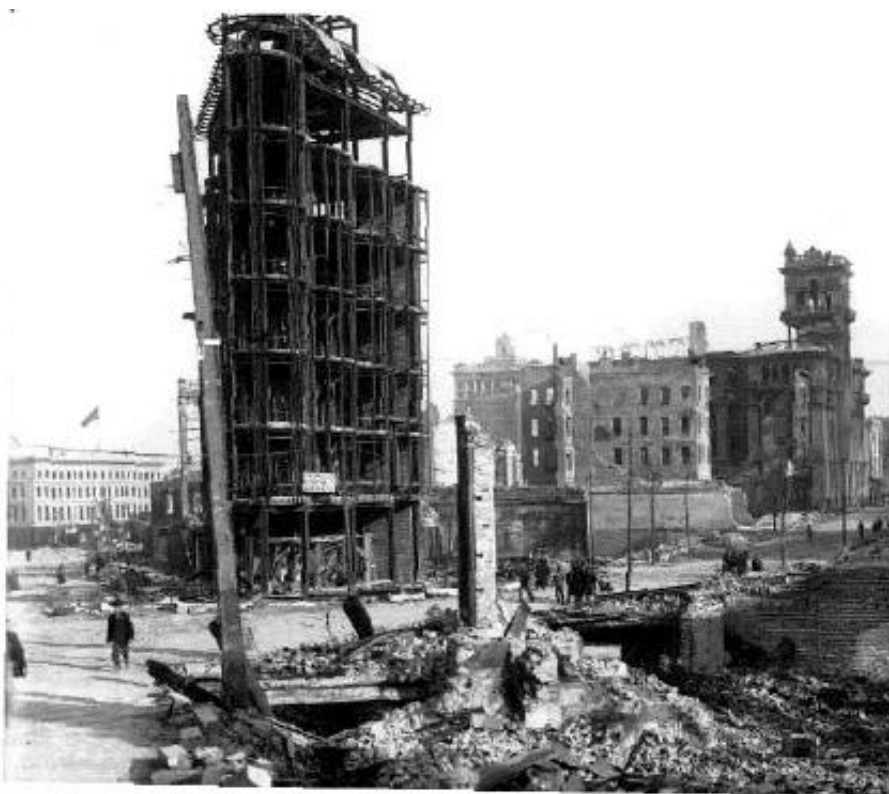


# News and Information: News-January 2007

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## "The 1906 San Francisco Earthquake and a Century of Progress in Understanding Earthquakes and their Effects"

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**by Mary Lou Zoback**

**Vice President for Earthquake Risk Applications, RMS (Risk Management Solutions)**

The 1906 M=7.9 earthquake on the San Andreas Fault marked the birth of modern earthquake science in the U. S. For the first time, an earthquake was interpreted as a recurring phenomena along an active fault. The trace of the San Andreas fault was mapped throughout California and offset on the 300 km long surface rupture documented. Comprehensive study of seismic intensity showed the strongest shaking occurred in areas of "made land" (fill) and soft sediment, including China Basin and the present day Marina district, two San Francisco neighborhoods again heavily damaged in 1989. Damage to structures showed destruction was closely related to building design and construction -- a painful lesson oft repeated around the world. Based on repeated surveying data and geologic evidence of recurrence, Henry Reid proposed the elastic rebound hypothesis - that earthquakes represent sudden release of elastic energy along a fault resulting from a cycle of slow strain accumulation produced by relative displacements of neighboring portions of the crust. This hypothesis, developed five decades before the plate tectonics revolution provides the basis for modern seismic hazard analysis. We now know that a repeat of the 1906 earthquake is only one of a wide number of future major damaging earthquakes likely to impact the Bay Area. Although we can not predict earthquakes, we can predict their likely effects and the most hazardous regions.



The  
Emporium

Market Street near  
Taylor



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**Meet the 2007 CSS President, Bill Nesse**

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(Don't try this at home, but acceptable at CSS events)

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## Upcoming CSS Events

February - Paleogeography of the Ancestral Rockies, Chuck Kluth, rescheduled from December

April - Family Night

June - Spring field trip to San Luis Basin with Mike Machette

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## It's Time to Pay Dues for 2007

If you have not yet paid dues for 2007, the submittal form is on the next page. Thanks!.

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### 2007 Dues & Funds Contributions Colorado Scientific Society

(Last Name)

(First Name)

(current email, if available)

**DUES:** Dues are for the calendar year (January - December)

Regular Members (\$20, CO Front Range) \_\_\_\_\_

Corresponding Members (\$10) \_\_\_\_\_

Student Members (\$5, enrolled in college) \_\_\_\_\_

**MEMORIAL FUNDS:** These funds support earth-science research grants to graduate students throughout the nation.

If your contribution is not specific, it will be distributed equally among the funds:

(A) Ogden Tweto Memorial

Fund \_\_\_\_\_

(B) Steven Oriel Memorial  
Fund \_\_\_\_\_

(C) Edwin Eckel Memorial  
Fund \_\_\_\_\_

(D) BILL Pierce-Heart  
Mountain Fund \_\_\_\_\_

(E) George Synder  
Memorial Fund \_\_\_\_\_

(F) Chuck Pillmore  
Memorial Fund \_\_\_\_\_

**ENDOWMENT FUND:** This fund is used to support the Society's monthly meetings and newsletter, field trips, family night, annual Emmons Lecture, and special activities. \_\_\_\_\_

