NORTHERN CALIFORNIA GEOLOGICAL SOCIETY

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SEPTEMBER MEETING ANNOUNCEMENT

DATE: **Wednesday, September 25, 2002**

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

TIME: **6:30 p.m. Social; 7:00 p.m. talk (no dinner)**
Cost is $5.00 per person

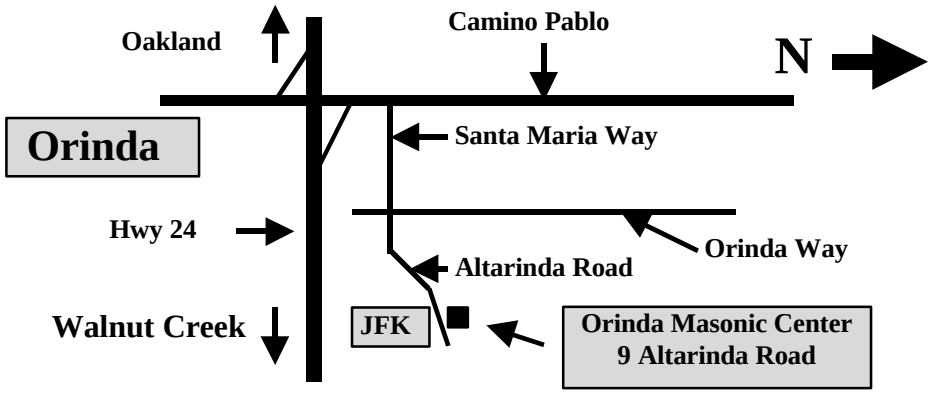
RESERVATIONS: Leave your name and phone number at 925-424-3669 or at *danday94@pacbell.net* before the meeting.

SPEAKER: **Charles R. Bacon, USGS, Menlo Park, CA.**

Volcanism in Nature's Bathtubs: The Caldera Lakes at Aniakchak and Crater Lake

A new multibeam bathymetric survey of Crater Lake, Oregon, reveals the interplay between post-caldera volcanism and the filling of the lake. (Crater Lake caldera formed by collapse of the volcano known as Mount Mazama during a catastrophic eruption about 7700 years ago). In addition, we are developing a new model for filling of Crater Lake in which the water rises very rapidly up to a permeable horizon in the caldera wall, where the level stabilized. The lake filling model gives a surprisingly precise chronometer for the volcanism because former lake levels are recorded by a succession of andesite lava deltas with drowned shorelines. This is in contrast to Aniakchak volcano, Alaska, where a lake also formed in a Holocene caldera, but overtopped the caldera wall and drained catastrophically. At Aniakchak we can walk around on volcanic features that formed subaqueously, plus see how eruption processes evolved as the caldera basin dried out. There is also a story about the flood down the Aniakchak River. The lecture will concentrate on the Crater Lake story, but will introduce various concepts via Aniakchak first. Images of the new bathymetric map of Crater Lake can be found at http://walrus.wr.usgs.gov/pacmaps/cl-index.html

Charles R. Bacon is an AGU member since 1978 and Research Geologist, U.S. Geological Survey. His major areas of interest are magmatic processes, volcanology, and petrology and geochemistry of igneous rocks. He received his B.S. in 1970, from Stanford University and his Ph.D. in 1975 from the University of California, Berkeley. He has been with the U.S. Geological Survey, Menlo Park, California, since 1975 and was Visiting Professor at Caltech in 1988. Dr. Bacon is a Fellow of the Geological Society of America and the Mineralogical



