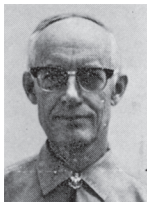


Colorado Scientific Society

*The objective of the Society is to promote
the knowledge and understanding of Earth science,
and its application to human needs*

AN EVENING AND FIELD TRIP TO HONOR GLENN SCOTT



Glenn Scott, circa 1974
(USGS mug shot)

(See page 2 for abstracts and
page 3 for field trip information.)

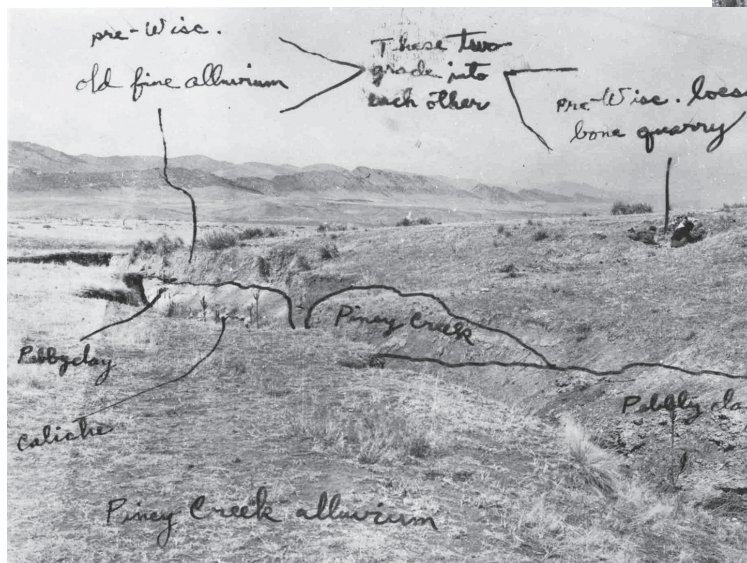


Photo was taken by Glenn in 1956. He made the annotations. Pictured working a small quarry are Glenn's wife Juanita and two of their children. He was charged with mapping the Kassler Quad on which he discovered archeological and paleontological remains.

News of the discovery piqued interest at the Smithsonian. In 1961 Waldo Wedel contacted Ed Lewis and Glenn Scott to assist with setting up a formal archeological dig. Glenn provided the surficial and soil analyses and Ed provided the paleontological analyses and preliminary analyses regarding paleo-Indian artifacts. Ed also provided a detailed planimetric survey of the site. John Stacy visited and shot a series of photographs while the Smithsonian dig was underway in 1961.

Note Location!!



**Thursday, October 22, 2009
American Mountaineering Center**

Conference rooms C & D (these rooms are on the main floor, *not* in the auditorium)
710 10th Street (NE corner 10th and Washington) Golden, Colorado
Social half-hour – 6:30 p.m. Meeting time – 7:00 p.m.

An Evening to honor Glenn Scott

Family Tree of Soil-Geomorphic Work in the Colorado Front Range and Piedmont

by Peter Birkeland, retired professor, University of Colorado

The history of USGS soil-geomorphic work in the area starts with the Military Geology Unit of the USGS in WWII. Charles Hunt, Roger Morrison, and Gerald Richmond came out of the unit with an appreciation for the use of soils in surficial mapping. Glenn Scott and many others used soils to aid in the mapping of surficial deposits in piedmont quadrangles. But it was Scott who formalized the stratigraphic units and related them to major climatic change, and whether or not the source watersheds were glaciated. This was one of the first uses of soils to estimate ages of alluvium and for unit correlation. Subsequently, Morrison and Richmond led a long effort to allow soils in the stratigraphic code. Dwight Crandell introduced me to soils in the 1960s, and this eventually led to a separate CU branch of the family tree. Because of all of this high-quality work, we have as good an idea of soil-geomorphic relations there as in any mountain-plains transect. More recently, soils have been used to estimate erosion rates on Scott's Tertiary erosion surface west of Boulder, and when compared to canyon incision rates, relief could be increasing. For the future, this work and that of other USGS soil-geomorphologists nationwide has demonstrated that soils should be an important component of many USGS projects (surficial mapping, investigating paleoclimate, earth surface processes, etc.) across the United States.



