

Newsletter

Spring 2000

Department of Geology
East Carolina University

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Message From The Chair

This past year has seen some significant changes to the Geology Program at ECU. As you know, Scott Snyder stepped down as Chair at the end of 1997-98 after ten years at the helm. Perhaps I should say "stepped up" because Scott is now our Associate Dean (it's good to have friends in high places!). Richard Mauger took on the tough job of Interim Chair for 1998-99 and oversaw the search for a new chairperson. I am happy to say that I was selected. I arrived in Greenville in August just in time for three hurricanes. I ended up living in a hotel (with my wife, two children and a cat) for five months. I do not recommend this to anyone! Although our year was disrupted by the hurricane Floyd floods the Geology Department did not fare badly. Our only damage was water in the gas tank of one of our trucks. The General Classroom Building and the Biology building were not so lucky. Their basements were flooded at huge cost. This experience prompted us to discuss the proposed location of the new science building with University administrators. This building which will house the Chemistry Department, will be built on the Green Mill Run side of the General Classroom Building. We argued strongly that this location may well be very unwise but the site clearance has commenced!

The floods were terrible but they afforded us an opportunity to get the word out about the Geology program. During National Science Week, we put on a display in the Joyner Library

about the relevance of geology to us all. Several faculty also wrote articles to the campus newspaper. These articles metamorphosed into serious contributions about hurricanes, floods, climate change and anthropogenic influences on flooding. These opinion pieces were published as a series in the Raleigh News and Observer and resulted in much positive feedback from people on and off campus.

So many questions and misunderstandings about the floods were circulating around campus that, together with the departments of Geography and Biology, we organized a workshop, open to all administrators, faculty, staff and students to discuss and address those questions. This Friday afternoon meeting was very successful, around 200 persons attended, including Greenville City Council members, County commissioners and several more off campus members of our community. I also participated in a fact-finding tour with Chancellor Eakin and several other ECU administrators and faculty members. We toured eastern North Carolina by bus and visited with the leaders of several communities, both large and small to listen to their problems and to find out if ECU could help out. It was my job to point out that it won't necessarily be 500 years before the next 500-year flood!

We have been very active dealing with departmental matters also. A committee reviewed our undergraduate curriculum and, as a result of their report and the many discussions that followed, we have modified the curriculum and introduced three options in Coastal and Marine Geology, Environmental Geology and General Geology. It is hoped that these changes will address the students' needs in this changing world and also attract more persons from a broader pool into our program.

Another committee has been reviewing our graduate program. Their conclusions and recommendations will be discussed at length before the summer of 2000. A third, major committee has been reviewing the use of space in the Graham Building and in Terrania. One related initiative is a beautification program for Graham. We have been successful in obtaining campus funding to refurbish the central entrance atrium. We hope to make this area an eye-catching and memorable aspect of a visit to Graham. Other plans are in the works but will wait until our space committee reports.

The floods were a momentous event. But another momentous event during the year was Stan Riggs' retirement at the end of December 1999. Stan has served our department for 33 years! His "retirement" means that he will no longer be lecturing but Stan isn't going anywhere. He has been designated ECU's first Distinguished Research Professor. Thus, Stan will continue to do his research, to advise graduate students and to be a valuable member of the Geology Department

We were able to argue successfully that Stan should be succeeded by another coastal geologist. So the search is underway. We are also searching for a new faculty member in the field of biogeochemistry. This position is a joint one with the new Ph.D. granting Coastal Resource Management program. So these are exciting times! Two new faculty members will join us in August and provide a new impetus to the teaching and research activities in Geology.

I hope that this brief update assures you that the Department from which you graduated, and to which you provide so much valuable support, is healthy, thriving and ready to serve many more generations of geologists. I look forward to meeting with you and hearing from you if you would like to talk about the Department of Geology at East Carolina University

Steve Culver

A brief biography for Steve Culver, Chair of Geology

1973 BSc Geology, University of Wales

1976 PhD Oceanography, University of Wales

1996 DSc Biological Sciences, University of Wales

Taught courses in historical and physical geology, paleontology, stratigraphy, and sedimentology for 2 years in the University of Sierra Leone, 1 year at Oklahoma State University and 11 years at Old Dominion University. Spent 3 years as a researcher in the Department of Paleobiology, Smithsonian Institution. The past 6 years were spent as a researcher-administrator in the Department of Paleontology, The Natural History Museum, London.

Research interests include the ecology and paleoecology of benthic foraminifera; the use of microfossils in solving geological problems; the geology of West Africa. Research has been undertaken on Archean, Proterozoic, Cambrian, Jurassic, Cretaceous, Cenozoic and modern rocks and sediments and the fossils that they contain, in Sierra Leone, Liberia, Senegal, Mali, England, North Carolina, Virginia, Louisiana, Utah, the continental margins around north and Central America, and the deep Atlantic Ocean.

Hobbies include running, soccer, Tae Kwon do and generally messing around with his two children (Katherine and Steve) and his wife (Devinder).

Faculty News

Steve Culver



Activities for 1999-2000

Elected Vice-President of the Cushman Foundation for Foraminiferal Research

Cushman Foundation Special Publications Editor

Submitted proposal for \$350,000 to the National Oceanographic Partnership Program to produce a database of the distribution of benthic foraminifera in the North Atlantic

Published

Culver, S.J. 1999. Evolution caught in the act: the evidence of microfossil morphology. In: D. Springer and J. Scotchmoor (eds.), *Evolution: Investigating the Evidence*, The Paleontological Papers, 9: 155-170.

