



## ***Colorado Scientific Society***

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

**Aurora over NCAR's Mesa laboratory,  
photographed by Stanley Solomon,  
November 20, 2003.**



### **Introduction to Space Weather**

**Joan Burkepile**, *National Center for Atmospheric Research*

**Thursday, April 19 2007**

**National Center for Atmospheric Research (NCAR)**

**1850 Table Mesa Drive, Boulder, CO 80305**

**NCAR tour– 5:30-7:30 p.m. Dinner--6:00 p.m. Talk – 7:30 p.m.**

**(registration form inside)**

## **Abstract**

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### **Introduction to Space Weather (for the non-scientist)**

*By Joan Burkepile, National Center for Atmospheric Research*

Space Weather is the term used to describe disturbances in interplanetary space that can harm astronauts, damage satellites, generate aurora, and disrupt power grids, communication and navigation equipment. These disturbances are driven,

primarily, by activity occurring in the sun's atmosphere. I will describe how conditions in the solar atmosphere create activity that can propagate through interplanetary space and effect the environment at Earth and all the planets.

### **Colorado Scientific Society President's Note—April 2007**

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*By Bill Nesse*

It has come to my attention that this is the 125<sup>th</sup> year of the Society's existence. We were established on December 8, 1882. That means that we are one of the oldest scientific societies in the country, and, in the western states, older than all but one society in California. That bit of history was brought up via an e-mail from Beth Simmons, the Society's historian, who reported that the Colorado Historical Society had received some papers from William Johnston that included our certificate of incorporation (1885), constitution, and other papers. The folks at the CHS wondered whether we would be the best repository for those documents and Beth immediately replied that we would be delighted to receive them. It also turns out that the Denver Public Library holds some additional papers related to the Society. I'm looking forward to a report by Beth summarizing the salient information in these documents in a future newsletter.

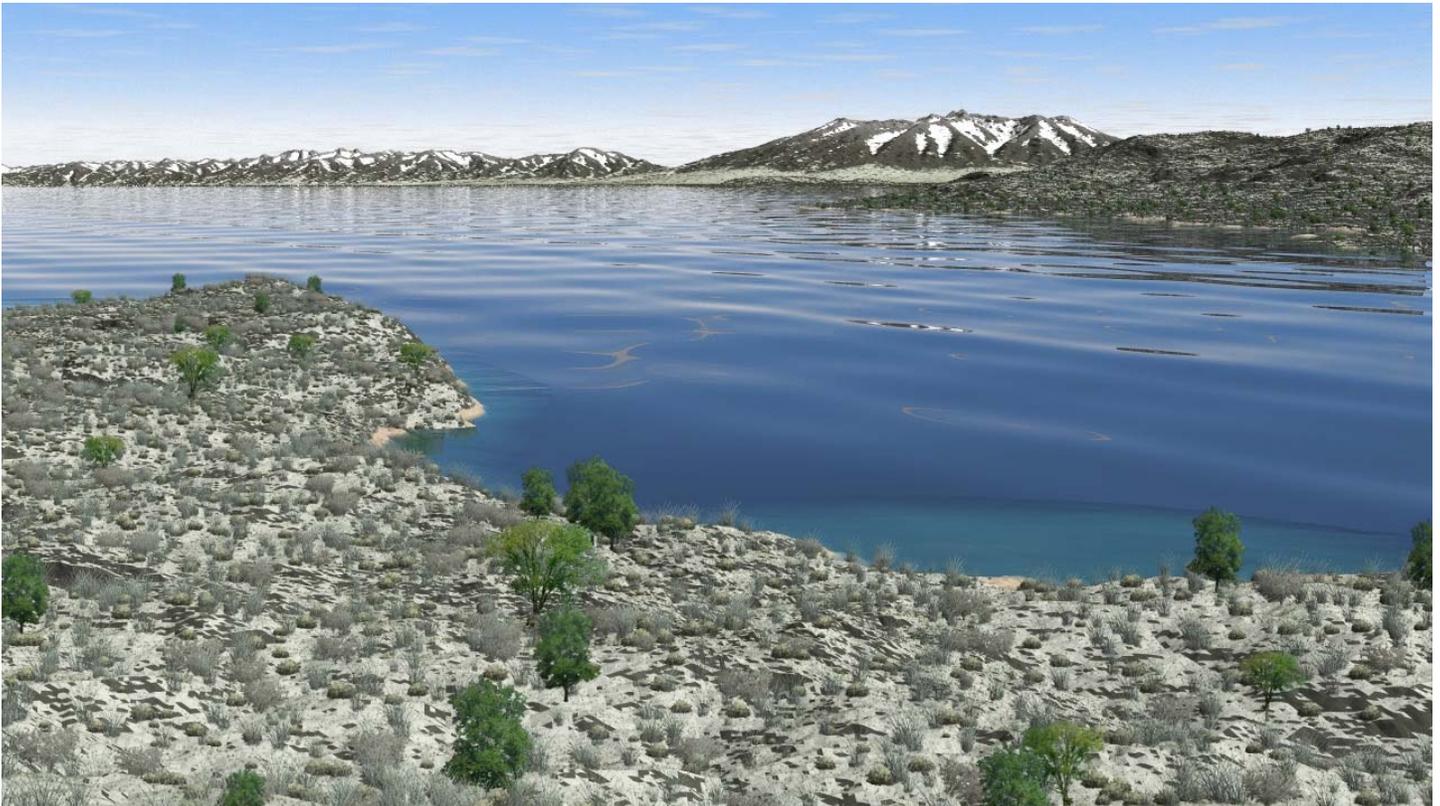
However, back to our quasiquintennial. This is a significant milestone and warrants some modest

