



National Association of Geoscience Teachers
Southeastern Section Newsletter
Winter-Spring 2014

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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 2014 Newsletter
Deadline:**

August 15, 2014. Please send
news items to Bill at
witherspoonb@fc.dekalb.k12.ga.us

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President's message

by David Kopaska-Merkel, SENAGT president

Our next meeting will be April 11 in Blacksburg Virginia, in conjunction with the Southeastern GSA meeting, as usual (<http://www.geosociety.org/sections/se/2014mtg/>). The meeting will be at 11:30 over lunch at Preston's, the restaurant in The Inn at Virginia Tech, adjacent to the GSA meeting site. Southwestern Virginia in April will be beautiful, and I hope many of you can attend. I am afraid that will not include me. The meeting will be chaired by our vice president, Denise Hills. This brings me to another piece of news.

At the end of this meeting, Denise will have to step down as vice president. Her job responsibilities have increased, and this increased workload will continue for the foreseeable future. She wouldn't be able to keep up with the responsibilities being President of our section would require. I am 99% sure that we will have, at the meeting, a willing candidate to take on the role of vice president (and later, Pres.). But at press time I am not yet certain. [ed. note: Christy Visaggi of Georgia State U. has graciously accepted nomination to be our next VP!]

This bit is repeated from my last president's message: 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 also recruit colleagues for the SE NAGT. We could use more members, and especially we could use more people active in supporting earth science education at the K-12 level. Anybody who wants to encourage high-quality earth science education for young people will be better able to accomplish that goal if they work with like-minded people, namely us.

If you aren't already, it is definitely time to start thinking about OEST nominations. 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. That means, you now have less than two months to get it done. Fortunately, it doesn't take anywhere near that long. Find somebody willing to nominate a teacher. They fill out the form, which I'm sure they can do in an evening. They send it in, and a few volunteers choose among the nominees. That's all we need. You can be organized and work statewide, or you can call up your child's science teacher. Anything in between will be fine too, though the more people who are invited, and the more who are nominated, the more representative the award will become. The OEST award isn't the most prestigious award in the world, but it is meaningful. And it's meaningful in a field, earth science education, that is neglected at every age until a person enters college. We are trying to change that, have been since 1971, and I think our efforts help.

How about those sinkholes, eh? Maybe the builders of the Corvette Museum consulted a geologist before they chose the site, and maybe they didn't. But it is a recent example in the news of why geology matters. People who build museums or highways, or decide where to put schools, are not geologists. The people who vote for elected officials who make decisions about things like that aren't geologists either. Everyone is better off if citizens have a basic working knowledge of what is scientifically important and why. This is true for every science. For instance, if people understood that the fear that inoculations cause autism is based on a single fraudulent study, there would be fewer outbreaks of infectious diseases in this country. Never forget that our work as earth science educators and as boosters for earth science education matters to everyone, even those who don't know that.

Backlash against national K-12 standards impedes geoscience education

by Bill Witherspoon, SENAGT newsletter editor

During my morning drive to a school this week, the local public radio station reported that a Georgia Senate bill, just passed to slow down (“review”) Common Core implementation, also contained a prohibition against Georgia adopting the Next Generation Science Standards. Sometime in March we will know if this prohibition has become law.

If you are not familiar with Common Core and NGSS, both are multi-state (not federal) initiatives that have created national standards in English/Mathematics and Science, respectively. Based on the National Research Council’s 2012 *A Framework for K–12 Science Education*, the NGSS are not themselves a curriculum, but are a potential basis for standardized tests as well as locally developed curricula.

At Thursday’s NAGT-sponsored SEGSA session, NGSS writing team leader Michael Wysession will present Earth Science aspects of the standards, via Skype. SENAGT VP Denise Hills will speak about Common Core, and I will talk about the opening for better high school geoscience offered by NGSS.

In Georgia, the anti-NGSS line in the Common Core review bill has garnered little press attention, and WABE is to be lauded for catching it (see <http://wabe.org/post/bill-banning-adoption-science-standards-sparks-concern>). However, the reporter did make a common error in stating that 26 states have agreed to adopt NGSS. Actually these states (including Georgia) only agreed to help develop and to consider adopting the standards. So far, eight states have adopted: California, Delaware, Kansas, Kentucky, Maryland, Rhode Island, Vermont, and Washington.