Culver, S.J. and Buzas, M.A. 1999. Biogeography of neritic benthic foraminifera. In: B. Sen Gupta (ed.), *Modern Foraminifera*, Kluwer, 93-102.

Culver, S.J. and Buzas, M.A. 2000. Global latitudinal species diversity gradient in deep-sea benthic foraminifera. *Deep-Sea Research I*, 47: 259-275.

Plans for 2000-2001

In addition to administration of the Geology Department and teaching my favorite courses, Paleontology and Earth and Life Through Time (=Historical Geology), I hope to redirect my research activities away from the UK and back to the US. For example, I intend to complete

my studies on the response of benthic foraminiferal communities to rapid environmental change in the late Jurassic (research funded by the UK Natural Environment Research Council). This research involved extensive field collecting at the type section of the Kimmeridge Clay on the south coast of England.

I hope to reemphasize my research interests on the Cenozoic coastal plain deposits of the eastern US, in particular reconstructing the paleoenvironments of the various units. I will also continue my research on benthic foraminiferal diversity changes through time with my colleague at the Smithsonian, Marty Buzas. Any other research activities during the year will depend on my getting new ideas—a process that seems to get harder as I get older!

Steve Harper



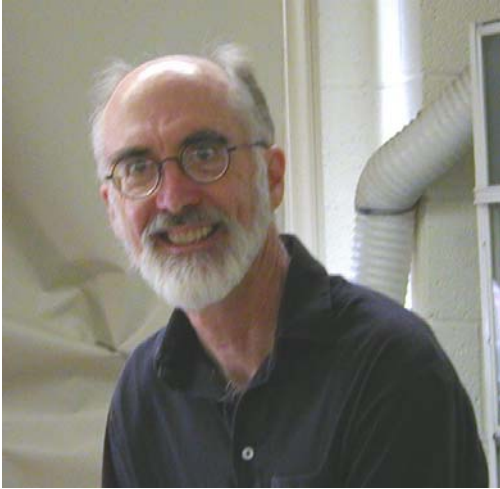
Because the flooding here from Hurricane Floyd received national attention, I am sure that all of you, no matter where you now reside, received some flood news. Fortunately, no faculty members or graduate students were flooded out. However, at least a couple of our new geology majors were flooded out by the downstream flooding along the south bank of the Tar River in and around the Tar River Estates area north of First Street. Several of us faculty members, Catherine Rigsby, Richard Spruill, Stan Riggs, and myself, have begun research projects with the September 1999 FLOOD event in the Tar River Basin and eastern North Carolina. Richard Spruill and I have organized a special Theme Session at Southeast GSA Meeting in Charleston, SC in late March 2000 entitled, "Impact of Inland Flooding from Hurricane Floyd and other Rainfall Events in North Carolina and Virginia, September-October 1999." I also have presented/will be presenting flood talks at the University of Georgia, George Mason University, and James Madison University during the spring semester of 2000.

Aside from my recently initiated flood research, my research has focused on the role of deforestation and vegetative conversion on debris flow activity and erosion rates in small- to medium-sized drainage basins from tropical, mountainous terrains in Southern Thailand to

temperate, mountainous terrains in the Appalachians. Currently, I have one M.S. student, Ruth Otteman, using GIS (ARCVIEW) and the US Forest Service LISA Program to model debris flow susceptibility in the Bent Creek Experimental National Forest southwest of Asheville, North Carolina. Future research will be focused on the study of the morphology and origin of tower karst in Krabi and Phang Nga Provinces on the southwest coast of Thailand. Also, in the summer of 1999 I obtained a small grant (~\$500) from the British Geomorphological Research Group to study the age and origin of raised Holocene shorelines along the Krabi and Phang Nga coasts. The rapid development and growth in coastal regions of Thailand has increased the need to understand past rates of sea level change as a component for coastal area landuse planning there. However, two radiocarbon dates on bedded shell deposits yielded ages of about 1300-1500 AD, much younger than what I anticipated, 5000 years BP. So, tentatively, I have interpreted the 1300-1500 AD dates as a storm surge deposit, perhaps produced by extra storminess during the Little Climatic Optimum.

On the teaching front, my typical teaching semester still includes 2 sections of Physical Geology (Geology 1500) and 1 section of Environmental Geology (Geology 1700). Our revised departmental curriculum will also have me teaching Geomorphology (Geology 5000-5001) every other spring semester. I also participated in teaching the UNC System-wide Geology Field School in New Mexico and Colorado in May-June of 1999 and will do so again this year along with Richard Mauger and Richard Spruill. As has been the case since I first arrived in the Geology Department, part of my teaching duties still include training and mentoring our Graduate Teaching Assistants to teach Geology 1501 labs. To gain more insights into this portion of my job, I participated in an NSF-funded Workshop before National GSA Meeting in Denver, Colorado on training Teaching Assistants to teach now (as TAs) and beyond (potential teaching careers) and took along one of our current Graduate Students, Stephanie McNabb-Rollins. I recently received an ECU Teaching Grant from the Vice Chancellor's Office to develop WEB-based Coursepack notes for Environmental Geology. A secondary objective written into this grant proposal is for ECU students to network/chat via email with students from Nanyang Technological University in Singapore about geohazards and other environmentally related geological problems that are unique to their respective life and geological environments. So, I will be travelling to Singapore this summer to finalize the plans for this project with a colleague there.