celebration. I know that the big celebrations are supposed to be the centennial, bicentennial and so forth, but if we held to that schedule it would be far too long between parties. So a modest "do" marking our quasiquintennial would seem to be in order. To that end I will be asking the Council and Program Committee to organize a bit of a celebration to coincide with our December 2007 meeting.

As for what we each can do to help celebrate, you might raise a glass when the next opportunity arises, to recognize the distinguished scientists who founded our society, and the many outstanding individuals who have been its members and on whose scientific shoulders we stand as we continue to "promote knowledge, the understanding of science, and its application to human needs..." We can also encourage our colleagues to join us in the Society as we make our way to celebrating our sesquicentennial in 2032.

## Upcoming Field Trips 2007

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*GIS recreation of Lake Alamosa at about 500 ka. View is to the NNE from San Luis Hills.*

**June 2-3-** The CSS spring field trip will be led by Mike Machette to ancient Lake Alamosa, the Plio-Pleistocene lake that occupied a large part of the San Luis Valley. This fascinating trip will examine various lake features, such as spits, bars and lagoon deposits, discuss the timing and ultimate overflow of the lake, peat and tufa deposits, and visit the Quaternary Mesita Volcano. We will also visit the Sangre de Cristo fault zone and its scarps near Fort Garland, some of which are as young as early Holocene. There will be a brief stop near Kenosha Pass to arm wave at the eastern margin of South Park where new mapping by USGS has shown possible late Quaternary faults.

The trip will include transportation from Lakewood, one night lodging in Alamosa at the Lamplighter motel, two lunches and one continental breakfast, and the field guide. Camping at the KOA is an option. Student grants are available from the Pillmore fund to cover some or all expenses. **Contact** Karl Kellogg ([kkellogg@usgs.gov](mailto:kkellogg@usgs.gov); (303) 236-1305) for additional information.

Meeting place for van pool: Cold Spring Park and Ride, 4<sup>th</sup> and Union, Lakewood. **7 a.m.** Saturday  
Return 5:30 p.m. Sunday  
Cost : \$95-\$125, motel. \$20 KOA  
See registration form below. **Deadline is May 18.**

### Mark Your Calendars!

The Fall field trip will be **October 6** to Florissant, led by Herb Meyer and Emmett Evanoff.

## Register for Lake Alamosa field trip—June 2-3

Name: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Number of Participants: \_\_\_\_\_ @ \$95/ person (double occupancy) = \_\_\_\_\_

Number of Participants: \_\_\_\_\_ @ \$125/person (single room) = \_\_\_\_\_

Number of Participants: \_\_\_\_\_ @ \$20/campsite KOA = \_\_\_\_\_

Total for all attending: \$ \_\_\_\_\_

Food preferences: \_\_\_\_\_

For registration, send this form and your check made out to **Colorado Scientific Society** to Karl Kellogg, Colorado Scientific Society, P.O. Box 150495, Lakewood, CO 80215-0495.

