National Association of Geoscience Teachers
Southeastern Section Newsletter
Winter-Spring 2011

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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 2011 Newsletter Deadline:
August 15, 2011. Please send news items to Bill at witherspoonb@fc.dekalb.k12.ga.us

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President's Letter

by Andrew K. Rindsberg, outgoing SENAGT president

Congratulations to Randy Bechtel, incoming President! Randy Bechtel is a research geologist of the North Carolina Geological Survey, and has been engaged in educational activities for many years. I hope that his enthusiasm for geoeducation will prove infectious.

With the turnover of presidents, a new vice president is needed, who will in two years' time replace Randy. *Bring forth the hopefuls!* The election will take place at the annual Business Meeting. Please nominate candidates by email or volunteer.

The Annual Meeting of the Southeastern Section is coordinated, as usual, with the Annual Meeting of the Southeastern Section of the Geological Society of America. The University of North Carolina (Wilmington) will host the meeting, which begins with an evening reception on March 23 and continues with two days of symposia and theme sessions on March 24 and 25, and field trips and workshops on March 26.

SENAGT is sponsoring a theme session and a field trip. The theme session, convened by Randy Bechtel, Bill Witherspoon (Fernbank Science Center), and Andy Heckert (Appalachian State University), is called "Building a Foundation in Geoscience Education: Gathering Educators with Professionals to Create a Geoscience Literate Public," and it will take place on Friday. The program of no less than *twenty-one talks* can be viewed at http://gsa.confex.com/gsa/2011SE/finalprogram/session_27834.htm (morning session) and http://gsa.confex.com/gsa/2011SE/finalprogram/session_28375.htm (afternoon session). Other sponsors of this session are the North Carolina Geological Survey and the Carolina Section of the Association of Environmental and Engineering Geologists.

The field trip, cosponsored by the Paleontological Society, will be led by Greg Dietl (Paleontological Research Institution), Lauck Ward (Virginia Museum of Natural History), and Tricia Kelley (University of North Carolina, Wilmington) on Saturday, and it is already booked solid. The attendees will examine the "Plio-Pleistocene Stratigraphy and Paleontology of Southeastern North Carolina," with outstanding opportunities for collecting fossils as well as seeing them in their stratigraphic context.

The annual Business Meeting will be held on Thursday, March 24 at 12:00 noon, at a restaurant TBA, a short walk from the convention site (for the location, check at the SENAGT booth in the exhibit hall or watch for an e-mail before the meeting).

The NAGT will also have a booth at the meeting. Volunteers are earnestly requested to staff it. Thanks to Tricia Kelley for volunteering to set up the booth!

Thanks are due to your Section's officers for work performed behind the scenes: to Secretary-Treasurer Pamela Gore for keeping the books; to Newsletter Editor Bill Witherspoon for keeping you informed; to Randy Bechtel, and indeed to all the rest, for planning ahead. Special thanks to Nan Huebner for coordinating the Outstanding Earth Science Teacher (OEST) awards.

Looking ahead, recall that the Section is small and every person can play a part. Convening a symposium or technical session can be an interesting experience – and a nice item to add to your vita or annual report. Of course, we always need volunteers to staff the NAGT booth and hand out publications. If you are more ambitious, take advantage of the opportunity to lead a field trip: There is no better way to prove to others that your startling new conclusions are founded in reality.

Andrew K. Rindsberg
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New OEST State Awards Deadline May 1

by Nan Huebner and Bill Witherspoon

The NAGT national office recently moved their OEST nomination deadline up from late September to June 1. This means that State representatives for each state need to have selected a state OEST, and forwarded the winner's application materials to the SENAGT OEST coordinator, Nan Huebner, by May 1.

SENAGT can pride itself on the fact that, in both 2008 and 2010, every state had an OEST recognized. In 2010 this represented 8 of the 19 total teachers nationwide. [Ed. note: we owe much of the success to Nan's major efforts in those years.] In order to continue this rate of success and to meet the new deadline, greater effort will need to be expended at the state level.

According to the NAGT website:

Outstanding Earth Science Teacher (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 his or her 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.

The Outstanding Earth Science Teacher Awards program was adopted by NAGT in 1971. Devised to honor pre-college teachers of earth science, the program has the following specific objectives:

- Identify excellence in teaching
- Appropriately recognize and reward excellence in teaching
- Stimulate higher levels of teaching performance
- Establish NAGT as a strong support organization for pre-college education
- Via active statewide and sectional programs, build a solid state, regional, and national liaison with administrators of pre-college earth science education.

