



National Association of Geoscience Teachers
Southeastern Section Newsletter
Summer-Fall 2013

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President's letter
Help make our GSA sessions successful
Meeting calendar
Congratulations 2013 OEST's
State news in geoscience education

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

**Winter-Spring 2014
Newsletter Deadline:**
February 15, 2014. Please
send news items to Bill at
wITHERSPOONB@FC.DEKALB.K12.GA.US

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President's letter

by David Kopaska-Merkel, SENAGT president

Membership, member activism, the OEST awards, and the state of education in the United States today. I will briefly touch on these four topics. But first, our next meeting. This will be April 10-11 in Blacksburg Virginia, in conjunction with the Southeastern GSA meeting, as usual (<http://www.geosociety.org/sections/se/2014mtg/>). A couple of educational sessions have been proposed, and if enough people submit abstracts, those sessions will make. [see specifics below – ed.] The abstract deadline has not yet been announced, but it is not too early to start thinking about what you will present. Southwestern Virginia in April will be beautiful, and I hope many of us can participate in the meeting.

NAGT has a national membership drive going on now. We'll be hearing more about it soon. For now, be thinking about friends and colleagues who ought to join. There is a lot of information at nagt.org about member services, how to join, etc. Anyone working in Earth-science education or planning to do so really ought to belong to this organization.

If you, members of this section, want to get more involved in NAGT, but you don't think you're ready to become an officer, there are plenty of other things to do. For instance, you can become an alternate state representative; you can spend some time recruiting OEST nominees, or simply nominate them yourself; you can simply let me know your ideas about improving this organization. I welcome advice, suggestions, and criticism.

If you aren't already, it is time to start thinking about OEST nominations. Please try to recruit teachers who would like to be considered for this award. I know some states get many nominations, but even there it doesn't hurt to get more. Other states, including my own, are lucky to get even one nominated teacher. My personal goal for last year was to have at least one teacher nominated for the state award, and Alabama got two. I hope all of you will have at least that much success in the coming year. Since we make the section award in May (submission deadline May 1), your state-level decision has to be made before then.

The big news this year is the same as it has been every year recently: there is less money for science education than there has been, and there is greater need to educate students about Earth science than there ever was before. State budgets are squeezed, in part because of the sequester, but the squeeze began even before the federal government cut off its own head. We may not be able to do a lot to influence governmental policy to increase funding for science education, but we should try.

The reason all students, not just those planning to become geoscientists, need to learn about Earth science is the growing influence of Earth processes, and what we do about them, on our lives. New and controversial techniques for resource extraction and the complexity and accelerating pace of climate change, demand that citizens understand enough about the Earth to make intelligent decisions for the future. Trust in science in this country is low, but I think this is because most Americans don't learn much about it in school. This, we can do something about.

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Help make Blacksburg sessions a success

by Bill Witherspoon, SENAGT newsletter editor

We are told that the two proposed NAGT-sponsored sessions at the April 10-11 Southeastern GSA meeting in Blacksburg, Virginia, have been accepted. You should soon be able to submit an abstract online using the link at <http://www.geosociety.org/sections/se/2014mtg/>. The abstract deadline is likely to be in December. Following are descriptions of the two sessions. **If you know of someone who should be invited to present at these sessions, or are thinking of presenting**, the first organizer would love to get an e-mail from you at your earliest convenience.

Earth science instruction in 2013 and beyond: How teaching practical science classes will (and must!) adapt in a world of MOOCs and social media options

Organizers: Doug Haywick, dhaywick@southalabama.edu, Ann Holmes, David Kopaska-Merkel

All current college and university instructors are facing unprecedented pressure to adapt to “new” styles of teaching. Online courses, blended courses, and Massive Open Online Courses (MOOCs) are becoming common in most institutions, and arguably work for some disciplines. Administrators tend to like them because they get “more bang for their buck” cost-wise. But how are scientists who teach Earth Science courses that often involve practical laboratory and field experiences going to meet administrations’ achievement goals of more graduates with fewer resources? This session allows college and university Earth science instructors the opportunity to discuss successful teaching practices in an academic world that is becoming increasingly more media-based.

