The American Geosciences Institute

Spring 2012

Geospectrum

Quarterly Geoscience Newsletter

AGI american geosciences institute

Photo Credit: Abigail Seadler, AGI

Letter from the Editor

Folks! It's time to shake off the winter chill and grab your rock hammers! Don't let allergies or the fact that you didn't get a spring break (faculty aside...) get you down! This issue of Geospectrum lays out lots of fresh geoscience news and upcoming events for your viewing pleasure.

There are new horizons to be discovered (p. 5), and earthly treasures to be found (p. 14) in this issue! Not to mention some great meetings and workshops to get us all ready for the spring convention season (p. 22). So take off that extra layer of flanel and dust off your hiking boots because this spring is just getting started.

As always, thank you to everyone who submitted stories and meeting announcements for this issue of Geospectrum. Please continue to send any and all submissions to geospectrum@agiweb.org. Submission deadline for our summer issue is June 22, 2012.

Abigail Seadler
AGI Member Society Services Manager
aseadler@agiweb.org

Geospectrum

4220 King Street
Alexandria, VA 22302-1502, USA
Phone: 703-379-2480
www.agiweb.org/geospectrum
geospectrum@agiweb.org

Publisher
P. Patrick Leahy

Editor
Abigail R. Seadler

Contributing Editor
Christpher M. Keane

Table of Contents

Geoscience News 5

Education 15

Awards & Leadership 19

Meetings 23

Geoscience Policy 32

AGI Executive Committee

Dr. Wayne D. Pennington, President
Dept. of Geological & Mining Engr. Sciences
Michigan Technological University

Dr. Sharon Mosher, President Elect
Dept of Geological Sciences
University of Texas at Austin

Mr. Michael D. Lawless, Treasurer
Draper Aden Associates

Dr. Berry H. Tew Jr., Secretary
Geological Survey of Alabama

Mr. G. Warfield Hobbs IV, Past President
Ammonite Resources

Mr. David W. Bieber, Member at Large
Geocon Consultants Inc.

Ms. Jessica Moore, Member at Large
Chevron Energy Technology Company

Dr. John G. Parrish, Member at Large
California Geological Survey

P. Patrick Leahy, Executive Director
The American Geosciences Institute

AGI Member Societies

AASP-The Palynological Society (AASP)
American Association of Petroleum Geologists (AAPG)
American Geophysical Union (AGU)
American Institute of Hydrology (AIH)
American Institute of Professional Geologists (AIPG)
American Rock Mechanics Association (ARMA)
Association for the Sciences of Limnology and Oceanography (ASLO)
Association for Women Geoscientists (AWG)
Association of American Geographers (AAG)
Association of American State Geologists (AASG)
Association of Earth Science Editors (AESE)
Association of Environmental & Engineering Geologists (AEG)
Clay Minerals Society (CMS)
Council on Undergraduate Research, Geosciences Division (CUR)
Environmental and Engineering Geophysical Society (EEGS)
Friends of Mineralogy (FOM)
The Geochemical Society (GS)
Geo-Institute of the American Society of Civil Engineers (GI)
Geological Society of America (GSA)
The Geological Society of London (GSL)
Geoscience Information Society (GSIS)
History of Earth Sciences Society (HESS)
International Association of Hydrogeologists/U.S. National Chapter (IAH)
International Medical Geology Association (IMGA)
Karst Waters Institute (KWI)
Mineralogical Society of America (MSA)
National Association of Black Geologists and Geophysicists (NABGG)
National Association of Geoscience Teachers (NAGT)
National Association of State Boards of Geology (ASBOG)
National Cave and Karst Research Instititute (NCKRI)
National Earth Science Teachers Association (NESTA)
National Ground Water Association (NGWA)
National Speleological Society (NSS)
North American Commission of Stratigraphic Nomenclature (NACSN)
Paleobotanical Section of the Botanical Society of America (PSBSA)
Paleontological Research Institution (PRI)
Paleontological Society (PS)
Petroleum History Institute (PHI)
Seismological Society of America (SSA)
SEPM (Society for Sedimentary Geology) (SEPM)
Society for Mining, Metallurgy, and Exploration, Inc. (SME)
The Society for Organic Petrology (TSOP)
Society of Economic Geologists (SEG)
Society of Exploration Geophysicists (SEG)
Society of Independent Professional Earth Scientists (SIPES)
Society of Mineral Museum Professionals (SMMP)
Society of Vertebrate Paleontology (SVP)
Soil Science Society of America (SSSA)
United States Permafrost Association (USPA)

Photo credit: Noble Drilling Corporation. Earth Science Image Bank.

Member Society Council Representatives

American Association of Geographers - Dr. Douglas Richardson
American Association of Petroleum Geologists - Ms. Gretchen M. Gillis
American Association of State Geologists - Mr. Laurence R. Becker
The Palynological Society - Dr. Fredrick J. Rich
Association of Environmental & Engineering Geologists - Ms. Becky Roland
Association of Earth Science Editors - Mr. John R. Keith
American Geophysical Union - Ms. Christy B. Till
American Institute of Hydrology - Dr. Neven Kresic
American Institute of Professional Geologists - Mr. William J. Siok
American Rock Mechanics Association - Mr. Peter H. Smeallie
National Association of State Boards of Geologists - Ms. Sam Christiano
Association for the Sciences of Limnology and Oceanography - Dr. Adrienne Froelich Sponberg
Association for Women Geoscientists - Ms. Sara Welna
Clay Minerals Society - Ms. Mary Gray
Council on Undergraduate Research - Dr. Edward C. Hansen
Environmental & Engineering Geophysical Society - Mr. John Stowell
Friends of Mineralogy - Dr. Nelson R. Shaffer
Geo-Institute of the American Society of Civil Engineers - Dr. Roman D. Hryciw
Geological Society of America - Dr. Joaquin Ruiz
Geoscience Information Society - Ms. Suzanne T. Larsen
Geochemical Society - Dr. Martin B. Goldhaber
Geological Society of London - Mr. Edmund Nickless
History of Earth Sciences Society - Dr. Warren A. Dym
International Association of Hydrogeologists/U.S. National Chapter - Dr. Michael Wireman
Interational Medical Geology Association - Dr. Robert B. Finkelman
Karst Waters Institute - Mr. Harvey R. DuChene
Mineralogical Society of America - Dr. J. Alexander Speer
National Association of Black Geologists & Geophysicists - Mr. Michael J. Carroll
North American Commission of Stratigraphic Nomenclature - Dr. Robert M. Easton
National Association of Geoscience Teachers - Dr. Susan M. Buhr
National Cave and Karst Research Institute - Dr. George Veni
National Earth Science Teachers Association - Dr. Roberta Johnson Killeen
National Ground Water Association - Mr. Kevin McCray
National Speleological Society -Mr. David Decker
Petroleum History Institute - Dr. William R. Brice
Paleontological Research Institute - Dr. Warren D. Allmon
Paleobotanical Section of the Botanical Society of America - Dr. Robert A. Gastaldo
Paleontological Society - Dr. Philip D. Gingerich
Society of Economic Geologists -Dr. Brian G. Hoal
Society for Sedimentary Geology - Dr. Howard E. Harper
Society of Exploration Geophysicists - Dr. Louise Pellerin
Society of Independent Professional Earth Scientists - Ms. Diane M. Finstrom
Society for Mining, Metallurgy, and Exploration, Inc. - Dr. Jonathan G. Price
Society of Mineral Museum Professionals - Dr. Virgil W. Lueth
Seismological Society of America - Ms. Susan Newman
Soil Science Society of America - Dr. Charles W. Rice
Society of Vertebrate Paleontology - Mr. Ted J. Vlamis
The Society for Organic Petrology - Dr. Prasanta K. Mukhopadhyay
United States Permafrost Association - Dr. Julie Brigham-Grette

Geoscience News

Longtime Soil Science Publication Repositioned and Relaunched: Exciting Move to Online Delivery Will Serve a Larger Readership

The Soil Science Society of America (SSSA) is pleased to announce one of the leading soil science publications, Soil Survey Horizons, has undergone an editorial repositioning and name change as of 2012. The new title, Soil Horizons, is consistent with SSSA's desire to reach a wider audience, including policy-makers in Washington, environmental scientists and researchers, and the general public. In addition, Soil Horizons will now be published online only, allowing for rapid production and more features only possible through an online publication.

The aim of Soil Horizons is to share the importance of soil science with a larger audience. It features stories celebrating the diversity and critical impact of soil scientists and their work. Soil Horizons is an outlet for the publication of peer-reviewed papers on global issues and solutions in the study of soils, along with emerging challenges, ideas, unique field experiences, and findings. But these papers may also break from the traditional to explore everything from case studies as examples of a larger issue, to experiential papers with implications for further study or changes in practice.

"We are very pleased to introduce Soil Horizons as a new, enhanced version of Soil Survey Horizons. A primary goal of this change is to reach a larger audience with broader interests in the soils profession. Thus, we'll be using the online delivery format to highlight articles of interest for the practicing professionals, those active in research and teaching, extension, and the general public," says Soil Science Society of America President Gary Pierzynski.

The content of Soil Horizons will capture the enthusiasm for soils and bring it to the larger audience via its web-based format. Advantages for this type of publication will include linking, video and audio, personalization options, and reader interaction.

"The story of soil is one we should share widely for the benefit of our entire society. It is a complex mix of ingredients: minerals, air, water, and organic matter—countless organisms and the decaying remains of once-living things. Soil is life," says Pierzynski. The online publication of Soil Horizons will make the dynamic stories of life, easily available. Soil Horizons (https://www.soils.org/publications/sh) relaunched Wednesday, February 8, 2012.

This featured article of SH is available for free access at https://www.soils.org/publications/sh until the next quarterly issue.

Soil Horizons https://www.soils.org/publications/sh aim is to share the importance of soil science with a larger audience. It features stories celebrating the diversity and critical impact of soil scientists and their work. Soil Horizons also serves as an outlet for the publication of peer-reviewed papers on global issues and solutions in the study of soils, along with emerging challenges, ideas, unique field experiences, and findings. But these papers may break from the traditional to explore everything from case studies as examples of a larger issue, to experiential papers with implications for further study or changes in practice. Soil Horizons is published by the Soil Science Society of America.

SSSA supports its members by providing quality research-based publications, educational programs, certifications, and science policy initiatives via a Washington, DC, office. Founded in 1936, SSSA celebrates its 75th Anniversary this year (2011). For more information, visit www.soils.org or follow @SSSA_soils on Twitter. ■

Work begins on hydrogeologic guidelines for largescale ground-source heat pump installations

A group of 10 National Ground Water Association (NGWA) members has begun work on developing simple, yet responsible guidelines for conducting an appropriate hydrogeologic investigation of a site being considered for a large-scale geothermal (aka, ground-source) heat pump installation.

NGWA has a strong interest in the growing utilization of ground-source or geothermal heat pump systems. NGWA wants these systems to work well while also protecting groundwater from risks of contamination.

"Large-scale" would be something more than the typical residential installation or even a very small commercial installation.

The purpose of the guidelines is to provide guidance on how to determine the hydrogeologic properties of a proposed site and how a the HVAC system designer can utilize that hydrogeologic information in the design, and how the design can then be more useful in developing the specifications for the project, so that the specifications result in optimal system performance, as well as groundwater protection. NGWA anticipates these guidelines for a hydrogeologic investigation prior to geothermal heat pump system design to be applicable for closed loop installations, open loop installations, and standing column installations. ■

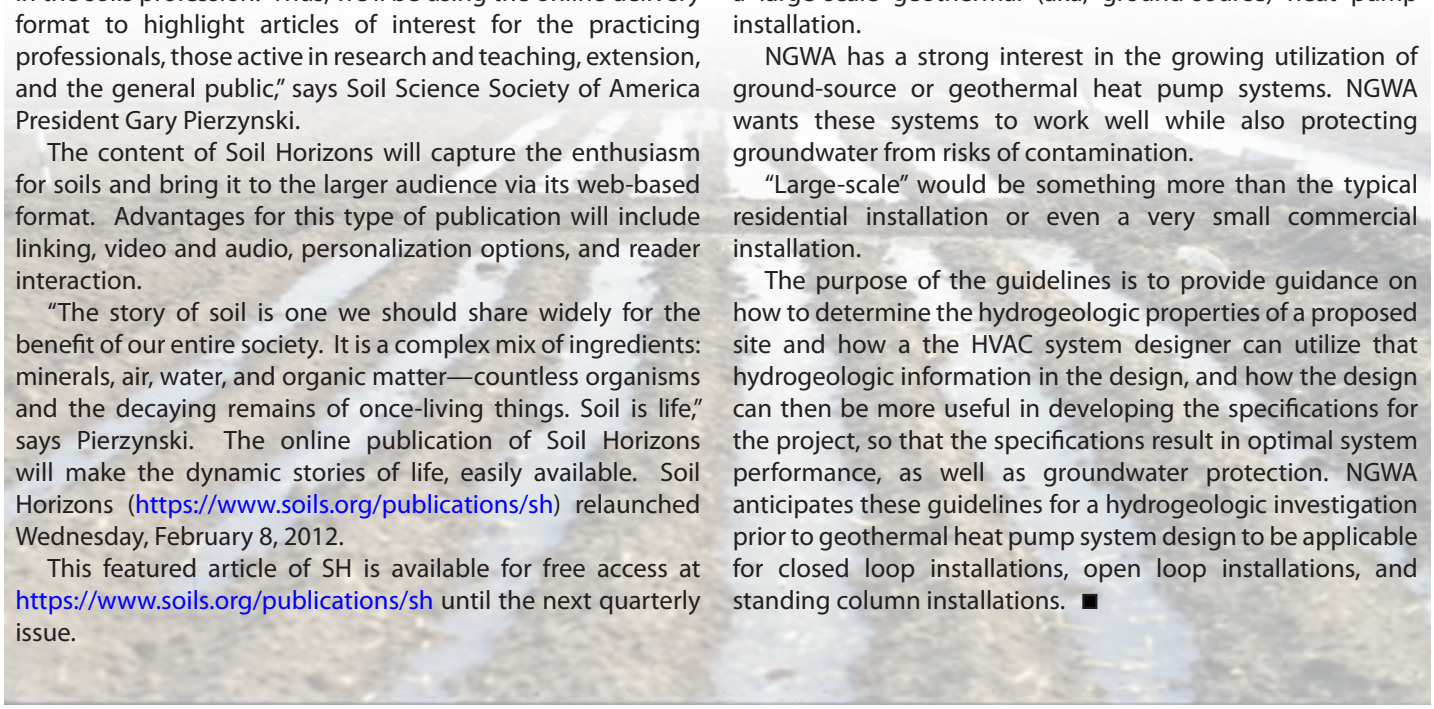


Photo credit: T. Loynachan, Iowa State University. Earth Science Image Bank

Starting a Geology Student Club and Public Outreach Program

Sammy Costanguay

The open exchange of geologic information is important for introducing the consumers of Earth's resources to the processes that created them. The need to understand these critical topics spans all levels of the public; from policymakers and executives to public and community educators.