**Deadline** is May 18.

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### **Colorado Scientific Society Symposium on the Volcanoes of Colorado, A Symposium in Honor of Thomas A. Steven**

When	Saturday, May 19, 2007
Where	University of Northern Colorado Campus in Greeley
Topics	All aspects of the volcanic history of Colorado
Field trip	TBA
Deadlines	Friday, March 30—deadline for submitting a title for a talk Friday, April 27—deadline for submitting abstract
Contact information	Emmett Evanoff Dept. Earth Science, Campus Box 100, Univ. Northern Colorado, Greeley CO 80639 emmett.evanoff@unco.edu

On 19 May 2007, the Colorado Scientific Society will sponsor a one-day symposium on the volcanic geology of Colorado. The symposium is dedicated to Tom Steven, whose work provided the foundation of our understanding of Colorado's volcanic history. About 30 minutes will be allowed for each speaker. If you are interested in presenting a talk, contact Emmett Evanoff (address above) and provide your name, address, phone number, e-mail address, and a title for your presentation. The title of your talk must be received no later than **March 30**. If you are interested in helping to plan a field trip, please say so when you send in your talk title.

**Guidelines for Abstracts:** The deadline for abstracts will be **Friday, April 27**. The abstract can

range from a short abstract (typical GSA style abstract) to an extended abstract with figures and references. Extended abstracts, including title, text (double spaced, 12 point Times Roman type) and references must be no more than two pages long. You may submit no more than two figures, with captions, along with your abstract. Submit the abstract either on paper or electronically by email or disk (CD-ROM). Graphics must fit inside a 6.5" H 9" rectangle. Electronically submitted abstracts must be in Windows word processing format (MS Word preferred) or as unformatted text. Please send your graphics as separate files, preferably as TIF or JPEG files.



Tom Steven retired after an exemplary 42-year career with the USGS. During this time, he achieved recognition from all quarters of the geologic community as a leading authority on geologic mapping, complex volcanic structures, genesis of ore deposits, and landscape evolution. He has authored over 170 scientific and technical publications, most of which are based on field observations and interpretations. The publications include geologic maps of standard quadrangles and of large regions, reports on mining districts, and syntheses of the genesis and evolutionary trends of magmas and ores in complex volcanic systems.

Tom is a past president of the Colorado Scientific Society and a recipient of the Department of Interior Meritorious Service Award. On June 17, 2000, he received the 7<sup>th</sup> annual Dibblee Medal. The Dibblee Medal, awarded for excellence in field geology and geologic mapping, is highly prized by geologists. The prestigious medal, named for renowned field geologist, Tom Dibblee, is awarded by the Dibblee Geological Foundation, a non-profit California educational institution aimed at the timely publication of geological maps. Each

medallist has been selected by a committee of peers who recognize the qualities and values of geologic mapping.

Tom and his wife, Grace, have lived in the Denver area since 1952. After retirement, he continued working on reports at the USGS as a Scientist Emeritus. In addition, he initiated other projects, including an investigation of the geomorphic evolution of the San Juan Mountains. Tom also began writing poetry and has published a 100-page book of poems about growing up in California, the beauty of the scenery he has been privileged to witness as a field geologist, and philosophical meanderings about concepts in geology, science management, and life.

In his acceptance speech for the Dibblee Medal, Tom described his life experience in the field as "...joyous times of solitude when I am alone in the hills trying to read a book that has no title or table of contents, and whose text pages are blank. This is the metaphor I have used in a bit of verse that tries to explore beyond the mechanical basics of field mapping:

#### The Reading

Let us read from a book  
That none of us can see,  
Formless words without sound  
In a language yet to be

Read of those things  
That must come of our wills,  
Of those things that we would,  
Would be"

## Register for CSS Family Night—Thursday, April 19

Schedule for the Colorado Scientific Society 2007 Family Night Presentation:

5:30-7:30: Tour of NCAR

6:00-7:30: Optional dinner at NCAR cafeteria, pizza

7:30-8:30: Talk by **Joan Burkepille**, High Altitude Observatory, NCAR

See attached map for location.