The Next Generation Science Standards, Common Core, and STEM: Opportunities for Geoscience Education in K-12 and Beyond

Organizers: Bill Witherspoon, witerspoonb@fc.dekalb.k12.ga.us, Denise Hills, Lionel Crews

The Next Generation Science Standards (NGSS), released in 2013 by a consortium of 26 states including GA, KY, NC, TN and WV, treat Earth Science at all grade levels as co-equal with Life Science and Physical Science. The Common Core Standards (CCS) for Math and English Language Arts, adopted by 45 states (including all states in SEGSA except VA), require interconnected teaching of those skills with science and social studies. STEM (Science, Technology, Engineering, and Mathematics) education has its own momentum and is a major component of both the NGSS and CCS. All three initiatives require students to complete design challenges and to connect STEM subjects to their use in the workplace.

This session addresses questions such as: How well do the initiatives incorporate the geosciences? Are there additional ways to advance geoscience within the initiatives? How can the initiatives be a springboard for greater attention to geosciences by, and improved training for K-12 science teachers; a more geoscience-literate public; and a stronger supply of future geoscientists?

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	April 3–6, 2014	Boston
Southern	Nov. 7-9, 2013	Charlotte
Alabama	February 14 - 16, 2013	Huntsville
Florida	October 24-26, 2013	Miami
Georgia	February 6-8, 2014	Macon
Louisiana	Oct. 31 – Nov. 2, 2013	Baton Rouge
Mississippi	Oct. 27-29, 2013	Jackson
North Carolina	Nov. 7-9, 2013 (with NSTA)	Charlotte
South Carolina	separate regional meetings in 2012-2013	
Tennessee	Nov. 7-9, 2013	Murfreesboro

Geological Societies		
Organization (Area)	Latest date on web site	City
GSA (National)	Oct. 27-30, 2013	Denver
GSA (Southeastern)	April 10-11, 2014	Blacksburg, VA
GSA (South Central; incl. LA)	March 17-18, 2014	Fayetteville, AR
Georgia Geological Society	October 11 - 13, 2013	Dahlonega
Carolina Geological Society	Nov. 8-10, 2013	TBA near Albemarle, NC

Congratulations 2013 Outstanding Earth Science Teachers!

Thanks to the hard work of several state reps, and especially Past President Randy Bechtel who oversaw the process, we are proud to recognize the Outstanding K-12 Earth Science Teachers of 2013. They are:

Southeastern Section: Olivia Boykin
Alabama: Alison Starr
Georgia: Nancy Adgate
Louisiana: Lacey Hoosier
North Carolina: Mary Catherine Mills
South Carolina: Olivia Boykin

You can read about them and their peers around the country at nagt.org/nagt/programs/oest/2013.html. If you are one of the winners, congratulations and welcome to the National Association of Geoscience Teachers. We hope you will become active in NAGT to help advance the causes you have worked so hard for as a teacher.

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 Denise Hills and David C. Kopaska-Merkel, Geological Survey of Alabama, Co-State Representatives and SENAGT VP and President)

Educational publications

The second and much-awaited edition of Jim Lacey's book, *Lost Worlds in Alabama Rocks*, has been published. This is a durable hardback book, and much more comprehensive than the first edition. The format remains the same: each subject is covered by a two-page spread, but many more topics are dealt with in this edition than were covered in the first. The book is profusely illustrated and full of color. *Lost Worlds* is one of the best books about the geology of a state ever written. It should soon be possible to order this book over the phone or over the Internet. For now, copies may be purchased for \$29.95 from:

The Alabama Museum of Natural History
The University of Alabama
Box 870340
Tuscaloosa, AL 35487-0340

The first edition of this book is out of print, and the few available copies command high prices. Or at least they did until the second edition became available.

Teacher workshops

The annual fossil field workshop for teachers, hosted by the University of West Alabama, and co-sponsored by Discovering Alabama, the Geological Survey of Alabama, and the Black Belt Museum, and with considerable volunteer support by members of the Birmingham Paleontological Society, is coming up on Tuesday, October 22nd. Plans are in the works to add a similar workshop at the Steven C. Minkin Paleozoic Footprint site in Walker County.

Universities

The Department of Earth Sciences at The University of South Alabama recently hired a new Assistant Professor of Geology. D. Alex Beebe received his PhD from Clemson University and will be responsible for the geophysics and hydrogeology components of the Department's Geology program. Two new student geology organizations have been started at USA. A local chapter of Sigma Gamma Epsilon (the Earth Science Honors Society) has been recruiting new members with a goal of 40 by the end of 2014. The AAPG Student Club was initiated for those geology majors planning a career in petroleum geology. These groups join the Geology Club and the Sustainability Club in providing many extracurricular and community service activities for Earth Science students at USA. The Southwestern Alabama Geology Society had a quiet year but will soon be revamped thanks to the efforts of professional geologists along the Gulf Coast. The organization provides CEU activities for PGs in the area and also offers opportunities for Geology majors to meet with practicing Earth scientists.