Although I strongly encourage all students and professionals to become involved in educating society about geology, I chose to focus on the most accessible and, in many ways, most impactful portion of the public: the next generation of public education students.

Both as an undergraduate and now as a graduate student, I have had the opportunity to work with the University of Oregon Geology Club to create a cohesive outreach program. In nearly three years, the program has reached out to elderly communities, public and private schools grades 1-12, detention centers, community organized free-schools, and across the Oregon campus.

Participating in the University of Oregon's Geology Club has been very rewarding, and I recommend all students get involved in their campus's Geology (or similar) club. If your school does not have a Geology club, take charge and start one through your student government and/or geology department.

Here are some tips on starting your own geology outreach program:

- Look up schools in your area, or any place open for public exchange that would be interested in learning about geology. Really, the possibilities are endless.
- Make up some basic labs, or use some of your introductory course material to use as activities. Ask your department to borrow samples from the teaching collection, or if your club has money to buy a set of teaching samples, do so. Getting people to handle rocks and minerals is one of the best ways to engage them.
- Contact the school or institution, or a specific teacher at the school or institution, to set up the visit. Send them outlines of the labs you plan to conduct. This will show them you are organized and also give them the chance to suggest changes to the material.
- Go into the classroom with confidence and lots of energy. Always engage the students with eye contact and questions. It is important to keep them engaged and focused.

Our outreach program is moving toward an 8-10 lab curriculum introduced over the course of a full quarter or semester. It has taken a lot of work, but eventually our curriculum could be included in the lesson plans of all the 7th and 8th graders in our area.

Whether geology is a hobby or a profession, it is important to engage the public in your research and results. I encourage all Geologists to try their hand at public outreach and education.

Please contact Sammy Costanguay with any questions or comments: scaston1@uoregon.edu. Sammy is a second year M.S. student at the University of Oregon, conducting structural research in the Southern Black Mountains of Death Valley, CA. ■

Donate Rock and Mineral Specimens to Science Teachers!

Photographer: Dr. Richard Busch, West Chester University. Earth Science Image BAnk

Many members of AGI-member societies have wonderful rock, mineral and fossil specimens sitting around their homes or offices, and some might be thinking it's time to find a new home for these specimens. If so, please consider donating them to NESTA. NESTA offers multiple Rock and Mineral Raffles each year, which provides great ways of getting quality specimens out to teachers in a fun way. We recommend using Flat Rate Priority Boxes from the US Post Office for delivery, as price does not vary by weight. Please send specimens for the NSTA in March with a scheduled delivery date not later than March 16th to our receiver for the conference, Parker Pennington, at the address below.

Parker Pennington
5431 Pratt Road
Ann Arbor, Michigan 48103-1496

The Use of a Karstic Cave System in a Study of Active Tectonics: Fault Movements Recorded at Driny Cave, Male Karpaty MTS (Slovakia)

By Milos Briestensky, Josef Stemberk, Jozef Michalik, Pavel Bella and Matt Rowberry

*Originally published in the Jounral of Cave and Karst Studies, v. 73, no. 2

Abstract: This paper reports on a study of active tectonics undertaken in the intracratonic setting of central Europe in the junction zone between Eastern Alps and Western Carpathians. The study site is focused on the karstic system of Driny Cave in the Male´ Karpaty Mts, Slovakia. A range of geological, geomorphological, and in situ displacement data are presented. From previous geological mapping and our slickenside analyses, it is clear that the cave system has developed along significant fault structures. Further geomorphological investigations pointed towards ongoing faulting and block movements. For example, a number of slope failures can be seen on the hillsides above the cave and numerous fresh speleothem breaks can be observed within the cave. To test this hypothesis, three optical-mechanical crack gauges were installed in 2005. These gauges confirmed and quantified the ongoing movements. The NNE-SSW striking fault has recorded a strike-slip trend of 0.1 mm/year and a normal fault trend of 0.03 mm/year. The NW-SE striking fault has recorded a strike-slip trend of 0.04 mm/year. In addition, it has been possible to define their precise kinematics. Moreover, different strike-slip mechanisms along two transverse fault systems point to a horizontal stress field orientation. These results confirm the existence of active tectonic structures within central Europe. It is considered that the methodology described here can also be applied in other intracratonic settings where karstic cave systems are present. This would help define potentially seismogenic areas where unambiguous evidence for active faulting is lacking. ■

For the full article please visit http://www.caves.org/pub/journal/PDF/v73/cave-73-02-114.pdf.

National Association of Geoscience Teachers (NAGT) Publications: The Journal of Geoscience Education (JGE) and In The Trenches

NAGT's flagship publications continue to provide an important dissemination mechanism for geoscience education scholarship and field-tested teaching tips.

The Journal of Geoscience Education (JGE) is the premier peer-reviewed publication for geoscience education research and curriculum and instruction at the undergraduate and pre-college levels. A wide variety of curricular and research topics are explored by the contributors to JGE. Recent articles include

- Incorporating Concept Sketching into Teaching Undergraduate Geomorphology
- Enhancing Geoscience Education Within a Minority-Serving Preservice Teaching Population
- Alternate Conceptions of Plate Tectonics Held by Nonscience Undergraduates

Current and archived articles can be accessed via the JGE website - http://nagt-jge.org/. Members of NAGT receive free online access to all articles.

In the Trenches is a full color, 16-page hard copy publication, designed to provide a forum for geosciences education dialog targeting educators in the classroom. It provides a venue for contributors to inform NAGT members about their best teaching ideas, resources or other special topics relevant to our profession that do not lend themselves to more research-focused journals. The idea is to provide a more informal outlet for ideas and experiences that can inform the larger community. Recent issues have focused on

- Thinking About Thinking, Learning, and Teaching
- Shake Up the Curriculum with Seismic Data
- Place-Based Learning
- Teaching in the Field

NAGT members receive In the Trenches quarterly as a part of their membership. Supplemental materials are available on the NAGT website - http://nagt.org/nagt/publications/trenches/index.html. ■

Soil Resource Inventory in U.S. National Parks: Increasing Appreciation of Soils, Advancing Scientific Discovery

By Mary Makarushka

*Originally published in Soil Horizons Vol. 53 No. 1

In 2010, more than 280 million people visited the lands of the U.S. National Park System, marveling at their deep green forests, red rock canyons, crystalline waterfalls, and vast expanses of blue sky. They embraced the towering coast redwoods, snapped portraits of shaggy Yellowstone bison, and hiked to the foggy tops of the Great Smoky Mountains. It's a safe bet, though, that the majority of these nature enthusiasts never gave a thought to the very land under their feet, to the soils that support the roots of the tallest redwood and nourish the grasses that feed the bison.

Over time, perhaps that will change, as the data from the National Park Service's Soil Resources Inventory make their way into educational materials, park management strategies, and scientific analyses. Since 1999, the program has coordinated data from soil surveys of more than 270 "natural resource units"—a term that refers not only to the national parks, but also national preserves, seashores, monuments, historical parks, and other designations that together comprise the nearly 85 million acres of land under Park Service stewardship.

"Soils are not one of the first things people think of" when they think of the parklands, acknowledges soil inventory program coordinator Pete Biggam.

But learning more about the soils can enhance appreciation of the parks for new visitors and longtime park staff alike, he says.

As an example, he cites a visit he made to Glacier National Park in northwest Montana a few years ago. He was walking on a trail at Logan Pass with a Park Service "interpreter," a staff member whose job is to communicate to visitors about the parks in a way that deepens their sense of connection to them. Biggam noticed some pikas—small mammals whose cartoon-mouse faces and enormous ears make them popular with visitors—digging in a yellowish soil, and he joked, "Well, look at that. They're digging in a soil from another national park." At the interpreter's urging, he explained that the distinctive soil was part of the mantle of volcanic ash that blanketed the Pacific Northwest when Mount Mazama erupted, 7,700 years before; the collapsed volcano is now the centerpiece of Oregon's Crater Lake National Park, 700 miles from Glacier.

The interpreter incorporated the story into Glacier's presentations, and a year later, she called Biggam to report that it had an 83% retention rate among surveyed visitors. It made an impact on them, just as it had on her when she first heard it.

Using Survey Information for Better Park Management

In 1999, with factors such as non-native species, recreational uses, and pollution taking a noticeable toll on the national parks, Congress funded the Natural Resource Challenge, which has provided about $12.5 million to date to the Soil Resources Inventory—one of 12 inventory and monitoring programs the Park Service initiated at that time in order to measure and manage its resources more systematically and scientifically. (Other areas of study include geology, vegetation, animal species, and air and water quality.)

Before the program began, some of the smaller parks "may have been mapped as part of a county project," says Biggam, who would then work with his team to incorporate that information into the inventory. But there was no baseline data for the larger parks, which had not been mapped.

Now the Park Service partners with the USDA Natural Resources Conservation Service (NRCS), which conducts all the soil surveys in accordance with the standards of the National Cooperative Soil Survey (NCSS), the long-running nationwide project to inventory and distribute information about U.S. soils. This partnership with the NCSS and NRCS guarantees consistency and comparability across the parks project.

Biggam's team, which includes soil scientists, cartographers, and GIS specialists, takes the survey data and makes it accessible to a broad customer base, creating products ranging from visitor fact sheets and web pages to invitations to other scientists to

Dean Burkett, USDA-NRCS, helps sample a soil in the Painted Dunes area of Lassesn Volcanic National Park, CA.

conduct additional research about a particular intriguing finding.

"We have products that we're developing for geospatial folks," he says. "We also have products for people who aren't GIS specialists, but they need the information and they need to get to it very quickly. So we've developed some customized products so they can just go in and just click on an interactive soil map and up comes the information."

Biggam begins each National Park inventory project with a soil scoping session, generally a year or two before the mapping begins, where park staff can identify management issues and challenges of that particular park and Biggam can try to tailor aspects of the project to address those questions.

Crystal Briggs, USDA-NRCS, describes a Typic Melanocryand soil at North Cascades National Park, WA.

"We're designing soil surveys to meet the needs of the park," he says. "So we don't just go knock on NRCS's door and say we'd like a soil survey about Park X."

For instance, the staff of Padre Island National Seashore, off the Texas Gulf Coast, try to balance wetlands conservation with the oil and gas exploration that's allowed there, so it was especially important in that survey to delineate the "hydric" soils, which can support vegetation that grows in flooding or saturated conditions, from the non-hydric soils. The project ended up clarifying subtle differences between the two and mapping far more hydric soils than had been identified in that part of Texas before, Biggam says. Having such data now makes it easier for staff to request that exploration be sited outside a particular area and helps them better prepare for restoration of disturbed lands.

Biggam jokingly compares his role in the inventory program to that of "a soils broker": "I put people who need soils information together with people who can provide it," he says.

Focus on Resource Preservation, Scientific Discovery

While other government agency partners in the NCSS may be interested in what the data indicate about an area's agricultural productivity or suitability for grazing, the Park Service is focused on resource preservation and protection, Biggam says. For that reason, the inventory takes an ecological approach to the physical, biological, and chemical properties of the soils, asking questions such as, What role does this soil play as a habitat for burrowing mammals, insects, and microorganisms?

"Parks are unique areas from which to acquire knowledge about our valuable soil resources," Biggam says, "and they provide a great opportunity to understand the role soils play within nature, while also ensuring that our generation and future generations can learn from them".