Pitfalls of Interpreting Quaternary Geologic History from Alluvial Deposits in Piedmont Regions with Special Reference to the Colorado Piedmont

by Rich Madole, USGS scientist emeritus

Quaternary alluvial deposits on terraces, fans, and pediments, particularly in piedmont regions, have a long history of study for various reasons including natural hazards (floods and debris flows), gravel resources, suitability for urbanization, and because they are sources of information about recent tectonic and climate-change history. The surficial geology of the Colorado Piedmont has been studied in more detail than that of most piedmont regions; much of it has been mapped at a scale of 1:24,000. The Quaternary stratigraphic nomenclature initiated in the Denver area by Charles Hunt (1954) and expanded by Glenn Scott (1960, 1962, and 1963) has been applied throughout the Colorado Piedmont, and also has been extended to other regions in and near the southern Rocky Mountains.

In several areas, the Scott nomenclature has been misapplied because of the fallibility of correlating middle and early Pleistocene alluvial deposits by height above stream level. In some cases, bedrock geologists followed the lead of Quaternary geologists who had little choice but to use height above stream level because numerical ages were lacking and exposures of tephra, primarily the Lava Creek B ash, are rare. Thus, this talk will focus on the fallibilities of such correlations. Specific topics include the nature of piedmont regions, factors controlling stream incision, and examples of how and why correlation based on height above stream level may err. Also, the use of alluvium-covered surfaces as indicators of tectonism and climate change will be discussed along with related complications such as stream piracy, stream avulsion, and topographic inversion.

