NORTHERN CALIFORNIA GEOLOGICAL SOCIETY

MEETING ANNOUNCEMENT

DATE: **March 25, 2009**

LOCATION: **Orinda Masonic Center, 9 Altarinda Rd., Orinda**

TIME: **6:30 p.m. social; 7:00 p.m. talk (no dinner) Cost: $5 per regular member; $1 per student or K – 12 teachers**

SPEAKER: **Greg Stock**, Park Geologist
Yosemite National Park

New Tools for Understanding and Mitigating Rockfall Hazards in Yosemite National Park

Yosemite Valley has more documented rock falls than any other comparable-sized area. These events represent an important geomorphic process, but they also represent significant hazards to park visitors and employees. New tools such as LiDAR, high resolution photography, seismic monitoring, rock-fall runout simulations, and cosmogenic dating have recently been implemented as part of Yosemite National Park's rock fall research program. This talk will briefly summarize the history of Yosemite Valley and describe how these new tools are being used to improve our understanding and mitigation of rock-fall hazards.

Biography:

Greg Stock is the first-ever Park Geologist at Yosemite National Park. He has B.S. and Ph.D. (U.C. Santa Cruz) degrees in geology and earth science, and was a researcher at the University of Michigan prior to accepting the job at Yosemite in 2006. Greg's research interests are primarily in geomorphology, and include glacial erosion, river dynamics, and hillslope processes such as rock falls and debris flows.

NCGS 2008 Calendar

Wednesday March 25, 2009
New Tools for Understanding and Mitigating Rockfall Hazards in Yosemite National Park **Greg Stock**, Park Geologist, Yosemite National Park, 7:00 pm at Orinda Masonic Center

Wednesday April 29, 2009
The Travels of Clyde Kluckhohn and the Photographs of James Hanks, 1927-1928: Repeat Photography, Virtual Repeat Photography, and Earth Surface Change in the Photographic Era – **Dr. Thomas C. Hanks**, U.S. Geological Survey, Menlo Park, California,
7:00 pm at Orinda Masonic Center

Wednesday May 27, 2009 **Dinner Meeting!!**
Mesozoic Transpression, Transtension, Subduction, and Metallogenesis in Northern and Central California – **Dr. W. Gary Ernst**, Emeritus Professor at Stanford University, Palo Alto, California,
7:00 pm at Orinda Masonic Center

Wednesday June 24, 2009
Cleanup on Aisle 9 - The Long-Lasting Legacy of Nuclear Waste – **Dr. Dave Stonestrom**, U.S. Geological Survey Research Hydrologist, Menlo Park, California,
7:00 pm at Orinda Masonic Center

As Usual – Our Summer Break!

Wednesday September 30, 2009
Bay Area Geoscapes: Geology of the San Francisco Bay Region – Photos That Didn't Make it Into the Book **– Dr. John Karachewski,** Dept. Toxic Substances Control
7:00 pm at Orinda Masonic Center

Upcoming NCGS Field Trips

Do you have a place you've wanted to visit for the geology? Let us know. We're definitely interested in ideas. For those suggestions, or for questions regarding, field trips, please contact Rob Nelson at: rlngeology@sbcglobal.net. In the mean while there are two upcoming field trips!

May 2, 2008	***Neogene Volcanic Rocks of the Northern San Francisco Bay Area: Timing and Tectonic Implication***, James Allen, Cal. State Univ., East Bay
June 13 & 14 2009	***Gold Country Field Trip***; Ross Smith, Member and Precious Metals Consulting Geologist

Peninsula Geologic Society
Upcoming meetings

April 7, 2009 Dave Stonestrom, USGS Water Resources; ***A Hydrogeological Perspective on Nuclear Waste--Tales from the Trenches***

For an updated list of meetings, abstracts, and field trips go to http://www.diggles.com/pgs/. The PGS has also posted guidebooks for downloading, as well as photographs from recent field trips at this web address. Please check the website for current details.

