

## Where is the Eastern California Shear Zone North of 37N Latitude?

Hongzhi Wang (University of Miami, 4600 Rickenbacker Causeway, Miami, FL, 33149; e-mail: [wang@corsica.rsmas.miami.edu](mailto:wang@corsica.rsmas.miami.edu)); Tim Dixon (University of Miami, 4600 Rickenbacker Causeway, Miami, FL, 33149;; Andrea **Donnellan** (Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, 91109; ph. 818-354-4737; e-mail: [andrea@cobra.jpl.nasa.gov](mailto:andrea@cobra.jpl.nasa.gov))

GPS(Global Positioning System) observations in the vicinity of Owens Valley between 37 N-38N provide information on the location and deformation rate of the Eastern California Shear Zone(ECSZ). We occupied two stations on the Sierra Nevada Block west of Owens Valley, two stations in the White Mountain east of Owens Valley and one station (FISH) east of the Furnace Creek Fault Zone(FCFZ) in September 1992 & August 1993. A third occupation is planned for September 1994. Preliminary results from the first two occupation indicate that all of the sites move relative to FISH at velocities  $> 10$  mm/yr to the north or northwest, In contrast, relative velocities of the four Sierra Nevada and White Mountain block sites with respect to each other are small, typically less than 5 mm/yr, the approximate level of error in site velocity after just two occupations separated by only 11 months. While additional data are required to refine the velocities, our preliminary results suggest that at present time the ECSZ probably runs up Southern Owens Valley, as suggested by USGS trilateration data, it may step northeast along the Deep Spring Fault or other northeast-trending faults through Eureka Valley to join the FCFZ. This is consistent with the 1993 M=6.4 Eureka Valley earthquake, a normal fault event on a northeast trending, northwest dipping fault plane.