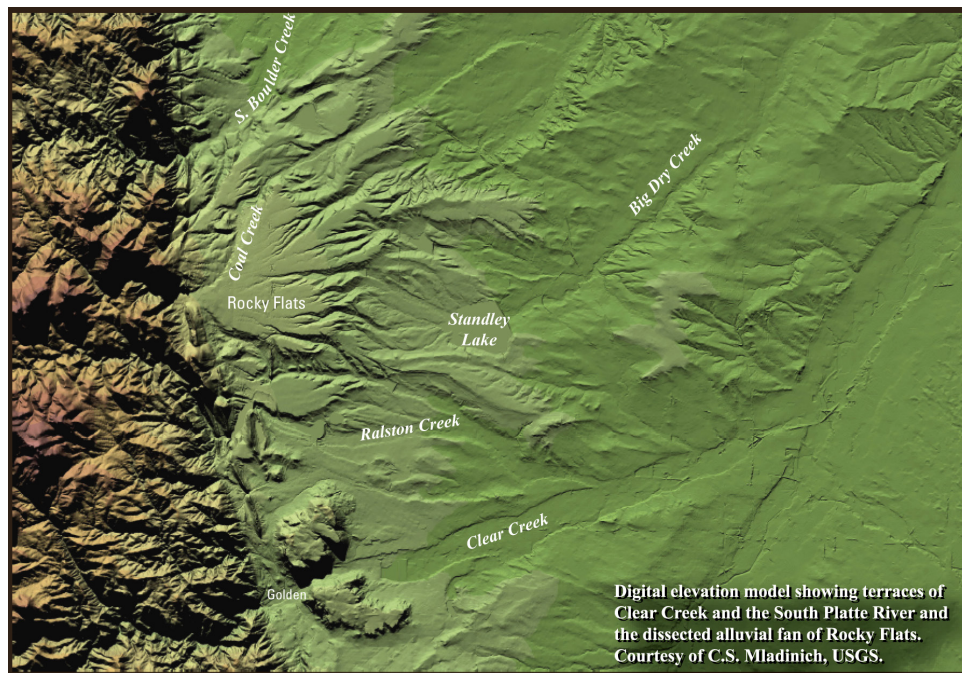


A field trip to honor Glenn Scott is scheduled for Saturday, October 24

Trip leaders include Pete Birkeland, Rich Madole, Cal Ruleman, and Ralph Shroba. The trip will feature the geology of the western Colorado Piedmont and adjoining Front Range, and will focus in particular on Quaternary geology and geomorphology, Tertiary erosion surfaces, and zonation of the Pierre Shale, topics to which Glenn has made major contributions. Most of the morning will be spent along the mountain front between the south edge of Rocky Flats and the mouth of Lefthand Canyon, about 8 km north of Boulder. The afternoon will be spent in the mountains at stops in Lefthand Canyon, along the Peak-to-Peak Highway, and in the Nederland area. The trip will end near the downvalley limit of glaciation in the valley of Middle Boulder Creek. The group will return to the trip starting point by way of Colorado Highway 72 down Coal Creek Canyon. In event of inclement weather in the mountains, more stops will be made on the piedmont.

In preparation for the field trip, Pete Birkeland and Rich Madole will speak at the monthly CSS meeting in Golden on October 22. Pete will give a 30-minute presentation on the history of Front Range/piedmont research and Rich will do about 25 minutes on geomorphology and nomenclature of the Quaternary stratigraphy.

On Saturday, October 24, we will board the vans at the Cold Springs Park-n-Ride (northwest corner of the Denver Federal Center, Lakewood) and depart promptly at 7:45 a.m. For those coming from Boulder or from the north we will meet you at 8:00 a.m. at the Park-n-Ride at the southeast corner of Highway 93 and Highway 72. We will depart no later than 8:15 a.m. We will return to the Cold Springs Park-n-ride about 5:00 p.m. Bring your own lunch and all-weather gear; be prepared for ANY kind of weather. CSS will provide bottled water and soda. Cost... \$20 per person. Students are FREE.



Please RSVP to Cal Ruleman NO LATER THAN Thursday, October 22.

Give Cal your name, phone number, and email address in case we need to cancel the trip at the very last minute due to "weather." Students **MUST** RSVP, so we can provide adequate van space. Cal can be reached at: email: cruleman@usgs.gov; phone: (303) 859-0911

Send your check written to Colorado Scientific Society for \$20 per person to:

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



At our September evening meeting, we heard an interesting presentation from Chris Thiry, the map librarian at the Arthur Lakes Library at the Colorado School of Mines. Chris described the library's holdings of some 170,000 historic geographic and mining maps. Surprisingly, almost all of the maps circulate! Chris has volunteered the library for a future CSS meeting where we could view the map collection and the archives area first-hand. In the meantime, members are encouraged to take advantage of the library and Chris's expertise if you have map-related research or historical needs.

In September the CSS Council held a "meeting" via e-mail. I sent out a list of topics for Council members to respond to; I summarize the discussion below.:

Topic #1: CSS web site work by Table Mountain web design.

Since last spring, the CSS website work has been done by a private company in Golden called Table Mountain web design. In addition to posting our monthly announcements, a few of us have been working to update information on the site (most notably Sue Hirschfeld and the Outreach page) and to fix links that were broken. The bill since last May for this work has been \$135. CSS Council was in agreement with me that the relationship was working well and the cost is reasonable to obtain professional services. Foreseeable additional modifications to the web site include posting fall field trip info, completely updating the student grants page, update the pretty complicated abstracts page, adding historical documents, etc. These additions could run up another \$150 in charges.

Topic #2: Lisa Fischer reported that there was abundant leftover food from the August Family Day, including about 40 burgers, 15 brats, 20 hot dogs, a box of Boca burgers, buns, condiments, paper & related goods, whole choc cake, half lemon cake, cupcakes, popcorn.... But she reports the Oreos didn't make it! No decision was made on what to do with this food—several ideas related to membership drives and student outreach were mentioned. Leftover drinks from Family Day will be used on the fall field trip.

