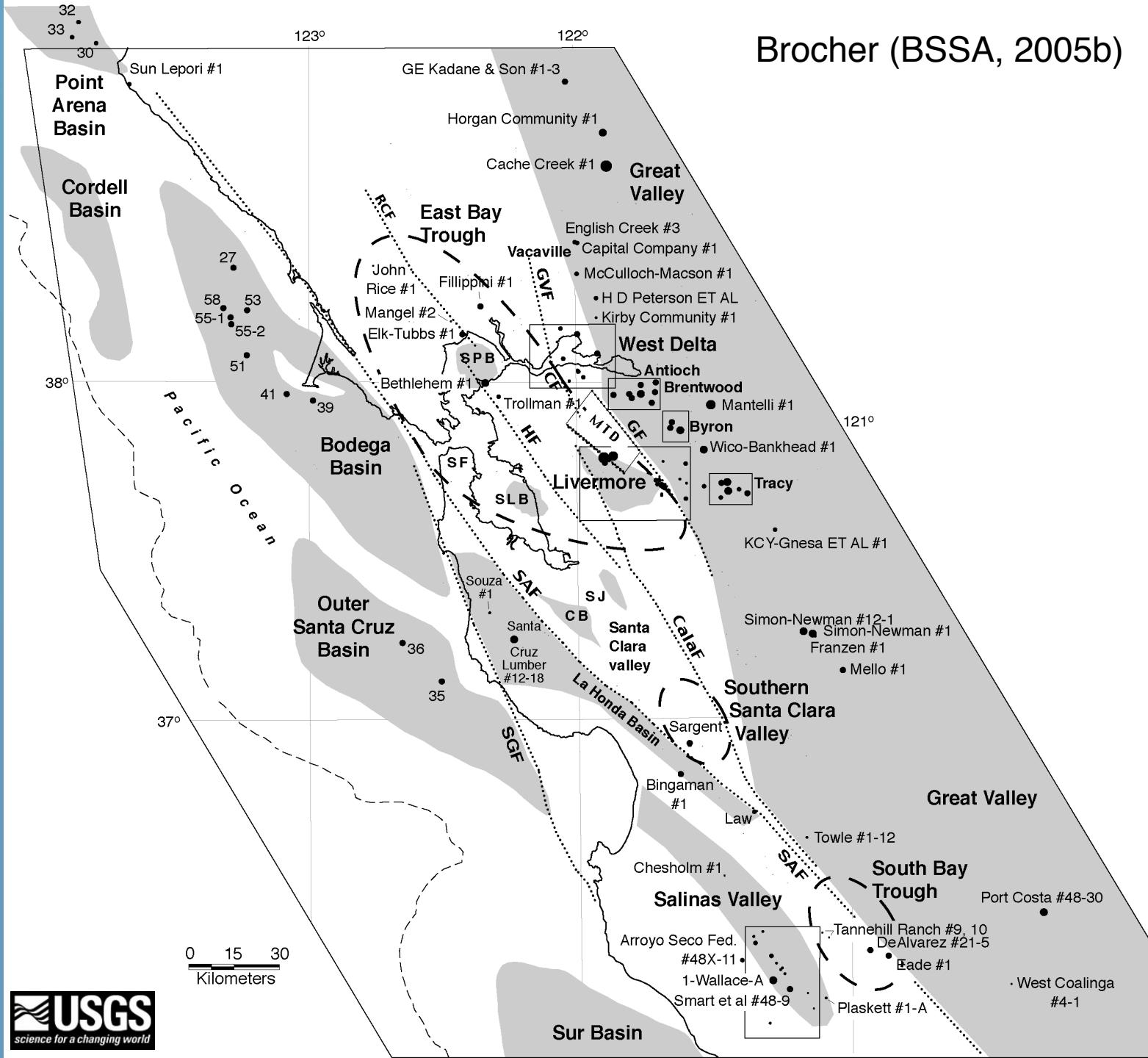
# **Elastic Properties of the 2005 USGS Northern California Seismic Velocity Model**

**Tom Brocher, Bob Simpson, Brad Aagaard,  
USGS**

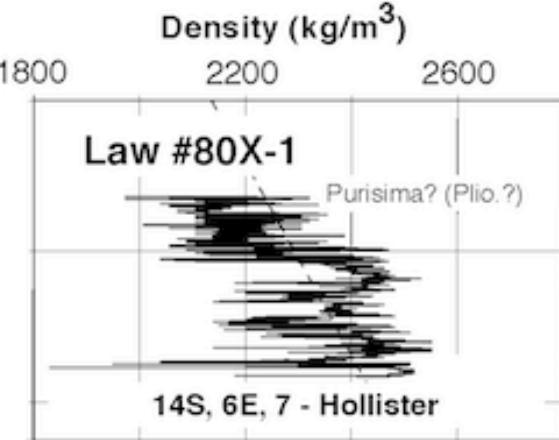
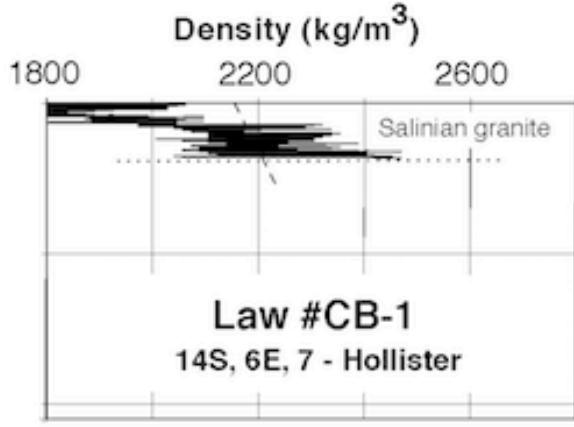
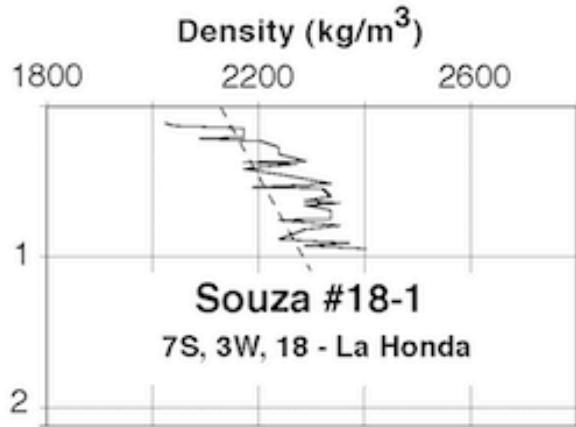
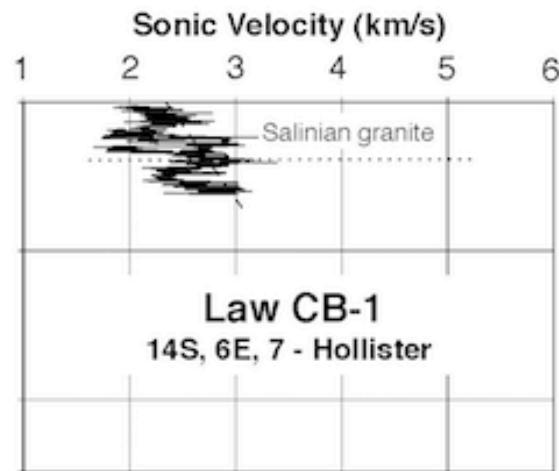
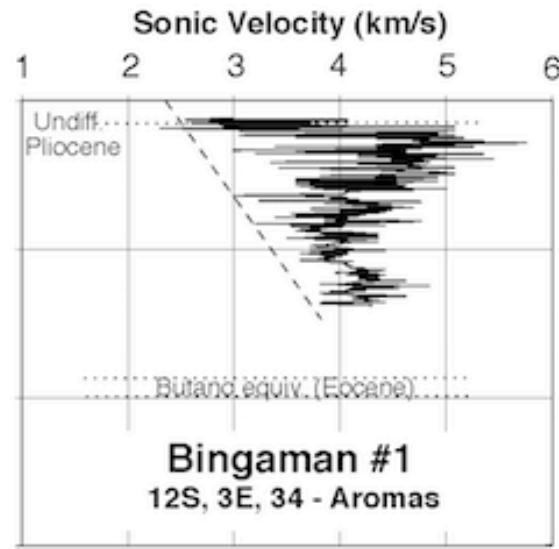
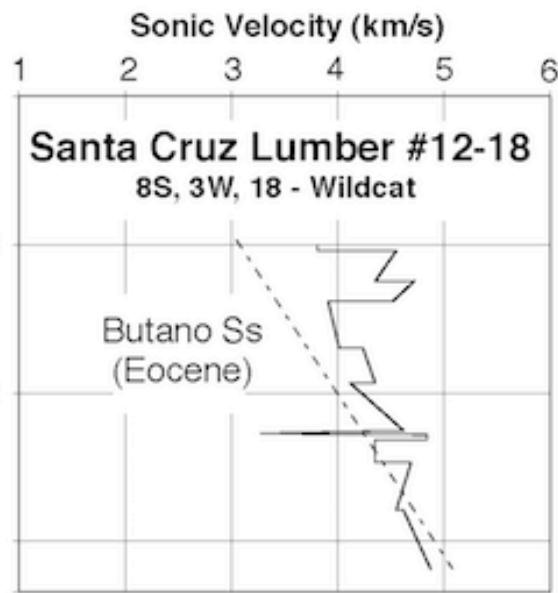
**Research supported by USGS**