Sectional winner awards include:

- 10"x13" laser-engraved solid walnut plaque from NAGT
- 2 year complimentary membership in NAGT
- 3 year complimentary membership in GSA
- 3 year complimentary membership in GSA Geoscience Education Division
- $500 travel funds (winners must request this money) to a GSA meeting
- $500 classroom improvement funds (winners must request this money) from GSA
- One-year subscriptions to publications from AGI, AGU, AIPG, and NESTA
- Publications from the USGS

State-level awards are less but are also substantial.

More information is available at http://nagt.org/nagt/programs/oest.html. The nomination form is at http://nagt.org/nagt/programs/oest-nom.html.

You will find the 2010 award winners listed under their individual states in this newsletter, as well as online at http://nagt.org/nagt/programs/oest10.html

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. 10–13, 2011	San Francisco
Southern	Nov. 10-12, 2012	New Orleans
Alabama	Oct. 18, 2011	Birmingham
Florida	Oct. 21-23, 2010	St. Augustine
Georgia	Feb. 17–19, 2011	Atlanta
Louisiana	(See Southern)	New Orleans
Mississippi	Oct. 24-26, 2010	Jackson
North Carolina	Nov. 10-11, 2011	Greensboro
South Carolina	Nov. 2-4, 2011	Myrtle Beach
Tennessee	Nov. 10-12, 2011	Murfreesboro

Geological Societies		
Organization (Area)	**Latest date on web site**	**City**
GSA (National)	Oct. 9-12, 2011	Minneapolis
GSA (Southeastern 2011)	Mar. 23-25, 2011	Wilmington, NC
GSA (South Central; incl. LA)	Mar. 27-29, 2011	New Orleans
Georgia Geological Society	Oct. 8-10, 2010	Cartersville
Carolina Geological Society	TBA	New Bern, NC

Regional News in Geoscience Education

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

I don't think the weather is the cause, but for whatever reason my usual informants have given no response whatsoever to my calls for updates. I suspect the economy, having led to shrinking budgets at educational institutions, has made everyone a lot busier. Nevertheless, despite all sorts of problems caused by lack of money, this has been a pretty good year for earth-science education in Alabama.

And speaking of the economy:

The geology department at the University of Alabama is hiring, so they seem to be doing okay. They have a lot of new faculty, and I think if those people can be retained (one is already leaving after having only been in town a few years) this will be very good for University-level geological education in the state. The annual Alabama Science Teachers Association meeting was last fall and attendance was much below normal. One possible reason is suggested by this fact: Tuscaloosa city schools did not provide any paid professional leave this year. If that is an indication of how things are around the state, and I think it is, it may help explain why teachers have cut back on their attendance at meetings.

The Geological Survey, along with most state agencies, was under a hiring freeze until quite recently. The freeze was lifted because we were losing people to retirement and other causes, yet we have a lot of funded research projects. We need staff to do the work. So we have hired several new employees recently and we will be hiring a couple more this year. Of course, one of those people was available because he had been laid off by a consulting company. So to some extent we are taking from one plate to put something on another. Much of the money to hire people comes directly or indirectly from the President's stimulus package, which won't last forever.

K-12 education

The powers that be continue to obsess about mass quantities of high-stakes testing (which forces teachers to teach to the test rather than to the subject), rewarding teachers based on student performance (which punishes the best teachers because they are given the most challenging students), and charter schools (proven no more effective on the average than other schools), and I see no significant change in the quality of science education in the state this year, beyond that caused by reduced funds.

Educational workshops

I do not know if the fossil workshop will be held this year in the black belt. Funding issues not directly related to the economy are the cause in this case. I have no information about field trips or workshops (some for students and some for teachers) that are usually led by the Alabama Museum of Natural History, the McWane Center, and Legacy (our state environmental organization). I have the sense that there will be some workshops, but I don't know whether there will be as many as in recent years.

New Museum

Yes, even in today's economy there is a Santa Claus. The University of West Alabama (in Livingston) is hosting the new Museum of the Black Belt. Only part of this museum will be devoted to natural history, but the two people I know who are putting it together are a paleontologist and a biologist. The museum is not yet open, and financial hurdles may yet cause problems, but they already have a building, staff, and some collections.