Association of Engineering Geologists San Francisco Section
Upcoming meetings

Meeting locations have been rotating between San Francisco, the East Bay, and the South Bay. Coming talks include:

- April 13, 2009; Bill Fraser, DSOD; ***Geologic Considerations for Design of Dams***
- Bill Black, RGp, NorCal Geophysical Consultants and member Board of Registration for Geologists and Geophysicists (BRGG); Geophysical case study and role of BRGG.
- For further meeting details go to: http://www.aegsf.org/

USGS Open House

Exhibits, Live Music, Video Theater
May 16 – 17, 2009
10 a.m. – 4 p.m.

It's time for the triennial U.S.G.S. Open House. This year the theme is ***2009 – Year of Science.*** The USGS Campus located at 345 Middlefield Road, Menlo Park, CA
For more information go to: http://openhouse.wr.usgs.gov/

A Sea Change

Very likely of interest to some members, "***A Sea Change***", is a documentary about ocean acidification that was screened at AGU in December. The documentary has been described by those that have seen it as powerful. It will officially premier on March 14 at the Smithsonian's Museum of Natural History in Washington D.C. The documentary has become an official selection of the San Francisco International Film Festival, April 23-May 7. The exact schedule will be posted at www.aseachange.net when it becomes available. Thanks to member Kathleen Burnham for forwarding this information.

NEW INSIGHTS IN HISTORIC AREAS

Pacific Sections AAPG – SEPM Annual Convention

May 2 – 6, 2009; Ventura, California

Message from the Program Chair: Recent increases in the price for crude oil and our need for increased domestic energy production have opened the door for using new techniques to produce more from older historic areas. This was the inspiration for our Convention theme, **"New Insights in Historic Areas"**, which easily extends to all areas of the geosciences. For more details, email addresses for all chairs, chair affiliations, and more, please go to:
http://www.csun.edu/~hcgeo007/psaapgconvheader.htm

AAPG Annual Convention

June 9 – 10, 2009; Denver, Colorado

Don't forget about this opportunity as well! Many details are available, but more will come. Go to http://www.aapg.org/denver/index.cfm for details!

Out of the Deep

This Week in SCIENCE
March 13 2009

The Southern Ocean may have provided a reservoir for atmospheric CO_2 during cold glacial periods, which could help to explain why the concentration of atmospheric CO_2 rose by roughly 50% during each of the last five deglaciations. **Anderson *et al.*** (p. 1443) find that burial rates of biogenic opal increased in the Southern Ocean during the last deglaciation, indicating more vigorous upwelling. More intense upwelling would have brought more CO_2, dissolved in deeper water, to the surface and vented to the atmosphere, potentially leading to the observed glacial-to-deglacial CO_2 rise. – Brooks Hansen

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Paleontology: Slipping Through the Cracks

Editors' Choice: Highlights of the recent literature, March 6 2009

The fossil record shows that, at least in the marine realm, unusually small taxa predominate in the aftermath of mass extinctions. In extreme cases such as after the end-Cretaceous extinction, 65 million years ago, it took several millions of years for diversity to recover. This pattern poses a potential bias in assessing the impact of the extinction, as small species tend to be more difficult to preserve in the fossil record. Sessa *et al.* evaluate this bias by comparing fossils in lithified and unlithified sediments across the Cretaceous-Paleocene boundary from thick sections in the Gulf of Mexico. Their data show that small fossils are indeed lost (perhaps by dissolution) from the fossil record as sediments are compacted and form rocks--by a factor of up to 2.4. This process, however is not systematic in time, and lithified sediments tend to predominate in the Paleocene after the mass extinction. Thus, the pattern of a delayed recovery may be partly exaggerated by the sediment record, as might enhanced diversity before the extinction. This bias decreases further back in time, as unlithified sediments become scarce, but illustrates the inherent selection of the fossil record. – Brooks Hansen
Geology **37**, 115 (2009).

