



National Association of Geoscience Teachers
Southeastern Section Newsletter

Winter-Spring 2004

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April 1-4 National Science Teachers
Association meeting in Atlanta, GA
Oct. 10-16 [Earth Science Week](#)
Nov. 7-10 [Geological Society of America](#)
(GSA) annual meeting, Denver

GSA annual meetings

2005 - Salt Lake City (Oct. 16-19)
2006 - Philadelphia (Oct. 22-25)
2007 - Denver (Oct. 28-31)

SE GSA regional meetings

2005 - Biloxi, MS
2006 - Knoxville, TN

WWW . . .

NAGT
www.nagt.org
SE-NAGT
www.gpc.peachnet/~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

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President's Report

The SENAGT membership consists of 8 states, so it is rather distressing that in the 2003 OEST competition, only three nominations were submitted (TN, NC, GA). Here in Alabama, we have been trying to find suitable candidates for the award, but despite our efforts, no teachers have come forward to nominate themselves or colleagues. This is NOT because Alabama lacks worthy nominees. It is because most teachers do not know that the OEST award exists. For that matter, few teachers are aware of the SENAGT or the NAGT and the services that we can provide. It would be nice if we could attribute this to a simple problem (e.g., poor advertising on our part), but the truth is likely more complex than that. In Alabama, David C. Kopaska-Merkel once directly invited a teacher to apply for the award and even offered to help write up the application package. That attempt to attract an OEST nominee also failed. In Seattle, Doug had a pleasant breakfast with Michael Gibson (current TN representative and NAGT Councilor-at-Large as well as a past SENAGT president) who informed him that the situation that we were experiencing in Alabama was very similar to what they were going through in TN several years before. Tennessee is now the most active state in the SENAGT. Their OEST nominees are usually decided by the science teachers themselves rather than being appointed by SENAGT reps, and they regularly win the regional competition. The TN nominee did so again in 2003. So over breakfast on an overcast day in a city on the other side of the country, Doug asked Michael what they did to change things. The answer was "leg work". In Tennessee, a couple of dedicated individuals attended every state science teachers meeting that they could. They also went to other meetings that regularly attracted teachers. They offered workshops in areas in which the teachers needed help. They offered field trips to interesting geological sites. They started slowly, but after a while, teachers started counting on these workshops and field trips at their meetings. Word of mouth did their advertising for them and more and more workshops had to be added to satisfy demand. Not only did they improve geoscience training for their teachers, they developed the "critical mass" needed so that the teachers themselves could form their own Earth sciences network. The rest, shall we say, is history. The Tennessee experience should be a model for the rest of the states in the SENAGT. We certainly intend to follow it for Alabama and we firmly believe that it can be done in this state. We have a very good geoscience education network here that is largely spearheaded by geologists at the Geological Survey of Alabama. David and I would like to encourage the other southeastern states (at least those having the same difficulties as Alabama) to also consider applying the Tennessee model to their states. All of us need to get more active in geoscience education. It will prove to be time consuming, so it is absolutely vital that each state has representatives (notice that this word is pluralized) that can stay proactive in terms of geoscience education.

Speaking of state representative, the 2004 regional meeting of the SE/NE GSA will be held near Washington in late March. We will have our SENAGT annual business meeting from 12:00 noon to 1:30 PM on Friday March 26th in the Woodlawn Room of the conference hotel. We cordially invite all members of the SENAGT (especially state reps) to attend the meeting. We will use the time to discuss the NAGT's master plan as well as future sponsorship of theme sessions, workshops and field trips for the 2005 SEGSA meeting planned for Biloxi, MS.

Doug Haywick and David C. Kopaska-Merkel

Membership / Treasurer Report:

SE NAGT has 151 members as of June 20, 2003, and \$3696.20 on deposit as of March 11, 2004..

Submitted by Pamela Gore, Secretary/Treasurer SE NAGT.

FUTURE MEETING OF NSTA

Dec. 1-3, 2005

[National Science Teachers Association](#) meeting Nashville, TN

A note from David C. Kopaska-Merkel

Last May 14, I was in a serious car accident. I nearly died then and more than once in the hospital. I am now confined to a wheelchair but continue to improve. Attending meetings will be difficult, but I may be able to make it to Biloxi. I am working 3/4 time from home and am ready to start helping out again with earth-science education. Fortunately, the other officers picked up the slack and covered for me very well. Beyond that, a large number of friends, more than I even knew I had, including some of you, helped me more than I can say. I only hope that I can give back what I have received.