Evolution

The long-running series of evolution of lectures in Tuscaloosa (ALLELE series) has come to an end, at least temporarily. This past year we had six enthralling lectures and attendance remained high right up to the end. Now, an interdisciplinary group of faculty members at the University of Alabama is working on a minor in evolution. This program would include a revived series of guest lectures. At the time of writing a proposal is being written, but I don't know its chances of being funded.

New earth-science books.

Roger Reid, a writer with the Discovering Alabama educational television series, started writing a related series of books a few years ago. These are mysteries with teenage protagonists; the books are aimed at preteens and teens. The stories are set in places that have been featured in the television series. For example, the first book is set in the longleaf pine forest of south Alabama. I enjoyed the book and I'm going to test it on my precocious eight-year-old nephew. I have a pretty strong feeling that he's going to like it. Book 3 is in preparation now. The action will be at the Steve Minkin Paleozoic Trackway site in Walker County. Judging from the quality of the first book, the new

book will contribute to public understanding of geology, paleontology, and evolution in the state. I think the book will be published late in 2010. Another book (tentatively scheduled for 2011) is being written about the same site by me and Ron Buta. This is a nonfiction book for the general public about both the history of the site and its geology. We can only hope to make the book as enjoyable as Roger's probably will be. That is our goal.

Alabama 2010 OEST Winner (from NAGT web site)

Kim Ouderkirk, born in upstate New York, grew up with an appreciation for the natural world. However, she entered Bryn Mawr College as an English major. It soon became apparent that geology was a better fit with emphasis on nature and because it allowed her to spend time outdoors. Her senior thesis was on igneous rocks in southeast Alaska and she continued to work in this part of the world while in graduate school at Princeton University. These experiences, plus her participation on other research projects, are the source of the "near death" stories that continue to amuse her students. In graduate school, Kim discovered her perfect career—teaching science. She has taught all ages from 1 year olds to college students. Her preferred teaching is in middle and high school. She taught science for 2 years at the Hun School of Princeton before moving to Alabama. She is currently enjoying her 25th year teaching at Tuscaloosa Academy in Alabama where she shares her love of science with her seventh grade earth science students, and her high school chemistry and physics students.

Florida (State Representatives: Jonathan Bryan and Paul Cutlip; no information submitted)

Florida 2010 OEST Winner (from NAGT web site)

Dr. Minerva (Mickey) Santerre presently teaches science and math to gifted students at Frank C. Martin International K-8 Center in Miami, Florida. She holds numerous degrees culminating in a Doctoral Degree in Science Education from Curtin University in Australia. She directs her school's chapter of Odyssey of the Mind, leads the Science Summit, and has been awarded numerous education grants. Dr. Santerre's zeal for life centers around her passion as a science educator. From her 30 years of teaching, Dr. Santerre has amassed a library of different teaching styles and techniques aimed to encourage her students to utilize their critical thinking skills, discover new areas of science, and make the learning of science fun. She is considered an expert in her field so that she is now instructing teachers on how to teach science to students.

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

Georgia 2010 OEST Winner (from NAGT web site)

Michael McClain is a 21 year U.S. Navy Meteorologist/ Oceanographer, veteran of the Vietnam and Desert Storm wars. Graduated with an Associate of Science degree from DeKalb College (now Georgia Perimeter College) 1997, and Bachelor Degree in Science Education from Georgia State University "Cum laude" 2000. He has taught in Atlanta Public Schools, Newton County and Yeager Middle School in Douglas County for the last four plus years. An active member of the Georgia Science Teacher Association, Georgia Mineral Society, Tellus Museum, and Naval Weather Association. Michael and his wife of 14 years, Lizabeth, live in Powder Springs, GA. with their dogs Jasper and Ruby and cat Malachite. He loves sharing his passion of Earth science with his students and plans on teaching future scientist for some time to come.

