


Fall 1998

## UA66/8/3 Geogram

WKU Geography & Geology

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# GEOGRAM



Fall 1998

## The Annual Newsletter of the Department of Geography and Geology at Western Kentucky University

Dear Reader,

The Department of Geography & Geology has completed another successful year. During the 1997-98 academic year, the following significant activities were initiated or expanded.

A departmental **freshman seminar** (Geography 102/Geology 101) was conceptualized and passed by the necessary curriculum committees. The Department offered the course for the first time in the Fall 1998 semester. We expect that this departmental effort will increase the freshman retention of our declared majors.

During the past year, we increased our efforts with the **public school teachers** of the Commonwealth. Department faculty actively sought opportunities to introduce our respective disciplines to the public school students of the Commonwealth. Faculty participated in thirty-one separate activities during the 1997 calendar year. This outreach has led to a significant increase in freshman majors and it helps to explain the popularity of our 100-level courses.

To help "introduce" geography to the **P-12 teachers** of the Commonwealth, we continued our involvement with the Kentucky Geography Alliance. This Alliance has received a \$50,000 grant from the *National Geographic Society* to strengthen the role of geography in the state. This effort has influenced the role of geography in all institutions of higher learning in Kentucky. It has played a positive role in our enrollment increase and in the resurgence of the discipline.

During the past year, we intensified various **club,**

**social, and academic activities.** For example, we hosted our annual "pig roast," to which all students were invited. In our Geology Club, students were actively recruited to participate in a series of field trips and lectures that were held throughout the year. Moreover, the Department hosted a series of Department seminars held every other week for student and faculty development and enjoyment.

We continue to offer **innovative approaches to student learning** in our freshman classes, including interactive web projects, critical thinking exercises, and logical analyses of critical local, national, and international events. These exercises are designed to foster a keen desire in students for learning and to aid in the increased retention of students. We also have strengthened the **skill** components of upper-division courses so that our graduates are well prepared to function as outstanding contributors to society.

To introduce our students to our courses and **modern** technology, we have expanded our **web site** to include the catalog description of all of our courses, a complete description of major and minor tracks available, and the instructors' syllabus for individual courses. In addition, we believe we are the only Department with a web site for a large multi-section general education course - Geography 100. The site contains syllabi, review questions, links to other sites, and other helpful information for the student. Over 400 students visited this site in the Spring 1998 semester.

As a result of our **intensive recruitment and retention efforts,** the Geography area ranks among



### A Letter from the Department Chair

#### inside...

Goodbye to Dr Deborah Kuehn .....	page 3
Adventures in Geography .....	pages 7-9
Faculty Notes .....	pages 11-22
Alumni News .....	pages 23-24



the top 20 universities in the United States in total enrollment. In the area of program enrollment (majors), Geography at WKU is the dominant undergraduate program in Kentucky. Geology is second in dominance only to the University of Kentucky. Nationally, geography ranks among the top 30 universities in the number of undergraduate majors, yet another indication of our success.

To **improve teaching and research support**, the Department in the past year has allotted funds to **modernize equipment** in our classrooms. Six computers, a server, various software, and a color printer were purchased to upgrade our teaching and research efforts. Finally, through the judicious use of funds and the cooperation of our computer support staff, we were able to network several of our computers to the **Internet**. The Department now has two student laboratories where projects and research can be undertaken.

To **strengthen the quality of our academic programs**, the Department has involved students and faculty in myriad professional and outreach programs. Significant among these is our active research program with **Mammoth Cave National Park**. The Park Hydrologist is an adjunct member of the Department. Under the leadership of Chris Groves, we have involved ten or more of our students in significant research projects within the National Park. In addition, we continue through the **Center for Cave and Karst Studies** to coordinate the successful Summer Program at Mammoth Cave. This program brings to Western the leading karst scientists in the country. This adds to the expertise of our faculty and our students.

Two other significant outreach centers are the **Kentucky Climate Center** and the **College Heights Weather Station**. Under the leadership of Glen Conner (State Climatologist), the Kentucky Climate Center responded to over 3,200 individual requests in 1997. The Center's web page was visited 1,982 times during the same period. The College Heights Weather Station continued to provide data and information to interested citizens. It also served as a focal point in providing tours to various public school groups during the year. As a consequence of our outreach activity and research, the Department

has played an integral role in the College obtaining **Rural Water Grant** (\$4 million over a 5-year period) and is a **major participant in the College's proposed Program of Distinction**.

The Department has not limited its activities to the local region. We have also significantly increased our activities in **international/global education**. The Department of Geography and Geology continued to develop the multicultural and international aspects of its various programs during the 1997-98 academic year. The Department is involved in organizing two important conferences that have international implications, as well as attracting researchers and students from overseas. The first, convened in September 1998, is the "Joint meeting of the Friends of Karst & The International Geological Correlation Program Project 379: 'Karst Processes and the Global Carbon Cycle,'" coordinated by Dr. Chris Groves and hosted by the Department. In October 1998, the annual conference of the Midwest Association of Latin American Studies, coordinated by Dr. David Keeling and hosted by the Department, convened at Western.

**International travel and research** by Departmental faculty members continue to influence the classroom setting. During 1997, six faculty visited 20 countries. Ozone-level research in Antarctica and sustainable development in Ecuador are just two of the international projects currently underway that directly benefit our undergraduate and graduate students. The Department also strongly supports, and actively recruits for, study abroad programs. One faculty member took 18 students from various Kentucky institutions to Ecuador this past summer for a field studies program. The Department is also developing an exchange program with a Dutch university to host several students engaged in international **comparative research** on global economic development.

Department faculty remain engaged in local, regional, national, and international attempts to foster greater levels of **cross-cultural awareness** among Western's students and Kentucky's citizens, including organizations such as Partners of the Americas, Sister City International, Chamber of Commerce International Relations Committee, the International Biosphere Reserve, and many others.

Participation in **professional organizations and so-**



cieties by the faculty are also important indicators of quality and outreach. Our geologists have been instrumental in shaping the development of the Kentucky Society of Professional Geologists, and the State Certification of geologists has been a major accomplishment of this group. This close working relationship between academia and professional geologists has been beneficial to our students as they seek certification within the State.

One indicator of our success in evaluating student quality is **research and professional paper presentation**. In the recent Sigma Xi meeting, nine students presented their research (see p.10). Mr. Travis Williams (geologist) received the outstanding undergraduate paper, and Mr. Kevin Cary (geographer) received honorable mention in the graduate seminar. At the 1997 Annual Meeting of the Kentucky Academy of Science, thirteen of the seventeen papers presented in the geography sections were presented by WKU faculty and students. Nine students presented their co-authored papers. In the Geography section, Ms. Ryan Smith and Mr. Kenny Palmer were co-winners of the best undergraduate papers. In the Geology section, three of the ten student papers were derived from Western. Mr. Keith Milam was a second-place winner.

