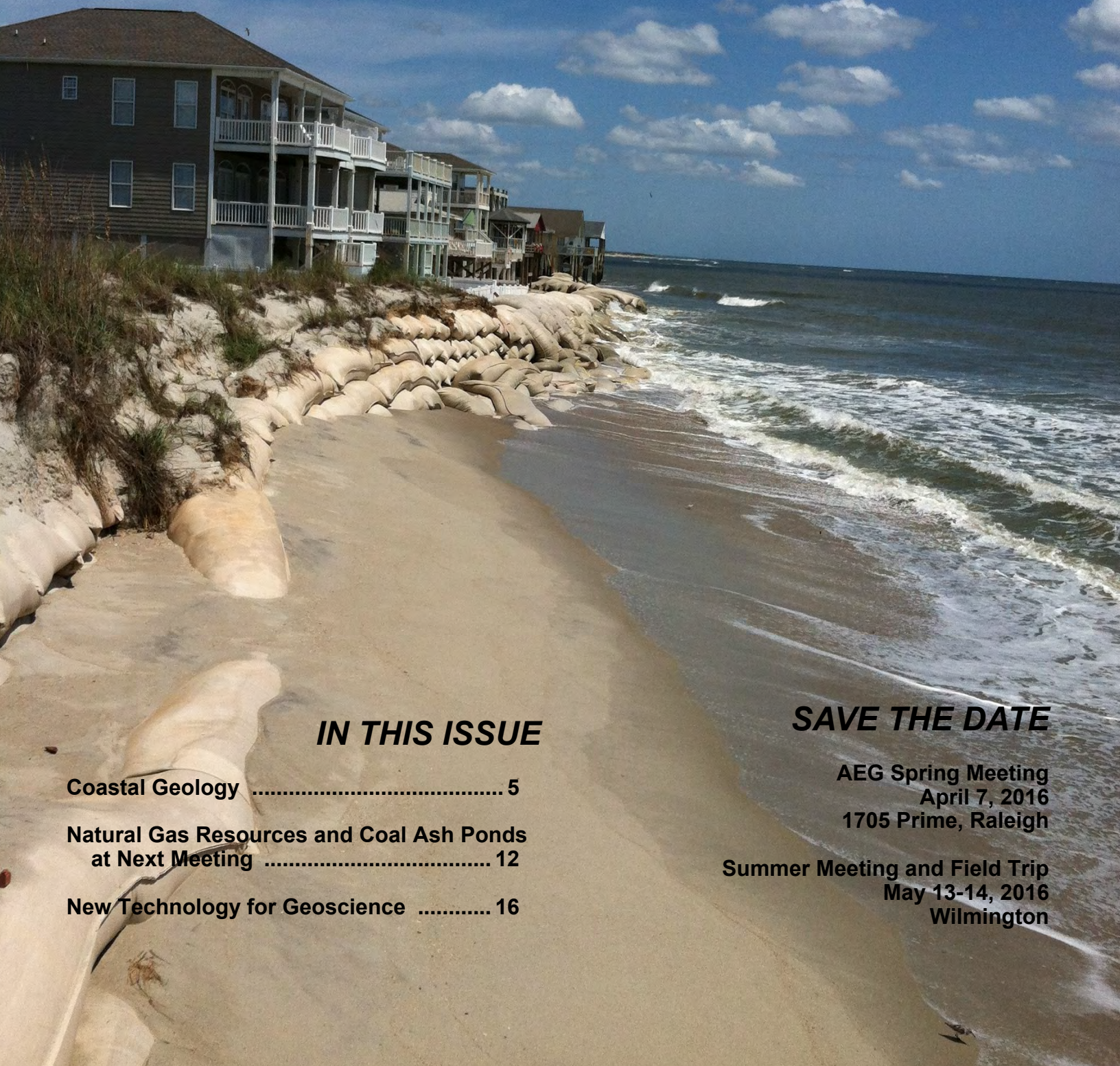


SPRING 2016

GEO NEWS

Newsletter of the Association of Environmental & Engineering Geologists, Carolinas Chapter
2009, 2011, and 2013 AEG Chapter of the Year



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SAVE THE DATE

AEG Spring Meeting
April 7, 2016
1705 Prime, Raleigh

Summer Meeting and Field Trip
May 13-14, 2016
Wilmington

GEONEWS Spring 2016
Issue Date: September 21, 2015
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Thanks to our Sponsors!

GeoNews is a publication of the Carolinas Chapter of AEG. There are four issues per year, with deadlines and issue publication dates listed below. We publish news of the profession, announcements, student member news, technical articles, and job openings.

Deadlines for submittal to AEG Carolinas GeoNews
(can be flexible depending on events)

Spring – deadline March 1, issue date March 21
 Summer – deadline June 1, issue date June 21
 Fall – deadline September 1, issue date Sept 21
 Winter – deadline December 1, issue date December 21

Deadlines for submittal for the National AEG News:

March issue – January 15
 June issue – April 15
 September issue – July 15
 December issue – October 15

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AEG National Website www.aegweb.org

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Cover: (Rick Kolb) Ocean Isle Beach

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MESSAGE FROM THE CHAIR

By Madeline German, PG

Chapter Chair—AEG Carolinas Chapter

Greetings Carolinas Chapter!

Our winter meeting was held on Thursday, January 21, 2016 at Draught in Charlotte. Despite the approaching ice storm we still had about 35 members and students show up for great networking and to listen to **Paul Santi**, the current AEG President and Professor and Department Head for the Dept. of Geology and Geologic Engineering at the Colorado School of Mines, present on “Cultural and Economic Aspects of Hazard Mitigation: Debris Flow and Landslide Examples.”

Our next meeting will be held on April 7, 2016 in Raleigh at 1705 Prime. Matt Hanchey, an attorney at Duke Energy, will present his overview of the Duke coal ash situation, and State Geologist Kenneth Taylor will speak on natural gas resources. The social will begin at 5:00 P.M. I look forward to seeing you there.

Our first field trip of 2016 is quickly approaching and will be held in Wilmington on May 14, 2016. In the morning, Professor Roger Shew will be discussing the reconstructed seawall and coastal hazards at Kure Beach as well as Fort Fisher and its role in the Civil War. In the afternoon we will travel by boat down the Cape Fear River to observe and discuss water quality, river classification, efforts to restore anadromous species with the construction of a rock arch rapid, future fishery efforts, and population and development stressors in the area. Be sure to bring your cameras for a day of fantastic environmental geology and amazing scenery. You can make reservations online and through **Sue Buchanan** directly. We will also be having a Chapter meeting Friday, May 13, 2016 at Reel Café in Downtown Wilmington, as a warm up to Saturday's field trip. Please make your reservations by May 9, 2016; this is going to be a weekend you don't want to miss.

If you are not already please follow AEG on Facebook, Twitter and Linked In.

I will be attending the mid-year board meeting in April and will return with updates on changes to the AEG policies and updates regarding the governance restructure. Please email me any questions or concerns you would like addressed regarding these or other issues by April 15, 2016.

Our chapter sponsors allow us to provide activities and outreach opportunities to our membership and the public. Most importantly they support our student and visiting professional programs. The young scientists are our future and the Carolinas believes investing in them is a worthwhile endeavor. If you are interested in sponsoring please contact **Walt Plekan** about new sponsorship opportunities and renewal.

As always, your board and I look forward to hearing from

each of you regarding your suggestions and/or concerns related to our chapter. We are here to serve the needs of our membership, so your feedback is vital and welcome.

