

GEOLOGY NEWSLETTER

FEBRUARY 2006

DEPARTMENT NEWS

Jordan Hall addition

Construction has begun on a 40,000-square-foot addition to Jordan Hall. This project was funded by the Higher Education Bond package, which was approved by North Carolina voters in 2000. The new building will include laboratory, office, and classroom space, and will be most welcome, despite the fact that it has gobbled up our main parking lot already! Construction progress may be monitored through a photo gallery linked to the department's web page (www.meas.ncsu.edu). Photos will be updated regularly.

Curriculum revision

In 2005, the department once again reviewed and revised the geology degree programs. There had been a proliferation of separate curricula, each with restrictive requirements, and most with lagging enrollments. As a consequence the earth science program has come under scrutiny, and some required courses could not be offered on a regular basis due to a lack of students. We chose to streamline the curriculum by minimizing specified courses and credit hours, and increasing the number of technical and advised elective options in the program. In this way, students pursuing a B.S. or B.A. in Geology can work with their advisor to combine their courses to concentrate in any area of geosciences, such as paleontology, environmental geology, soft-rock or marine geology, or hard-rock geology.

Specific changes in required courses are (1) reduction of summer

field requirement from 6 to 4 credit hours (additional hours earned, such as at a 6-credit field camp, can be applied to the advised elective category); (2) replacement of the traditional mineralogy course (MEA 330) with a new MEA 410 course Introduction to Mineralogy and Petrology, which includes one month of hard-rock petrology; and (3) elimination of the requirement of MEA 440 (Igneous and Metamorphic Petrology), though most students will probably take the two-course 410 - 440 sequence.

Cavaroc Scholarship

The previous issue of the Newsletter reported the success of the VicFest celebration and announced a new goal of \$25,000 for the Scholarship Endowment. We are very happy to report that the goal has been reached, and the Cavaroc Scholarship has now been awarded for three years!



Vic Cavaroc at Lake Gaston, early 1980s

Thanks to all of you who have helped in fund-raising and/or contributing to this great cause! It's a fitting way to recognize our appreciation

for everything that **Vic Cavaroc** has done for each of us and for the department over all these years.

"I got this here rock..."

As most of you know, hardly a week goes by without the department receiving a call from a citizen who has questions. For nearly 30 years, **Skip Stoddard** and **Ron Fodor** have been fielding many such inquiries. The two most common are (1) "I believe I got me some gold (or other valuable mineral)!" and (2) "I believe I got me a meteorite!" For all these years, the items submitted under category (1) typically turned out to be pyrite, chalcopyrite, or vermiculite; and those submitted under category (2) always turned out to be meteor-*wrongs*, typically diabase, gabbro, iron-cemented sandstone nodules, slag, and of course that very memorable hunk of aircraft aluminum, submitted by the Police Chief of Benson, NC, after the object had struck the car of the "town drunk!"

As fate would have it, the year 2005 ended that long string of failures. In April, a specimen was brought in for inspection, that turned out to be a spectacular sapphire from the North Carolina mountains! (Skip was able to use it as an extra credit question on an exam.) Then in December, a couple from Clayton, NC, brought in a small rock they had picked up on a vacation trip at Pikes Peak, CO. They wondered if it might be a meteorite, and they had done their homework. Fodor's background in meteoritics came to the fore, and we got a thin section and did some analyses, and were able to show that indeed the sample is a meteorite, a Type L ordinary (olivine-hypersthene) chondrite to be precise. So it just goes to show, keep on checking these things out, 'cause you never know!

Gift to Geology Field Camp

We gratefully acknowledge a gift of \$3,500 that was made by the Tar Heel Gem and Mineral Club in early 2005, to defray expenses for the 2005 camp. This contribution, together with some funding from the department, allowed the cost of the 2005 camp to be greatly reduced! **Sarah Reising** and **Adam Sherwood**, two of the Field Camp students, made a presentation at one of the Club's meetings in the fall, which the members seemed to really enjoy. We certainly appreciate the Club's continuing support!

"Treasures Unearthed"

Many of us were able to enjoy this special temporary exhibit featuring North Carolina minerals that was held at the North Carolina Museum of Natural Sciences beginning in mid-2004. Many truly spectacular specimens, including lots of emeralds, gold, and kyanite!

Congratulations are in order!

The Outstanding Graduating Senior in Earth Sciences was **Deborah E. Kull** for 2003-04 and **Paul F. Farris** for 2004-05. They were recognized during the Spring Departmental Diploma Ceremony and their names are inscribed on a plaque in Jordan Hall. Outstanding Graduate Teaching Assistants in geosciences for 2003-04 were **Chris Garlington**, **Tim McDade**, and **Periann Russell**; for 2004-05 they were **Brad Carter**, **Jeremy Green**, and **Anne Witt**.

At the May 2004 graduation, **Deborah Kull** was honored with an NCSU Undergraduate Research Symposium Award and also was named the Outstanding Senior in the College of Physical and Mathematical Sciences in the category of Leadership.

FFBFTs (Fodor's Fall Break Field Trips)

It's becoming an annual event: if it's Fall Break, Prof. **Ron Fodor** must be leading an awesome field trip! In Fall of 2004, as first predicted in the last edition of the Newsletter, Ron led a group of 13 students and one hanger-on (**Skip Stoddard**), on a trip through the Cascades of northern Oregon and southern Washington. During this trip, the group was assisted (and hosted for dinner) by **Sarah Hoover '96** and her husband. After completing her M.S. at the University of Oregon, Sarah is teaching at a Clackamas Community College near Portland. We also had some pre-trip advice from **Kim Truitt '99**, who at last notice was pursuing an M.S. at Oregon State. In Fall 2005, Ron returned to the Superstition Mountains near Phoenix, site of the 2003 trip, but with a fresh batch of geology students.

Note the different weather conditions:



Fall Break 2004 class at Mt. Hood, OR



Fall Break 2005 class at Canyon Lake Superstition Mountains, AZ

Scope magazine

Want to catch up on the latest news and research involving some of our faculty, students, and alumni? Well the College of PAMS has a new glossy publication that will help! Thus far, Scope has been published five times, beginning in spring of 2003, with the latest Fall/Winter 2005 issue having just been released. Issues can be downloaded as pdf files from the PAMS website. Go to <http://www.pams.ncsu.edu/news> and click on "Scope Magazine."

The cover story of the Spring 2005 issue features geology alumnus **Dr. Larry Crumpler '73** and his work on the Martian Rover project through the New Mexico Museum of Natural History and Science. Others whose research activities have been featured include faculty members **Mary Schweitzer, Julia Clarke, Paul Liu, John Fountain, and Jim Hibbard**, as well as doctoral candidates **Sara Dechard and James Lamb**. You may even want to read in the Fall/Winter 2003 issue, about a flash flood that struck the NCSU campus!