Opposition to Common Core has famously become a TEA Party issue for lobbying state legislatures, and there is also some desire among teacher unions to slow its implementation, because of increasing pressure to reward teachers based on test performance, and the lack of adequate funding so far in many states to train teachers in the new standards. New tests are also expensive for states, and both Common Core and NGSS imply a higher bar for testing than some “multiple guess” style tests in the past.

Geoscience educators should care about NGSS because, under the leadership of Michael Wysession and others, and with input from many of us, the standards do a great job of representing our discipline at all levels of K-12. Strong and thoughtful standards on both evolution and climate change are included, leading one to wonder if these could lie behind some of the political opposition. Everyone realizes that realizing the benefit of this will take time. However, it is disheartening to see politicians foreclose future NGSS adoption. If you see opportunities to tell legislators where you stand on this issue, please do so.

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	Apr. 3–6, 2014	Boston
Southern	Nov. 6-8, 2014	Orlando
Alabama	Feb. 18-19, 2014	Birmingham
Florida	?Oct. 2014 TBA	Orlando
Georgia	Feb. 5-7, 2015	Macon
Louisiana	Oct. 20-22, 2014	Shreveport
Mississippi	Oct. 19-21, 2014	Jackson
North Carolina	Nov. 6-7, 2014	Winston-Salem
South Carolina	Oct. 29-31, 2014	Myrtle Beach
Tennessee	Nov. 7-9, 2013	Murfreesboro

Geological Societies		
Organization (Area)	Latest date on web site	City
GSA (National)	Oct. 19-22, 2014	Vancouver, BC
GSA (Southeastern)	Apr. 10-11, 2014	Blacksburg, VA
GSA (South Central; incl. LA)	Mar. 17-18, 2014	Fayetteville, AR
Georgia Geological Society	Oct. 11 - 13, 2013	Dahlonega
Carolina Geological Society	Nov. 8-10, 2013	Salisbury, 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 President)

For the 17th year, the Geological Survey of Alabama and the University of West Alabama teamed up to hold a one-day field fossil workshop for teachers in west central Alabama. Discovering Alabama, the Black Belt Museum, the Birmingham Paleontological Society, and the Alabama Geological Society, also cosponsored the event. The workshop, cofounded by Andrew K Rindsberg, Richard Thurn, and David C Kopaska-Merkel, takes K-12 teachers into the field to collect Cretaceous trace fossils and invertebrate fossils, learn about sedimentology and stratigraphy, and build their own fossil kits to take home.

Legacy, Alabama's environmental education organization (<http://legacyenved.org/>), holds a series of annual environmental trivia contests for middle school and high school students, called the Envirobowl. As usual, earth-science questions are represented, but also as usual, they are underrepresented. Legacy collects questions from professional scientists and science educators, and clearly we earth scientists need to do a better job at providing them with good questions.

Our most exciting news for this year was the publication of the second edition of *Lost Worlds in Alabama*
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Rocks by Jim Lacefield. This edition was published by the Alabama Museum of Natural History, and you can buy it from the Museum. The book is nothing less than a color guide to the last half billion years of Alabama history. Each topic gets a pair of pages that face one another. It is aimed at young adults and nonscientists, and covers an amazing breadth of earth science in bite-size extensively illustrated chunks. The book is crazy expensive online. I recommend you buy it straight from the Museum (<http://amnh.ua.edu/wordpress/wp-content/uploads/2009/03/Flyer3.pdf>); this hardback book is just \$30.

I did not get any report this time around from the University of Alabama, but because I work in Tuscaloosa I happen to know some of the good things they are doing. The ALLELE series of evolution lectures this year included Greg Retallack, a world-renowned fossil-soil expert and paleoenvironmental scientist. The Alabama Museum of Natural History (<http://amnh.ua.edu/>) has instituted some special community outreach activities, which include Sunday at the Museum. This is just what it sounds like, and they get a couple of hundred visitors. The University of Alabama has had for the last few years a new evolution minor. This is a multidisciplinary program that is part of the EVOS network. I believe the University of Alabama is the only southeastern university in the group. Among other things, EVOS at the UA has prompted the development of an undergraduate EVOS club (<https://www.facebook.com/groups/UAEvoS/>). This club has sponsored half-day colloquia for Darwin Day for the last two years, and engaged in a variety of other worthwhile activities.