It is also focused on scientific discovery. So far, the inventory has identified numerous park endemic soils, including 19 new "species" in Great Smoky Mountains National Park alone—most of those at elevations above 4,600 ft.

Nevada's Great Basin National Park is famous for its bristlecone pines (Pinus longaeva), which can live for thousands of years, making them the longest-lived trees on earth. Prior to the mapping of Great Basin, it was believed that they grew only in calcareous soils—"chalky," alkaline soils, as might be found in an area with a lot of limestone. But the soil survey disproved that.

"We also found others on non-calcareous soils," Biggam says. "We now have more information for scientists to draw on in the future."

The project is also contributing to the science of climate change by identifying the different areas of organic carbon sequestration in the parklands. This helps the park staff, who can now avoid siting a new visitors' center or parking lot on an area known to be a rich storehouse of carbon from decayed organic matter. Less well understood, Biggam says, is the ecology of inorganic carbon sequestration in crystalline soils with high calcium carbonate content; for this reason, the Park Service is sponsoring research teams in areas of the Southwest with abundant gypsiferous soils, such as New Mexico's White Sands National Monument and Guadalupe Mountains National Park.

And during the survey of Sequoia National Park, in addition to inventorying the soils in the sequoia groves, the project will examine existing soil moisture and temperature regimes and site factors to provide a better understanding over time of the potential effects of climate change on the ancient trees.

Expanding the Frontiers of Soil Science

There are currently about two dozen survey projects either in the planning stages, being mapped, or compiling their analyses, Biggam says; he expects 15 or so to be completed this year,

which would bring the total park units inventoried to around 230 of the targeted 270.

But the units that remain will pose some of the greatest logistical challenges for mappers. They include some of the largest parks, such as 13-million-acre Wrangell–St. Elias in Alaska; the most remote areas, such as the Bering Land Bridge National Preserve, accessible in summer only by boat or small plane; and parks with particularly tricky topography, such as the subtropical Everglades, and Death Valley, the hottest and driest desert in North America.

Biggam regards these landscapes as great opportunities to expand the frontiers of soil science. "We're always open to new tools and techniques in the mapping of our lands," he says. "We also provide 'test beds,'" to university researchers or other teams with ideas that they want to try out and evaluate.

He cites as an example the GIS-based Remote Area Soil Proxy (RASP), developed by the team that mapped mountainous North Cascades National Park in Washington State in 2004. For areas that are so remote that extensive fieldwork there may be hazardous or prohibitively expensive, scientists wonder, "Can we gather information without being there?" he says. Using RASP, scientists can generate a predictive map of an area's soils by utilizing various geospatial data sets about such soil-forming factors as the area's vegetation, elevation, aspect, parent material, and climate into the program. Those data are then incorporated into computer models of how different soils are formed under varying conditions and processes to create the map.

"We know that when we go into an area like the Everglades"—with vast swamplands filled with rare, and sometimes dangerous, species—"we need to widen our toolbox, and take a look at what existing or new technologies may be applicable to help us," Biggam says. "We may not use it wall to wall, but we may use it to help us out, and then, if we can evaluate it, we can let science know what worked and what didn't." ■

Typic Melanocryand soil at North Cascades National Park displaying numerous tephra layers.

New NAGT Position Statement - High School Earth Science Instruction

NAGT has approved a new position statement advocating the teaching of Earth Science at the high school level. The full text of the statement is available on the NAGT website at http://www.nagt.org/nagt/policy/high-school.html alongside the previously adopted position statements on Teaching Climate Change and Teaching Evolution. ■

GeoCorps America - Paid, Short-Term Geoscience Positions on America's Amazing Public Lands!

Monitoring landslides and rock-fall at Yosemite National Park; teaching visitors about the geology of Rocky Mountain National Park; researching the geologic resources and geoheritage of Catoctin Mountain Park—do these sound like your idea of a great job? If so, check out the nearly one dozen different paid, short-term geoscience positions offered during the fall/winter of 2012-2013 by the Geological Society of America's "GeoCorps America" program. Watch this video clip (http://youtu.be/7aA9swUiyYg) to see the type of work performed by recent GeoCorps participants.

GeoCorps positions take place within America's amazing public lands, at sites managed by the National Park Service, the U.S. Forest Service, and the Bureau of Land Management. This next round of GeoCorps positions is also likely to feature additional openings with the State of California Abandoned Mine Land (AML) Program. The fall/winter positions generally last for 12 weeks (sometimes longer), and occur at various times between September 2012 and May 2013. Each position offers a minimum of a $2,750 stipend, free housing (or a housing allowance), and in some cases, a travel allowance. The positions with the California AML Program may last up to one year and provide proportionally increased payments. Qualifications vary by position, and all levels of geoscientists, from undergraduates to retired professionals, are encouraged to apply. These positions are great for students taking time off, recent graduates, and anyone else looking for exciting geoscience work during the fall and winter months.

All of the fall/winter 2012-2013 positions will be posted on May 1, 2012, and applications may be submitted between May 1 and July 1, 2012, at www.geosociety.org/geocorps. For more information, contact Matt Dawson, mdawson@geosociety.org, 303-357-1025. ■

Job Opening: National Cave and Karst Research Institute (NCKRI)

Title: Advancement Director
Department: Research & Economic Development

- Full time
- Starting Rate/Salary Range: $50,000-$63,000

Job Duties

Administers the Advancement Program of the Institute to develop additional funds and other support that will build programs and partnerships at all levels to sustain and further the program and the goals of the Institute. The duties of this position are demanding and require highly imaginative thinking, initiative, and sound judgment. The work requires performing tasks that are diverse, may include a wide range of projects, and working with a number of professional disciplines related to cave and karst systems and resources. Many activities will require the development of unique or innovative solutions. This position plans, supervises, executes, and evaluates advancement activities for the Institute and all of its programs. The activities include but are not limited to development (fundraising), marketing, government appropriations, endowment creation, public relations, grants, bequests, special events, and public information though timely and state-of-the-art production of print, audio, video, and/or digital media. Coordinates with other Institute program directors as needed to assure all advancement materials and activities are accurate, and to focus activities as needed to support the Institute's programs. Conducts advancement activities in support of and in cooperation with Institute partners.

Required Qualifications

Bachelor's degree in Business, Business Management, or related field. Must have five (5) years experience in conducting and developing activities and related programs that include advancement, fundraising, gift processing and acknowledgement, prospect management, biographical and related data maintenance. Experience in supporting science and environmental programs is highly desired. Knowledge of formal advancement, marketing, fundraising, and related practices and concepts is required. Understanding of current trends and technologies in advancement, marketing, fundraising, and related methods and theory is required. Understanding of advancement, marketing, fundraising, and related methods for international to local organizational to individual audiences, and the ability to effectively apply that knowledge to those audiences is required. Ability to establish and maintain cooperative relations with international to local agencies, organizations, businesses, and individuals in the public and private sector to develop advancement opportunities is required. Ability to directly solicit major gifts is required. Ability to travel frequently and for extended periods is required. Knowledge of scientific and environmental concepts and advancement practices for science and environmental-based organizations is highly desired. Knowledge of 501 (c) (3) organizations and their advancement practices is highly desired. Knowledge of State and Federal legislative and budget processes and grant and contracting programs is highly desired. Demonstrated ability to manage financial and human resources is highly desired. Ability to communicate effectively orally and in writing, including a history of skillful public speaking and successful grant-writing experience is highly desired. Proficiency with Microsoft Word, Excel, Outlook, and PowerPoint, advancement software, at least one graphics program, and with the Internet and other media capabilities used to transmit advancement materials to broad national and international audiences are highly desired. Experience designing and developing various advancement, marketing, and promotional products, such as fundraising menus, CD-ROMs, exhibits, publications, television and video programs, websites, etc. is desired. Experience in safely working in and traversing diverse outdoor environments, especially in caves, is desired. Must be able to deal professional, pleasantly, and diplomatically with others. The position will be stationed at the Institute's headquarters in Carlsbad, New Mexico.

Apply to: New Mexico Tech, Human Resources 801 Leroy Pl. Brown Hall Box 020, Socorro, NM 87801-4796. ■

Hydraulic Fracturing Position Paper Released

The National Ground Water Association (NGWA) has released a hydraulic fracturing position paper to policymakers and news media. Its purpose is to provide scientific expertise and protect groundwater uses, included potable water delivered by domestic water wells. To view the position paper please visit http://www.ngwa.org/Documents/PositionPapers/hydraulic-fracturing-position-paper.pdf

NGWA also has released a hydraulic fracturing information brief on testing water from domestic wells in proximity to oil and gas development, available here http://www.ngwa.org/Documents/Water_Wells_in_proximity_info_brief_2012.pdf ■

national ground water association®

The *Educator's Page*: A New Column Debuts in AIPG's The Professional Geologist

By Micahel J. Urban

*Originally published in TPG MEM-1910

The Educator's Page is a column designed to reach the many geosciences educators that are currently members of AIPG, specifically supplying support for science education through three primary avenues: 1) discussions about geoscience-education issues (e.g., recommendations for applying pedagogical strategies, new ideas in geoscience instruction, etc.); 2) identifying and discussing instructional resources; and 3) introducing current or new technologies and how they might be implemented in the geosciences classroom. These three general areas are by no means listed in any particular order of importance or relevance, and not all of them will necessarily be covered in each issue.

The guiding philosophy behind the column is to share geosciences-related topics with interested readers, and provide a few thoughts each issue pertaining to geoscience education, share resources of potential value to instructors, or mention technological applications instructors might want to use or try in their classrooms. There are a number of journals specifically devoted to geosciences education, but for those members who may make TPG one of their only subscriptions, a column pertaining to education makes practical sense and ultimately may offer useful insight. Introducing resources in this venue may meet the needs of the busy professionals and educators who are discouraged by the often time-consuming nature of seeking and testing out new instructional resources or ideas.

Getting your Students Involved in Extracurricular or Supplemental Geoscience Activities

For this first installment of the Educator's Page, I would like to tie into and build on another article I shared in this issue: "Getting Involved!" – Career Advice for Graduate and Undergraduate Students. That article is specifically directed at the students who are reading this issue; I will now direct a related message to educators.

Those of us who are teaching likely have an advising load of graduate or undergraduate (or both) students. As advisors we are typically responsible for approving classes, providing registration access codes, and recommending career paths to our advisees. One more, just as valuable, piece of advice we might provide our students with is a well-intentioned suggestion to "get involved" in supplemental geoscience activities such as: forming or joining a geology club, participating in voluntary field trips, assisting professors with undergraduate or graduate research endeavors, joining professional memberships, or attending geoscience conferences, to name only a few. Our justification for delivering this advice stems directly from the necessity of establishing a strong background and résumé in a relatively competitive job market today.

All educators and employers recognize the value of diversity of experience prior to the onset of a new career: the more a student has already experienced the more potential the student brings to a job as an employee (or to future schooling or advanced graduate study). Though the value of these additional experiences is obvious to us (educators and employers) the value may be much less obvious to our students. Many of our students may not have considered extracurricular involvement at all. Consequently, I invite you – as an educator – to ponder ways to advise your students to become more involved in geoscience activities and to stand out by taking extra initiative. Oftentimes, all our students need is a seed of inspiration to be planted in their minds.

As for what specifically you – as an educator – might do to proactively engage your students in supplemental experiences, consider answers to the following questions: What are you doing to get your undergraduate students more involved in geology or geoscience? Are you offering opportunities for your students to assist you with research? Do you offer your students a chance to assist with preparing laboratory materials for, or during, class? Do you solicit volunteers to assist with field trips, or welcome them on field trips you have going in other classes? Do you encourage students to attend or volunteer at locally convened geoscience conferences? Are you amenable to sponsoring students for professional memberships? Are you willing to recruit an undergraduate assistant (the opportunity exists at many colleges and universities to allow students to pay for a credit to "help out" an instructor)?

If you have not considered answers to any of these questions before, take a moment now. How will you motivate your students, or how will you promote opportunities for your students to "get involved" beyond the minimum academic expectations?

Featured Resource (website) – On the Cutting Edge

The National Association of Geoscience Teachers – On the Cutting Edge: Professional Development for Geoscience Faculty- http://serc.carleton.edu/NAGTWorkshops/index.html

It was pretty easy to identify NAGT's On the Cutting Edge as the first resource to be featured in TPG's Educator's Page. Housed on the Science Education Resource Center at Carleton College's website, the Cutting Edge is a comprehensive site providing information about a number of categories relevant to new and veteran faculty, including information related to: career management, enhancing instruction, and geosciences content. The site not only contains over 1500 geoscience-related activities suitable for undergraduate instruction, but also con- tains links

to additional websites of potential value.

