



National Association of Geoscience Teachers
Southeastern Section Newsletter
Winter-Spring 2012

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SENAGT at Asheville
State News in Geoscience Education

Kudos to 2011 OEST Award Winners Valerie Willis (regional and SC), Ann Lenderman (GA), Barry Guillot (LA), and Tim Martin (NC). See bios under their respective states.

WWW . . .

NAGT
www.nagt.org

SE-NAGT
<http://facstaff.gpc.edu/~pgore/nagt/se-home.html>

Geological Society of America
www.geosociety.org

US Geological Survey
www.usgs.gov

Earth Science Week
www.agiweb.org
www.earthscienceworld.org
www.earthsciweek.org

Summer-Fall 2012 Newsletter

Deadline:

August 15, 2012. Please send
news items to Bill at
wITHERSPONB@fc.dekalb.k12.ga.us

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President's Letter

by Randy Bechtel, SENAGT president

This year, 2012, is even busier than the last with tighter budgets and revisions to curricula. On top of that, it is an election year. During the political debate at the local, state and national levels, science-based decision-making is crucial. Public policy should be crafted using input from all interest groups, but the debate should not overlook the value a sound science education can provide our leaders in weighing the options before them. We will have many chances over this year to join into the debate by demonstrating the value of geoscience education at both scientific and education venues.

State, regional and national professional conferences are great opportunities to strengthen the communication between both scientists and teachers. Networking at these conferences facilitates the sharing of successful activities between ourselves and participants from other parts of the country. These meetings are also another avenue for publicity and recognition for our state and regional Outstanding Earth Science Teacher (OEST) awards. Honoring outstanding teachers in any subject is laudable, but even more so in the geosciences (in my opinion) because it is such an overlooked and misunderstood subject. I urge SENAGT representatives to aggressively search your states to identify noteworthy nominees of the OEST award. I plan to talk to all those who will attend both the SEGSA in Asheville, N.C. and the GSA in Charlotte, N.C. (see more information about both of these meetings in the North Carolina submission to the newsletter). Together, we will make this a successful year.

Randy Bechtel

Project Geologist
Environmental Education and Piedmont Field Mapping
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SENAGT at Asheville March 31-April 2

Our annual membership meeting will be held over lunch during SEGSA in Asheville, from 11:30 till 1:00 PM on Sunday, April 1. The location is Pack's Tavern, 20 S. Spruce St., about 3 blocks south of the convention site at the Renaissance Asheville Hotel.

SENAGT is sponsoring three events at the meeting. The first, from 12-5 on March 31, is the workshop, "Facilitating Classroom Innovation in the Geosciences: The TUES and Other NSF Educational Funding Programs, and Strategies for Successful TUES Proposals."

There is limited travel support available for two-year college and minority-serving institution faculty. Led by Jeff Ryan of the University of South Florida, and Jill Singer of Buffalo State College, this half-day workshop will provide participants with current information about new NSF-Division of Undergraduate Education (DUE) funding opportunities to support innovation in geoscience education. It focuses on the Transforming Undergraduate Education in STEM (TUES) Program, but will include information on other relevant granting opportunities. The workshop will focus on effective proposal writing strategies, on how to lay the groundwork for moving from a good idea to a successful proposal. They will describe the review process for NSF-DUE educational requests, and discuss opportunities for further participant support and assistance in completing a TUES Program proposal request for Spring submission. Contact Jeff at ryan@mail.usf.edu for more information.

On April 1 from 1:30 to 5:10, SENAGT and the N.C. Geological Survey co-sponsor the theme session, "Building the Foundation for Geoscience Education, a Next Step." Finally, on April 2, from 9 AM to 12, SENAGT is a cosponsor of the poster session, "Outstanding Field Trip Stops in the Carolinas and Beyond."

MEETING CALENDAR

Most recently reported dates of past or future meetings

| National Science Teachers Association and Affiliates | | |
|--|---|---------------|
| Area | Latest date on web site | City |
| National | Mar. 29–Apr 1, 2012 | Indianapolis |
| Southern | Nov. 1-3, 2012 | Atlanta |
| Alabama | Oct. 18, 2011 | Birmingham |
| Florida | Oct. 25-27, 2012 | ?? |
| Georgia | Nov. 1-3, 2012 (NSTA) | Atlanta |
| Louisiana | Nov. 12-14, 2012 | Shreveport |
| Mississippi | Oct. 23-25, 2012 | Jackson |
| North Carolina | Nov. 8-9, 2012 | Winston-Salem |
| South Carolina | separate regional meetings in 2012 and 2013 | |
| Tennessee | Nov. 2-4, 2012 | Murfreesboro |

| Geological Societies | | |
|-------------------------------|-------------------------|----------------|
| Organization (Area) | Latest date on web site | City |
| GSA (National) | Nov. 4-7, 2012 | Charlotte |
| GSA (Southeastern) | April 1-2, 2012 | Asheville, NC |
| GSA (South Central; incl. LA) | Mar. 7-9, 2012 | Alpine, TX |
| Georgia Geological Society | Oct. 21-23, 2011 | McDonough |
| Carolina Geological Society | Oct. 12-14, 2012 | Greenville, NC |

State News in Geoscience Education

If you would like to contribute state news to the next newsletter, please send your geoscience education information and pictures to your state representative, before August 1, using the e-mail address at the end of this newsletter.