FACULTY

Over the past year, **Ron Fodor** added a new research area for sampling and studying mafic rock systems. In January 2005, he had the opportunity to attend a two-week field workshop in the Dry Valleys of Antarctica along with about 20 like-minded petrologists. Whereas the workshop largely focused on mafic layered intrusions, Ron's particular interest was in sampling the pegmatite-like segregation veins within the sills. The plan now is to use the Department's long-existing (...ancient?) analytical instruments for mineralogy and petrology research -- the electron microprobe and the x-ray fluorescence

spectrometer -- to fully describe and interpret these SiO₂-rich segregations from mafic magmas.

Some of Ron's recent research activities involving students include conducting Fall Break field trips to the Cascades at the time when Mount St. Helens' activity began anew, October '04, and a class-trip re-visit in 2005 to the Superstition Mountain volcanic complex near Phoenix. The Cascades trip included Skip Stoddard as participant in the five-day excursion with fourteen students. The Arizona trip is of special interest to Ron, as he is currently studying the Oligocene-Miocene basaltic rocks of the visited region.

On tap for the near future is to become the Department mineralogist, so to speak, as Ron fills in that slot for the retiring Skip. New geology majors are sure to learn about the usual suspects, such as olivine, pyroxene, and plagioclase, and, if they are lucky, they may also hear mention of some other minerals important for geology students to identify. A refresher course in crystallography, anyone??

Dave Genereux has had a busy year that included teaching 3 courses in hydrogeology (including a new undergraduate course). Major research news includes two new National Science Foundation (NSF) grants for work in Costa Rica: one for a study of groundwater dating in the lowland rainforest, another a large interdisciplinary study of carbon cycling in the same rainforest, in which Dave is covering some of the hydrologic aspects. Dave's USDA grant for work in eastern North Carolina is also ongoing. A couple of new graduate students have started on these projects, and a couple

more are needed. Two research papers describing the Costa Rica work were published this year (one in the Journal of Hydrology, one in Water Resources Research), both with MEAS student co-authors (**Michael Jordan** MS '03, and **David Carbonell** '05).

Dave also reports that he is starting a two-year commitment as Mentor to a Kenan Fellow (<http://www.ncsu.edu/kenan/fellows/index.html>), an Enloe High School teacher who will work under Dave's groundwater dating project and prepare related curricular materials and a web site. Dave has also had a chance to do some interesting professional service: grant program panels at USDA and NSF, and involvement as an external reviewer for a Professor of Hydrology search at Yale (he reports that it is "interesting to see how the Ivy schools do these").

The biggest "non-academic" event for Dave was that he and his wife Aileen had their second child, Henry, on April 22 (Earth Day!). Also, Dave managed to complete his first triathlon (a short one, called "sprint distance" by real triathletes, though he doesn't recall doing any actual sprinting), and he also became a Red Cross certified lifeguard through a course at N.C. State (he thinks he is probably the oldest one ever certified in North Carolina...).

Jim Hibbard reports that the biggest news for him and his wife Kim, is that their baby, Kira Marie, arrived in September.

"We picked her up in Guatemala and we spent a week becoming acquainted with her and her native land, customs, foods, etc. We're very lucky in that she is healthy, happy, and sleeps through the night, most of the time."



Kira Marie Hibbard, October 2004

Jim notes that on a short visit to Antigua, Guatemala he was too distracted by being a parent to initially notice that the town is enclosed on two sides by > 10,000' active volcanoes, thanks to subduction of the Pacific plate.



Guatemalan volcano looming!

Jim attended conferences in Oak Ridge TN (International Basement Conference), Denver, CO (2004 National GSA), Charleston, SC (Carolina Geological Society), Saratoga Springs, NY (NE GSA), and Halifax, Nova Scotia (2005 Geological Association of Canada). Jim was not just presenting research, but also trying to scare up potential grad students with interests in structure and 'hard rock' geology. M.S. student John Allen represented Jim's group at the SEGSA in Biloxi, Mississippi.

Over the past year Jim and his colleagues were awarded a new three-year NSF grant to compare critical aspects of the Carolina terrane to the

Avalon terrane of Canada. This means travel back to Newfoundland for Jim and Ph.D. student **Jeff Pollock** (native of St. John's, NF), who is masterminding that project. Jeff mapped near Bar Harbor, ME, for the Maine Geological Survey last summer; that project is related to the NSF sponsored one. The new project also has funds budgeted for two M.S. students to map in the Carolina terrane. Jim says "If anyone knows of someone who is interested in geological mapping in mainly low-grade sedimentary rocks for a masters thesis, give me a shout."

Jim had three M.S. students, **Gordon Box**, **Rachel Cottone**, and **Justin Smith**, mapping in the Smith River allochthon during the summer of '04. MS student **John Allen** finished off his fieldwork on the Gold Hill fault zone near Waxhaw, NC; he led a successful field review of his area in November and it was so good, he re-ran it in March. John completed his M.S. degree in December 2005 and began Ph.D. studies at the University of Kentucky in January 2006. Gordon expects to defend his M.S. "very soon."

Jim reports that his major research accomplishment is the completion of the new Lithotectonic Map of the Appalachians. The map was peer-reviewed by 7 different reviewers (4 US, 3 Canadian). Jim reports that he received very good feedback when the final draft was displayed at the NEGSA in Saratoga Springs, NY in March, although he wonders if that "could be because we hung it next to the cash bar." The map is in two sheets at 1:1,500,000 scale, in full color and will be available from the USGS and the GSC. It will also be available in digital format on a CD; it will open in any GIS program and it is set up so that you can query the map and make your own theme maps from it.

Jim ends his contribution with these prophetic words: "I could go on, but it's Friday afternoon and the beer will only get warmer!"

This year, **Mike Kimberley** returned to the location of his first overseas geology job, in the Dominican Republic, back in 1969 and 1970. He worked there for a large nickel company, Falconbridge, on their nickeliferous laterite property. The mine is still in operation but the 2005 visit was to a different location, Boca Chica, which has more environmental than economic importance.

Boca Chica is a famous lagoon that lies about 40 km east of the capital, Santo Domingo. The ten-square-kilometer lagoon is protected from the Caribbean by a dying coral reef. Near the reef, one swims among brightly-colored tropical fish just like those in an aquarium. This is quite an experience!! Since 1970, about a quarter of the population of the Dominican Republic has moved to New York City and has been replaced by Haitians, so the country looks very different these days and personal safety is uncertain. Visiting Boca Chica invites some personal risks but the unique opportunity to swim in a tropical aquarium makes those risks worth taking.