Best,



Maddie German, PG
madeline@smithgardnerinc.com
AEG Carolinas Chapter Chair





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AEG CAROLINAS CHAPTER 4Q TREASURER'S REPORT

By Eric Cross, Chapter Treasurer



AEG Carolinas Section Treasurer's Quarterly Report October 1, 2015 to December 31, 2015

BALANCE As Of October 1, 2015

Checking Account	\$21,336.63
Savings Account	\$16,692.95
	<u>\$38,029.58</u>

INCOME

Geochemistry Course	
Checks	\$3,245.00
Payments	\$5,532.64
Additional Wine Tour Payments	
Checks	\$25.00
Card Swiper	
Partial wine tour, partial geochem course	\$895.00
Member Dues	
Dues from AEG National	\$200.00
Natty Greens Dinner Meeting	
Payments	\$1,535.00
Miscellaneous	
Sponsor Payment for meeting beverage	\$75.00
Sponsorship renewal payments	\$1,100.00
Interest	
Savings Account	\$1.92
SUBTOTAL - INCOME	<u>\$12,609.56</u>

EXPENSES

Banking Fees	
Credit Card Reader Fees	\$33.86
Paypal fees	\$62.43
Online Deposit Fee	\$9.00
Meeting Expenses	
Geochem course expenses	\$15,977.19
Wine Tour Weekend Expenses	\$2,487.83
Natty Greens Meeting Expenses	\$1,244.98
Donations	
AGI Earth Science Kits	\$1,985.00
AEG Foundation - Carolinas Section Scholarship	\$10,000.00
SC Museum Donation	\$200.00
NC Museum of Natural Sciences Donation	\$200.00
Additional Expenses	
Plaque for Carolinas AEG Chair	\$32.03
BOD Meeting hotel	\$459.00
AEG Booth Shipping to National	\$107.90
SUBTOTAL - EXPENSES	<u>\$32,799.22</u>

BALANCE As Of December 18, 2015

Checking Account	\$3,145.05
Savings Account	\$14,694.87
TOTAL	<u>\$17,839.92</u>

Editor's Note

By Jennifer Thomas

Geologists have strong opinions on coastal management. Last edition we published an editorial by Dr. Robert S. Young regarding Topsail Island. To get ready for our upcoming coastal geology field trip, I have another editorial on the topic, as well as details and registration. The trip will kick off with the summer Chapter meeting (a little early this year) in Wilmington. It sounds like Sue Buchanan, our field trip chair, has put together a fun and educational trip. I encourage everyone to send me their pictures so I can publish them in the next issue.

Sue is also planning a field trip at the end of the summer on the other side of the state. We'll be going to the beautiful Boone area to look at the Linville Falls Fault Zone.

To kick off a busy few months, we'll have our spring Chapter meeting in Raleigh with a timely discussion of coal ash ponds. I hope to see everyone at some of these events.

Sandbags Destroy Beaches

By Orrin H. Pilkey

reprinted with permission from the Raleigh News & Observer

Editor's Note: This is an Op Ed published in the *Raleigh News & Observer* on February 19, 2016.

The North Carolina Coastal Resources Commission (CRC) recently approved the expanded use of sandbag seawalls. The new rule allows, among other things, sandbag seawalls to be placed in front of undeveloped lots. This could lead to entire islands being lined with sandbags, a fact noted by CRC chairman Frank Gorman. The new rule will certainly lead to an increase in the rate of beach loss and an ever-increasing bill to the state taxpayers for beach replenishment to replace the lost beaches. The new rule will also reduce turtle nesting, prevent nesting of beach birds such as the endangered Piping Plovers and make access difficult for beachgoers.

Ironically, this new and very shortsighted rule was mandated by the 2015 legislature. The CRC, not the legislature, is the agency that is supposed to be the guardian of the state's beaches. A rule with such a huge impact should have been studied in detail and explained with public hearings, and the science panel should have been consulted. If the legislative branch wants to control the quality of coastal development, they should dismiss the CRC and tell the members to go home.

In 1985, the state of North Carolina banned the use of seawalls along the 301 miles of the state's open-ocean shoreline. At that time, it was already widely recognized that seawalls degrade beaches. Adaption of the rule banning seawalls was considered a major step forward in North Carolina's efforts to preserve beaches for future generations. Unfortunately, sandbag seawalls were allowed as a compromise exception to the rule but only as a temporary measure while a house was being moved back or demolished or a beach nourished. It was not understood at the time that there was no difference between sandbag seawalls and concrete walls in their effect on eroding beaches.

Sea walls, whether sandbags or concrete, placed on eroding coasts can be depended upon to destroy beaches. That's because seawalls don't address the myriad causes of erosion, so once a wall is put in, erosion continues and the beach narrows until it disappears. Time frames for such destruction range from 2 or 3 years to a decade. The only situation where seawalls don't destroy beaches is the rare case of a shoreline that is not eroding.

Encouraging the use of sandbags to protect buildings, even though the bags destroy beaches, is another example of the plummeting degradation of North Carolina's coastal management program. Everything is directed toward preserving development already in place and encouraging more

(Continued on page 6)



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(Continued from page 5)

development. More bridges are being built to bring more people and businesses to the islands, environmentally sound rules are changed to make development easier, and quality of sand in beach replenishment projects is ignored. Most important, long-term sea-level rise and its consequences are disregarded.

There is another way. While North Carolina encourages increased development along its barrier island shorelines, Great Britain considers the long-term environmental and monetary costs of defending developed shorelines as sea level rises. This is something we, in this country, have never done. The British study led to the recognition that some developed areas simply can't be defended. In the same week that the CRC changed the sandbag rules, the Welsh coastal resort village of Fairbourne and a number of other small Welsh villages were slated for "decommissioning" within the next 40 years. In other words, they won't be saved or protected from the encroaching sea.

North Carolina citizens must insist that the legislature and the CRC take the long view and recognize that preserving beachfront buildings can lead to the loss of beaches, which of course is the reason the buildings are there to begin with. Some of the things that we can do in the immediate future to make sure the next generation has beaches are:

- Enforce the state's anti-seawall regulations and remember that sandbags are seawalls too.
- Institute a policy of retreat from the shoreline before the level of the sea rises more and erosion increases further.
- Allow no further high-rise construction on our barrier islands. Such buildings make retreat impossible.
- Do *nothing* to encourage more dense development on the islands, including the construction of bigger and better access bridges.

Chad D. Northington, PE

Southeast District Technical Manager



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Get Ready for the Coastal Geology Trip

ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS -Carolinas Section

Summer Section Meeting

Coastal Zone Issues

Geological and Environmental Treasures, Stressors, Solutions?

Friday, May 13, 2016, 5:30pm to 8:30pm

Where: Reel Cafe, 100 South Front Street, Wilmington, NC 28401 <http://www.reelcafe.net/>

Cost: Members \$30; Non-members \$40; Public-sector \$15; Teachers \$10; Students free with college ID

Speaker: Professor Roger Shew, UNC Wilmington, Department of Geography and Geology

Reservations: You can register and prepay for the meeting (and/or field trip) under the News and Events Section of our website at <http://aegcarolinas.org/>.

If attending the meeting and field trip please use the attached form.

Alternatively, you can make reservations for the meeting only with Madeline German at [made-line@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com)

Deadline: To ensure sufficient food is ordered, please make your reservation by **5:00 PM on Monday, May 9, 2016.**

South Carolina Continuing Education Credits: 3 credits for meeting participation

Summer Field Trip

Beach to River:

A Visit to the Coastal Zone to Observe Geological Controls and Environmental/ Anthropogenic Impacts on our Natural Systems

Saturday, May 14, 2016, 7:45am to 3:00pm

Starting 7:45 am at: Hampton Inn Wilmington University Area/Smith Creek Station Hotel, park at 206 Old Eastwood Road, Wilmington NC

Cost: Members, Non-members, Public-sector, Teachers \$75; Students with college ID \$50

Field Trip Registration Deadline: Monday, May 9, 2016

Field Trip Waiver: Please sign/date and return field trip waiver by May 9, 2016

South Carolina Continuing Education Credits: 6 credits for field trip participation

Field Trip Leader

Professor Roger Shew has 20 years of energy industry experience in New Orleans and Houston where he worked 5 years in production and exploration activities onshore and offshore. He spent 10 years in Shell's Research Facility where he led groups in the development of deep-water offshore exploitation and he was the Shell U.S. geology instructor for 5 years. He returned to North Carolina in 2000, where he has been teaching Geology and Environmental Science at UNC Wilmington. Courses taught include Environmental Geology, Petrology, Sedimentology, Geohydrology, Subsurface and Petroleum Geology, Field Methods, and Topics and Issues in Sustainability. Roger continues to consult for the Energy

Industry. However, he spends much of his time in Geoscience Education with numerous talks on issues related to offshore energy, hydraulic fracturing/horizontal drilling, water resources, coastal plain ecosystems, and coastal geology. He is on the Boards of Cape Fear River Watch and the Cape Fear Arch Conservation Collaboration.

Field Trip Summary

The morning will be spent at Kure Beach and the afternoon on the River to illustrate both the beauty and the issues that confront a Coastal Community. At the Kure Beach area, we will be discussing the reconstructed seawall and the probable hazards of living in close proximity to the seawall, discussion of beach re-nourishment and erosion, and the local, naturally occurring coquina rock outcrops. The reconstruction of the Seawall, following Hurricane Fran in 1996, consists of pylons and rip rap of Castle Hayne limestone and Raleigh granite. A set of condominiums is protected by sandbags but are in jeopardy with future storms and coastal erosion.