David Lawrence



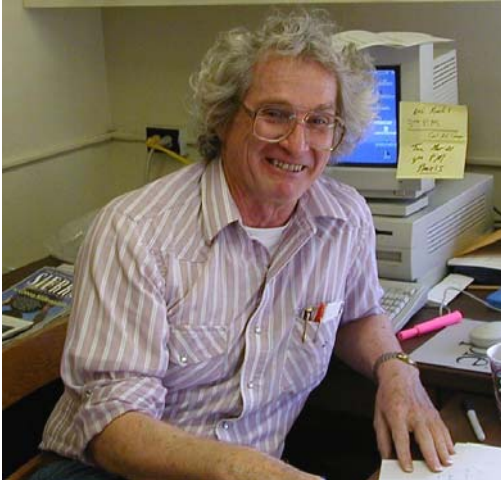
Those of you who thought you suffered camping out in the cold, rain, or ice in Hot Springs on Field Methods trips of yore, will be interested to know that last spring we all stayed in tiny pseudo-Swiss Chalets at the "Hot Springs Resort" and so had dry beds, heat, hot showers, and only a 300 foot walk to buy beer in the evening. The trains still roar by in the dead of night, however.

A project I had intended to try for a long time, modelling the evolution of structures along strike slip fault zones, using plaster models, was helped along no end by Analee Grimes, who was an undergraduate at the time. She subsequently presented a poster on the results at the 1999 GSA-Southeastern in Athens. Most of the models worked quite well, and we had great fun splattering Terrania with plaster of Paris. I have continued working with ductile shear zones in South Carolina, fighting cat briars and blackberry canes. My paper "Tectonic setting of the Buzzard's Roost shear zone" came out last year in *South Carolina Geology*, and I gave a talk at GSA Athens on my work on the South Carolina part of the Gold Hill Shear Zone.

Extremely short fame was mine, after I wrote an op-ed piece for the Raleigh News and Observer paper on a subject totally out of my field: Hurricane history of Greenville. I pointed out that Floyd was only the latest in a long string of storms, and that there would be more in the future. I then was widely quoted out of context, and even interviewed on UNC-TV. My short career in hurricanes has now ended, and I am eagerly awaiting a new seismograph for the geophysics class of next year.

Lastly, Congratulations to Mark Ouimette, who did a Gunnison region plutonic thesis with me, went on to U.Texas-El Paso for a Ph.D., and has gotten tenure at Hardin-Simmons on the endless Texas plains.

Richard Mauger



I served as Interim Chair of the Department last year, 98-99, and continued as Director of the UNC System-Wide Geology Field Course. The summer field course was unusually complicated because we had to adjust to a new funding procedure for off-campus credits classes and move financial management from Continuing Education at UNC CH to Continuing Studies at ECU. Our ECU people did an excellent job, and the field instruction and finances went along very nicely. My teaching stint included the Cuba, NM, to Grand Canyon to Gunnison trip and the Gunnison-based mapping projects. The final day of the Wildcat Gulch mapping project was enlivened by a manhunt for a male and female fugitive couple known to have ditched a stolen vehicle in a Cebolla Canyon resort just a few miles west of the project area. After numerous male/female mapping teams attracted the attention of the low-lying search aircraft, the Gunnison County sheriff finally decided that our presence in the area was interfering with the search; we were asked to leave and did so promptly except for Professor Diemer. He had not gotten the evacuation order and eventually showed up at the remaining van at the designated "quittin time". The fugitives were apprehended later that day in the lower reaches of the next canyon to the north of Wildcat Gulch. I completed my six-years stint on the Greenville City Environmental Advisory Commission, having served three years as Chair, wrote and had published the faculty manuals for two popular geology textbooks, and finally completed and printed out two geologic maps (done in CANVAS 3.5.3 on a Mac) of an area in Chihuahua Province, Mexico, that I had studied and mapped in the late 1980s.

Donald Neal



Another year has come and gone and I find I am busy as ever. Work continues on the Mississippian section in West Virginia. I presented a paper on the cyclicity in the Bluefield Formation at the International Congress on the Carboniferous and Permian in Calgary in August. The field trips were great and I wish I could have stayed a bit longer. The next congress is in four years in the Netherlands so I have plenty of time to get the abstract written. I also resurrected Lisa Corbitt's thesis and presented a poster at the GSA meeting in Denver. You would be surprised how much good geology is in old theses that hasn't been published. Maybe we can finally get around to publishing some of it!

Service is still a large part of what I do. Catherine Rigsby and I coordinated the Earth Science Week activities last fall and it was very successful. Thanks also to members of SGE for their help in putting the posters together for the library exhibit. Speaking of SGE, I am still National Vice President of the Southeastern Province of SGE. We have our biennial convention March 10-12 at Texas Christian University in Fort Worth, Texas. Hopefully the weather will cooperate for the field trip. I have served as the Secretary-Treasurer of the Southeastern Section of SEPM since its inception about eight years ago. I plan to step down from that position this spring. That's not to say I will have more free time, I won't. At the same time I give up the SE-SEPM position, I take on the position of Secretary-Treasurer of the Southeastern Section of GSA. What can I say. They caught me in a moment of weakness. Will it ever end? The same question can be asked about curriculum revisions and faculty searches and the myriad other little, time consuming things that come up around the department but, hey, somebody's got to do it.