As the Department of Geological Sciences at the University of Alabama enters the 2013-14 academic year we are pleased to announce that Dr. Fred Andrus has stepped up to serve as department chair. We are very thankful to Dr. Ibrahim Çemen for his leadership over the last 4 years. We are particularly excited to be welcoming three new faculty members at the assistant professor level for the fall 2013 semester. These are Dr. Rezene Mahatsente (geophysics), Dr. Kang Hyeun Ji (geophysics), and Dr.

Kimberly Genareau (volcanology). We are very happy to be in a position to bring in so many new faculty at once. In other departmental news Dr. Chunmiao Zheng, professor of hydrogeology, has been named as the 2013 recipient of the O.E. Meinzer Award by the Geological Society of America.

Alabama Museum of Natural History

The Alabama Museum of Natural History had the 35th Summer Expedition from June 17th to 29th of 2013. We, about 10 museum staff and two UA paleontologists, invited 17 middle school students in Week 1 and 18 high school students in Week 2 to extensive fossil excavations. This year the museum focused on fossils from Upper Cretaceous marine rocks (about 80 myo) in Greene, Dallas, Hale, and Sumter counties.

During the 2 weeks camping, we had pretty hot days and severe thunderstorms, but our efforts (and sweat) were really worthwhile. We collected many fossils, including hundreds of shark teeth and bony fish bones, as well as many invertebrates (shells of ancient clams, oysters, etc.). Cretaceous marine reptiles are generally not common, but we made important discoveries, including teeth and bones of large mosasaurs, some sea turtles, and crocodiles, as well as a partial skeleton of a huge long-necked plesiosaur, a relatively rare marine reptile.

For more photos of the expedition, visit <http://amnhprograms.weebly.com/views-from-the-field.html> and <https://www.facebook.com/pages/Alabama-Museum-of-Natural-History/43680461708>



Education in Crisis in Alabama – and elsewhere?

by Denise Hills

Alabama adopted the Common Core State Standards (CCSS) in Math and English Language Arts, joining 39 other states, the District of Columbia, and the U.S. Virgin Islands, in 2010. They will be implemented starting with the 2013-2014 school year. There has been significant backlash to the adoption of the CCSS in Alabama (e.g., Alabamians United for Excellence in Education, backed by Tea-Party groups and the Alabama Federation of Republican Women)^{1, 2}. These groups and others want CCSS repealed on grounds that the state board of education had surrendered control over its standards and the U.S. Department of Education coerced states to adopt the standards by offering a chance at federal grant money^{1, 2}.

However, when the facts are examined, these claims are seen to be unfounded. CCSS do not dictate curriculum but rather inform and guide it. Curriculum – how the standards are taught, what resources are used, etc. – is still determined by each school district. CCSS was not developed by the federal government, and there is no financial gain from the federal level by adopting CCSS. Student test data will still be under FERPA guidelines and stored no differently².

Despite this, at least three bills were introduced during the 2013 Alabama Legislative session to repeal adoption of CCSS by the state. Two bills were introduced in the state senate by Senator Scott Beason (R-Gardendale) – SB403 to Repeal Common Core and SB404 to address Privacy Protection. The

House also got involved, with HB565 introduced by Representative Jim Barton (R-Mobile, who resigned effective August 7, 2013 to take a lobbying position) stating that the federal government could not influence state standards. At the close of the Legislative session, SB403 was indefinitely postponed, and SB404 and HB565 were pending committee action, essentially killing these versions. Although no bills have been pre-filed yet related to CCSS, it is fully expected that this issue will return in the 2014 legislative session.

Why worry about what's happening with CCSS in relation to the Next Generation Science Standards (NGSS)? We are, after all, a science education society, and CCSS does not address science standards directly. However, with adoption of CCSS, states are examining their science standards, and NGSS are the logical choice. Alabama State Superintendent of Education Dr. Tommy Bice says education officials will look at NGSS when they update science standards (last updated in 2006), a process set to start within the next two years³. Legislators are already coming out against NGSS, with arguments similar to those used against CCSS. For example, Sen. Dick Brewbaker, R-Pike Road, stated in April, "We have committed ourselves to a process to adopt science standards that haven't even been written."³ Brewbaker was a leader in the effort to repeal CCSS, and will fight even harder against NGSS.

