



## Colorado Scientific Society

*In pursuit of the promotion of knowledge,  
the understanding of science,  
and its application to human needs.*

<b>Regular Meeting:</b>	Tuesday, February 14, 1995
<b>Location:</b>	Green Mountain Room (second floor, southwest corner) Sheraton Hotel 360 Union Boulevard Lakewood, Colorado
<b>Social time:</b>	7:00 p.m.
<b>Meeting time:</b>	7:30 p.m.

## In the Tracks of Hayden

Michael Foster, Author and Historian

The first careful government survey in Colorado was carried out by the U.S. Geological Survey from 1873 to 1876. The purpose of the expedition, led by Ferdinand Vandever Hayden, was to describe the regional geology, outline the natural history and resources, and produce maps. This survey published many volumes on its Colorado work, most now classics in their genre. The most notable was the *Atlas of Colorado*, published in 1877 and reprinted in 1881.

This lecture and slides provide a popular and personal reflection on the division of the Survey that explored the scenic San Juan Mountains in 1874. These reflections are based on the author's experiences during the summer of 1982 while retracing the route of the Hayden Survey in the southwestern part of the state. Emphasis of the presentation is on Colorado history, mountaineering, alpine fauna and flora, and scenic vistas. The lecture and slides compliment the author's two books: (1) *Summits to Reach*, an expanded version of F. Rhode's field notes on the Survey's work in 1874 and (2) a biography titled *Strange Genius: A Life of Ferdinand Vandever Hayden*.

### Mount Rainier—Relationship of Hydrothermal Alteration to Volcanic Hazards at a Decade Volcano

David R. Zimbelman, U.S. Geological Survey

Mount Rainier, one of about 14 Decade Volcanoes in the world and the highest volcano in the Cascade Range, is an active volcano that has produced huge mudflows (lahars) in its recent past. The largest lahar to emanate from Mount Rainier in the past 10,000 years traveled over 110 km into the Puget Sound Lowlands and covered an area of at least 505 km<sup>2</sup>. Such lahars form when part of the volcano edifice fails and are not necessarily related to other types of volcanic activity, such as an eruption. Hydrothermal alteration is important to the formation of lahars because it: (1) reduces the structural integrity of the edifice and (2) produces clay minerals which, when incorporated into the lahars, result in lahars that are both larger and which travel farther than lahars that lack clay minerals. As part of the Decade Volcano Demonstration Project, both unaltered and hydro-thermally altered rocks on the edifice of Mount Rainier are being mapped and studied in detail for the first time.

*Stages in erosion of a volcano: intact volcano, planeze stage, residual volcano, and volcanic skeleton (from Ollier, 1964, VOLCANOES).*

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**Interested in Reviewing the Colorado Model Science Standards?**—The final discussion draft of the Colorado Model Sciences Standards for K-12 public education is now available for public review. CSS has been contacted to see if there are people interested in providing input. The earth sciences may be a major focus but you may comment, as well, on the whole spectrum of subjects in science. Now is your chance to make an impact on important educational issues! Final review comments are due by March 1, so if you are interested please immediately contact one of the following people: Nancy Kellogg (894-2144), CONNECT; Mary Gromco (866-6764) or Wayne Martin (866-6850), Colorado Department of Education.

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## Society Notes

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### Report of the January 1995 Colorado Scientific Society Council Meeting

The Council of the Colorado Scientific Society met for their first meeting on January 25, 1995. The group welcomed the new President-Elect, Rich Madole, and new councilors, Susan Bartsch-Winkler and Mark Hudson.

Paul Williams, Treasurer, reported on the sound financial state of the Society and, as a result, the Council approved the request from the Memorial Funds Committee to transfer the 1994 interest and dividends from the endowment fund to the Memorial Funds. The total amount of the transfer was \$809.26.

Rich Madole, former Membership Committee chairman, reported on the Committee's activities and recommended that the Society establish student representatives on Front Range campuses. The representatives will receive a complimentary membership and priority for other opportunities. Rich will summarize the work of the Membership Committee in next month's newsletter.

The Council also approved a recommendation to hold a Student Night. The program for the regular meeting in April will consist of approximately five presentations made by students selected from submitted abstracts. Monetary awards will be distributed. A chairperson is currently being identified; if you are interested in helping with this project, please give President Susan Landon a call.

As a result of an increase in the cost of conference rooms at the Sheraton, the Council decided to explore other meeting sites on the west side of town. (Relocation will not occur until September.) Suggestions for possible meeting sites that will comfortably accommodate about 100 people should be given to someone on the Council.