Topic #3: Scott Minor reminds us we will have several CSS positions to fill after December, including a new CSS councilor to fill Scott's position, a new Program chair (and program committee), and, of course, a President-Elect. If you have suggestions for these vacancies, or have an interest in filling any of these positions, please contact me.

In terms of this month's program, I look forward to the Glenn Scott evening and field trip. It is my hope that we can honor other CSS members in a similar way in future years. An evening of talks and an associated one-day field trip is a manageable thing to organize (mostly thanks to Cal Ruleman this time!) and is a nice way to honor long-standing and respected CSS members. See you there!

Scanners needed for field trip guidebooks!

If you have a little free time and a flatbed scanner, we could use your help. We have a number of field trip guidebooks from past CSS field trips that we would like to scan and post on our web pages. This is a way to preserve and share the legacy of geologic knowledge created within the Society. On our website, (http://www.coloscisoc.org/fieldtrips/field_trips.html) we have compiled a list of CSS field trips from the past few years; we have the ability to post a PDF next to each trip name if we can get the documents scanned. If you would like to help, please contact Don Sweetkind at dsweetkind@usgs.gov.



While on the web page, please have a look at the three virtual field trips that Sue Hirschfeld has created for us. We get a lot of positive public comments regarding these trips, both because they are written in a very accessible fashion and because they are listed as Earthcaches, a geologically-focused type of geocache that educates the GPS-using public. For example, the NCAR trails guide is listed at: http://www.geocaching.com/seek/cache_details.aspx?wp=GCZDCT

Volunteer help needed!

This Society runs on volunteer power and there are several areas where we need an infusion of interested and energetic volunteers to keep things moving! Please consider donating some of your time to any of the following Society activities.

Newsletter committee

Write monthly or occasional articles to enrich the CSS newsletter. Write reviews/summaries of evening meetings or CSS field trips. Write short profiles of current members. Profile the goings on at the USGS, the CGS, or your university. Describe new fossil finds or new mapping occurring in Colorado. We print it all! Help with the newsletter production, including layout, artwork, copying or mailing. Any amount of help is appreciated! Contact: Lisa Rukstales; lrukstales@usgs.gov

(Master Scott Rukstales (shown at right helping with the “paint the dinosaur footprint” kiosk at Dinosaur Ridge) labels and stamps the CSS newsletter.)



Field trip committee

Help come up with ideas for one-day and multi-day field trips. Help with the logistics and organization of putting on a field trip. Contribute your local geologic knowledge at a field trip stop. Use your GPS to capture field trip stop locations. Write a brief summary of the field trip stops for our web site. Contribute photos you took on a CSS field trip.

Contact: Cal Ruleman; cruleman@usgs.gov

History committee

Dive into the rich CSS history, learn something about the Society and help preserve something for the future! We need help in organizing files and materials, scanning and archiving old documents, and preparing files to post on our website.

Contact: Beth Simmons; cloverknoll@comcast.net

Web site committee

Help maintain the CSS web site and keep it up to date. Volunteer to regularly log on to the CSS web site and check it for errors, broken links, and current information. Be the lead person in sending material to our web site manager for posting. Come up with new ideas for improving our web site.

Contact: Don Sweetkind; dsweetkind@usgs.gov

Be a CSS Councilor!

Attend infrequent council meetings (approximately every other month) and participate in the running of the Society. Make decisions on upcoming events, purchases, and have a voice in how the Society functions and the directions it takes. An easy way to be involved and have your opinions heard.

