

## National Association of Geoscience Teachers Southeastern Section Newsletter Summer-Fall 2005

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The President's Report NSTA Regional Meeting update NAGT Councilor update Special News from the Gulf Coast Regional Geoscience Ed News SE NAGT Representatives

## 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

# Upcoming Events!

Dec. 1-3, 2005	National Science Teachers Association meeting in Nashville, TN www.nsta.org/index.html
March 23-24, 2006	Southeastern Section, Geological Society of America meeting in Knoxville, TN www.geosociety.org/meetings/

# Winter-Spring 2006 Newsletter Deadline: Feb. 2, 2006. Please send news,

items, questions, & answers to Stan at sdunagan@utm.edu.

## Southeastern Section Officers

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**Secretary/Treasurer's Report -** As of June 2005, we had 128 members and the account has \$3948.55 in the bank.

## SENAGT President's Report

A funny thing happened to me when I started writing the Fall 2005 President's report. I started it off as follows; *The summer of 2005 will likely be remembered as the season of the hurricane*. This sounded vaguely familiar and when I checked last year's President's Report, I found that I had started the text with those exact words. Well this summer was also the year of the hurricane, but as reported by Alabama State Rep David Kopaska-Merkel, Hurricane Katrina was a much more damaging event in my part of the world than last year's Hurricane Ivan. The University of South Alabama where I work was shut down for a week. The interesting (or scary) thing about this is that the closure was not due to structural damage, but to gasoline shortage in Mobile County. When you are a commuter school, you can't operate when gasoline tanks go dry.

At the time of this writing, hundreds of people along coastal Alabama are homeless. Several public schools in the state remain closed and thousands of displaced residents are living in shelters, including a cruise ship berthed in Mobile. As bad as this sounds, it is nothing compared to what happened to Mississippi and Louisiana. There is no need to dwell on this. By now, most of us have seen more media coverage of the disaster area than we can handle. Many SENAGT members had visited coastal Mississippi earlier in the year to attend the 2005 SEGSA meeting held at the Grand Casino Hotel in Biloxi, MS. It was an excellent event that was exceptionally well organized by Mississippi State Rep Gail Russell. Like many of the other casinos along the Mississippi Gulf Coast, the Grand Casino was heavily damaged by Hurricane Katrina. The restaurant where the SENAGT conducted its annual business meeting was obliterated along with the two stories of casino that housed it. It will be years before the Mississippi Gulf Coast is rebuilt. One can only hope that valuable lessons about living and building on the coast will be learned from this terrible storm.

There is one ironic thing about Hurricane Katrina that I should mention. The SENAGT conducted a field trip to Ship Island in March as part of the SEGSA meeting. The major topic of the *On the Beach* field trip was the role of fairweather and storm processes on beach sedimentation. Much of the discussion on the trip focused around the impact of the other great storm to hit this area in the past. Hurricane Camille cut Ship Island in two back in 1969. It will be interesting to go back to the island to see just what effects Katrina caused this time around.

Apart from hurricanes, the SENAGT had a reasonably good year. Outstanding Earth Science Teacher awards (OEST) were presented to state winners in Alabama, North Carolina, South Carolina, Georgia and Tennessee. That's one more than last year and, I hope, two fewer than we will have next year. The only problem with the awards this year was a delay in judging the regional winner due mostly to the hurricanes. The 2005 regional winner was Ms. Rose Lummus from Dyersburg Middle School in Dyersburg, TN. The competition was extremely close this year as exceptional teacher packages were also received from North Carolina (Ms. Kathy Bosiak, Lincolnton High School, 803 N. Aspen St. Lincolnton, NC) and Georgia (Mr. Gregory Bailey, Southeast Whitfield High School, Dalton, GA).

I am happy to announce that we have added two new state reps to the SENAGT roster since the last president's report.

Florida:Paul Cutlip (St. Petersburg College); joins Jonathon Bryan (Okaloosa-Walton Community College).South Carolina:Gwen Daley (Winthrop University); joins John Wagner (Clemson University)

A hearty welcome to both Paul and Gwen.