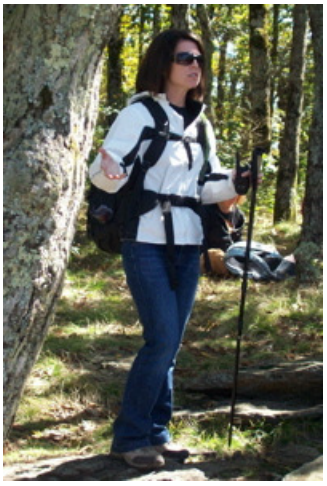
Louisiana (State Representative: Pam Blanchard; no information submitted)

Louisiana 2010 OEST Winner (from NAGT web site)

Chris Campbell teaches 7th and 8th grade math and sciences at Simsboro High School in Simsboro, Louisiana. Since 2006, Chris has completed well over 150 hours of professional development specifically related to Earth science, from natural resources to fossils and weather. "I feel that the more I know and the more excited I am about the topics then the more that will excite my own students," says Chris. "I NEVER want my students to feel the way I did 20 years ago, bored to tears in that desk."
To that end Chris has focused on hands-on inquiry-based lessons, including lab activities, field work, and field trips to help excite students ("and me") about course topics. "Students need to have an emotional connection to something before they learn it. I taught them Earth systems science concepts by doing sphere impact studies from hurricanes, volcanic eruptions, earthquakes, and meteorite impacts." He also uses technology as much as possible, a topic he has pressed on at conferences of the Louisiana Science Teachers Association. Looking to stretch the learning experience for students to outside of school, he started a Science Olympiad team in 2007, taking care to involve parents in supporting these and other enrichment opportunities. His efforts have been noticed and rewarded. In addition to being awarded a NSTA/Vernier Technology Award and a Toyota Tapestry Grant, Chris was named Louisiana Science Teachers Association Outstanding Middle School Teacher in 2009 and Region 8 Middle School Teacher of the Year in 2010.

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

Mississippi 2010 OEST Winner (from NAGT web site)



Brittany Brewer has 8 years of teaching experience, and is currently teaching 5th and 6th grade Math and Science at Coast Episcopal School, Long Beach, MS. Brittany has many innovative techniques to enhance students' learning. She incorporates a 5-day field trip to the Appalachian Trail to the school's existing science curriculum. Students learn about how and when the mountains were formed, history of the trails and mountain range, plant life, nature, hiking safety, animal habitats, etc. The class takes an eleven mile hike to Len Foote Inn and then a shorter hike to Springer Mountain. The students also learn how Len Foote Inn is designed to be environmentally friendly by doing research and taking a tour of the facility. Brittany's students participate in several hands-on science activities and experiments to reinforce learning and make learning exciting. Several of her students have received awards in Science Fairs and Academic Competitions.

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

During the past several months, there has been a lot of education related activity in North Carolina. Gov. Bev Perdue's State of the State address was on Valentine's Day. There have been curriculum revisions and development, many upcoming education events, and new partnerships being formed. Budget news looks bleak everywhere and rumors are flying regarding budget cuts and what they could mean for employees and programs.
Here are two links to the governor's State of the State address:
http://wunc.org/programs/news/archive/njj021511.mp3/view,
http://www.fayobserver.com/articles/2011/02/15/1071401?sac=Local.

Changes to the High School Earth/Environmental Science Curriculum

N.C. Department of Public Instruction Perspective

(Beverly Vance)
The 2009 North Carolina Science Essential Standards were adopted by the N.C. State Board of Education in February 2010. In these standards, two content strands specifically related to geoscience education were used to group content standards in grades K-8 and in the Earth/Environmental Science standards. These strands are "Earth in the Universe" and "Earth: Systems, Structures, and Processes."
Scheduled for implementation in the 2012-2013 school year, these standards build content and complexity as students progress through their education. The structure of the standards encourages the teaching of science concepts at all grade levels. Work has already begun on instructional support materials that will accompany the standards to help teachers and students become informed, productive . Your input is welcome.
K-12 Science Section Chief: Beverly G. Vance bvance@dpi.state.nc.us

Concerns

(Fred Beyer)
Last March, the North Carolina State Board of Education adopted the Essential Skill Curriculum for science in grades K-12. Within a few weeks, we realized that weathering, geologic time, evolution of life, geologic history, renewable and nonrenewable resources, ocean currents, waves and tides, shoreline processes, sea level change, the effect of man's activities and severe weather events had been removed from the high school course. Since that time, the department has refused to consider submitting any changes to the State Board of Education.

