

## CGS Monthly Meeting

Tuesday March 18, 2008

### A Mass Movement (Submarine Landslide) Model for the Santa Maria and Santa Lucia Basins, Offshore California

by:

**Joseph M. Saenz**

Sponsored by:



**Abstract:** In the offshore Santa Maria and Santa Lucia Basins (SMB-SLB) portions of the continental shelf and slope margin have been unstable for the past 2 million years. This instability was caused either by rapid sediment loading during Plio-Pleistocene low sea level stand(s) or by seismic activity refracting from underlying Mesozoic and Cenozoic strata. The instability is consistent with soft-sediment deformation and small slumps in Holocene-Pleistocene strata of the offshore SMB-SLB study area. Stability of the offshore SMB-SLB continental shelf and slope margin has increased since Quaternary age due to a decrease in sedimentation rates. We predict that sedimentation rates and seismic activity are the dominant factors for slope stability in the offshore SMB-SLB area. In the location of instability, rapid and asymmetric loading of water-saturated sediments with high permeability and porosity extends seaward where sedimentation rates are low. Coupled with a tectonic and sedimentation model and seismic events, geophysical data shows several west-trending submarine landslides that bisect a series of long northwest trending synclines and anticlines in the

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**MEETING INFO: 3<sup>RD</sup> TUESDAY OF EVERY MONTH (DARK IN JULY & AUGUST)**

**BIEDERMANN HALL AT SACRED HEART CHURCH**

**10800 Henderson Road Ventura, CA 93004**

*(See the MAP at the end of this Newsletter for directions.)*

**Reservation Deadline: 4:00 PM on THURSDAY before the meeting.**

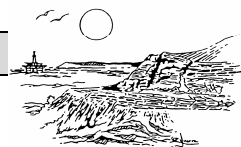
**E-mail Reservations to: [secretary@coastgeologicalsociety.org](mailto:secretary@coastgeologicalsociety.org) or visit the CGS website**

**\*\*\*Please specify your dinner choice: Tri-Tip, BBQ Chicken or Vegetarian Lasagna,**

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Social Happy Hour - 6:00 p.m., Dinner - 7:00 p.m., Speaker - 8:00 p.m.

\$18 - With Reservation, \$25 - Without Reservation, \$ 10 - For Students and K-12 Teachers



study area. We postulate that earthquake energy is amplified in these synclinal structures, interpreted using geophysical data, as evidenced by seismic activity (e.g.: November 4, 1927 M 7.3 Lompoc Earthquake), and fluid migration in seafloor features (gas-vent craters, pockmarks, buried channels, and seafloor rubble and hummocks). The analysis demonstrates how a relationship between sedimentation rates, fluid migration, and amplification of seismic energy within large synclinal structures all affect the distribution and size of these mass movement deposits.

**Biography:** Joseph M. Saenz (Manny) has over 20 years of combined experience in the regulatory, environmental, and construction industries focusing on investigations at sites requiring hydrocarbon exploration, pollution prevention, remedial action, emergency response clean-ups, and during heavy equipment operations in the onshore and offshore environments. He is now employed with the US Navy as Project Manager and at Oxnard College as an educator. His main duty includes water resource exploration and development as Technical Lead to the Combined Joint Task Force-Horn of Africa. These efforts are related to the oversight of siting, design, and installation of primary water distribution systems (drinking water wells, brine water discharge lines, and small reservoirs).

**RESERVATIONS:** E-mail [secretary@coastgeologicalsociety.org](mailto:secretary@coastgeologicalsociety.org) or visit the CGS website by the Thursday before the meeting at 4 pm. Please include name and menu choice (Tri Tip, Chicken, or Vegetarian Lasagna) for each person attending. If you don't make a reservation, it's possible there will not be a meal available for you the day of the meeting.

### **MARK YOUR CALENDAR:**

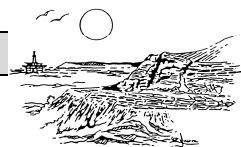
#### • **Upcoming CGS meetings:**

April 15, 2008: Jonathan "Yonni" Swartz "Geomorphic Processes Along the Coastal Cliff, Central Coastline, Israel"

May 20, 2008: TBA (CGS Student Scholarship Awards Presentation)

### **UPCOMING EVENTS:**

- **46<sup>th</sup> Annual Ventura Gem Show:** March 1 -2, 2008 (10am - 5pm Sat, 10am-4pm Sun) Seaside Park, Ventura County Fairgrounds, Ventura, CA. Kids Activities and Free Admission. [www.vgms.org](http://www.vgms.org)
- **Santa Barbara Geologists Monthly Luncheon:** March 12, 2008 at 11:00 am for Social Hour, 12:00 noon for Lunch. The title of talk is to be announced. Contact Laura at 805-684-1638 by 12:00 Noon on the Wednesday before the meeting to RSVP.
- **2008 Los Angeles Basin Geological Society Field Trip:** "Neogene Extensional Tectonics and Sedimentation, Coastal Southern California" Sunday March 16, 2008, Field Trip Leaders: Mark Legg (Legg Geophysical) and Richard Behl (CSULB), Reservations: e-mail [Bill\\_Long@oxy.com](mailto:Bill_Long@oxy.com) , Professional: \$100, Students and Retirees: \$40 (Limit of first 5).
- **SPE Western Regional and Pacific Section AAPG Joint Meeting:** "Adding Reserves Through Collaboration, Innovation and Technology Transfer" March 31-April 2, 2008 in Bakersfield, CA. Contact Allen Waggoner at [jwaggnr@wziinc.com](mailto:jwaggnr@wziinc.com) or [www.PSAAPG.org](http://www.PSAAPG.org) for more information.