Yet another indicator of **student quality and value** added are the glowing reports we have received from the various agencies and employers who utilize our students in internship positions. During the past year, 10 students participated in the program. Agency praise concerning student knowledge and work ethic is a source of pride among the faculty. The success of the interns logically translates into numerous **employment opportunities** for our graduates. Planning and consulting agencies throughout Kentucky and the region regularly contact us to seek our graduating seniors. Our record in placing graduates is truly superior.

The culmination of our local, regional, national, and international efforts is reflected in **classroom excellence** and documented **research activity**. In 1997, the seventeen faculty members of this Department published 6 peer-reviewed publications, 7 non peer-reviewed publications, and 28 technical reports. They presented 39 professional papers. Stu-

dents in the Department under the supervision of the faculty had 9 publications and presented 17 papers; a truly superior effort.

In the personnel area, Deborah Kuehn submitted her resignation effective 30 June, 1998. During her tenure, Debbie did an outstanding job involving her students in research. The Department will miss her efforts and her calm demeanor. Dr. Fred Siewers, a paleontologist with a Ph.D from the University of Illinois, will replace Deborah. Mark Lowry has returned revitalized from his year-long leave of absence at the United States Military Academy. Karen Koegler filled in for Mark in fine fashion.

We once again acknowledge the support of our loyal alumni during the past year. Your generous support has resulted in plans to allocate alumni funds to encourage student research. Individual alumni contributions are recognized in another section of the Newsletter.

We take interest and pride in your accomplishments, so please take a few moments and complete the Alumni Survey attached to the back of the Newsletter. The next time you are in the area, stop by and visit. If you can't visit, drop me a line.  
Until next year,

*Wayne*  
Wayne L. Hoffman  
[wayne.hoffman@wku.edu](mailto:wayne.hoffman@wku.edu)





## Outstanding Geography Students, 1997-98

The Department of Geography and Geography takes pride every year in the quality of its graduating seniors. Students graduating from the various program tracks offered by the Department must pass rigorous course requirements, satisfy applied skills components, and maintain their overall GPAs. All this is often in addition to outside employment demands, public service, family duties, and service to the Department and College. Each year, the Department recognizes its outstanding seniors at a public presentation by presenting them with awards and certificates. The recipients of the Department's highest honors also receive recognition at the University Awards Ceremony.

For the 1997-98 academic year, John Andrew Cush from Aspinwall, Pennsylvania received the Outstanding Geology Senior Award.



WKU President Gary Ransdell and Geology Professor Kenneth Kuehn (left) present the Outstanding Geology Senior Award to John Cush

The Outstanding Geography Senior for 1997-1998, Jenna Stutts Medlin from Bowling Green, received the Ronald R. Dilamarter Award.



WKU President Gary Ransdell Presents the Ronald R. Dilamarter Outstanding Geography Senior Award to Jenna Stutts Medlin

**Congratulations to ALL our Outstanding Students!**

### VISIT THE DEPARTMENT'S WEBWORLD

The Department's homepage has undergone significant construction over the past year. In addition to the outstanding Kentucky Climate Center site, developed by Glen Conner, our State Climatologist, the homepage now provides complete program and course information, with links to a plethora of geography and geology related pages. For instance, pointing your browser to <http://www2.wku.edu/geoweb/> will take you to the index page. From here, you can link to all the different types of courses offered by the Department. Many of the course descriptions will have the current syllabus attached, along with links to the Professor's personal homepage, to a variety of study guides, and eventually to interactive activities. From the homepage, you can also explore all of the different program tracks offered by the Department and link back and forth to the individual course descriptions within each track. There is much more construction yet to do, but we hope you find the material available so far informative and useful. Email us with your comments!! We'd love to hear from you.

<http://www2.wku.edu/www/geoweb/>



## Dr Deborah Kuehn Says Goodbye to the Department



Dr Deborah Kuehn looks back at some of the common questions and statements that are very familiar to anyone who has taught a general education class. Do we have to know that? What can I do for extra credit? Is this going to be on the test? I don't understand why I didn't get any credit for this question (after I have thoroughly explained the answer and the student's answer isn't even close). I don't think I should be counted late because I couldn't find a parking place. I missed the test because my room mate turned off my alarm (even though the test was given at 11:45)!

As Dr Kuehn reports, "I am not sorry that I won't be hearing any of them again. However, they do not make up for what I will very much miss at WKU. As a faculty member in two other departments before my appointment here in Geography and Geology, I always felt a need to watch what I said and did for fear of releasing the wrath of one or more outspoken faculty members. Not once have I experienced that here in Geography and Geology. Even though some of the faces have changed since I taught my first course here in 1985, the personality of the Department remains as pleasant as always. Not only does a department's personality make for a productive work environment for faculty, it is also something that our majors come to recognize as well. We are all part of a family that makes everyone, faculty and students alike, feel very welcome.

Making the decision to leave Western this year was

a very difficult one. Having an overactive conscience, I began wrestling two years ago with the knowledge that there would soon come a time when I could no longer meet my personal standards for what is expected of a faculty member. As a result, I decided to forego the request for tenure and "retire" (I hate that word). For as long as it takes I will be dedicating my time and energy to regaining my health.

For all of the students I have taught since 1991, I say thank you for the fond memories with which I leave. Although some of you may have given me more gray hairs than others, I treasure all the memories. Thank you for putting forth your best efforts in class and thank you for allowing me the opportunity to work with many of you on independent research projects. I hope the experiences I gave you allowed you to grow professionally, just as I grew from having known you and worked with you.

I leave you with a pun from one of my introductory geology classes that best sums up my years here at Western: I have had a simply marblesome time teaching geology and I still shale be around for hog roasts and other Department activities."





## Introducing Our Newest Faculty Member:

### *Dr Fredrick D. Siewers*



We are pleased to welcome our newest addition to the geology program, Dr Fred Siewers. Dr Siewers (pronounced SEE-vers) is a carbonate sedimentologist and stratigrapher with considerable experience in the Paleozoic geology of the southeast and western U.S. He was born in North Carolina, but he spent most of his school years in Pittsburgh, Pennsylvania, and in the woods of Vermont and Maine. He holds a B.A. in Geology from the College of Wooster (Ohio), an M.S. in Geology from Vanderbilt University, and a Ph.D. in Geology from the University of Illinois (1995).

Dr Siewers comes to us from Rock Valley College (Rockford, Illinois) where he has spent the last three years teaching undergraduate courses in Physical Geology, Physical Geography, Atmospheric Science, and Global Environmental Change. Prior to that time, Dr Siewers was a Visiting Assistant Professor at the University of Illinois where he taught courses in Historical Geology and Sedimentology-Stratigraphy.

Dr Siewers has broad interests in the "soft-rock" side of geology, including sedimentology, stratigraphy, paleontology and geochemistry. His graduate research at both Vanderbilt and the University of Illinois focused on the development and stratigraphic significance of subtle disconformities in Ordovician limestones, both in Middle Tennessee and in the desert mountain ranges of central and southern Nevada.

