

Association of Environmental and Engineering Geologists

The Rocky Mountain Section Newsletter

FEBRUARY 2008

MEETING DATE

THURSDAY
FEBRUARY 14th, 2008

TIME

5:45 p.m. Social Hour
6:30 p.m. Dinner
7:30 p.m. Presentation

LOCATION

Berthoud Hall,
Colorado School of
Mines
1516 Illinois St.
Golden, Co 80401
See Map Below

COST

\$25 Members
\$27 Non-members
\$10 Retired members
Students, free first
time then \$10

RESERVATIONS

Kristi Ainslie
(303) 440-5236
or
meetings@aeqrms.org
or
WWW.AEGRMS.ORG

BY NOON,
TUESDAY
FEBRUARY 12TH

Rifle Airport, Expansion of a Mesa

Alyssa Kohlman, P.E.
Geological Engineer, Tetra Tech

The Garfield County Regional Airport in Rifle, Colorado sits atop a mesa high above the surrounding terrain. In order to accommodate a larger class of jet aircraft, the main runway will be upgraded and lengthened. The longer runway will require expansion of the mesa's flat top by means of 90-foot high fill slopes.

Space for runway expansion is constrained on both ends of the existing mesa by county roads and Interstate 70. Fill slopes steeper than what would be attainable with conventional earth fill are required. An alternatives analysis identified earth fill amended with cement as the preferred method to allow increased slope angles and meet geometric constraints.

A soil-cement mix design was formulated using on-site materials. Slope stability analyses were carried out to determine the amount of soil-cement buttress that would be required to build slopes as steep as 1H:1V in the constrained areas. Traditional 2.5H:1V to 3H:1V earth fill slopes were designed for less constricted areas.

In addition to the unique application of soil-cement as a slope buttressing material, very loose wet materials were encountered in several borings during site investigations. Consideration of these potentially loose saturated materials underneath 90-foot high fill slopes presented a difficult design challenge.

2007-2008 Upcoming Meeting Presentations

Below is the tentative schedule of speakers for the 2007-2008 season. We will be adding presentation titles to future newsletters. As seen we have a few openings. If you are interested in giving a presentation please contact Steve Compton at chair@aeqrms.org.

- Mar 28, 2008 - Student Night
- Apr 10, 2008 - Scott Walker
- May 8, 2008 - *Open*

Words From the Chair

This AEG season just keeps getting better! It was great to see such fantastic turnout for the January meeting. AEG President Dorian Kuper's talk about the role of engineering geology in the design, operation, and reclamation of mine properties was very informative. Thanks also to Dorian and the rest of the AEG Executive Council for attending the meeting and passing along great information about AEG to the Rocky Mountain Section. Susan Steele Wier provided her usual challenge to raise money for the AEG Foundation and I'm happy to say that those attending donated over \$300, which Susan generously agreed to match!



There are several upcoming events that I wanted to point out. First, the upcoming 13th annual Congressional Visits Day (CVD) on March 4-5, 2008. This two-day annual event brings scientists, engineers, researchers, educators, and technology executives to Washington, D.C. to raise visibility and support for science, engineering, and technology. Second, the American Geological Institute and the AGI Foundation has announced the creation of Edward C. Roy, Jr. Award for Excellence in Earth Science Teaching, which is awarded to an exemplary K-8 teacher with nominations due March 1. Third, GSA has announced a meeting in Houston this October to Celebrate International Year of Planet Earth. Detailed information on all three events has been included in the newsletter for your review.

I would also like to remind everyone to mark the evening of Friday, March 28th on his or her calendar. This is the date of our annual Student Night. We will continue with the very successful poster session format started last year. I (and the other officers) believe this format allows for the most contact between members and students, more students to participate and is a bit less intimidating than the previous presentation format. Remember that this night is not possible without the support of our generous sponsors. This is where each of you can help! Please take a few minutes to look over the sponsorship form attached to this month's newsletter for details on the various support levels available. We urge each member to give generously and to bring this event to the attention of your employer. I thank you in advance for your support!