Alabama (submitted by David C. Kopaska-Merkel, Geological Survey of Alabama, Co-State Representative and SENAGT VP)

K-12

The Alabama state budget is in trouble because revenues continue to be depressed since the global economic collapse of 2008. There will be cutbacks in science education, as there will in everything else. At this point the extent of the damage is not known because the legislative session just began and the legislature has not yet worked on the budget. The initial budget proposal by the governor involved an evisceration of education funding, but the legislators have already said publicly the governor's proposal is a nonstarter.

I do not think I have previously reported here about the annual Envirobowl competition put on by Legacy, a state environmental-education program. [ed. note: it has been a while – see Winter-Spring 2007 and Summer-Fall 2009] This is an environmental-science trivia contest for high school

students. A half-dozen regional competitions are held around the state and the top teams from each compete at the state level. This year, there were 41 teams and more than 200 students.

Universities

Auburn University

A Global Climate Change Education (GCCE) Program has been launched in Alabama to improve high school and public education in climate change science. The overarching goal is to generate a better informed public that understand the consequences of climate change and can contribute to sound decision making on related issues. With funding provided by the National Aeronautics and Space Administration (NASA), Drs. Ming-Kuo Lee and Luke Marzen (both in the Department of Geology and Geography of Auburn University) have worked with physicists and biologists in their college to develop and implement GCCE education modules state-wide. New educational modules are incorporated into the existing course of study for 9-12 grade science classes.

Teachers are trained in the use of these modules for their classroom through partnership with Alabama Science in Motion (ASIM) and the Alabama Math Science Technology Initiative (AMSTI). Certified AMSTI teachers attend summer professional development workshops taught by ASIM specialists and scientists to learn to use GCCE modules.

During the school year, the ASIM specialists in turn deliver the needed equipment to conduct GCCE classroom exercises and serve as an in-classroom resource for ASIM teachers and their students. Scientists are partnered with ASIM specialists and leading teachers to implement and test efficacy of instructional materials, models, and NASA climate change data used in classroom. Modules learning activities include field data collection, computer simulations, and laboratory measurements.

Students employ NASA data, remote sensing imagery, and Google Earth to investigate effects of global climate changes on physical environments and humans. GCCE instructional materials include background content information (including an introductory Climate 101 Podcast), a detailed description of the specific exercise, Pre-laboratory PowerPoint notes for teachers and students, pre- and post-laboratory test questions, and detailed procedures that utilizes the five E's of the learning cycle for each module. Eventually, the GCCE program has the potential to reach over 200,000 students when the modules are fully implemented in every school in Alabama. The project can give these students access to expertise and equipment, thereby strengthening the connections between the universities, state education administrators, and the community.

A description of GCCE activities is published in the Handbook of Climate Change Mitigation (Springer, 2012). The GCCE modules and classroom materials are available on the AMSTI/ASIM web site (<https://fp.auburn.edu/asim/State%20PAGES/GCCE/GCCE%20MainT.asp>) for use by all teachers in the state of Alabama.



Team of scientists, ASIM specialists, and lead teachers who participated in Auburn University's Global Climate Change Education Project



Students from Stanhope Elmore High School measured streamflow discharge and water quality in the Mill Creek of Millbrook, Alabama.



Lead teacher Jennifer Cox and ASIM specialist Paul Norgaard demonstrated the use of digital flow meter in a Chemistry class at Stanhope Elmore High School.



Alabama high school students learned how carbon can cycle between organisms and the physical environment through the "Travel Carbon Passport" module developed by the GCCE biology team.

University of South Alabama

Undergraduate numbers are kind of dropping in geology at USA, but we still remain significantly above the 5 year trend for majors (about 80). Undergraduate research is still healthy. Five student presentations will be delivered at the SEGSA meeting this spring.

Last year, the Geology Club helped to raise over \$1500.00 to support our endowed scholarship accounts.

The summer 2012 field school is likely to be the largest ever; possibly 30 undergraduates will be making the trip to Texas and Arizona this summer.