I did hear from the University of West Alabama.

UWA's College of Natural Sciences and Mathematics has been offering a couple of monthly outreach programs in science and math generally. Both are coordinated by Mustafa Morsy. One is the Science Saturdays program, in which a selected faculty member organizes educational activities for the young ranging from track identification to butterfly watching.

James Lamb continues to build exhibits for the Black Belt Museum (<http://www.blackbeltmuseum.com/>) as well as make new collections. The building is still undergoing renovation and we hope that the Museum will help to revitalize downtown Livingston. Dr. Lamb leads fossil collecting field trips almost every month. Attendees are mostly members of the fossil club, but the most recent trip was for folks from a conference on campus. The trips are open to the public.

A new *Discovering Alabama* documentary (<http://discoveringalabama.org/>), *Marble City*, explores one of Alabama's most beautiful natural resources, marble. Many in our state do not realize that Alabama marble (specifically, Sylacauga Marble) is equal in quality to the famed Carrara Marble in Italy. The marble was originally identified by Italian sculptor, Giuseppe Moretti, in the early 1900s as a source worthy of his sculptures. Moretti was so convinced of the promise of this new marble source that he immediately invested in a Sylacauga quarry of the white, buttery-looking stuff. Since that time, marble has become a common ingredient in many everyday articles including toothpaste, medications, gum wrappers, roofing materials and paint pigments. Dr. Doug Phillips investigates this natural resource, its uses, and how it has shaped the state. As with all *Discovering Alabama* episodes, there is a teacher guide congruent with the Alabama Core Curriculum. Email info@discoveringalabama.org or call 205-348-2039 for more information.

Yesterday, I attended the Alabama Science Teachers Association (<http://asta30.wildapricot.org/>) annual conference at the McWane Science Center in Birmingham. I presented a hands-on activity about deep time, which was well received by about 15 people. Several ran into me later, & had kind words. I attended a keynote lecture about doing biological research in Antarctica (something teachers are able to participate in), presented Alabama's 2013 OEST plaque to Alison Starr, attended a presentation about an exciting new web site featuring short videos of research scientists and others chatting about evolution (<http://www.speakingevolution.org/>; still under construction), attended an informative presentation about the University of Alabama's ALLELE lecture series about evolution (<http://evolution.as.ua.edu/>), and attended a scales-on presentation by an enthusiastic herpetologist from the Alabama Nature Center (<http://www.alabamawildlife.org/alabama-nature-center/>). I had a good time; the selfies with snakes was the funniest thing I saw. The McWane cafeteria is truly awful. Not if

you're 6; for the average science-center visitors (young mothers with 1-2 preschoolers, it seems) it may be almost heavenly.

Information was provided to me by Andrew K. Rindsberg, James Lamb, Mustafa Morsy, Kelli Harris, and Roger Reid.

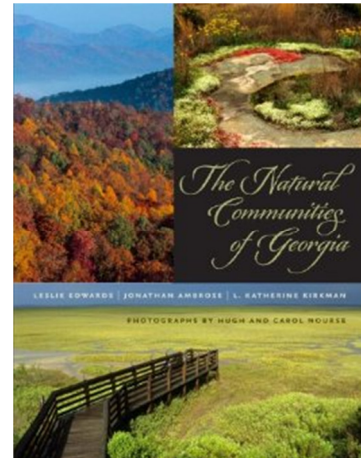
Florida (State Representative: Paul Cutlip; no information submitted)

Georgia (State Representative: Gerald Pollack; information from Newsletter Editor, Bill Witherspoon)

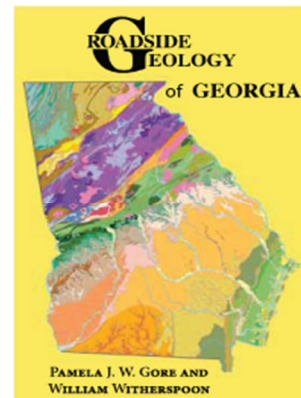
Educational publications take it on the road (Witherspoon)

In the last issue, I praised *The Natural Communities of Georgia* by Leslie Edwards, Jonathon Ambrose, and Katherine Kirkman, with photography by Hugh and Carol Nourse. It came out a few months before *Roadside Geology of Georgia* (by Pamela Gore and me).