We as a society need to be prepared for this fight. We need to be proactive in providing accurate information about both CCSS and NGSS, and continuing to do outreach and education to educators and the community alike so that they are informed about what these standards mean for the future of education.

References

¹ "Common Core opposition says Chamber of Commerce forum was 'staged' (updated)" URI: http://blog.al.com/breaking/2013/07/common_core_opposition_says_ch.html accessed August 12, 2013.

² "Fact vs. Fiction: Common Core discussion mitigates curriculum, data sharing concerns" URI: http://blog.al.com/breaking/2013/07/state_superintendent_bice_says.html accessed August 12, 2013.

³ "National science standards could be in store for Alabama schools (poll)" URI: http://blog.al.com/wire/2013/06/are_national_science_standards.html accessed August 12, 2013.

Several people provided content for this report: Andrew K. Rindsberg, Andrew Goodliffe, Doug Haywick, Takehito Ikejiri.

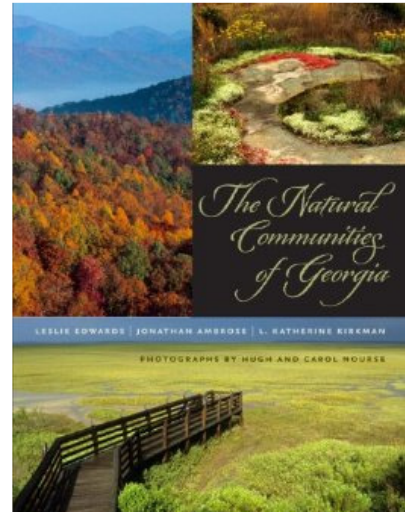
Florida (State Representative: Paul Cutlip; no information submitted)

Georgia (submitted by Gerald Pollack, State Representative, and Newsletter Editor Bill Witherspoon)

Educational publications (Witherspoon)

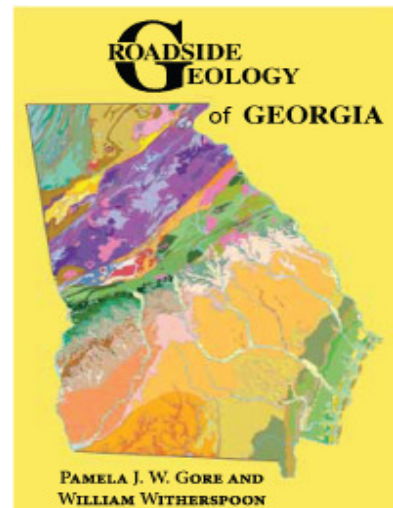
Two milestones in Georgia natural history publications were achieved this spring. *The Natural Communities of Georgia* by Leslie Edwards, Jonathon Ambrose, and Katherine Kirkman is a magnificent 6-pound volume of nearly 700 pages. It is a successor to the late Charles Wharton's pioneering *Natural Environments of Georgia* (1978), and the completion of a project Wharton began in 1994.

Geologists John Costello and Ken Terrell are listed as contributing authors, and several other geologists are credited in the acknowledgements. The geology seems both well-informed and well-illustrated, and the connections of bedrock types to natural communities throughout the book are eye-opening. The Blue Ridge has communities called "Low to mid-elevation mafic domes, glades, and barrens," and both Blue Ridge and Piedmont have "Ultramafic barrens and woodlands."



Throughout the book are sidebars labeled "featured animal" and "featured place," focusing on places and animals both familiar and obscure to me. I am no expert on ecology books, but I have never seen anything like this book. It will live on my coffee table (did I mention the exquisite professional photography by Hugh and Carol Nourse?) and I expect to be learning from it for a very long time.