University of West Alabama



The Richard L. Thurn Memorial Rock Garden was dedicated on October 8, 2011 in the Black Belt Garden on the University of West Alabama campus. Richard was a graduate of Princeton University, but too modest to mention it unless asked. He worked for UWA for many years (1980-2002) before declining health forced him into semi-retirement (2002-2005) and then retirement. He is remembered as the professor who "could make *anyone* interested in a rock." A few words from this man could set a colleague off on the route to a new project, or a student on to a new career. Truly a remarkable man with a zest for life and science.

Obituary:

<http://paw.princeton.edu/issues/2011/09/14/sections/memorials/1512/index.xml>

Rock Garden dedication (on p. 4):

<http://www.centerforblackbelt.org/BBCConnectionFall2011.pdf>

Workshops

The Environmental Education Association of Alabama annual meeting will take place in March 2012 at Camp McDowell. The meeting will include a workshop about trace fossils and a subsequent field trip to the Minkin Paleozoic Footprint site. The site was discovered 13 years ago and a number of publications have described the remarkable ichnofauna preserved there. Surprisingly, only now is a field guidebook about the site being prepared (by Kopaska-Merkel and Buta). The guidebook will be published by the Alabama Paleontological Society, and will be available for sale by the Society in the very near future.

Fossils of the Black Belt XIII, a hands-on field workshop for science teachers, was held on October 18, 2011. This annual event is led by members of the University of West Alabama, Geological Survey of Alabama, and Birmingham Paleontological Society with support from the Alabama Geological Society and Discovering Alabama. The one-day workshop involves collecting Cretaceous marine fossils in the field and then identifying them and labeling them in the laboratory. The goal is to help teachers develop fossil kits for use in the classroom. Most of the couple dozen attendees were K-12 science teachers. The workshop will be held again in October of 2012.

I feel pretty sure there have been other earth science workshops in the state in the past few months, but I don't have information about them.

Thanks to Doug Haywick, Ming-kuo Lee, Stacey Little, and Andy Rindsberg for providing information used in this report.

Florida (State Representative: Paul Cutlip; no information submitted)

Georgia (State Representatives: Pamela Gore and Nan Huebner; no information submitted)

Georgia 2011 OEST Winner (from NAGT web site)

Ann S. Lenderman is currently a middle school earth science teacher at Rising Starr Middle School in Fayette County, Georgia. She has taught middle school science for 14 years and has thoroughly enjoyed every minute. Ann has served on the board of the Georgia Science Teacher Association from 2005 through 2011. During this time, Ann served as Director, President, President-elect, Secretary, and District Director. She has also served on the Georgia Science Advisory Committee for the State Board of Education for several years during which she helped to write the Frameworks for the Earth Science Georgia Performance Standards. Ann became a Georgia Master Teacher in 2006 and received the Coweta-Fayette EMC Bright Ideas Award that same year. She has presented numerous times at the Georgia Science Teacher Association annual conference and has written several articles for their newsletter.



According to Ann, "All students are capable and want to learn and it is the responsibility of the teacher to encourage learning by providing a variety of opportunities for their students to experience science." In her classroom, students are able to weave their previous knowledge with real-world situations into a cohesive web of information that helps them understand the world around them through hands-on, minds-on experiences.

Louisiana (State Representative: Pam Blanchard; no information submitted)

Louisiana 2011 OEST Winner (from NAGT web site)

Barry Guillot is a National Board Certified 8th grade science teacher at Harry M. Hurst Middle School, in Destrehan, Louisiana, and is also the creator and coordinator of the nationally recognized Wetland Watchers service-learning project. Nearly 16,000 students have volunteered over 100,000 hours as part of this project. Guillot's strengths include the ability to attract partnerships, create funding, and involve faculties and students from other schools in service-learning projects. Guillot is featured in recent Chronicle Books release *Heroes of the Environment* by Harriet Rohmer. Guillot's project has been highlighted as a national model for service-learning through the NYLC GSN Lift initiative and the YSA Gotoservicelearning.org website.



The project has also been featured on specials hosted by Diane Sawyer on ABC and Jane Fonda on CNN and TBS, as well as video documentaries created by the George Lucas Education Foundation and the EPA. The Wetland Watcher Project was the recipient of the AASA's National Civic Star Award based on excellence in community partnerships and received special recognition from many organizations including Teen Ink Magazine, the EPA Gulf of Mexico Program, and the National Football League. Guillot's project has also been spotlighted in the Scholastic Books Administrator magazine as one of the top "5 Ways to Breathe New Life into Old Subjects" and in the American Association of School Administrator's magazine in the article "A Powerful Partnership Impacts a Community."