Fort Fisher State Park is immediately adjacent to the seawall. We will learn about its role during the Civil War. Fort Fisher kept North Carolina's port of Wilmington open to blockade-runners supplying necessary goods to Confederate armies inland. By 1865, the supply line through Wilmington was the last remaining supply route open to Robert E. Lee's Army of Northern Virginia. When Fort Fisher fell after a massive Federal amphibious assault on January 15, 1865, its defeat helped seal the fate of the Confederacy (Fort Fisher, North Carolina Historic Sites website). Historic maps compared to the coast today illustrate the many changes that occurred and continue to occur on the coast through erosion, sea level change, and human impacts.

We will also tour the Cape Fear and Northeast Cape Fear Rivers on a 2-hour tour using Wilmington Water Tours. The boat Captain will talk about the history and beauty of the rivers. We will also discuss some of the issues of water quality and sources, river classification, efforts to restore anadromous species with the construction of a rock arch rapid, future fishery efforts, and population and development stressors in the area. Bring your camera to capture pictures of the osprey and other river wildlife.

Field Trip Logistics

Note: The underlined addresses are where vehicles can be parked during field trip.

Please give yourself enough time to arrive Saturday morning due to heavy traffic along College Street near UNC Wilmington. Field trip attendees are expected to arrive at the Hampton Inn (124 Old Eastwood Road, Wilmington) by **7:45am** on Saturday May 14th. AEG will not be reserving a coach bus for this field trip, please be prepared to drive your vehicle or carpool. We will congregate at the north end of the Kohl's parking lot across the street from the Hampton Inn (206 Old Eastwood Road, Wilmington). Those not staying at the Hampton Inn and carpooling can leave their vehicles in this parking lot. We will be leaving to start the field trip at **8:15am**.

We will then drive approximately 35 minutes to Fort Fisher Historic Site (1610 Fort Fisher Boulevard South, Kure Beach) /Kure Beach Recreational Area. Please park in the parking lot at Fort Fisher Historic Site. Please be prepared for walking at Fort Fisher and the near the seawall at Kure Beach. Wear appropriate shoes or sandals and outerwear for the weather. We will be leaving Fort Fisher/Kure Beach at **11:30am**.

From the Fort Fisher/Kure Beach area, we will drive approximately 35 minutes to downtown Wilmington where we will take a boat tour with Wilmington Water Tours from **12:15pm to 2:30pm** (212 South Water Street, Wilmington, located between Orange and Ann Streets on the Cape Fear Riverwalk). There is no

parking at Wilmington Water Tour. There are several options for parking: metered street parking, public parking lots (ie: 22-26 South Second Street) and public parking decks (ie: 11 North Second Street). The boat tour will last approximately 2 hours. Lunch will be provided on the boat. There is a handicap accessible restroom on board the boat. If it were to rain, the boat is fully enclosed.

The AEG field trip will end after the boat tour, about **3:00pm**. Field trip attendees are welcome to explore downtown Wilmington or Wrightsville Beach (about 20 minutes from downtown Wilmington) before leaving Wilmington.

Travel Accommodations

AEG has reserved a block of hotel rooms for this field trip at:
Hampton Inn Wilmington University Area/Smith Creek Station Hotel
124 Old Eastwood Road, Wilmington NC 28703
910-791-9899

There are a few ways to make reservations at the Hampton Inn:

- 1) Call the hotel front desk directly and mention arrival date [May 13, 2016], Group name [Geology Field Trip], and Group code [GFT];
- 2) Speak with Ms. Liseth O'Shee directly (910-399-9009) or email (loshee@shglted.com) as she is the hotel contact for this event; or,
- 3) Book online by clicking this link: http://hamptoninn.hilton.com/en/hp/groups/personalized/I/LMEVHX-GFT-20160513/index.jhtml?WT.mc_id=POG.

Please reserve your room at the Hampton Inn by 5:00pm on April 1, 2016. AEG has reserved 20 rooms for Friday, May 13, and 10 rooms for Saturday, May 14. The room rates are \$124 for king room and \$134 for double queen room (until April 1st).

If you choose to stay at a different hotel in the Wilmington area, below are some suggestions:

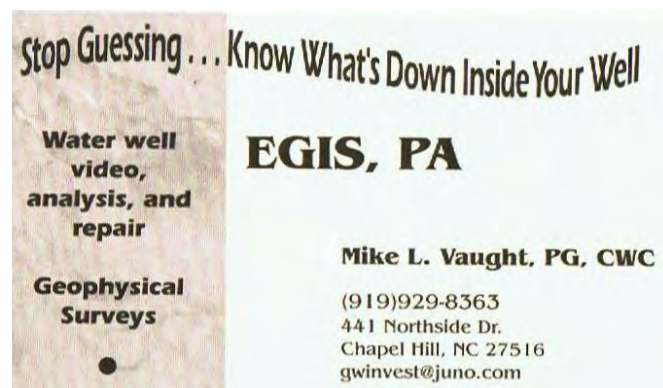
- Downtown Wilmington: Courtyard Wilmington Downtown/Historic District (910-632-2900), and Hilton Wilmington Riverside (910-763-5900).
- UNC Wilmington area: Holiday Inn Express & Suites (910-392-3227) and Courtyard Wilmington (910-395-8224).
- Near beach: Hampton Inn & Suites Wilmington/Wrightsville Beach (910-256-9600), Holiday Inn Resort (910-256-2231) and Hilton Garden Inn Wilmington (910-509-4046).



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REGISTRATION AND WAIVER FORMS

Summer Section Meeting and Field Trip, Wilmington, NC
May 13-14, 2016

Instructions: Each attendee will need to complete the registration form and waiver form to attend this AEG event. Payment **must** be made to complete your registration and reserve your spot on the field trip. After completion of the forms, send forms and payment (check) to:

Sue Buchanan
Schnabel Engineering
11A Oak Branch Drive
Greensboro, NC 27407
sbuchanan@schnabel-eng.com

Name of Participant: _____

Company or University: _____

Address (Street, City, State, Zip): _____

Phone (office, home, or cell): _____

Email: _____

During the field trip, water, snacks, and lunch will be provided. Once your registration is complete, Sue Buchanan will email you the lunch menu.

Each attendee must complete the table below by indicating their total amount for this AEG event.

Event	Member	Non-Member	Public-Sector	Teacher	Student
Section Meeting (Friday, May 13 th)	\$30	\$40	\$15	\$10	FREE
Field Trip (Saturday, May 14 th)	\$75	\$75	\$75	\$75	\$50
Total Payment Amount:					

Payment Options:

1) **CHECK:** make check payable to *AEG Carolinas Section*. Send check to Sue Buchanan.

2) **PAYPAL via AEG CAROLINAS WEBSITE:**



Check box if paid via PayPal on our section website at <http://aegcarolinas.org/>

Click on the *News and Events* page, and select *Carolinas Summer 2016 Field Trip*

List attendee(s) for which this payment is for: _____



/AEGweb



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Association of Environmental & Engineering Geologists – AEG

ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS



LIABILITY WAIVER FOR FIELD TRIP PARTICIPANTS

The undersigned having been fully advised as to the nature and possible dangers and hazards of the field trip, hereby acknowledges and agrees this _____ day of _____, 20____, that:

1. (please print) _____ (herein referred to as "Participant") intends to participate in one or more field trips sponsored by the Association of Environmental & Engineering Geologists (herein referred to as "AEG").

The field trip for which this waiver is being made is to be held on Saturday, May 14, 2016, in Wilmington, North Carolina.

2. Participant agrees and understands that during such field trip(s), he/she will be under the direction and control of the trip leader approved by the AEG, and specifically agrees to comply with all reasonable directions and instructions by the trip director during the course thereof.

3. Participant understands and acknowledges that there are risks of injury to person and/or property that are associated with field trips, including without limitation risks related to travel hazards, terrain, weather, eating and sleeping arrangements, and other circumstances. Participant hereby voluntarily assumes all risks connected with or arising out of his/her participation in field trip activities, and waives any claim against AEG, its officers, directors, employees, agents and members for any injury, harm, damage or other liability arising out of field trip activities.

4. Participant understands and acknowledges that the AEG assumes no liability for personal injuries or property damages to participants or to third persons arising out of field trip activities. Participant agrees to hold AEG harmless from any liability for harm arising out of the acts or omissions of AEG or Participant during any such field trip, and indemnify AEG against any and all awards or judgments against AEG in favor of third parties for losses and damages (including attorney's fees and any costs involved because of said claims), on account of injury, death or property damage, or inconvenience or loss of money due to delay that may arise, by reason of Participant's participation in field trip activities.