The completion of *Roadside Geology of Georgia* (by Pamela Gore and me) is also a milestone. We are grateful to the many geologists listed in our acknowledgements section, and to all those researchers who have brought Georgia geology to its present state, which we have tried our best to represent in a book for the general public. We hope we have done well. Here are what some of our mentors, heroes, and friends have said about the book:



"This is an outstanding addition to [the Roadside Geology series], and the effort that [you] put into it shows throughout the book. I have seen many of these books and yours ranks among the very best of this series." – *Dr. Robert D. Hatcher, University of Tennessee, first recipient of the Geological Society of America Distinguished Service award, past president of Geological Society of America and American Geological Institute*

"a superb new book...which provides fascinating glimpses and details of Georgia's road cuts and other geological diversity, from the ever-changing barrier islands on the coast to the sandstone ridges in the remote northwest corner of the state." – *Charles Seabrook, author and Wild Georgia columnist, Atlanta Journal-Constitution*

"For thirty years or more people have been asking me to recommend a book about the geology of Georgia ... Now I can direct them to *Roadside Geology [of Georgia]*. I am very impressed. You have done a magnificent job of explaining the geology of the state both in words and pictures... I look forward to toting *Roadside Geology* around the state and taking frequent bites." - *Dr. Timothy E. Chowns, Professor Emeritus of Geology and Distinguished Scholar, University of West Georgia*

"...the book was co-authored by two longtime Georgia geoscience educators... [whose] teaching expertise is well expressed throughout the book, reaching an audience of interested amateurs, but while

still holding the interest of professional geologists.” – *Dr. Anthony J. Martin, Emory University, author of Life Traces of the Georgia Coast*

“stands as an important contribution to the literature on the natural and human history of Georgia, and at its reasonable price, is highly recommended.” - *Dr. Michael Roden, Professor of Geology, former Head of Department of Geology, University of Georgia*

“packed with accurate and up-to-date information...the timing is excellent in that there have been great advances of late in the understanding of the geologic history of Georgia. The authors successfully capture that information and summarize it in understandable terms...I already own two copies: one unmolested copy for the library and one that I will keep in the car with my field gear.” - *Julian C. Gray, Curator, Tellus Science Museum, Cartersville*

Rough waters ahead for K-12 standards (Witherspoon)

A political fault line has opened up within the Republican Party that rules Georgia. Georgia’s previous Republican governor, Sonny Perdue, was chairman of the National Governor’s Association when it sponsored the Common Core standards in English, Math, and Social Studies and won adoption for Common Core by 45 states. Republican leaders at the Georgia Department of Education then led its adoption into Georgia’s curriculum. However, President Obama has also voiced support for these standards, which has tainted them in the eyes of TEA Party activists.

Now they have become an issue in next May’s Republican primaries. The current Secretary of Education plans to challenge the Governor for his seat, with the Governor apparently moving into the court of the TEA Party’s call to reject Common Core. None of this bodes well for the Next Generation Science Standards (NGSS), another state coalition-led effort, which were supposed sometime in 2015 to do for science what Common Core has done for the other subjects.

Congratulations Nancy Adgate! (Pollack)

Please join us in congratulating Ms. Nancy Adgate as the 2012 Outstanding Earth Science Teacher award recipient for the State of Georgia. Nancy has been teaching for twenty years. She served as science department chair from 2004 – 2009 at Henry County’s Dutchtown Middle School prior to transitioning to Dutchtown High School to help establish an Earth Science program. She credits her father with instilling her with the passion for science and nature, which was passed down to her son, Andy, a geologist with Ohio Department of Natural Resources. Nancy has presented at regional and national conferences including the NSTA Area Conference in Atlanta (2012) and the NSTA National Conference in San Antonio (2013).



Louisiana (New State Representative: Wendy Demers. Welcome, Wendy! We will look forward to your first state report in the Winter-Spring 2014 newsletter.)

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

North Carolina (submitted by Randy Bechtel, N.C. Geological Survey, State Representative)

- I. 2013 NSTA/NCSTA Area Conference – Charlotte, NC
- II. Carolina Geological Society Field Trip
- III. K-12 Education
- IV. Federal Education Programs in North Carolina
- V. EarthScope meeting
- VI. Office of Environmental Education
- VII. AEG K-12 Education Committee

I. 2013 NSTA/NCSTA Area Conference – Charlotte, N.C. - November 7-9, 2013

Mark your calendars for the National Science Teachers Association (NSTA) Area Conference in Charlotte, NC, *Racing Toward Science Excellence*. The North Carolina Science Teachers Association (NCSTA) is teaming up with NSTA to co-host the event, which replaces the annual state conference this year.