Need ideas for writing a geoscience course syllabus? Peruse the examples included via the "Search the Site" by "Resource Type" and "Course Information" options. Want to attend a professional development workshop in your area? Review the "Workshop Schedule" for current and upcoming opportunities by date and location (also see what workshops have been offered in the past). Would you like to connect and interact with other geoscience professionals and educators virtually or in-person? Check out the "Email List and Discussion Board Site Guide." Interested in resources outside of the geosciences? They have that covered too – just examine the "For STEM Educators" page. If you are unfamiliar with the Cutting Edge and what it has to offer you as a geoscience educator, or if you have used it before but have not visited it recently, I invite you to explore it (again) for new and creative ideas now! ■

Geoscientists *Without* Borders awards new project to Boise State University

Contact: Whitney Emerick (wemerick@seg.org)

Geoscientists Without Borders® recently selected Boise State University (Idaho, USA) to receive a grant for a two-year project: "Seismic imaging to help understand and manage water quality in coastal Benin, West Africa." The project, which is located in Cotonou, Benin, West Africa, will be conducted by faculty and students from Boise State, the University of Notre Dame (Indiana, USA), and University d'Abomey-Calavi (Benin, West Africa).

The coastal city of Cotonou in Bénin, West Africa, is a large population center facing a serious threat to the sustainability of its fresh water supply. Cotonou is Bénin's largest city with approximately 1.5 – 2.0 million people, and its citizens rely on the Godomey aquifer for domestic water supply. Currently, the aquifer is undergoing saltwater intrusion and the problem is likely to worsen without significant steps to improve management of the pumping system. Lake Nokoué, a nearby water body, has high salinity levels throughout much of the year and is thought to be the primary source of salinity in the aquifer. Within Lake Nokoué is Ganvié, a city of more than 30,000 inhabitants that is built entirely on stilts in the lake. The presence of this lake city – and the fact that the lake is heavily relied upon for fishing – has resulted in severe manipulation of the lake for waste disposal, navigation, and fish farming. The continuity of the aquifer and saltwater flow paths are poorly understood, but this information is critical to ensure sustainable access to fresh water in this growing urban center.

"I have come to the realization that the true impact of our work is directly related to the degree that it positively influences people's lives. Geoscientists Without Borders has a positive impact not only through the projects that it fosters, but also because of the awareness it helps create of the ways in which geoscience can help improve the quality of life of the underprivileged," said Roel Snieder, GWB Committee Chairman.

Using the geophysical technologies, seismic reflection and electrical resistivity, project members hope to map the primary aquifer system and identify flow pathways for saline water. The team will acquire seismic reflection and resistivity surveys over two field campaigns. The aquifer map produced through seismic reflection analysis will provide critical information to the local water management agency and measured geometry of geologic units will be used to improve hydrologic models of the aquifer.

"We are proud to participate in a program that will encourage Boise State graduate students to use what they've learned in the geosciences to make the world a better place," said Mark Rudin, vice president of research and economic development at Boise State. "One of the strengths of Boise State is the prominent role that students play in research, and when our students play such a vital role in humanitarian programs like these, it demonstrates the scope and richness of the student experience at Boise State."

Along with the humanitarian benefit, the project serves as hands-on training for geophysics students, both US and international. These students also will gain vital field experience and benefit from the unprecedented amount of technology exchange among the three partner schools.

"Working with Geoscientists Without Borders® and in Africa will give students an incredible opportunity to learn the science in a unique environment that will broaden their scientific, social and cultural education," said project leader John Bradford, associate professor of geosciences at Boise State. "In addition to being personally rewarding, this project will give Boise State a high level of international exposure."

Geoscientists Without Borders® is transforming lives around the world by providing humanitarian application of geophysical solutions to global problems – all while impacting the reputation of geophysics around the world. Geoscientists Without Borders® was established by the SEG Foundation in 2008 with a US $1 million leadership in¬vestment from Schlumberger. Additional commitments have since been received from Santos, Global Geophysical, and Geophysical Pursuit.

CGGVeritas will support this particular project not only with their pledge to the program, but also with actual support in the field through equipment and staff support.

For more information on Geoscientists Without Borders®, please visit www.seg.org/gwb. ■

Dr. Resutem Seyful-Mulyukov discusses Abiogenic Origins of Petroleum at AGI Headquarters

On March 29, 2012, Dr. Rustem Seyful-Mulyukov, Chief of the Laboratory of Information Technologies for Supporting R&D Activities at the Russian Academy of Sciences, Institute of Informatics Problems visited AGI headquarters to discuss his new monograph entitled, *New paradigm of inorganic petroleum and gas genesis, its effect on exploration work*.

Dr. Seyful-Mulyukov is a petroleum geologist with more than 130 publications on petroleum geology and the informatics of complex natural systems. His most recent publication is entitled *Oil and gas: its deep nature and its application*. Seyful-Mulyukov has worked with GeoRef for twenty years – organizing a group in Moscow that covers the Russian geoscience literature for GeoRef. ■

2012-2013 William L. Fisher Congressional Science Fellow

The 2012-2013 American Geosciences Institute's William L. Fisher Congressional Geoscience Fellow is Anna Henderson. Anna earned her Bachelor of Arts in Geology-Biology from Brown University and her Doctorate in Geology from the University of Minnesota. Her dissertation focused on hydrogen and oxygen isotopic analyses to understand seasonal precipitation and evaporative processes in current and past ecosystems. She was awarded a Canadian Institute for Advanced Research Postdoctoral Fellowship and is studying the evolution of grasslands at Pennsylvania State University. She has conducted research on the Juneau ice fields of Alaska and the lake sediments of Lake Bosumtwi in Ghana. She is a member of the American Geophysical Union, the Geological Society of America, and the Association for Women Geoscientists. ■

Anna Henderson . Photo credit: Anna Henderson

GSA Invites Geoscientists and Geoscience Educators to 1st International EarthCache Event

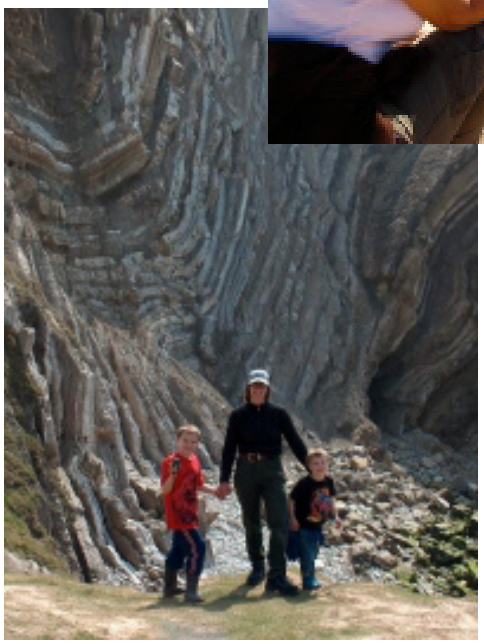
EarthCaching is a global education program that gets people outdoors and guides them through self-directed field explorations of sites of geological interest. EarthCaching appeals to a broad spectrum of participants of all ages, from general enthusiasts with little geological background, to kids who love dinosaurs and volcanoes, to the seasoned amateur rock hound, to geoscience educators and other professionals. For the first time ever, EarthCachers from around the globe will gather in one place to celebrate, learn more about, and advance this ever growing program.

The 1st International EarthCache Event will take place in New Gloucester (near Portland), Maine, USA, on Sunday, 2 September 2012. EarthCache participants, coordinators, and organizations/vendors from around the globe will meet to: recognize EarthCache milestones and award-winners; network with other EarthCachers; share EarthCaching resources, stories, and ideas; attend workshops on topics ranging from EarthCaching in the classroom, how to develop EarthCaches, collaborating with land managers/government agencies, and other topics related to EarthCaching, geoscience, and education; and, of course, go out EarthCaching and exploring the geology of Maine!

The event is open to everyone, including people who have visited dozens of EarthCaches and those who have yet to get started. If you love sharing geology with others, or just love getting out and exploring new geology on your own, please consider joining GSA at the 1st International EarthCache event!

EarthCaches are found by using hand-held GPS units to navigate to coordinates posted online. EarthCaches are everywhere—there are probably EarthCaches somewhere near you, and new ones are being added and visited every day! There are over 20,000 EarthCaches around the world, and over 2.7 million people have visited EarthCaches since 2004. The EarthCache program is coordinated by the Geological Society of America (GSA), in collaboration with Groundspeak, Inc., the owners of www.geocaching.com.

To register for or learn more about the event, please see www.earthcacheevent.org. To learn more about EarthCaching, please visit www.earthcache.org, or contact Gary Lewis at glewsi@geosociety.org or 303-357-1043. ■



EarthCache enthusiasts find and learn about amazing places all over the world. Photos provided by Gary Lewis, GSA's Director of Education & Outreach Department.

"Get Involved!" - Career Advice for Graduate and Undergraduate Students

By Michael J. Urban

*Originally published in The Professional Geologist

The college or university experience is for far more than simply obtaining a degree (though that is usually a very important first step in building any pro- fessional career); it is for networking – making those all-important professional connections that can often assist you later on – and gaining valuable practice or experience. My advice is straight- forward: get involved! There are many different ways to "get involved," each with its own benefits. Before discussing some of these, I'd like to first invite you to read and consider the three student scenarios below. As you're reading, ask yourself these questions: Which student is most likely to find a good job? Who is most likely to have a long and successful career? Who will discover early on that s/ he should really go on to graduate school?

Student A stays after mineralogy class one day and asks her professor about opportunities for undergraduate research. The professor does not have any active projects and no way to include the student in her own research, but refers the student to a colleague. The colleague has no paid research opportunities, but invites the student to volunteer her time and participate in minor laboratory activities (e.g., moving and labeling samples, assisting in the preparation of thin sections, setting up stereoscopes, pulling out materials for laboratory sections of class, etc.). The following semester, the professor asks the student if she has written about her volunteer activities in her résumé, and if she needs a letter of reference.

Student B is really interested in learning more about brachiopods and mentions his budding affinity for "brachs" to his paleontology teaching assistant. The teaching assistant (TA) informs the student that she is currently research- ing Shimodaia macclesfieldensis. The student asks the TA if he could assist in some way. The TA responds that, in fact, he was welcome to assist her in creating a poster for the university's faculty-sponsored "research day." The next semester, the TA runs into the student in the hall and informs him that the poster they developed had been accepted at the Geological Society of America (GSA) annual meeting and that the teaching assistant's advisor has some grant money available to pay for all three of them to drive to the conference (only a couple of hours away from the university). While at the conference both students – the undergrad student and the grad TA – stand with the professor at the poster session and meet other students, visit with geological consultants (potential employers), and network with others having similar interests in brachiopods. Later, while taking a break from the poster session, the graduate student peruses the posted job announcements, vacancies, and internships, while the undergraduate student stops in the exhibit hall and chats with a member of a private geological consulting company about what skills are highly sought after in potential hires. [The conversation entices the student to take an additional GIS course the next term!] As both students make their way back to their poster they are stopped as they pass the AIPG booth and asked to consider a free student membership to the professional geological organization; the students eagerly sign up!

Student C attends class regularly, earns excellent grades, and stays abreast of current literature in professional journals. The student never says a word to his course professors, avoids the geology student lounge, and always passes up the opportunity to attend voluntary supplemental field trips offered by his instructors. Upon graduating, the student has a 4.0 GPA, but finds that he's made no professional contacts, is not involved in any professional organizations, is unable to secure a reference from one of his geology professors, and has never attended a geological conference.

Let's revisit the original questions: Which student is most likely to find a good job? Who is most likely to have long and successful career? Who will discover early on that s/he should really go on to graduate school? Regarding the first question, I'll be careful and say that any one of the students has a very good chance of finding a great job. Though, consider the respective résumés of each student. There is something to be said for the experiences gained while "getting involved" and for being able to write about them on your résumé. As for who is most likely to have a long and successful career, nothing demonstrates enthusiasm, dedication, and passion for a subject than willingness to "get involved" in extracurricular activities; and barring recession, or other unfor- tunate scenarios, the demonstration of enthusiasm, dedication, and passion through extracurricular activity may go an equally long way toward both piquing the interest of a potential employer and fostering a successful career. The final question posed – recognizing that graduate school may be for you – is really about time. Garnering valuable practical experience is critical, so entering the job force immediately after earning a bachelor's degree can be very useful; on the flip side, waiting too long after graduating to enter graduate school may prolong a state of limbo prior to achieving your ultimate goal (though, it is never too late to go back to school!).

Volunteering your time for research and field experiences, attending professional conferences, and becoming a member of a professional organization all look great on any résumé read by a potential employer and provide great experience too. If I have learned anything from "getting involved" myself it is that opportunity begets opportunity – meaning, the more you get involved, the more opportunities you'll have to become even more involved. Obtaining a degree with a relatively high GPA is still an important goal, but let's not forget that there is so much more a student can acquire from a college or university experience and all of it may go a long way toward preparing one for a future career (or helping get a foot in the door with a potential employer).