Contact: Don Sweetkind; dsweetkind@usgs.gov

Cache as Cache Can

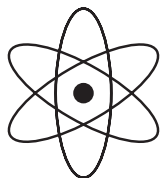
I am looking for additional geology field trips that will be of interest to a general audience and can be re-designed to be self-guided. If necessary, I would rewrite technical portions so it is accessible to the non-geologist. If it has GPS coordinates and the author approves, I will submit it for inclusion on the Earthcache website.

Sue Ellen Hirschfeld, Outreach Chair.
eqdoc@ix.netcom.com
<http://eqdoc.home.netcom.com>



STUDENT SCHOLARSHIPS!!!

Each year the Society for Mining, Metallurgy and Exploration (SME) offers up to 25 scholarships to SME student members for academic excellence. Check it out at: <http://www.smenet.org/scholarships/>



Uranium in Groundwater Session at NGWA Ground Water Summit

Ray Johnson writes: Jim Otton and I are sponsoring a session titled “Uranium in Groundwater” at the National Ground Water Association’s (NGWA) Ground Water Summit. The meeting is here in Denver, April 11–15, 2010, and in the past has been a very nice mix of people (i.e., regulators, researchers, consultants, private industry, etc.) interested in many types of groundwater issues. The main NGWA meeting web page can be found at <http://www.ngwa.org/summit2010/index.aspx> and our session description can be found at <http://www.ngwa.org/summit2010/Sessions2010/Uranium.aspx>.

Please consider submitting an abstract to our session! The abstract deadline is 11:59 PM, EST, November 6, 2009, and the abstract submission link is <http://ngwa.confex.com/ngwa/2010gws/cfp.cgi>.

We hope you can participate in this meeting and our uranium session. Please forward this e-mail to anyone else you think might be interested. If you have any questions, feel free to give me a call.

Raymond H. Johnson, Ph.D. (Phone: 303-236-1885; E-mail: rhjohnso@usgs.gov)
U.S. Geological Survey
Crustal Imaging and Characterization Team
Denver, CO 80225-0046

“Recently, I’ve had a number of inquiries regarding the INTERDEX and COREVIEW exploration programs. Fortunately, these practical programs are still available to the exploration community as FREEWARE on the Internet at www.visidata.com.au. Formerly these programs sold for US\$3000 and \$1000, respectively, but after a series of mergers and licensing agreements, the programs were made available as freeware. COREVIEW is the “front end” program that is a database manager, data validation and drill logging software with flexible import/export functionality. With Interdex you can analyze and visualize geological and geochemical data whether in multi-element soil surveys or in drilling programs. Although Interdex has a 3D viewer, the program puts out customized, industry-standard maps and drill sections from the plot editor.”



Craig Horlacher, Principal Geologist
Pincock Allen and Holt, Inc.
Lakewood, Colorado, USA

.....
• 8 Science Kit Reviews and 8 DIY Experiments
• You Can Do for Free
• <http://www.popularmechanics.com/science/research/4323417.html?page=1>
• (annoying adverts, but cool kits!)
•

Dinosaur Discovery Day at Dinosaur Ridge POSTPONED!!

Due to frigid temps., Girl Scout Day was moved to Saturday, October 17th. As always, your help will really be appreciated, especially now that some of our volunteers have conflicts with the new date! The shifts will be from 10 a.m. –12:30 p.m. and 12:30–3:00 p.m. If you’d like to help, please contact Clare Marshall:

dinodiscovery@dinoridge.org
303.697.3466 ext. 15.





Earth Science Meetings and Talks

Newsletter items must be received by the 25th of each month.