Mississippi (State Representative: Gail S. Russell; no information submitted)

North Carolina (submitted by Randy Bechtel, NC Geological Survey, State Representative and SENAGT President)

- I. A new OEST and OESE sponsor!!
- II. N.C. Science Festival
- III. Southeastern Geological Society of America (SEGSA)
- IV. Geological Society of America (GSA)
- V. North Carolina Science Teachers Association Professional Development Institute (NCSTA-PDI)
 - a. National Science Curriculum
- VI. Carolinas Section of Association of Environmental & Engineering Geologists (AEG)

I. New OEST and OESE sponsor!!

In North Carolina we are lucky to have a lot of support for the Outstanding Earth Science Teacher (OEST) award. We are also able to provide an Outstanding Earth Science Educator (OESE) award for those formal and informal educators who do not fall within in the scope of the NAGT OEST guidelines. In 2011 the Carolinas Section AEG graciously agreed to pay for registration and travel expenses to the NCSTA, where the awards are presented, up to \$250 for EACH award winner!

Here is the link for information about the North Carolina OEST and OESE awards
http://www.geology.enr.state.nc.us/proj_earth/proj_earth.html the deadline is approaching fast!

II. North Carolina Science Festival 2012

The statewide North Carolina Science Festival kicks off April 13th and runs for two weeks through April 29th <http://www.ncsciencefestival.org/> . This is a multi-day celebration showcasing science and technology. The festival highlights the educational, cultural and financial impacts of science in our state. Through hands-on activities, science talks, lab tours, nature experiences, exhibits and performances, the festival engages a wide range of people while inspiring future generations. A goal of the North Carolina Science Festival is to have every resident of North Carolina within an hour's drive of a quality science event during the two-week run of the festival. The inaugural event was held in 2010 and is growing each year!

N.C. Science Festival Events (some are free and others require an admission fee):

- a) There are statewide science activities and some big names coming to various venues in North Carolina, including Neil deGrasse Tyson (in Chapel Hill, N.C.), Jamie and Adam from the MythBusters (in Charlotte, N.C.) and Jeff Corwin (in Greensboro, N.C.). For a list of dates, times and prices for these events <http://www.ncsciencefestival.org/> .
- b) Another big event during the science festival will be the 24-hour grand opening April 20-21 of the N.C. Museum of Natural Sciences' new wing which is called The Nature Research Center <http://naturesearch.org/> .
- c) For a list of events in your area go to the festival link <http://www.ncsciencefestival.org/> .

III. Southeastern Geological Society of America <http://www.geosociety.org/Sections/se/2012mtg/>
SEGSA is coming up quickly **March 31-April 2 in Asheville, N.C.** with the theme
Shaping Continents, Shaping Landscapes, Shaping Policy.

SENAGT is co-sponsoring two sessions:

T7. Building the Foundation for Geoscience Education, a Next Step (Oral)
Sunday, April 1 from 1:30 p.m. -5:10 p.m. (Cosponsored with the N.C. Geological Survey)
http://gsa.confex.com/gsa/2012SE/finalprogram/session_30087.htm

T11. Outstanding Field Trip Stops in the Carolinas and Beyond for Professionals and Teachers
(Posters) Monday, April 2nd from 8 a.m. - Noon (Co-sponsored with the Carolina Geological Society
and N.C. Geological Survey)
http://gsa.confex.com/gsa/2012SE/finalprogram/session_30254.htm

IV. Geological Society of America

National GSA will be in **Charlotte, N.C.** from **Nov. 4-7** followed immediately by the North Carolina
Science Teachers Association Professional Development Institute in (NCSTA) Nov. 8-9 in Winston
Salem, N.C. www.ncsta.org/ (see more information below). Another important date during the first
week in November is **Election Day, Nov. 6.**

The theme of the National GSA is “Geosciences: Investing in the Future.” I am a co-chair on the K-
12 Education Committee for this meeting so please let me know if you have any ideas or past
experiences that we should try to do again. <http://www.geosociety.org/meetings/2012/>

Important Dates & Deadlines

1. April - First announcement of topical and discipline sessions published in the April/May
GSA Today
2. April - Abstract submission period opens
3. June - Second announcement and registration information published in the June *GSA Today*
4. June 5 - Space request deadline
5. Aug. 14 - **Abstracts due** by 11:59 p.m. PDT
6. Aug. 31 - Technical program finalized
7. Early September - Accepted abstracts with links to speakers and titles will be posted

V. North Carolina Science Teachers Association Professional Development Institute

The NCSTA-PDI has a new venue this year! The PDI will be **Nov. 8-9 at the Benton Convention
Center in Winston-Salem,** North Carolina www.ncsta.org/. The theme is “Catch the Wave” and
proposals for presentations are due by June 30. The PDI is also where the state winner of the
Outstanding Earth Science Teacher (OEST) and Outstanding Earth Science Educator (OESE) are
presented.

