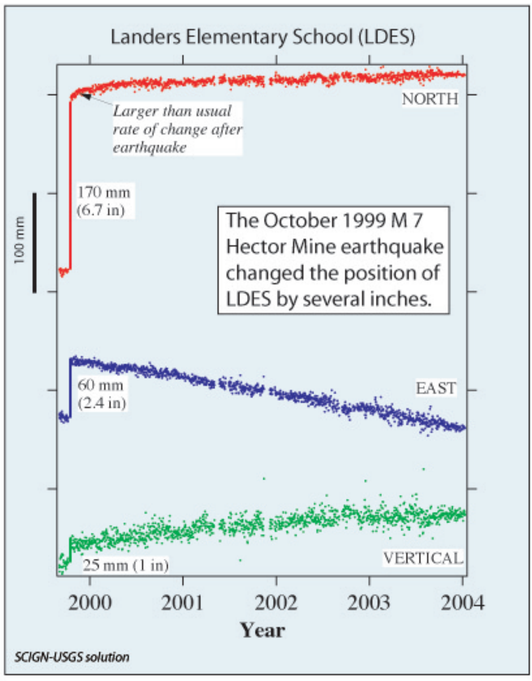
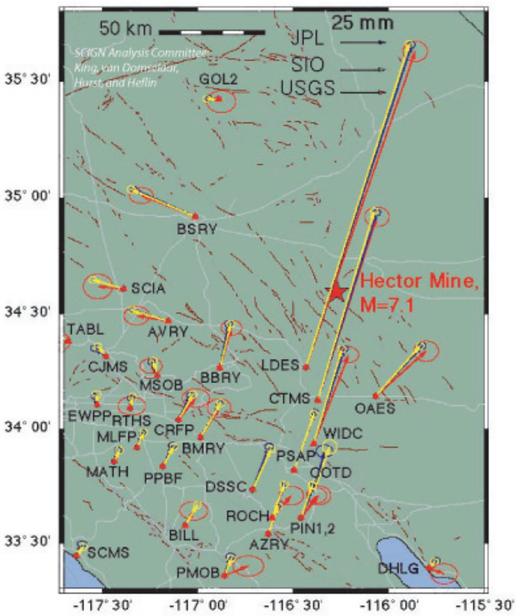
The Southern California Intergrated GPS Network

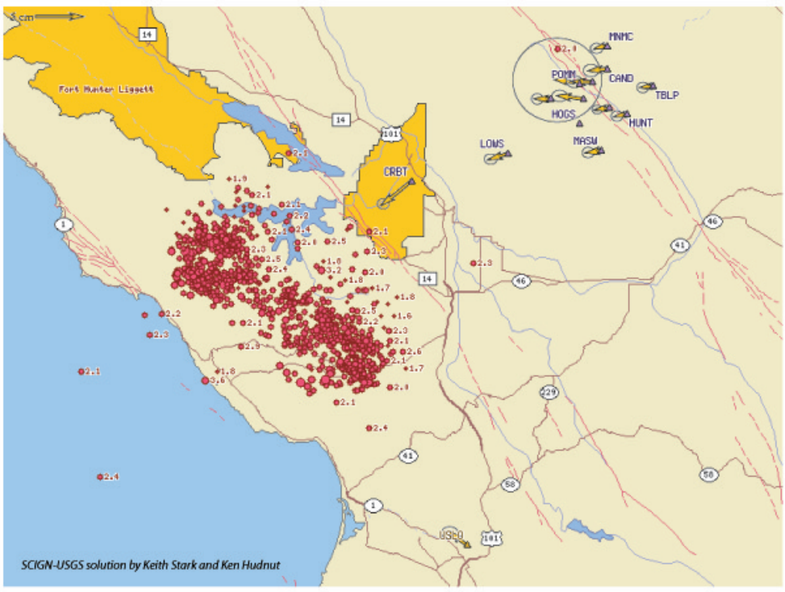
Using the Global Positioning System to Study Earthquakes

Between large quakes, SCIGN measures slow but steady changes in station positions. The changes are fractions of an inch per year. When an earthquake of M 6 or larger occurs nearby, the position changes are much larger. This plot for LDES shows both kinds of motion.





Two large earthquakes have occurred since SCIGN began operating. The October 1999 M 7.1 Hector Mine earthquake shifted the positions of almost all SCIGN stations. Those close to the earthquake moved by several inches. SCIGN calculated the station motions several different ways and compared the results; the different method produced very similar results. The December 2003 M 6.5 San Simeon earthquake moved the northern SCIGN stations by 1 to 2 inches.



SCIGN is operated by:

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