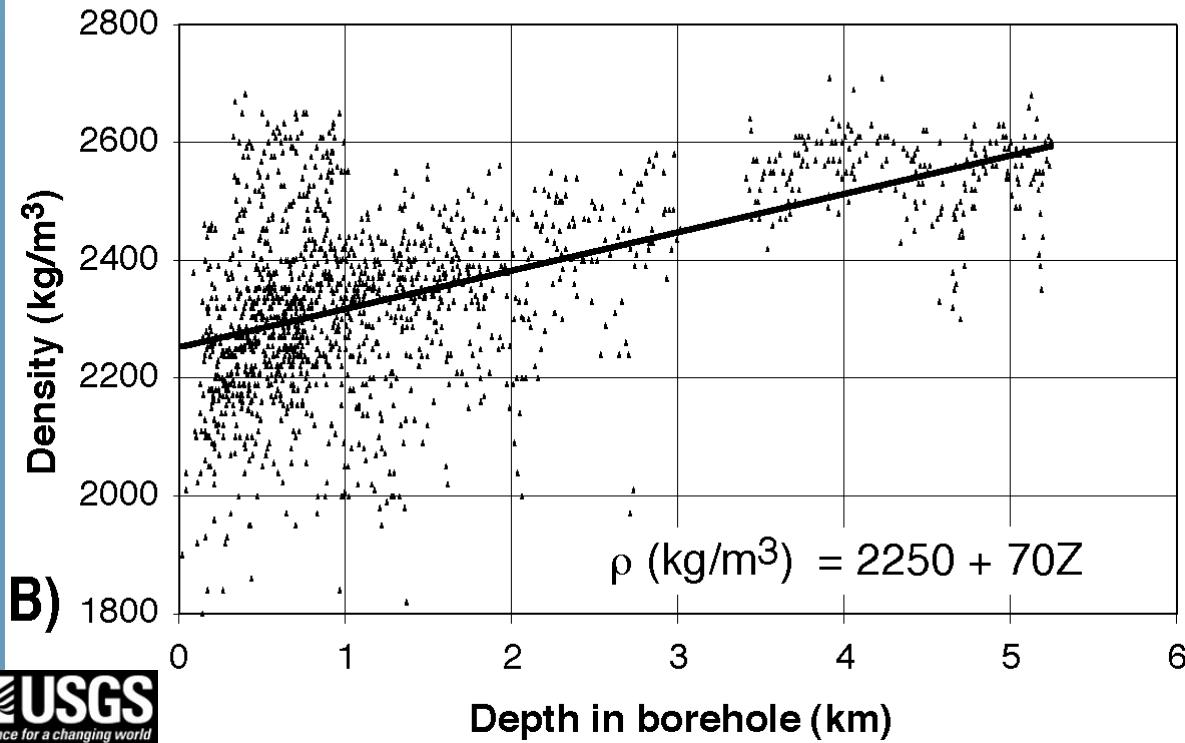
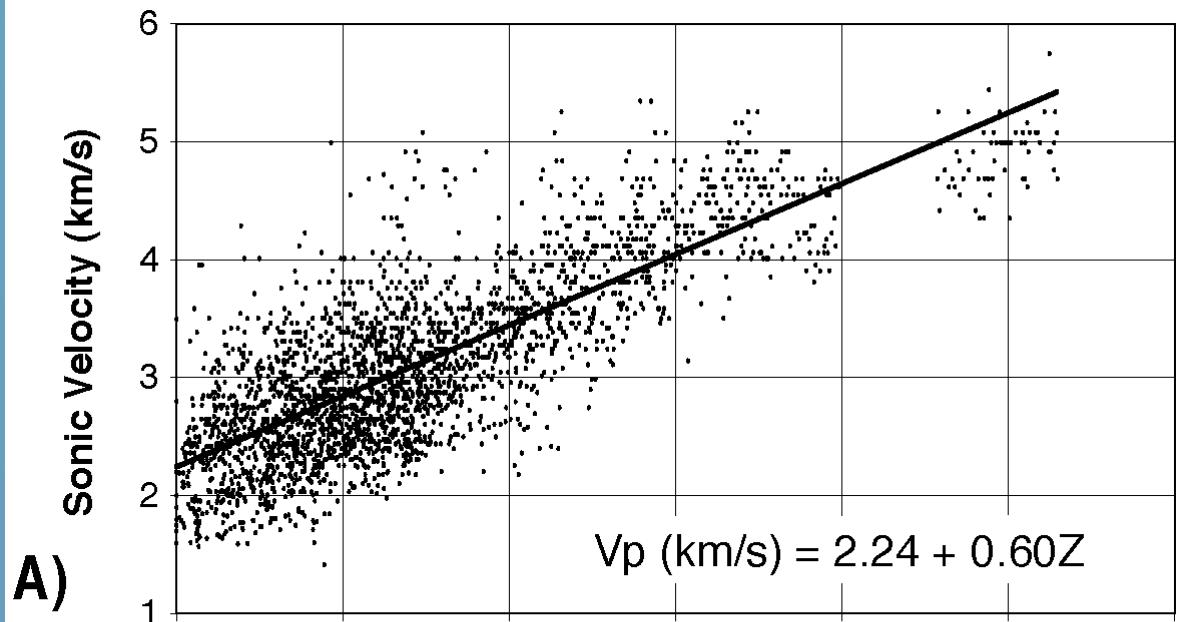
# Brocher (BSSA, 2005b)