National Science Curriculum - For more information about the National Science standards revision go
to the NCSTA website <http://www.ncsta.org/> for links to the ‘Reader’s Guide to the Framework for K-
12 Science Education’ and the ‘Next Generation of Science Education Standards.’

VI. Carolinas Section of Association of Environmental & Engineering Geologists

Submissions by Paul Weaver, Chair-Carolinas Section AEG and Rick Kolb, AEG K-12 Education
Committee

Upcoming Events and Meetings

The AEG Carolinas Section will have a booth and will be conducting a “What on Earth Is It”
interactive display at the Grand Opening of the Nature Research Center in downtown Raleigh on
April 20 from 5 p.m. to 10 p.m. This is part of the Triangle Science and Engineering Expo. Our
display will have examples of rocks, fossils and minerals for the public to hold and learn about.

The AEG Carolinas Section will be hosting Scott Burns, this year's GSA/AEG Jahn's Lecturer in March. As part of Scott's tour of the Carolinas, he will be speaking on urban landslides at a joint meeting with the South Carolina Association of Environmental Professionals (SCAEP)/The Carolinas Section of AEG on Tuesday, March 27, in Columbia, S.C. On March 29, Scott will speak at the AEG Carolinas Section spring meeting in Raleigh on "The Mystery of Terroir—The Relationship of Geology, Soils and Climate to Wine." Please contact Paul Weaver, AEG Carolinas Chair, at pmweaver@bellsouth.net for more information about either of these meetings.

This year's AEG Annual Meeting will be in Salt Lake City, Utah on Sept. 15-23. This will be the 55th annual meeting, and this year's theme is "Ascending to Greater Heights - Elevating Our Profession." For information on the meeting and to register, please go to our website, aegweb.org.

AEG K-12 Education Committee by Christy Confar
(Rick Kolb is the Carolinas Section Contact for this committee)

ARE YOU PASSIONATE ABOUT GEOLOGY?



Many AEG members have a passion for geology and our profession. Each of us started our path to become a geologist in a different way. Maybe you always liked rocks and just naturally fell into that career. Maybe you had to take one laboratory science class to get your degree in economics and then discovered numbers weren't nearly as cool as field trips. Or maybe you had an earth science teacher who turned you onto geology. Did you know that statistics show that about half of the high school earth science teachers don't have college training to teach earth science? While they may have a science degree, how can they instill enthusiasm for geology if they've not been trained in the field?

BACKGROUND

The Advocacy Committee established a K-12 Education subcommittee in 2011, but as more and more geologists, and teacher spouses of geologists, voiced overwhelmingly strong support and new ideas for K-12 education, the committee requested that the Executive Council (EC) of AEG establish the subcommittee as an ad hoc committee. The EC concurred with this request at their July meeting. Doug Anderson and Kami Deputy of the Washington State section had been leading the K-12 education start-up effort since the summer of 2010 and co-chaired the subcommittee when it was formed under the advocacy committee. However, both are actively involved in multi-year field programs with their employers and they found it was impossible to keep track of all the ideas that were being proposed, so they asked long-time AEG member Rick Kent of the Oregon Section (GeoPro@comcast.net) and recent member Julie Anna ("Jules") Johnston of the Washington State Section (jamjohnston7@gmail.com) to co-chair the committee. Rick Kent and Jules Johnston developed a strategic plan for the committee, which now has more than 30 members. The committee's monthly calls are held at the first Friday of every month.

HELP US ADVOCATE

Recently, you may have heard from your section chair about a letter written by the K-12 Education committee in which they requested each section designate a section member to be the K-12 Education Point of Contact (liaison) for their sections. The committee realizes that this effort will require effort by all sections to share information that goes both ways: ideas for K-12 education from the sections based on their geographic and demographic niches, and ideas to advocate for K-12

education passed from the committee to the sections. This is the beginning of what the committee expects will be a major effort. The committee plans to work closely with other organizations on their ideas to work for K-12 education, as well as come up with some new ones based on our experience in environmental and engineering geology. One thought is establishment of an Advanced Placement curriculum for earth science/geology, which would more likely attract high school students that are college bound and expose them to a career path they may never have considered otherwise. There is also recognition by the K-12 committee that implementation for advanced placement classes are often developed at the district level under state, and possibly federal, mandates. Strong section coordination and involvement are the cornerstones for development of these courses at the district level. The K-12 Education Committee welcomes your input, whether it's simply by sending an email with your thoughts to your section's liaison or directly to the committee co-chairs, or by becoming a Point of Contact for the committee. You can join in and listen into one of the monthly conference calls and make yourself heard, or become a full-fledged member of the committee and directly advocate within and outside AEG for improvements in K-12 education at the pre-college level. The K-12 Education Committee welcomes any and all support.