There is one item that I feel that we must deal with very soon. Like so many other organizations, membership in the SENAGT has been in steady decline for the past several years. Now is the time to turn this trend around. Very soon, I will work with Vice President Nancy Huebner and other executive members of the SENAGT and the NAGT to try and increase our membership numbers. I don't believe that this will be a hard job. After all, our organization deals with the most important component of our society (education) and with the most exciting and interesting aspect of education (geosciences). Okay, so I'm biased; however, when you consider the political push to improve the "quality" of K-12 education ("No Child Left Behind" legislation), and the considerable pressure exerted by certain interest groups to control science curricula, there can be no better time to get the message out about the benefits of membership in the NAGT.

Doug Haywick

Mobile, AL	Submitted Oct 12, 2005
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And the winner is . . .

The 2005 Regional OEST award decision was the most difficult one that the committee members judging applications have been involved with to date. All of the candidates were exceptional with three, in particular, being judged "outstanding" by the committee. However, the nominee from Tennessee, Rose Lummus, was voted the 2005 SE OEST award winner. Congratulations to Rose Lummus - the 2005 Regional OEST award winner and all the other state awardees (see State News).

## **Preliminary Announcement and Call for Papers**

## 23-24 March 2006 •

Marriott Hotel • Knoxville, Tennessee

## Southeastern Section, Geological Society of America

Standard Registration: 20 February 2006 Symposia, theme sessions, and field trips scheduled as of 25 July are listed on the GSA website; other events may be accommodated. If you are interested in proposing other sessions, please contact program co-chairs Robert D. Hatcher Jr., bobmap@utk.edu; Deadlines Hotel Registration: 28 February 2006 Linda C. Kah, lckah@utk.edu; or Theodore C. Labotka, tlabotka@utk.edu. Updated session listings Abstract: 5 January 2006 will be posted on the GSA Web site.

## **National Science Teachers Association Southern Area Convention**

## Dec. 1-3, 2005 **Gaylord Opryland Resort and Convention Center**

For more information about the NSTA Southern Area Convention including housing, registration, exhibits, and to preview program session and symposia go to: www.nsta.org/conventiondetail&Meeting\_Code=2005NAS

A sampling of the geoscience opportunities at NSTA:

## Lessons from Limestone (T-1)

Limestone, Tennessee's official state rock, comes in many varieties and offers teachers an inexpensive resource for teaching hands-on integrated chemistry, earth science, biology, and physics. Participants will spend the day doing fieldbased, hands-on, inquiry-based activities in limestone-rich areas of Nashville, including commercial guarries, road outcrops, and glades. We'll focus on such topics as paleoecology and evolution; using limestone to reconstruct ancient geography (including plate tectonics); the use of limestone as a natural resource; the hazards associated with karst; and where, how, and why limestone forms. Field trip leaders will model an array of activities using limestone that can be readily adapted for the classroom, including exploration of the cycles within Earth's systems, such as geochemical cycles, the hydrologic cycle, the tectonic cycle, and the rock cycle.

You'll have lots of opportunities to collect complete classroom sets of limestone varieties, products, and fossil kits during this field experience. This trip requires extensive walking in rocky outdoor areas; participants should be in good health. Wear clothing appropriate for day-long outdoor activity and shoes suitable for hiking on rocky surfaces. Hard hats, safety goggles, and other needed materials will be provided. A box lunch is included in the ticket price. Date: December 01, 2005 Time: 08:00-17:00 Limit: 28 Advance price: \$36.00 Onsite price: \$41.00