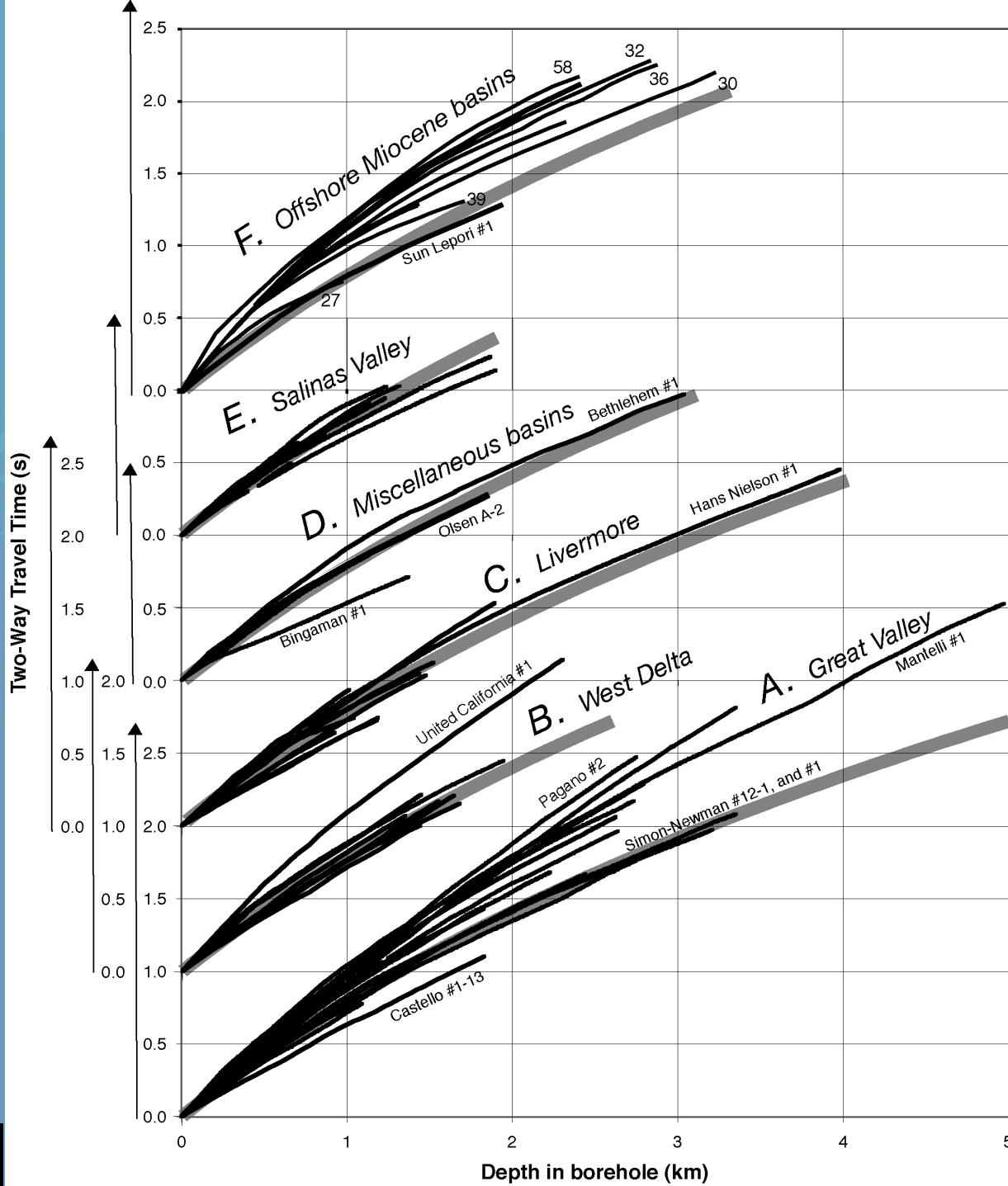


## Geophysical Properties

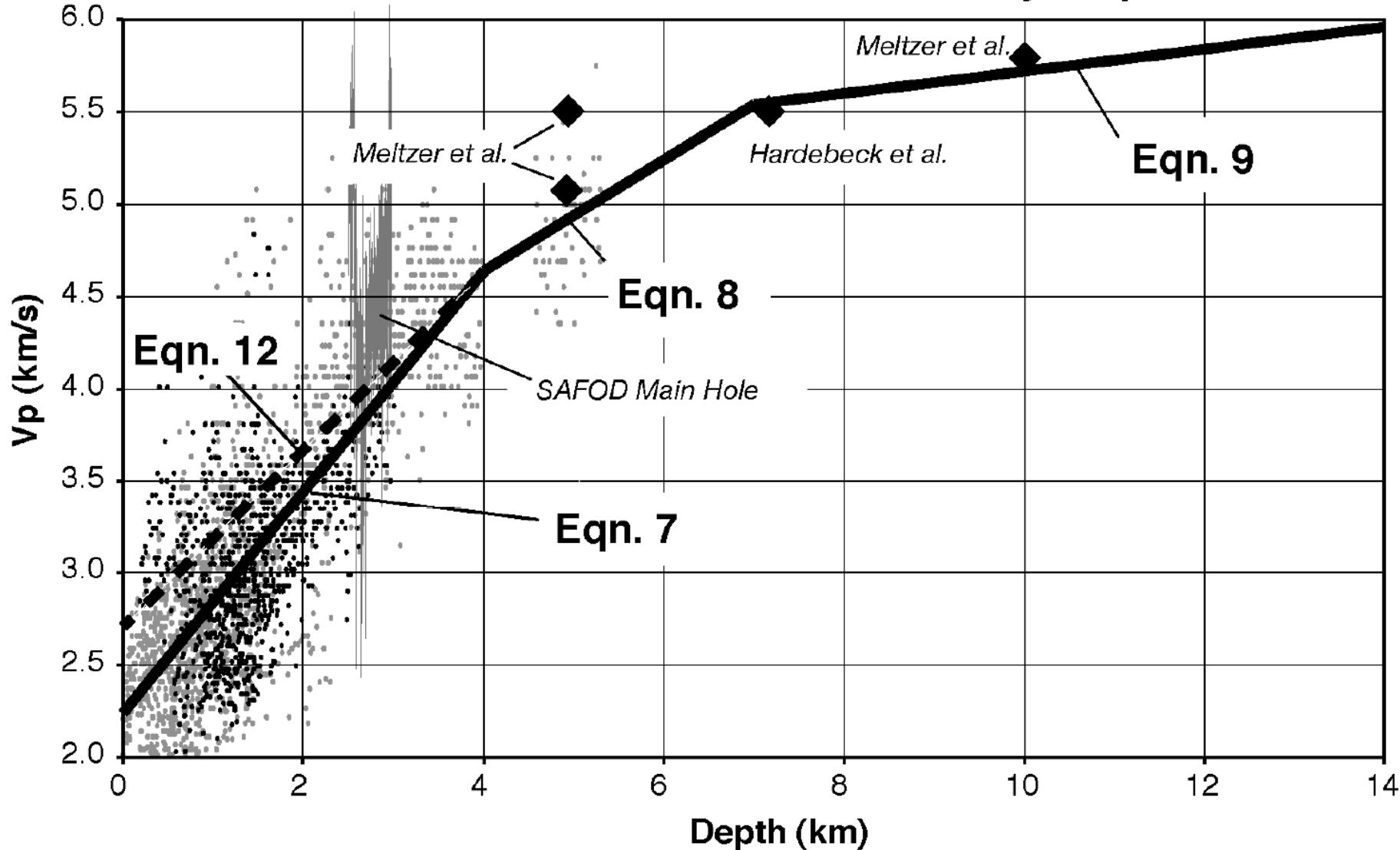


## B) La Honda Basin