Cost of the pizza dinner will be \$13.50 per person

Name: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Number of Participants: \_\_\_\_\_ @ \$13.50/person = \$\_\_\_\_\_

For registration, send this form and your check made out to **Colorado Scientific Society** to Lisa Fisher, Colorado Scientific Society, P.O. Box 150495, Lakewood, CO 80215-0495.

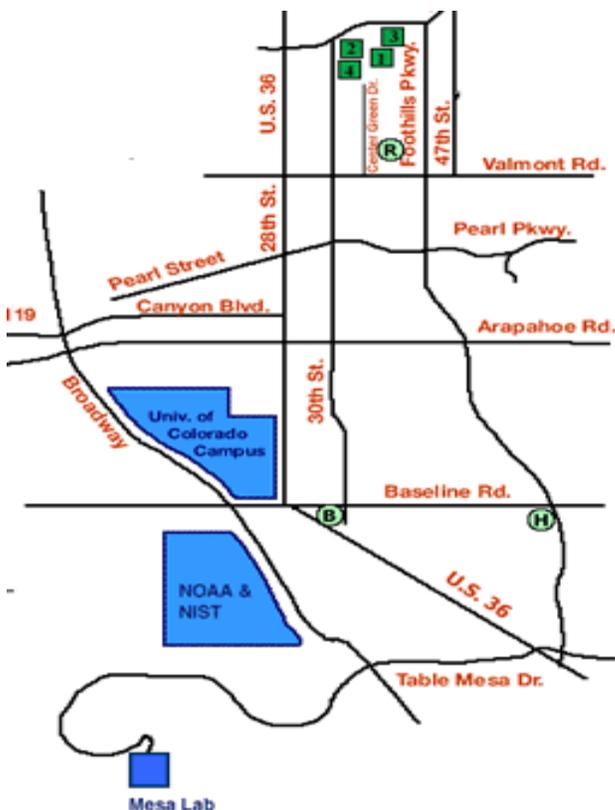
**NCAR, Mesa Lab**  
**1850 Table Mesa Drive**  
**Boulder, CO 80305**

### **From Denver, Colorado Springs and Pueblo:**

- Follow US 25 North
- North of Denver, take left lane exit to US 36N
- From US 36, exit at Foothills Pkwy/S. Boulder Rd.
- Curve right at exit towards S. Boulder Rd.
- Turn left (west) at light onto S. Boulder Rd.
- In one mile, S. Boulder Rd becomes Table Mesa Dr.
- Continue through a residential area and up the Mesa until the road ends.

### **From Golden:**

- Take CO-93 North
- 16 miles north of Golden, turn left onto Table Mesa Dr.
- Continue through a residential area and up the Mesa until the road ends





# 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 Bill Nesse at 970-330-7183 [nesse@ctos.com](mailto:nesse@ctos.com)



**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. Apr 2, Jan Groeneboer, "Bureau of Mines mining photography." Apr 9, Mark Rodham, Colorado Preservation, Inc, "National summit of mining communities." Apr 16, Jan Matousek, "Pyrometallurgical recover of nickel from laterite ores." <http://china-resources.net>.

**Denver Region Exploration Geologists' Society (DREGS)** meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social ½ hour 6:30-7:00 p.m. Technical presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. Apr 2, Nick Ferris, "Athabasca uranium." 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, \$15. Subject matter usually deals with the application of well logs to oil and gas exploration. Call Eleice 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, 17<sup>th</sup> & California. Apr 20, Janell Edman, "Use of geochemical analyses to evaluate shale gas plays." 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 18<sup>th</sup> 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. Benson Earth Sciences Conference Rm 380. Refreshments at 3:30 on the 3rd floor. Apr 11, Carolina Bertelloni, "Earth under stress: mantle dynamics and surface deformation." Apr 18, Joann Stock, "Controversies of plate boundary kinematics in the Gulf of California." 303-492-8141. Web page: <http://www.colorado.edu/GeolSci>.