Our speaker for the February 14th meeting will be Alyssa Kohlman with Tetra Tech. Alyssa will be presenting work she was involved with during the expansion of the Garfield County airport. This challenging project involved a requirement for fill slopes approaching 1:1 slopes to expand the area available for aircraft use on the mesa.

I hope to see you all at the February 14th meeting. Don't forget to RSVP by Tuesday (2/12/08) at noon.

Steve Compton, PG
Chair AEG-RMS

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13th Annual Congressional Visits Day

Join us for the **13th annual Congressional Visits Day (CVD) on March 4-5, 2008**. This two-day annual event brings scientists, engineers, researchers, educators, and technology executives to Washington to raise visibility and support for science, engineering, and technology.

Participants will spend the first day learning about how Congress works, the current state of the budget process and how to conduct congressional visits. The second day will consist of visits with members of Congress.

In addition to the workshops and visits, participants will get to meet other scientists and engineers, meet federal science agency representatives and attend a reception and breakfast at which members of Congress will speak and meet with the audience.

Please consider participating in these visits and plan early to come to Washington DC. Many scientific societies are involved in CVD, including several of AGI's Member Societies. The American Association of Petroleum Geologists, the American Geophysical Union, the Geological Society of America and the Soil Science Society of America are very active participating societies in CVD and can help coordinate your visits. In addition, these societies and AGI will coordinate a geosciences workshop on March 4 for the geoscientists and geo-engineers who participate.

Individuals interested in participating should contact the Government Affairs Program at govt@agiweb.org. More details about Congressional Visits Day (CVD) and examples of past visits are available at the Working Group web site, www.setcvd.org

Note: AEG is a member society of AGI. We encourage our members to participate in the Congressional Visits Day to promote geoscience to our national leaders. AEG is unable to cover any costs, but we thought if you are in the area, or can travel to DC around March 4-5, you might want to participate in this worthwhile event.

AGI and AGIF Establish Award For Exemplary K-8 Science Teacher

The American Geological Institute (AGI) and the AGI Foundation are pleased to announce the creation of the Edward C. Roy, Jr. Award for Excellence in Earth Science Teaching. Given annually, this award recognizes one classroom teacher from kindergarten to eighth grade for his or her leadership and innovation in earth science education.

The winner will receive a \$2,500 prize and an additional grant of \$1,000 to enable the recipient to attend an AGI member society conference. To be eligible for this year's competition, applications must be postmarked by March 1, 2008.

This award is named in honor of Dr. Edward C. Roy, Jr., who was a strong and dedicated supporter of earth science education. He served as Past President of AGI, chaired the AGI Education Advisory Committee, and received both the Ian Campbell Medal and the Heroy Distinguished Service award. In addition, he served as the Gertrude and Walter Pyron Distinguished Professor of Geology at Trinity University, as Dean of the Division of Sciences, Mathematics, and Engineering, and as Vice President for Academic Affairs.

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AGI and AGIF Establish Award For Exemplary K-8 Science Teacher

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Roy was also appointed Chair of the Texas Earth Science Task Force by the Commissioner of the Texas Education Agency.

To learn more about competition requirements, application procedures, and deadlines, visit <http://www.agiweb.org/education/awards/ed-roy/>.

The American Geological Institute is a nonprofit federation of 44 geoscientific and professional associations that represents more than 120,000 geologists, geophysicists and other earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in the profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resiliency to natural hazards, and interaction with the environment.

International Year of Planet Earth

First-ever

joint

meeting,

October 5-9,

2008

More than 10,000 scientists, professionals, and students will gather in Houston on 5-9 October 2008 to discuss the latest research and current trends in energy, water resources, science education, earth systems, and related sciences.

This meeting is sponsored by the Geological Society of America, American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, and Gulf Coast Association of Geological Societies. Also participating is the Gulf Coast Section of the Society for Sedimentary Geology and the meeting is hosted by the Houston Geological Society.