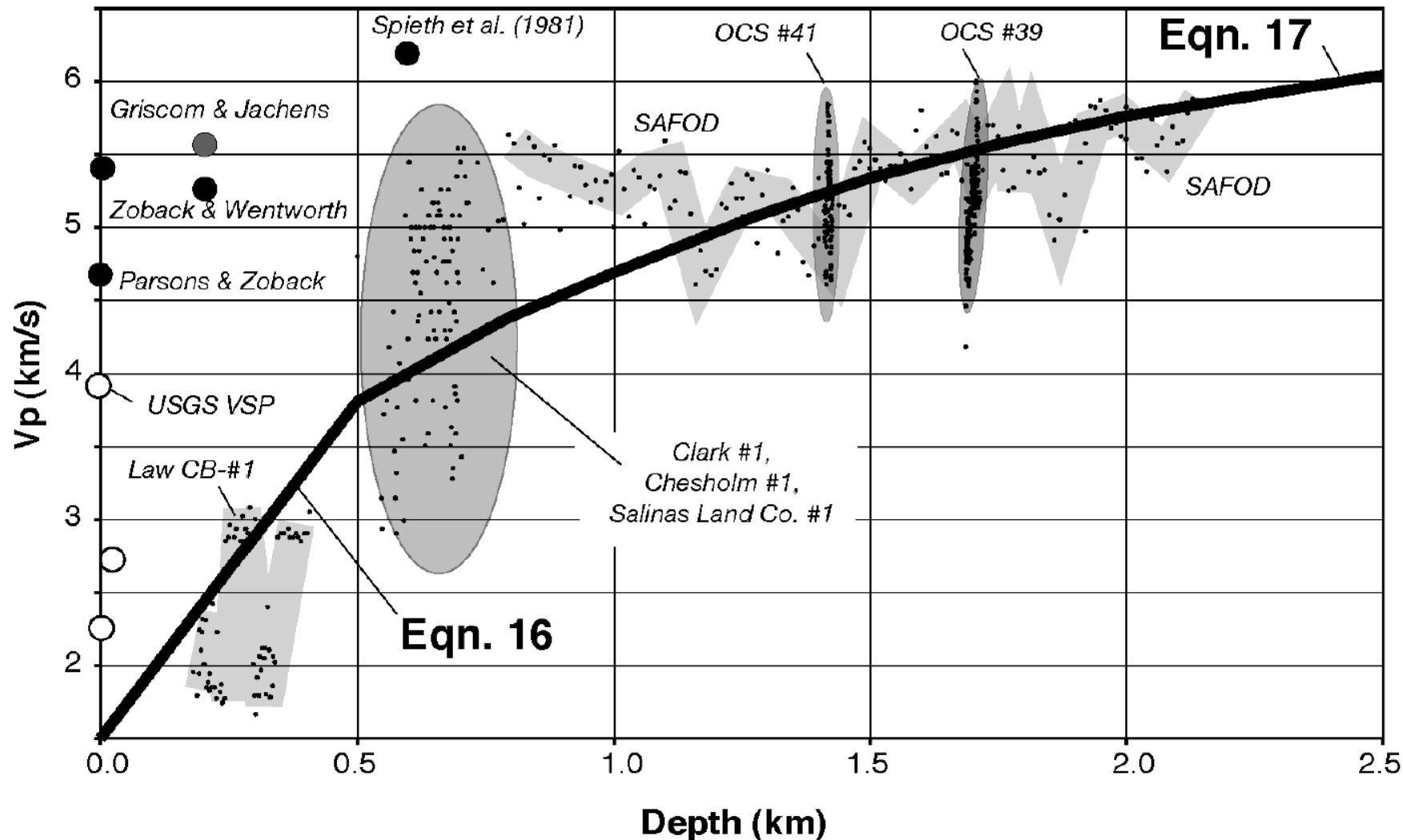




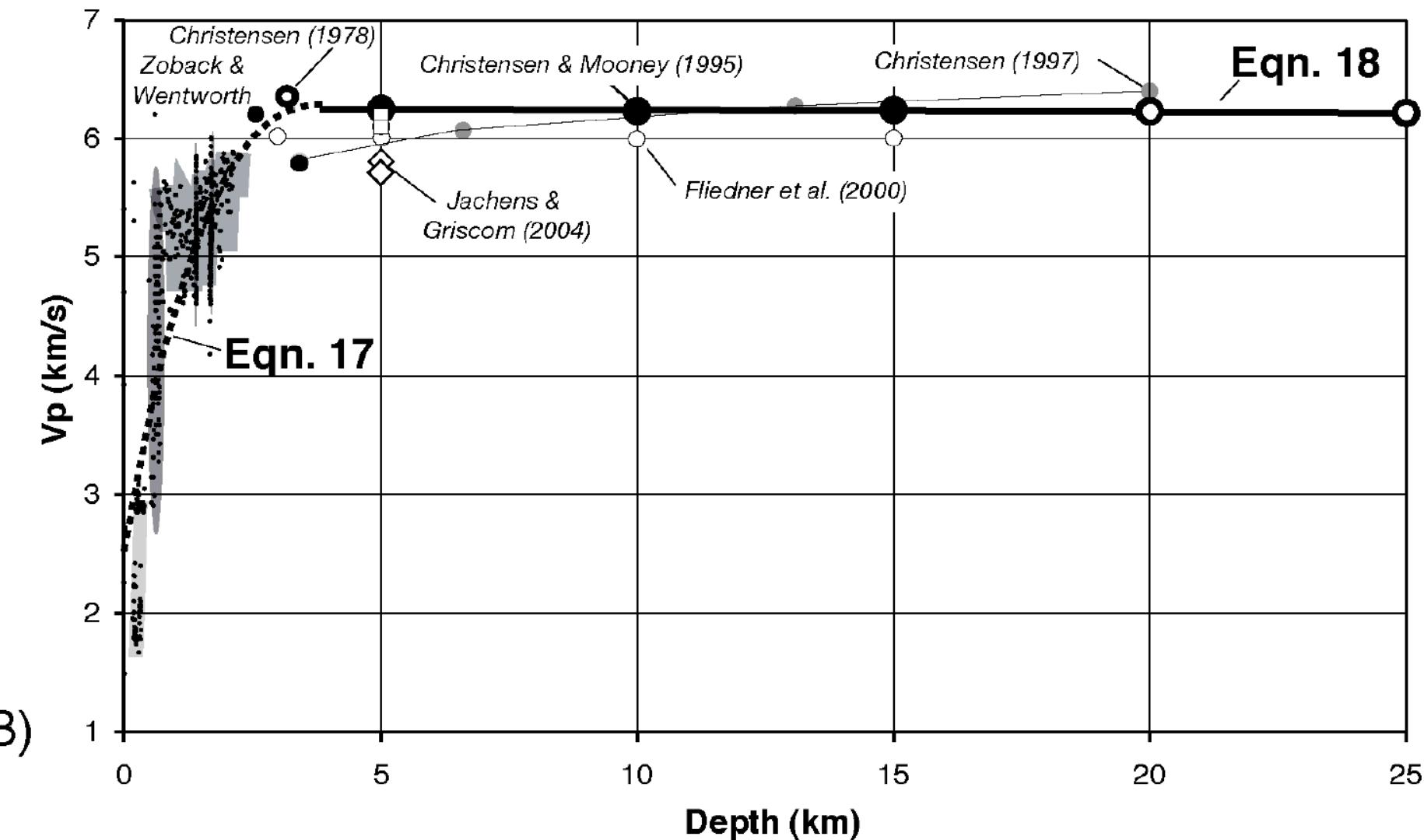
## Older Cenozoic Sed. Rocks/Great Valley Sequence