**Colorado State University, Dept of Geosciences**, Rm 320 Natural Resources Bldg, Mondays, 4:10 pm. 970-491-5661. Apr 9, Mike Gooseff, "Baked Alaska, climate change effects in northern Alaska streams." Apr 16, John Behrendt, "Subglacial volcanism seen by aerogeophysical surveys in the Antarctic ice sheet, comparisons with Iceland." <http://www.cnr.colostate.edu/geo/seminars>

**Friends of Dinosaur Ridge**. Morrison Town Hall 110 Stone Street, 7:00 p.m., Apr 13, Adrian Hunt, "Dinosaurs of Dinosaur Ridge." Web page: Admission is free, but donations are welcome. FODR Visitor Center at (303) 697-3466, <http://www.dinoridge.org>.

**Colorado School of Mines, Van Tuyl Lectures** Thursdays from 4-5 p.m. in Berthoud Hall room 108. Apr 5, Zahi Cath, "The role of membrane contactors in traditional and new applications." Apr 26, Husain Amry, "Solutions to water scarcity in the Middle East." <http://www.mines.edu/academic/geology.html>

**USGS Geologic Division Colloquium**. Thursdays, 1:30, Foord Room, Building 20, Denver Federal Center. Apr 5, Andrew Todd, "Mining legacies in the Snake River Watershed: biochemistry, stream ecology, and human use." For more information contact: Pete Modreski, U.S.G.S., Denver, Colorado tel. 303-202-4766, email [pmodreski@usgs.gov](mailto:pmodreski@usgs.gov).

**Café Scientifique**. Wynkoop Brewery, 18<sup>th</sup> & Wynkoop, 6:30 p.m. Apr 17, Richard Kithil Jr, National Lightning Safety Institute, and Robert Gift, chimney sweep, "Lightning-science and safety." No charge, except for beer. <http://cafescicolorado.org/Upcoming>

**For a constantly updated, online geo-calendar, visit the Colorado Geological Survey at**  
<http://geosurvey.state.co.us>

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

<http://www.coloscisoc.org>



## OFFICERS

President: Bill Nesse, UNC 970-330-7183 [nesse@ctos.com](mailto:nesse@ctos.com)  
President-Elect: Matt Morgan, CGS, 303-866-2066 [matt.morgan@state.co.us](mailto:matt.morgan@state.co.us)  
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Past President: Chuck Kluth, CSM, 303- 904-2939, [kluths@comcast.net](mailto:kluths@comcast.net)

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2007-2010: Jeremy McCreary 303-744-0907 [jeremy@cliffshade.com](mailto:jeremy@cliffshade.com)  
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## COMMITTEE CHAIRPERSONS

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Database Manager, membership changes: Cory Conrad, 303-629-8788, [cconrad@knightpiesold.com](mailto:cconrad@knightpiesold.com)  
Field Trips: Karl Kellogg, [kkellogg@usgs.gov](mailto:kkellogg@usgs.gov)  
Graphics: Karen Morgan, CGS, 303-866-3529, [karen.morgan@state.co.us](mailto:karen.morgan@state.co.us)  
History: Beth Simmons, [cloverknoll@comcast.net](mailto:cloverknoll@comcast.net)  
Membership:  
Memorial Funds: Chuck Kluth, 303-273-3889 or [ckluth@mines.edu](mailto:ckluth@mines.edu)  
Newsletter Editor: Celia Greenman, CGS, 303- 866-2811, [celia.greenman@state.co.us](mailto:celia.greenman@state.co.us)  
Outreach: Sue Hirschfeld, 720-565-9302, [eqdoc@ix.netcom.com](mailto:eqdoc@ix.netcom.com)  
Program: Emmett Evanoff, 303-444-2644, [emmettevanoff@earthlink.net](mailto:emmettevanoff@earthlink.net), Libby Prueher, Christine Turner  
Publicity: Lisa Rukstales, [lrukstales@usgs.gov](mailto:lrukstales@usgs.gov)  
Science Fair: Chuck Weisenberg, 303-238-8806, [cweisnbre@aol.com](mailto:cweisnbre@aol.com)  
Webmaster: John M. Ghist, 303-875-9671 [jmghistcss@msn.com](mailto:jmghistcss@msn.com)

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