The final item of business was to identify possible dates for the Spring Field Trip. Chairman Bob Reynolds is already working on several exciting possibilities, so watch the Newsletter for future announcements.

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### Association for Women Geoscientists to offer Chrysalis Scholarship

The Association for Women Geoscientists will award two (2) Chrysalis Scholarships on March 31, 1995. The scholarship is for women who have returned to graduate school after an interruption in their education of one year or longer. Applications should be made by February 28, 1995, and should include a letter stating background (and nature of interruption of studies), career goals, objectives, involvement in the geosciences and community, and how the monetary award will be used.

For more information and application forms, contact:

Chrysalis Scholarship  
Association for Women Geoscientists  
G & H Production Company  
518 17th Street, Suite 930  
Denver, CO 80202  
Phone: 303-534-0708  
Fax: 303-623-6724

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### Books

***The History of the Colorado Scientific Society—1882-1993*** is available for \$4.00 by mail (postage and handling included within the United States) or for \$2.50 at Society meetings. If ordered by mail, please include your return address and allow 4 weeks for delivery.

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## Earth Science Meetings

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**Colorado Scientific Society.** The next regular meeting will be held on March 14, 1995, in the Green Mountain Room (second floor, southwest corner), Sheraton Hotel, 360 Union Boulevard, Lakewood, Colorado. Social time is 7:00 p.m., meeting starts at 7:30 p.m.

*"Hitchhiker's guide to the Solar System" by Ian Ridley, U.S. Geological Survey.*

*"3D solution to a 2D pitfall—seismic detection of carbonate buildups, Kiva Field, Paradox Basin, San Juan County, Utah" by Cindy C. Stewart.*

**Denver Mining Club.** All regular meetings are on Thursday, from 11:30 a.m. to 1:00 p.m. at Denver Federal Center, Building 41 Cafeteria (south entrance), Lakewood. For more information call Jane Ohl, Program Chairperson (303-237-4043).

Feb. 9 - James V. Cappa, Chief, Minerals and Mineral Fuels Section, Colorado Geological Survey. *"Geothermal resources of Colorado."*

Feb. 16 - Richard F. Horsnail, Lovstrom, Horsnail and Associates. *"Vietnam—an overview of the geology, mineral resources, and investment climate."*

Feb. 23 - Mike Leidich, Mines Manager. **A 2-hour Tour of the Robinson Brick Company Plant.** Meet at 1845 Dartmouth (main office) at 11:30 a.m. Bring your lunch to Robco's lunchroom. Groups of 10-12 people will be formed (no more than 3 groups). Bring hard hats and protective glasses.

**University of Colorado—Department of Geological Sciences, Boulder.** Lectures are held on Wednesdays at 4:00 p.m. in Geology Building, Room 121 (unless otherwise noted). For more information about lectures call Joseph Smyth (303-492-6109) or the Geology Department (303-492-8142).

**Rocky Mountain Association of Geologists.** Regular meetings, held on the 2nd and 4th Fridays of each month, consist of a lunch at 11:55 a.m. and a lecture at 12:25 p.m. in the Banquet Room of the Wynkoop Brewery, 18th and Wynkoop Sts., Denver. The cost of the luncheon buffet is \$11.00. Luncheon reservations are taken on a recording line (303-623-5396) until 10:30 a.m. Wednesday, before the meeting. No reservations are necessary for the talk; however, there will be a \$2.00 charge at the door.

**Friends of Dinosaur Ridge.** For info about Dinosaur Ridge activities and location of lectures, call 303-697-Dino.

*"Friends" are currently recruiting Ridge Guides for the upcoming spring and summer Open Ridge Days. If interested, give them a call.*

**Society of Economic Paleontologists and Mineralogists—Rocky Mountain Section.** All lectures at the Denver Press Club, Downtown Denver, 1330 Glenarm Place, unless otherwise noted. Cash bar at 11:30, lunch at 12:00, speaker at 12:30. For reservations, call and leave message at 303-697-6698 by Friday prior to lecture. For further information, call Dave Eby at 303-738-9697. Lunch reservation **not** required to attend lecture.

**Denver International Petroleum Society ("DIPS").** Meetings held on 2nd Friday of the month, Wynkoop Brewery, 18th and Wynkoop, Denver. Reception at 11:30, luncheon at 12:00, program at 12:30. Reservations required by calling RMAG recording line (303-623-5396). Reservations accepted between 2:00 p.m. on Friday and 11:00 a.m. on Wednesday before meeting. Cost: \$13.00

**Colorado School of Mines—Department of Geology and Geological Engineering, Golden: Van Tuyl Lecture Series.** Lectures are on Thursdays at 4:30 p.m in Berthoud Hall, Room 108, followed by a social hour in the Fireside Lounge at the Student Center. For further information, call Greg Holden (303-273-3855) or the Geology Department (303-273-3800).