I am pleased to announce that Leslie Edwards (of Georgia State U.) and the Roadside Geology authors plan to collaborate on taking the ecology-geology connection to nature centers, universities, and other venues around the state. We will kick this off with a joint presentation at Fernbank Science Center, as part of the 1st Annual Atlanta Science Festival, on March 27 at 8:00 PM. Then we will present to the Environmental Educators Alliance annual conference at Rock Eagle near Eatonton on March 28 and 29.



We also have our summer calendars starting to fill with additional walks and talks with book signings, as Pamela and I did last summer and fall. (these included Amicalola Falls, Anna Ruby Falls, Dahlonega Gold Museum, FDR State Park, Fort Mountain, Kennesaw National Military Park, Stone Mountain, Tellus Museum, and local events such as Atlanta Science Tavern, Decatur Book Festival, and Georgia Center for the Book). I will return to FDR State Park (about 40 miles from Columbus) on June 14, and visit Brasstown Bald, Georgia's highest point, on June 28. I would love to pair each of these with a talk at a college or museum nearby, and am open to other invitations for the summer or fall to share the geology of our state with students and the public.



Louisiana (submitted by Wendy Demers, State Representative. Welcome, Wendy!)



Jeff Agnew from **Tulane University** shared several Power Points on fossils and fossil shark teeth at the recent Shark Day Teacher Workshop. Teachers received a shark jaw and bags of shark teeth from FL and Morocco. A virtual field trip to collect fossils is available in PowerPoint at the following web page.

<https://www.facebook.com/Istascience/posts/708772445808117>



The Audubon Aquarium of the Americas sponsored professional development for educators of grades 5-12 in February. The program was titled *NOAA Ship Okeanos Explorer - America's Ship for Ocean Exploration: Why Do We Explore?*

Participants learned how to use standards-based lessons and other online resources that guide classroom inquiries into important reasons for ocean exploration, including Climate Change, Energy, Ocean Health and Human Health.

LIVINGSTON LASER INTERFEROMETER GRAVITATIONAL-WAVE OBSERVATORY

LIGO Livingston Observatory holds a free monthly Open House the third Saturday of each month from 1 PM – 5 PM, promising Family Science Learning and FUN for all ages. 19100 LIGO Lane, Livingston, LA 70754; <http://www.ligo-la.caltech.edu/SEC.html>

Environmental Education Week 2014: Engineering a Sustainable World

The Louisiana Environmental Education Symposium, with the theme "Watersheds: From My Back Yard to the Ocean," was held February 21-22, 2014 at the Shreveport Convention Center.

The emphasis was on the concepts of watersheds, preserving water quality, and managing land to reduce impact on our aquatic resources.

The event was presented by the [Louisiana Environmental Education Commission](#), the [Louisiana Department of Wildlife and Fisheries](#), and the [Louisiana Environmental Education Association](#), sharing the goal of creating a comprehensive and balanced environmental education initiative that results in a literate citizenry who will make informed decisions to effectively solve existing problems, prevent new ones and maintain a sustainable environment for future generations.

LESTA Rock Raffle at Louisiana Science Teachers Association Institute

Lynda Lafleur and Andrea Walker led this fall's Louisiana Earth Science Teachers Association meeting and Rock Raffle at the LSTA Institute in Baton Rouge, La.



Outstanding Earth Science Teacher (OEST) Award Nominations are now open for Louisiana.

The deadline for submitting nominees for Louisiana is March 31st. Nominations are made online at <http://nagt.org/nagt/awards/oest-nom.html>

This award is given to acknowledge outstanding teaching of the Earth sciences, at K-12 grade levels. The nomination forms support a two-step process. First, the candidate is nominated by a colleague, administrator (or other person with knowledge of the candidate's qualifications) using the online form. Additionally, nominees for Louisiana should submit nominee contact information and a written response to the six bulleted descriptors of qualities posted on the nomination page. Email the nominee information and constructed response to Wendy DeMers (2ydnew2@gmail.com). Next, the OEST coordinator for each of the sections will review the entries and may request more supporting information from the nominee. Selection of the awardee will be made by NAGT in the spring of each award year.