On the subject of science education, recent events in Georgia remind us of how far we have to go. Our declining membership is another sort of wake-up call. I believe that the solution for both problems lies in us increasing our visibility. How do we do that? I want you all to be thinking about this. I plan to nominate a teacher for the OEST award, for starters. After that? I'm working on that one.

David C. Kopaska-Merkel
SE Section President on "medical leave"

SENAGT Outstanding Earth Science Teacher Award Winners

Christine Henry was the 2003 Tennessee OEST winner and Christine went on to win the 2003 Southeast Regional OEST Award from NAGT. Ms. Henry returned to teaching science six years ago after taking a break to raise her three sons. She immediately started on her Master of Science in Education, Science, Mathematics and Research at the University of Tennessee, finishing in 1999. She is certified by the State of Tennessee in Chemistry, Biology, and General Science grades 7-12. During the course of becoming reeducated she became impassioned with earth science education which she teaches exclusively to eighth graders. She is actively working toward an earth science certification. Ms. Henry is a sensitive, understanding teacher who teaches to all levels of students regardless of ability. She teaches her students using hands-on labs every day to enable them to understand the fragile nature of our earth and all she has to offer us. She feels strongly that through integrating earth science into the entire curriculum it is the only chance to change the lives of her students as well as their families. She has been instrumental in making sure not only her county, but the State of Tennessee's goals were in line with the National Standards by volunteering her efforts on tireless committees to write curriculum and choose textbooks. She has been the East Tennessee representative for the Tennessee Earth Science Teachers (TEST) for the past five years and has been an very active member in that group. Representing TEST Christine has conducted numerous workshops to the Tennessee Science Teachers Association who have begun to represent earth science in a typically life-science arena. It is through her efforts and those of her colleagues that earth science is represented in Tennessee and the surrounding states. Christine Henry may be contacted at cahenry53@hotmail.com.

Donna Petty was the other OEST state winner. Donna was awarded the 2003 South Carolina OEST Award. Donna Petty is an 8th grade science teacher at Dent Middle School in Columbia. In addition to her twelve years of classroom teaching experience, she has been active in developing and promoting local and statewide curriculum initiatives, especially those involving technology. She has also developed test items for the statewide achievement test and was awarded National Board Certification in 2002. She recently completed a five year project to correlate the PBS "NatureScene" program to classroom lessons and the state science curriculum standards through an interactive web site. Donna believes that if students enjoy science class and are engaged and challenged, and feel comfortable and cared about by the teacher, then they will learn even if they've developed prior negative feelings about school. She uses a Learning Cycle format and has students write journal entries after each lesson. Donna also coordinates the school's annual Beach/River Sweep and works as a merit badge counselor for the Boy Scouts.

M I S C E L L A N E A !

FINAL DRAFT OF NAGT STRATEGIC PLAN

The final strategic plan for NAGT was adopted at the fall council meeting. Persons interested in viewing the plan may download at NAGT's website (<http://www.nagt.org/plan3.pdf>).

TEACHER'S GUIDE TO SOUTHEAST GEOLOGY - AVAILABLE!

A draft version of the Teacher-Friendly Guide to the Geology of the Southeastern U.S. is now available online from the Paleontological Research Institution (<http://www.priweb.org>). Make sense of the geologic features in your community using a regional geologic history framework, and incorporate regional and local geology into your existing curricula. The Guide provides teachers with the background knowledge to help students discover why certain rocks, fossils, and other geologic features are found in particular regions. The Guide uses non-technical language, a format designed for easy use in lesson planning, intuitive illustrations for the classroom, and a compilation of Earth science resource information listed by state and topic. If you have comments or questions, or if you would like to place an order, please contact:

Jane Picconi, Educational Publications Manager

jea25@cornell.edu or call (607) 273-6623 x25

ONLINE EARTH SCIENCE COURSES

The University of Tennessee at Martin (UTM), in partnership with the Institute for Global Environmental Strategies (IGES) and the Center for Educational Technology (CET), will be offering an online, semester-long, graduate-level course in Earth-System Science in the fall of 2004 and the spring of 2005. The courses are aimed at high school and middle school Earth Science or Geology teachers who wish to obtain graduate credit, improve their teaching styles, and incorporate cutting-edge Earth System Science content into their classrooms.