More information on the K-12 committee activities will be provided in upcoming newsletters. Currently, the following activities are underway: K-12 committee activities and updates will soon be available on AEG's website, the charter for the K-12 Education Committee has been submitted for approval, and the AEG Section Point of Contact and Member list continues to be built.

CONTACT INFORMATION

If you are interested in joining the K-12 Committee as a member, point of contact, or other interested person, please contact the K-12 Committee personnel below:

- K-12 Committee Co-Chair: Julie Anna ("Jules") Johnston, Washington State section, jamjohnston7@gmail.com
- K-12 Committee Co-Chair: Rick Kent, Oregon section, GeoPro@comcast.net
- K-12 Education Outreach Editor: Christy Confar, cconfar@groupdelsol.com
- Carolinas Section Point of Contact: Rick Kolb, rkolb0915@aol.com

North Carolina 2011 OEST Winner (from NAGT web site)

Whether he's using current data for weather forecasting, seismograms for mapping plate tectonics, or making real-time observations with an Internet accessible radio telescope, **Tim Martin** has a passion for bringing real time science into his Earth Science classroom. As a PolarTREC teacher in 2009, he accompanied an international research expedition to Lake El'gygytgyn in the Siberian Arctic. There he served as a member of the science team and as a teacher ambassador bringing the planetary science and climatology to students worldwide. In 2010 he participated with a team from his school that flew an experiment onboard NASA's "Weightless Wonder" reduced gravity aircraft.



If you would like to contribute to the next NAGT newsletter with North Carolina geoscience education information, and pictures, contact Randy Bechtel at Randy.Bechteln@ncdenr.gov.

Puerto Rico (State Representative position open; no information submitted)

South Carolina (submitted by Gwen Daley, Winthrop University, Co-State Representative)

The South Carolina Geological Survey (<http://www.dnr.sc.gov/geology/>) is having a rock and mineral sale! You can also order a free Earth Science Week Toolkit (October 9-15, 2012), which includes a twelve-month school year Earth Science activity calendar, as well as all sorts of other goodies. You can also keep up with the South Carolina research in the mega-project to study CO₂ sequestration (<http://www.dnr.sc.gov/SCO2/>).

The Clemson Graduate Courses for Teachers program for summer of 2012 includes many options (<http://www.clemson.edu/cafls/sclife/courses/summer2012.html>), including the very interesting-looking GEOL 790: Biogeography and Geology of South Carolina. Dr. John Wagner will take advantage of distance learning technology to bring standards-based geology and biogeography to interested in-service teachers. The Clemson University Creativity Inquiry sponsored "Carolina Paleontology Project" (<https://sites.google.com/site/scpaleontology/home>) includes information about a variety of paleontological research in South Carolina and beyond.

The 73rd meeting of the Carolina Geological Society is in the planning stage, but is will most likely be held in Greenville during October 2012, tentatively October 12-14. (http://www.carolinageologicalsociety.org/CGS/2012_Meeting.html). The meeting's field trip is entitled "Geology of Upstate South Carolina in the Vicinity of Caesars Head and Keowee-Toxaway State Parks" and will focus on metamorphic petrology, structures and tectonic history of ultramafic rocks in the western Inner Piedmont. The meeting will also mark the 75th anniversary of the society, and commemorative celebrations are being planned.

The South Carolina Science Council (<http://www.southcarolinascience.org/>) is trying something new for their annual meeting. Rather than holding a single, multi-day meeting in Myrtle Beach, there will be separate one-day meetings held in the low country, midlands and upstate. Please check back with the organization's website for dates and locations.

The South Carolina Department of Health and Environmental Control now contains information about this year's Earth Day celebrations (<http://www.scdhec.gov/environment/earthday/>). If you are planning to hold an Earth Day event, please submit your information to so that they can add it to their growing list.

The Environmental Education in South Carolina organization (<http://eeinsc.org/core/news/list.aspx>) is offering a number travel learning opportunities for teachers. It is also hosting a series of webinars on climate change, as well as "Estuary 101", a teacher workshop (March 23rd) at the Sewee Visitor and Environmental Education Center in Awendaw.

Congaree National Park is looking for participants for their Teacher-Ranger-Teacher (TRT) program (<http://www.nps.gov/cong/forteachers/index.htm>). In this program, teachers work as interpretive rangers at a National Park developing interpretive and educational programs. They then bring what they have learned to the classroom. Other parks participating the TRT program can be found here: <http://www.nps.gov/interp/trt/>.