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

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

- I. Call for nominations for the 2014 North Carolina OEST and OESE Awards!!
- II. N.C. Science Festival March 28 - April 13, 2014
- III. **North Carolina Science Teachers Association Professional Development Institute (NCSTA-PDI)**
 - a. **November 6-7, 2014 at the Benton Convention Center in Winston-Salem**
- IV. **NC Office of Environmental Education and Public Affairs**
- V. **NC Geological Survey website is in the process of being updated and reorganized**

I. Call for nominations for the 2014 North Carolina OEST and OESE Awards!!

Nominations are due by March 30, 2014 - Nominate an Outstanding North Carolina Earth Science Teacher or Educator today! You can even nominate yourself. Here are the *two categories with separate nomination forms*:

The Outstanding Earth Science Teacher (OEST) Award

- OESTeacher - e-Form - Only Online – <http://nagt.org/nagt/programs/oest-nom.html>

- This category is for a classroom teacher at the middle school or high school level. Each state winner is automatically eligible to compete for the Sectional OEST

award.

The **Outstanding Earth Science Educator (OESE) Award**

- **OESEducator- *paper Form Only - download form here* -**
<http://portal.ncdenr.org/web/lr/512>
- This category is for an educator or teacher in a non-secondary school setting such as elementary school, museums, camps, community colleges, government agencies, industry, etc.

Each state level award includes a plaque, a gift certificate from the N.C. Geological Survey Store and \$750!!!

Thank you to our generous sponsors who make this award possible: The National Association of Geoscience Teachers; North Carolina Geological Survey; Mining Committee of the N.C. Mining and Energy Commission; Carolinas Section of the Association Environmental & Engineering Geologists; North Carolina Aggregates Association; Southeast Section of the Society for Mining, Metallurgy, and Exploration.

II. N.C. Science Festival 2014

The statewide North Carolina Science Festival kicks off March 28 and runs for two weeks through April 13, 2014 www.ncsciencefestival.org. This multi-week celebration showcases 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!

Check out the website for opportunities to 'Host an Event', 'Become a Sponsor' or just find out what events are happening near you!

III. N.C. Science Teachers Association – Professional Development Institute

The NCSTA-PDI will return to Winston-Salem this year **November 6-7, 2014 at the Benton Convention Center in Winston-Salem**. The PDI also includes the award ceremony to recognize outstanding science teachers from each district www.ncsta.org. Included are the presentations to the state winner of the Outstanding Earth Science Teacher (OEST) and Outstanding Earth Science Educator (OESE) are presented (see more information above in Section I).

The Rock Giveaway will be back this year! The North Carolina Aggregates Association will be bringing barrels of rocks for tons of fun. Be sure to pick up your 'bag-o-rocks' full of samples from across our state.

The NCSTA Board held its first 2014 meeting on January 25. Many discussions were held including addressing website issues, science teacher award process and the introduction of 2 new board members: District 8 Director Amanda Clapp and District 3 Director Randy Bechtel.

IV. N.C. Office of Environmental Education and Public Affairs

Submitted by Marty Wiggins

One would think environmental education would slow in the winter, but that is not the case! Many professional development workshops and webinars of interest to teachers are posted on the N.C. Office of Environmental Education and Public Affairs (OEEPA) website, www.eenorthcarolina.org. This is also a busy time of year for job postings in the environmental education and related fields. Many seasonal, part-time and full-time jobs and internships are posted under JOBS. Some of these would be of interest to classroom teachers, college students and a few positions are open to high school students.

In December, nonformal educators from environmental education centers and science museums from across the state met with the science consultants from the N.C. Department of Public Instruction. This was the third of these meetings that provide an opportunity to network, share information and strategize on how to better align programs to the N.C. Essential Standards. These meetings are a partnership between N.C. DPI, OEEPA, the Environmental Educators of North Carolina and the N.C. Association of Environmental Education Centers. Meeting powerpoint presentations, teacher survey results and resources from N.C. DPI can be found on the OEEPA [website](#).

In other exciting news, members of the AmeriCorps program have started their service with the N.C. Department of Environment and Natural Resources to improve environmental education efforts in North Carolina's underserved areas. The Mountains to the Sea AmeriCorps program is administered by OEEPA. The members have already joined together on service projects as well as beginning service on individual projects. Read more about the program and on the [OEEPA blog](#).