Feb. 9 - *John Masters, Anshutz Corp. "Get it right, the rest will follow."*

Feb. 16 - *Miles O. Hayes, Research Planning Inc. "Exceptions to the rules of oil-spill behavior—case studies of major oil spills of the past twenty years" or "Evolution of the shoreline of the Georgia Bight—a model for shoreline embayments."*

Mar. 2 - *Michael S. Harrington, Consultant. "Assessment of the developing gold industry in Russia."*

**Association for Women Geoscientists.** New and prospective members are encouraged to find out more about AWG from 5:30 p.m. to 7:30 p.m. at the Colorado School of Mines Geology Museum. Contact Leslie Landefeld at 303-278-1292 for further details.

*[See page 3 in this newsletter for information on Chrysalis Scholarship applications.]*

**American Institute of Hydrology—International Mine Water Association.** The next annual meeting—"Water Resources at Risk"—will be held on May 14-18, 1995, at the Red Lion Hotel near Stapleton Airport in Denver, Colo. Authors intending to offer a paper/poster are requested to submit an abstract no later than November 30, 1994. Manuscripts for both papers and posters are due by March 15, 1995. For more information, contact Joe Downey or Ed Gutentag at 303-425-0419; fax 303-425-1053; Internet e-mail address is 76330.3650@CompuServe.COM.

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**U.S. Geological Survey 10th McKelvey Forum**—This forum will be held on February 13-16, 1995, at the Omni Shoreham Hotel, Washington, D.C. The focus of the meeting is "Energy and the Environment." Featured highlights include the presentation of ongoing research dealing with energy and environmental issues for non-scientific managers, planners, and government leaders, as well as scientists and technicians. For more information, write to U.S. Geological Survey, McKelvey Forum, Box 25046, Mail Stop 934, Denver, Colorado 80225-0046; or call 303-236-5769; or e-mail to mckelvey@bpgsvr.cr.usgs.gov.

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### History Committee

**Field trip photo album**—Ed Johnson (USGS, Branch of Sedimentary Processes; 303-236-7751), a member of the History Committee, is in charge of the Society's field trip photo album. Anyone who wants to give pictures (prints or slides) of members and guests, and of interesting localities taken on trips should send them to Ed at MS 939. Please include information on the identification of all individuals, localities, and dates with each photo.

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#### Items for Newsletter

We would like to include any items of general interest regarding members, new programs, etc., in future newsletters. Please submit materials (hardcopies and/or computer disk) to Brad Van Gosen, USGS, P.O. Box 25046, Mail Stop 905, Denver Federal Center, Denver, CO 80225-0046, or call (303) 236-1566. Please send items to the editor before the 20th of the month to ensure inclusion in the next newsletter.

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

## Colorado Scientific Society

### OFFICERS

President: Susan M. Landon, Consultant, 436-1930  
President-Elect: Richard F. Madole, USGS, 273-8607  
Treasurer: Paul L. Williams, USGS, 236-1256  
Secretary: James A. Cappa, CGS, 866-2611  
Past President: Jack Reed, USGS, 236-1276

### COUNCILORS

1993-95: Marith C. Reheis, USGS, 236-1270  
1993-95: Karl S. Kellogg, USGS, 236-1305  
1994-96: Kathleen M. Haller, USGS, 273-8616  
1994-96: Frank J. Adler (retired)  
1995-97: Mark R. Hudson, USGS, 236-7446  
1995-97: Susan Bartsch-Winkler, USGS, 236-8289

### COMMITTEE CHAIRPERSONS

Arrangements:  
Best Paper Award: Stephen A. Sonnenberg, Consultant, 238-8708  
Field Trips: Robert G. Raynolds, Consultant, 762-9379  
Fund Raising:  
History: Marjorie E. Mac Lachlan, USGS-retired, 986-7192  
Membership: Mary-Margaret Coates, 422-8349  
Memorial Funds: Michael M. Machette, USGS, 273-8612  
Memorial Funds Treasurer: Vera H. Sable, USGS-retired, 526-9250  
Newsletter Editor: Brad Van Gosen, USGS, 236-1566  
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Program: Richard B. Wanty, USGS, 236-1819  
Publicity:  
Science Fair: Eric A. Erslev, CSU, 491-6375