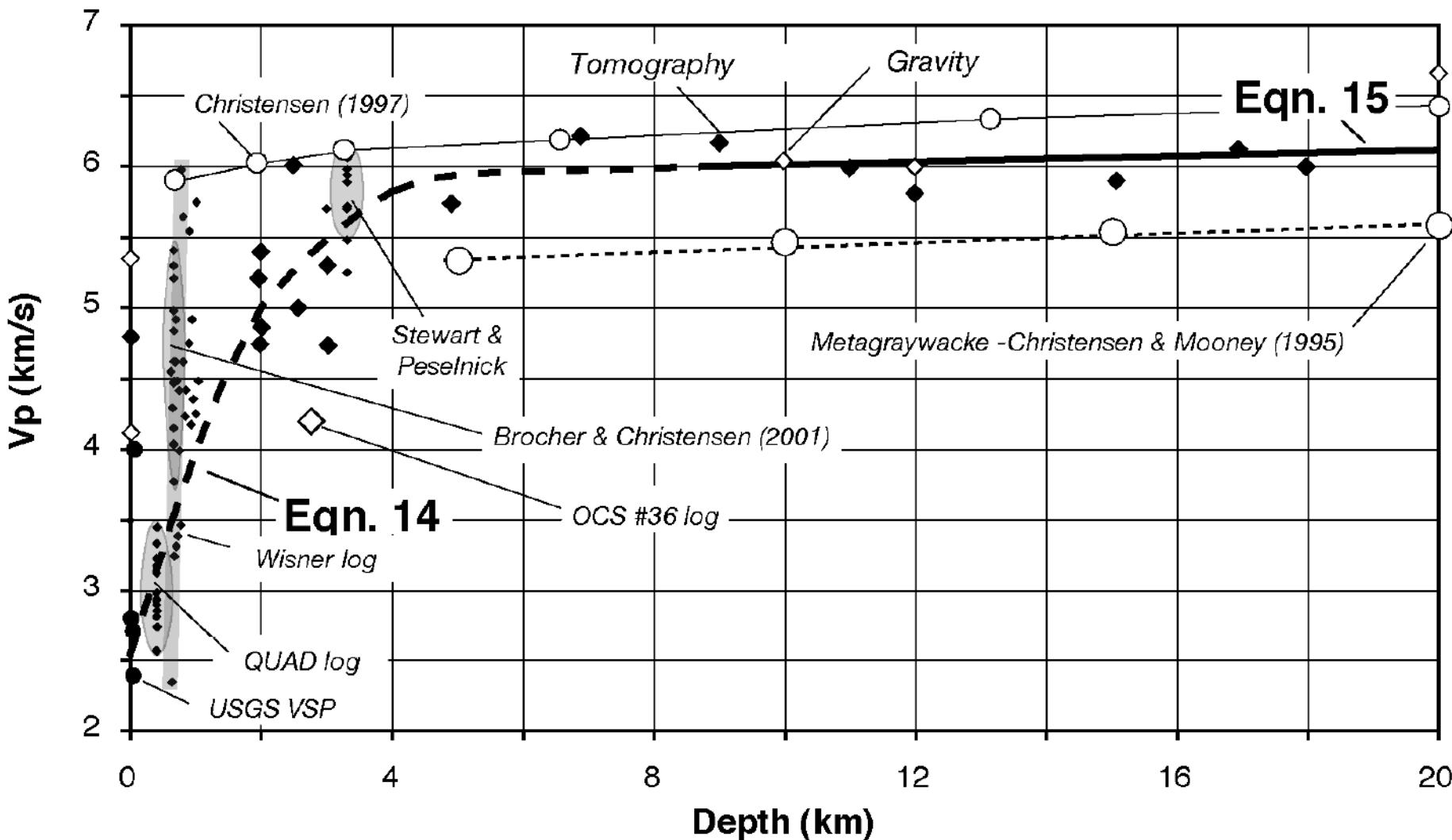
## Granitic rocks - mainly sonic log data