Our problem with the course lies in its failure to include the topics outlined above in a way that will require them to be taught. A new version of the Earth/Environmental Science Course, including revised Essential Standards and Clarifying Objectives, must be adopted by the State Board of Education. We believe we have a responsibility to insist that student take a course that will introduce them to all the major earth science concepts.
We need your help in convincing the State Board of Education to adopt a revised version of the Earth/Environmental Science Essential Skills Curriculum. For information, or to request a copy of our proposed revision, contact Fred Beyer at fbeyer@nc.rr.com

Curriculum Links

Below are links to the 2004 and the revised 2009 curriculums. Use these links to see changes in the curriculum and assist you organize presentations when visiting schools. Here are the links:

2004 N.C. Standard Course of Study (Current SCOS)
http://www.ncpublicschools.org/curriculum/science/scos/2004/
Note that K-8 has Science 'Competency Goals'. Earth science is one of many science topics. For 9th -12th graders, there is an Earth/Environmental course. A 'ompetency oal' the main topic with 'bjectives' to further focus the goal.
2009 North Carolina Science Essential Standards
A revised Standard Course of Study will be put in place during the 2012-13 school year. Some schools have started adopting the revised version, which can be found at:
http://www.ncpublicschools.org/acre/standards/phase1/.

Toolkit Opportunity for Geoscience Professionals

Note that K-8 grades have Science Essential Standards and that earth science is one of many science topics. However, for 9th -12th grades, there is an Earth/Environmental course. An 'Essential Standard' indicates the main topic with 'Clarifying Objectives' to further focus the standard. Instructional tool kits will be developed to provide resources and suggested activities to assist the teacher with a specific 'Essential Standard.' This will be in development this summer.

The development of the tool kits will be an area where geoscience professionals may be able to provide material to significantly assist non-earth science teachers in understanding earth science concepts, real world issues and relevancy of geology.

Woods Charter School students 'reenacting' compressional forces of the Alleghanian orogeny.

Woods Charter School students still in good spirits after a cold, rainy, muddy geology field trip. Miss Younger, teacher, and Randy Bechtel, geologist with the N.C. Geological Survey, on far right.

Association of Environmental & Engineering Geologists
(Rick Kolb)

The Advocacy Committee of the Association of Environmental & Engineering Geologists, or AEG, recently established a subcommittee to investigate ways to advocate for earth science education for grades K-12. Our full committee will review the subcommittee's recommendations and pass those we select to the Executive Council of AEG for consideration and ultimately implementation. Several teachers from the North Carolina Science Teachers Association attended the fall section meeting of the Carolinas Section of AEG, which coincide with the annual meeting of the NCSTA in Greensboro.. AEG members solicited and received several suggestions for advocacy from these teachers. One topic receiving unanimous teacher support was the need for an advanced placement () curriculum for earth science. The subcommittee will conduct some research, which will likely include discussions with the American Geological Institute, who w take a leading role in this effort.

AEG publishes an annual report and the Advocacy Committee noted the 2010 report includes *The Importance of Earth Science Education*, as approved by the National Earth Science Teachers Association on March 28, 1987. The chair of the subcommittee commented that we should start discussions with NESTA to update this statement.

Our committee welcomes your ideas on ways practicing geologists can advocate for earth science education in K-12 grades. Please send your ideas to Rick Kolb at rkolb0915@aol.com.

The Carolinas Section of AEG holds quarterly meetings in Charlotte (January/February), Raleigh (April), Asheville (summer) and Greensboro (October) and welcomes attendance by geoscience teachers at all of our meetings. Meeting information is on our website: www.aegcarolinas.org. Other AEG sections also hold periodic meetings. You can find out details for your state through AEG's national website: www.aegweb.org.

Events

Southeastern Section of Geological Society of America

The Southeastern Section of Geological Society of America meeting will be March 23-25 in Wilmington. For more information visit the following link: http://www.uncwil.edu/earsci/2011SEGSA.htm.

One of the topical sessions being held March 25 is the SENAGT-sponsored education session entitled: *"Building a Foundation in Geoscience Education: Gathering Educators with Professionals to Create a Geoscience Literate Public."* Several award winning earth science teachers have been invited to speak at this session to facilitate communication with geoscience professionals in government, industry and academia regarding:

A. **What teachers need to teach earth science (for specific grade level(s))**
B. **How to best assist new teachers and non-geology teachers who have to teach geology/earth science in the K-12 classroom.**

Follow the link below for a glimpse at the 21 abstracts scheduled in this full-day session: http://gsa.confex.com/gsa/2011SE/finalprogram/2011-03-25.htm.

Assistance for teachers needed: I am looking for donations/sponsors to assist a teacher presenting at the Geoscience Education session, please contact Randy.Bechtel@ncdenr.gov and put 'donations/sponsors' in the subject line. Donations to assist teachers will cover the cost of a substitute teacher for one day, food, lodging and registration. Any amount will help these teachers who are presenting at the Geoscience Education session.