A Few Thoughts for Inspiration

As an undergraduate student I gave little consideration to "getting involved" beyond anything I was required to do. I did not join a geology, or science, club; I did not take professors (or Teaching Assistants) up on opportunities for additional field trips or activities outside of normal class; I did not even stay after class to visit with my geology professors. The only reason I got to know even one of my professors – who did ultimately end up providing me with a reference – was because there were only three students in my "advanced earth science for teachers" class. I cannot say that I got involved as an undergraduate student, and though I do not believe it hurt my career, I have no way of truly knowing. However, I think my lack of initiative in "getting involved" did set me back. It was not until I entered graduate school that I got to know my professors as people (which is deeply enriching) and finally began to truly "get involved." Graduate school opened many doors for me and afforded me numerous personal and professional opportunities, many of which, I did not even realize existed. I count myself lucky to have been referred by one of my professors (thank you, Bill H.) to AIPG as a potential candidate for an internship, and after a brief in- person meeting with the executive director (thank you, Bill S.) I was suddenly "involved" with AIPG. From there many more doors opened for me and I relished the opportunities that came with being a graduate student in the earth sciences: attending GSA for the first time, flying to the east and west coasts of the U.S. (paid for by my advisor's grant money – thank you, Mike!), writing a guest editorial in a textbook (thank you, Les), developing curricular materials in the geosciences (thanks again, Mike), receiving a paid fellowship, and eventually earning my doctorate. I can't help but wonder what my life might have been like if I hadn't gotten involved – I suspect my career would have looked much different today.

A Few Recommendations for "Getting Involved"

To prospective undergraduate and graduate students alike, I encourage you to ponder how you might take advantage of opportunities related to the following (or, better yet, be proactive by going out and identifying these opportunities):

- Research (undergraduate or graduate experience; may lead to collaborations and/or presentations)
- Conference Attendance/Presentations
- (networking)
- Field Experiences (any time you can get into the field, there is something to be learned)
- Volunteering (service leads to oppor- tunity)
- Professional Memberships, Clubs, and Organizations (consider joining AIPG if you're not already a student member [it's FREE!]; networking; potential discounts on conference attendance; local section/chapter participation; résumé posting to organizational web pages and access to employer-posted job vacancies; student scholarships)
- Get to know your Professors (opportunities abound, so let them know you're interested; as an added benefit, it doesn't hurt to gain a potential reference when job hunting) ■

Office of Science and Technology Policy (OSTP) Student Volunteer Program Summer 2012

The Office of Science and Technology Policy is currently accepting applications for its Summer 2012 Student Volunteer Program. The application deadline is February 27, 2012. Students who are U.S. citizens and who will be actively enrolled during the Summer 2012 semester, or anticipate returning to undergraduate or graduate programs in Fall 2012, are welcome to apply.

More information and application instructions are available at http://www.whitehouse.gov/ostp/about/student/.

About OSTP The Office of Science and Technology Policy advises the President on the effects of science and technology on domestic and international affairs. The office serves as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans and programs of the Federal Government.

About the Student Volunteer Program Student Volunteers are accepted for one of three annual terms (Spring, Summer, or Fall), which each last no more than 90 days. While these positions are without compensation, the assignments provide educational enrichment, practical work experience, and network opportunities with other individuals in the science and technology policy arena.

For questions, please contact Lauren Andersen, landersen@ostp.eop.gov, or Diana Zunker, dzunker@ostp.eop.gov.

Public Risk Management Internship Program

NATIONAL PARK SERVICE STUDENT CONSERVATION ASSOCIATION

CALL FOR APPLICATIONS FOR SUMMER 2012

✳ **An Innovative Internship in Injury Prevention in our National Parks!** ✳

Students interested in public health, behavioral sciences, injury epidemiology, safety studies, planning, and/or wilderness and recreational risk management are encouraged to apply.

What is the Internship?

- A 3-6 month assignment at a park working on a risk management project to support park injury prevention efforts and enhance visitor experience
- Attendance at an intensive, highly specialized, weeklong training in June covering topics such as injury epidemiology, task planning, data collection, and wilderness first aid
- Receive weekly subsistence, housing, training, and transportation to and from the park
- Fulfill graduate practicum requirements and/or receive credit

Sample Project Descriptions

- Collect, input, and analyze visitor injury data in order to develop effective injury prevention strategies
- Conduct observations of visitor behavior and interactions between park staff and visitors
- Review park safety plans, visitor safety policies, and risk communication methods
- Develop park safety initiatives
- Develop injury prevention outreach programs

Benefits to the Intern

- Spend a summer working in a national park
- Apply and refine skills in data collection and analysis; report writing and presentation; and program development
- Have a direct impact on saving lives and enhance visitor experience in our parks
- Eligible for AmeriCorps award

Qualifications

- Excellent analytic and organizational skills
- Ability to take initiative and work independently
- Excellent oral and written communication skills
- Ability to work with a multi-disciplinary group

Testimonials

"My internship provided an opportunity for personal development and growth while teaching me how I can make a positive difference. It was the best internship I could have hoped for."
- Beth Borkowski, Intern at Lassen Volcanic National Park, summer 2010 and undergraduate at Indiana University, Bloomington

"I greatly appreciated the chance to work with the Park Service...I hope to use this experience as a jumping-off point for future research -- perhaps dissertation research -- either here or in another park."
- Laura Rickard, Intern at Mount Rainier National Park, summer 2009 and doctoral student at Cornell University

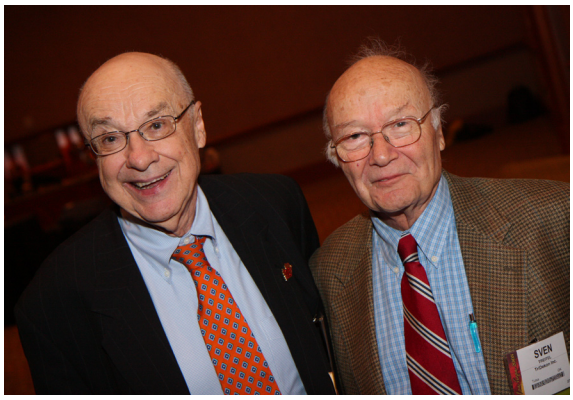
Internship Applications Available in March 2012

To learn more, email Gabrielle Fisher gabrielle_fisher@nps.gov.

Application Deadline: April 27, 2012

Awards & Leadership

Dr. Sven Treitel to Receive the AGI Marcus Milling Legendary Geoscientist Medal



Dr. Sven Treitel (right). Photo credit: Sven Treitel

Dr. Sven Treitel has been named the 2012 recipient of the Marcus Milling Legendary Geoscientist Medal. Treitel will be presented with this prestigious award as part of the awards ceremony at the American Association of Petroleum Geologists Annual Meeting in Long Beach, California on April 22.

The Marcus Milling Medal is awarded to senior geoscientists who have contributed consistent high-quality scientific achievements and service to the Earth sciences with lasting, historic value.

A global pioneer in his field for more than four decades, Dr. Treitel has been an integral component in advancing the field of geophysics. Born in Freiburg, Germany in 1929, Treitel received his Bachelors degree in Geophysics in 1953 from the Massachusetts Institute of Technology (MIT), and went on to complete both his Masters and his Doctorate also in Geophysics from MIT.

During his extensive career, Dr. Treitel helped to establish the fundamental principles of modern digital seismic data processing used in every seismic survey taken today. A longtime collaboration with his friend and fellow graduate student Enders A. Robinson allowed both to champion the practice of forward modeling and inversion of reflection seismic data, establishing the importance of this process in understanding seismic data and seismic survey design. Treitel has not only been a leader in industry, but has also inspired innumerable generations of colleagues with his contributions, both technically and personally. He is currently the president of TriDekon Inc., a consultancy in Tulsa, Oklahoma.

The American Geosciences Institute recognizes Dr. Treitel with this award for his intellectual leadership in exploration geophysics, for the impacts his contributions have made to the discovery of some of the world's hydrocarbon reservoirs in the past fifty years, and for his excellence in mentoring countless geophysicists while helping the journal Geophysics achieve worldwide preeminence as one of its former Editors-in-Chief. ■

Winner of the AGI Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching Announced

Meg Town, a teacher at Redmond Junior High School in Redmond, Washington, has been named the 2012 recipient of the Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching. Town, who earned her master's degree in education from the University of Washington, has spent her career challenging middle and junior high school students with inquiry-based, hands-on learning in the Earth sciences. Earth science is, she says, "the most touchable science."

"We were excited to learn how Ms. Town helps her students to generate and investigate their own questions about the natural world," said AGI Education Director Ann Benbow on recognizing Town with the award. "This is the kind of learning that stays with students throughout their lives."

Town will be presented with the award at the NESTA Friends of Earth Science Reception during the National Science Teachers Association 2012 National Conference in Indianapolis later this month. Finalists for the award were Nathan Shotwell of Holman Middle School in Richmond, Virginia, and Deborah Wickerham of Chamberlin Hill Intermediate School in Findlay, Ohio.

Given annually, AGI's Edward C. Roy, Jr. Award recognizes one classroom teacher from kindergarten to eighth grade for leadership and innovation in Earth science education. This award is named in honor of Dr. Edward C. Roy, Jr., who was a strong and dedicated supporter of Earth science education. To learn more, please see http://www.agiweb.org/education/awards/ed-roy/. ■

Meg Town (right) receiving the Edward C. Roy, Jr. Award at the NESTA reception.

Awards & Leadership

Participants at the Annual PHI Symposium and Fieldtrip at the Goose Creek Oil Field in southeast Texas. Photo credit: PHI

The Petroleum History Institute (PHI) Honored Recipients of their 2012 Colonel Edwin L. Drake Legendary Oilman Award, Samuel T. Pees Keeper of the Flame Award, and PHI Distinguished Service Award at the 11th International Symposium

The Petroleum History Institute (PHI), in association with the Geophysical Society of Houston and the Gulf Coast Association of Geological Societies held its 11th International Symposium and Fieldtrip in Houston, Texas, March 8-10, 2012.

PHI is grateful to the overall meeting sponsor Hess Corporation and Mr. Mark Romanchock who arranged for the Symposium to be held at the HESS Corporate Headquarters. Additional sponsors included Baird Petrophysical, Roxanna Oil Company, SEI, Steve and Kristen McDaniel, Ryder Scott, Weatherford Laboratories, Don Broussard-Fugro (Lafayetta, LA), Stone Energy, Houston Geological Society, PetroLog International, Inc., and the New Orleans Geological Society.

During the Friday Symposium the group enjoyed both oral and poster presentations on a wide range of topics: from early days in the Mexican oil fields and earthen storage tanks in the southwest, to the tar sands of Alberta and the Humble Field in Texas. Professor Tyler Priest of the University of Houston delivered the Keynote address entitled, Reviving the Dead Sea: The Thirty-Year Effort to Tap Oil in the Deepwater Gulf of Mexico.

The Saturday field trip included stops at the Houston Museum of Natural History's Weiss Energy Hall, the Ocean Star Rig Museum in Galveston --where the land-locked among the group were able to go on board a deep-water drilling platform-- and the historic Goose Creek Field at Baytown, Texas.

At the Awards banquet, PHI honored two legendary figures of the world oil industry with the 2012 Colonel Edwin L. Drake Legendary Oilman Award: William E. (Bill) Gipson and William Herbert Hunt. Mr. Gipson was the former Executive Vice President & Director of Pennzoil Offshore Gas Operators (POGO), and Executive Vice President & Director of Pennzoil Domestic and International Oil and Gas Subsidiary Companies. Mr. Hunt is of the legendary Hunt Oil Company and is currently an Advisor to Management at Petro-Hunt.

The Samuel T. Pees Keeper of the Flame Award for 2012 was presented to two colleagues: Dr. Mary Barrett, Professor Emeritus, Centenary College of Louisiana (Shreveport), for her many contributions to the petroleum history of the Gulf Coastal Plain including her work with the history of earthen storage; and, Dr. Charles A. Sternbach, President of First Place Energy and Star Creek Energy, for originating and organizing the enduring Legends panels at the Houston Geological Society, and the Discovery Thinking forums at AAPG annual meetings.

The PHI Distinguished Service Award for 2012 was presented to Ms. Maureen Leech, and Mrs. Marilyn A. W. Black. Ms Leech is the current PHI Treasurer and Layout/Production Manager for the PHI journal Oil-Industry History, and Mrs. Black is the current PHI Secretary and Chair of the PHI Oil and Gas Swap Meet and Road Show to take place in Oil City, Pennsylvania, in 2012.

The next PHI meeting is planned for Pittsburgh, Pennsylvania, in May 2013. For 2014, PHI plans to return north of the boarder to meet with the Petroleum History Society in Calgary, Alberta, Canada. ■

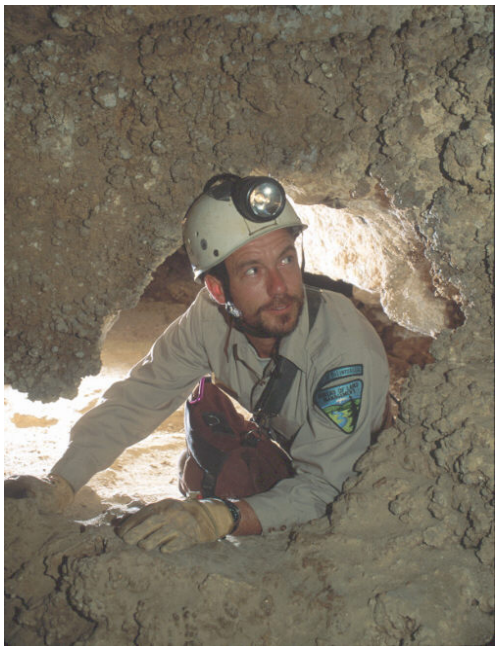
The Karst Waters Institute (KWI) Honors Awardees at Annual Awards Banquet in Albuquerque, New Mexico

The Karst Waters Institute (KWI) held their annual awards banquet in March in Albuquerque, New Mexico, on the University of New Mexico campus. The banquet honored Karst Award recipient, James (Jim) Goodbar, and Amanda Laskoskie received the 2012 recipient of the William Wilson Scholarship.

