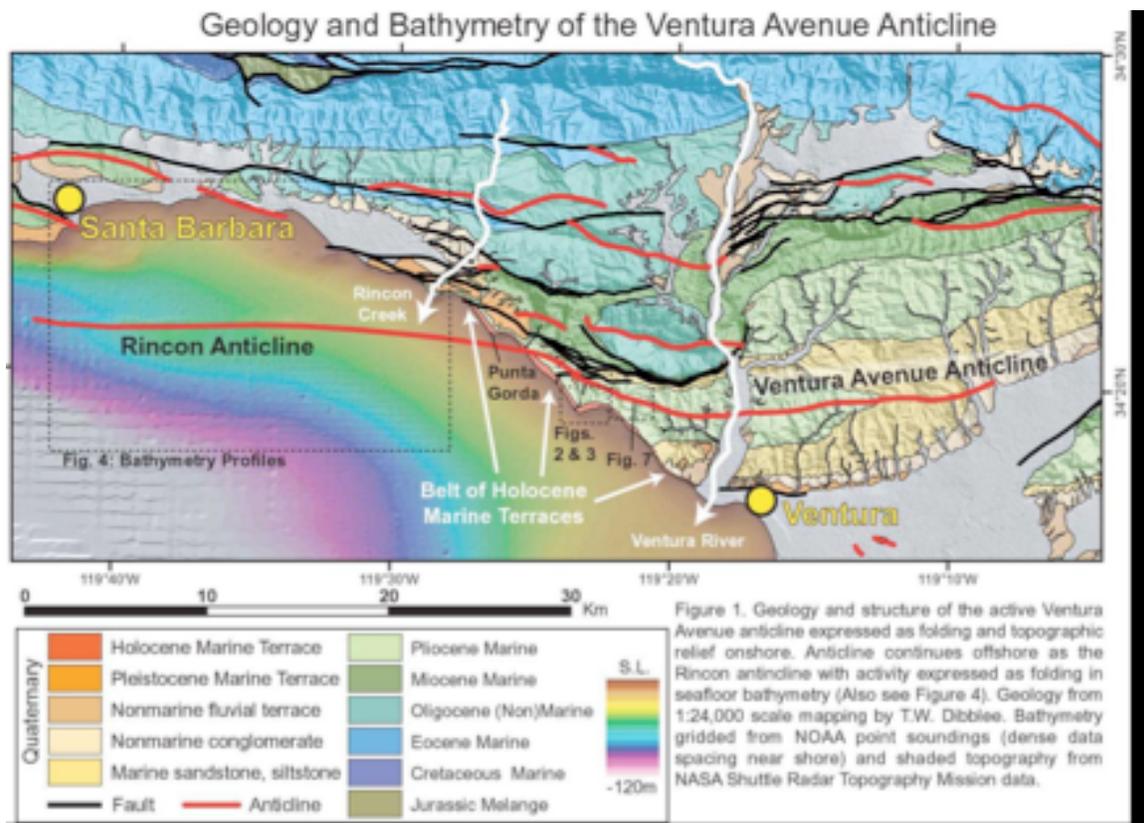


2007 SCEC Progress Report

Holocene Surface Uplift of the Ventura Avenue Anticline: A Record of Large Blind Thrust Events in the Transverse Ranges

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I proposed to characterize the Holocene uplift history of the Ventura Avenue anticline as recorded in Holocene marine terraces through detailed mapping, surveying, selective small subsurface excavations, and high-precision radiocarbon dating. The Ventura Avenue anticline (VAA) is one of the largest potential seismic sources in the Transverse Ranges of southern California (Figure 1) and yet no information is currently published on the timing of coseismic uplift events. With a long term uplift rate averaging nearly 10 mm/yr for the past 200-300 ka (2.7 km of structural relief in this timeframe: Yeats, 1978; Rockwell et al., 1988), and a Holocene uplift rate of at least 6 mm/yr (Lajoie et al., 1979; Sarna-Wojcicki et al., 1982), this structure has the highest uplift rate and accommodates as much shortening (~8 mm/yr) as any in the Transverse Ranges.



This work was intended to comprise post-doc support for Dr. Daniel Ragona, who recently completed his dissertation work with Bernard Minster and myself at SIO, UCSD. However, Dr. Ragona accepted a position with British Petroleum in Houston before any work could be started, so this project has been delayed.

Work to Date and Current Schedule

We had intended to have conducted this work in the Fall, but as Dr. Ragona left for Houston, the field work did not get done. I will now collaborate on this project with Dr. Larry Gurrola (former student who now lives in the Santa Barbara region) and Dr. Kate Wilson of New Zealand, who will join us for two months this spring. Larry has contacted the landowners and we expect to start as soon as Kate arrives from New Zealand around the first week of May. Kate will be mostly supported from her own sources in New Zealand. We will submit a final report at the end of 2008 after we complete the work.