Hopefully, this session will be the first of many events linking earth science teachers with geoscience professionals to provide a better science education to our students. In North Carolina, we will have the opportunity to continue the communication at the science teachers' conference in November 2011 (see below) and at the National GSA meeting in Charlotte in November 2012.

North Carolina Science Teachers Association Professional Development Institute
2011 North Carolina Science Teachers Association Professional Development Institute (aka "the conference") will be held **Nov. 10-11** at the Koury Convention Center in Greensboro. www.**ncsta**.org

N.C. Aggregates Association (www.ncaggregates.org) is slated to organize its biannual Rock and Mineral Giveaway this year. I am sure many volunteers will be needed to bag and distribute rock samples at the conference. If you are there to volunteer for the Rock Giveaway why not present an activity to teach the teachers about the samples, how to use the samples in the classroom or take the opportunity to talk to a teacher to find out what they need. I will be looking for presenters to provide quality K12 activities and learning experiences using the rock samples.

Awards – Outstanding Earth Science Teacher (OEST) and Educator (OESE)
www.geology.enr.state.nc.us/proj_earth/proj_earth.html
North Carolina 2010 OEST Winner (from NAGT web site)

Joshua David Roberts brings an energy to the classroom that radiates through his students like seismic waves through the earth. He has a genuine relationship with his students that has them coming back to visit well after they have graduated. Josh received his BS in Geology and MA in Teaching at the University of North Carolina at Chapel Hill. He is now in his sixth year of teaching Earth/Environmental Science at Northern High School in Durham, N.C. He teaches all levels of high school from those with learning disabilities to advanced placement and recently completed work for National Board Teacher Certification. He has presented talks at National Science Teachers Association conferences on both state and national levels, as well as at the UNC Department of Geological Sciences. Josh also serves as the teacher advisor to several science-related student clubs at his high school, including the Scientifica Club, ScienceDays, and Envirothon.

At right, we see the two sides of an earth science teacher – 'clean and upstanding' and 'down and dirty.'

There were no nominations for the North Carolina 2010 OESE award. This is a North Carolina specific award to capture the great group of educators and teachers who are not eligible for the OEST award. For more information, see below.

Nominations for the 2011 OEST and OESE award are due April 21.
Nomination Form: www.geology.enr.state.nc.us/proj_earth/oest/OEST_E_web_nom_form2010.pdf
Award information:
www.geology.enr.state.nc.us/proj_earth/oest/OEST_awarddescription_update_2009.pdf

Office of Environmental Education and Public Affairs
(Sarah Yelton)

Three events are listed below:
N.C. Outdoor Classroom Symposium
Green and Growing!
April 7-9
N.C. Botanical Garden, Chapel Hill

Classroom teachers, teacher assistants, school administrators, parent volunteers, non-formal educators and those involved in design of outdoor play and learning areas are invited to join us for the symposium! The symposium provides educators with opportunities for PreK-12 education with a **green** focus, including techniques for creating, maintaining and using outdoor classrooms on school grounds and strategies for integrating outdoor learning into the curriculum. Keynote speakers are Jane Taylor, founding curator of the Michigan 4-H Children's Garden at Michigan State University, and Wendy Banning, educational consultant and co-author of Lens on Outdoor Learning. Teachers can earn CEU credits and participants can earn credit towards their N.C. Environmental Education Certification. For more information or to register, please visit http://www.eenorthcarolina.org/outdoorsymposium/2011/about.htm.

EE Teacher Institute - Save the Date!
At The Water's Edge: exploring wildlife, wetlands & water
A Sound Learning Teacher Institute
July 10-15
Trinity Center, Salter Path
Professional development for K-5th grade teachers. Applications and more information is available at http://www.eenorthcarolina.org/edresources.htm.

Youth Advocacy Intern, Tiffany Liner (holding canister), assists N.C. Geological Survey Landslide Team members Rick Wooten and Jennifer Bauer, measuring shear strength of soil in a landslide investigation.

AGAPE Environmental Education Center staff learning about their geology with Randy Bechtel from the NCGS.

NAAEE 40th Annual Conference
Oct 12 - 15
Raleigh
Complete Details: www.naaee.org/conference
Come to Raleigh, for the professional development experience for environmental educators in North America. 2011 Theme is "Rooted in Time: Branching to the Future." **Six Conference Strands include:** Conservation Education, Climate Change Education, Environmental Issues in EE, EE Goes to School, Environmental Justice and Network and Leadership Development.