Colorado Scientific Society's regular meetings are held the 3rd Thursday of the month at the Colorado School of Mines Geology Building 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 Don Sweetkind, at 303-236-1828, dsweetkind@usgs.gov

Café Scientifique Wynkoop Brewery, evening science talks at 6:30. Free, except for beer. For upcoming schedule go to: <http://www.cafescicolorado.org/Upcoming.htm>

CO-AIPG (American Institute of Professional Geologists, Colorado Section) 11:30 a.m. social gathering; Noon luncheon and subsequent speaker presentation. **Oct. 20** *Roy Savage, Rifle, Colorado*, "Oil and gas leasing: The landowner/royalty holder viewpoint." 2009 luncheons held at the Petroleum Club (in the Denver Athletic Club building), 1325 Glenarm Street, Denver. Please make an advance reservation. Cost is \$25 with advance reservation and \$30 at the door. Paid parking is available along the street (metered) or in the adjacent parking lots and parking structure. Contact Jim Russell by Noon on Oct. 16 for reservations: 303-278-4456 (hm), 303-815-3901 (cell), or e-mail at summitdatasvcs@msn.com

Colorado School of Mines, Van Tuyl Lectures **Oct. 15** *Rebecca Flowers, Assistant Professor, University of Colorado, Dept. of Geological Sciences*, "Unroofing, incision, and uplift history of the southwestern Colorado Plateau from apatite (U-Th)/He thermochronometry"; **Oct. 22** *Philip H. "Pete" Stark-IHS Resources, VP Industry Relations*, "Recovery is Dawning: What Does this Mean for Oil & Gas Demand, Supplies and Prices?"; **Oct. 29** *Jim Burnell-Colorado Geological Survey*, "Critical and Strategic Minerals in the 21st Century"; **Nov. 5** *Karin Hoal-Director, Advanced Mineralogy Research Center-CSM*, "Characterizing Geological Materials: Mineralogy and Texture and the AMRC"; **Nov. 12** *David Noe, Colorado Geological Survey*, "New Discoveries: Examples from Colorado's Geologic Mapping Program." Thursdays from 4-5 p.m. in Berthoud Hall room 241. <http://www.mines.edu/academic/geology>

Colorado Mountain Club **Nov. 10** *Dr. John Lufkin, Consulting Geologist*, "Geology, Hiking, and Birding in Northern Costa Rica," Foss Auditorium, 7:00 p.m., 10th and Washington, Golden, CO **Dec. 15** "Winter Skies" at Chamberlain Observatory, Denver. Call CMC office, 303-279-3080, for reservations; limit of 15!

Denver Mining Club, Ltd. **Oct. 19** *Don Koenneman, Responsible Engineer (ret.) of Test Stand 1-A*, "A Photo History of the Apollo F-1 Engine (the most Powerful Machine Ever Built) and Its Role in Landing Man on the Moon"; **Oct. 26** *Paul Jones, Treasurer, Mining & Metallurgical Society of America*, "History of the MMSA (including mining history in Colorado)." Meetings held at: Country Buffet, 8100 West Crestline Ave, SE corner at Wadsworth, Littleton. Purchase of buffet lunch required. Every Monday, except when noted. 11:30 a.m. - 1:00 p.m. (+/-). VISITORS ALWAYS WELCOME! <http://www.denverminingclub.org>

Denver Region Exploration Geologists' Society (DREGS) meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social 6:30-7:00 p.m. Presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. For information contact Jim Piper, (303) 932-0137, or the website <http://www.dregs.org>

Desk and Derrick Club of Denver **Nov. 10** *Christina Hunt*, "Antarctica speaker." Meetings are held on the second Tuesday of each month at 11:30a. at the Denver Petroleum Club, 1325 Glenarm Place. For reservations please contact Sandra Thompson (Sandra.Thompson@anadarko.com) <http://www.deskandderrick.org/Calendar.htm>