Dr Siewers also has interests in the use of computers in geoscience instruction. While at Rock Valley College, Dr Siewers conceived, founded, and co-directed the Rock Valley EdNet, a campus-wide educational network designed to incorporate the internet and on-line class "conferences" into instruction. Dr Siewers brings to the Department a sincere

enthusiasm for teaching and undergraduate research. He is very interested in developing a student-oriented research program that focuses on the Paleozoic geology of south central Kentucky and adjacent areas. He has expertise in field geology and a wide range of laboratory analytical techniques -- expertise that he plans to share with students via independent study and research projects.

He is excited about the ongoing research in the department, and he is actively working with other faculty to develop cooperative research projects involving students. In addition, Dr Siewers is working to advance the use of technology at all levels of geology instruction at WKU. He is particularly interested in the use of computer networks to create collaborative learning environments outside the classroom. He is also working to increase the use of Geographic Information Systems and data visualization techniques in laboratory exercises.

Dr Siewers is an avid fly-fisherman, canoeist, cook, and sometime guitarist. His wife, Helen Tyson Siewers (a Nashville native), is a landscape architect with experience in historic preservation and land resource planning. Together they, along with their daughter Anna, are settling into the Bowling Green community. Dr. Siewers is genuinely excited about joining the Department. Feel free to contact him at: [fred.siewers@wku.edu](mailto:fred.siewers@wku.edu).





# ADVENTURES IN GEOGRAPHY

## What I Did On My Summer Vacation!

by Mary C. Prante

When your summer vacation time doesn't coincide with your kids' vacation, it's time to take a field trip, '90s style. That's right; fire up the ol' electronic yacht, and take a cruise on the Information Superhighway. Here are a few destinations you might find worth the trip to visit:

Destination 1: Mammoth Cave National Park's Historic Tour, 1844 (<http://www.nps.gov/maca/tour1.htm>). For the past year, this tour has been a perennial favorite of students in my Intro to Physical Geography classes. Where else can you get a tour led by the master guide Stephen Bishop, with enlightening commentary from Dr. John Croghan, owner of the cave at that time? As an added bonus, Mr. Bishop shows you places that you normally won't see during a 1998 Historic Tour.

Destination 2: Take a trip along Route 66. You can run a search for "route 66" and easily find a good number of fascinating sites. One of these, that doesn't look particularly promising at first, is a posting of a reprint of a tour from *Missouri: A Guide To The "Show Me" State* ([http://members.aol.com/hsauertieg/rt66/wpa\\_mo.htm](http://members.aol.com/hsauertieg/rt66/wpa_mo.htm)). A product of the WPA Federal Writers Project published in 1941, this highly-descriptive narrative is particularly interesting if you're familiar with the course of Interstate 44 through Missouri; not much glitz, but it goes. For an overall view of the highway Steinbeck named the Mother Road, look at Isao Saito's Route 66 Photo Lounge homepage (<http://www.bekkoame.or.jp/~toisa/index.html>). Yes, Mr. Saito's in Japan, but he's got one impressive site!

Destination 3: Can't get enough of the Cards? The *St. Louis Cardinals*, of course! Damon Dwyer, one of our current majors, guided me to this one:

The St. Louis Cardinals' Official Website (<http://www.stlcardinals.com/index.html>). When you arrive, click on the link to Busch Stadium, located along the left margin, to see a map of the stadium (You just knew I had to include maps somewhere, didn't you?). Click on a section of seats in the stadium, and see the view from that section. From Homers Landing (a nice double entendre, that!), you can almost see a Mark McGwire special, heading straight for you....

And for package deals, here are a couple that are real bargains:

Destination 4: The Paleo Ring (<http://www.pitt.edu/~mattf/PaleoRing.html>). This is the homepage for a group of almost 200 different sites featuring a variety of interesting paleo-things (like paleontology, paleoclimatology, and paleoarcheology). Lots and lots of dinosaurs! After you get into one of the sites, you can travel along a chain to the others. At the bottom of each of the Ring site's homepages, there will be an icon labelled Paleo Ring; click on the icon and fly on to the next site along the ring. One of the more intriguing sites is the New Mexico Museum of Natural History and Science's Dinosaur homepage (<http://www.nmmnh-abq.mus.nm.us/nmmnh/dinosinnm.html>). From here, you can click on a link to hear a computer simulation of the voice of the *Parasaurolophus*!

Destination 5: J. Butler's Virtual Field Trips in Geology (<http://www.uh.edu/~jbutler/anon/anon-trips.html>). Dr. Butler, of the University of Houston, has provided dozens and dozens of links, literally from A to Z. Some of these are links to other compendious sites, like A Geologist's Life Field Trip Check List (<http://www.uc.edu/~acomby/geologylist.html>). From Dr. Butler's page, you can take a hike up Stromboli, a volcano in Italy (<http://www.ezinfo.ethz.ch/ezinfo/volcano/verschiedenes/walk/walk0e.html>), and observe the change in the scenery and vegetation as you go. The view from the top of the volcano is absolutely breath-taking!

Wherever (and whenever) you go, enjoy the trip!



# Adventures in Geography II

## FIELD STUDIES IN ECUADOR

by  
David J. Keeling

One of the most critical skills for students to acquire during their college careers is a knowledge and understanding of the international context which shapes their daily lives. College courses can help prepare students for life in an increasingly globalized and economically integrated society, but they are no substitute for hands-on international experience. My firm belief is that every student, without exception, should acquire first-hand international experience at some point during their college careers. If they do not, then as the next generation of businesspeople, entrepreneurs, politicians, and civic leaders they will be ill-equipped to deal with key issues such as NAFTA and job relocation; U.S. policy in Kosovo, Pakistan, and China; multicultural communities; the global information superhighway; or social conflict.



KIIS Students in Ecuador, Summer 1998

For the past two summers, I have taken Kentucky students to Ecuador as part of the Kentucky Institute for International Studies (KIIS) Study Abroad Program. This past July and August, eighteen students

representing most of the universities in our state participated in an experience that, according to everyone, profoundly impacted their world view and made them rethink their own lives and values. I taught a course on Conservation and Sustainable Development, while my colleague Lynn Ebersole from Northern Kentucky University taught Evolution and Biology.

We spent the first week in the highland capital city of Quito, where students came face to face with the stark realities of life in a developing country. Abject poverty, begging, prostitution, crime, and corruption were evident everywhere, and the students began to think seriously about how their own lives and circumstances compared with those of the average Ecuadorian. We grappled with such weighty issues as urban pollution, political legitimacy, economic and gender inequalities, and imperialism.