Live long and prosper.

Stan Riggs



As of December 31, 1999 I gave up my teaching position to accept a newly created job of Distinguished Research Professor of Geology. I made this decision to change after 32.5 years on the geology teaching faculty for several reasons. First, it was time to move over and get some new young blood in our department and this seemed to be the opportune time to do that. Second, my physical situation is such that I just can't keep going at the same pace. Third, its time to write the memoirs before any more gray cells are lost—I started a series of books ten years ago, but haven't gotten far. The time to write the memoirs is before the party is over!

Making this major career change required much soul searching. No mechanism was in place at ECU for a faculty member to continue contributing to the department and university in an official capacity upon retirement other than through the normal teaching program or in administration—you were either in or out. Since I wasn't ready to be out, Scott Snyder agreed to undertake this challenge on my behalf---the new position was finally approved by the ECU Board of Trustees and became effective Jan. 1, 2000.

I would like to take this opportunity to thank all of the geology alumni for helping to make our Geology Department the best little department around and helping to make ECU a great place to live and work. These 32.5 years have been an incredible journey. Those of you that I have worked directly with over these many years have played crucial roles in developing both my scientific understanding of the earth and in my personal life—I am the sum of all of you that have passed through my life in some form or other. My hope is that each of you has benefited as much from our interaction as I have. Many of you have kept in touch over the years and I greatly appreciate that. Others have been out of touch, but are routinely brought back into my reality whenever I reference the various research projects. The work that each of you did as members of our research team represents a really important

scientific contribution and you should know that your work and the resulting theses frequently form the baseline information for ongoing research by myself, the new students, other geologists and industries, as well as various State and Federal agencies within the region.

I look forward to continuing to make significant contributions to the *Geology Department* and *East Carolina University* in my new position, as well as the opportunity to achieve my personal goals during these golden years. In the new position, I will continue to interact with both faculty and graduate students of the *Geology* and *CRM* programs, carry on a small-scale coastal research program, and publish synthesis papers resulting from my research career. But most important will be to finish the series of books for the public that integrate the dynamic interactions between human civilization and our incredible earth system.

Thanks again to each and every one of you and be sure to keep our planet in your life!

Catherine Rigsby



This has been an exciting year of research activity and teaching/learning for my students and for me. On the research end of things, I am pleased to report that I received a sizable NSF grant for my Altiplano paleoclimate studies. Until this year, my work in the Rio Desaguadero valley of Bolivia has focused on outcrop studies of river terraces and on the modern geomorphology and sedimentology of the river system. Pattie Baucom (M.S., 1997) was instrumental in this work. Pattie and I published a manuscript (with Pattie as first author, of course!) in May that focuses on the major results of the first three years of this research. Those results allowed us to substantiate that a record of tropical climate change does indeed exist in the sediments of the Rio Desaguadero valley and to garner this new funding - which allowed my colleagues and I to core 8 sites along the river valley in May and June of 1999. I arrived back at ECU in August with almost 400 m of core - enough to keep graduate student Stephanie Rollins (B.S. 1998); undergraduate researcher assistants Michelle Warren, John Kase (B.S. 1999), and Jeremy Okrasinski; and me very busy this year! Stephanie and I presented the preliminary coring results, as well as results from related

Altiplano work (senior research projects done by Stephanie and Katie Hackney (B.S. 1999)), at GSA and AGU in the Fall. Fortunately, Michelle will switch from undergraduate research assistant to graduate researcher this summer and at least two new students are expected to join the project in the Fall. With these additions to the team we should be able to make great progress on this project in 2000-2001.

Of course, 400 m of core couldn't possibly be enough to keep us satisfied! We plan to core at least two more sites within the next two years and I have already extended the Altiplano research to include several of the rivers that feed Lake Titicaca (the Rio Desaguadero is the lake's only outlet). Jim Carey (B.S. 1999) will begin M.S. research on the geomorphology and Quaternary geologic history of the Ilave River (Peru) this summer. Jim and I will be working with archeologists from UC Santa Barbara who have discovered evidence of human inhabitation in the Ilave valley dating back to >5000 years B.P. I traveled to Peru in October to scout the project and if what I saw is any indication - and I think it is - Jim's project will be both fruitful and incredibly fun.

All of this far-away work - thinking globally, as I am apt to do - doesn't keep me from noticing what's happening in my own back yard. Indeed, no one could not notice the devastating events of the Fall semester. Hurricanes Dennis and Floyd wreaked havoc on Greenville and most of eastern North Carolina. Part of the recovery processes involves trying to understand exactly what happened. My interests in climate change and fluvial processes serve to focus my attention on the lasting effects of the flood event. To this end, I am working with ECU geographers to document the imprint of the flooding on floodplain sedimentation and erosion. With junior geology major Mary Reid acting as field and laboratory assistant (ask her about prepping all of those samples of floodplain silt and clay!), this NSF-funded project is well underway.