## SE Maps: An Innovative Interdisciplinary Approach to Studying Earth

This NSF-sponsored interdisciplinary program highlights the geology and geography of the southeastern states through student investigations of remotely sensed images and other cartographic products. Are you looking for ways to cover curriculum standards dealing with the environmental science and geography of the American Southeast? Come discover the future of environmental earth science instruction by sampling sets of thematic environmental inquiry lessons highlighting local and regional study areas from an aerial perspective. These lessons use large format lithographs of satellite imagery, aerial photography, topographic maps, and many other cartographic products. Workshop participants will receive samples of materials for classroom use and may have the opportunity to participate in the future pilot testing of, for example: some of Tennessee, Georgia, Alabama, North Carolina and Kentucky study sites. Many of the cartographic products can be previewed at the SC MAPS website (http://www.clemson.edu/semaps). Date: December 02, 2005 Time: 11:00-12:00

## **Field Trip**

Workshop



#### Comprehensive No Child Left Behind Content Curriculum Offered -Institutes for Middle Grade Educators in Science – Year 2

IMEGS (Institute for Middle Grade Educators in Science) is an interdisciplinary, field and on-line sequence of courses designed to reduce content deficiencies in Tennessee middle school educators, and is funded through the TN-Math & Science Partnership Program. All three base curriculum standards, Earth, Physical, and Life Sciences are covered over a three-year period. This summer's institutes include Earth & Planetary Science (taught by Drs. Michael A. Gibson & Lionel Crews of UT Martin) and Physical Science (taught by Drs. Lionel Crews and Rosemary Effiong of UT Martini). Teachers initially participate in an online inquiry-based introduction to the principles and background information they will need for summer field experiences. Teachers then spend two weeks each summer in a workshop that focuses on the "in the field" aspects of science data collection and interpretation, and demonstrations of basic principles. Teachers can take up to two workshops per year. *Participants will leave the workshops with "teacher kits" valued at around* **\$4000 that will allow them to transfer their newfound knowledge to their classrooms**. These teacher kits will include such things as CBL interfaces and sensors, binocular microscopes, and a variety of software.

In addition, participants will video-tape demonstrations of the various principles so that all teachers in Tennessee can benefit from the experience. Earth and Planetary Science and Life Science institutes were offered last summer; this summer E&PS will be offered again, along with Physical Science. The Life and Physical science workshops take place mostly at UT Martin, with a excursions to Reelfoot Lake, while the Earth Science workshop takes place at Coon Creek Science Center, a nationally recognized fossil site. Nearly every curriculum standard will be covered by a variety of hands-on activities that can be directly translated to the classroom. PARTICIPANTS - Eighteen participants will be selected. Several school systems have signed up as partners for the grant, and teachers from those systems will be given first preference until November30, 2005. Beyond that the program is open to other middle school educators; selection criteria include: date of application, potential for applicant's experience being shared with students and other teachers, and demographics - "new" and minority teachers are encouraged to apply. Participants will be given stipends to cover travel, lodging, and meals. Teachers will receive 3 hours of graduate credit per workshop course, paid for through the grant. Participants must pay ~\$200 in fees to the University not covered by grant funding.

## **IMPORTANT IMEGS DATES**

<ul> <li>Early Registration Deadline for MSP Partner</li> </ul>	For more information
	contact Dr. Michael A.
<ul> <li>Deadline for all applications</li> </ul>	Gibson – Geology, PI @
<ul> <li>Final selection of all applicants</li> </ul>	(731) 881-7435;
- Earth Science Institute	mgibson@utm.edu
<ul> <li>Physical Science Institute</li> </ul>	
<ul> <li>Life Science Workshops</li> </ul>	
<ul> <li>Physical/Life Science Workshops</li> </ul>	
	<ul> <li>Deadline for all applications</li> <li>Final selection of all applicants</li> <li>Earth Science Institute <ul> <li>Physical Science Institute</li> <li>Life Science Workshops</li> </ul> </li> </ul>

## From NAGT Executive Council Liaison

Greetings from South Georgia. My term as NAGT councilor and as the liaison to the SE NAGT section will come to an end after the GSA meeting in Salt Lake City. Despite the end of my term, I plan to stay involved in NAGT at the national and regional level. I hope to meet many of you at the upcoming SE GSA meeting in Knoxville, Tennessee next March.