Society of America, and a member of the Geochemical Society and International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI). He has major publications on the eruptive history, physical volcanology, geochemistry, and petrology of Mount Mazama and the Crater Lake caldera; primitive magmas of the Cascade arc; magmatic inclusions in volcanic rocks; and tectonic extension in western U.S. volcanic regions. His professional awards include the IAVCEI quadrennial Wager Prize, 1987 and the Bowen Award, AGU VGP Section, 1999. He was on the AGU VGP Section Nominating Committee, 1996-98 (Chair in 1999); the Bowen Award Committee, 2000-present; IAVCEI Awards Committee, 1992; MSA Fellows Committee, 1997- present; and the GSA Donath Medal Committee, 2000. He was also on the National Research Council, Continental Scientific Drilling Committee, 1983-86; the USGS Geologic Division Science Advisory Committee, 1988-89 (Chair, 1990-91); the NSF Petrology and Geochemistry Panel, 1994-97; and the USGS Ion Microprobe Science Panel (Chair, 1997-present). He was Associate Editor of the Geological Society of America Bulletin, 1985-90 and the American Mineralogist, 1989-92; and on the Editorial Boards of Geology, 1993-95 and the Journal of Volcanology and Geothermal Research, 1998-present.

Northern California Geological Society
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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 service.

NCGS 2002-2003 Calendar

Wednesday, Septmber 25, 2002
Charles R. Bacon, USGS, Menlo Park, CA.
Volcanism in Nature's Bathtubs: The Caldera Lakes at Aniakchak and Crater Lake
7 pm at Orinda Masonic Center

Wednesday, October 23, 2002 **(please note: this meeting is one week earlier than normal)**
AAPG Distinguished Lecture
John Delaney, University of Washington
Volcanoes, Oceans, and Life in Our Solar System
7 pm at Orinda Masonic Center

Wednesday, November 20, 2002 **(please note: this meeting is one week earlier than normal)**
Dr. John "Jay" Zucca*, Lawrence Livermore National Laboratory*
Forensic Seismology Suppoerts the Comprehensive Test Ban Treaty
7 pm at Orinda Masonic Center

Wednesday, January 29, 2003
Speaker and topic to be announced
7 pm at Orinda Masonic Center

Wednesday, January 29, 2003
Calvin Stevens, San Jose State University
Geology of the Mount Morrison Roof Pendant, Eastern Sierra Nevada
7 pm at Orinda Masonic Center

Wednesday, March 26, 2003
Speaker and topic to be announced
7 pm at Orinda Masonic Center

March 31-April 11, 2003 **(tentative; exact date to be announced)**
AAPG Distinguished Lecture
Cindy Yielding, British Petroleum
The History of a New Play: Thunder Horse Discovery, Deepwater Gulf of Mexico
Location and time to be announced

Wednesday, April 30, 2003
Speaker and topic to be announced
7 pm at Orinda Masonic Center

Wednesday, May 28, 2003
Speaker and topic to be announced
7 pm at Orinda Masonic Center

Wednesday, June 25, 2003
Carol Prentiss, USGS, Menlo Park, CA.
Topic to be announced
7 pm at Orinda Masonic Center

Upcoming Field Trips…

The following field trips are being pursued, but have not been finalized! Watch future newsletters for details.

Hayward Fault Trench Field Trip	Russ Graymer/Jim Lienkaemper, USGS	October 13, 2002
Rogers Creek/Maacama Fault Zones	Bob McLaughlin, USGS	Spring 2003

Bay Area Geophysical Society

SEG President , Walt Lynn will give a luncheon presentation on **The State of SEG** on September 18, 2002
Social & Lunch: 11:30 a.m Talk: 12:30
Because this talk is at ChevronTexaco, non-ChevronTexaco employees must make sure they RSVP via email to WilliamAbriel@chevrontexaco.com or call Bill Abriel at 925-842-3423 before Wednesday, September 18th. *This must be done to insure that you get visitor's passes.*

The **SEG Fall Distinguished Lecture** for 2002 will be delivered by Stanford Professor **Jerry M. Harris.**
The title of his talk is ***"Crosswell Seismic Profiling: The Decade Ahead."***
Set for Thursday, October 3, 2002. This talk will be held at Chevron Park in San Ramon.
Check the BAGS website below later for exact time and room location!