NORTHERN CALIFORNIA GEOLOGICAL SOCIETY

NCGS FIELD TRIP

The Geology of Sonoma Mountain
Sonoma County, California
Saturday May 2, 2009
Field Trip Leaders:

James Allen and Dr. Luther Strayer, CSU East Bay, *Dept. of Earth and Environmental Sciences*
Peter Holland, *Vector Engineering, Inc*
Ron Rubin, *AMEC Geomatrix*

Sonoma Mountain in Sonoma County is largely composed of the late Miocene to Pliocene Sonoma Volcanics and interbedded sedimentary units. The Sonoma Volcanics are the largest of several Neogene volcanic fields in the San Francisco Bay Area which young in age to north. These volcanics fields include the Quien Sabe Volcanics, Berkeley Hills Volcanics, the Tolay Volcanics, Sonoma Volcanics, Burdell Mountain Volcanics, and the Clear Lake Volcanics, which are interpreted to be the product of mantle upwelling behind a slab window recording the passage of the Mendocino Triple Junction. This trip will consist of visiting locations within the Sonoma Volcanics on the Sonoma Mountain area to inspect various volcanic and poorly mapped sedimentary units which make up the framework geology of the mountain. Lithology, stratigraphy, slope stability and regional offset along strike-slip faults in the area will be discussed. In an ongoing effort to map the geology of Sonoma Mountain in the detail needed, several challenges arise: The mountain is riddled with numerous faults including the active Rodgers Creek fault, lateral facies changes of poorly mapped sedimentary units, and landslide complexes often hampering mapping. Continuing radiometric age dating, paleontology, and accurate landslide identification greatly aid in bedrock mapping of Sonoma Mountain and our understanding of the geology along the Rodgers Creek fault. This trip compliments the February 23, 2008 NCGS trip by the leaders.

What field trip to wine country goes without samples, so apparently we'll enjoy some products from the fine Far Niente Winery establishment, namely Dolce. Thank us later!

**********Field Trip Logistics**********

THIS FIELD TRIP WILL BE LIMITED TO 30 PEOPLE. Cost: $25.00

Map of meeting area: May 2, 9:00 AM: Sonoma State University, parking lot F. From northbound Highway 101, take the Sierra Avenue exit eastward. Sierra Avenue changes to East Cotati Avenue, continue east about 2 miles to Sonoma State University.

**********Registration**********

Registration Form for The Geology of Sonoma Mountain, Sonoma County, California, Field Trip

Name:_____ E-mail:_____

Address:_____ Phone (day): _____Phone (evening):_____

Lunch: Regular:_____ Vegetarian: _____ (Please check one) Check Amount: _____

Please mail a check made out to **NCGS** to: **Rob Nelson, 269 College View Drive, Rohnert Park, CA 94928**

Carpooling is suggested for this fieldtrip. Please let us know if you can provide a van and the NCGS can reimburse your gasoline expenses.

Questions: e-mail: rlngeology@sbcglobal.net Phone: (707) 795-8090 (evening); (707) 548-3268 (day)

NORTHERN CALIFORNIA GEOLOGICAL SOCIETY

NCGS FIELD TRIP

Gold Country Field Trip

Saturday June 13 & 14, 2009

Leader: Ross Smith, Precious Metals Consulting Geologist

This will be an easy two-day ramble (mostly driving) along Highway 49 through the historic Gold Country of California from Placerville to Mariposa. The spring is a beautiful time to see this magnificent countryside of our Golden State, replete with green hills, running streams, wildflowers, and superb rock exposures.

Because of the strange social policies of this State, there are no remaining working gold mines. However, there are certain sites where we can view the internal workings of a real gold mine, and these are well documented and generally adequately guided. Some have a modest fee. On day one we will do an underground tour of the Gold Bug mine in Placerville, and a surface tour of the Kennedy Mine in Jackson. As we proceed along Highway 49 we will view the great Melones Fault, also known as the Mother Lode, at a number of locations. We will see numerous gold sites, towns, and historical residues. Just south of Angels Camp we will pull into the Glory Hole Recreation area where we will camp. There is small fee of $18 ($9 for seniors) for use of this California State Recreation Area. Hot showers, fire pits, etc. Quite a pleasant place. The NCGS will put on a barbeque dinner. Bring your own breakfast.