The intention of this first-ever joint meeting is to highlight and stimulate discussions in areas of common interest across the diversity of disciplines of the organizations represented. Held under the theme, "Celebrating the International Year of Planet Earth," the meeting recognizes the International Year of Planet Earth initiative, organized by International Union of Geological Sciences and the United Nations General Assembly.

The event will be held at the George R. Brown Convention Center and will feature presentations of scientific papers, hundreds of exhibits, and a myriad of distinguished lectures and special events that will engage students to professionals to scientists across the earth sciences and in every employment sector.

The scientific program features joint scientific sessions in the following topical categories:

- *Climate Change through Time: Evidence in the Geologic Record
- *The Impending Global Water Crisis: Geology, Soils, Agronomy, and International Security
- *Energy Budgets and the Global Market
- *Globalization of Biogeochemical Cycles
- *Wetland and River Restoration: Environmental Saviors or Scientific Failures?

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International Year of Planet Earth

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- *Coastal Impacts: Can Massive Environmental Restoration and Coastal Engineering Protect the Gulf Coast from Future Hurricane Impacts and Rising Sea Levels?
- *Geobiology and Biomineralization: From the Origins of Life to the Origin of Cities
- *Emerging Trace Contaminants in Surface and Ground Water Generated from Waste Water and Solid Waste Application
- *Carbon Sequestration: Methods, Markets, and Policy
- *Human Influences on the Stratigraphic Record

In addition to the joint sessions, each participating scientific society will have its own sessions, symposia, workshops, field trips, tours, and special events.

Representatives of the media are cordially invited to attend and participate in scientific sessions, field trips, and other special events. Eligible media will receive complimentary registration and are invited to use onsite newsroom facilities while at the meeting.

Eligibility for media registration is as follows:

- * Working press representing bona fide, recognized news media with a press card, letter, or business card from the publication.
- * Freelance science writers, presenting a current membership card from NASW, ISWA, regional affiliates of NASW, ISWA, CSWA, ACS, ABSW, EUSJA, or evidence of work pertaining to science published in 2007 or 2008.
- * PIOs of scientific societies, educational institutions, and government agencies.

Representatives of the business side of news media, publishing houses, and for-profit corporations must register at the main registration desk and pay the appropriate fees.

Journalists and PIOs must pay for any short courses or field trips in which they wish to participate.

Media registration will begin in June 2008. Contact Ann Cairns, GSA Director of Communications/Marketing/Sales, or Sara Uttech, ASA-CSSA-SSSA Communications Program Manager, for additional information or assistance.

What: Joint Annual Meeting of the Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, and the Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, hosted by the Houston Geological Society

When: 5-9 October 2008

Where: George R. Brown Convention Center, Houston, TX, USA

For information about the meeting or sponsoring scientific societies, go to:

<https://www.acsmeetings.org>

<http://www.geosociety.org>

<http://www.soils.org>

New Swelling Soil Booklet

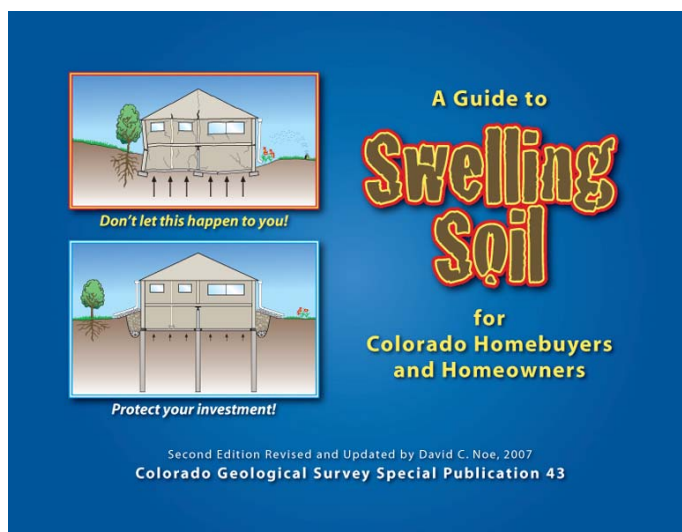
The Colorado Geological Survey (CGS) announces the release of a new booklet, "A Guide to Swelling Soil for Colorado Homebuyers and Homeowners, Second Edition," that is now available to the public.