Please check the BAGS website **http://sepwww.stanford.edu/bags/** *regularly for meeting notices and updates.*

PS-AAPG / Cordilleran GSA 2005 Joint Meeting

In the Spring of 2005 the **Pacific Section of AAPG** and the **Cordilleran Section of GSA** will join together for their annual meetings in the San Jose area. We are currently looking for volunteers who are interested in participating in the organization and presentation of this convention. Participation in the organization and presentation of a convention of this sort is the NETWORKING opportunity of a lifetime. We need volunteers to coordinate: Finance; Site Selection and Contracting; Registration; Printing/Editing; Website; Exhibits; Luncheons and Receptions; Technical Programs and Symposia (AAPG, GSA, SEPM, SEG(2), EAG, etc.); Field Trips; Short Courses; Posters; Education Programs; Student Programs. If you have **any** interest please contact one of the convention Co-Chairs:

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NORTHERN CALIFORNIA GEOLOGICAL SOCIETY

Regional Hayward Fault Field Trip and Tyson's Lagoon /Tule Pond Trench Site

Sunday, October 13, 2002

Trip Leaders:

Russell Graymer and Jim Lienkaemper, USGS Menlo Park, CA.

The Hayward fault extends from Gilroy to Marin County. On this field trip Russ Graymer will show us evidence of the Hayward fault at locations in Hayward and Freemont. Russ will provide the regional knowledge of the fault, showing the evidence that there is more to it than offset curbs. This field trip has been set up to coincide with Jim Lienkaemper's (USGS) trench mapping program at Tyson's Lagoon, a sag pond formed in a right step of the fault in Fremont. This work is coordinated with the BART extension construction, south of the Freemont BART station, and provides a small window of time to view the trench work across the fault.

Tyson's Lagoon has been the location of deposition throughout much of the Holocene and the stratigraphic record preserved in it provides an excellent environment for investigating earthquake recurrence. It is the last remaining non-urbanized location on the southern part of the fault where this type of data can be obtained. Several previous trenching investigations have been conducted here. Their investigation has thus far focused on the identification and dating of paleoearthquakes during the past 600 years, a time period for which they have constraining ages on buried ground surfaces that were disrupted by faulting. Early trenching at the south end of the pond by Woodward-Clyde and Associates (1970) for fault hazard zoning indicated that the southwestern fault trace had produced substantially greater deformation in sediment younger than 1000 years than the northeastern trace. At the north end of the Tule Pond, Williams (1993) studied the northeastern fault trace and produced the first paleoseismic observations for the occurrence of individual late Holocene earthquakes. Using brittle deformation and liquefaction features, he interpreted the occurrence of 6 to 8 large earthquakes during the past approximately 2,100 years, with three events (including the 1868 earthquake) during the past 600 years.

(Partially excerpted from "Logs and Data from Trenches Across the Hayward Fault at Tyson's Lagoon (Tule Pond), Fremont, Alameda County, California"; by James J. Lienkaemper, Timothy E. Dawson, Stephen F. Personius, Gordon G. Seitz, Liam M. Reidy, and David P. Schwartz; You can see more of their work at **http://geopubs.wr.usgs.gov/map-mf/mf2386/)**

Time: **Sunday, October 13, 2002** Meet at Freemont BART Station – **9:15 a.m** Return approximately 5:00 p.m.

Departure: Meet at the Freemont BART Station parking lot off of Walnut Street For BART schedules and directions, checkout their website at www.bart.gov. Parking is free, and we will car pool from there to the different sites.

Cost: $15 for adults (18 and over); $10 for adolescents (11 to 17). Cost includes, lunch, refreshments, and field guide.

********** REGISTRATION FORM --- PLEASE RSVP by Monday, October 7, 2002 **********

Name _____ _____

Address (Street/City/Zip)_____

Phone (day) _____ **Phone (evening)** _____ **E-mail or Fax No.** _____

Indicate if you are a nonmember (cost is $20) _____

Regular Lunch _____ Vegetarian Lunch _____ **(Please check one)**

I am willing to drive my vehicle on this trip _____ (check if YES) My vehicle can carry myself plus ____ people.

Please mail form and a check made out to NCGS by **October 7, 2002** to: **Jean Moran, P.O. Box 1861, Sausalito, CA. 94966**
If you have any questions or need more information, e-mail Jean at **jeanm@stetsonengineers.com** or call **415-331-6806** (evening)