High school teacher program: Teachers taking the course will go through a 16 week extensive introduction to student-centered learning techniques and develop four inquiry-based activity modules in the Earth Sciences that can be used in their classrooms. The students will work in teams with other teachers, and thus can make good contacts within the education community. The course will be completely online, utilizing a curriculum developed by NASA and CET, so access to a computer is all that is required to participate. The course may also be taken for undergraduate credit, with less rigorous requirements, for those that do not need graduate credit.

Middle school teacher program: Teachers taking the course will go through a 5 week extensive introduction to student-centered learning techniques and develop 4 inquiry-based Earth Science activity modules that can be used in their classrooms. Students will work in teams with other teachers, and thus can make good contacts within the education community. The course is completely online, utilizing a curriculum developed by NASA and CET, so access to a computer is all that is required. This is a graduate-level course that will satisfy highly-qualified teacher requirements.

The course will be taught by a trio of specialists in the field:

- Dr. Mark Simpson (UTM): meteorology and climatology
- Dr. Michael Gibson (UTM): physical and historical geology
- Dr. Lionel Crews (UTM): astronomy & physics

In addition to the course, a field trip will be scheduled during the semester. Field trip options include activities such as fossil hunting and professional observatory usage.

Those taking the course will have their tuition waived, which means that you get 3 hours of graduate credit for less than \$300!!! For more information, and/or to pre-register, contact Lionel Crews (lcrews@utm.edu) or 731-587-7430 (Janice Lee – secretary) or visit our website (<http://www.utm.edu/reset>).

New Understanding Evolution Website at UCMP

The Museum of Paleontology at UC Berkeley has a new website devoted to understanding evolution for teachers (<http://evolution.berkeley.edu/>). It is an excellent source of evolution related information relevant to all teachers. It is conveniently organized around learning evolution and teaching evolution. "Learning Evolution" includes the nature of science, evolution 101, evidence and relevance of evolution, misconceptions, and the history of evolutionary thought. The "Teaching Evolution" part of the website discusses potential pitfalls and overcoming roadblocks to teaching evolution as well as links to readings and other resources.

NAGT Professional Development Grants

"Dottie" Stout was the first female president of NAGT and was active as a strong supporter of earth science education at all levels. In honor of Dottie Stout's outstanding work and lifelong dedication to Earth Science Education, NAGT awards three Dorothy LaLonde Stout NAGT Professional Development Grants in support of the following:

- Participation in Earth science classes or workshops
- Attendance at professional scientific or science education meetings
- Participation in Earth science field trips
- Purchase of Earth science materials for classroom use

Eligibility: Community College Faculty and K-12 teachers who teach one or more Earth science courses and Community College students actively pursuing a career in the Earth sciences are encouraged to apply for these awards.

Application Process: Interested applicants are asked to submit a 1-2 page proposal describing how the grant will be used to support their professional growth in, or classroom teaching of, Earth science

National Earth Science Teachers Association (NESTA) meeting

The NESTA meeting which will be held in conjunction with the National Science Teachers Association (NSTA) meeting in Atlanta during the first week of April 2004. NESTA events begin with a field trip on Wednesday, March 31 to Stone Mountain, Arabia Mountain, and some other localities. The trip is open to all. There is a fee which covers the guidebook, transportation, and lunch.

For a complete list of events, including a Saturday breakfast that you may wish to attend, please see:
<http://www.nestanet.org/events.html>.

Related to the NESTA meeting are events for Earth & Space Science Resource Day, Saturday April 3. In addition, there are two Share-a-thons on Friday, April 2 that are co-sponsored by NAGT (National Association of Geoscience Teachers). If you wish to give a presentation in a Share-a-thon, please contact Michael Gibson (mgibson@utm.edu) or Sharon Stroud (smstroud@aol.com).