Photo: AmeriCorps Member Kate Boysen teaches a group at Umstead State Park.



In September, the Environmental Educators of North Carolina will be hosting the Southeastern EE Alliance Annual Conference at Camp Caraway in Asheboro. Author and professor David Sobel, a well-known expert on outdoor learning and child development, will keynote. More information at www.eenc.org

Visit www.eenorthcarolina.org for information on the N.C. Environmental Education Certification Program and for the event calendar, grants, online environmental education database and other resources for educators and the public.

V. N.C. Geological Survey website

The NC Geological Survey website is currently undergoing an update and reorganization. My focus is on the Geoscience Education section (formerly the Project Earth section) <http://portal.ncdenr.org/web/lr/earth-science-outreach>. There will be many changes in the coming months, so please contact me with any questions or suggestions.

Puerto Rico (State Representative position open)

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

The tumultuous debate about the revision of the South Carolina science teaching standards continues. By law, these standards must be periodically revised, with the last revision in 2005. Politicians have been interfering with process from the beginning, including the representative of Greenville County inserting a clause into last year's budget at the last minute that forbade any state money from being used to "participate in, implement, adopt or promote" the Next Generation Science Standards (NGSS). Most of the wrangling has taken place beyond the direct view of the public, but the end result was a rather sound initial draft for the revised standard that included not only a reasonable treatment of the theory of evolution but also addressed the clear and present danger of climate change in a coastal state (<http://ed.sc.gov/agency/se/Instructional-Practices-and-Evaluations/Science.cfm>). Unfortunately, this state of affairs did not continue.

The first sign of trouble to appear in the state newspapers was in January, when The State reported that two members of the State Board of Education were trying to include creationism in the science standards (<http://blog.postandcourier.com/palmetto-politics/2014/01/08/adverb-professors-fight-alternative-theories-evolution/>). The rest of the board voted the proposal down, but they also refused to remove language in the standards that implies that both evolution and climate change are somewhat less scientifically well supported than the other theories presented. Even so, the Board of Education passed the science standards on to the South Carolina Education Oversight Committee (EOC) for final passage.

By law, both the Board of Education and the EOC must approve the revisions before they can be adopted. The EOC is:

“... an independent, nonpartisan group made up of 18 educators, business people, and elected officials who have been appointed by the legislature and governor to enact the South Carolina Education Accountability Act of 1998. The Act sets standards for improving the state's K-12 educational system.”
<http://www.eoc.sc.gov/>

Among the membership is state senator Mike Fair (R-6th District), who has tried to have evolution banned from South Carolina schools in the past. At the EOC meeting on February 10th, he successfully stripped the evolution standard about natural selection on pp. 78-79 of the new standards, sending it back to the EOC's Academic Standards and Assessments Subcommittee. The rest of the standards, including the climate change sections, were adopted.

In a surprise twist, on Thursday, February 13th, Senator Fair dropped his opposition to the evolution teaching standard according to the Charleston City Paper (<http://www.charlestoncitypaper.com/TheBattery/archives/2014/02/13/sc-sen-mike-fair-drops-opposition-to-evolution-teaching-standards>). He claimed to have changed his mind after rereading the sections. Unfortunately, the damage had already been done as the committee had already voted to send the evolution back to subcommittee in their meeting. To fix the situation, the EOC will need to meet and vote to reestablish the standards. Their next scheduled meeting is not until April, but they can meet earlier if conditions warrant a special meeting. Hopefully this is such a situation.

In other news from around the Palmetto State, the marvelous pedestal rock known as Peachtree Rock has finally succumbed to a combination of weathering, erosion and gravity and toppled over. A hiker discovered it fallen on its side in December (https://www.dnr.sc.gov/ml_images/docs/peachtreenews.pdf). The iconic centerpiece of Peachtree Rock Heritage Preserve (https://www.dnr.sc.gov/mlands/managedland?p_id=102) is still present, as are the other outcrops of Eocene shoreface sandstones, lovely waterfalls, tupelo-evergreen shrub bog and the somewhat less famous Tall Rock.