Thursday Lunch Plenary Session on Climate Change, Oceans, and Society
Panelists: **Danny Harvey**, University of Toronto; **Carrie Thomas**, North Carolina State University; **Fernando Tudela** [invited], Vice Minister for Planning and Environmental Policy, Mexico
Moderator : **Stan Riggs** (invited), East Carolina University.

Thank you to everyone who contributed to the NC news including: Rick Kolb, of AEG Carolinas Section; Ragan Spain, N.C. Department of Public Instruction; Fred Beyer, Education Consultant; and Sarah Yelton, with the state Office of Environmental Education and Public Affairs.

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

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

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

I would like to congratulate the organizers of the many successful Darwin Days events across South Carolina. I hope that you all enjoyed the debates, seminars and other activities.

Researchers from South Carolina are participating in one of eleven projects sponsored through the U.S. Department of Energy's National Energy Technology Laboratory's "Site Characterization of Promising Geologic Formations for CO_2 Storage" initiative. The website for South Carolina's project "Geologic Characterization of the South Georgia Rift Basin for Source Proximal CO_2 Storage" is now online (http://www.dnr.sc.gov/SCO2/). The purpose of the research is to determine whether carbon dioxide could be sequestered by being pumped into Triassic and Jurassic sedimentary units over a kilometer below the surface of the South Carolina coastal plain.

U.S. Geological Survey Professional Paper 1773 "Groundwater availability in the Atlantic Coastal Plain of North and South Carolina" can now be downloaded as a very large PDF file at the publication's website: http://pubs.usgs.gov/pp/1773/. The publication's plates can also be downloaded separately.

South Carolina will be one of eight states participating in the Great Central U.S. ShakeOut earthquake drill on April 18th, 2011. For more information about the event, including how to register your school or organization, see the ShakeOut website: http://www.shakeout.org/centralus/southcarolina/.

The EPA awarded the Notable Achievement Award for a state program to the South Carolina Department of Health and Environmental Control (SCDHEC - http://www.scdhec.gov/) Office of Solid Waste Reduction and Recycling. In addition to other programs, the state agency was recognized for its educational outreach efforts, including "South Carolina's Recycle Guys" and K-12 education programs. The SCDHEC bestowed "Champions of the Environment" awards to schools in Kershaw, Columbia, Spartanburg, Greenville, Sumter, Walhalla, St. Helena Island, Rock Hill (http://www.scdhec.gov/environment/water/champion.htm). The deadline for applications for the next round of grants is October 15, 2011. SCDHEC is also now available on Twitter (http://twitter.com/scdhec).

Romarco Minerals, Inc. will be expanding their exploratory drilling projects at their Haile Gold Mine and newly acquired properties in South Carolina (http://www.romarco.com/). Strongbow Exploration, Inc. will be joining the gold mining industry in the Carolina slate belt through their Midway Gold Project (http://www.strongbowexploration.com/s/Midway.asp), which will explore the possibility of opening a mine between the Haile and Brewer mining sites.

The Mountain Area Gems and Mineral Association (MAGMA - http://wncrocks.com/magma/magmaupcomingevents.htm) is planning a trip to the Diamond Hill quartz mine (http://www.gamineral.org/commercial-diamondhill.htm) in Antreville, South Carolina April 14th-17th. The Diamond Hill mine has produced some spectacular specimens of amethyst, smoky quartz, milky quartz and associated minerals.

South Carolina 2010 OEST Winner (from NAGT web site)

Jeanne Hartley has taught Earth science at Lexington Middle School in Lexington, South Carolina, for over 30 years and has achieved National Board certification. She was practicing inquiry-based instruction in her classroom long before the education establishment recognized its value, and has served as a mentor to other teachers, both in her district and in summer courses for teachers at the University of South Carolina. □□Jeanne is very quick to see when and why an activity is not working for some students. She is able to place herself on the student's level, understand what the student can do, and see what the student needs in order to get a grasp on the subject at hand. She has worked for many years with another teacher to plan, organize, and lead a trip to the Grand Canyon for 8th graders, and she organizes several events each year to help fund this trip.