For information on the NSTA convention, see <http://www.nsta.org/conventions>.
Information on NESTA may be obtained at <http://www.nestanet.org/member.html>.
Information on NAGT may be obtained at <http://www.nagt.org>

REGIONAL NEWS Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

Alabama (submitted by David C. Kopaska-Merkel, Douglas W. Haywick, Andrew K. Rindsberg, Yvonne Massey, Nick Matzke, Bob Meintzer)

Alabama once again failed to nominate a science teacher for the 2003 OEST teaching award. This is becoming an all too familiar trend, not only for our state, but for many others in the southeast. In order to better promote the award, several geologists in Alabama are attempting to establish a geology science teachers support network. The network would provide contacts for science teachers who might feel that they are "in over their heads" as far as the Earth sciences curriculum is concerned.

Alabama public schools are currently revisiting the Science Course-of-Study with the intention of better satisfying federal No-Child-Left-Behind guidelines, but it is unlikely that this will see major improvements to the Earth & space science requirement for high schools. The state COS committee is usually heavily loaded with biology teachers and Earth science education is not really a priority. Under the current COS, the last Earth science material is taught in 7th

grade except for fossils which are listed as part of the life sciences context. Rewriting will also bring about the discussion of evolution and the general lack of understanding of what a theory really is (the sticker issue again). It should be noted that the concept of an old Earth was also dropped from Alabama science curricula. No new funds have been earmarked for science instruction in Alabama schools, so instruction is still predominantly 'worksheet-based'. However, a few more schools are using inquiry-based courses.

Two antievolution bills, each designated the "Academic Freedom Act," have recently been introduced in the Alabama legislature (as House Bill 391 on February 12 and Senate Bill 336 on February 17). The House bill has 31 co-sponsors (out of 105 House members) and the Senate bill has 10 co-sponsors (out of 35 senators), so they already have substantial support. The two bills have very similar, but not identical, wording. The last statewide antievolution issue in Alabama was the textbook disclaimer (this required that high school biology text books in Alabama be labeled with a sticker stating that "evolution was just a theory"). Several groups opposed to this new threat to science education are working with their members to fight the proposed legislation. Each bill gives teachers and instructors at public educational institutions from kindergarten to university the "affirmative right and freedom to present scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of biological or physical origins." The bills are framed as an academic freedom issue, although it is clear that current protections on speech and academic freedom cover origins along with all other topics. The actual purpose of the bills seems to be allowing and encouraging the teaching of creationism in public schools. The lead sponsor of SB336, Sen. Wendell Mitchell, is quoted in the February 18 Montgomery Advertiser as saying "This bill will level the playing field because it allows a teacher to bring forward the biblical creation story of humankind." The bill would also provide a student the right "to a particular position on biological or physical origins, so long as he or she demonstrates acceptable understanding of course material." Section 5 of the bill stipulates that the "rights and privileges contained in this act do not apply unless the subject of biological or physical origins is raised in the context of approved curricula material."

The financial situation in Alabama has improved somewhat from last year, but K-12 and higher education institutions are still waiting with bated breath to see if the axe will cut as deeply as was predicted last year. With that in mind, dozens of college and university faculty, staff and students traveled to Montgomery in late February to participate in Higher Education Day. Governor Riley, Lieutenant Governor Lucy Baxley, Senate President Pro Tem Lowell Barron, and Speaker of the House Seth Hammett all apparently pledged support for higher education, but we will see what happens as the year progresses.

We are attempting to establish an information network to highlight geoscience education activities at Alabama's universities, but to date, our information is limited. The Earth Sciences Club at the University of South Alabama is producing a series of rock kits for free distribution to area public schools. The kits will contain approximately 40 hand-sized specimens of important state rocks as well as an information key. The club is currently seeking funding to purchase boxes for the kits. It's Science Olympiad time again and the University of South Alabama will be hosting the regional middle school and high school events in early March. Among the many activities to be held are events featuring mapping exercises, fossils and Earth processes.

The Geological Survey of Alabama's Education Committee continues its donation program for public schools in Alabama. The program is simple: Librarians request the book, "Lost Worlds in Alabama Rocks", on school stationery, and the Committee relays the request to the author-publisher, Jim Lacefield, who mails the books directly to the school libraries and sends the survey an invoice. This effective program takes little time and reaches a large number of students. Other significant educational activities conducted by the Geological Survey include an Earth Science Day Event that was held at Westlawn middle school in recognition of Earth Science Week, and the Job Shadowing Experience in recognition of National Groundhog Job Shadowing Day. Over 500 students, including students in special education classes, who attended school on the day that the Earth Science Event was held had an opportunity to hear a presentation and participate in a hands-on-activity pertaining to some aspect of the earth sciences. Presentations included biomonitoring, geohazards, fossil fuels, topographic mapping, fossil dig, and water quality monitoring.