Helena Mitsova published papers about new methods for geospatial analysis of the Jockey's Ridge sand dune evolution (in collaboration with Dr. Overton, CCEE NCSU and Russell Harmon, ARO) in *Geomorphology* and *IEEE Geoscience and Remote Sensing Letters*. One of the most interesting 2005 projects was the Short Term Innovative Research (STIR) funded by ARO that focused on the development of

Tangible GIS in collaboration with the MIT Media Laboratory. She also worked with the Active Tectonics Research Group at Arizona State University on the development of on-line lidar data processing tools for the GEON project (cyberinfrastructure for geosciences).

Since the last newsletter, **Skip Stoddard** has continued geologic mapping for the N. C. Geological Survey, under the STATEMAP program, in the eastern Piedmont. The last two field seasons have focused on northern Vance County in the vicinity of the Nutbush Creek fault zone. Those traverses along the shores of Kerr Lake were great! He has wrapped up his geoarchaeology work helping to find the sources of lithic artifacts uncovered at Fort Bragg. Along with senior **Kelly Peak**, Skip is involved with an ongoing inventory and analysis of radon gas in indoor air and well water of Wake County residences. They hope to assist the county in identifying the influence of bedrock geology on radon risk. M.S. student **Stephen Fuemmeler** (BS '02) is writing up his thesis on the geology of the Gold Sand area in the northern Raleigh belt, but has moved to Asheville and has recently taken a job with the N. C. Geological Survey, working with their new slope stability group, along with M.S. graduate **Anne Witt** ('05). Ph.D. candidate **Brad Carter** is putting the finishing touches on his dissertation on the tectonics and thermochronology of the Smith River allochthon in the southwest Virginia Piedmont. Both Stephen and Brad hope to be "outta here" at the end of the spring semester (Skip hopes so too!). Skip is also working with senior **Sarah Reising** on mapping and analysis of an unusual (and unusually extensive) diabase dike.

A special treat for Skip was his participation in **Ron Fodor's** Fall break 2004 trip to the Cascades, a region Skip had never been to before - and an additional bonus was that Skip's daughter Maggie was able to fly up from California and join our group. What a great and memorable trip!

In terms of teaching, Skip taught the new version of mineralogy in the Fall of 2005. This course is officially MEA 410 (Introduction to Mineralogy and Petrology), and is one of the centerpieces of the newly revised curriculum. It differs from the old MEA 330 course by including a month of igneous and metamorphic petrology, and has decreased emphasis on some optical techniques. Some students, both within geoscience disciplines and in other areas such as Science Education, will be able to learn something about "hard rocks" by taking MEA 410 alone, without having to take two full courses. Others will follow MEA 410 with a full semester of petrology in MEA 440. In the first offering of the new course Skip had 20 students, the largest group since the early 90's. One of the highlights of the course was the Blue Ridge field trip, during which the class went whitewater rafting on the Nantahala River, with **Kyle Hoover '05** as one of their river guides! (Of course we were examining the rocks the entire time!)

Still and all, the biggest news for Skip is that he plans to retire in June of 2006. He hopes to remain active in geology and to do some serious traveling. Oh yes, and tend to all the work around the house that has been piling up! Maybe...

And perhaps the most important consequence of Skip's retirement is that the January 13, 2006 edition (the 25th,

but who's counting?) of the annual Taco Party was the LAST Taco Party!

EMERITI FACULTY

This message is from Professor **Henry Brown**, writing from his farm and retirement home that many of us have visited near Linville Falls:

"During the past year I have been occupied mostly with repairing September 2004 hurricane flood damage to our farm. Meanwhile, I continue to volunteer on a weekly basis as a 2nd grade reading tutor at the local elementary school where I am also the resident rock and mineral identifier and geological field trip leader. Other notable events during the past year include: (1) underwent a total hip replacement on April 5th (hopefully it has a 20-year/20,000mile whichever comes first warranty), (2) appointed to the Board of Directors of the Historic Carson House (local historic society feature) and (3) became a Master Mason October 17 and a Shriner shortly after that. I still do some geological consulting, largely related to the mineral industry. Finally, I achieved my 50-year GSA Fellow status October 3rd and a pin to wear on my lapel testifying to such.

Except for a few aches and pains, Wilda and I continue to enjoy good health. Wilda is president of the North Carolina Mental Retardation Association, has several private piano students and is pianist at the local Methodist Church. We enjoy interacting with our children and grandchildren. Our oldest grandson, Joshua Brown, graduated from N. C. State University on December 15, 2004 with a Bachelor of Arts degree in Communication Media."

Professor **Charles W. (Chuck) Welby** continues to be active in several professional geologic societies and often sees alumni at the meetings. He enjoys learning of the interesting things that the alumni are doing, individually and collectively.

In late March and early April he participated in one of the early group tours arranged for U.S. citizens in Libya. The primary focus of the trip was the archeological treasures of the Libyan coastal area and the history of that part of North Africa. Three days were spent in the Libyan Sahara Desert, including two nights camping – tents with oriental rugs! The Saharan Desert part of the trip afforded an opportunity to observe the modern desert deposits and to try to recall interesting facts from the work of R. A. Bagnold, who studied the dunes as part of the British attempt to improve their military skills in desert warfare during WW II. The chance to observe both from the air and ground the modern-day desert deposits and compare them with the Nubian sands deposited under similar conditions in the Mesozoic provided an important aspect to the trip. Needless to say, the geomorphology of the modern-day desert and the erosional forms cut into the Mesozoic and Paleozoic sands exposed in the mountains protruding from beneath the modern sands were also highlights of the trip. A major water supply project in Libya, the “Great Man-made River” brings 10,000 to 12,000 year-old water from aquifers lying beneath the Sahara Desert several hundred miles northward to the coastal area to supply the burgeoning population and the economic activity of the coastal region of Libya -- a classic case of mining an aquifer.

Professor **C. J. (Jay) Leith**, first Head of what is now the Department of Marine, Earth and Atmospheric Sciences, continues to reside in Salinas, CA. He reports that since the last Geology Newsletter was published, he has taken a cruise to Alaska through the Inland Passage, ventured through the Panama Canal, and most recently toured parts of Spain. As always he is interested in news of alumni and the department.