Our second week was spent in the Amazon rainforest basin at the Yachana ecotourist lodge. Although located barely 200 miles from Quito, the journey to the lodge entailed a 7-hour bus ride on roads that are in embarrassingly bad condition and a three-hour motorized canoe ride on the fast-flowing and dangerous Napo River. At the lodge, students learned the key elements of sustainable development first-hand, as they participated in the construction of a bee house, actually cut down rainforest (in a sustainable way, I might add!), evaluated a medical clinic for the local indigenous communities, and hiked through secondary and primary forest in search of flora and fauna. We also engaged in several serious and heated debates about the reality of development and its impact on physical and human landscapes.

Perhaps the highlight of the program for many students proved to be the Galápagos Islands. Here we focused intensely on issues of evolution, biology, and ecotourism. Students grappled with the harsh realities of the impact of El Niño on the islands' animal population as they picked their way through the dead and decaying bodies of sea lions, land iguanas, and assorted species of birds. They also struggled both academically and morally with the realities of human impacts on the islands' unique physical landscapes. Every step created an impact,



Let nobody could deny that the opportunity to visit and observe these plants and animals in such conditions was a once-in-a-lifetime experience.

Our summer program ended with visits to the main urban centers of Ecuador's Andean zone, including Baños, Riobamba, Cuenca, and Otavalo, and an ascent to 18,000 feet on Chimborazo, the world's highest mountain when measured from the center of the earth. Perhaps the most important aspect of this trip for the students was the realization of the profound differences between the highly developed United States and a developing country such as Ecuador. Many students said that the experience had changed their lives, their value systems, their career goals, and their opinions about environmentalism, capitalism, and development. If this means that they become more critical thinkers and learn to challenge and to change our society for the better, then as educators we have made a profound and long-lasting contribution to our ever-changing society.

I have always believed that travel, and particularly educational travel, is one of the best types of learning experiences that individuals can ever have. I encourage all students to enroll in a study abroad program, to travel overseas for research and pleasure, and to engage seriously in our international agenda. If we remain insulated and isolated as a nation, as a society, and as individuals, then we may never achieve our full human potential. Travel broadens the horizons and sheds new light on who we are on this planet we call Earth. Happy trails.....



## GEOGRAPHY QUICK QUIZ TIME !

Test your geographic knowledge with this new quick quiz for 1998. A score of 18 and above certifies you as a Geography Expert. A score of 15 to 18 certifies you as worldly! A score of less than 15 means that you've forgotten all the good stuff that you learned while taking classes in the Department!!!

Answers are available on the Department's homepage at: <http://www2.wku.edu/geoweb/info/quiz.htm>

- 1 What's the new name of Burma?
- 2 Who is the newly elected president of Ecuador?
- 3 Name the Balkan country with a majority population of Albanian Muslims that is a province in the rump state of Yugoslavia.
- 4 What's the official name of the pooling of colder water that occurs in the tropical eastern Pacific Ocean after an El Niño event?
- 5 Name the two east African cities that suffered terrorist attacks in August, 1998
- 6 What is the capital of Slovenia?
- 7 Name the two major rivers in China that flooded dangerously during the 1998 summer.
- 8 Which two countries played in the finals of the World Cup of Soccer in July 1998?
- 9 What is a tarn?
- 10 What is the name of Argentina's President?
- 11 In which ocean would you find the Galápagos?
- 12 Who invaded militarily the island of Grenada?
- 13 Which European country is an "island state" surrounded by the European Union?
- 14 Where would you find the Baluchi people?
- 15 Who are the Taliban?
- 16 What is the "dry adiabatic rate" of unsaturated air?
- 17 Where would you encounter the Mistral winds?
- 18 Name the territory over which Pakistan and India are in conflict.
- 19 Where would you find Ibo-speaking peoples?
- 20 Which is further west, the Panama Canal or Bowling Green, Kentucky?

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## GEOLOGISTS IN THE FIELD (OR STREAM!)



Dr. Denny Bearce (University of Alabama at Birmingham, Dept. of Geology) introduces Geology majors Emily Hirsch (l) and Travis Williams (r) to "those ferocious Alabama water moccasins." Emily and Travis spent 2 weeks this summer as field assistants to Beth McClellan, helping with mapping and sample collection in the Talladega belt of east central Alabama. The work involved several days of creek-wading in search of elusive rock outcrops.



## EIGHT OF OUR STUDENTS MAKE STRONG IMPACT AT THE ANNUAL SIGMA XI STUDENT RESEARCH CONFERENCE

Eight Students from Geography and Geology presented their research at the Sigma Xi Student Research Conference this spring.

### Graduate Division:

Kevin Cary, *Western Kentucky's seasonal variations of hourly precipitation rates*; advisor: Glen Connor

### Undergraduate Division:

Megan Smith, *A spatial investigation of mobile home distribution in Kentucky, 1994*; advisor: Dr Albert Petersen

Brad Milliman, *A close-up look at sedimentary characteristics above and below the Mississippian/Pennsylvanian unconformity*; advisor: Dr Michael May

Travis Williams, *A correlation study of the Chattanooga, New Albany, and Erin Shales using SEM*; advisor: Dr Beth McClellan

Emily Hirsch, *Diagenetic changes with age in Quaternary carbonates*; advisor: Dr Deborah Kuehn

Joseph Cook III, *Petrographic study on the weathering of volcanic ash*; advisor: Dr Deborah Kuehn

Sarah Pitney, *A petrographic study of coprolites*; advisor: Dr Deborah Kuehn

Samuel Luther, *Weathering characteristics of Pleistocene oolitic limestone*; advisor: Dr Deborah Kuehn

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Travis Williams received an award for best paper in the undergraduate division. Congratulations Travis!

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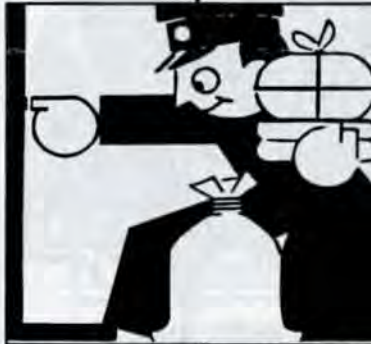
## FACULTY NOTES

**REZA AHSAN** continued his interest in the history and philosophy of geography as well as in remote sensing of the environment. He taught courses on World Regional Geography, Air and Space Sensing, and Conservation of Natural Resources. Dr. Ahsan attended an International Geography Conference at Aligarh Muslim University, India, presented a paper on Environmental Resource Evaluation, and chaired several sections. He also traveled in Bahrain, Pakistan, and Bihar (India) during the past year. He is looking forward to teaching a course on Advanced Cartography and the History and Philosophy of Geography.

**JAMES M. BINGHAM** reports that another year has passed and he is still in the Department---as Jim says, "I suppose I may be here forever since I promised Wayne I would stay until he retired. As strange as it may seem, I have been at WKU long enough to have served under all of the university presidents except the first two. Frankly, I am happy with the appointment of President Ransdell and look forward to the coming years--teaching is becoming "fun" again. It may be that I am getting my "third-wind."

My iris growing and hybridizing activities continue and this year the BOD of the American Iris Society approved my appointment as a Master Judge of the American Iris Society. I have several iris seedlings that I hope to introduce in the next year or two. I hope to continue my hobby while I teach over the next several years and when I do retire I will have something to do!