5. I understand that my use of alcohol or drugs would impair my judgment and coordination, and I hereby waive, and will hold the AEG harmless from, any and all claims of bodily injury or other harm arising from my use of either. I will indemnify AEG against awards or judgments in favor of third parties for losses or damages (including attorney's fees and costs), of whatever nature, arising out of my use of alcohol or drugs while participating in field trip activities.

Participant's Signature: _____

Date: _____

Send waiver form to:

Sue Buchanan
Schnabel Engineering
11A Oak Branch Drive
Greensboro, NC 27407
sbuchanan@schnabel-eng.com



/AEGweb



@AEGweb



Association of Environmental & Engineering Geologists—AEG

Spring Section Meeting in Raleigh

*The Carolinas Section of the
Association of Environmental & Engineering Geologists presents*

Two Speakers, Two Topics, One Meeting: Natural Gas Resources in North Carolina, and An Overview of the Coal Ash Issue

We return to 1705 Prime for our spring section meeting. We found it perfect at the meeting last September: the room was quiet, we had the venue to ourselves, and the bar was adjacent to the dining room and was the gather point for all that attended.

This meeting will be different from past meetings. We have two speakers and two topics, but both relevant to practicing geologists as well as non-geologists. Both talks will provide overviews of the topics, so for those of you that have seen various media articles over the past few years but don't have a global view of each topic, these presentations will fill in the gaps. Your meeting organizer saw Mr. Hanchey's coal-ash presentation in January and highly recommends it for anyone who wants to see what Duke Energy is doing with their sites. And even though the price of natural gas is depressed right now, Dr. Taylor will provide North Carolina's approach to further studying the potential for potential resources, and some details on the new boring planned to acquire more stratigraphic information on the potential resources.

Guest Speakers:

Matt Hanchey Associate General Counsel, Duke Energy 7:30-8:15	Dr. Kenneth Taylor, P.G. State Geologist 8:15-9:00
--	---



Meeting Details

Place: 1705 Prime, 1705 East Millbrook Road at Old Wake Forest Road, Raleigh
Date: Thursday, April 7, 2016
Time: 5:00 PM socializing begins, 6:30 buffet dinner, 7:30 Mr. Hanchey's talk; 8:15 Dr. Taylor's talk
Cost: AEG members \$30, non-members \$40, public-sector employees \$15, teachers \$10, students **free** with college ID. Cost includes one drink ticket courtesy of Pace Analytical Laboratories.
Reservations: Please make reservations with Rick Kolb (rick.kolb1@gmail.com) by 5:00 PM on Monday, April 4, 2016

Mr. Hanchey's Abstract

Duke Energy is undertaking a large-scale effort to excavate or otherwise manage 110 million tons of coal ash stored in impoundments in North Carolina. The effort is driven by litigation, new laws and regulations, business reasons, and significant scrutiny from the public after the discharge of ash at Dan River in February 2014. Due to the unusual nature of this effort, a variety of legal hurdles have joined the engineering hurdles on the list of project milestones. This presentation will discuss Duke Energy's efforts to respond to agency and citizen enforcement and to obtain necessary permits to keep the projects on schedule.

Mr. Hanchey's Résumé

Matt Hanchey is Associate General Counsel at Duke Energy, where he provides support on environmental, health and safety matters. Before joining Duke Energy in 2016, Matt practiced environmental law at Hunton & Williams, where he advised utility companies, chemical manufacturers, developers, and agribusiness companies on compliance with the Clean Air Act, the Clean Water Act, Superfund, and the North Carolina Brownfields Program. He earned his law degree from Duke University School of Law in 2005 and also holds an MS from Duke's Nicholas School of the Environment. He served as Chair of the Environment, Energy & Natural Resources Section of the North Carolina Bar Association in 2014-2015.

Dr. Taylor's Abstract

In an effort that began before 2008, Dr. Jeffrey Reid, N.C. Geological Survey (NCGS) Senior Geologist for Energy and Minerals has conducted an extensive examination of the oil and gas potential in North Carolina. This effort was initiated by a series of USGS workshops conducted with several state geological surveys to show the extent of data on the oil and gas potential of the East Coast Mesozoic basins. A USGS grant award enabled the NCGS to convert all our paper oil and gas geological, geophysical, and geochemical information into digital datasets, which could be used in a national numerical assessment. In June 2011, Dr. Reid and State Geologist James Simons traveled to Denver to present both data and analyses for the Dan River-Danville basin and the Deep River basin.

Also in 2011, additional funding was allocated to begin adding new analyses as part of a legislatively mandated Oil and Gas Study. In June 2012, the USGS assessment of undiscovered technically recoverable oil and gas in the East Coast Mesozoic basins was released as a two-page Fact Sheet. Both basins in the state were numerically assessed. A year later in July 2013, the North Carolina General Assembly (NCGA) appropriated \$300K for the 2013-2014 state fiscal year (SFY), and \$250K for the 2014-2015 SFY. The bulk of this new funding was to perform geochemical and geomechanical analyses on the existing cores archived in the survey's repository. From 2008 to 2015, nine peer-reviewed publications have documented our research. During this same time, NCGS personnel have made 23 presentations at professional meetings, many of which are archived online in an extended form at the AAPG Search and Discovery website. Dr. Reid with his co-authors received the Vincent E. Nelson Memorial Award for the Best Poster at both the 2008 and 2014 AAPG Eastern Section meetings. Dr. Reid is the first dual winner of that award.

The NCGA appropriated \$500K to complete the analyses on new samples and to drill a second core hole in the Dan River basin during this fiscal year. The NCGS continues to compile results from our investigations to

(Continued on page 14)

build the strongest case possible for a USGS re-assessment of the Mesozoic basins in the State.

Dr. Taylor's Résumé

Dr. Kenneth B. Taylor is the 13th person to serve as the State Geologist of North Carolina since the NCGS was authorized in 1823. Dr. Taylor career has spanned 36 years, including 21 years in state government, a decade in academia, four years in the private sector, and one year in federal service. He has extensive experience in emergency planning and response, hazard mitigation, risk assessment, loss estimation, geohazard analyses, and oil and gas.

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Chapter Geochemistry Courses a Big Success

By Rick Kolb

After successful conferences on shale gas in 2012 and vapor intrusion in 2014, our section took a different track and offered one-day courses presented by Bill Deutsch in Basic and Intermediate Groundwater Geochemistry at The Frontier in Research Triangle Park on October 5 and 6, 2015. The courses were a success and were well-attended -- we had 50 registrants for the Basic course and 45 registrants for the Intermediate course. We offered seven hours of continuing education credit for each class attended to geologists registered in South Carolina and with the North Carolina engineering board.

The course planners were Maddie German of Smith Gardner, Jessica Stearns and Brian Smith of ECS Carolinas, Rick Kolb of Duncklee & Dunham, Adam Phillips of Prism Labs, and Walt Plekan of AECOM. We started planning these courses in January. To keep the cost down, Maddie recommended The Frontier (<http://www.rtp.org/about-us/the-frontier/>), which offers drop-in space in Durham; she discovered this venue early in 2015 when she attended a Toastmaster Speaker Showcase at this location. There was no monetary cost to use the venue, however the course planners arranged all the catering and set up the tables, chairs, and vendor space. For this group of studious geologists food and beverages were not in short supply. Fruit, pastries, yogurt and granola bars were available for the breakfasts and morning/afternoon breaks; The Pit catered a barbecue lunch during the Basic course; and box lunches arrived from Panera during the Intermediate course. In true geologist fashion the networking social Monday evening after the class provided many opportunities for students, regulators and consult-

ants to discuss the day's topics over microbrews and hors d'oeuvres. Yes there was a little extra work, doing all the setup and food/beverage purchases ourselves, but it was worth it to keep the overall costs down and the courses affordable.

The Basics course was framed as an introductory geochemistry course for scientists and engineers working in the field of groundwater site characterization, contamination, and remediation. It provided the basic information on geochemistry that is necessary to understand natural and contaminated systems and how the composition of groundwater evolves along its flowpath in the subsurface. Attendees gained a better understanding of the types of geochemical processes that affect groundwater composition, the importance of collecting sufficient data to understand site-specific geochemical systems, and what the data they have collected means from the standpoint of contaminant occurrence and mobility.