The faculty of the Department of Geology and Geography at Georgia Southern University have accepted the challenge of hosting the 2007 Southeastern Section Meeting of the Geological Society of America meeting. The meeting will be held at the Hyatt Regency Savannah on the Historic Riverfront in Savannah from 28-30 March 2007. I will serve as the chair for the meeting and Dr. Michael Kelley (<u>mkelley@georgiasouthern.edu</u>) will serve as the technical program chair. We hope that you, the NAGT membership, will consider submitting ideas for sessions or fieldtrips or workshops to Mike or myself (<u>pasher@georgiasouthern.edu</u>). As the program develops we will make this information available via GSA's web page. Please stop by our booth at the Knoxville meeting in the exhibit area to learn more information about the 2007 meeting.

# **REGIONAL NEWS IN GEOSCIENCE ED**

## Alabama (submitted by David C. Kopaska-Merkel)

## Geoscience educator awards

For the second year in a row Alabama chose an OEST winner. This year's winner is Ashley Allen, who teaches at Oneonta high school. Mr. Allen is not only an innovative teacher but the discoverer of the Union Chapel mine trace fossil site, the most important of its age in the world.

#### Advances in geoscience education

The Alabama math science and technology initiative (AMSTI) continues to expand to additional schools. This inquiry based program involves considerable teacher training to ensure proper implementation and seems to be popular with those who have used it.

#### Hurricane season

As I write this the hurricane season is not yet over, but it seems likely that Alabama will be spared any more unpleasantness from it. Tropical cyclones Arlene, Cindy, Dennis, and Katrina all affected Alabama, but Katrina's effects were by far the most powerful. Essentially the western half of the state was affected by this storm. Outside of the coastal region, the effects chiefly consisted of power outages due to downed trees and power poles. Although some of these power outages lasted for three or four days, recovery was well on its way as soon as power was restored. Some houses were severely damaged by falling trees and there were other localized destructive effects. By contrast, Dauphin Island was cut by multiple new inlets and destruction of property there was extreme. The City of Mobile, slightly farther inland, escaped serious destruction.

The aftermath of the storm was more disruptive than the storm itself. Thousands of evacuees from Mississippi and Louisiana poured into Mobile and points north. The influx of people who desperately needed all sorts of basic services strained Alabama's resources, but because our state had been little affected directly, we coped quite well. A greater strain on the state's resources was caused by severe shortages of food, water, and gasoline in South Alabama. These shortages persisted for weeks after the storm and made recovery difficult.

#### **Politics**

During the last legislative session, spring of 2005, two bills were proposed that would have required the teaching of creationism in science classes in public schools. Those bills were defeated, but there are rumors that similar bills will be proposed in the next session. The governor and Legislature continue to insist that Alabama taxes must not be raised. Consequently, there are no prospects for significant improvements in any aspect of public-school education in the state. The state continues to adhere to its strict interpretation of the worst aspects of the No Child Left Behind Act, which means that there is a serious teacher shortage.

#### New publication

A landmark amateur/professional collaboration was published this year by the Alabama Paleontological Society. *Pennsylvanian Footprints in the Black Warrior Basin of Alabama* (www.alabamapaleo.org) consists of the initial reports about the world-class Union Chapel mine trace fossil site. This book is of potential interest to educators at the high school level and above.

#### Workshops

An earth science workshop was given at the annual meeting of the Alabama Science Teachers Association (which was held this year at the McWane Center, a modern hands-on museum in Birmingham). The annual paleontology workshop for science teachers, cosponsored by the University of West Alabama and Geological Survey of Alabama will be held later this month in and near Livingston Alabama.

## Georgia (submitted by Nancy Huebner)

Our Governor asked all public school systems to close on Sept 26th and 27th, the Monday and Tuesday after Rita hit the Texas/Louisiana border. A few suspicious newspaper reporters have suggested that the idea might have originated within the farm lobby, as a way of insuring sufficient diesel supplies during the harvest season, but teachers and students didn't complain about the unexpected vacation. Some school districts are looking into the possibility of a 4 day school week as an additional fuel saving measure, but such a radical change seems very unlikely.