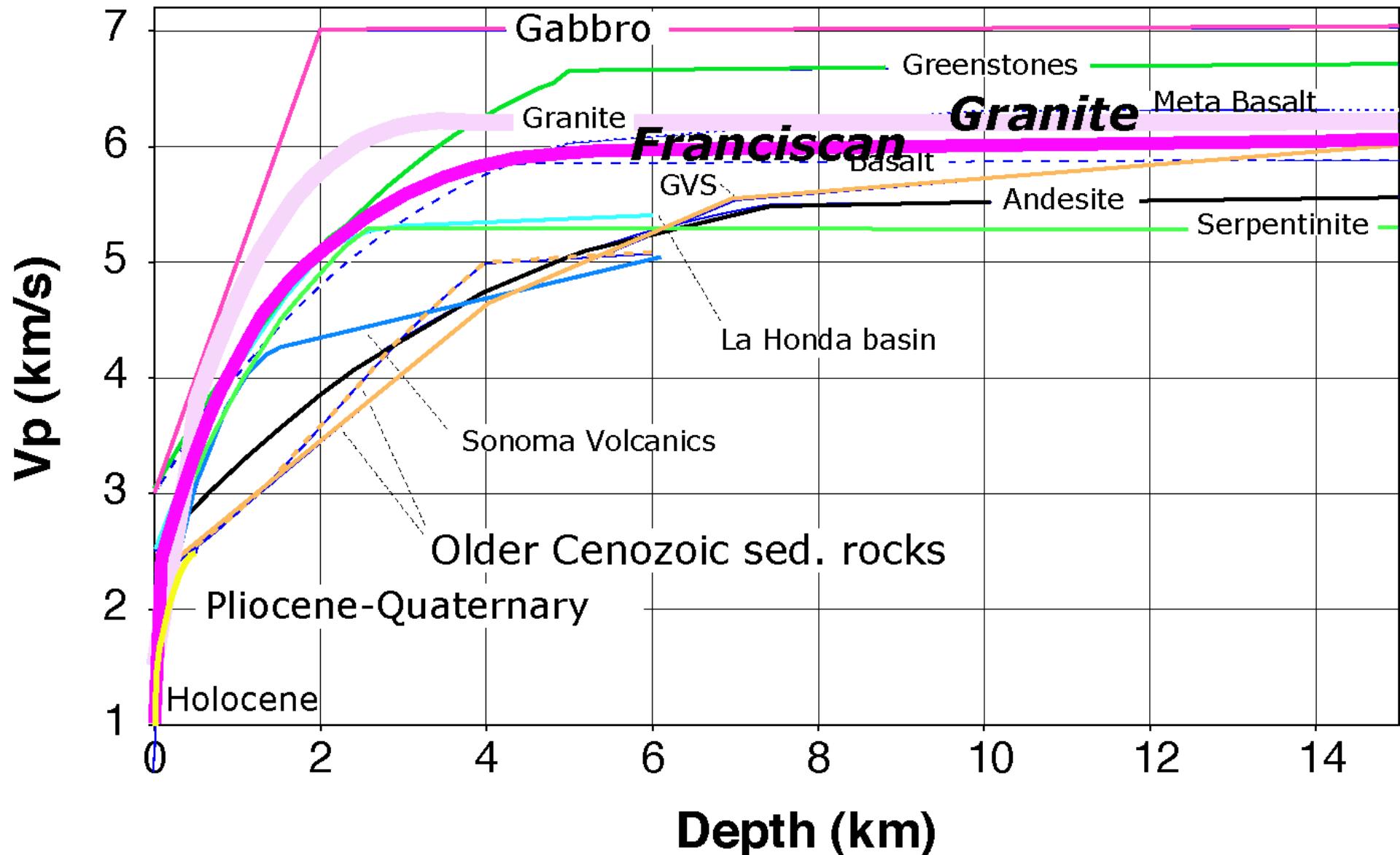
## Granitic rocks

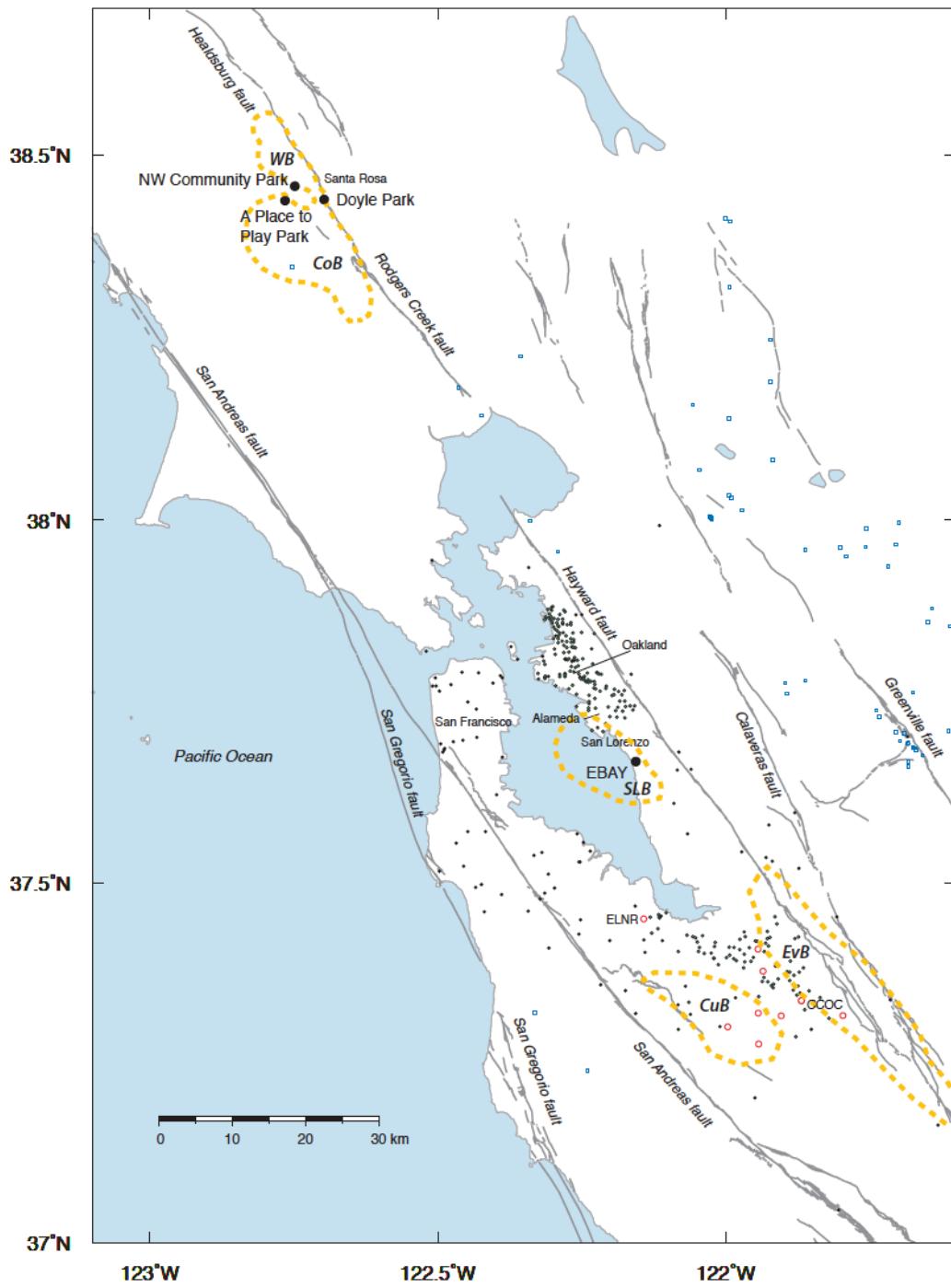


# Franciscan Complex

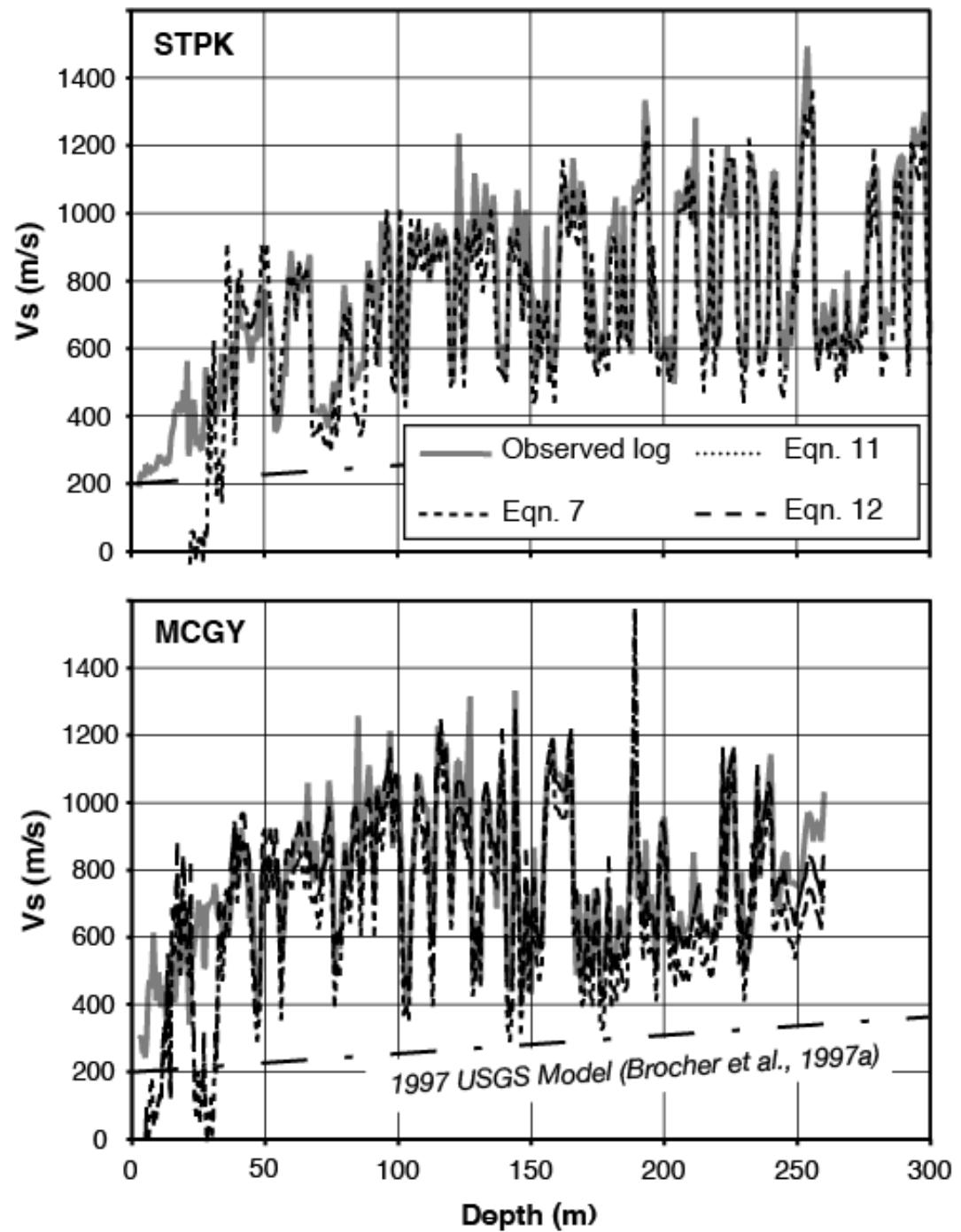


# Vp Versus Depth





Brocher and Langenheim (OFR,  
in review)