Jim Goodbar spoke at the dinner on the topic of "There and Back Again (well not quite): A Cavers Tale." Jim began caving at 9 years old with his parents and two sisters in central Texas where the "bug" bit him and he was infected with a lifelong desire to explore, understand, and protect underground resources. Much of his 32+ year career with the Bureau of Land Management has been developing their national Cave and Karst Management Program where he currently serves as the Senior Cave and Karst Specialist for the Washington Office. He assisted in writing the Federal Cave Resources Protection Act, their regulations, and implementation procedures and was instrumental in developing their national cave and karst management policies, manual and handbook, cave management training courses, national and local agreements, national cave safety standards, and guidelines for oil & gas drilling in karst areas. Jim is an Honorary Life Member, Fellow, and past board member of the National Speleological Society, a Fellow of the Cave Research Foundation, and a Charter Life Member of the American Cave Conservation Association. His interests, education, and career have led him into all aspects of cave exploration, science, and karst management. Caving and cave management have taken Jim to 16 foreign countries. Jim has authored over 25 publications on cave and karst management and geology. He earned his BS in Park and Recreation Management from Texas A&M University and conducted his graduate studies in Cave/Karst Geology/ Geomorphology at Western Kentucky University in 1979-81.

Amanda Laskoskie is the 2012 Wilson Scholarship recipient. She is a geology M.S. student at West Virginia University in Morgantown, West Virginia. She earned her B.S. in geology at Temple University in Philadelphia, Pennsylvania. Native to Sunbury, Pennsylvania, Amanda's first cave experience was at the age of 24 in the Puerto Rican karst system where she contracted histoplasmosis, or Caver's disease. Taking it as a sign of great things to come, she is now working on a method to better understand contaminate fate and transport in karst systems. Her research focuses on the development of the hydrogel tracer bead for mimicking nonaqueous phase liquids. The hydrogel tracer bead is innocuous and readily altered by a variety of inclusions. In her spare time, Ms. Laskoskie enjoys geochaching, crafting, and the great outdoors.

More information about KWI can be found at www.karstwaters.org. ■



Jim Goodbar (left), 2012 Karst Waters Insistute (KWI) Karst Award Honoree, and Amanda Laskoskie (right), 2012 Wilson Scholarship Recipicient from KWI.

Awards & Leadership

National Association of Geoscience Teachers Award Nomination and Application Deadlines

Several of NAGT's awards programs have application or nomination deadlines that are fast approaching. Be sure to check out these great opportunities to suggest a colleague or yourself for one of these great recognition opportunities.

- Outstanding Earth Science Teachers (OEST) Program
  http://nagt.org/nagt/programs/oest.html
  OEST awards are given for "exceptional contributions to the stimulation of interest in the Earth Sciences at the pre-college level." Any teacher or other K-12 educator who covers a significant amount of earth science content with their students is eligible. Ten national finalists are selected, one from each NAGT regional section. Some sections also recognize state winners. Individuals may apply themselves or nominate a colleague for the award. More information and the nomination instructions can be found on the program website. Some Sections have already closed nominations, but others have dates in May.

- Neil Miner Award
  http://www.nagt.org/nagt/programs/miner.html
  NAGT presents the Neil Miner Award to an individual for exceptional contributions to the stimulation of interest in the earth sciences.
  Deadline - April 1

- James H. Shea Award
  http://www.nagt.org/nagt/programs/shea.html
  The Jim Shea Award goes to an individual for exception contributions in the form of writing and/or editing of Earth Science materials that are of interest to the general public and.or teachers of Earth Science.
  Deadline - April 1

- Dorothy Stout Professional Development Grants
  http://www.nagt.org/nagt/programs/stout.html
  These grants go to faculty and students at two-year colleges and K12 teachers to support participation in Earth Science classes or workshops, professional meetings, field trips, and the purchase of materials for classroom use.
  Deadline - April 15

- Robert Christman Distinguished Service Award
  http://www.nagt.org/nagt/programs/christman.html
  This award was established by the Executive Committee in April, 2008 to recognize individuals who have provided long, distinguished service to the Association at the national and/or section level.
  Deadline - ongoing ■

National Ground Water Research and Educational Foundation awards scholarships

The National Ground Water Research and Educational Foundation (NGWREF) has awarded $25,000 to 10 students from its Len Assante Scholarship Fund.

Each of the scholarship recipients are entering a field of study that serves, supports, or promotes the groundwater professions.

Julia DeGagne of Downington, Pennsylvania, received $4,000 with the Past President's Award — the top scholarship presented to the most qualified of the applicants. DeGagne, who has an undergraduate degree in Water Resources Engineering, is pursuing graduate research at Portland State University (OR) in groundwater hydrology and water quality in arid- and semi-arid lands.

The other recipients are:

- Eamon McCarthy Earls of Franklin, Massachusetts, $4,000 for the Ora Lyons Scholarship named in honor of a former distinguished National Ground Water Association member; Earls plans to pursue a course of study in the geosciences
- Kurstyn Mills of Shawnee, Oklahoma, $3,000; Mills attends Oklahoma City University
- Morgan Reid of Buffalo, Wyoming, $2,000; Reid attends Bucknell University in Lewisburg, Pennsylvania
- Elora Arana of Houston, Texas, $2,000; Arana is attending Texas A&M University
- Jenna Chandler of Manchester, Michigan, $2,000; Chandler is attending Michigan State University
- Hanna Dornhofer of Austin, Texas, $2,000; Dornhofer is attending the University of Texas at Austin
- Devin Ergler of Cle Elum, Washington, $2,000; Ergler attends Washington State University
- Madeline Friend of Flagstaff, Arizona, $2,000; Friend attends Northern Arizona University
- Jessie Moravek of St. Charles, Illinois, $2,000; Moravek attends Northwestern University.

The scholarship awards have been made for more than 30 years. Read more about the Len Assante Scholarship Fund here http://www.ngwa.org/Foundation/assante/Pages/default.aspx.

NGWREF is operated by the National Ground Water Association as a 501(c)(3) public foundation focused on conducting educational, research, and other charitable activities related to a broader public understanding of groundwater. ■

Meetings

May 2012

2012 NGWA Ground Water Summit: Innovate and Integrate

Garden Grove, California • May 6-10, 2012

The focus of the 2012 NGWA Ground Water Summit — Innovate and Integrate: Succeeding as a Groundwater Professional in a Water-Short World — will help you prepare for, and thrive in, this environment.

This annual comprehensive event also provides unparalleled opportunities for career growth and a forum for perspectives from the research, regulatory, advocacy, and consulting communities. In addition, students and faculty members can take advantage of numerous opportunities to discuss research and explore applications.

Conference highlights include:

- Keynote speaker, Patricia "Pat" Mulroy, who oversees the operations of the Las Vegas Valley Water District, which serves more than 340,000 customers, and the Southern Nevada Water Authority, which is responsible for acquiring, treating, and delivering water to local agencies that collectively serve 2 million residents and nearly 40 million annual visitors.
- Dr. James "Jay" S. Famiglietti, 2012 Birdsall-Dreiss Distinguished Lecturer, will present "Water Cycle Change and the Human Fingerprint on the Water Landscape of the 21st Century: Observations from a Decade of GRACE (Gravity Recovery and Climate Experiment)."
- S. Majid Hassanizadeh, Ph.D., will present his 2012 NGWREF Darcy Lecture on flow and transport in porous media through theory development, experimental studies, and modeling work.
- Marvin F. Glotfelty, RG, will present his 2012 NGWREF McEllhiney Lecture titled "Life-Cycle Economic Analysis of Water Wells — Considerations for Design and Construction".
- Dr. William M. Alley, 2012 David Todd Keith Distinguished Lecturer, will present "Communicating Groundwater Science—From Real Time to a Million Years."

View the meeting web site at - http://groundwatersummit.org/

Salt marsh near Pescadero, CA showing salt grass. Photographer: Bruce Molnia US Geological Survey. Earth Science Image Bank

June 2012

Teaching Climate Change: Insight from Large Lakes

WHEN
June 19-20, 2012

DEADLINE
April 18, 2012

SPEAKERS

William A. Lovis, Michigan State University
Steve Colman, University of Minnesota-Duluth
Julie Brigham-Grette, University of Massachusetts-Amherst
Tim Fisher, University of Toledo
Jay Austin, University of Minnesota-Duluth
J. Elmo Rawling III, University of Wisconsin-Platteville
Amy Myrbo, University of Minnesota-Twin Cities

CONVENERS

Steve Colman, University of Minnesota Duluth
Karin Kirk, Science Education Resource Center, Carleton College
Rolfe Mandel, University of Kansas
Alison Smith, Kent State University
Ester Sztein, National Academy of Sciences
Katryn Wiese, City College of San Francisco
Greg Wiles, The College of Wooster

Register now for the June 19-20 workshop on Teaching Climate Change: Insight from Large Lakes — preceding the AMQUA biennial meeting.

ABOUT THE WORKSHOP

This workshop is co-sponsored by the U.S. National Committee for the International Union for Quaternary Research and the American Quaternary Association.

The workshop will be held at the Large Lakes Observatory and the Department of Geological Sciences at the University of Minnesota Duluth.

Workshop details: http://serc.carleton.edu/NAGTWorkshops/climatechange12/index.html
Application deadline: April 18, 2012
Application: http://serc.carleton.edu/NAGTWorkshops/climatechange12/application.html

OBJECTIVE

Introduce participants to an array of data that can be gathered from large lakes and used to study past climates and predict future climate changes, and review how these data are collected, analyzed, and interpreted. The workshop will provide hands-on opportunities to examine cores and historic images and use public-domain databases to develop classroom teaching exercises. It will also include an optional field trip that combines a tour of working core and research labs with a cruise on Lake Superior on the research vessel *Blue Heron*.

View the workshop program: http://serc.carleton.edu/NAGTWorkshops/climatechange12/program.html

BACKGROUND

This workshop is part of the *On the Cutting Edge* professional development program for current and future geosciences faculty, supported by the National Association of Geoscience Teachers with funding provided by a grant from the National Science Foundation—Division of Undergraduate Education. Additional support is provided by the American Quaternary Association and the U.S. National Committee for the International Union for Quaternary Research. This workshop was built upon prior workshops, including Teaching Climate Change from the Geologic Record, Teaching Climate Change with Ice Core Data and Teaching Climate Change: Lesson's from the Past.

Meetings

June 2012

Leveraging Uncertainty: Toward a New Generation of Undergraduate Research

College of New Jersey • June 23-26, 2012

The Council on Undergraduate Research will host "Leveraging Uncertainty: Toward a New Generation of Undergraduate Research" at The College of New Jersey on June 23-26, 2012.

This conference will bring together faculty, administrators, policy makers, representatives of funding agencies and other stakeholders with an interest in doing and promoting undergraduate research. With over 100 presentations and social interactions, this promises to be an outstanding conference. To register and for further details visit: http://www.cvent.com/d/1cqkx7

August 2012

The American Geosciences Institute invites you display a small amount of informational material within the AGI booth at the 34th Session of the International Geological Congress (IGC) this year in Brisbane, Australia. This conference is a great opportunity to promote your societies' initiatives and activities to a broad international audience. The AGI booth can accommodate small amounts of informational products, posters, and handout materials, and will act as a professional liaison between member societies and the international community at the conference.

The 34th IGC, August 5-10, 2012, covers the interests of the global geoscience community. This year's theme, "Unearthing our Past and Future—Resourcing Tomorrow," will showcase Oceania's geoscience strengths and innovations to leaders from industry, academia, government, and beyond. With over 100 exhibitors and 23 sponsors from across the geosciences, the 34th IGC is sure to provide an excellent platform for promoting your societies' upcoming and current activities. For more information please visit http://www.34igc.org/index.php.

If you wish to display materials in AGI's booth at IGC, please contact Abigail Seadler (aseadler@agiweb.org).

Meetings

September 2012

The AEG Intermountain Section warmly invites you to join us in Salt Lake City, the heart of the Intermountain West, for the 55th Annual Meeting of the Association of Environmental & Engineering Geologists.

Salt Lake City, located in a remarkably diverse and active geologic setting, is in the eastern-most Basin and Range physiographic province at the margin with the Rocky Mountain province; the deep canyons of the Colorado Plateau are just a stones throw to the south. The Wasatch Fault, one of the world's longest Holocene-age normal faults, is situated at the base of the spectacular Wasatch Mountains, along the east side of Salt Lake City. The Salt Lake Valley is ringed by shorelines of Pleistocene Lake Bonneville (initially identified, studied, and named by G.K. Gilbert in the 1890s). The glaciated peaks, moraines, and valleys of the Wasatch Range are only 20 minutes from downtown Salt Lake City.