The Intermediate course was also framed for scientists and engineers working in the field of groundwater site characterization, contamination, and remediation. It provided information regarding the importance of geochemistry in the evaluation of contaminant fate and transport and in the design of applied remediation methods. Attendees gained an appreciation for the importance of geochemistry in predicting inorganic/organic contaminant fate and transport and the application of geochemistry to in-situ active remediation methods.

If you weren't able to attend, the course notebooks with Bill's notes are for sale for \$25 each. Contact Maddie German at madeline@smithgardnerinc.com if you would like to purchase one. We will also have them to our meeting at 1705 Prime in Raleigh on April 7.

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SAEDACCO is using its Roto-Sonic drill to conduct Groundwater Interval Profile Sampling. This in-situ sampling system is used in sedimentary aquifers with a two inch stainless steel screen, inflatable packer and a Grundfos Redi-Flo pump to collect discrete formation samples at a rapid pace during the drilling process. This system assists the client in determining the vertical extent of contamination in aquifers without having to install multiple monitoring wells. Cost savings, innovative ideas! Let us know how we can help you on your next project.

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Technology is Revolutionizing Our Business

By Nicholas Moran

At one point in the not too distant past the environmental industry relied on film or polaroid cameras. That technology was slow. Now, we have smartphones and we can send high quality photos across the globe in seconds.

Things are getting quicker and easier year over year. If sometimes it doesn't feel that way, it is probably because you are not taking advantage of the latest technology available. Hardware companies like In-Situ are making sensors that monitor wells remotely. Software companies like EDR and Enquire are creating software that streamline report writing and data gathering. And in the near future our computers may be writing our reports for us. It is already happening today in the financial reporting of the Associated Press.

Technology is influencing every aspect of the environmental industry and its poised to hasten as time moves forward. We need to know what is out there and how to implement it. That's what the Environmental Tech Summit is all about!

Please come meet other forward thinking professionals in the environmental industry at the Environmental Tech Summit on April 10-11 2016 in Raleigh, NC where you can discover the latest environmental software, remote sensing, telemetry, and mapping technologies while connecting with environmental professionals, app developers, and hardware engineers to learn and create solutions for your projects. [Register for your spot here: http://envirotechsummit.org/](http://envirotechsummit.org/)

Georamblings

By Charles Welby

One cannot wander across the face of the earth without realizing that the earth's surface maintains a variety of forms, essential support to our life on the earth through the minerals, and the energy found beneath its surface. As geological studies are pursued, our interpretations of what the earth is all about seem to be modified and in some cases changed.

As I wander about Raleigh, and also North Carolina, I think about the interesting geological features that can be observed and which tell us about how the North American continent was formed. Each of us has had experiences that have piqued our curiosity about the geological world about us.

I have a bumper sticker that I acquired some years ago that I am sure piques the imagination of non-geologists. "Reunite Gondwanaland." The world would be a different place if that were to occur. How could it happen? It would be the reverse of the process that separated the continents south of the equator. My thoughts that are rambling this evening while I am trapped in the house by a couple of inches of snow on the driveway and out in the street makes the evening of certain interest.



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Board of Directors Meeting Minutes, January 7, 2016

By Rebecca Tinnel, Chapter Secretary

Start Time: 5:00 PM End Time: 6:10 PM
Minutes by Rebecca Deal

Roll Call and Finances

Call to Order

Roll Call – Determination of Quorum

Present:

Maddie German
Rick Kolb
Eric Cross
Rebecca Deal
Jenn Thomas
Alex Rutledge
Susan Kelly
Adam Phillips
Walt Plekan
Susan Buchanan
Russ Molyneux
Jane Gill-Shaler

Carolinas Section Finances – Eric

Review of current section finances

Checking	\$4,020.05
Savings	\$14,694.87
PayPal	\$635.10
Total	\$19,350.02

ii) Greensboro meeting \$100-200 positive!

Upcoming Events and Newsletter

Winter Section Meeting – Charlotte – Rebecca

Speaker:: Paul Santi – Colorado School of Mines
(Current AEG President)

Update and outstanding needs:
Yes to Cake.

Who is planning to attend?

Rebecca Deal, Susan Kelly, Eric Cross, Jenn Thomas, Russ Molyneux, Sue Buchanan, Maddie German, Alex Rutledge,

Walt Plekan (Maybe).

Section to cover Paul's hotel & travel expenses (\$270 flight)

AEG to cover flight, hotel is Rebecca's house.

Volunteers to pick Paul up from airport, drive to UNCC, section meeting, hotel and to airport Friday AM.

Rebecca will pick up Paul at airport at 2:30 on Thursday. He will be staying at Rebecca's house Thursday night, and she will drive him back to the airport on Friday morning at 8:00 AM.

Do we need the amplifier, speakers, microphone etc?

No, confirmed by Maura at draught.

Sponsor poster?

Rick will print and Maddie will bring the sponsor poster.

Do we like the printed (Guest, Student, Member) name tags?

Should we continue with this? YES, Jane will bring these.

Fundraising for Carolinas Section Scholarship. 50/50 Raffle?

Yes, Jane to bring Raffle tickets, Rebecca to make flyer for 50/50 raffle.

2015-2016 Jahns Lecture Tour – Susan

Proposed for the Fall we will likely use the Eastern Route this year. Try to include Charleston? Wilmington? School interest is only being inquired to now, nothing confirmed yet.

Rick will send Susan past lectures / agendas to help with planning. cc Maddie

Field Trips – Sue

Summer 2016 – Wilmington: Proposed Dates:
May 14, 2016 or May 21, 2016

Venue for Friday Meeting: Possibly

(Continued on page 18)



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DOSIMETERS & LOTS LOTS MORE!

(Continued from page 17)

UNCW? Catering?

The field trip will be two half day locations separated by lunch, likely including Fort Fisher & the Seawall

Boone trip update: Of the 2 proposed dates; (August 27, and October 8), the board felt that August 27th was best. We will plan for about 50 people to attend. Will be a full day field trip including several local stops.

Both Trips would count for 8 hrs continuing education credits.

Results from field trip survey (main points)

- 1) Finding out about the field trip was typically from email notification, newsletter and word of mouth.
- 2) Things to work on are making the registration form easier to understand; improve on advertising the field trip; improve the field trip handouts/guidebooks; and better lunch option.
- 3) The last page has suggestions on more field trips and there is a variety of things to go by (structural geology, mining, mineral collection, pig farm contamination, ash holding ponds, excavation/planning of bridge building, and caves).
- 4) Overall, I think this survey helps and provides me with some good feedback.

Newsletter – Jennifer Thomas

Deadline was December. 1 for Winter newsletter.
Ideas to get these out on time. -
Hassle people.

Jenn have you finally received what you needed to get this finished?

Yes, it is complete

Plans for the spring issue? (Reminder have your stuff to Jenn by March 1st.)

Coastal Geology,

Rick to provide Groundwater Geochemistry Class information

Raleigh Meeting – March or April

Speaker options. (potential speaker list)

Number one pick: Kenneth Taylor, Rick to ask

Alternate option: Ken Bradbury (good for Environmental)

Did we like the 1705 Prime (Rocky Top Catering) Location?

Yes, OK to proceed

Social Committee – Adam

Any activities planned for the winter or into spring?

Thinking about baseball games

Updates on US National Whitewater Center in Charlotte

Looking into pricing: \$25 per individual

activity or \$60 for everything

Adam will contact to see about group packages

Options for a meeting location, social activity, or both

Visiting professionals – Rick

What is our school list looking like so far this year

NC State so far, just sent out email last month.

ETSU (April) – Susan K. & Paul W.: Section covers Paul's hotel room?

Board Updates

Sponsor Update – Walt

How are renewals looking?

2-titanium (EnviroEquipment)

5-silver (EGIS, PA; Geologic Exploration, CCI, EDR, Pyramid)

½ page newsletter (ESP)

Discussion on options for more than 2 Titanium Sponsors.

Group agreed to keep at 2 in order to maintain prestige of sponsorship.

Ads in newsletter – generate a go by list.

Walt to send out sponsorship emails this coming week, Rebecca to send contact for Eastern Solutions to Walt.

Walt to start asking / talking to sponsors about contributing to meetings, I.E. a round of drinks or appetizers

Email Walt contact info for potential sponsors.

GoDaddy update – Susan

Update us from an older server to a newer server.

At a cost of \$180, that will be good for 5 years.

In Sept. we signed up for two more years, but for an additional \$180 with five year agreement we can also upgrade our service to a newer, faster, and more secure network.

