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***Geophysical vignettes from the wine country: implications for the northward continuation of the East Bay fault system***

Geophysical studies in the northern San Francisco Bay area unveil the three-dimensional geometry of basins and faults east of the San Andreas Fault beneath Napa and Sonoma Valleys, San Pablo Bay, and the Santa Rosa Plain. The relatively flat valley floors hide a complex basement surface that has implications for fault and basin evolution as well as seismic-hazard and ground-water studies in the area. Basin effects may have contributed to significant damage caused by the 1906 San Francisco and 1969 Santa Rosa earthquakes in downtown Santa Rosa and to damage from the 2000 Yountville earthquake in the city of Napa. Analysis of geophysical data suggests these valleys conceal basins that were formed by several sometimes-superposed mechanisms. Geophysical data also place constraints on where 175 km of right-lateral displacement can be parsed north of San Francisco Bay from the East Bay fault system.

**Biography:**

Vicki Langenheim is a research geophysicist with the U.S. Geological Survey in Menlo Park, Calif., specializing in the application of gravity and magnetic methods to assessment of seismic hazards and groundwater resources throughout the western U.S. She received a Bachelor of Science degree in geophysics from Stanford University and a Master's degree in geology from University of California, Berkeley.