- 2008 Desert Symposium Field Trip: April 19-21, 2008, "Development of the Colorado River and its entry into the Salton Trough." The field trip will explore geographic extent of the Bouse Formation and contrast fresh water deposits with deposits containing marine fossils. Examine sediments at Anza-Borrego that indicate when the Colorado River entered the Salton Trough. Drive from eastern Mojave Desert pinon-juniper plateaus to the Sonoran vegetation of the Colorado Desert. Contact [wpresch@fullerton.edu](mailto:wpresch@fullerton.edu) more information.
- The Statewide Golden Bear Gem & Mineral Show: 69th Annual Show of the California Federation of Mineralogical Societies. Dates & Times: Fri., June 27 - Sun., June 29, 2008 (10 AM - 5 PM each day) Admission: \$5 adults, \$4 Seniors (60+), \$3 students, Kids under 12 free with paid adult. Location: Seaside Park, Ventura County Fairgrounds, 10 W. Harbor Blvd, Ventura. Contact Person: Bural LaRue, Show Chair, (909) 874-5664, [bpelarue@earthlink.net](mailto:bpelarue@earthlink.net) or [www.cfmsinc.org](http://www.cfmsinc.org). Features: over 100 gem, mineral, rock, fossil & jewelry exhibits, including exhibits entered into statewide competition; 50 dealers; demonstrations of jewelry making; informative speakers; door prizes & silent auctions; kids activities; and the official State Gemstone, State Fossil, State Rock, and State Mineral on display. This is informally known as "the Super Bowl" of California gem shows!
- The 2009 Pacific Section AAPG Convention will be hosted by the Coast Geological Society May 3 - 7, 2009 at the Ventura Marriott. Tom Hopps will serve as the Convention Chairman and Gene Fritsche will be the Technical Chairman.
- Upcoming Events at the California Oil Museum: See [www.oilmuseum.net](http://www.oilmuseum.net)

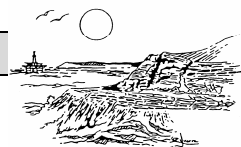
### ANNOUNCEMENTS:

- Hargis + Associates is seeking candidates to fill several hydrogeology and staff engineering positions in the San Diego area. Please visit the CGS website for more information. [www.coastgeologicalsociety.org](http://www.coastgeologicalsociety.org)
- RAMCO is seeking a candidate to fill a Staff Geologist position in Ventura, CA. Please visit the CGS website for more information. [www.coastgeologicalsociety.org](http://www.coastgeologicalsociety.org)

**CGS MEMBERSHIP:** CGS membership is through Pacific Section AAPG. Be sure to select **Coast Geological Society** as your local affiliated society. To join CGS, please go to: [www.psaapg.org/member.html](http://www.psaapg.org/member.html)

### CGS OFFICERS DIRECTORY:

President: **Bob Ballog**, Hueneme HS 805-498-6294/805-402-1173, [president@coastgeologicalsociety.org](mailto:president@coastgeologicalsociety.org)  
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Secretary: **Christine White**, DCOR, LLC 805-535-2074, [secretary@coastgeologicalsociety.org](mailto:secretary@coastgeologicalsociety.org)



## NOTICES

1. *No-Cost* Employment Announcements (Help Wanted & Job Wanted) are available on our website! Also, business card ads and employment ads available in the newsletter! Contact [secretary@coastgeologicalsociety.org](mailto:secretary@coastgeologicalsociety.org)
2. If you forward the email notice to another party, cc: [secretary@coastgeologicalsociety.org](mailto:secretary@coastgeologicalsociety.org) in the email, we will put your party on the monthly notification list. There is no cost to receive CGS email notifications.
3. Buy your raffle tickets! Money generated goes toward scholarships, field trips, etc., to promote the advancement of Geosciences. Check the CGS supported activities on our website (3 Tickets for \$1).
4. Always needed: **Sponsors for our meetings!** Sponsors get a beautiful colored banner hung at the meeting, and the opportunity to distribute their literature and introduce their businesses, as well as the satisfaction of having supported a great organization! Sponsorships are \$300 per meeting and may be shared between two individual sources. Contact [vicepresident@coastgeologicalsociety.org](mailto:vicepresident@coastgeologicalsociety.org) for info.

## MEETING PLACE: MAP AND DRIVING DIRECTIONS

Meetings are held at the Sacred Heart Church, Biedermann Hall, 10800 Henderson Road, Ventura, CA 93004.

The location is off Hwy 126 at the Wells Road/Route 118 Exit. Click on the map below for a more detailed view and directions.