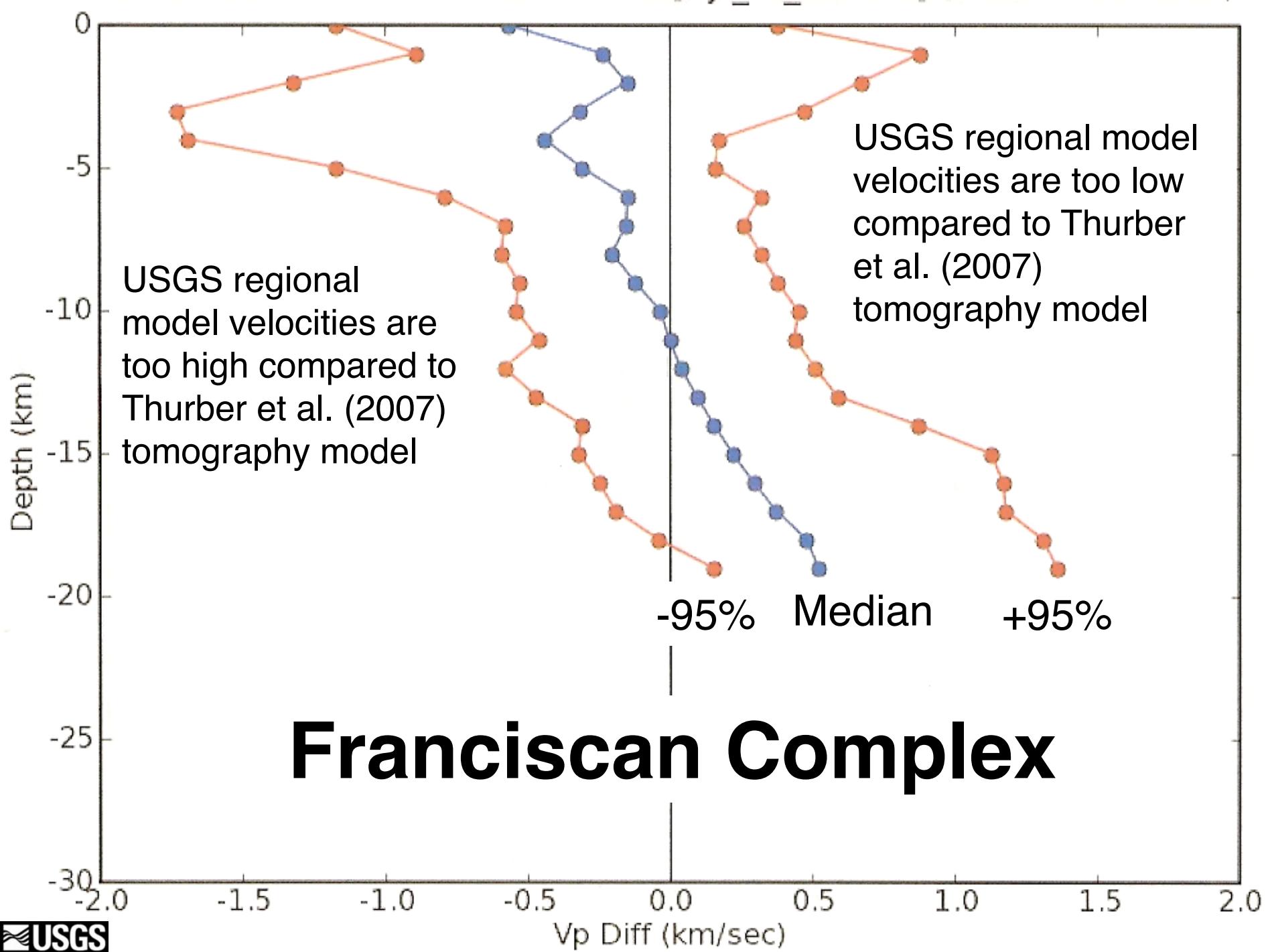


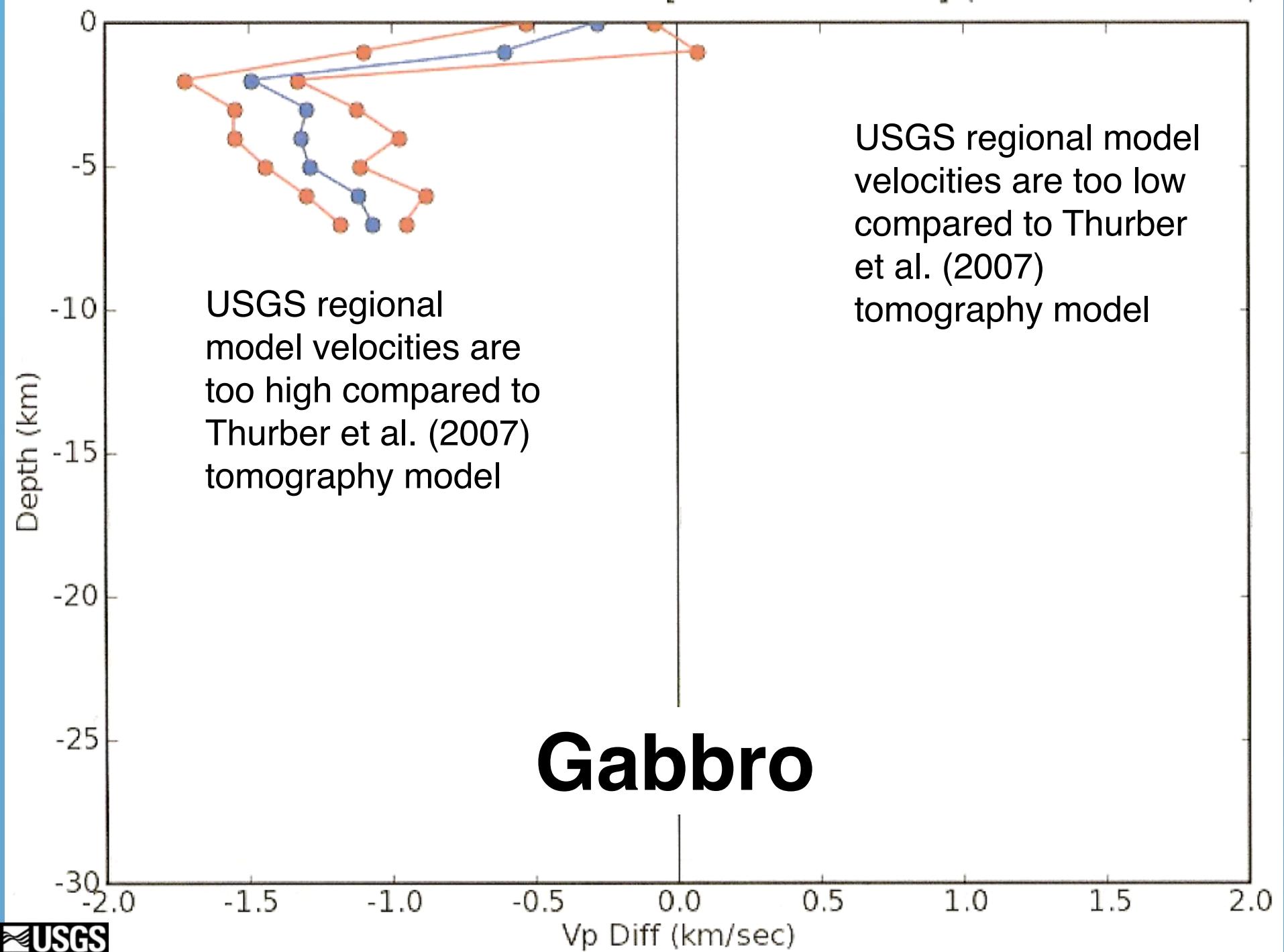
Brocher (BSSA, 2005a)