Meeting registration is open. See the NCSTA website for IMPORTANT registration information <http://www.ncsta.org/>. **Early bird** rates end **Sept. 20, 2013**. **Advance** rates are available **Sept. 21, 2013 - Oct. 11, 2013**. Registration is also available onsite. Reduced rates are available to both NCSTA and NSTA members. Don't forget to join or renew your membership with NCSTA.

One can browse a schedule of events www.nsta.org/conferences/2013cha/.

Rock Giveaway Event

The Society for Mining, Metallurgy & Exploration (SME), the N.C. Geological Survey and others are teaming up to provide rock and mineral samples from the southeast United States. This event is separate from the biannual NCSTA Rock Giveaway organized by the N.C. Aggregates Association (NCAA) which will be held in 2014 at NCSTA.

SME is heading up this event through their newly formed Minerals Education Coalition (MEC) www.mineralseducationcoalition.org. NCAA is graciously providing support even though this is its "off" year for this event – Thank you.

We will need plenty of assistance so please contact Rachel Grimes grimes@smenet.org or 303-948-4247, if you are able to help in some capacity or can pass along names of others who might be able to assist.

II. Carolina Geological Society Field Trip - November 8-10, 2013

One Arc, Two Arcs, Old Arc, New Arc: A 21st Century Perspective on the Geology of the Carolina Terrane in Central North Carolina. For more information please visit their website, carolinageologicalsociety.org/CGS/2013_Meeting.html

Teachers – this field trip will start in Salisbury, NC the weekend that NSTA/NCSTA ends AND it is literally just up the road from Charlotte so check it out if you can.

III. EarthScope Meeting - Raleigh, NC, in May 2013

The EarthScope National Office (ESNO) has posted the videos from the National Meeting on the EarthScope YouTube channel. You can find them at www.youtube.com/user/EarthScopeInfo. If you do not see a talk online, that means the ESNO was not given permission to publish the talk.

Additionally, you can view or download pdf files of the presentations on the EarthScope National Meeting website by clicking on the title of the talk on the agenda: www.iris.edu/hq/earthscope_meeting/page/agenda.

IV. K-12 Education

WRAL TV reported on Jul 21, 2013. House, Senate reach agreement on two-year state budget www.wral.com/house-senate-reach-agreement-on-balanced-state-budget/12686564/ The North Carolina budget was passed and shortly thereafter was signed by the Governor. The budget effects K-12 education including ending pay increases for teachers earning Master's degrees and teacher tenure.

WRAL TV also reported on the adoption of the Common Core in their news report: Common Core offers promise, raises questions for education www.wral.com/common-core-offers-promise-raises-questions-for-education/12730840/

V. Federal Education Programs in North Carolina - Race to the Top

Guilford County Students To Get Tablets - This fall about 13,000 middle school students in the Guilford County Schools district will receive tablets. It's part of a \$30 million Race to the Top grant that Guilford won last year. Administrators and teachers will receive training from a company called Amplify in the coming months. Read more... wunc.org/post/guilford-county-students-get-tablets

To get Race To The Top weekly updates you can send your email address(es) to Michael.Yarbrough@dpi.nc.gov Communications Specialist, Race to the Top, Communication and Information Services, **NC Department of Public Instruction**.

VI. North Carolina Office of Environmental Education

by Marty Wiggins (NC DENR)

The North Carolina Environmental Education Certification Program, which is administered by the N.C. Office of Environmental Education and Public Affairs, continues to grow. Many classroom teachers find this program beneficial as it connects them to new resources and with nonformal educators and environmental professionals. The program increases environmental literacy, provides practice in environmental education teaching methods and fosters community leadership. It is a self-paced, experiential program and includes six different components: Instructional Workshops, Outdoor Environmental Education Experiences, Knowledge of Environmental Education Resources and Facilities, Teaching, a community Partnership Project and Continuing Education in Environmental Education. Visit www.eenorthcarolina.org for more information.