Feedback?

Everyone is in agreement, Susan to finalize with GoDaddy.

Reminder: Calendar of events for newsletter and websites now maintained by Josh Hanks:

josh@dunkleedunham.com



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Board of Directors Meeting Minutes, March 14, 2016

By Rebecca Tinnel, Chapter Secretary

Roll Call 5:00 PM Madeline German, Russ Molyneux, Jen Thomas, Alex Rutledge, Walt Plekan, Susan Kelly, Paul Weaver, Rebecca Deal

4 members of the Carolinas Section Board of Directors were present – Quorum Obtained

Carolinas Section Finances

Current Accounting

Checking: 5,074.83

Savings: 14,696.08

Total: 19,770.91

Sponsor Update – Walt Plekan

2016 Paid Sponsor List	
Sponsors	Paid via
Titanium	\$600
Enviro Equipment	Paypal
Geobrug	Paypal
Platinum	\$500
Pine	paypal
Gold	\$375
SAEDACCO	check 7552
Parratt-Wolff	Paypal
Silver	\$250
EGIS, P.A.	check 3673
Geologic Exploration	Check 56060
CCI	check 74034
Pyramid	Paypal
EDR	Paypal
ESP	check 2322
Con-Test	check 50346
A&D	check 116522
Choice	check 4228
Enco	check 14701
Regenesis	check 0495
AE Drilling	check 18726
Shamrock	check 4121674
Prism	check 43502

Most of our 2015 sponsors renewed their sponsorships except Pace and ESC.

New sponsors this year are Parrott-Wolf (back from a national sponsorship last year) and Shamrock.

Walt will send Susan a copy of the Sponsor request letter, so she can disperse it to possible sponsors in western NC

Based on the database from Jan/Feb 140 paid, 480 lapsed memberships, 100 emails returned, need updated membership list. About 100 of the returned emails were from students.

Russ will generate ideas to increase the number of student members to paid members.

Spring Section Meeting – Raleigh

The meeting will be held at 1705 Prime with Speakers: Matt Hanchey, Associate General Counsel, Duke Energy & Dr. Kenneth Taylor, P.G., State Geologist

Remember this meeting is starting at 5:00 because of two speakers, board members to arrive a little early for set-up.

Send an email reminder this week, then toward the end/beginning of April.

RSVP by the 4-1-16

MG to bring the amplifier, speakers, microphone, cash box, receipts

We have guest, sponsor, student, member stickers.

AR will bring Carolina's Scholarship stuff.

Summer Section Meeting/Field Trip – Wilmington – Sue Buchanan

Meeting Reel Café Friday May 13, 2016;

Field Trip Saturday, May 14, 2016 –

Speaker & Trip Leader: Professor Roger Shew, UNC Wilmington, Department of Geography and Geology (Bluewater was booked)

Meeting Networking Social Begins 5:30 PM

Saturday Field Trip begins at 8:00 at

UNCW finished around 3:30 downtown

Specialty Hotel Room deal ends April 1st

Charlotte Meeting – Maddie

More of a loss than past meetings, weather (looming ice storm) was the major contributing factor.

Keep in mind moving forward; possibly look for less expensive venues

2015-2016 Jahns Lecture Tour – Susan Kelly

Proposed schedule for the week of October 27th fly into Greenville, visit Furman, Clemson, UNCC, Guilford, UNC CH, NCSU and Wake Tech

Jerome De Graff is flying in on

October 23rd (Sunday) and out

on October-29th (Saturday)

(Continued on page 21)

Membership Update –Russ Molyneux

(Continued from page 20)

and has very full schedule.

Alex should be able to plan the Greensboro meeting for October 27th, we will continue to use Natty Greens Brewery in downtown Greensboro.

Newsletter – Jennifer Thomas

Newsletter should be out by the end of March. Thanks to everyone who was able to get Jenn their articles and information on-time.

Restructure update – Maddie German

Beginning implementation of new regional model references to the Carolinas Section need to be updated to the Carolinas Chapter.

ii) Jenn – Newsletter

iii) Joanna – Facebook-

iv) Walt – Sponsor Forms

v) Brad should have cleaned up the website but let him or I know if you notice something

Regional Director – Maddie German

i) This person will represent the southeastern region at the national BOD meetings.

ii) Already Nominated Paul Weaver - Paul are you up for this? We don't want to overwhelm you with this as well as 2019 National meeting.

Paul Weaver is nominated for the section 8 regional director position, for the initial two year term. He will then have the option to run again for another three year term.

ii) Nominations open until Tuesday, May 24, 2016.

Email any questions about these changes and policies to Maddie.

Please send nominations to:

AEG Headquarters

1100-H Brandywine Blvd.

Zanesville, OH 43701

Fax: 740-452-2552

Email: contact@aegweb.org

Include: Name, region, name of nominator (if not self-nominated), contact email, phone number and, optionally, a biography and/or past AEG experience.

2019 Asheville Meeting – Paul Weaver

Paul plans to get team leaders together for the first conference call by the end of April to start organizing committees and begin basic conference organization. September 2016 will be the 3 year mark.

Communication and Social Media – Joanna Harbison

Joanna will post updates regarding the April Meeting, May Field Trip and Meeting as well as reminders to donate to the Carolinas Scholarship on Facebook-

Sue & Alex had idea to have multiple people posting to the section Facebook page, to help with variety in the realm of interesting science and geo news, and divide up the work. Specifically, Jane was mentioned as sharing many cool geology related items; as well as the national facebook page has many geology articles we could repost.

Currently you can post as a visitor but not to the central body of the page. Goal is to make the page more active with multiple people adding articles frequently. Joanna plans to get all the Carolinas BOD access, but everyone else will still have to post as a visitor.

Legislation to disband Arizona geology board

Try to get more information; AEG is doing a great deal out in Arizona to fight this legislature, Joanna will post updates to Facebook.

Discussed potential repeat of VI Conference for 2017, considering new EPA guidance and expanding activity around this issue.

The Call ended at 5:05PM.

Submitted by Rebecca Tinnel, Secretary, AEG Carolinas Chapter



<u>REGION</u>	<u>STATE(S)</u>	<u>INITIAL TERM LENGTH</u>
1	Northern California	1 year
2	Southern California	3 years
3	Oregon, Washington, Idaho, Alaska and Hawaii	2 years
4	Nevada, Utah, Arizona and New Mexico	3 years
5	Montana, Wyoming, Colorado, North Dakota, South Dakota, Nebraska and Kansas	2 years
6	Oklahoma, Texas, Arkansas, Louisiana and Mississippi	1 year
7	Wisconsin, Minnesota, Michigan, Iowa, Illinois, Missouri, Indiana, Ohio and Kentucky	1 year
8	Tennessee, North Carolina, South Carolina, Alabama, Georgia and Florida	2 years
9	Pennsylvania, Virginia, West Virginia, Maryland, Delaware and the District of Columbia	3 years
10	Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York and New Jersey	1 year
11	International	3 years

EDUCATION**Visiting Professionals Program**

*By Jennifer Thomas,
Newsletter Editor*

The latest Visiting Professionals Program was held at UNC Charlotte. I spoke along with Brandy Costner of HDR and Rick Kolb of Dunklee & Dunham, discussing our careers to give students an idea of what sort of work a geologist might do after graduating. All three of us are environmental geologists in different stages of our career. Unlike Brandi and me, Rick also had experience as a petroleum geologist.

Other recent Visiting Professionals include Kenneth Taylor of the North Carolina Geological Survey and Nathan Mohs of Stewart Engineering who spoke at UNC Chapel Hill. The Guilford College session included Dr. Taylor and Carin Kromm from NCDEQ, Winston-Salem Regional Office and Cyrus Parker of the NCDOT.



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ANNOUNCEMENTS

FALL FIELD TRIP

The Linville Falls Fault Zone: Its Evolution and Influence on Slope Stability

Saturday, August 27, 2016

The Linville Falls fault has long been recognized as an Alleghanian ductile fault zone that frames the Grandfather Mountain window in northwest North Carolina. The fault zone separates Mesoproterozoic Grenville basement rocks in the hanging wall from complexly deformed basement and Neoproterozoic cover sequences of the Grandfather Mountain Formation in the window. Although orogenic mountain-building in the southern Appalachians ceased at the end of the Alleghanian orogeny, features such as high topographic relief, steep slopes, incised river gorges, and frequent mass wasting events suggest later rejuvenation may be responsible for the landscape we see today. Join AEG on a field trip in and around Boone, NC as we will examine and discuss not only Paleozoic deformation and mountain building, but also over-printing brittle structures and geomorphic evidence for later reactivation of the Linville Falls fault.