The Mining Association of South Carolina (<http://www.scmines.com/>) has upgraded their website so that it now includes several interesting educational resources. The South Carolina Mineral Coloring Book (which contains a lot of information for a coloring book) can now be downloaded as a series of somewhat large PDF files. They also have a ~15 minute video available with information about historical and recent mining and land reclamation activities (also available as a DVD).

The application deadline for the South Carolina Geographic Alliance (SCGA) Kovacik Geography Grants (<http://www.cas.sc.edu/cege/resources/grants.html>) is April 1. These \$1,000 grants are awarded to K-12 educators for projects that increase geographic literacy.

Finally, please keep in mind that the annual meeting of the Geological Society of America (<http://www.geosociety.org/meetings/2012/>) will be held in Charlotte this year, which is within relatively easy driving distance for most of our state. The meeting will be November 4th-7th, 2012. Topical and discipline sessions will be announced in the April/May GSA Today, with the technical program finalized in late August. I hope that most South Carolina Earth Science teachers can take advantage of how close the meeting is this year to attend for at least one day. In addition to talks and workshops, there will be many publishers and vendors in the exhibition area who would be thrilled to communicate with K-12 teachers.

South Carolina and Southeastern 2011 OEST Winner (from NAGT web site)

Valerie Willis is an avid outdoorswoman who says, "If I am not exploring the land I am swimming in the sea! I love our planet Earth and feel very strongly about preserving all that is outdoors. Earth is grandiosely amazing and I am a firm advocate of environmental education."



Valerie has 9 years of teaching experience and currently teaches 8th grade Earth science at Camden Middle School in Camden, South Carolina. She has a B.S degree in Equestrian Science from Brenau University, and a Master of Arts in Teaching from the University of South Carolina. She is working on her Master's plus thirty with 24 credits earned that are specifically related to Earth science. Valerie has taught Earth Science for the past eight years and is "highly qualified" and technology proficient.

Her teaching philosophy is of a constructivist nature. She constantly searches for new ways to engage kids in the classroom. She incorporates multiple intelligence strategies in her teaching, including hands-on labs, virtual labs, research-based projects, 3-D models, drawings, and computer based software, to encourage creativity of student learning outcomes and to vary her curriculum. Earth science needs relevancy to student everyday lives, so current events are fostered in the classroom. Students leave her classroom with tools to guide their inquiring minds, an awareness of our precious resources and what needs to be done to protect them.

For the past three years community involvement has included cell-phone collection drives by her Environmental Club. In 2009, Valerie received the "Golden Apple Award" for bringing hands-on gem mining to her school and was chosen to attend the Santee Cooper- Energy Educators Institute. In 2010, she was inducted into the Delta Kappa Gamma Society, and was chosen by Clemson University to attend the Discover Carolina/SC Life Summer Field Course.

Tennessee (submitted by Michael A. Gibson, University of Tennessee at Martin, State Representative)

2012 TSTA Workshop Scheduled. The 2012 Tennessee Science Teachers Association annual meeting will be held in Murfreesboro on November 2-4, 2012. The Tennessee Earth Science Teachers (TEST) has organized its annual day-long workshop around the emphasis to increase reading skill in Tennessee by focusing on earth science reading. The earth science content focus of the session will be environmental issues, with emphasis on "extreme" events such as volcanic eruptions, tornadoes, and earthquakes. Dr. Michael Gibson will be assisted by Dr. Lionel Crews, both from the University of Tennessee at Martin, to lead activities on earthquakes emphasizing the New Madrid system which celebrates its bicentennial in 2012. Dr. Ann Holmes from the University of Tennessee at Chattanooga will lead activities on volcanoes and volcanic hazards. TEST has arranged for a meteorologist from the local television affiliate to be on hand to help with extreme weather with emphasis on the Tennessee Tornado Alley. Grade-appropriate standards-based instruction will include teaching reading. The workshop is scheduled for Thursday November 1, at an estimated cost of \$55 per person. Additional one-hour earth science break-out sessions will occur on

Friday November 2. These breakout sessions are roughly an hour in length and will focus more directly on reading in the earth sciences. Teacher participants receive hands-on lessons, reading materials, and earth materials boxes for classroom use. To register for the meeting and workshop visit: <http://www.tnsta.com/> or contact Dr. Michael Gibson, Dept. of Agriculture, Geosciences, and Natural Resources, University of Tennessee at Martin, Martin, TN 38238 (731.881.7435; mjgibson@utm.edu).