GEOLOGY CLUB

(Submitted by Sarah Reising)

Since 2004, the Geology Club has hosted monthly events. Academic meetings have included Dr. Fodor's presentation on his trip to Antarctica, a 2005 Field Camp preparatory meeting, a student presentation of the 2005 Fall Break trip to Arizona, and geology-based movies including everyone's favorite, *The Core*. We have continued our participation in the Tar Heel Gem and Mineral Club's geode-cutting booth at the Gem and Mineral Show each spring at the State Fairgrounds. In addition, we have had community involvement by participating in the NCSU Open House, and outreach programs for schools in the area. However, Geology Club has had several bonding experiences of a more social bent, including a Pizza and Bowling Night, and attending a Carolina Hurricanes vs. Boston Bruins hockey game (Needless to say, the Canes won).

GRADUATES

Undergraduate Degrees

MAY 2004

Bachelor of Arts in Geology

Kristen H. Lloyd Fayetteville, NC

Bachelor of Science in Geology

Scott T. Leahy Raleigh, NC

*Bachelor of Science in Environmental
Science, Geology Concentration*

Deborah E. Kull Pfafftown, NC

AUGUST 2004

Bachelor of Science in Geology

Paul F. Farris Carlisle, PA

DECEMBER 2004

Bachelor of Arts in Geology

Timothy C. Meadows Dayton, VA

MAY 2005

Bachelor of Science in Geology

Shauna L. Hecker Delafield, WI
(Marine Science Concentration)

AUGUST 2005

Bachelor of Arts in Geology

D. Bradley West Dunn, NC

Bachelor of Science in Geology

Jennifer N. Gordon Raleigh, NC
A. Kyle Hoover Archdale, NC
Christine L. Kimball Winston-Salem, NC
Helen R. Munt Raleigh, NC
Ginger E. Sigmon Lincolnton, NC

DECEMBER 2005

Bachelor of Science in Geology

J. Abigail Rorrer Eden, NC

Graduate Degrees and Research Titles

MAY 2004

Masters

Jeffrey A. Bartlett Minneapolis, MN
Taphonomy, Geology, and Paleocology of the
Sandy Site, an Exceptional Assemblage in the
Maastrichtian Hell Creek Formation of South
Dakota (Advisor Dr. Russell)

Casey D. Kennedy Hudson, FL

Pilot Project on Groundwater Dating in Confined
Aquifers of the North Carolina Coastal Plain
(Advisor Dr. Genereux)

Christine A. Missell Rochester, NY

Thermoregulatory adaptations of
Acrocantosaur atokensis – Evidence from
Oxygen isotopes (Advisor Dr. Barrick)

Doctor of Philosophy

P. Ansley Wren Columbia, SC

Sediment transport measurements on the mid-
continental shelf in Onslow Bay, North
Carolina (Co-Advisor Dr. Leithold)

DECEMBER 2004

Masters

Mark R. Pritzl Tallahassee, FL
The performance and application of drum-type
seepage meters and a simple experiment to
determine if denitrification is occurring in stream
bottom sediments within the North Carolina
Coastal Plain (Co-Advisor Dr. Blair)

MAY 2005

Masters

David M. Velozzi Pittsford, NY
Sedimentary features of the Yangtze derived
mud deposits on the inner shelf of the East China
Sea (Advisor Dr. Liu)

Anne C. Witt Forest, VA

Using a GIS (Geographic Information System) to
Model Slope Instability and Debris Flow Hazards
in the French Broad River Watershed, North
Carolina (Advisor Dr. Kimberley)

AUGUST 2005

Masters

Brett L. Purinton N. Ferrisburgh, VT
¹⁴C as a tracer of labile organic matter in
Antarctic benthic food webs (Co-Advisors Drs.
DeMaster and Thomas)

DECEMBER 2005

Masters

John S. Allen Moore, SC
Structure and kinematics of the Gold Hill fault
zone in the area of Waxhaw, south-central North
Carolina (Advisor Dr. Hibbard)

Jennifer C. Holmes Woodruff, SC
Kerogen in the Eel River system of northern
California - Characterization and analytical
approaches (Co-Advisors Drs. Blair and Leithold)

GRADUATE STUDENT RESEARCH

Doctoral Candidate **Sara Decherd** has been receiving quite a bit of attention concerning her research lately. She is conducting experimental work on hypothesized Mesozoic atmosphere. She is testing the efficiency of photosynthesis of live ginkgo trees placed inside the hyperbaric chamber at Duke University. Sara is able to vary the composition of atmospheric gases within the chamber; in particular she has been able to test the effect of different contents of CO₂. This aspect of the ecosystem may well have been responsible for the enormous size of many of the dinosaurs. Even National Geographic Magazine took notice, in its July 2005 issue! Way to go, Sara!

GEOLOGY SUMMER FIELD CAMP

Each summer since the late 1980's NCSU has been a participating institution in a geology field camp consortium, along with other UNC system schools, and in more recent years, also some Virginia institutions. In 2004, we did not participate in the consortium, and only two NCSU geology students attended a field camp -

Paul Farris (NC/VA consortium camp) and **Shauna Hecker** (camp in Australia). In 2005, we operated a field camp for our own students only, with many similarities but also with a few twists compared to previous camps.

With Ph.D. Candidate **Brad Carter** as TA, **Skip Stoddard** led the group of 15 students on a four - (or five or six, depending on how you count) state adventure. One of Skip's objectives in planning the program was to reduce the costs for the participating students, and one way to go about that was to reduce the number of days spent paying room and board during the summer. This was accomplished by beginning the course during the spring semester, when we spent two weekends learning some basic field mapping techniques closer to home. On March 18-20, we visited NCSU's own Forestry Camp at Hill Forest, in Rougemont, NC, north of Durham. There we concentrated on compass and map-reading techniques, taking notes, and structural measurements.



**Learning pace-and-compass techniques
at Hill Forest**

Students had a small mapping project in which they located and examined outcrops of the local meta-igneous rocks of the Carolina slate belt. We owe a debt of gratitude to the Forestry Department and the manager and

caretaker of the camp, for their enthusiastic willingness to let us take over the facility for the weekend - and at no charge! It is a very impressive facility in a surprisingly beautiful setting, and quite close to Raleigh. We also got our first experience dividing ourselves into cooking and cleanup crews, and it worked out well, despite the fact that it was extremely chilly that weekend!

On April 8-10, we had our second field camp outing. We drove all the way to West Virginia on Friday, and set up camp at Watoga State Park. On Saturday and early Sunday, we examined deformed sedimentary strata of the Appalachian Valley and Ridge province near the state line in the vicinity of Warm Springs, Virginia. Teams of students produced transect geologic maps along four separate roadways that cut across the strike of a major structure. The area is really beautiful, and in addition to providing some valuable geological experience, the weekend was important for bonding as well. This project was made possible by the generous assistance of **Dave Blake** (MS '86), who uses it in the Field Methods course he teaches at UNC-Wilmington.