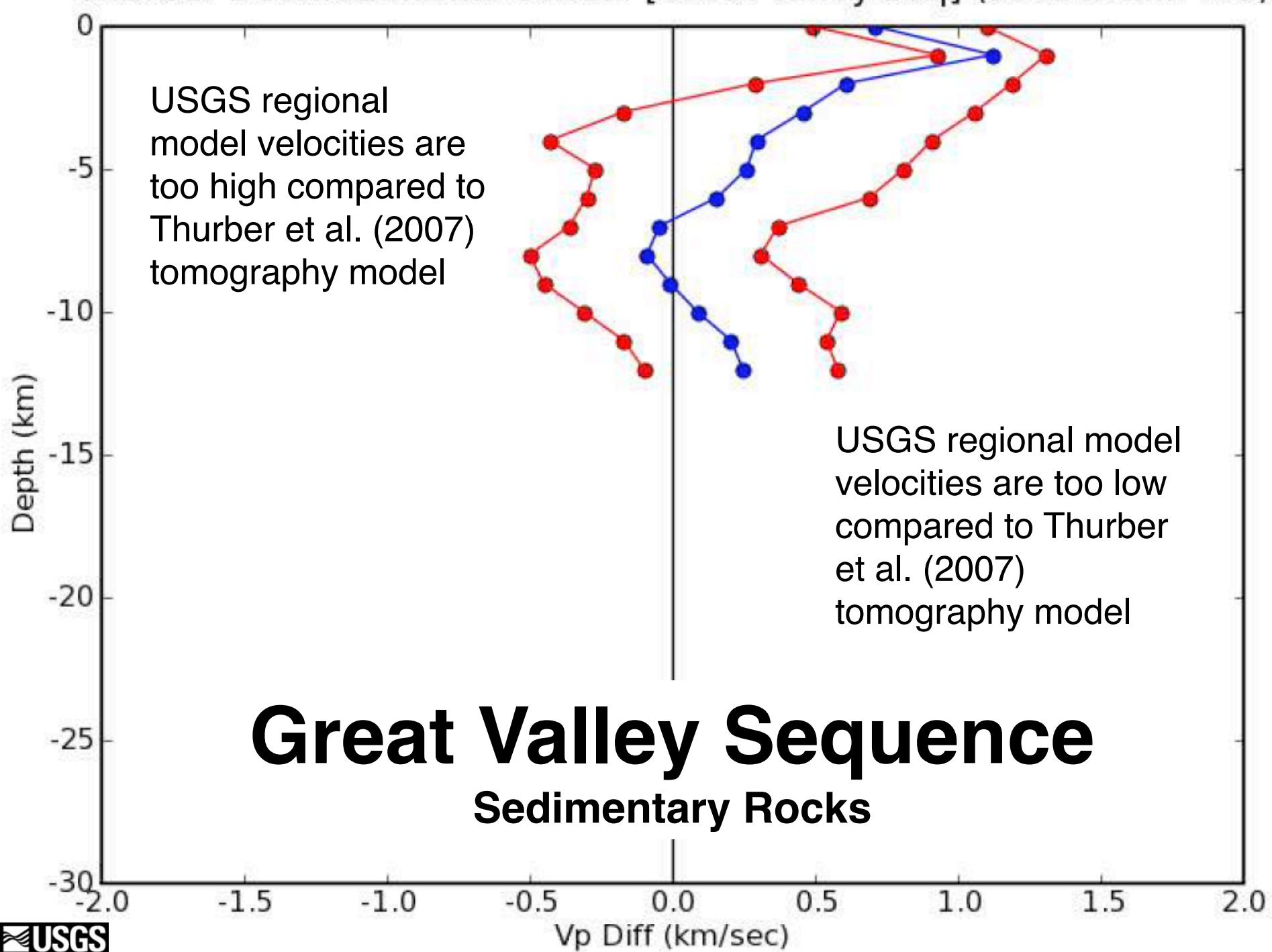
# **Point by Point Comparison of Tomography Models with the USGS Regional Seismic Velocity Model**

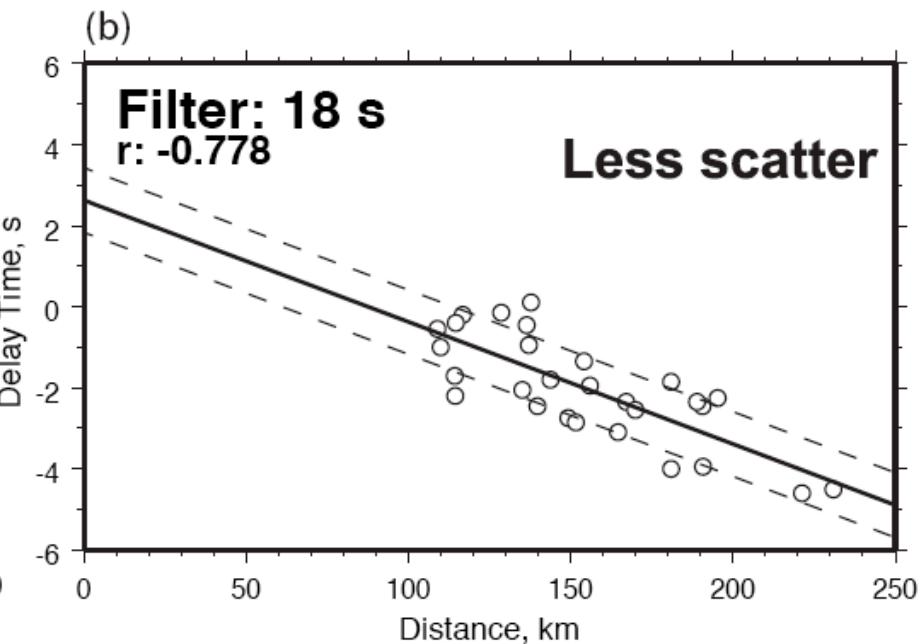
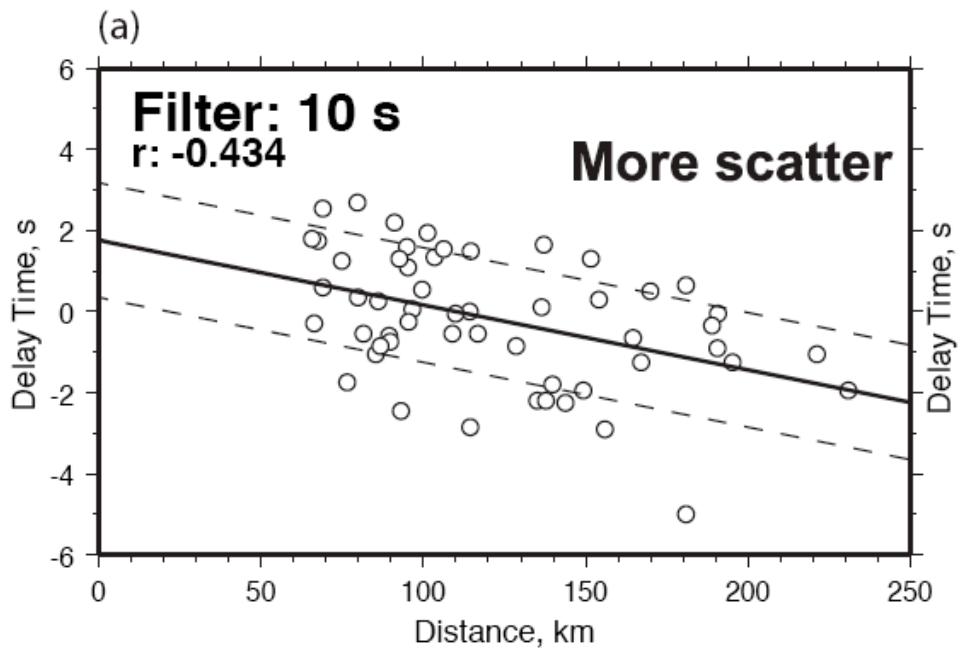
**Average difference USGS - Thurber et al. (2007) models =  
+0.07 km/s (357,000 grid points)**

**Average difference USGS - Hardebeck et al. (2007) models =  
+0.26 km/s (357,000 grid points)**









**Empirical Greens Functions from Cross-correlations of Broadband Ambient Seismic Noise suggest  $V_s$  is ~5% too fast in the USGS model**

**Comparison of observed versus calculated arrival times**