On the teaching end of things, the sedimentology class was fun, as usual. We were lucky(?) to have scheduled our Tar River field trip on the weekend between Hurricane Dennis and Hurricane Floyd. The river was already at flood stage (just barely) when set out. Thanks to the on-line gauging data, which we checked before leaving campus, we didn't bother taking the canoes along. Instead of paddling down the river, we explored the partially inundated floodplain. Wading (sometimes chest deep!) through the swamp forest is not a typical occurrence on this field trip and, even though we managed to avoid water moccasins and other such swamp forest excitement (although not the spiders), it is not the kind of experience we would want every year. Nevertheless, it gave us an excellent glimpse of things to come. Within a week the area we had been able to walk through and sample was a raging part of the swollen river system. This year the students had no trouble at all coming up with "so what?" statements for their field trip reports!

Also this year, I developed and taught (in the Spring) a new graduate course: Quaternary Environments and Global Change. Students and I spent our time reading and discussing the recent paleoclimate literature and comparing records of climate change from different parts of the world. The grand finale of the course is "The Great CO₂ Debate," in which we take sides to debate the role of CO₂ in global warming. Great fun!

One final note: I have recently been appointed departmental web master. The department web site (<http://www.geology.ecu.edu>) was originally designed and set up by then-geology-student John Snowden (thanks John!), but the job of maintaining and updating the site is now with the faculty. Each faculty member is now in charge of her/his own home page and, with the help of Jim Watson and graduate student Ruth Otteman, I have been working to keep the departmental pages up to date and to design a new home page. Look for substantial changes in the next few months. In the meantime, please check the announcements and events pages for up-to-date information on the activities of Geology Department faculty, staff, and students. And, please let me know (rigsbyc@mail.ecu.edu) if you have any announcements that are of interest to ECU students, prospective students, or faculty and staff. I'll do my best to post them on our pages.

Scott W. Snyder



Having now become a full-time administrator, I have, at least in the opinion of many, joined the ranks of the verifiably brain dead. To salvage what little may remain of the old gray matter, I have kept a hand in things geological. I continue to direct two M.S. theses that were in progress before my move to the position of associate dean of Arts and Sciences. An article co-authored with Stan and Dorothea Ames was just published, and I hope to have another manuscript ready to submit before semester's end. So I haven't yet totally dried up on the geological front.

My duties as associate dean are diverse and challenging, and I'm learning a lot. Much of the job is routine, but there are some initiatives about which I am genuinely excited. Hence, the move seems to have been a good one, although I do miss daily contact with the students and my faculty cronies back in Graham Building.

Richard Spruill



Hello to everyone from the Spruill family. I hope this message finds each of you doing those things that make you happy and successful. I have been incredibly busy this past year doing mostly things that I want to do, while doing a minimum of things that I did not or do not want to do! Clean up after Floyd flooding has consumed me since the happening. The Geology Department pig pick'n area was under six feet of water from flash flooding on Chicod Creek, and water completely surrounded our home. Lucky we were, because I constructed the bottom of the floor joist system to one foot above the 500 year flood elevation! Even a blind hog finds an acorn every now and then.

I continue to be blessed with good graduate students and many interesting hydrology projects for them to work on with me. My efforts during the past year have been largely aimed at implementation of groundwater regulations for our Coastal Plain aquifer systems, mostly the overstressed Cretaceous Aquifer System. After years of beating the bush for support for some sort of regulations, we (mainly Ralph Heath and I) were successful at convincing the State that expansion of the Capacity Use Area regulatory concept was needed. Their plan was soundly defeated last September by a coalition from agriculture, mining, and industry. We regrouped and are once again on the verge of implementation of meaningful regulations that will help to protect our vital groundwater resources. Public input is vital to success of the rule making process, and I encourage you to voice your opinions whenever you can.

The department seems to me to be as it always was - except everyone is a little bit gray (OK, some are really gray). We have a new chairman, and it seems to be taking longer than expected to train him!! Hope to see you soon, Richard

Terri Woods



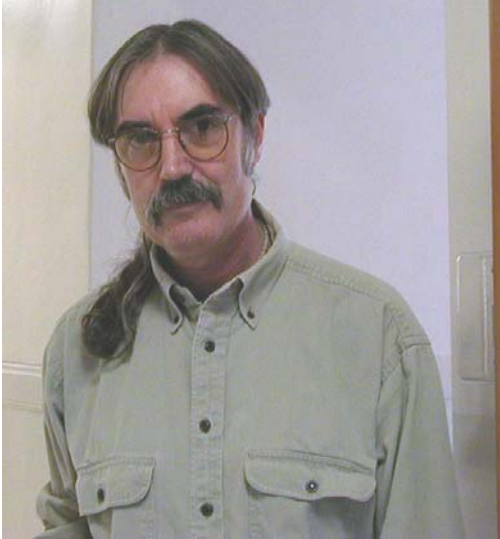
This year has been the "Year of the Isotope" in my research. Along with Paul Fullagar of UNC-CH, Richard Spruill, and Lynn Sutton, I have written at least 10 drafts (although it seems like 100) of a manuscript describing our use of strontium isotopes to describe mixing between ground water from various coastal plain aquifers. It has been to the editor twice, but has finally been accepted by the journal, *Ground Water*. Lynn Sutton collected the samples on which this paper is based back in 1993, so don't despair if a project seems to be taking a long time to come to fruition. Last January I got involved with a Chemical Oceanographer from Woods Hole Oceanographic Institute. He is interested in investigating the magnitude of the groundwater flux to the coastal ocean. His method involves using carbon isotopes to differentiate groundwater, river water and coastal seawater. A large part of the project will involve sampling about 80 wells in the shallow aquifers of North Carolina. Rae Troiano Brown just defended her thesis involving carbon and oxygen isotopes in the Castle Hayne, Yorktown and Pungo River so she has given us some useful background information with which to plan our sampling. We then plan to use groundwater chemistry and physical flow modeling to estimate the groundwater flux. Unfortunately, the project is an expensive one and we're going to try a small-scale pilot project this summer to convince NSF that the more expensive project is worth funding. Finally, I am starting a surface water project in a small drainage basin that cuts through Stan Rigg's property out east of town. With money from the State's Clean Water Management Trust Fund we will investigate water quality in Mill Branch Watershed before and after restoration of a small wetlands on Stan's property.

