San Joaquin Geological Society

Date: Tuesday, March 9th, 2010

Time: 6 pm Social Hour
7 pm Dinner
8 pm Lecture

Place: American Legion Hall

Cost:
PSAAPG Members & Mesozoics
$20 w/reservation
$25 without reservation

Non PSAAPG Members
$25 w/reservation
$30 without reservation

Full-time Students with ID:
Free, Courtesy of Chevron

SJGS WEBSITE

http://www.sjgs.com/

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RINCON MOUNTAIN MEGASLIDE: LA CONCHITA, VENTURA COUNTY, CALIFORNIA

Larry D. Gurrola, Duane E. DeVecchio, Edward A. Keller

Abstract

The 1995 and 2005 landslides in the 200-m high sea cliff above the community of La Conchita, California, are known to be part of a reactivated Holocene prehistoric landslide. We propose that the prehistoric Holocene slide is part of a much larger, several hundred million cubic meter late Pleistocene slide complex composed of upper slumps and lower flows, informally termed as the Rincon Mountain megaslide. An approximate age of 30 ka for the Rincon Mountain landslide is derived based on a 25-m high fault scarp produced in earthflow deposits that overlie the megaslide deposits and a known rate of faulting (~0.8 m/ky). Geomorphic evidence for the megaslide includes a prominent 100-m high amphitheater-shaped head scarp, back-tilted landslide benches, hummocky topography, and numerous smaller landslides and earthflow deposits. Geologic evidence includes deposits composed of slide breccia with fragments of the late Pleistocene (45 ka) emergent marine platform and terrace deposits displaced several tens of meters.

Isolated parts of the Rincon Mountain landslide are active in the La Conchita area, but no evidence exists that the entire slide mass is moving as a unit. Landslides from the 200-m high slope behind La Conchita will reoccur and future development on the proposed Rincon Mountain slide should be very carefully evaluated to avoid reducing slope stability and reactivation of the megaslide.

Biography

Dr. Larry Gurrola attended San Diego State University for his Bachelor's and Master's in geological sciences. His M.S. thesis studied the Holocene activity of the Superstition Mountain fault in Imperial County. He attended UC Santa Barbara for his doctoral studies under Edward Keller where he mapped the Quaternary geology of the Santa Barbara coastal plain and determined the rates of uplift and activity of several faults. He is a co-author on the 2009 USGS published map of Santa Barbara coastal plain and is collaborating with Ed Keller and Duane DeVecchio on active tectonic research in southern California. He has lectured classes at UC Santa Barbara and is presently consulting in Santa Barbara and Ventura counties.