Wayne and I continue to do research related to Kentucky. One of our current efforts relates to spatial aspects of exports in the economy of Kentucky. We plan to present the results of this research at the fall meeting of the Kentucky Academy of Science. Additionally, we are interested in why the



rates of attending college vary so noticeably in Kentucky and especially the area west and north of WKU.

Just recently a student that I had in class from the first semester that I taught at WKU in the fall of 1965 came by to say hello and, believe it or not, I remembered his name and where he was from. If you are in the area, please stop by to say hello--maybe I will remember you too."

**GLEN CONNER** is as busy as ever. He attended the regular meetings of the American Meteorological Society's Kentucky Chapter several times during the year and served as a judge at the Southern Kentucky Regional Science fair in April.

In collaboration with Barry Brunson of the Mathematics Department, Glen developed a new analysis technique to assess evidence of climate change as represented by the number of daily extreme temperature records being established. They presented their project to the Departmental Seminar in October. Mr Conner then presented a paper on this project, *Detecting Climate Trends Using Record Daily Temperature Extremes*, to the American Meteorological Society's 10th Conference on Applied Climatology held in Reno, in October 1997.

Glen was the research contributor of the climate maps on pages 30-35 in the new Atlas of Kentucky published in 1998 by The University Press of Kentucky. The analysis was done using a mapping program called Surfer and data available in the Kentucky Climate Center.

In addition, he spent three weeks during the summer of 1998 at the National Climatic Data Center as part of their climatologist exchange program. While there, he participated in a four-day Climate Product Review Workshop attended by climatologists from each of the Regional Climate Centers, the National Weather Service, the Department of Agriculture, and the National Climatic Data Center's user service personnel.

Glen also worked on developing new products and additions for the Kentucky Climate Center's



web site. During the first six months of 1998, the site was accessed over 2,500 times and the number continues to increase. Check it out: <http://www2.wku.edu/~gg024004/ky-climate-center.html>.

He also incorporated the use of World Wide Web activities into two of his courses. In Geography 100, Introduction to the Physical Environment, he created and made available Web activities for each of the twenty textbook chapters. In addition, he made five assignments each semester that required use of the Web. During the past academic year, there were 758 student accesses to these course materials. During Spring 1998, he prepared similar activities for each of eleven textbook chapters for Meteorology 121. Although implemented late in the spring semester, there were 110 student accesses. You can have a look at these course materials at: <http://www2.wku.edu/geoweb/geog100/conner/> and <http://www2.wku.edu/geoweb/geog121/conner/>

Glen continues service as the State Climatologist for Kentucky and he attended the American Association of State Climatologist's annual meeting at Prescott, Arizona, in August 1997. At that meeting, he presented *A Daily Data Set for Climatic Resource Applications* and *A Border State and Freeze-Thaw Events*.

### NICHOLAS CRAWFORD

received the Outstanding Kentucky Geologist Award for 1998 from the Kentucky Chapter of the American Institute of Professional Geologists (AIPG). He was recognized at the annual banquet on May 30, 1998, in Owensboro, Kentucky for training new professionals through his teaching and workshops, for his leadership in founding and directing the Center for Cave and Karst Studies, for his research in karst hydrology, and for his applied work as a hydrogeology consultant. Nick has been very busy this year with public service activities through the Center for Cave and Karst Studies. Nick, several graduate students including Seth Spelman, Kevin Vaughn, Kevin Cary and others, have installed a boat tour of Lost River Cave. This involved building a low dam back in the cave,

rebuilding a deckboat, constructing a boat hoist to raise the boat during high water, and moving many large rocks. Crawford will also direct a \$125,000 grant administered by the Center for Cave and Karst Studies for the Friends of Lost River to rebuild the large historic dam in the cave entrance, repair the dance floor, and make other repairs this fall.

Nick and Chris Groves have helped to obtain two very important grants that will have a major impact on the Center for Cave and Karst Studies and the Department. The first grant for approximately \$4.5 million from the U.S. EPA is to establish a Technical Assistance Center for Water Quality at Western. This will be the first of several EPA Water Centers established at universities and will serve EPA Region IV (Southeast). EPA indicated that one of the centers should be located in a karst area and it appears that we were selected. The Center for Cave and Karst Studies and the Climate Center were included in a proposal to combine 10 centers within Ogden College into a Program of Distinction called the Applied Research and Technology Center. The Kentucky Council on Higher Education has awarded the Center \$2.9 million over three years, and it is the one area selected to become WKU's Program of Distinction. This funding and future funding in this area is intended to make the various centers within the Applied Research and Technology Center nationally recognized.

Nick has also been very active this year in offering karst hydrogeology workshops and short courses. In addition to the one-week Karst Hydrology course taught each summer with Dr. Will White as part of the Karst Field Studies Program, he has also offered a three-day workshop in Murfreesboro, Tennessee, for the EPA and two three-day workshops in State College and in Bethlehem, Pennsylvania, for the Pennsylvania Department of Environmental Protection.

Nick continues to perform applied karst groundwater research at some of the most interesting sites in the United States with ongoing projects at locations in Kentucky, Tennessee, Alabama, and Georgia. Most of his research involves construction of site conceptual hydrogeologic models from data obtained primarily





Jim dye tracing, exploratory borings, geophysical techniques, geologic mapping and potentiometric surface investigations.

After 20 years of struggling, it appears that karst hydrology and the Center for Cave and Karst Studies are finally going to be taken seriously by this university. Although Chris Groves has many students working on karst geomorphology and geochemistry projects at Mammoth Cave National Park, we are not doing very well in the hydrology area. Send us some good undergraduate and graduate students that would like to emphasize applied karst hydrology. It looks like we are going to have the financial resources to really support this program in the future.

**JAMES DAVIS** continued teaching on a half-time basis in his optional retirement status. He served as Western's contact person for the WKU Institutional Review (the Fisher Report) conducted during the 1997 Fall semester. Jim continues to serve as a member of the Bowling Green Mayor's Advisory Committee. He currently is studying the planning processes involved in the proposed establishment of a multi-nodal distribution and commerce airpark in Warren County, Kentucky.

**STUART FOSTER** spent much of the spring and summer serving on the Bylaws Committee and Technical Committee of the Bowling Green/Warren County GIS Consortium. The Consortium was formed with the goal of implementing a community-wide GIS. Western Kentucky University, along with county and city governments and local utility companies, hopes to develop a system that will integrate current uses through data sharing and stimulate many additional uses of GIS to promote economic growth in Bowling Green and Warren County. Within the Department, Dr. Foster continues to integrate new GIS and analytical software into our computer laboratory, giving students the opportunity to enhance their technical skills as they prepare to enter the job market.