Aside from these research efforts, I am continuing to incorporate what I'm learning in my research into my courses. Although they don't know it yet, my graduate geochemistry class

will probably do a new lab this semester duplicating some of the calculations I did to explain the strontium isotope chemistry of the Castle Hayne Aquifer. I've also started giving my oceanography students more exercises to do like the really neat "Floyd" hydrograph and flood recurrence exercise Steve Harper developed for 1501 and the hurricane exercise Stan Riggs developed for Coastal Processes. They're a pain to grade, but most of the students make some attempt to do them, so they are probably learning more than they would by just studying for an exam. In Mineralogy next fall I am going to try a new class schedule with three two-hour meetings each week, instead of three one-hour lectures and a three-hour lab. I'm hoping to introduce specimens and examples as we go along instead of doing all the "hands-on" stuff in lab. I am still making trips out into the public schools to play the "rock lady" as I'm called at my sons' school. With the help of Analee Grimes (formerly Analee Harris) I put together a collection of North Carolina minerals that I display on a large laminated copy of the NC geologic map. It seems to go over well with the students, whether in 4th grade or 8th, especially if we let them scratch, peel and "effervesce" the samples and let them look at them under a microscope.



Dorothea Ames



Dan Gall

Dorothea Ames (M.S., 1994) and Dan Gall (M.S., 1977) continue to step in to help with the teaching of our introductory courses.

Dare Merritt



Dare continues to run an efficient office and keep everyone on their toes. Never a day goes by that you don't hear, "Ask Dare!" or "Dare, can we do this?" If you don't believe me, Ask Dare!

Jim Watson



A jack-of-all-trades is Jim Watson. From keeping tabs on terrania, the computer lab, the boats and vehicles, and everything in-between, Jim is there when you need him.

From the trenches...

Paul Albertson (B.S., 1977) died August 2, 1999, as the result of an automobile accident. His ashes were spread in the Mississippi River. In his memory, his wife Sue and their daughters established the Paul Albertson Graduate Fund in the Department of Geology, University of Missouri at Rolla, 125 McNutt Hall, Rolla, MO 65409-1060.

Angie Sproat Allison (M.S., 1999) and husband Rick ended up in Pocatello, Idaho, where Rick is in grad school and Angie, last we heard, was looking for a job. Did you get the Environmental Scientist position?

Mead Allison (M.S., 1988) has joined the faculty at Tulane University in New Orleans and continues to work on seafloor mapping and shelf processes.

Mike Amsbaugh (B.S., 1994; M.S., 1996) is working for Ogden Environmental out of Greensboro.

Roger Barnaby (B.S., 1982) was with the Bureau of Economic Geology at the University of Texas until May of last year and was searching for another job. What are you doing now?

Pattie Baucom (B.S., 1995; M.S., 1997) has been floating forams at the USGS in Woods Hole from all reports. I hear that you, too, are looking for a new job.

Randy Brant (M.S., 1998) works for ERM-Southeast out of Charlotte as a project manager. **Rick Tarravechia** (M.S., 1989), **Warren Eadus** (B.S., 1999) and **Britt Thomas** (B.S., 1996) work at the same place. Small world.

Ray Chilcote (B.S., 1991; M.S., 1996) announced the birth of his son, James Micah Chilcote, born June 8, 1999. All are doing well. Ray is "DEEP" into GIS programming in his job with Lincoln County.

Mike Christopher (MS, 1979) dropped a line but without any information about what he has been up to.

Jeff Cook (M.S., 1997) is reported to have left RF Weston to sell computer parts. What's up Jeff?

Jerry Dominey (B.S., 1975) reports that he has been with Shell for 20 years and has worked in China, the Netherlands and currently is in Oman. Jerry has been married "for a long time...to the same woman" and they have three children.

Susan O'Neill Eure (B.S., 1993) decided on a career change and has enrolled in UNC's pharmacy program.

Stephen Fournet (M.S., 1990) sent greetings from the Pacific with a lot of fish stories.

Bob Gondek (B.S. 1981) has taken a new job with Chevron Pipe Line Company and has moved from California to Houston, Texas. Did you get to hike to the bottom of the Grand Canyon on your trip across country?

Allen Grundy (M.S., 1982) responded to the last newsletter but didn't tell us about what is going on in his life. Maybe next year.