Sitting on the hinge-line of an anticline near the Virginia - West Virginia line

The western portion of the camp began at 6:00 a.m. on May 23, when our

caravan of two 15-passenger vans (with rear seat removed) and a minivan (with both rear seats removed), and *without* trailers or roof-mounted "burritos," departed from Jordan Hall, on time! We camped the first night north of Memphis, practically on the banks of the Mississippi River. The second day, despite being delayed somewhat by the largest military convoy any of us had ever seen, we made it all the way to Palo Duro Canyon, about 20 miles south of Amarillo, Texas. After driving across the plains for hundreds of miles, the sight of our first canyon country was breathtaking; it served to energize us for the rest of the trip.

We arrived at Ghost Ranch, in Abiquiu, New Mexico, on the afternoon of the third day, and set up camp in their campground. This was to be our home for the next two weeks.



A portion of our campsite at Ghost Ranch

Though we camped in tents, we ate our morning and evening meals in the dining hall at Ghost Ranch, but we bought groceries to make our own field lunches. It was certainly nice to come in from the field, tired, hot, and starving, and fall right in line for dinner! We had a nice bathhouse with hot showers and laundry facilities right next to us, and we also had an AC power outlet that we used for our mini-refrigerator, laptop

computers, portable light table, and yes even a microscope! Ghost Ranch even has a computer lab with internet access - so you couldn't say we were really roughing it! We did projects involving the late Paleozoic - Mesozoic sedimentary strata in the region. Some of these projects will be familiar to many readers - starting with the Chimney Rock hike. We mapped the "Battleship" across the highway from Abiquiu Reservoir; we mapped Nacimiento near Cuba; we visited Gallina Plaza to see a portion of the stratigraphy; and we had a field "quiz" at San Pablo south of Cuba. We had the volcanic field trip to visit the Valles caldera, and on our day off, some visited Santa Fe or Espanola, and some climbed to the top of Cerro Pedernal.



View from the top of Kitchen Mesa at Ghost Ranch, with Abiquiu Reservoir and Cerro Pedernal in the distance

One memorable evening, a number of us gathered in one of the meeting halls at the ranch, and watched the film *City Slickers*, one of many movies filmed in and around the area.

The last couple days at Ghost Ranch, we began our next mapping project, called Posos Lake, a beautiful and remote area in the Brazos Uplift. The geology involves Proterozoic metasedimentary and metavolcanic rocks. Some of the faculty had been introduced to this area by former

professor **Karl Karlstrom** (now at the University of New Mexico), and the UNC consortium camp mapped it at least once previously, led by our own Prof. **Jim Hibbard** and Prof. Kevin Stewart of UNC-CH.

Departing Ghost Ranch on the morning of June 7, we traveled eastward, crossing the Rio Grande Gorge at the infamous "bridge of death," through Taos, stopping for provisions, and made our way to Sipapu Ski Resort, in Vadito, New Mexico, which would be our home for the next week.



Sipapu Lodge; we occupied the top floor



Inside our kitchen/workroom at Sipapu

At Sipapu, we had dorm-style accommodations, and a large room that served as combination kitchen, dining room, and workroom. (We discovered, quite unexpectedly, that we had wireless internet access!) While there, we completed the Posos Lake project and then mapped the ever-popular

Rattlesnake Gulch project. On the last day, we visited some of the copper mine workings and had a short structural fabrics exercise. On June 14 we departed Sipapu and headed eastward, that day taking an extremely circuitous route to Capulin Volcano National Monument in northeastern New Mexico, the Spanish Peaks in south-central Colorado, and finally to John Martin Reservoir State Park in the (extremely) flat part of southeastern Colorado, where we were met by a tree-full of vultures, and were cautioned, by an extremely tall female ranger, to be on the lookout for Tizzy, the wild poodle.

We made our way cross-country from Colorado to upstate New York, camping in Missouri and Ohio on the way. On arrival in New York, we visited Niagara Falls, then a memorable Wal-Mart near Utica, an extremely late but equally memorable restaurant for dinner, and finally arrived at our destination - Big Rock Cottages on Fourth Lake, Old Forge, New York, about 10 p.m.



Fourth Lake in the Adirondacks

We stayed here for ten days, and except for the first two days, which were wet and chilly, we were blessed with beautiful weather. This portion of the field camp was the fulfillment of another of Skip's goals - to see what field camp in the east, and specifically in the Adirondack Mountains, would be like,

and to give an introduction to geological field work in the east, where most graduates settle and work. We mapped in the West Canada Lakes Wilderness area and the adjacent Moose River Plains. The high-grade, mostly metaplutonic rocks, and the field conditions, presented major challenges to mind, body and spirit! A number of factors conspired to make this so: relatively sparse outcrop (especially where you *really* need it), thick woods with thousands of fallen trees and minimal visibility, rugged terrain, swamps and glacial deposits, lichen and moss-covered outcrops, rocks too hard to break, high humidity, and - oh yes - BUGS! We had been warned about the black flies, but actually they were almost completely gone by late June. However, the deer flies, mosquitoes, and gnats were quite enough, thank you. Let's just say that the head-covering bug nets that Skip purchased were definitely used - you might forget your hammer or Brunton and live to tell the tale, but for God's sake remember that bug net!



Typical view in the field

Another feature of this field camp was the integration of GPS technology into the program. Students were not allowed to use GPS until the second half of the course, when they had mastered (hopefully) the use of map and compass techniques for locating themselves. At Posos Lake the GPS

came in handy, and in the Adirondacks it was absolutely essential. Each pair of students was assigned a GPS receiver, and they recorded the locations of stations in the field. Back at camp in the evening, they downloaded these "waypoints" onto their topographic base map, using GIS software. In addition to several laptop computers for this purpose, we also had a color printer that we used to print out customized base maps. This was key in the Adirondacks, as each team had a different map area.

While in the Adirondacks we had a field trip to an old garnet mine, and to the Adirondack High Peaks area, where we visited Whiteface Mountain and Lake Placid, the site of the 1980 Olympics and the "Miracle on Ice."



At the summit of Whiteface Mountain, hazy, but with Lake Placid below

Despite the field conditions, we had wonderful accommodations, staying in five small cabins, with a sixth serving as our study hall; each cabin's residents took turns cooking for the entire group.



This cabin housed four students - comfortably!