Technical Program …

Possible Technical Sessions

- Environmental and engineering geology of mining
- Water resources
- Landslide investigation and remediation
- Debris-flow hazards
- Remote sensing
- GIS technologies
- Engineering geology and dams
- Unconsolidated aquifers and earth fissures
- Rock mechanics
- Earthquake hazards
- Paleoseismology and fault investigations
- Applications of geophysics
- Geologic-hazards mapping

Proposed Symposia

- Earthquake Hazards in Utah/Basin and Range
- Great Basin faulting/fault-rupture hazard mitigation
- Central and Eastern U.S. Earthquake Hazards in the Year of the New Madrid Earthquakes' Bicentennial
- Capturing Uncertainty and Variability in Geology: Site Conditions and Natural Processes
- How Climate Change will Affect our Profession
- Dam Scour
- LiDAR Applications to Engineering Geology
- Ground Water Monitoring around Solid Waste Facilities
- Innovative Geotechnical Design Consideration for Solid Waste Facilities
- Slope Stability in Mining

Field Trips …

- Geology of Southern Utah National Parks - Capital Reef, Escalante, Bryce, Zion, Kolob Canyon
- Kennecott Utah Copper Mine
- Geologic Hazards of the Wasatch Front
- Alpine Hydrogeology and Water Supply of the Park City Area
- Antelope Island, Lake Bonneville, and the 1980's High Stand of the Great Salt Lake

Guest Tours …

- Heber Valley Railroad
- Utah Olympic Park and Park City
- Red Butte Botanical Garden and Utah Museum of Natural History
- Great Salt Lake and Antelope Island

Call for Technical Papers
Abstract Deadline
June 1, 2012
Online submittal - www.aegweb.org
Call Heather Clark - 303-757-2926

September 2012

SEPTEMBER 23–26, 2012 • WESTIN HOTEL, LIMA, PERU

First Announcement and CALL FOR PAPERS

Join economic geologists from around the world next year in Peru!

Held in conjunction with the XVI Congreso Peruano de Geología

Oral sessions

- Major ore deposits of Latin America
- New porphyry Cu discoveries and developments in Chile and Peru
- Ore deposits of the world and their exploration
- SEG-SGA session: Scientific and ore deposit Discoveries

Poster sessions

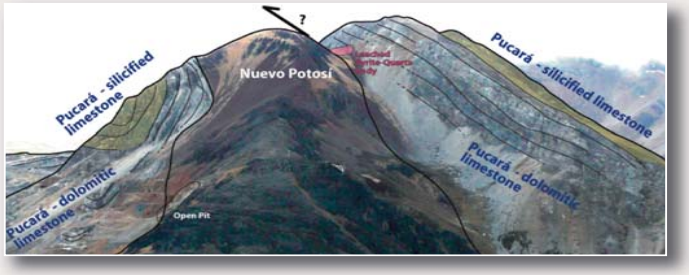
- Posters are integral to this meeting, 2-hour sessions after each day's plenary talk and prior to the afternoon oral session

Short courses and field trips

- Numerous short courses and field trips are planned, the latter to mines in Peru and neighboring countries

Students

- SEG student members who present talks and/or posters are eligible to receive financial support to attend this conference
- Special activities for students include a review of ore discoveries plus an SEG field workshop and UNESCO-SEG-SGA course.



Language for oral presentations: English (preferred) and Spanish – Simultaneous translation

Expressions of interest by 15 December, 2012. Go to survey link http://surveymonkey.com/s/2012-Lima-Peru-Conference

Abstract submission deadline for talks and posters: 15 March 2012

Submit to Peru2012@segweb.org as a Word file. Title, author[s], affiliation[s], abstract, in English, limited to 500 words, plus one illustration. Published SEG digital abstract volume will be available at the meeting.

SEG meeting coordinator: Miguel Cardozo
Program chairs: Lluís Fontboté, Jeffrey Hedenquist, Richard Sillitoe

In association with the Sociedad Geológica del Perú

SOCIEDAD GEOLÓGICA DEL PERÚ | SGP FUNDADA 1924

Meetings

October 2012

Association for Earth Science Editors

2012 Annual Meeting

San Diego, CA • October 8-12, 2012

Save the Date for the AESE annual meeting which will be held in Dan Diego from October 8-12, 2012. We will return to the Hacienda Hotel in Old Town. The field trip will include the Roadside Geology of Sunrise Highway in the Laguna Mountains and a visit to the Anza-Borrego Desert where will tour the Galleto Meadows "Sky Art" installation. More details to follow soon, please visit http://www.aese.org/shell.html.

More 2012 Society Events...

American Institute of Professional Geologists

Upcoming Events

March 22-23, 2012 - Austin, TX
Shale-Gas Development and Water Issues Symposium

May 22-23, 2012 - Pittsburgh, PA
The Marcellus Shale: Energy Development
and Enhancement by Hydraulic Fracturing

September 22-26, 2012 - Rapid City, SD
Geology and Natural Resources of the Black Hills and Adjoining Basins
Presented jointly by AIPG and the AIPG SD Section

October 4, 2012 - Greenville, NC
Groundwater Resources Issues in the Coastal Mid-Atlantic

2013 - AIPG 50th Anniversary - October 23-26, 2013
Foothills of the Rocky Mountains, CO

Visit our website at www.aipg.org

Watch for Registration, Sponsorship, and Exhibitor Information for all Events!

More 2012 Society Events...

2012 Geological Society Conferences

18 April	Shell London Lecture – Reconciling Past and Future Worlds	Burlington House
9 May	Shell London Lecture – Unconventional Gas	Burlington House
16-17 May	High Fidelity: the Quest for Precision in Stratigraphy and its Applications	Burlington House
30-31 May	Rock Deformation from Field Studies, Experiments and Theory	Burlington House
21 June	23rd Petroleum Group Annual Dinner	Natural History Museum
27 June	Shell London Lecture – Sustainability of Groundwater in a Changing World	Burlington House
4-6 September	William Smith Meeting – Strata and Time	Burlington House
19-21 September	Fermor Meeting – the Neoproterozoic Era	Burlington House
26 September	Shell London Lecture – Volcanoes and Man	Burlington House
1-2 October	Deep Water Continental Margins	Burlington House
5 October	Operations Geology Workshop	University of Aberdeen
10 October	Shell London Lecture – Pollutants and Human Health in the Age of Man	Burlington House
22-23 October	Appreciating Physical Landscapes	Burlington House
24-26 October	East Africa: Petroleum Province of the 21st Century?	Burlington House
7 November	Careers Day	BGS, Nottingham
14 November	Shell London Lecture – Geological Aspects of Renewable Energy	Burlington House
15 November	Founders Day Lecture and Dinner	Burlington House
20-22 November	Petroleum Geoscience Research Collaboration Showcase	Earls Court, London
21 November	Careers Day	Edinburgh
28-30 November	Industrial Structural Geology: Principles, Techniques and Integration	Burlington House
19 December	Shell London Lecture – Incoming: Learning to Love the Meteorite	Burlington House

For further information on any of the events listed please contact the Conference Office
Tel: 020 7434 9944 Fax: 020 7494 0579

www.geolsoc.org.uk

The Geological Society
serving science & profession

Meetings

January 2013

Karst Waters Insitute Symposium on Carbon and Boundaries in Karst January 7-13, Calsbad, New Mexico

Background

There is growing interest in the dynamics of both inorganic and organic carbon in karst systems, and especially in the flux of carbon and nutrients between the surface and subsurface and between different components in the karst subsurface. This symposium is especially timely both because of rapid advances in the field and the importance of carbon sequestration in global climate change It will highlight recent advances in biology, geology, and hydrology that are helping us understand the dynamics of karst ecosystems, especially with respect to carbon. There will be both invited lectures and contributed posters covering the following topics:

- The Upper Boundary - Epikarst
- The Lower Boundary - Phreatic Zone
- Lateral Inputs - Insurgences
- Lateral Outputs - Resurgences
- CO_2 - Processing and Storage
- Organic Carbon - Sources and Quality
- Synthesis and Large Scale Models

As is the tradition with KWI meetings, the symposium will be aggressively interdisciplinary and international. More information about KWI and past meetings can be found at www.karstwaters.org.

Scientific Program

Two distinguished scientists will give plenary lectures that will set the framework for the meeting:

- Dr. Jack Stanford, Director of the Flathead Lake Biological Station in Montana, one of the discoverers of the hyporheic zone, and co-editor of the "bible" of groundwater ecology, aptly titled Groundwater Ecology.
- Dr. John L. Wilson, Professor of Hydrology at New Mexico Tech, a leading expert on stream-aquifer interactions and the movement of materials through groundwater.

Two disgintuished karst scientitsts will give a first-of-its-king joint summary of the meeting:

- Dr. Derek C. Ford, Professor of Geography and Earth Sciences at McMaster University and co-author of one of the two leading books on physical aspects of karst, Karst Hydrogeology and Geomorphology
- Dr. William B. White, Professor of Geosciences at The Pennsylvania State University and co-author of the other leading book on physical aspects of karst, Geomorphology and Hydrology of Karst Terrains.

There will be seven thematic sessions with invited speakers. The program is being developed by the program chair, Dr. Daniel W. Fong:

- *The Upper Boundary*, convened by Dr. Tanja Pipan, Karst Research Institute at ZRC-SAZU, Postojna, Slovenia. Confirmed speakers include Fengmei Ban (Shanxi University, China),Janja Kogovšek (Karst Research Institute, Slovenia), and Ioana Meleg (Emil Racoviţa Institute of Speleology, Romania)
- *The Lower Boundary*, convened by Dr. Franci Gabrovšek, Karst Research Institute at ZRC-SAZU, Postojna, Slovenia. Confirmed speakers include David C. Culver (American University), Pierre-Yves Jeannin (Swiss Institute of Speleology, Switzerland), Jonathan Martin (University of Florida), and George Veni (National Cave and Karst Research Institute).
- *Lateral Inputs*, convened by Dr. Kevin Simon, The University of Auckland, New Zealand. Confirmed speakers include Jonathan Harding (University of Canterbury, New Zealand) and Michael Vernasky (University of Alabama).
- *Lateral Outputs*, convened by Dr. Carol Wicks, Department of Geology and Geophysics, Louisana State University. Confirmed speakers include Matthew Covington (University of Arkansas), Cene Fišer (University of Ljubljana, Slovenia), Daniel Fong (American University), Neven Kresic (AMEC Environment and Infrastructure).
- *CO2*, convened by Dr. Janet Herman, Department of Environmental Science, University of Virginia, Charlottesville, Virginia. Confirmed speakers include Daniel Kowalczk (Florida State University) and Daoxian Yuan (Guangxi University, China)
- *Organic Carbon,* convened by Dr. Annette Summers Engel, Department of Geosciences, University of Tennessee, Knoxville, Tennessee. Confirmed speakers include Penny Boston (New Mexico Tech) and Christian Griebler (Helmholtz Zentrum Muenchen, Germany).
- *Synthesis,* convened by Dr. Daniel W. Fong, Department of Biology, American University, Washington, D.C. Confirmed speakers include Diana Northup (University of New Mexico), Kevin Simon (University of Auckland, New Zealand), and Carol Wicks (Louisiana State University).

A few slots are still available for oral presentations. Please contact Daniel Fong (dfong@american.edu) if interested.

January 2013

Poster Sessions

In addition to the invited sessions, there will be two evening poster sessions. Contributions on all topics related to carbon and boundaries in karst are welcome. Each attendee may present up to three posters. Maximum poster size is 120 cm (4 feet) by 90 cm (3 feet). Abstracts of posters may also be submitted for publication in the conference program. Send abstracts to Daniel Fong (dfong@american.edu).

Venue

The meeting will be co-sponsored by and held at the new headquarters of the National Cave and Karst Research Institute (NCKRI). The goals of the National Cave and Karst Research Institute are to:

- Advance cave and karst science by conducting, coordinating, and facilitating research.
- Serve as a repository for and provide analysis and synthesis of speleological (cave related) information.
- Foster partnerships and cooperation in cave and karst research, education, and management programs.
- Promote and conduct cave and karst educational programs.
- Promote national and international cooperative programs that further cave and karst research, education, and stewardship.
- Develop and promote environmentally sound and sustainable cave and karst management practices.

The meeting site is close not only to Carlsbad Caverns National Park but also Guadalupe Mountains National Park, and makes an ideal starting place for a visit to the many parks and features of the desert southwest. Participants will be housed in nearby hotels in Carlsbad.

The nearest major airport is El Paso, Texas, approximately 2.5 hours from Carlsbad. Shuttle buses to and from the El Paso airport will be available on January 6 and 12 for a cost of $50 one way. Smaller airports are located in Hobbs and Roswell, New Mexico, about 1 hour's drive from Carlsbad. Rental cars are available at all airports. There is an U.S. Immigration and Naturalization checkpoint between El Paso and Carlsbad, so be sure to have identification with you.

Mid-Conference Excursion

On Wednesday, January 9, we will have an all day excursion to Carlsbad Caverns National Park, a World Heritage Site, for a tour of Carlsbad Caverns and either a hike in Slaughter Canyon or a tour of Slaughter Canyon Cave. Carlsbad Caverns National Park is one of three national parks developed around a cave, the other two being Wind Cave and Mammoth Cave. Carlsbad Caverns is specially known for the beauty and extent of its formations, and the large flights of Mexican free-tailed bats that occur in the summer. The park contains excellent examples of southwestern American desert landscape as well.