Joe Hagler (B.S., 1995) is working for the NC Department of Natural Resources in Washington, NC, doing UST inspections.

Walter Hale (B.S., 1983; M.S., 1985) and family seem to be thriving at least that is the impression from Walter's comments on potty training among other things. Of more interest is "Walter Hale and the Bluegrass Friends" singing and playing at a country festival. Tell us more, Walter. Have you found a new profession?

Scott Hartness (B.S., 1974; M.S. 1977) writes about wanting to get the "Old Crew" together for a Geritol guzzling.

Alan Hartsook (B.S., 1980; M.S., 1983) survived his surgery for prostate cancer and is back at work. The prognosis is very good. Nothing can slow Alan down.

Anna Hilting (B.S., 1997) is working as a Senior Data Technician for Dr. Richard Barber at Duke Marine Lab doing a variety of things and learning about computers. Anna and family have moved off the boat to a home in Marshallberg.

Al Hunt (B.S., 1995), and wife Nancy, are now living in Scottsdale, AZ, where Al is working as an R&D groundwater hydrologist doing bioremediation for an environmental firm.

Jeff Johnson (M.S., 1988) is still working at RUST, now owned by Earth Tech, if you call what he does work. Jeff should be booked as a travel agent after doing jobs in Australia,

Guam, Korea, and traveling to Palau ("by far the coolest place I have ever been to"), Costa Rica for the volcanoes, and climbing Mt. Rainier. Sounds like a tough life.

Bill Jones (B.S., 1986; M.S., 1988) is doing characterization/remediation technology R&D for the Department of Energy out of the Savannah River Technology Center.

Mark Katrosh (M.S., 1981) and family have been in Gabon where Mark has been exploration manager for a couple of years. They plan to work out of the London office starting in the new year.

Adrienne Amos Leinbach (B.S., 1990; M.S. 1992) is teaching at Wake Technical Community College and still putting in a few hours at RTI. **Chad Leinbach** (M.S., 1991) is an independent consultant working in the Triangle area.

Mark Murosky (B.S., 1989; M.S., 1993) and Lynn are looking forward to the pig pickin' or, at least, Mark is.

Jeff Molyneux (B.S., 1984) and wife Karen Redding live in Colorado and have two boys. Jeff is a Manufacturers Representative for several "Leading Edge Technology" companies who make measurement instruments for the petroleum industry.

Sarah Roberts McKeever (M.S., 1981) and family moved from the New Orleans area to Asheville for a more peaceful and less stressful life style.

Pat Mallette (B.S., 1982; M.S., 1986) responded to the last newsletter but didn't say how he was doing. Drop us a line, Fats.

Mark Ouimette (B.S., 1985; M.S., 1991) was awarded tenure at Hardin-Simmons University

Lynn Sutton Pinnix (M.S., 1994) and **Alan Pinnix** (B.S., 1990, M.S., 1993) have a new daughter born February 3, 2000. Lynn is working for a pharmaceutical company in the RTP area as a project manager overseeing clinical trials of drugs for approval by the FDA.

Mike Polisky (B.S., 1993) is working for a computer company in Fairfax, VA, and is doing well.

Eric Powers (M.S., 1987) left Geophex to become Senior Scientist with Marshall Miller and Associates in Ashland, Virginia.

Jeff Reynolds (M.S., 1992) is well entrenched at Research Triangle Institute and continues to manage the Hydrogeologic Assessments Program in the Geosciences Department. Jeff and Amy have two daughters and a new house to which we are all invited.

Greg Rudolph (M.S., 1999) works for the NC Division of Water Resources in New Bern and has been involved with developing guidelines for water management in the Central Coastal Plain Capacity Use Area.

Keil Schmid (M.S., 1996) is working for the Mississippi Geological Survey as leader of the coastal department.

David Seiling (M.S. 1997) spent a year in the "oil biz" then took a geologist position with Roy F. Weston, a big environmental firm back in Pennsylvania. He was married on May 29th to Bethann who is working on her general surgery residency at a nearby hospital. Congrats, David.

Cheryl Tadlock (B.S., 1997) has taken a position with Guilford County as their new Environmental Consulting Engineer.

Cristy Trippeer (B.S., 1982) moved to Montana where her husband is on the faculty of Montana State University in Billings. She enjoys playing mom to her daughter Jordan.

Eugene Whitfield (B.S., 1989) is retired and trying to shoot his age on the golf course. You can't be that old!

Edward R. Yopp (B.S., 1974) of Engelhard Corporation was elected President of the Georgia Mining Association for 1999-2000.

Annual Departmental Pig Pickin'

Saturday

May 6, 2000

Noon 'til

Richard Spruill's back 40

For directions, contact the department.

Acknowledgements

It is always nice to acknowledge contributions from our loyal alumni and friends. The following people contributed to the Alumni fund or the C.Q. Brown Scholarship fund between July 1, 1998 and June 30, 1999.