UTeaChattanooga program at University of Tennessee at Chattanooga

Ann E Holmes, UTC Department of Physics, Geology & Astronomy

UTeaChattanooga is an NSF-funded and state-funded (Tennessee Race to the Top and FISPE financial support) STEM teacher-preparation program that addresses two major issues - teacher shortages in mathematics and science and poor K-12 student achievement in STEM areas. Implemented in Fall 2010, this program resides in UTC's College of Arts and Sciences. This program encourages college students to develop a deep understanding of mathematics and science teaching in a STEM area. The UTeaCh program has an 8-course education component that is designed to prepare a student to be a highly qualified math or science teacher, while the student is earning their content degree. A 1-hour teaching experience is offered early in the program, so these UTeaChattanooga undergraduates get to try teaching before investing a lot of time. Students will graduate in 4 years with licensure to teach high school, prepared to attend graduate school, or to pursue a career in math or science. Any interested parties are encouraged to contact either of the co-directors, **Dr. Sandy K. Watson or Dr. Stephen Kuhn, UTeaCh co-directors at UT Chattanooga**, (423) 425-2552. For more information about UTC's program, check out their website <http://www.utc.edu/Academic/UTeaChattanooga/>

GeoConclave. The annual geology competition between geology programs in Tennessee will hold its next GeoConclave at Fall Creek Falls State Park October 5-6th. Teams from around Tennessee that participate include Austin Peay State University, East Tennessee State University, University of Tennessee at Chattanooga, UT Knoxville, and UT Martin, Vanderbilt University, Middle Tennessee State University, and Tennessee Tech. This year Vanderbilt hosts with a field trip. For information contact Dan Morgan in the Department of Earth and Environmental Sciences, Vanderbilt University, 5726 Stevenson Center; 7th floor, Nashville, TN 37240 Phone: 615.322.2976.

West Tennessee Spring Conference for Educators. The University of Tennessee at Martin and its Jackson Center will partner with the Coon Creek Science Center, Tennessee Earth Science Teachers (TEST), Tennessee Educators of Aquatic and Marine Science (TEAMS), and Tennessee Environmental Association (TEA) to run a one-day workshop April 21st at the Jackson Center. K-12 educators are invited to participate in lab activities related to fossils and pond ecology in the morning followed by field activities and fossil collecting at the Coon Creek Science Center in the afternoon. See the application form below for more information and registration.

West Tennessee Spring Conference for Educators

Saturday, April 21, 2012

UTM Jackson Center
And
Coon Creek Science Center



The spring is a great time to get together with fellow educators for an enjoyable and useful professional development day! Meet at the UTM Jackson Center for a morning of great sessions and, after enjoying lunch, head over to the Coon Creek Science Center for a pond study and fossil dig. This workshop is geared for K-12 teachers, but other educators are welcome to attend.

Morning Sessions

Introduction to a Pond Study and Fossil Dig at Coon Creek Science Center presented by Project WET and Dr. Michael Gibson, UTM Professor of Geology.

Integrating Science and Reading using Common Core Standards presented by Dr. Becky Cox, UTM Asst. Professor of Education and members of the TN Earth Science Teachers (TEST).

Afternoon at Coon Creek

The Coon Creek area was once part of the Gulf of Mexico and is loaded with superbly preserved Upper Cretaceous marine shells and vertebrate remains that are 70 million years old. The best part about this experience is you will be able to keep all the fossils you find! Visit www.memphismuseums.org/coon_creek-overview to learn more.

Registration is due April 10.

\$25 - checks made payable to TN Environmental Education Association (TEEA)
Covers morning coffee and pastries, lunch, transportation to Coon Creek (if desired)

Registration Form

Name _____

Email _____

Phone _____

School Name _____

School Address _____

Grade Level you Teach _____ Subject (s) _____

Transportation will be provided via vans to CCSC or you may drive/carpool if preferred. Please check which you prefer: Will _____ Will not _____ need transportation to Coon Creek Science Center.

Vegetarian? _____

Mail to:
Ramona Nelson
UTM Jackson Center
3031 Hwy 45 Bypass
Jackson, TN 38305

For more information, contact rnelson4@utm.edu

SPONSORS

TN Environmental Education Association (TEEA)
Project WET
TN Educators of Aquatic and Marine Sciences (TEAMS)
TN Earth Science Teachers (TEST)
Memphis Botanic Garden
The University of Tennessee at Martin



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You can join NAGT using the online form at <https://www.webassociationmgmt.org/nagt/>, or by downloading a membership application at https://www.webassociationmgmt.org/nagt/memform.v2_small.pdf.

An online Outstanding Earth Science Teacher (OEST) nomination form is now available at <http://nagt.org/nagt/programs/oest-nom.html>.

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