Big news... a group of geologists in the K-16 teaching community have gotten together to begin writing the standards for a high school earth systems course! If all goes well, the standards should be adopted by the state by the fall, and schools could begin offering the course as early as the 2006-2007 school year! Bill Witherspoon, a geologist at Fernbank Science Center, took the lead in pushing this effort last spring, roughing out a draft for the course from the national guidelines published in the AAAS's Benchmarks, Project 2061 and the National Research Council's National Science Education Standards.

The Georgia Geological Society has started making guidebooks available in digital form. Many of the previous years trips have already been converted, and more and more are being digitized each year. You can order GGS guidebooks at the following web address... <u>http://www.westga.edu/~ggsweb/index.html</u>

## North Carolina (submitted by Randy Bechtel)

The annual North Carolina Science Teachers Association (NCSTA) Professional Development Institute will be held in Greensboro, NC, Nov. 10-11. Visit <u>www.ncsta.org</u> to learn about the programs and speakers. This year Dr. Stan Riggs and Dr. Orrin Pilkey will be featured speakers and the theme is "*Making Connections from the Mountains to the Sea*." Also the Carolina Geological Society will be running its annual weekend long fieldtrip November 4-7. For more information please visit <u>www.carolinageologicalSociety.org</u>

We are excited to present the Outstanding Earth Science Teacher (OEST) Awards at the NCSTA Institute this year after a two-year hiatus. We have a state winner Mrs. Kathy Bosiak and an honorable mention Mr. Kelly J. Ruff in the traditional teacher category. We also support an OEST award for non-traditional educators. This category includes educators at museums, camps, community colleges, etc. This year's recipient is Mr. Mark H. Case. The following instate participants sponsor these awards: the N.C. Mining Commission, N.C. Aggregates Association, Carolinas Section of the SME and the N.C. Geological Survey (NCGS).

We are still looking for a second state representative from North Carolina to be involved in SENAGT. For more information please contact Randy Bechtel at 919-733-2423 ext.410 or at <u>Randy.Bechtel@ncmail.net</u> It's not a lot of work – really!

A new publication from the NCGS went on sale in August, "When the Ground Moves! A Citizen's Guide to Geologic Hazards in North Carolina." This colorful 23-page guide is an overview of several types of geologic hazards that occur in North Carolina. Pictures and diagrams illustrate the damage that can be caused by geologic hazards and the clues geologists look for when investigating these events. Perfect for non-geologists and teachers. This guide is correlated to the North Carolina Science Standard Course of Study. Please visit our website <a href="https://www.geology.enr.state.nc.us/ordermaps.html">www.geology.enr.state.nc.us/ordermaps.html</a> for more information. We are currently working on A Citizen's Guide to Landslides, which is due out in Summer 2006.

Currently the status of Earth/Environmental Science is stable but Revolution II, part of a national movement to improve education in this subject area, is planning to meet this winter to keep the ball rolling. The members of Revolution II form a diverse group including N.C. Department of Public Instruction, Office of Environmental Education, N.C. Geological Survey, EPA, N.C. Aggregates Association and the nonprofit Environmental Education Fund among others.

The hurricane season for North Carolina has been relatively light compared to last year's devastating landslides from Frances and Ivan. This year we only received some light rain from Katrina but Ophelia came to our coast shortly afterward. N.C. Emergency Management and FEMA were in full force preparation for the event, even though Ophelia was only a category 1. Thankfully damage was minor with no loss of life. The NCGS is currently ramping up a pilot Landslide Hazard Program as part of the Hurricane Recovery Act of 2005. This program has an education component ("When the Ground Moves!..." and Citizen's Guide to Landslides) and includes presentations to local decision makers. These presentations will be on our website this fall and will be useful to teachers at many levels.