Hard at work in the evening

On our day off we swam, canoed, lounged by the lake, played ping-pong or frisbee, or even went for a ride in a seaplane! We also got our picture in the local newspaper (caption: "When in town, study rocks!"). Our drive home to Raleigh took a bit longer than planned (eastern traffic!), but we arrived home safely on the night of June 27.

The future of summer field camp at NCSU is uncertain at this point. However, our newly revised geology curriculum has reduced the number of credit hours required from six to four, which may allow more field camp options for students. At present, it appears that three or four NCSU students will be attending some sort of summer field course in 2006.

In 2005, the 15 students who participated were a combination of rising juniors, rising seniors, and several who graduated in the summer after the course ended. Jennifer Gordon, Kyle Hoover, Christine Kimball, Helen Munt, Abby Rorrer, Ginger Sigmon, and Bradley West all graduated in 2005. Bryan Anderson, Kyle Chernoff, Patrick Monigle, Sarah Reising, Adam Sherwood, Katie Singer, Kaitlin Strickland, and Jarett Swartley are all completing their degrees at NCSU.

THEN AND NOW! New Mexico and New York



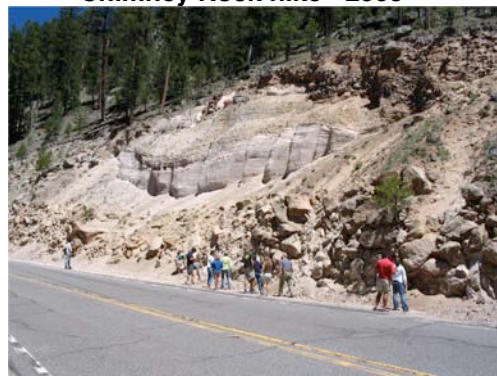
Chimney Rock hike - 1979



Chimney Rock hike - 2005



Abiquiu Reservoir picnic - 1983



Jemez Volcanic field trip - 2005



Adirondack woods - 1978



Adirondack woods - 2005 (note bug net)



**At the summit of Whiteface Mt. - 1991
(before the advent of cell phones)**



**At the summit of Whiteface Mt. - 2005
(after the advent of cell phones)**

SCHOLARSHIP RECIPIENTS

John M. Parker III Field Camp Scholarship

2004: Paul Farris

2005: Bryan Anderson

Christine Kimball

Ginger Sigmon

Sarah Reising

Laren Anne Bonatz Scholarship

2004-05: Jennifer Cessna

2005-06: Mary Waligora

Victor V. Cavaroc Scholarship

2004-05: Brandt Morrow

2005-06: Jennifer Cessna

Charles and Eleanor Welby Scholarship

2004-05: Christine Kimball

Ginger Sigmon

2005-06: Dalhya Lusk

Sarah Reising

ALUMNI NEWS

First, the most recent grads!

Christine Kimball '05 has entered the M.S. program in geology at New Mexico Tech. In her first semester at Socorro, she TAed the petrology lab, in December and January, she did field work in Antarctica, where she is studying anorthoclase megacrysts in basalt from Mt. Erebus. Christine sent this photo just before Christmas 2005:



Christine Kimball '05 in front of an active Mt. Erebus!

Ginger Sigmon '05 has entered the graduate program at Notre Dame, where she is putting her dual NCSU degrees (Chemistry and Geology) to good use in her research on the synthesis and crystal chemistry of actinide compounds having potential application to nuclear waste storage.

Helen Munt '05 has entered an accelerated graduate program in Science Education at UNC-Chapel Hill. She intends to be ready to teach high school science (and coach swimming and conduct the orchestra probably) in the fall of 2006!

Bradley West '05 is working with a surveying company, the EAST group, in the Coastal Plain (Greenville), while **Jennifer Gordon '05** is Manager of a Zaxby's Restaurant in the Piedmont (Garner), and newlywed **Kyle Hoover '05** is employed in the environmental field, in the mountains.

At last report, **Shauna Hecker '05** was a Wine Buyer with The Wine Merchant in Raleigh. Well, she's only in Raleigh sometimes, because her job takes her frequently to the European wine country!

Christine Missell MS '04 is pursuing a Ph.D. in paleontology at the University of Maryland.

1970s

Pete Evans '71 is in real estate in the Triangle area with RE/MAX UNITED. Pete worked for many years with Kennecott Minerals, which made a nice contribution to the Cavaroc Scholarship Fund in recognition of Dr. Cavaroc's

work on lithostratigraphy of the Carolina slate belt.

Larry Stanley '73, MS '78 and his wife Sherri announce the birth of their son Nicholas, in May 2005. Larry is a hydrogeologist with the N.C. Hazardous Waste Section.

Joe Moyer '74, MS '81 has moved from Brisbane, Australia to Hobart, Tasmania, and has entered the Ph.D. program at the University of Tasmania. Joe is studying mineral deposits, and recently visited the southeastern USA to do a bit of field work and gather some samples related to the Ridgeway, SC gold deposit.

Marty Gayer MS '77 has relocated from California to Houston. Marty is with Occidental Petroleum.

In the summer of 2004, **Mark Porter** '78 ran in to a Raleigh friend of Skip Stoddard's, and Skip was able to re-connect with Mark. Mark sent a long and very newsy e-mail. Mark writes that he has been with a number of oil-related companies over the years, and completed his M.S. at the University of Houston in '87. He relates one highlight of his career so far was a project involving an opportunity in the Gobi Desert of Mongolia! Mark is now a geophysicist with Brigham Exploration in Austin. Mark and his wife Karen prefer Austin to Houston, and really enjoy the music scene there. They have two daughters, Melissa and Brianna. Mark had stories to tell about some of his old classmates - **Tom Nemy, Bill Davies, John Fowler,** and **Jym Hornbeck**. Are you guys out there?

Jim "Goose" Goodwin '79 is enjoying life on a number of fronts. He continues

to serve as a part-time geology instructor at UNC-Charlotte, and has made a big name for himself as a Craftsman Extraordinaire! His ships-in-a-bottle work landed him a feature article in Our State magazine (October 2005 issue). His work is also scheduled to be shown on PBS television (*The Woodwright's Shop*) in early February - check your local listings! Some of us can't help but remember his earlier craftsman days, making soapstone bowls and pipes from Wake County ultramafic rocks!

David Lee '79 continues as THE Geologist with Wake Stone Corporation. David is always more than willing to help with educational outreach activities; so much so, that he received recognition from the Southeastern Section of the National Association of Geoscience Teachers with an award as a non-traditional educator in the Outstanding Earth Science Teacher Award program.

Tommy Sills '79 wrote to tell about a family trip through New Mexico and Arizona. He says it brought back memories of field camp "like it was yesterday." I've got news for you Tommy: it wasn't yesterday!