The Alabama Paleontological Society received a blow when one of its most active members, Steve Minkin of Anniston, Alabama, died from injuries due to a fall (February 20). The APS is continuing its effort to document the extraordinary Union Chapel tracksite in a monograph, and nearly all the manuscripts are in hand. However, the effort to preserve the site as a state or federal preserve failed in February and the mine is now scheduled to be reclaimed. The effort to preserve part of the Wetumpka Astrobleme as a public park is (we hope) still underway.

Alabama will be well represented at the upcoming annual meeting of the Southeastern Section of the Geological Society of America in Tyson's Corner, Virginia. Geoeducation presentations include one by Andrew K. Rindsberg and David C. Kopaska-Merkel, who will present a talk on "Inexpensive paleontological workshops for teachers".

Florida (Submitted by Jon Bryan)

Current Resources on Florida Geology and Paleontology

Florida has not had much representation in the SENAGT newsletter, due entirely to the negligence of the Florida representative! In an effort to begin to remedy this situation, I would like to begin by refreshing your memory on some general resources to the geology of the state, and try to encourage some interest in research problems in Florida geology. As with any state, the geologic literature on Florida is vast. But the current point of entry to the geology and paleontology of the Sunshine State remains the 1997 compilation by Tony Randazzo and Douglas Jones, 1997, *The Geology of Florida* (University Press of Florida). Also, the new 1:750,000 scale geologic map of the state by Thomas Scott and others, *Geologic Map of the State of Florida* (2001, Florida Geological Survey) should be on the wall of every geology lab in Florida, Georgia, and Alabama. Refinements on the near-surface geology of Florida are published annually in the continuing STATEMAP series, which has been mapping 1:100,000 quads across the state since 1994. As with any mapping project, the STATEMAP series are revealing many exciting research questions, including various stratigraphic and paleontologic problems, origin of diagenetic (viz., dolomitization) patterns in Oligocene carbonates, and problems in Neogene geomorphology. The maps, text, cross-sections, and digital images present some of these possibilities. Recent maps (see below) cover most of the Florida Panhandle. Mapping of the Gainesville 1:100,000 quad is in progress (www.dep.state.fl.us/geology/default.htm).

Green, RC, Evans, WL III, Bryan, JR, & Paul, DT, 2003, Surficial and bedrock geology of the eastern portion of the U.S.G.S. 1:100,000 scale Marianna, Quadrangle, Northwestern Florida. Florida Geological Survey Open File Map Series No. 92.

Green, RC, Evans, WL III, Bryan, JR, Paul, DT, Gaboardi, MM, 2002, Surficial and bedrock geology of the western portion of the U.S.G.S. 1:100,000 scale Marianna, Quadrangle, Northwestern Florida. Florida Geological Survey Open File Map Series No. 91.

Green, RC, Evans, WL III, Bryan, JR, Paul, D, Scott, TM, Campbell, KM, and Gaboardi, MM, 2001, Surficial and bedrock geology of the southern portion of the U.S.G.S. 1:100,000 scale Crestview Quadrangle, Northwestern Florida. Florida Geological Survey Open File Map Series No. 90.

Means, GH, Green, RC, Bryan, JR, Scott, TM, Campbell, KM, Gaboardi, MM, and Robertson, JD, 2000, Surficial and bedrock geology of the northern portion of the U.S.G.S. 1:100,000 scale Crestview Quadrangle, Northwestern Florida. Florida Geological Survey Open File Map Series No. 89.

The vertebrate paleontology of the state was recently summarized in Richard Hurlburt's wonderful book, *The Fossil Vertebrates of Florida* (2001, University Press of Florida). In addition, the Florida Paleontological Society continues to publish *Florida Fossil Invertebrates*—a series of short papers summarizing major taxa. To date, three volumes on Cenozoic echinoids have been published. There are two volumes in preparation on decapod crustaceans, and two volumes on larger foraminifera. The molluscs will be a major undertaking. The intent is to eventually compile these papers into a book, thus completing the "trilogy"—*Geology of Florida*, *Fossil Vertebrates of Florida*, and *Fossil Invertebrates of Florida*.