AEG JOB LINKS

As a reminder, there is a tab for careers on the national AEG website:

<http://aegweb.site-ym.com/?Careers>

The Carolinas Chapter website also has a place to post and search for job listings:

<http://aegcarolinas.org/jobs/>

TRB SUMMER WORKSHOP

The North Carolina Department of Transportation (NCDOT) is hosting the [Transportation Research Board \(TRB\) 2016 Summer Workshop](#) this year in Asheville, NC, from July 26-29. We hope to see you all in Asheville this summer!



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CALENDAR OF EVENTS - 2015

Geological Events in the Carolinas

Courtesy of AEG Carolinas Chapter – www.aegcarolinas.org. Last updated December 21, 2015

Send updates/corrections to Josh Hanks, Duncklee & Dunham, josh@dunckleedunham.com

Meeting Date, Time, and Location are Subject to Change – Please Verify Prior to the Meeting

Date: Thursday, March 17, 2016 (meetings are held on the third Thursday of the month)

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: Hail Gold Mine – Our History is Now

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:00pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport – 1400 Jim Hamilton Boulevard, Columbia, SC

Contact/RSVP: Laurence Leblang at [facebook.com/SCAEP.org](https://www.facebook.com/SCAEP.org) or leblanlm@dhec.sc.gov by 4:00pm on 3/16/2016

Date: Thursday and Friday, March 17 and 18, 2016

Event: 13th Annual NCWRA Annual Symposium: The Economic Value of Water

Time: 8:00 AM Thursday to 5:00 PM Friday

Location: McKimmon Center; 1101 Gorman Street, Raleigh, NC

Details: <http://www.ncwra.org/events>

Date: Friday, March 18, 2016

Event: ASBOG Geology Exam

Details: Deadline to apply for the exam was February 2, 2016 (and preapproval to take the exam before that)

Location: McKimmon Center, Raleigh

Contact: www.ncblg.org

Date: Thursday, March 24, 2016

Event: Ground Water Professionals of North Carolina Quarterly Meeting

Presentation: Phase Out of Non-Commercial Lust Fund

Speaker: Carin Kromm, L.G., Regional Supervisor, Winston-Salem Regional Office, NCDEQ

Location: Marriott – PTI Airport; One Marriott Drive, Greensboro, North Carolina

Cost: Members \$35/person, non-members \$45/person

Details: 6:00-7:00 social, 7:00-8:00 dinner, 7:30-8:30 presentation

Contact/RSVP: Mike Stanforth at mstanforth@excelengr.com or (704)913-7614

Date: March 31- April 1, 2016

Event: Annual Meeting of the Geologic Society of America, Southeastern Section

Location: Columbia Convention Center; Columbia, South Carolina

Registration: <http://www.geosociety.org/Sections/se/2016mtg/registration.htm>

Information: <http://www.geosociety.org/Sections/se/2016mtg/>

Date: Tuesday, April 5, 2016 (meetings are held on the first Tuesday of the month)

Event: Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

Location: 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

Details: www.meetup.com/EWB-USA-RTP-Professional-Chapter/

Date: Thursday, April 7, 2016

Event: AEG Carolinas Section Spring Meeting

Location: 1705 Prime; 1705 East Millbrook Road at Old Wake Forest Road, Raleigh, NC

Topic: Natural Gas Resources in North Carolina and An Overview of the Coal Ash Issue

Speakers: Matt Hanchey, Attorney at Duke Energy, and Dr. Kenneth Taylor, State Geologist,

Time: 5:00 social, 6:30 buffet dinner, 7:30 Coal Ash Presentation, 8:15 Natural Gas Presentation

Cost: AEG members \$30, non-members \$40, public-sector employees \$15, teachers \$10, students **free** with ID

RSVP: Rick Kolb at rick.kolb1@gmail.com by 5:00 on Monday, April 4, 2016

Date: April 7-April 9, 2016

Event: ASBOG Spring Council of Examiners

Workshop (if you are interested in participating, contact NCBLG)

Location: Baton Rouge, Louisiana

Contact: ncblg@bellsouth.net

Date: April 12, 2016

Event: Quarterly meeting of the North Carolina Board of Licensing Geologists

Location: Starts at 9 AM at the office of Upton Associates; 3733 Benson Dr. Raleigh, NC; morning session open to the public

Contact: ncblg@bellsouth.net

(Continued on page 26)

(Continued from page 25)

Date: Thursday, April 21, 2016 (meetings are held on the third Thursday of the month)

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:00pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport – 1400 Jim Hamilton Boulevard, Columbia, SC
Details: [facebook.com/SCAEP.org](https://www.facebook.com/SCAEP.org)

Date: Tuesday, May 3, 2016 (meetings are held on the first Tuesday of the month)

Event: Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

Location: 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

Details: www.meetup.com/EWB-USA-RTP-Professional-Chapter/

Date: Friday, May 13, 2016

Event: AEG Carolinas Section Summer Meeting
Location: Reel Café; 100 South Front Street, Wilmington, NC

Topic: Coastal Zone Issues: Geological and Environmental Treasures, Stressors, Solutions?

Time: 5:30 to 8:30

Cost: AEG members \$30, non-members \$40, public-sector employees \$15, teachers \$10, students free with ID

Details: <http://aegcarolinas.org>

Date: Saturday, May 14, 2016

Event: AEG Carolinas Section Summer Field Trip
Topic: Beach to River: A Visit to the Coastal Zone to Observe Geological Controls and Environmental/Anthropogenic Impacts on our Natural Systems

Leader: Professor Roger Shew, UNBCW

Time: Starts at 7:45am at Hampton Inn Wilmington University Area; park at 206 Old Eastwood Road, Wilmington

Cost: \$75; students with college ID \$50

Field Trip Waiver and Registration Deadline:

Monday, May 9, 2016

Details: <http://aegcarolinas.org>

Date: Thursday, May 19, 2016 (meetings are held on the third Thursday of the month)

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:00pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport –

1400 Jim Hamilton Boulevard, Columbia, SC
Details: [facebook.com/SCAEP.org](https://www.facebook.com/SCAEP.org)

Date: Thursday/Friday, June 16 and 17, 2016

Event: Quarterly meeting of Ground Water Professionals of North Carolina and annual golf tournament

Presentation and Location: TBD in the Pinehurst area

Details: www.gwpnc.org

Date: August 6, 2016

Event: ASBOG Annual Meeting

Location: Video Conference and Physical

Contact: ncblg@bellsouth.net

Date: August 9, 2016

Event: Quarterly meeting of the North Carolina Board of Licensing Geologists

Location: Starts at 9 AM at the office of Upton Associates; 3733 Benson Dr. Raleigh, NC; morning session open to the public

Contact: ncblg@bellsouth.net

Date: Saturday, August 27, 2016

Event: Appalachian State University/AEG Carolinas Section Field Trip

Location: The Linville Falls Fault Zone: Its Evolution and Influence on Slope Stability; Boone, North Carolina

Cost: TBD

Details: <http://www.aegcarolinas.org/index.php>

Date: September 18-24, 2016

Event: AEG Annual Meeting

Location: Waikoloa Beach Marriott Resort & Spa; 69-275 Waikoloa Beach Drive; Waikoloa Beach, Hawaii 96738

Details: www.aegannualmeeting.org

Date: September 25-28, 2016

Event: Geological Society of America Annual Meeting

Location: Denver, Colorado

Technical Session and Short Course Proposal

Deadlines: February 1, 2016

Information: <http://www.geosociety.org/meetings/2016/>

Date: September 30, 2016

Event: ASBOG Geology Exam

Details: Deadline to apply for the exam is August 16, 2016 (and preapproval to take the exam before that)

Location: McKimmon Center, NC State University, Raleigh

Contact: www.ncblg.org

(Continued on page 27)

(Continued from page 26)

Date: November 4-November 6, 2016

Event: ASBOG Fall Workshop

Location: Lawrence, Kansas

Contact: ncblg@bellsouth.net

Date: November 15, 2016

Event: Quarterly meeting of the North Carolina

Board of Licensing Geologists

Location: Starts at 9 AM in the Graham Building,

East Carolina University, Greenville, NC;

morning session open to the public

Contact: ncblg@bellsouth.net

Date: September 9-16, 2017

Event: AEG Annual Meeting

Location: Colorado Springs, Colorado

Date: September 15-22, 2019

Event: AEG Annual Meeting

Location: Renaissance Hotel; Asheville, North

Carolina – want to volunteer to help? Email

Paul Weaver at pweaver@espassociates.com

MEMBERSHIP APPLICATION



ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

MEMBER:

- ☐ **New Member Dues – \$95.00** First year of membership only.
☐ **Full Member Dues – \$140.00***

Applicants for Member Class, including Full and New Members, shall hold a degree in geology, engineering geology or geological engineering, or a degree in a related professional field with 30 semester-hours of credit in the geosciences. In addition, the applicant shall be practicing in the field of Engineering Geology, Environmental Geology or Hydrogeology.