Post-Conference Excursion

Plans are in the works to offer a post-conference excursion to Grand Canyon National Park, with a return to the El Paso airport on Friday, January 20.

Post-Conference Publication

All participants will be invited to submit a paper, due at the end of the conference, January 11, 2013. The paper must be in accordance with the style requirements of *Acta Carsologica*. Detailed information on style requirements can be found at http://carsologica.zrc-sazu.si/?stran=guidelines. Each paper will be limited to 5000 words and 8 tables/figures, without prior arrangement with the editor. Review papers are especially welcome.

All papers will be subject to peer review and submission does not guarantee publication. In a few exceptional cases, papers based on a poster will be considered for publication in the special issue of Acta Carsologica. There will be a two-step acceptance procedure. It first must be accepted by the Special Editor (David Culver) and then by the journal editor (Franci Gabrovšek). For further information contact David Culver (dculver@american.edud).

The anticipated publication date is October, 2013.

Registration Information

Registration fee for the meeting will be $500 ($300 for students), which includes all lunches, a Monday evening reception, a Friday banquet, and the Wednesday excursion to Carlsbad Caverns National Park. Participants will also be provided with the special issue of Acta Carsologica. The program and book of abstracts will be made available to participants on a digital memory stick. Additional fees will be charged for airport transportation and the post-conference excursion. Housing is not included, and information on local motels and rates will be provided in the second circular.

Timetable

June 1, 2012—online registration opens

November 1, 2012—abstracts due

December 1, 2012—registration closes.

***Late registration fees will be $600 ($400 for students).**

Geoscience Policy

March 2012 in Review

NRC Sends Implementation Report to Congress

On March 12, Chairman Gregory Jaczko of the Nuclear Regulatory Commission (NRC) sent a report on the status of its implementation of the Near-Term Task Force recommendations to Congress. The Near-Term Task Force was formed after the March 2011 Fukuskima Dai-ichi nuclear meltdown in Japan and issued their report, Recommendations for Enhancing Reactor Safety in the 21st Century, in July 2011. The Conference Report of the Consolidated Appropriations Act, 2012 (P.L. 112-74) requests the NRC submit a written status report one year after of the disaster.

Jaczko and the four other commissioners of the NRC appeared at a hearing before the Senate Committee on Environment and Public Works on March 15, 2012 to discuss their efforts in implementing the new safety recommendations made by the task force. In the status report and at the hearing, Jaczko defined the recommendations into three tiers. Tier one consists of those recommendations that were implemented immediately, tier two consists of actions that are to be taken once the resources and skill sets become available, and tier three consists of those recommendations that require further study. The NRC issued a request for information to all license holders on March 12 that addresses seismic, tsunami, and flooding hazards. The NRC is required by P.L. 112-74 to ask reactor licensees to re-evaluate their seismic, tsunami, and flooding hazards.

Supreme Court Rules Unanimously Against EPA in Wetlands Enforcement Case

The U.S. Supreme Court unanimously ruled that property owners facing potential enforcement actions under the Clean Water Act (33 U.S.C. 1251) can challenge the determination before being forced to comply. Sackett vs. Environmental Protection Agency began when the Sackett family of Bonner County, Idaho received a compliance order from the Environmental Protection Agency (EPA) which claimed their construction project was discharging pollutants into navigable waters.

The Sacketts took their case to the Federal District Court and argued that the compliance order was "capricious" under the Administrative Procedure Act (5 U.S.C. 706) and that it deprived them of due process in violation of the Fifth Amendment. The US Court of Appeals for the Ninth Circuit dismissed their case in 2010 concluding that the CWA precluded pre-enforcement judicial review of compliance orders and that such a preclusion did not violate due process. The Supreme Court's recent decision overturns the Ninth Circuit's decision. Justice Antonin Scalia wrote the court's opinion which includes concurring opinions written by Justice Ruth Bader Ginsburg and Justice Samuel Alito. The Sacketts now will have the chance to claim their land is not a wetland.

NESTA, NAGT Oppose Tennessee Bill to Allow Teachers to Challenge Evolution, Climate Change

The Tennessee Legislature has passed legislation to encourage teachers to present the "scientific strengths and weaknesses" of topics such as "biological evolution, the chemical origins of life, global warming, and human cloning." The Tennessee House of Representatives passed House Bill (H.B.) 368 a week after its companion bill, Senate Bill (S.B.) 893, was passed on March 19. Tennessee Governor Bill Haslam has said that he will discuss the legislation with Tennessee's state board of education.

There has been widespread backlash against S.B. 893 and H.B. 368. An editorial by the Nashville Tennessean from March 21, 2012 referred to the two bills as "monkey bills" and described them as "wedging open a door to include a radically divisive, ultra-conservative Christian agenda disguised in politically correct language." The National Association of Geoscience Teachers (NAGT) and the National Earth Science Teachers Association wrote letters on behalf of their societies expressing their opposition to SB 893 and HB 368. NAGT writes that "rigorous science education in Tennessee is badly served by SB 893 or HB 368, and we urge Tennessee's representatives, state senators, and governor to reject this legislation." NESTA writes that the two bills "misrepresent key scientific concepts and principles, and would undermine the education of Tennessee's students."

Mining Societies Complete Workforce Trend Report

The Society for Mining, Metallurgy, and Exploration (SME), the National Mining Association (NMA), the National Stone, Sand, and Gravel Association (NSSGA), and the Industrial Minerals Association – North America (IMA-NA) have collaborated on a report evaluating mining workforce trends for the next twenty years.

The report, entitled "Emerging Workforce Trends in the U.S. Mining Industry" was compiled by information provided by the participating societies. It identified the mining industry as one of the few adding long term, well paying jobs. Although only making up less than one quarter of one percent of the total U.S. job market, the mining industry can be directly attributed with contributing to 13 to 14 percent of the U.S. job market. This report concluded that the mining industry will continue to grow at a constant rate over the next twenty years adding 11,000-13,000 jobs annually to meet the growing resource demand and to compensate for a large number of retirees. However, the report outlines that the U.S. is currently lacking the skilled workforce to match this job growth. The report warns that the skilled domestic workforce that does exist may be lured away to other countries with higher wages.

For more shorts from the March monthly review please visit http://www.agiweb.org/gap.

Geoscience Policy

February 2012 in Review

Boxer, Inhofe, and Cardin Introduce Water Research Bill

On February 14, Senators Barbara Boxer (D-CA), James Inhofe (R-OK), and Benjamin Cardin (D-MD) introduced the Water Resources Research Amendments Act of 2012 (S. 2104) to reauthorize funding for applied water supply research.

The bipartisan backed bill reauthorizes an amended version of the Water Resources Research Act of 1983 (P.L. 98-242). From 2006-2011 the program annually received $12 million for institutions and $6 million for competitive grants. The Water Resources Research Amendments Act of 2012 calls for five years of annual funding at $7.5 million for institutions and $1.5 million for competitive grants. Cardin said that past grants led to tools for the restoration of the Chesapeake Bay and the development of cost effective water resources strategies in West Virginia among other benefits. Cardin called the bill "an intelligent and necessary investment in the future of our water resources." It has been referred to the Committee on Environment and Public Works where Boxer and Inhofe sit as chair and ranking member respectively.

U.S. Joins U.N. Program to Reduce Methane and Black Carbon Emissions

Secretary of State Hillary Clinton announced the U.S. will participate in an international initiative to reduce methane, black carbon, and hydrofluorocarbons (HFC) emissions. The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants will be administered by the United Nations Environment Program (UNEP). A recent study published in Science found that reducing the emissions of black carbon, or soot, and methane would slow global warming and save lives by preventing lung and cardiovascular disease.

At a joint press conference with Environmental Protection Agency (EPA) Director Lisa Jackson, Secretary Clinton said the coalition will "mobilize resources, assemble political support, help countries develop and implement a national action plan, raise public awareness, and reach out to other countries, [non-governmental organizations], and foundations." The U.S. would be joined by Canada, Sweden, Mexico, Ghana, and Bangladesh and would contribute $12 million for the first two years in addition to the $10 million provided annually to the Global Methane Initiative and the $10 million provided annually to the Global Alliance for Clean Cookstoves. The State Department has issued a fact sheet that explains the coalition and potential to reduce the impacts of global warming by limiting methane, black carbon, and HFC emissions.

Oil Spill Response System for Arctic

On February 7, the Bureau of Safety and Environmental Enforcement (BSEE) and the National Oceanic and Atmospheric Administration (NOAA) announced they will be enhancing the Environmental Response Management Application (ERMA) for the Arctic by the summer of 2012.

ERMA was first designed in 2007 and saw full implementation in 2010 during the BP Deepwater Horizon oil spill. ERMA brings together static and real time data through an interactive map that is continuously updated with oceanographic observations and weather data from NOAA as well as critical information from BSEE and a number of other agencies. Monica Medina NOAA Principal Deputy Undersecretary for Oceans and Atmosphere recently said, "Reconfiguring this application to meet the needs of responders in the remote marine Arctic environment could prove to be the most critical tool in effectively preparing for, responding to, and mitigating situations where limited assets, personnel and facilities exist." NOAA and BSEE will educate the state of Alaska, local communities, academia, and industry on ERMA and how it will protect their communities. NOAA and BSEE have stated their goal is to get ERMA up and running before any new oil and gas exploration begins in the Arctic.

USGS Establishes California Volcano Observatory

The U.S. Geological Survey (USGS) established the California Volcano Observatory (CalVO) on February 9 to manage the volcanic threats of potentially active volcanoes in California and some in Nevada. CalVO will be based in Menlo Park, California and will assume the monitoring responsibilities of the former Long Valley Observatory while relieving the USGS Cascades Volcano Observatory in Vancouver, Washington of its monitoring responsibilities for Northern California.

CalVO will monitor active and potentially active areas including Mount Shasta, Medicine Lake Volcano, Clear Lake Volcanic Field, Lassen Volcanic Center, Long Valley Caldera, Mono-Inyo Craters, Salton Buttes, Coso Volcanic Field, the Ubehebe Craters in California and Soda Lakes in central Nevada. Under the Robert Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288), the USGS has the federal responsibility to issue warnings of potential volcanic disasters. The USGS operates four volcano observatories in addition to CalVO – the Cascades Volcano Observatory, the Yellowstone Volcano Observatory, the Alaska Volcano Observatory, and the Hawaiian Volcano Observatory. The establishment of CalVO is part of the USGS's efforts to build the National Volcano Early Warning System.

For more February geoscience policy news check out the February monthly review, available here: http://www.agiweb.org/gap/email/review0212.html

Geoscience Policy

Upcoming Geoscience Policy Events:

Register to Attend AGU Science Policy Conference in DC
April 30 – May 3

The American Geophysical Union (AGU) is holding their first annual Science Policy Conference from April 30 to May 3 in Washington, DC. The conference will bring together scientists, policymakers, and other stakeholders to discuss the intersection of the earth and space sciences and public policy.

The conference includes an AGU and National Geographic cosponsored training session on science communication for scientists on April 30 followed by two days of forums on the Arctic, renewable energy, critical minerals, hydraulic fracturing, water resources, natural hazards, coastal management, and oceans. Speakers include Director of the United States Geological Survey Marcia McNutt and Administrator of the National Oceanic and Atmospheric Administration Jane Lubchenco. The registration deadline is March 30 and a full list of speakers, a detailed agenda, and other business items can be found at AGU's Science and Policy Conference web site. Visit http://sites.agu.org/spconference/ for more information.

Congressional Visits Day in April and September – Join Us in DC

Geoscientists are invited to join organized groups of scientists and engineers for workshops and visits with congressional members and committees (SET-CVD April 24-25 and GEO-CVD September 11-12, 2012). Decision makers need to hear from geoscientists. Become a citizen geoscientist and join many of your colleagues for a workshop followed by a day conducting visits with members of Congress or congressional staff on Capitol Hill to speak about the importance of geoscience research, development, and education.

Science-Engineering-Technology Congressional Visits Day (SET-CVD) is a larger event for all the sciences. April 24-25

Geosciences Congressional Visits Day (GEO-CVD), an event specifically geared towards geoscientists. September 11-12.

Please send an email to govt@agiweb.org for more information or to sign-up.

Geological Society of America: What is Happening in Washington?

Keep up with congressional and agency action on geoscience policy issues. Subscribe to GSA's new Geology and Public Policy RSS feed at http://www.geosociety.org/rss/gppNews.xml for the latest news on geoscience funding, energy and climate policy, legislation, and more!

Vote On or Ask Your Own Questions for 2012 Presidential Science Debate

The nonprofit Science Debate, Inc is compiling questions to ask President Barack Obama and his Republican challenger as part of the 2012 election. Users can submit their own questions or vote on previously submitted ones which are categorized by topic. While there was no actual debate between Obama and Republican Presidential Nominee John McCain in 2008 to discuss top science issues, the two candidates did submit responses to 14 questions compiled from more than 3400 which were submitted.

For more information and to stay updated on the latest geoscience news, please visit AGI's Geoscience Policy page at http://www.agiweb.org/gap/index.html.