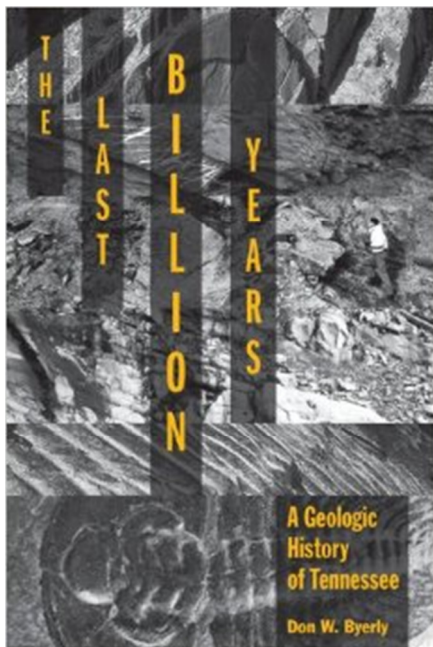
South Carolina experienced an unusual, but by no means rare earthquake on February 15th that was felt across a wide area of South Carolina and Georgia, as far north as suburban Charlotte, North Carolina. The magnitude 4.1 quake had an epicenter was near the town of Edgefield near the border with Georgia and was followed the next day by a magnitude 3.6 aftershock (earthquake.usgs.gov/earthquakes/eventpage/usc000mr27).

The South Carolina Oyster Restoration and Enhancement (SCORE) program is starting to show results as more restaurant owners and concerned citizens have become involved (http://www.dnr.sc.gov/news/yr2014/jan16/jan16_cca.html). Recycling oysters to make reefs for new oysters is making a measurable difference in the estuaries where they have been established. The SC DNR has educational resources and activities about SCORE aimed at raising awareness about estuarine water quality, including an e-tutorial on water quality monitoring data with teacher resources and opportunities to enter your own data collected in the field (<http://score.dnr.sc.gov/deep.php?subject=5&topic=11>).

The SC DNR has published its comprehensive “Climate Change Impacts to Natural Resources in South Carolina” (<http://www.dnr.sc.gov/lwc/climatereport.html>). It contains an abundance of useful information about how climate has affected South Carolina in the geological and recent past as well as how predicted climate change in the near future may affect the various regions of the state, just as the new science standards require. South Carolina State Climatology Office’s “Climate for Kids” page (<http://www.dnr.sc.gov/climate/sco/Education/education.php>) is also a good source for handouts on a wide variety of South Carolina climate and weather subjects.

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

Status of the Next Generation Science Standards in Tennessee. The NGSS is the proposed and highly-anticipated newest revision in content and approach to teaching science nationwide. Tennessee was one of 26 states identified early-on to develop NGSS application as part of its Race to the Top initiative. Tennessee was a “lead partner and writing team” for NGSS. The NGSS essentially focuses on a limited number of core ideas, integrates science and engineering practices, and teaches through cross-cutting concepts among the various overlapping “disciplines” of science. Tennessee organized several working groups to study and adapt the NGSS to Tennessee, which proceeded through multiple draft and public comment. While several states have already adopted the NGSS, such as Rhode Island, Kansas, Kentucky, Maryland, Vermont, Tennessee has opted not to fully fund the initiative. Among the reasons offered for the delay is the cost of assessment for the program.



“The Last Billion Years: A Geologic History of Tennessee” Published through University of Tennessee Press. Dr. Don Byerly, Professor Emeritus from UT Knoxville has published a book that summarizes the overall geologic make-up of Tennessee, along with interesting side-trips to explain environmental issues and connections with history. Byerly’s book is the first general overview of Tennessee geology since Edward Luther’s *Our Restless Earth* in 1977. The book was written with teachers in mind, so has minimal jargon, numerous illustrations and photographs, and a glossary of scientific terms. Teachers, students, or anyone looking for a readable overview of Tennessee will find this book their primary guide. The book is an excellent resource for high school students, college students, and interested general readers. All regions of the state are covered and the book features a time chart of Tennessee geologic history organized by region of the state. The book is available directly from UT Press or from Amazon.

“Something Is Missing Here: A Teacher Field Camp in Fossils and Taphonomy”. (June 6-9, 2014). In cooperation with the Paleontological Society, Tennessee Earth Science Teachers, and Coon Creek Science Center, UT Martin is again offering 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. Scheduled for June 6-9th, teachers will conduct field analyses at the Coon Creek Lagerstätte locality in McNairy County, Tennessee. Tied directly to national and state science standards, as well as the 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. 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; mgibson@utm.edu).