**CHRIS GROVES**, as in past years, spent as much time as possible during 1997 underground within the Mammoth Cave System, collecting water samples, taking photos, teaching, and in general looking for any excuse to be up at the cave (and out of the office). His ongoing research program in the Logsdon River of the cave, with Mammoth Cave National Park Hydrologist Joe Meiman, was especially fruitful during the year; Chris, Joe, and their students gave fourteen research talks at local, regional, and national scientific conferences. Three students (Darlene Anthony, Kevin Vaughan, and Jeff Timmons) received external grants for research projects, and two (Darlene A. and Ryan Smith) won awards for best student talks at various meetings.

During the year, Groves continued his service as member of the national Board of Directors of the Cave Research Foundation, as Associate Editor for the Journal of Hydrology, and as chairman of the Research Advisory Committee for the National Speleological Society. In the spring, he also taught a course in hydrogeology as a visiting lecturer at Vanderbilt University in Nashville. Much of his time was also spent organizing the September 1998 meeting of UNESCO's *International Geological Correlation Program, Project #379: "Karst Processes and the Global Carbon Cycle."* This meeting, which will be held at WKU, will be the first major scientific conference to address how the carbon dioxide associated with karst landscape development may be impacting global CO2 levels, and will host scientists from 18 countries, including many of the world's top cave scientists.

In the travel area, Chris and Deana stayed pretty much close to home this year, except for a short sailing trip in the Bahamas with Chris's parents. They are indeed looking forward to the upcoming national meeting of the Association of American Geographers in Honolulu, after which they hope to continue their joint, ongoing research into the geomorphology of the flat, coastal sand deposits that occur in many of the shoreline areas of Kauai and Maui.



**WAYNE L. HOFFMAN** reports that it has been another great year from a departmental and personal point of view. The Department collectively and faculty individually continued to excel in teaching, research, and public service. "A close reading of this section of the Newsletter and my introductory letter will provide the basis for my pride in the unit and the individuals that comprise the faculty. Added to this are the accomplishments of our alumni and current majors and minors. You can be proud to be a graduate of this program and Western Kentucky University.

During the past year, I continued to involve myself in applied research and public service. The long-awaited Comprehensive Plan for Edmonson County was finally completed. The County and City have established a joint planning commission and are in the process of establishing sub-division controls in the County and zoning regulations in Brownsville. How times have changed.

In November, Jim Bingham, Melody Neuber, and I presented a paper at the Kentucky Academy of Science meeting concerning the increase of mobile homes in Kentucky with special attention to Edmonson County. In April, I journeyed to Orlando to present a co-authored paper (with Jim Bingham) on the Kentucky Education Reform Act at the Popular Culture meeting. Also during this period, the Kentucky Atlas was published, which included a section authored by myself and Albert Petersen. The Atlas is a quality effort and you need to obtain a copy.

I continue to involve myself in a variety of planning efforts with the Barren River Area Development District. As part of my activities, I attended a national meeting in Anchorage, Alaska, in September 1997. The trip was the highlight of the year. We took a side trip to Denali National Park and obtained a feel for the vast wilderness of the 49th state.

Administratively, I have completed my 22nd year as Department Head. The job, while growing more complex, continues to be enjoyable and full of

challenges. We continue to generate reports on this and that. I fear that production of these vital documents will only end when my office is completely full of felled trees converted to bond paper on which the strategies of the department are inscribed.

What does next year promise? I hope to present, along with Jim Bingham, a paper at the Annual Meeting of Kentucky Academy of Science. Jim Davis and I are also considering presenting a paper on the newly proposed and controversial air park for Warren County at the Annual Meeting of the Association of American Geographers. I have a couple of other projects in various stages of development that may bear fruit during the coming year. I appreciate the support that you have provided in the past and look forward to your continued support in the future. I would be most grateful if you would

complete the GEOGRAM Alumni Report found at the end of this newsletter. If you don't want to do that, E-mail me. If you don't want to do that, visit me - I get lonely! You can contact me at the following email address: wayne.hoffman@wku.edu Which reminds me, if you have a chance, take a look at our Home Page on the World Wide Web:

<http://www2.wku.edu/www/geoweb/>



**DAVID J. KEELING** has enjoyed another amazingly busy and productive year, his fifth in the Department, a year that featured some fascinating research trips, several stimulating classes, many challenging students, and a number of enjoyable conferences. At the end of last summer (1997), Dr Keeling spent five weeks in Ecuador teaching in the Kentucky Institute for International Studies (KIIS) summer program. Along with sixteen students and a biologist (Dr Miriam Kannan from NKU), David traveled the length and breadth of Ecuador, visiting the Amazon lowlands, the humid coastal regions and the Andean Sierra (see detailed story on p. 8). In November 1997, Dr Keeling flew across the Atlantic to Frankfurt, Germany, for a one-week research trip to Italy and Hungary. His primary mission was to



evaluate current changes in transportation infrastructure for a forthcoming article on high-speed railroads. The same themes motivated a research trip to Britain in March, where Dr Keeling looked at the changing nature of Britain's transport systems in the aftermath of privatization and deregulation.

Finally, the academic year once again ended on a very high note with another working trip to Europe. Dr Keeling served as the American Geographical Society's "Floating Lecturer" on an educational cruise from Arnhem in the Netherlands to Prague in the Czech Republic. The lecture cruise sailed down the Rhine River to Mainz and then along the Main River and Canal to Kelheim, Germany. Here, the cruise continued on the Danube through Vienna and ended in Budapest, Hungary. From Budapest, the tour continued on to Prague for three wonderful days. Before joining the cruise, David took the opportunity to travel into Eastern Europe and visit Poland, Romania, and Bulgaria. The economic devastation wrought on Romania by Soviet-directed communism and by the despotic regime of the Ceausescu family is evident on the landscape, particularly in the capital city, Bucharest. Although the trip certainly was hectic, it proved to be the perfect ending to an exciting and busy academic year.

Dr Keeling also had a productive year attending conferences, presenting research papers, and giving guest lectures as a visiting professor in the United States. In October 1997, he presented "*Global Restructuring of Latin American Cities: The Experience of Buenos Aires*," at the annual Midwest Association of Latin American Studies (MALAS) conference in St. Louis. At the November, 1997, KAS meeting in Morehead, Kentucky, David presented *Spatial Dynamics of the 1996 Presidential Election in Kentucky*, co-authored with Kenny Palmer, one of the Department's outstanding undergraduates, and at the annual AAG conference in April, convened in Boston, he presented *Neoliberal Reform and Landscape Change in Buenos Aires, Argentina*.



In September, 1997, Dr Keeling was invited to Tennessee State University in Nashville by the Department of History, Geography, and Political Science, where he presented a seminar titled *Social Justice and the Impact of Globalization in Argentina: From Chaos to Crisis?* In November, David presented *Is Space the Final Frontier? The Role of Geography in the New Millennium*, as part of the annual Geography Awareness Week celebrations at Eastern Illinois University. Finally, Dr Keeling presented two lectures at Middle Tennessee State University in April; one to the Anthropology Club titled *The Coffee Commodity System in Huatusco, Mexico*, and the other to faculty and students of the Department of Sociology and Anthropology titled *Urban Landscape Change in Argentina*.