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

Two Evolution Bills Introduced in Tennessee Legislature

Two bills have been introduced into the Tennessee legislature that could change how evolution is taught in Tennessee. While on the surface the bills appears to promote a protected status for teachers to teach these topics, the bills also misrepresent the scientific community's view of evolution and force the primary education of these subject to be on the perceived controversial nature of the science, rather than the science itself. House Bill HB 368 and Senate Bill SB 893 are written in such as way as to force teachers to examine the supposed "weaknesses" of proven scientific theories such as organic evolution, but also to address other controversial issues such as climate change and cloning. Opponents of the bill fear that this is another thinly veiled attempt to undermine sound scientific education by creating scientifically-unjustified doubts about the scientific community's acceptance of evolution. As of this writing, the House bill has been discussed in committee and letters from prominent scientists in the state, along with science organizations, were being sent to the education committee members and bill sponsors. Several scientists are expected to be on-hand for the next subcommittee meeting for the purpose of testifying and answering questions regarding evolution and evolution education. The Tennessee ACLU and NCSE are spearheading efforts to have both bills defeated or withdrawn. The text for HB 368 & SB 893 are available on the NCSE website - http://ncse.com/. Tennessee scientists are asked to contact their legislators and voice their opposition to the bill.

New Allosaurus skeleton on Display at MTSU Museum

Al Ogden reports that the **Middle Tennessee State University** Mineral, Gem, and Fossil Museum has expanded its mineral displays by adding a new exhibit entitled "Minerals of Mexico, China, India, Russia". They have also added a skeleton statute of Allosaurus. For more information about the exhibits and visiting the museum see the website: http://sites.google.com/site/mtsumineralmuseum/home.

EarthScope Yellowstone - New Madrid - Central U.S. Interpretive Workshop

Roy Van Arsdale at the **University of Memphis Earthquake Center** reports that there will be an EarthScope workshop held on their campus March 17-20th at the Foglelman Executive Center. For more information see: http://www.earthscope.org/workshops/new_madrid.

2011 TSTA Workshop Planned

The 2011 Tennessee Science Teachers Association annual meeting will be held at the in Murfreesboro, TN; plans for this meeting are being formulated now. The Tennessee Earth Science Teachers (TEST) is planning a day-long workshop teaching chemistry using Earth science and geology, with Friday break-out sessions on additional topics. For information contact Dr. Michael Gibson, Dept. of Agriculture, Geosciences, and Natural Resources, University of Tennessee at Martin, Martin, TN 38238 (731.881.7435; mgibson@utm.edu).

Tennessee and Southeastern Section 2010 OEST Winner (from NAGT web site)

Bryan E. Freeman teaches geology, earth science, and astronomy/planetary geology for grades 9-12 at Clinton High School in Anderson County. Bryan is a 1996 graduate of Tennessee Technological University with a bachelor's degree in geology and a 2010 Master's degree in Instructional Leadership. Bryan began his teaching career in the geology department at Tennessee Tech by teaching a variety of introductory geology labs. He was instrumental in building Clinton High School's program into one of the few strong earth science focused programs in Tennessee. In addition to this OEST award, Bryan has was selected as the 2003 selected as Clinton High School teacher of the year and Anderson County Schools teacher of the year as well as one of two individuals from Tennessee selected as a 2004 Radio Shack National Teacher of the Year for his use of technology in his curriculum. Bryan has twice been named by the senior classes as the "funniest teacher" as well as being nominated to Who's Who Among Amercia's Teachers multiple times based upon student nominations. Bryan serves as a P-16 Partner Representative for the TTU Millard Oakley STEM Center and member of the CHS National Honor Society. Bryan Freeman has been a participant of TEST programs at various times in his career, including the 1997 GeoTrek Yellowstone trip. In keeping with a strong Tennessee tradition regarding the OEST award, Bryan was also selected as the southeast regional OEST by the selection committee at NAGT. With Bryan's regional win, Tennessee had been home to nine of the past 10 regional winners since 2000. Bryan explains his motivating factor for teaching was a "desire to share my love of geology with students. When I went through the school system, Earth Science was taken by all students in the eighth grade and never mentioned again. While students were sculpted and molded in their high school years, they were not exposed to the earth sciences-only biology, chemistry and physics. I entered college and decided to major in secondary education and seek certification in biology. One class that I had to take to follow that path was physical geology. Following a few geology classes, I dumped my education major and sought a degree in geology. I found a world of wonder and a science that effortlessly incorporated all those other sciences that I had been led to believe were 'fancier'."

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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