Now more than ever Earth/Environmental Science is needed as part of the curriculum at the elementary, high school, and post-secondary levels. Science is also needed to inform and educate the general public, lawmakers, planners, developers and emergency managers who make decisions fro others everyday. Humans impact and are impacted by natural forces. Humans need to incorporate and understand information that Earth/Environmental Science can provide to prevent the loss of life and infrastructure to our nation.

## Tennessee (submitted by Michael A. Gibson)

While Tennessee was not directly devastated by the hurricanes that rayaged the Gulf Coast this season, we have felt the impact in Tennessee and at the University. As with everyone else in other places, we are coping with the price of gas (UT Martin has thankfully raised the mileage allotment for reimbursements to a realistic amount for a period of time to offset the cost to departments and individuals). Many students have absences from class to help family members that were involved or to serve as volunteers to help the devastated area. Of course this makes teaching classes difficult at times because we as professors must decide at what point are absences beyond necessary and easily "forgivable" in the sense of making up work or catching up in classes. Our institution has agreed to take in students displaced, although we have not seen any of these in the classes we teach at UT Martin. I have geology majors who have displaced families in their homes. On the personal side I am getting to feel the effects second hand as my wife's parents live in Mobile, along with both of her brothers and their families. Their homes were severely damaged; one brother is entering his house by climbing a ladder to the second floor. FEMA visited to assess their situation and even with all the right insurance, etc. they are told they will only get a fraction of what the properties were valued at. Of course the next problem is obtaining the supplies to rebuild with. On the brighter side, students have shown a much more keen interest in geologic processes. "Extreme" events are the rage, but with their attention, it is now possible to put these typical (albeit humanly devastating) processes in their proper geological context. The importance of understanding their geologic world is not lost on the participants of the disaster, especially as it comes on the heels of the tsunami of last December and volcanic eruptions of the past decade.

We have **good** news in Tennessee regarding geoscience education. An agreement is in the final stages of articulation that will make advanced Earth Science/Geology in public schools acceptable as fulfilling college entrance laboratory science stipulations. This is important because it is a prime motivator public schools use to NOT include these courses in their curricula. Their argument is that if the colleges will not accept them, why teach them? In other arenas, the escalating battle between "intelligent design" and scientific evolution is taking center stage again in Tennessee. The national press is referring to the Pennsylvania case as "Scopes II" (bad press for us in Tennessee and actually a misnomer as the "Scopes II" moniker was also used in the Arkansas 1980's case). TEST is poised to play an influential roll in helping to combat anti-science approaches in Tennessee and there is dialog in the group as to the best way to maintain quality teaching. In March, Eugenie Scott will be on the UT Martin campus as part of our Speaker's Program. Her role in the Pennsylvania ID case makes this a very timely visit.

Tennessee geoscience education materials have not changed significantly over the past year. Dr. Don Byerly and Michael Gibson will be running a day-long fieldtrip workshop entitle Lessons from Limestone at the NSTA meeting in Nashville. This is funded by several companies such as Rinker and Vulcan. A variation of the trip will be run in conjunction with the Southeastern Section of the GSA meeting in March in Knoxville. The Tennessee Division of Geology has expressed interest in publishing the guidebook (which will contain standard's based activities) as part of their education series. The website for the trip is: <u>http://www.nsta.org/.</u>, then follow links to Nashville area meeting and field trips.

Dr. Michael Gibson and other collaborators were awarded \$1.1 million over three years to develop IMEGS (Institute for Middle Grade Educators in Science) - an interdisciplinary, field and on-line sequence of courses designed to reduce content deficiencies in Tennessee middle school educators, and is funded through the TN-Math & Science Partnership Program. All three base curriculum standards (Earth, Physical, and Life Sciences) are covered over a three-year period.

Nashville will host the 2005 NSTA Southern Area meeting on December 1-3, 2005. Among many other development opportunities, NSTA has planned numerous workshops, symposia, fieldtrips, and other programmatic opportunities for preK-16 educators interested the geosciences.

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