The office website is also a valuable resource for geosciences educators, and includes an educational event calendar, grants, an online environmental education database and other resources for educators and the public. Many of the resources are useful to users outside of North Carolina, and the site also partners with other southeastern states. Check out other state environmental education sites at <http://southeastee.org/>

VII. AEG K-12 Education Committee

by Rick Kolb (K-12 Education Liaison for the Carolinas Section AEG)

The Association of Environmental & Engineering Geologists (AEG) established a K-12 Education Committee two years ago to investigate and formulate ways to advocate for earth-science education in grades K-12. One of our objectives is to establish a united effort with other geological organizations to lobby the American Geosciences Institute (AGI) to prepare an AP Earth Science curriculum. We are looking for a few teachers (elementary through high school) from around the country to participate in our committee and provide perspectives from the classroom on what is important and where our efforts should be focused. Please email Rick Kolb (rick.kolb1@gmail.com), the K-12 Education Liaison for the Carolinas Section, if you are interested in participating. The committee holds a one-hour conference call at noon on the first Friday of the month, which we know is not the best time for teachers to participate. Alternately, please contact Rick via email and relay your thoughts.

Rick made four presentations on careers in geology to approximately 80 students of the Natural Science Academy at Cape Fear High School in Fayetteville on March 21, 2013. Teacher Jennifer Evans of the school invited him down, and said she wanted the students to know there are more science careers than only marine biology and medicine. It was a quite a different group than the usual university students to which he typically makes such presentations. Ms. Evans has a great program, and Rick enjoyed talking to her about the curriculum she offers the students, which includes a class in geology.

The Carolinas Section of AEG (www.aegcarolinas.org) continued its tradition of passing out AGI Earth Science toolkits at the annual meeting of the North Carolina Science Teachers Association Professional Development Institute. Last November, we gave away 500 tool kits to teachers at the annual meeting. We plan to attend the NSTA/NCSTA Area Conference in Charlotte this November and pass out the toolkits again. Funding for the toolkits comes from AEG members and sponsors of the Carolinas Section. Our section also made financial contributions to help sponsor awards to the Outstanding Earth Science Teacher of the Year (OEST) and Outstanding Earth Science Educator of the Year (OESE).

Thank you to Rick Kolb and Marty Wiggins for their submissions to the newsletter.

Puerto Rico (State Representative position open)

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

Floods

Greetings from soggy South Carolina. Like other states in our region, we have had abundant opportunities for teaching moments about floods and flood safety this very rainy summer. The South Carolina DNR offers information for homeowners about flood risk that could be useful for lesson plans, including how to acquire FEMA flood risk maps (<http://www.dnr.sc.gov/flood/publicinfo.html>). The South Carolina Department of Health and Environmental Control offers information about storm water pollution and hazards in the state (<https://www.scdhec.gov/environment/water/swater/>), while the South Carolina Emergency Management Division offers all sorts of information about readiness and management for a variety of natural disasters including flooding (<http://www.scemd.org/>). The USGS's South Carolina water science center (<http://sc.water.usgs.gov/>) is a treasure trove of fine scale data about water flow through the state.

One unfortunate victim of the floods this summer was the South Carolina Botanical Garden at Clemson (<http://www.clemson.edu/public/scbg/index.html>). The damage was extensive enough to close some areas, but others are open, including the Bob Campbell Geology Museum (<http://www.clemson.edu/public/geomuseum/index.html>). The Gardens are looking for volunteers to help them rebuild, which could also be an opportunity to show students the power of moving water to reshape the Earth's surface.

K-12 Standards

South Carolina has adopted the Common Core State Standards for language arts and mathematics, and is in the process of revising the state's science standards both as part of a periodic review and to bring those standards into line with grades 6-12 literacy standards of the Common Core program. According to the timeline on the South Carolina State Department of Education's website (<http://ed.sc.gov/agency/se/Instructional-Practices-and-Evaluations/Science.cfm>), this academic year is the year for finalizing the standards that will be used in classrooms starting in the 2013-2014 academic year.

It might be logical to assume that the Next Generation Science Standards would be a good fit for South Carolina, however, Eric M. Bedingfield (District 28, Greenville County) successfully amended the Department of Education's section of the South Carolina appropriations act for 2012-2013 to read: (SDE: Next Generation Science Standards) No funds shall be expended in the current fiscal year by the Department of Education, the Education Oversight Committee, or the State Board of Education to participate in, implement, adopt or promote the Next Generation Science Standards initiative. Until new standards are adopted, South Carolina teachers will continue to use the 2005 standards, which is no burden, as those standards are quite good. Please watch the website listed above for official information from the state as it becomes available.

Energy Lesson Plans

South Carolina electric cooperatives and the South Carolina Council on Economic Education (SC Economics) has a number of standard-appropriate energy-focused lesson plans on their enLightenSC (<http://www.enlightensc.org/>) website. This site was clearly conceived with new standards in mind, but like the rest of us, they are using the 2005 standards until those standards come to light.