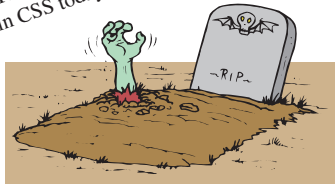
Rocky Mountain Association of Geologists (RMAG) **Oct. 16** *Benjamin Herber and Paul Weimer*, "3-D interpretation of meteorite impact field, Red Wing Creek field, Williston Basin, western North Dakota." Luncheons are in Denver at the Marriott City Center at California and 17th St. Lunch is at Noon and the Program begins around 12:20 pm. All lunch attendees must pay prior to the lunch with a credit card, Paypal, Check, or Cash. If you do not make the \$30 payment by Thursday prior to the lunch, your lunch will be canceled or sold. Reservations are not accepted after 10:30 a.m. on Wednesday, Oct. 14, prior to the luncheon. No reservation is required for the talk only and the cost is \$5.00. Email with your reservation information staff@rmag.org

Univ. of Colorado, Boulder, Geol. Sciences Colloquium Weds., 4:00 p.m., Rm. 380. Refreshments at 3:30 p.m. on the 3rd floor. **Oct. 28** *Joe Galewsky, University of New Mexico*. "Orographic precipitation isotopic ratios in stratified atmospheric flows: Implications for paleoelevation studies"; **Nov. 4** *Derek Schutt, Colorado State University*, "The effects of composition and temperature on the seismic velocity, density, and stability of cratonic mantle"; **Nov. 11** *Matt Fouch, Arizona State University*, "Hot sheets and Cool Drips: New Views of Western United States Crust and Mantle Dynamics." <http://www.colorado.edu/GeolSci/>

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

<http://www.coloscisoc.org>

We DIG new members!
Join CSS today!!!!



OFFICERS

President:	Don Sweetkind, USGS, 303-236-1828, dsweetkind@usgs.gov	2006–2009: Scott Minor, 303–236–0303, sminor@usgs.gov
President-Elect:	Scott Minor, USGS, 303-236-0303, sminor@usgs.gov	2007–2010: Jeremy McCreary 303–744–0907 jeremy@cliffshade.com
Treasurer:	Don Sweetkind, USGS, 303-236-1828, dsweetkind@usgs.gov	2008–2011: Lee Shropshire, UNC, 970–352–8778, leeshrop@comcast.net ;
Secretary:	Lisa Fisher, CSM, 303-478-9427 (c), lfisher@mines.edu	Sue Ellen Hirschfeld, eqdoc@ix.netcom.com
Past President:	Matt Morgan, CGS, 303-866-2066 matt.morgan@state.co.us	2009–2012: Jim Burnell, CGS, 303–866–2611, jim.burnell@state.co.us

COUNCILORS

COMMITTEE CHAIRPERSONS

Best Paper Award:	Don Sweetkind, USGS, 303–236–1828, dsweetkind@usgs.gov
Database Manager:	Erik Oerter, CGS, erik.oerter@state.co.us
Field Trips:	Cal Ruleman, USGS, 303–236–7804, cruleman@usgs.gov ; Karl Kellogg, kkellogg@usgs.gov
Graphics:	Lisa Rukstales, USGS, 303–236–5547, lrukstales@usgs.gov
History:	Beth Simmons, cloverknoll@comcast.net
Membership:	Thom Fisher, Libby Prueher, TC Wait, Eric Nelson, Beth Simmons
Memorial Funds:	Matt Morgan, CGS, 303–866–2066 matt.morgan@state.co.us
Newsletter Editor:	Lisa Rukstales, USGS, 303–236–5547, lrukstales@usgs.gov
Outreach:	Sue Hirschfeld, 720–565–9302, eqdoc@ix.netcom.com
Pillmore Fund:	Lee Shropshire, UNC, 970–352–8778, leeshrop@comcast.net
Program:	Emmett Evanoff, 303-444-2644, emmettevanoff@earthlink.net , Libby Prueher, Christine Turner
Publicity:	Emily Taylor, 303–236–5050, emtaylor@usgs.gov
Science Fair:	Chuck Weisenberg, 303–238–8806, cweisnbrg@msn.com
Webmaster:	



**** STOP! Do NOT recycle this until after the talk! Please help us with publicity by posting at least the front page of this Newsletter on a bulletin board. Thank you!**