And finally, while it is a bit premature, be informed that *The Roadside Geology of Florida* (Mountain Press) is very much in progress, with completion expected in the next two years.

Some Earth Science Education News in Florida

***In the spring of 2003, the NSF-funded Florida Center for Ocean Science Education Excellence (FCOSEE) initiative was launched, with an introductory conference in Tallahassee. The program is headquartered at the University of South Florida, with partnerships between Florida A & M University and the University of Miami. The purpose of the FCOSEE is to promote ocean science competencies in GK-16 by integrating research with education and outreach in the state. Seven COSEE centers have been established to date nationwide. The stated mission of the FCOSEE is to serve as a source of ocean science information, an active agent for development, distribution, and promotion of products, and a provider of services to educators, scientists, news media and the public. Initial programs include the development of an ocean science concept-driven interactive curriculum for post-secondary non-science majors, and a learning technology model for delivery of all COSEE components nested within a web portal (www.floridacosee.net).

***This appears to be a first. Starting in the Fall of 2004, the University of West Florida (Pensacola) will offer a Bachelor of Science degree in Oceanography—entirely online! This program was developed specifically in response to a request from the U.S. Navy to UWF. The Navy claims it has a total of 100,000 potential students afloat and stationed at land bases. Distance learning formats are the only viable educational option for many naval personnel. A variety of courses will eventually be offered online, included geological oceanography, coastal and marine environments, coastal morphology and processes, global biogeochemical cycles, etc. (www.uwf.edu/oceanography).

Upcoming Events 2004

May 20-23: 2004 Paleofest—A Celebration of Florida Paleontology, to be held at the Florida Museum of Natural History, Gainesville. The Paleofest gatherings that were held in 1996 and 1998 were enormously successful events where amateurs and professionals could gather for a couple of days of talks, fieldtrips, and social events. The 2004 Paleofest is especially anticipated because it will occasion the opening of a new exhibit at the museum, The Hall of Florida Fossils: Evolution of Life and Land. Paleofest is a benefit for members of the Florida Museum of Natural History and Florida Paleontological Society.

May 28-31: National Speleological Society Cave Diving Section, and the Florida Geological Survey—The Science of Cave Diving. Paramount Resort Hotel, Gainesville. Talks and workshops on hydrogeology, karst, cooperation between divers and researchers, education, etc. (www.dep.state.fl.us/geology/default.htm).

June 18-22: National Marine Educators Association Annual Meeting, Eckerd College, St. Petersburg (www.marine-ed.org).

October 14-16: Florida Association of Science Teachers (F.A.S.T.) Annual Meeting, Orlando (www.fastscience.org).

Georgia (no information submitted)

Louisiana (no information submitted)

Mississippi (no information submitted)

North Carolina (no information submitted)

South Carolina (submitted by John Wagner)

Because of the recent dispersal of earth science curriculum standards throughout grades 6-8 (as opposed to the previous full 8th grade year devoted exclusively to earth science), it has become harder and harder to identify teachers who refer to themselves as "earth-science teachers". Many middle school teachers want and need more earth science training and earth science related hands-on classroom materials, but since they also have to teach standards in physical and life science, they tend to identify what they do as "integrated science". Of course there are plusses and minuses to this trend but the biggest danger is that the earth sciences will lose their identity completely.

To try and bolster the presence and visibility of earth science throughout South Carolina, several NAGT members at state colleges and universities have worked for many years to build and sustain a special statewide organization for earth science teachers. SCESTA (South Carolina Earth Science Teachers Association) was founded in 1984 and remains the primary vehicle for earth science awareness throughout the K-12 community. NESTA members have played an important role in sustaining this organization as well. Each year, at the convention of the South Carolina Science Council, SCESTA members present workshops, field trips, lesson demonstrations, share-a-thons, and other sessions that draw big crowds, including many teachers who don't call themselves earth science teachers at all, but recognize that they need to include more earth science in their classrooms to adequately meet state standards. SCESTA publishes a newsletter four times a year and maintains an e-mail listserv (thanks to the involvement of two NAGT members at Clemson University). Other NAGT and NESTA members have assisted by leading Spring field trips and other special workshops. In return, SCESTA helps publicize the OEST program and assists in recognizing state winners. SCESTA is an important vehicle through which NAGT can effectively reach and affect the teaching of earth science in the K-12 realm in South Carolina.