The application is posted at <http://georgiarocks.us/senagt/FossilsTaphonomyBrochure2014.pdf>
Deadline for application is May 19, 2014.

Going Outdoors with the Common Core Camp Wesley Woods Summer Workshop. TEST will offer a 3-day workshop (June 20-22, 2014) on the geology of the Great Smoky Mountains. The workshop will be led by Dr. Don Byerly (UT Knoxville emeritus), along with master teachers from TEST. Participants will lodge at the Wesley Woods center and receive instruction on basic geology as applied to the Smoky Mountains, including tectonic history, lithologies, environmental issues, and ties to human history. Byerly's newly published "The Last Billion Years: A Geologic History of Tennessee" will be the featured text material, along with the US Geological Survey's The Southern Appalachians: A Changing World DVD and Geology of the Southern Appalachian Mountains map. The workshop features a night hike in the Foothills, a geologic tour of the park, and an optional visit to the Heritage Center. For more information, see the application form at <http://www.georgiarocks.us/senagt/SmokiesApplicationFinal.pdf> or contact Jim Watson, 8477 Crosstimbers Circle, Hixson, TN 37343. The anticipated cost of registration is \$15 to pay for membership to TEST (all other expenses paid by grants to TEST). Preference for registration will be given to Tennessee teachers, but North Carolina and Georgia teachers are encouraged to apply. Registration deadline March 31, 2014.

West Tennessee STEM-HUB Activities. "West Tennessee STEM Hub" or "Hub", as part of the Tennessee STEM Innovation Network ("TSIN") aimed a developing a network of West Tennessee communities, individuals, assets and other resources that collectively drive 21st century education innovation in the fields of science, technology, engineering and math. For more information about the West Tennessee STEM-Hub, visit <http://www.westtnstem.org/>.

2014 TSTA Workshop Planned. The 2014 Tennessee Science Teachers Association annual meeting will be held at the in Murfreesboro, TN November, 2014. The Tennessee Earth Science Teachers (TEST) has organized its annual day-long workshop around the theme of "Geology of Tennessee", which will include representative rocks and sediment from across the state, similar to kits TEST has assembled since the 1990's. The earth science content will focus of the session focuses explaining the overall geologic make-up of Tennessee, with lessons on environmental issues, mineral resources, and rock resources. Dr. Don Byerly (UT Knoxville emeritus geologist) will be on hand to sign copies of his new book "The Last Billion Years", which serves as the text for the workshop. Teacher participants will receive hands-on lessons, reading materials, and the popular rock boxes for classroom use. 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; mgibson@utm.edu).

New Reelfoot Lake Course. UT Martin is offering a field course entitled the Geology of the Greater Reelfoot Lake Ecosystem (GEOL 485 – 3 semester hours) during its Maymester session (June 3 - June 14; Monday-Friday, 9 – 4 p.m.). Dr. Michael A. Gibson (UT Martin geologist) will be the instructor. Reelfoot Lake is an unusual as lakes go because it formed due to 1811-1812 New Madrid earthquakes that re-routed the Mississippi River and geologic processes still dictate its size, shape, location, and other physical characteristics. This unique lacustrine ecosystem is home to an incredible array of plants and animals. The basins and sediments in the lake, the surrounding floodplain of the Mississippi River, and nearby Chickasaw Bluff glacial and pre-glacial deposits define the parameters in which these organisms must adapt. This course is an examination of over 30 million years of geologic process and materials that formed and have subsequently shaped Reelfoot Lake, its surrounding drainage area, and living and fossil ecosystems. Topics include: Modern geologic processes and sediments of fluvial and lacustrine systems emphasizing Reelfoot Lake and Mississippi River, geologic history of the Upper Mississippi Embayment region, fossils and paleoecology of the region, and environmental issues such as earthquakes, flooding, mass wasting, and water contaminants. Field and laboratory emphasize

techniques used in geologic investigations of these systems. This course is aimed at advanced undergraduates with primarily geology and biology backgrounds, but secondary science educators will find the course useful and can receive graduate credit. Contact Michael A. Gibson for more details (mgibson@utm.edu; 731.881.7435).

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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