

# Association of Environmental and Engineering Geologists

The Rocky Mountain Section Newsletter

APRIL 2009

## MEETING DATE

**THURSDAY**  
**APRIL 9th, 2009**

## 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**  
**Room 205**  
**See Map Below**

## COST

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

## RESERVATIONS

[meetings@aeqrms.org](mailto:meetings@aeqrms.org)  
or  
[WWW.AEGRMS.ORG](http://WWW.AEGRMS.ORG)

**BY NOON,**  
**TUESDAY**  
**APRIL 7<sup>TH</sup>**

## **Collapsible Soils in Colorado: Results of a Statewide Study.**

**White, Jonathan L.,**  
**Colorado Geological Survey**

This presentation will provide a synopsis of a recently published Colorado Geological Survey engineering bulletin. *Collapsible Soils in Colorado* describes the geologic, geomorphic, and depositional settings of collapsible soil. As well as the engineering properties and evaluation of the tools and techniques that are available to investigate and assess this widespread geologic hazard. As in many western states and other countries with semi-arid to arid climates, Colorado has the conditions that are amenable to the creation of soils that internally collapse, compact, and settle upon wetting, also commonly called hydrocompaction. This phenomenon was first reported in Colorado when settlers moved into western Colorado and irrigation of dry lands began. It continues to be a major hazard to structures and earthworks.

Soil-fabric collapse, compaction, and ground settlement can be found in sediments (soils) from specific geomorphic and climatic depositional systems where dry, low-density soils (or the intergranular soil matrix) form with a meta-stable skeletal fabric. In finer-grained soils, when plotting swell/consolidation test results compiled for this study, the most common and reliable soil-index properties that can indicate collapse susceptibility are low dry density and low moisture content. Comparison with swelling-soil test data shows this to be true even in smectite clay-rich environments where collapsible soils can also be found proximal to, and even interbedded with swelling soils, or has both swell and collapse properties dependant on depositional dynamics, loading, and degree of saturation. Swell-consolidation testing of soil samples from coarse, rocky collapsible soils is more problematic and in-situ field testing may be required.

This presentation will also discuss other soil types that can settle or cause subsidence features, including gypsiferous soils, settling bedrock, and the pseuokarst landforms that occur in dispersive clay soil.

## Memories from Student Night 2009



## 2008-2009 Upcoming Meeting Presentations

May 14, 2009

Susan Steele-Weir Trip report from Antarctica—**Family Night**

If you are interested in Presenting at an AEG meeting contact Sean Harvey at [chair@aeqrms.org](mailto:chair@aeqrms.org)

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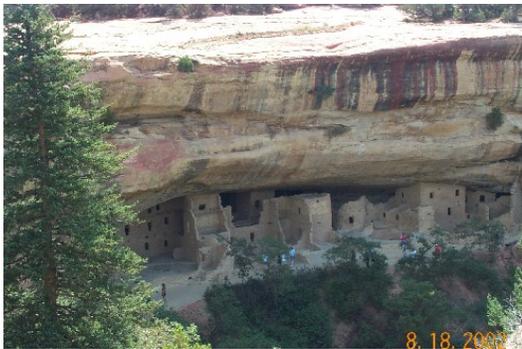
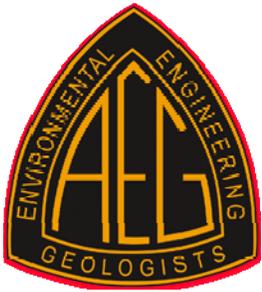
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