**Section Dues - Section dues are charged to all Full Members, invoiced separately. More information regarding Section dues can be found at www.aegweb.org.*

AFFILIATE:

- ☐ **Affiliate Dues – \$100.00**

Applicants for Affiliate Member Class shall be scientists or engineers who work with engineering geologists, or persons interested in environmental and engineering geology.

TEACHER:

- ☐ **Teacher Dues – \$35.00**

Applicants for Teacher Member Class shall be engaged in full-time teaching at the Primary, Secondary or post-secondary level in the area of Earth Science education or a related subject.

STUDENT:

- ☐ **Annual Dues – FREE**

Applicants for Student Member Class shall be full-time students enrolled in an academic program in the geosciences or in a related field in engineering.

INTERNATIONAL:

- ☐ **International Member Dues – \$35**

Applicants shall hold the same requirements as for Member Class. International Members receive (online ONLY) the E&EG Journal, Annual Directory, Annual Meeting Program with Abstracts and the AEG NEWS.

AEG memberships are based on the calendar year. Applications received after October 1 will be entered for the following calendar year.

APPLICATION FORM

Please complete this form and mail it with your Annual Dues payment to the Association's Headquarters office for processing. New member applicants do not pay Section dues for their initial year of membership.

Name: _____
(Please print your name as you would like it shown on your membership certificate.)

Date of Birth: _____
Required to authorize payment

Preferred Address: ☐ Home ☐ Work ☐ School

Preferred Phone: ☐ Home ☐ Work ☐ School ☐ Mobile

Preferred E-mail: ☐ Home ☐ Work ☐ School

Alternate Address: ☐ Home ☐ Work ☐ School

Alternate Phone: ☐ Home ☐ Work ☐ School ☐ Mobile

Alternate E-mail: ☐ Home ☐ Work ☐ School

Desired Class of Membership: _____

Annual Dues Amount*: _____
**Section Dues not included. A separate invoice will be mailed to you.*

Payment Method:
☐ Check Enclosed
☐ Visa ☐ Master Card ☐ Discover ☐ AMEX
Name on Card: _____

Cardholder Address: ☐ Home ☐ Work ☐ School ☐ Other
(If not provided above, please provide card address)

Card Number: _____

Expiration Date: _____

Certification/Authorization: _____
(Signature)

My signature attests that, to the best of my knowledge, I meet the academic and practice requirements for the membership class I have requested and that all entries on this application are true and correct. I also authorize AEG to charge my credit card for the dues payment, if I selected the credit card payment option.

SUBMISSION: Send this form with your check or credit card authorization to: Association of Environmental & Engineering Geologists • PO Box 460518, Denver, CO 80246
 Phone: 303-757-2926 • FAX: 720-230-4846
aeg@aegweb.org • www.aegweb.org



ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

Connecting Professionals, Practice and the Public



Student and New Graduate Member Application

Let the Association of Environmental & Engineering Geologists (AEG) show you the great benefits to being a part of the geology profession! **AEG is geology in practice.** Join us and see why our members LOVE their jobs!

Benefits of Student Membership Include:

- Eligibility for **Scholarships** that provide funding for field camp, field studies, academic studies and travel to present at national meetings.
- **Discounts** for attending AEG's Annual and local Section Meetings, field trips, and short courses (sometimes you can attend for **FREE**).
- **Networking** opportunities to potentially **meet YOUR future employer!** One member noted, "Every job I have had was a result of shaking hands at an AEG event!"
- **Free online access** to *Environmental & Engineering Geoscience*, co-published with the Geological Society of America, *AEG NEWS*, and *AEG's Annual Meeting Program with Abstracts*.
- **STUDENT MEMBERSHIP IS FREE!**
- PLUS, as **AEG's gift to you for graduating**, your first year of Professional Membership when you renew as a Full Member will be reduced by \$45.00.

Application Form

Name : _____

Preferred Address: _____

Phone: _____

E-mail (Current Institutional Provider): _____

E-mail (Non-Institutional Provider): _____

Institution (College/University): _____

Anticipated Graduation Year: _____

Please check one: ☐ Student (free) ☐ New Graduate
*(1st year, only \$95.00)

*Note: AEG will contact New Graduates upon receiving the application for payment and to complete the application process.

Submission Send this form to:

Association of Environmental & Engineering Geologists,
1100 Brandywine Blvd Suite H, Zanesville, Ohio 43701
Phone: 1-844-331-7867 (toll free); Fax: 740-452-2552
Email: contact@aegweb.org; Website: www.aegweb.org



AEG CAROLINAS CHAPTER – SPONSOR INFORMATION

The Carolinas Chapter of AEG supports many of its activities with financial assistance provided by our sponsors. Our activities include quarterly meetings, periodic field trips and seminars, a quarterly newsletter, and email announcements about our meetings and geoscience related activities. In addition, we donate large quantities of educational resources to science teachers.

We offer several levels of sponsorship, but they all have one goal: to keep the sponsor's name in front of our members and to bring you business. We have a real commitment to connecting our sponsors to potential buyers and will do all we can to help you build your business. Most of our members are practicing professionals with responsibility for selecting subcontractors, so our group is a great place to find new customers and to catch up with existing clients in an informal setting.

Our sponsors provide the financial support that allows us to have reasonably priced dinner meetings, host seminars, provide discounted dinner meeting costs for students and teachers, underwrite the cost of newsletters and our web site, provide geoscience mentors for students and young professionals, and support science education tools to our teachers and in our schools. All costs listed below are per year and end in December. New sponsorships received after October will continue to December of the following year.

Silver Sponsor (\$250):

GeoNews Newsletter: Business card size ad (2" high x 3-1/2" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign-in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibits: Space for tabletop display at one meeting. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, www.aegcarolinas.org, with a link to your site.

Gold Sponsor (\$375):

GeoNews Newsletter: Quarter-Page ad (4-1/2" high x 3-1/2" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibits: Space for tabletop display at two meetings. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, www.aegcarolinas.org, with a link to your site.

Platinum Sponsor (\$500):

GeoNews Newsletter: Half-page ad (4-1/2" high x 7" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibit: Space for tabletop display at three meetings. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG - Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, www.aegcarolinas.org, with a link to your site.

Titanium Sponsor (\$600):

Same as Platinum, but with a FULL PAGE ad in GeoNews. Limited to 2 Sponsors per year.

GeoNews Newsletter Sponsorship Only

Businesses or individuals can also advertise in GeoNews without being a full sponsor. The annual rates for advertising in GeoNews are as follows:

Business Card	\$ 40.00
Quarter Page	\$ 60.00
Half Page	\$ 100.00
Full Page	\$ 200.00

Please complete the form below and send to Jennifer Thomas, AEG Carolinas newsletter editor at jen@jenntecllc.com. Please call or email if you have any questions (contact information below).

AEG Carolinas Chapter Sponsorship Form

Please begin our sponsorship of the Carolinas Chapter of the Association of Engineering Geologists. Our sponsorship level is:

_____ Platinum PLUS Chapter Sponsorship, \$600/year
 _____ Platinum Chapter Sponsorship, \$500/year
 _____ Gold Chapter Sponsorship, \$375/year
 _____ Silver Chapter Sponsorship, \$250/year
 _____ GeoNews Newsletter Sponsor Only (see above)

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

Contact Person: _____

Cell: _____

Email: _____

Website URL: _____

Date of Payment: _____

Something about your company (use back of page for more room) _____

Please enclose a business card or email ad in jpg, pdf, or doc to Walt Plekan at walt.plekan@aecom.com.

MAKE CHECK OUT TO AEG CAROLINAS

Snail mail form and payment to:

Walt Plekan, AECOM, 701 Corporate Center Drive, Suite 475,
 Raleigh, North Carolina 27607

(Modified 1/7/15)

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(Continued on page 32)

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