1980s

Dr. **Buddy Wylie** '80, MS '84 has left the Upper Peninsula of Michigan for a position as Geologist with Cabot Oil and Gas in Denver. Buddy is working the Green River basin of southwestern Wyoming. Although his research and professional career are in oil, Buddy also remains interested in hard-rock geology. In the summer of 2004, while still on the faculty at Michigan Technological University, he led a field trip for MTU students to Labrador and Newfoundland. Sounds like the old Buddy we

remember! Highlights of his research, and of the field trip, can still be found at: <<http://www.geo.mtu.edu/~aswylie/indx.html.htm>>. Buddy and his wife Corene have a kindergarten-age son, Nicholas.

Dr. **Peter Warwick** MS '82 continues his work with the U.S.G.S. Coal Division. He has been spotted at several conferences, and his coal research is getting some press as well.

Another of Dr. Cavaroc's former students, **Leonard Lentz** MS '83, writes: "Since I last spoke with you at NE/SE GSA at Tysons Corner, VA in 2004, I find myself finally finishing up two Coal Availability reports, which will soon be on the Survey's website, and have just ended my reign as Chairman of the Penn-Anthracite Section of AIME. The AIME stint was a wonderful experience. I met a lot of the people involved in the Anthracite coal mining and sales business. New on the horizon for 2006 is a co-authored paper I am involved in that will be presented at North Central GSA meeting in Akron in April about the stratigraphy of the Upper Freeport coal in west central PA and western Maryland. I may also become involved in a coal bed methane test hole in the southern anthracite coalfield later this year as part of a cooperative program with the USGS. Right now it is in the proposal stage. It will be kind of exciting around here in 2006 as Harrisburg metro will host the NE section of GSA meeting in March, and then in the fall Philadelphia will be the host city for the National GSA meeting. I suspect the Survey will be heavily involved in both meetings."

Spotted at a meeting of the NCWRA was **Ken Gilland** '86. Ken reports that

he is working for Buck Engineering out of Cary.

A bit of super sleuthing has turned up **Charlotte Otts** MS '83. She is on the faculty of New Mexico State University's branch campus at Grants, NM. At last check, her teaching activities were featured on the home page of their website!

David Duncklee '83 continues in hydrogeological consulting with his own small company Duncklee and Dunham, in Cary.

Bob Gaylor MS '80 has returned to North Carolina after living in New Mexico for many years; his daughter Robyn has recently graduated from UNC. He and his wife Pat live in "lovely Spout Springs, NC," which Bob describes as "midway between Sanford and Spring Lake on Highway 87." I guess he can't stay away from that Triassic!

Dean Argenbright MS '86 is Eastern Regional Geologist with the NCDOT in their Greenville Office.

James Izzell '87 is keeping busy with his geological consulting business. Several recent trips have taken him out west, to places like Arizona, Nevada, and California. On one return flight from Phoenix, James was on the same flight with Skip and Nancy Stoddard, who were on their way home after helping to move daughter Maggie to California.

Jay Johnston '88 is an engineer with Hydrostructures, and **Chad Leinbach** '87 is a consulting hydrogeologist in the Triangle area.

Jerry Burgess '89 is a science teacher in Maryland. He and his wife are enjoying their six-year old daughter Galena, also known as PbS.

Former student **Barry Lumpkin** is a building inspector with the city and county of Durham. Barry's youngest child Sam commuted to Jordan Hall during the fall of 2004 to take the honors physical geology class, after daughter Amy took the same class in 2002. So altogether that makes three Lumpkins who have had intro geology with Skip Stoddard.

1990s

After a number of years in New Mexico, **Eddie Hull** '90 is back in the Raleigh area, and attending an occasional hockey game and taco party.

Jenne Sowell Walker '93 reports that she is working temporarily at NCDENR's DWQ Chemistry Lab, and that she is contemplating moving toward earth-science education. In the meantime, Jenne and her husband Tim get practice educating their four-year old son Christopher. In an interesting coincidence, Jenne ran in to Profs. Stoddard, Welby, and Cavaroc at a local Starbuck's in February of 2005! The occasion for the "mini-faculty meeting" was that Professor Cavaroc was being presented the a special certificate, "The Founders of the Cavaroc Scholarship." The certificate recognizes those who made contributions to the Cavaroc Scholarship Fund prior to December 31, 2004 and thus helped establish it at the \$25,000 level.

Another former student, **Kevin Miller**, is also a licensed real estate broker,

while continuing to do geological work part time.

Tami Vargason Idol '93 is the Assistant Dam Safety Engineer for North Carolina since 2001. Tami is extremely active as an officer with the AEG Carolina Section, and helped to lead their fall 2004 meeting and field trip to Gorges State Park.

Kevin Hoff is working for IBM in the RTP now. He and his wife are avid cyclists, and have participated in a 150-km ride to benefit the National MS Society.

Derek Bryant '99 published his M.S research on the Yangtze Suture region (china) in GSA Bulletin (v. 116). Derek remains at Vanderbilt, pursuing a Ph.D. in environmental management. His dissertation work "deals with assessing the risk to groundwater from the spill of chemicals into soils."

Cat Shrier '96 is a Water Resources Planner with Golder Associates in Calgary, Alberta.

Sarah Merchant Divakarla MS '96 has recently relocated from Atlanta, GA to Cleveland, OH. At last notice, she was taking a hiatus from the environmental game to care for her young son.

Adrienne Gaughan Fitzgerald MS '99 was married in 2004, and she and her husband Andrew, who both work for the National Park Service, have transferred from Canyonlands National Park in Utah to Joshua Tree National Park in the Mojave Desert of California. A neighbor of Skip Stoddard's ran in to Adrienne at Canyonlands, and brought news of the meeting back to Raleigh.

Brian Potter '94 is with Potter Oil & Tire Co., Inc. in Aurora, NC. Brian has become a champion of the use of biodiesel fuel, and even sponsors a racing team.

Dr. **Sonja Boorman** '94, MS '99 completed her Ph.D. at Duke University and is now doing research with the Fundamental Geomechanics department of ExxonMobil's Upstream Research Company in Houston. At last report, she was investigating the physical properties of various types of sandstones. A bit of a change from her doctoral research on igneous textures in the Bushveld Complex - but at least those are layered igneous rocks!

Cam Snow '99 is continuing work on his Ph.D. at Stanford University, where his advisor is Gary Ernst; in an ironic twist, Gary was also Skip Stoddard's advisor way back in 1976 at U.C.L.A. Rumor has it that Cam will be Gary's last Ph.D. student! Cam organized and chaired a special session ("Statistical treatment of analytical and synthetic data in earth sciences") at the December 2005 AGU meeting in San Francisco.