Patrick Mallette

Mark Williams

Virginia Waters

Eric Powers

Mark Katrosh

Wells Barker

David Seiling

Jeffrey Reynolds

Bonnie Dodson

Robert Anderson Johns

Charles Woodul

Ed Yopp

Scott Snyder

Stanley Riggs

James Watson

Disbursements from the Alumni Fund account July 1, 1998—June 30, 1999

Duplicating 1998 Alumni Newsletter -- 330.00

Travel Reimbursement for Students Presenting Papers at National GSA -- 925.00

Listing Fee - AGI Guide to Academic Departments -- 100.00

Flowers/Memorials for Funerals (Barbara Brown, Jim Watson's mother) -- 207.88

Travel Reimbursement for Students Presenting Papers at SE-GSA -- 925.16

Travel Reimbursement for Students Presenting Papers at Water Resources Research Conference -- 61.86

Supplement for Summer School TA -- 260.00

TOTAL -- 2808.90

Student Presentations

Presentation of research results by students at regional and national professional meetings continues to be an important part of our program. These students were able to attend these meetings because alumni contributions supported them!

"The "Show and Tell" Method of Instruction in Introductory Geology Laboratories", Geological Society of America Annual Meeting, Toronto, Canada - Leah Fuller

"Geochemistry and Correlation of Dikes and Sills, County, Washington", Geological Society of America Annual Meeting, Toronto, Canada - Ruth Otteman

"Geometry and Evolution of Strike-Slip Fault Zones in Laboratory Models", Geological Society of America Southeastern Section Meeting, Athens, GA. - Analee Harris

"Regional Significance of the Gold Hill Shear Zone in South Carolina", Geological Society of America Southeastern Section Meeting, Athens, GA. - William Corbitt

"Stratigraphy of the Eocene Castle Hayne Formation in Craven County, North Carolina", Geological Society of America Southeastern Section Meeting, Athens, GA. - Julie Underwood

"Petrology and Diagenesis of the Droop Sandstone, Southeastern West Virginia", Geological Society of America Southeastern Section Meeting, Athens, GA. - Britt Thomas

"The Use of GIS Technology to Enhance and Expand the Options Available to K-12 Teachers in Earth Science Curriculum" Geological Society of America Southeastern Section Meeting, Athens, GA. - Ruth Otteman

"Effects of Urbanization on a Coastal Plain Watershed, Greenville, NC", Geological Society of America Southeastern Section Meeting, Athens, GA. - Erin Palko

"Hydrogeologic Assessment of the Upper Castle Hayne Aquifer System South and West of the Neuse River in the Vicinity of New Bern, North Carolina", Geological Society of America Southeastern Section

Meeting, Athens, GA. - Sara Matyiko

"Strontium, Carbon, and Oxygen Isotopes as Tracers of Ground-water Evolution in the Upper Castle Hayne Aquifer of the North Carolina Coastal Plain", North Carolina Water Resources Research Conference - Rae Brown

B.S. Degrees Awarded

Summer 1998

Barry L. Whitesell, Jr.

Fall 1998

Amy Huber

Stephanie McNabb

Spring 1999

James Carey

Warren Eadus

Katherine Hackney

Christian Korba

Summer 1999

Elizabeth Leigh Hazelton

Fall 1999

Haven Hanford

Christopher Houck

John Kase

Charles Ray

M.S. Degrees Awarded

Summer 1998

Janie B. Williams, *The influence of agriculture on groundwater quality: a hydrogeological and geochemical perspective* (directed by R.K. Spruill)

Barry Bowman, *A fracture and geophysical analysis of the hydrothermal system of Warm Springs, Bath County, Virginia* (directed by D.P. Lawrence)

Fall 1998

Delynda T. Mehlhop, *Mineralogical and Chemical Analysis of the Castle Hayne Aquifer in East-Central North Carolina* (directed by T.L. Woods)

Summer 1999

Angela M. Sproat, *Origin and Evolutionary History of a Back-Barrier Estuarine System, Onslow Beach, North Carolina* (directed by S.R. Riggs)

Fall 1999

Rae Troiano Brown, *Groundwater Geochemistry of the Castle Hayne Aquifer* (directed by T.L. Woods)

Mark Filardi, *Influence of Underlying Geology on Beach Erosion: Onslow Beach, North Carolina* (directed by S.R. Riggs)

Erin Palko, *The Hydrology of Greens Mill Run, Greenville, North Carolina* (directed by R.K. Spruill)

C.Q. Brown Scholarship

Michelle Warren was selected to receive the C.Q. Brown Scholarship for 1999-2000. Michelle is a Missouri native who transferred to ECU from Southeast Missouri State University. Since coming to ECU, she has maintained a 4.0 grade point average. Michelle will graduate this summer and plans to pursue the M.S. degree in geology here at ECU.

In Memoriam

Paul Albertson (B.S. 1977) died on August 2, 1999 in an automobile accident.

Barbara Brown, wife of Dr. C.Q. Brown, died on June 5, 1999 after a brief illness.

Dr. A. Ray Jennings, 73, died November 14, 1999. Chair of the Geology Department from 1968 to 1974.

Help Wanted!!!

Your success is our mission and it appears that we have been doing things right. Our continued success and our ability to do some of the extra things that make this geology program so special depends on your support. Please consider donating to the **Geology Alumni Fund (Acct. # 994132)** or to the **C.Q. Brown Scholarship Fund (Acct. # 994657)**. Your donations are tax deductible and greatly appreciated.

LET US HEAR FROM YOU!

Send news items to Don Neal, Dept. of Geology, East Carolina University, Greenville, NC 27858-4353 or neald@mail.ecu.edu or (252) 328-4391 (fax)