On campus and in the community, Dr Keeling remains active with public presentations and lectures on topics of current interest. He gave three lectures on globalization and economic change as part of the College of Business' MBA program, several guest lectures in geography courses, and a lecture on his work in Ecuador for the Department of Geography and Geology's seminar series.

Public and other service also kept David busy during the past year. He served as Master of Ceremonies at the annual National Geography Bee state finals held at the University of Louisville this past April. The depth of preparation and knowledge achieved by the finalists is amazing, and many of the questions in the final round would have stumped most college students and professors! Dr Keeling continues to serve on the Chamber of Commerce's International Relations Committee and he remains active in promoting cultural exchanges with Ecuador. Committee duties in professional organizations, including the editorship of the European Specialty Group's newsletter, also kept him busy throughout the year. David edited the 1998 edition of the *Conference of Latin Americanist Geographers Yearbook* and is serving as vice-president and conference organizer for the Midwest Association of



Latin American Studies. The 1998 MALAS conference will be convened on Western's campus from October 29 through October 31, 1998. All are invited to attend and participate.

Publishing the results of research is of crucial importance, and Dr Keeling continued his efforts in this regard during the past twelve months. A chapter on transport development in Mexico will appear in an edited volume titled *Regional Development in an Era of Change*, scheduled for publication in September 1998, while a paperback edition of his 1997 book *Contemporary Argentina* was released in July 1998 for student use. Dr Keeling continues to publish *Intercambio Internacional*, the journal of Western's Latin American Studies Program, contributing an editorial in each issue, and he also had several book reviews published in a variety of forums. A number of articles are in preparation and David continues work on two new books, one to be titled *Contemporary Ecuador* and the other on secondary cities in Argentina. David has also begun to write a book on the cultural geography of rock and roll! Of course, that means listening to thousands of hours of Stones, Zeppelin, Cream, etc. He hopes to have these books published before the millennium ends!

Dr Keeling plans to have another exciting, productive, and enjoyable year in the Department. He is especially looking forward to teaching Political Geography again this Fall, as well as a new course (for him) on Transportation Planning. As always, Dr Keeling encourages past, present, and potential students to come by and share travel stories, information, and geographic tidbits. He can be reached easily in cyberspace at: david.keeling@wku.edu or by phone at (504) 745-5986. Also, visit Dr Keeling's homepage on the World Wide Web—just enter: <http://www2.wku.edu/~keeling/index.htm>.

**KENNETH KUEHN** served as President of The Society for Organic Petrology (TSOP) in 1997-98, an international scientific society whose purpose is to further the understanding of sedimentary or-

ganic materials such as coal, petroleum, and gas. He assumed office at the 14th annual meeting held in Lexington, Kentucky, this past September and completed his term in July 1998 at the Society's 15th annual meeting in Halifax, Nova Scotia.

Dr. Kuehn also serves as the Secretary/Treasurer of the Kentucky Society of Professional Geologists (KSPG) and continues his organizational activities with that group. At their first annual meeting last September, he was honored with a 'Distinguished Service Award' in recognition of his efforts in forming this new Society. He also participated in the KSPG field conference entitled "Economic Geology of the Bluegrass Region".

Dr. Kuehn continues his research efforts on fossil fuels and presented a paper entitled *Oil-finding Strategy for the Warsaw Limestone (Meramecian), Warren County, Kentucky* at the American Association of Petroleum Geologists (AAPG), Twenty-Sixth Annual Meeting of the Eastern Section.

This past April, Drs Kuehn and McClellan led students on the annual Appalachians field trip into Tennessee and western North Carolina. As always, the 3-day excursion was an intense, but enjoyable learning experience for everyone. Dr Kuehn continues teaching the courses in Stratigraphy and Structural Geology and invites all his former students to drop a line and say 'hello.'

**MARK LOWRY II** was invited to West Point, the United States Military Academy, as Visiting Professor of Human Geography for the academic year 1997-98. During this year, Dr. Lowry served on the Advisory Board of Dushkin/McGraw-Hill's *ANNUAL EDITIONS: Geography*. He made a trip to Ecuador to continue field research for his book about Moritz Thomsen, a World War II Army Air Corps hero, Peace Corps volunteer in Ecuador, farmer in the Esmeraldas Province of Ecuador, and controversial writer. His article "Last Days of Moritz Thomsen" was published in *The South American Explorer*, No. 51, Spring 1998. That article was picked up and published again as the





feature article in *Returned Peace Corps Volunteers Writers and Readers*, July 1998. Meanwhile, Dr Lowry has contributed a substantial piece, "The Last Days of Don Martin", for a tribute to Thomsen, a book being assembled and edited by Tom Miller, author of *The Panama Hat Trail* and *Trading With The Enemy*. Dr Lowry has continued his research on experiential education in the Amazon Basin of Ecuador. During this academic year he has also written three quarters of another book, an ethnographic portrayal of life and the consequences of social revolution in mid-century rural southern Mississippi. He presented a paper at the annual meeting of the Association of American Geographers in Boston, April 1998. While Visiting Professor at West Point, Dr. Lowry also taught several Geography courses, advised the faculty on course and program revisions, and made open presentations to the public and Academy faculty and students on: *The Content and Nature of Human Geography; History, Ecology, and a Sense of Place; Colorado Indians of Ecuador: Culture in Transition; Fishermen of Sua; and Running Red in Santo Domingo de los Colorados (Ecuador)*.

**MICHAEL MAY** has been extremely busy as he completed his second year as a faculty member, continued to attend regional and national meetings, and taught aqueous geochemistry (a student pleaser no doubt), introductory geology, and environmental geology for the Department. In addition to his courses taught on the hill, he has carried Western's name as a faculty member for the University of North Carolina Education and Research Center and for Austin Peay University's Elderhostel Program.

The UNC program has been quite rewarding. This has enabled Dr. May to continue to interact with myriad professional people such those employed by Dow Chemical, DuPont, the U.S. Navy, the EPA, Shipyard manufacturers, the Dept. of Energy and many others via a course entitled *Environmental Regulations for Occupational Health & Safety*

*Professionals*. This has also kept him honest in keeping up with the latest in environmental assessment and remedial techniques and regulatory issues. The short course locations have turned out to be nice environs for family working vacations as well--the Norfolk and Virginia Beach area in July and St. Pete Beach, Florida, in January.

Involvement with the Elderhostel program at Austin Peay State University in nearby Clarksville, Tennessee, has also been a great experience. Dr. May teaches a short course there entitled *Caves, Sinkholes and Disappearing Streams*. It involves both classroom exposure and him leading a field trip through Dunbar Cave State Park in Clarksville. He has noted that it is certainly nice to get the average age of students shifted from 20 to 65 for a definite change of pace! Questions from, and discussion sessions with, these nontraditional students are always interesting, stimulating and challenging.

