

CGS Monthly Meeting Tuesday October 21, 2008

What Controls Tectonic Rotation At Plate Boundaries? Calculating Driving Forces Using Geologic Data From Southern California

Presented by:
Nate Onderdonk,
California State University Long Beach

Abstract: Vertical-axis rotation is a primary mode of deformation that has become widely recognized in every type of tectonic environment, and at a variety of scales. Rotation can accommodate large amounts of plate boundary deformation and is an important process in the tectonic development of mountain belts, continental rifts, and transform boundaries. The ubiquitous nature of vertical-axis rotation requires that this process be understood to ensure valid and accurate tectonic reconstructions and calculations of continental deformation. One of the key aspects of rotation that is still not fully understood is the underlying driving forces. This talk will address the mechanics and driving forces of rotation in southern California using recent observations from the western Transverse Ranges, the Mojave Desert and the Palos Verdes Peninsula. A force-balance approach is presented that gives insight into the relative strength of forces influencing crustal movements and provides a new perspective on models of southern California tectonics.

MEETING INFO: 3RD 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.)

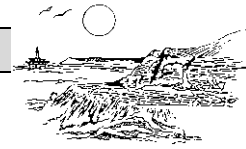
Reservation Deadline: 4:00 PM on THURSDAY before the meeting.

E-mail Reservations to: secretary@coastgeologicalsociety.org or visit the CGS website

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

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



Biography: Nate Onderdonk is an Assistant Professor at California State University, Long Beach. He is mainly interested in tectonics and geomorphology and has worked on various projects in southern California and the Arctic. Nate earned a bachelor's degree in physics from Principia College, a masters and doctoral degree in Geology from the University of California, Santa Barbara, and spent two years at the University of Oslo, Norway as a postdoctoral researcher.

RESERVATIONS: E-mail 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:

November 18, 2008:

Oil and Gas Production in Southern California's Urban Environment.

By Don Clarke, President, Pacific Section, American Association of Petroleum Geologists



December 16, 2008: To Be Announced

UPCOMING EVENTS:

- The 10th Annual "Woolley" Golf Tournament and BBQ, Friday October 10, 2008 at Elkins Ranch Golf Course - 1386 Chambersburg Road, Fillmore, CA. See attached Entry Form.



2008 woolley entry
form.pdf

- Geology and Mining History Field Trips Co-Sponsored by Bureau of Land Management and Buena Vista Museum of Natural History:

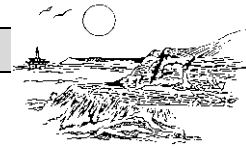
Visit website at www.blm.gov/ca/st/en/fo/bakersfield/Programs/geology/fieldtrips.html or call Dr. Greg Wilkerson at 661-391-6081 or at gwilkerson@blm.gov. Please see attached registration form.



Northern Mother
Lode Flyer Oct 2008.

Oct. 13-15, 2007: Mother Lode III: Northern Mines

This 3-day field conference looks at the structure, stratigraphy and geologic history of the Northern Mines of the Mother Lode in Sierra and Plumas Counties. Friday's trip in Grass Valley where we see the North Star Power house and Empire Mine. Saturday we journey to Edward's Crossing, Malikoff



Diggings, Forest Hill, Downieville, and the Kentucky Mine. We end Saturday in Quincy. Sunday's trip will be from Quincy to the Walker Basin. We will go through Taylorsville, see the Englesmine and other mines of the Walker Basin. The program ends in Portola.

Nov. 1, 2008: San Andreas Fault: Ft. Tejon to Pallet Creek

This segment of the San Andreas fault takes us to several sag ponds and offset streams. Stops are made at Ft. Tejon, Quail Lake, Devil's Punchbowl and Wrightwood. Carbon 14 radiometric dating and its application to understanding the frequency of earthquakes along the San Andreas Fault is considered at the Pallet Creek paleoseismic site. Examples of the interaction between ecosystems and fault systems are discussed.

Jan. 26, 2009 : Santa Maria-Carrizo Plain-Cuyama Valley

This trip starts in Santa Maria and investigates the ecology of the Santa Margarita Lake region including the Rinconada and La Panza mining districts. The tour continues on Highway 58 to the Carrizo Plains for a look at the San Andreas Fault.

- THE 47th Annual VGMS Gem, Mineral, Lapidary, & Fossil Show

The Ventura Gem and Mineral Society will host its 47th Annual Gem, Mineral, Lapidary, and Fossil Show on Sat., March 7, 2009 (10:00 AM to 5:00 PM) & Sun., March 8, 2009 (10:00 AM to 4:00 PM), at Seaside Park (Ventura County Fairgrounds) located at 10 W. Harbor Blvd., Ventura, California. Admission is free, and activities include demonstrations, door prizes, silent auctions, children's activities, and a "Country Store." For more information please contact the show chair Andy Anderson, (805) 987-0043, vgms_editor@roadrunner.com, or dealer chair Kathryn Davis, (805) 647-3096, or visit the society's website www.vgms.org.

- 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. More Information Coming Soon.

- 6-Day Grand Canyon Rafting Adventure with CLU Geology Professor Bill Bilodeau June 28 through July 4, 2009. Please see attached flyers for details and application.



Grand Canyon Flyer
2009.doc



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- Upcoming Events at the California Oil Museum: See www.oilmuseum.net

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

CGS OFFICERS DIRECTORY:

President: **Dave Panaro**, Fox Canyon GMA, 805-654-2327, president@coastgeologicalsociety.org

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Secretary: **Stephanie Lapeyre-Montrose**, Stantec, 818-292-7035, secretary@coastgeologicalsociety.org



EMPLOYMENT

1. DMI-EMK Environmental Services has a job opening for a full-time employee based out of their Ventura office. Please see attached flyer for more information.



Staff-Project
Position.pdf

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
2. If you forward the email notice to another party, cc: 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 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.