Stephanie Stack MS '99 works for Lowe Engineers in Atlanta. She and husband Jason now have two little Stacks, Raven and Jada.

2000s

Two members of the class of 2000 have returned to Raleigh after being away getting M.S. degrees and other pursuits. **Erika Cohen** (M.S. Ole Miss) works for the Southern Global Change Program, of the USDA Forest Service Southern Research Station, right here on NCSU's Centennial Campus, and **Matt Allen**

(M.S. East Carolina) works for ENSR Consulting and Engineering. It's nice to have them back!

John Palmer '00 works with Withers & Ravenel, an environmental consulting firm located in Cary.

Paul Farris '04 works in the environmental arena for URS Corporation out of Morrisville, NC. His supervisor is **Rhoda Willis** '94. Another alumna, **Susannah Goldston** '01 has transferred from the Morrisville office to the URS office in Sydney, Australia!

Doug Czajka '02 works with the Geotechnical Unit of the North Carolina D.O.T. in Raleigh.

Holly Woodward '03 has completed her M.S. degree at Texas Tech. She has moved from Lubbock up to Bozeman, MT, where she has entered the Ph.D. program at Montana State University, and will work on dinosaur bone histology research. After her M.S. defense and before moving north, Holly was able to visit to our field camp group at Ghost Ranch in June of 2005. In fact, she hiked Kitchen Mesa with some of our group; that's Holly on the left end of the line in the photo!

After pursuing several diverse interests for a few years, **Christine Gilmore** '02 has chosen her path: she entered East Carolina Medical School in fall 2005. from what we hear, the demands of Med School may cut into NASCAR and NHL time!

Deborah Kull (Environmental Science - Geology Concentration '04) has completed her M.S. degree In Refugee Resettlement at Oxford University (yes,

the one in England!). She and her husband David are now in Houston, where Deb is working through Americorps for Boat People SOS, and organization that helps Vietnamese refugees and immigrants.

Michael Jordan '00, MS '03 is a hydrogeologist with ARCADIS in Raleigh. He and his wife Dayna are proud to announce the arrival of their daughter Ella Kate in September of 2004.

Jim Chapman '01 writes that he has been taking GIS courses and is hoping to attend graduate school in geomorphology, possibly back on the west coast.

Amanda Parodi Beaudoin '02 and her longtime boyfriend Billy finally took the plunge and married in 2005. Amanda continues in the Ph.D. program in Entomology at NCSU, and Billy works in IT on campus as well. Amanda shared her experiences of geology field camp with students to help prepare them for the 2005 camp - and of course she was asked lots of bug questions!

Lauren Caslin MS '01 and her husband Bob Runkle announce the birth of their first child, Forrest. The little guy better get used to competing with the family dogs and other pets for attention!

Allison Gresham Ward '03 was married in 2005. Allison works with the Groundwater Section of NCDENR in their Washington, NC office. The Wards were living in Greenville at last notice, and commuting to work.

At last report, **Yo Matsubara** '03 was in the graduate program at the University of Virginia, studying planetary geology.

Renee McCarter Dancy MS '02 is an instructor at Appalachian State University and has taught part-time also at Lenoir-Rhyne College. We tend to bump in to Renee at SEGSA meetings; she seems to really be enjoying life. This item just in: Renee and her husband Brad announce the birth of daughter Malana on January 23!

At last notice, **Cary McElhinney**, MS '00 was with the U.S. EPA's Office of Water in Washington, D.C.

Special Request!

With this newsletter, we are attempting to switch to a more environmentally friendly, paper-free (i.e. electronic) version! Our e-mail list is woefully incomplete. Please update your e-mail address if necessary, **AND** if you can help put us in touch with some of your fellow alumni, that would be greatly appreciated too! Of course you should get the okay first.

Thanks!

STUDENT SUPPORT OPPORTUNITIES

As most of you are aware, we have significantly increased the scholarships available to geoscience students at NCSU. Now there are five endowed funds that support students at all levels. Because these are endowed scholarships, yearly awards are made from the accrued interest; continued contributions increase the principal, and the size of the individual awards grows correspondingly. These opportunities are available because of your generous support, and we should all be extremely proud!

The Lauren Anne Bonatz Scholarship

This scholarship is awarded to a first-year geology major. It is typically offered to an outstanding applicant to NCSU, and has been very helpful in the recruitment of excellent students. Awarded yearly since 2000. Established primarily by her family and friends in memory of Ms. Bonatz, who aspired to become a volcanologist.

The Victor V. Cavaroc Scholarship

Established by his friends, colleagues, associates, and former students, this award honors the career of Dr. Cavaroc, recognizing his devoted service to geology students at NCSU. The intent and highest priority of this award is to recognize students who develop an overriding interest for geology as a result of their first geology course and who as a consequence may decide to major in geology. The award is made to a rising sophomore. Awarded yearly since 2004.

The Charles and Eleanor Welby Scholarships

The Charles and Eleanor Welby Geology Scholarship Endowment was established in 1996 by Dr. and Mrs. Welby in order to reward excellent undergraduate geology majors, and to encourage them to pursue professional careers in geology. The awards are given annually to one rising junior and one rising senior geology student. Awards are for one academic year and may be renewable in the senior year.

The John M. Parker III Field Camp Scholarship

This award honors the memory of Dr. J. M. Parker III, a greatly loved former professor of geology at NCSU and fondly remembered by scores of students he taught during his 40-year distinguished career at NCSU. His devotion to field geology is reflected in this award, which is derived from an endowment created with donations from his former students, colleagues and his friends. Awarded yearly since 1970, and intended to cover the expenses of summer field camp. The number of awards varies, depending on the costs of the course. In 2005, four full scholarships were awarded.

The Skip Stoddard Research Fellowship

Newly established fund intended to support research by advanced undergraduate and graduate students. Details will be forthcoming, but it is anticipated that small grants from this fund might provide partial support for such things as fieldwork, thin-section preparation, or chemical analyses. Established by "several of Skip's friends, colleagues, associates, and former students," according to the latest issue of *Scope* (newsletter of the College of PAMS).

Note that there is a form on the last page you can use to send the Geology Newsletter news of yourself and other Geology alumni, and a separate form you can use to make a contribution to one of the scholarship funds.

***CONTRIBUTORS TO STUDENT SUPPORT FUNDS
MAY 1, 2004 - JANUARY 31, 2006***

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Print and/or detach this page to send news and information and to contribute to one or more of the scholarship funds. Also please help with our e-mail list! Thank you!

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