This colorful, easily understandable booklet describes swelling soil, a geologic hazard that has damaged thousands of homes in Colorado. The publication offers steps that Colorado homeowners can take to help protect themselves against this costly hazard. Homebuyers can learn how homes can be designed and built to withstand swelling soil movements, how to recognize swelling soil damage, and how to landscape a property to manage water use and reduce soil movements and damage.

This information is useful for anyone who is considering buying a house or who owns a house built on swelling soil. Homebuilders and Realtors

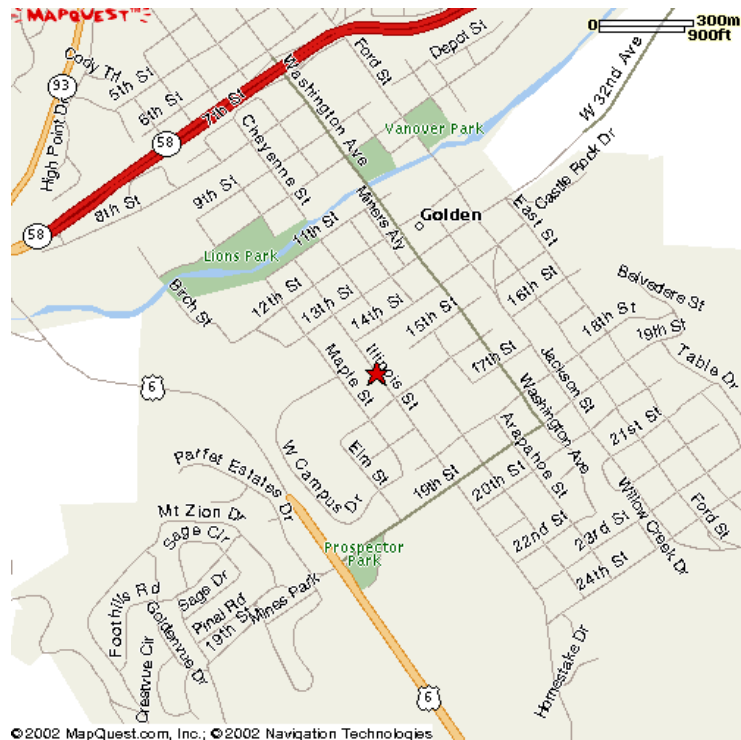
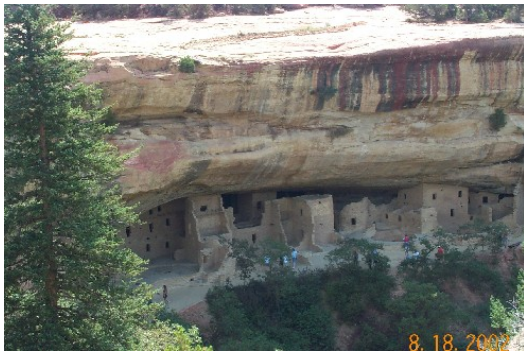
often distribute the booklet to their clients. Over 280,000 copies of the award-winning first edition have been used by Colorado homebuyers and homeowners. The new second edition was updated and revised based on extensive interviews with homeowners, homebuilders, and civil and structural engineers. The old, two-toned drawings and photos have been replaced by brilliantly colored illustrations to aid the reader.

Copies of this publication are available for \$7 at the CGS office in Denver. Telephone, online, or mail orders require an additional \$3.50 (minimum) for shipping and handling. VISA and MasterCard are accepted. Send orders to the Publication Section, Colorado Geological Survey, 1313 Sherman Street, Room 715, Denver, CO 80203, call (303) 866-4762, fax (303) 866-2461, or order online at <http://dnr.state.co.us/geostore>.



"A Guide to Swelling Soil"

GEI Consultants, Inc.
Attn: Kristi Ainslie
1790 38th Street #104
Boulder, CO 80301



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