Haile Gold Mine

The development of the Haile Gold Mine site has entered the public input stage, with meetings held this summer about a proposal, including an environmental impact statement, submitted to the U.S. Army

Corps of Engineers and other agencies about restarting open pit gold mining in Kershaw. You can monitor the approval process here: <http://www.hailegoldmineeis.com/>.

Carolina Geological Society

The Carolina Geological Society will hold its annual meeting in early November (http://carolinageologicalsociety.org/CGS/2013_Meeting.html), with the theme “One Arc, Two Arcs, Old Arc, New Arc”: A 21st Century Perspective on the Geology of the Carolina Terrane in Central North Carolina.” As the name would imply, the meeting’s field trip will examine marvelous Carolina terrane’s geology.

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

2013 TSTA Workshop Registration Open

The 2013 Tennessee Science Teachers Association annual meeting will be held in Murfreesboro, November 7-9, 2013. The Tennessee Earth Science Teachers (TEST) has organized its annual day-long workshop around the popular “rock boxes” they have assembled since the 1990’s. The earth science content focus of the session, entitled “Tennessee Rocks”, focuses on the basics of the Hutton Rock Cycle and is aimed at middle school educators primarily. Teacher participants receive hands-on lessons, reading materials, and the popular rock boxes for classroom use. Funding to help support TEST’s activities comes from the Middle Tennessee Rock and Mineral Society. The cost of registration will be \$20. To register for the meeting and workshop visit: <http://www.tnsta.com/>. Participation is limited to the first 20 paid registrants. The workshop will run from 9 a.m. to 4 p.m., with a Noon to 1 p.m. lunch break, on Thursday November 7. Additional shorter workshop sessions will be offered on Friday, November 8th. For more information 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).

GeoConclave

The annual geology competition between geology programs in Tennessee will hold its next GeoConclave at Fall Creek Falls State Park September 2-29th. 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 Austin Peay State University hosts with an expected field trip.

“Something Is Missing Here: A Teacher Field Camp in Fossils and Taphonomy”

In celebration of National Fossil Day and Earth Science Week, UT Martin is offering a professional development field short course (with online follow-up) run by Dr. Michael Gibson (invertebrate paleoecologist) and Mrs. Eleanor Gardner (taphonomist & laboratory instructor) to provide science teachers with the opportunity to explore the nature of the fossil record and how taphonomic bias affects the interpretation of fossils and ancient environments. Teachers will conduct field analyses at the Coon Creek Lagerstätte locality in McNairy County, Tennessee. Tied directly to national and state science standards, and the highly anticipated Next Generation Science Standards, teachers will collect fossils in the field setting and investigate, using open-ended inquiry methods, the impact of post-mortem events (e.g., burial, decay, scavenging, transportation, diagenesis, concentration, and deposition) on preservation potential. These teachers will critically examine actual ongoing taphonomic research at the site. This short course aims to provide science teachers with the knowledge and tools necessary to incorporate taphonomy into their earth-science curricula. The Paleontological Society is funding the workshop through its Education and Outreach Grants program. For more information 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).

STEM-HUB

The University of Memphis has been funded by the State of Tennessee to form a network of interested university and industry participants to help unify and expand STEM efforts in West Tennessee. The result is a consortium of entities focused on West Tennessee Science, Technology, Engineering and Mathematics (STEM) Collaboratory Hub - “West Tennessee STEM Hub” or “Hub”, as part of the

Tennessee STEM Innovation Network (“TSIN”). The overarching goal of the Hub is to develop a statewide network of communities, individuals, assets and other resources that collectively drive 21st century education innovation in the fields of science, technology, engineering and math, and to ensure that Tennessee stakeholders work together to provide children with effective STEM learning opportunities. Consequently several West Tennessee groups have entered into a mutually beneficial and collaborative relationship focused on the expansion of STEM education among students, teachers, and school district administrators. The common vision of the Hub is to facilitate effective means to educate K-12 students in all sciences. Each HUB partner has particular assets, technologies, experiences and relationships that are brought together in deliberate ways to accelerate the individual mission of that partner and to collectively develop high impact STEM education support efforts in West Tennessee. Tennessee has six such sites spread across the state. For more information about the West Tennessee STEM-Hub, visit <http://www.westtnstem.org/>.

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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