NAGT members have also been active in several inter-agency programs of benefit to K-12 science teachers. They have

assisted the South Carolina State Park Service in developing its teacher education program, called "Discover Carolina" that will introduce students and teachers to South Carolina's many habitats through visits to state parks. This program partners with the SC MAPS, SE MAPS, and SC LIFE curriculum projects at Clemson University to teach topics in natural history, geology, biology and ecology for grades 5 - 8. In addition to activities at the parks, a summer course for teachers is offered through Clemson University to prepare teachers to utilize the Discover Carolina and related SC MAPS and SC LIFE activities. This year's course runs from July 12th through July 23rd. For more information on each of these programs, visit the websites at <http://www.discovercarolina.com>, <http://www.clemson.edu/scmaps>, and <http://www.clemson.edu/SCLife/>.

Tennessee (submitted by Michael A. Gibson)

Michael Gibson at University of Tennessee at Martin has been successful in instituting Dual Credit Physical Geology and Dual Credit History of the Earth in two local high schools this year (Westview HS & Obion Central HS). We are in the processes of negotiating with two other schools (South Fulton HS and Fulton HS, KY) to place Dual Credit in their schools in the near future. Dual Credit geology courses are the same course content and schedule as the regular University offering and are taught by University personnel. The courses include weekly laboratories and field trips (see attached picture). The courses serve as science electives for the high school students, who receive a weighted course grade for their high school transcripts and a separate college grade. Students are generally allowed up to 12 hours of dual credit courses to be taken during the junior and senior years. These courses allow advanced high schoolers the opportunity to begin their college careers and get some prerequisites out of the way early. Additionally dual credit courses expose the high school students to college expectations and programs at the institutions offering the courses. The colleges benefit getting geology into the high school curriculum, recruiting for their colleges, and FTE's attributed to their programs.

Teachers Experiencing Antarctica and the Arctic Program Regional Workshop (April 30-May 1, 2004 at Vanderbilt University with a follow-up field trip to Coon Creek Science Center June 4-5, 2004). Tina King (Mount Juliet Elementary School) & Dr. Sam Bowser (NSF Arctic Program & Wadsworth Center, Albany, NY), along with Drs. Molly Miller & (Vanderbilt University) and Michael A. Gibson (UT Martin) will be offering a weekend workshop for 30 participants for teachers wanted to prepare for aspects related to the Gateway Biology testing. The workshop focuses on foraminifera (plankton) from the Antarctic and fossil forams from West Tennessee. Teachers will be given instruction on the biology of the organisms, microscope use, and field collection. Each teacher will receive classroom samples of modern and ancient forams for their students as well as several classroom activities to implement. For more information or to register, contact Tina King (kingmr1@worldnet.att.net).

UT Martin will be offering two on-line Earth System Science courses this coming fall (see attachments). Earth Systems for Middle School teachers is in its 2nd year of offering. We will be offering a high school course for the 1st time. Some money is available to help students pay for tuition.

UT Martin is again offering its Geology, Geography, and Archaeology of Belize travel study program. Email Michael Gibson (mgibson@utm.edu) for information.

Michael A. Gibson was the Tennessee Science Teachers Association Science Teacher of the Year for Higher Education in 2003 and the award was presented at the 2003 TSTA annual meeting, held in Nashville, TN in November.

TEST News – TEST, with funding from the Memphis Archaeological and Geological Society and the Middle Tennessee Rock and Mineral Collectors, ran several workshops for teachers at the TSTA meeting in Nashville this past November. Over 150 "Tennessee Fossil Boxes" were assembled, including curricula, and disseminated to teachers attending the conference. This marks the 5th Rock Box series TEST has produced. The 2004 version has been identified and will focus on Tennessee's rock and mineral resources.

A two-day program for Earth Science Week at the Coon Creek Science Center for area school systems (McNairy, Chester, Hardin counties), scheduled for Oct 14 – 15, 2004. For more information contact Michael Gibson (mgibson@utm.edu; 731-587-7435).

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