On day two we will start early. We will view the Carson Hill gold mine (now an operating rock quarry—a good story here!); the New Melones reservoir (fault-defined), the Columbia limestone placer deposits near Sonora; the Table Mountain (with numerous drift mines—now abandoned) and (from a distance) the open-pit Harvard Mine near Jamestown; the Mocassin Creek placer tailings (miles of them); an abandoned Mariposite quarry (good collecting point for this California mineral); and the abandoned Virginia Mine (careful-open shafts) near Coulterville. We will continue along Highway 49, looking at various exposures and abandoned mine remains. Time permitting we will walk about ¾ of a mile along an old haul road to view the remains of the Josephine Mine. Around mid-day we arrive at the California State Mineralogy Museum near Mariposa. After lunch in town, we may visit the old Stamp Mill in town. We then go west on Highway 140 to the Dial Rock Shop. Gold panning for those interested, lots of rocks to buy and view, and good exposures along the highway. Then return to Danville (2 hours).

For those who cannot do the two days, or do not wish to camp, they could return to Danville directly from Angels Camp at the end of the first day. For those who hate camping, there are several pleasant motels in Angels Camp—only about 4 miles from our campsite. Our guide is an active commercial gold prospector, a member of the NCGS, and a peripatetic wanderer. He holds a BS in Engineering, with a minor in Geology, and a MS in Geophysics. He spent 30 years in international oil exploration, and for the last 10 years has been a consulting and practicing geologist in precious metals. He will give brief explanations on gold origin, occurrence, and recovery from his modest store of knowledge.

**********Field Trip Logistics**********

THIS FIELD TRIP WILL BE LIMITED TO 30 PEOPLE. **Cost**: **$50/person**

Time & Departure: Depart precisely at 8:00 am from Danville Park and Ride (Sycamore Valley Road at I-680) June 13, 2009. Alternatively, or if late, meet us at the Gold Bug Park (aka Bedford Park) in Placerville at 10:30. Call me on my cell phone at 707-548-3268 if you have any problems.

**********REGISTRATION FORM (Gold Country Field Trip) **********

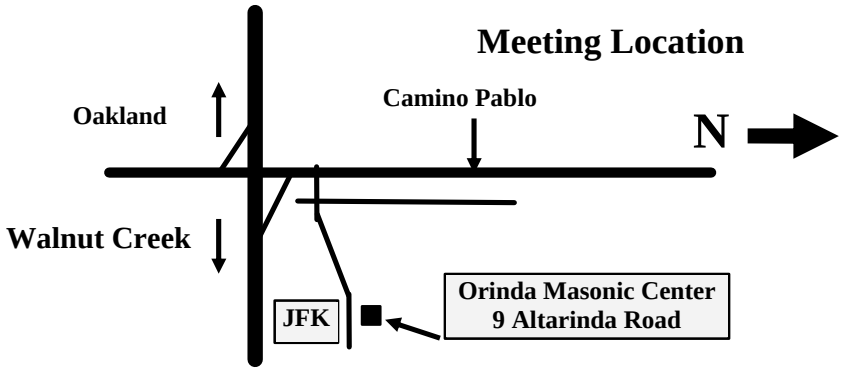
Name:_____ E-mail:_____

Address:_____ Phone (day): _____Phone (evening):_____

Lunch and Dinner: Regular:_____Vegetarian: _____ (Please check one) Check Amount: _____

Please mail a check made out to **NCGS** to: **Rob Nelson, 269 College View Drive, Rohnert Park, CA 94928**

Carpooling is suggested for this fieldtrip. Please let us know if you can provide a van and NCGS can reimburse your gasoline expenses. Questions: e-mail: rlngeology@sbcglobal.net Phone: (707) 795-8090 (evening) (707) 548-3268 (day).



Did you leave the February 2009 meeting early? We're sorry for the delay caused by the communication problems between the two computer systems. If you would like a credit for the meeting, please let us know and we'll be pleased to accommodate your request.

Northern California Geological Society
c/o Mark Detterman
3197 Cromwell Place
Hayward, CA 94542-1209

Would you like to receive the NCGS newsletter by e-mail? If you are not already doing so, and would like to, please contact **Dan Day** at danday94@pacbell.net to sign up for this free service.