**TOTAL CONTRIBUTIONS (DUES AND FUNDS):** \_\_\_\_\_

Please make your checks payable to the Colorado Scientific Society

Send this form & your check  
to:

Colorado Scientific Society  
P.O.Box 150495  
Lakewood, CO 80215-0495

### Earth Science Meetings and Talks

*Newsletter items must be received by the 25th of each month. Items may include special events, open houses, etc...thanks!*

**Colorado Scientific Society's** regular meetings are held the 3rd Thursday of the month at the American Mountaineering Center in Golden (unless otherwise advertised). Social time begins at 6:30 p.m. and talks start at 7:00 p.m. For more information, contact Chuck Kluth at 303-904-2939, [kluth@earthlink.net](mailto:kluth@earthlink.net)

**Denver Mining Club** meets every Monday (except when noted) at Country Buffet near Bowles and Wadsworth (at 8100 W. Crestline Ave.) 11:30-1:00. Jan. 8, Margaret McDonald, Snake River Alliances, "Nuclear waste do's and don't's". Jan. 22, Stuart Sanderson, CMA, Colorado mining and climate change". Jan. 29, Sam McGeorge, "National Mining Hall of Fame and Museum update". <http://china-resources.net>.

**Colorado AIPG December and annual meeting** Reception at 11:30; lunch and speaker, noon to 1:30. University Club, 1673 Sherman St., Denver: \$23 w/ advance reservation, \$25 at door. Contact Tom Cavanaugh by C.O.B. on December 9 for reservations at 303-425-1125 or at [cavtrac@comcast.net](mailto:cavtrac@comcast.net) or [tcavanaugh@ogenvironmental.com](mailto:tcavanaugh@ogenvironmental.com).

**Denver Region Exploration Geologists' Society** (DREGS) meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social hour 6:00-7:00 p.m. Technical presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. Jan 8, Bill Boberg, Ur-Energy Inc, "Wyoming uranium provinces". For information contact Jim Piper, (303) 932-0137, or the website <http://www.dregs.org>.

**Denver Well Logging Society (DWLS)** meets on the third Tuesday of each month, Sept. through May. Lunch and a technical talk at the Wynkoop Brewery begins at 11:30 a.m., 18th and Wynkoop Sts. in Denver. Subject matter usually deals with the application of well logs to oil and gas exploration. Call Elice Wickham at 303-573-2781 for

reservations. Web page: <http://dwls.spwla.org>.

**Rocky Mountain Association of Geologists (RMAG)** Reception at 11:30, lunch at noon, talk at 12:30. Reservations by recording at 303-623-5396 until 10:30 a.m., Wed. before the luncheon. Cancellations until 11:00 a.m. on Wed. at 303-573-8621. Luncheon is \$20 payable to RMAG at the door. Talk only (no res)—cost is \$3. Location: Denver Marriott, 17th & California. Nov. 17, Dave Schmude, "The Jurassic of Wyoming". Web page: <http://www.rmag.org>.

**Rocky Mountain SEPM** Reception at 11:30, lunch at noon, speaker at 12:30. Reservations, Dave Uhl:303-389-5092 before noon of preceding Friday. \$15.00 lunch, \$3 talk only. Wynkoop Brewing Company, 1634 18th St., Denver. [David.uhl@EnCana.com](mailto:David.uhl@EnCana.com).

**University of Colorado at Boulder, Geological Sciences Colloquium** Wednesdays, 4:00-5:30, Rm. 180. Refreshments at 3:30 on the 3rd floor. For information, call 303-492-8141. Web page: <http://www.colorado.edu/GeolSci>.

**Friends of Dinosaur Ridge.** Fireside chats. Morrison Town Hall, 110 Stone St., 7:00p.m. Jan 24, Dr. Martin Lockley, "Hominid trackways" Web page: <http://www.dinoridge.org>. Admission is free, but donations are welcome. For more information contact the FODR Visitor Center at (303) 697-3466.

**Colorado School of Mines, Van Tuyl Lectures** Thursdays from 4-5 p.m. in Berthoud Hall room 108. <http://www.mines.edu/academic/geology.html>

**USGS Geologic Division Colloquium.** Thursdays, 1:30 , Foord Room, Building 20, Denver Federal Center. For more information contact: Peter J. Modreski, U.S. Geological Survey, Denver, Colorado tel. 303-202-4766, fax 303-202-4767 email [pmodreski@usgs.gov](mailto:pmodreski@usgs.gov).

**Café Scientifique** Tuesdays, 6:30 p.m. Wynkoop Brewery, 18th & Wynkoop, Denver. Jan. 23, George Eger, Lockheed Martin, "Manned space travel-is it worth the trouble?". <http://cafescicolorado.org/Upcoming.htm>

**For a constantly updated, online geo-calendar, visit the Colorado Geological Survey at:**

<http://geosurvey.state.co.us>