

## **2004 Annual SCEC Report**

Gordon Seitz  
San Diego State University

**Funding was granted for: Paleoseismic Characterization of the Calico Fault: a Candidate for the Highest Slip-Rate Fault in the Eastern California Shear Zone**

### Calico Fault Project

This project to characterize the earthquake behavior of the southern portion of the Calico fault is still underway. Scheduling of field sessions on the 29 Palms Marine bombing range base have slowed the fieldwork. We made several reconnaissance trips and have identified our excavation paleoseismic target that we are currently arranging to excavate early next year. This year we will continue mapping geomorphic offsets along the fault. We anticipate that we will complete this project in the Spring of 2005. This is a collaboration with Tom Fumal from the USGS.

The ECSZ provides a natural laboratory where we can study the process of strain accumulation and release in large magnitude earthquakes. Currently the lack of geologic observations allows several speculative explanations to resolve the discrepancy between geodetic and geologic slip rates. These explanations include the unrecognized existence of a major strike-slip fault with a slip rate of 5-7 mm/yr, with the most likely candidate cited being the Calico fault (Oskin and Iriondo, 2003). For this reason we focus our investigation on the Calico fault as it appears to be at the center of the slip rate discrepancy issue identified for the entire ECSZ region.