The meeting, paper presentation, and publishing circuits were yet another aspect of Dr. May's life over the past academic year. In September 1997, he attended the joint meeting of The Society of Organic Petrologists (TSOP) and the Eastern Sectional meeting of the American Association of Petroleum Geologists (AAPG) in Lexington, KY. He judged several oral presentation sessions and he also presented a paper entitled *Gas Chromatography - It's not just for source rocks anymore: An environmental case study at the Lexington-Bluegrass Army Depot Site, Fayette County, Kentucky*. This paper was published as an extended abstract in the meeting Proceedings volume and as an abstract in the *AAPG Bulletin*. While at the meeting (also attended by Dr. Ken Kuehn) he participated in a core workshop co-sponsored by AAPG and the Indiana Geological Survey. This was a great opportunity to look at rocks in the climate-controlled comfort of the Hyatt Hotel, interact with other professional geologists, and learn a computerized coding program for describing sedimentary rocks and plotting graphical stratigraphic sections. Mike hopes to use this information in his own research and in classes he teaches.





During October and November 1997, Mike made several presentations to both university and community groups and participated in newspaper and television interviews. He presented a talk entitled *Careers in Geology and Earth Sciences* for the WKU freshman seminar in the Environmental Science Program. The Friends of Lost River in Bowling Green were entertained by a presentation entitled *El Niño, A Geologist's Perspective*. The Department of Geosciences (ERA Program) at Southeast Missouri State University in Cape Girardeau invited Dr. May as a guest speaker to present *Petroleum Geology and Hydrogeology: An Inner Bluegrass Region Case Study near Lexington, Kentucky* in early November 1997. Between pre-presentations in November, Dr. May also reviewed two chapters of *Environmental Geology* by Carla Montgomery for WCB/McGraw Hill Publishers. These chapters were on *Geology and Climate: Glaciers, Deserts and Global Climate Trends* and *Geomedicine*. He was also interviewed in response to the Governor's proclamation of a need for earthquake awareness. These interviews resulted in a *Park City News* article on local seismicity and a WKYU television program on the New Madrid and associated faults in the Kentucky area.

He also met with the Warren County Dept. of Emergency Response concerning emergency procedures and areas at risk during an earthquake in the Western service area.

Also in November 1997, Brad Milliman (Geology student) and Dr. May co-authored *A new look at an old problem: The Mississippian-Pennsylvanian Unconformity in Western Kentucky* at the Kentucky Academy of Science (KAS) meeting at Morehead State University. Brad did a fine job in presenting this paper, as it won 3rd place in the Geology Section of the KAS for the Undergraduate Research Competition.

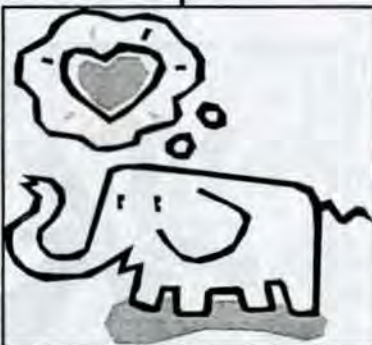
Work continues for Dr. May on the Mississippian-Pennsylvanian Unconformity just north of the Bowling Green area. This past spring he was awarded a WKU Faculty Research Grant to work on the petrology of siliclastic rocks in Edmonson, Warren and Butler Counties. Several weeks in the summer have been

devoted to collecting rocks in these areas and preparing them for microscopic examination. Dr. Kuehn has also participated in some of the field excursions. One of the days in the field also included observing an oil well being drilled in the Richlandville area. It turned out to be a successful venture, even with crude at only about \$10.00 per barrel.

This September Dr. May will have a paper published in *Environmental Geosciences* (an AAPG affiliated journal) entitled *Environmental Geology and Petroleum Geology: Problem solving at the Lexington-Bluegrass Army Depot, Kentucky*. He will also have an abstract published in the September *AAPG Bulletin* on the petrology of rocks associated with the Mississippian-Pennsylvanian Unconformity in Western Kentucky; this paper will be presented at the AAPG Eastern Section Meeting to be held in Columbus, Ohio in early October.

In addition to the 1998 fall semester start-up, Mike is looking forward to continued activities with the Kentucky Society of Professional Geologists. Both he and Ken Kuehn have attended and presented talks in Lexington this past year with the group and are excited about a fall field trip to a new road cut in eastern Kentucky.

Other recent and anticipated continuing activities include Dr. May's involvement in coordinating with Department alumnus Greg Powell of EPA (Cincinnati) the development of an outdoor environmental geophysics testing or training ground. It is anticipated at this time that the Lost River area mapped previously by Dr. Nick Crawford and others will be used to set up a four-acre site to be utilized by EPA, their contractors, and Western students and faculty. The goal is to learn about the applications of geophysics to decipher subsurface conditions in order to solve environmental problems. Some of the anticipated technologies that students may encounter in the future at this facility include resistivity, ground penetrating radar (GPR), and seismicity. Microgravity surveys may be an additional option. In addition, borehole geophysics can be used at this site in previously drilled wells and tied into the area geophysical surveys. All parties involved with this





proposed project are excited about the prospects that such cooperation between EPA and the Department will yield. Stay tuned for updates!!!

Dr. May, along with Dr. Chris Groves and others, is also just beginning to get involved with Ogden College's large (\$5 million) grant to aid rural water districts in Kentucky and other southern states. Mike will play a role in establishing quality assurance/quality control (QA/QC) in water-well sampling, as well as drafting sampling plans for various water quality sampling locations. Both undergraduate and graduate students in the Department will also be able to participate in this ongoing project.

**BETH MCCLELLAN** can't believe that it's time for another Geogram report. Did the year really fly by so quickly?! Teaching continues to be demanding but never boring, as faculty are urged to incorporate new techniques into their classes; in particular, new computer applications and internet resources. For many of us, this is like teaching the proverbial old dog new tricks; however, progress is slowly but surely being made.

Beth is happy to announce that an old but tried-and-true technique of using the optical microscope for Mineralogy and Petrology got a boost this summer--finally the microscopes have been serviced, and we received funds to have 75 new thin sections made from rock samples collected over the past few years. We now have coherent sets of rocks and matching thin sections from the southern Appalachians, Yucca Mountain, Nevada, and several other important geological sites.

Research in several areas has kept Beth busy. Analysis of types and orientations of rock fractures (joints) in the local area is an ongoing project, and she presented "Influence of Joint Orientations on Topography and Slope Stability in Butler and Warren Counties, Kentucky" at the Kentucky Academy of Science meeting in Morehead (November 1997). As past president of the Geology section, she chaired the Geology session at the meeting. She would proudly add that three WKU Geology students, Jennifer Lohr, Keith Milam, and Brad Milliman, gave talks in the

Geology session and each one did an outstanding job. Keith and Brad won "Student Paper" awards for their efforts.

Beth's main focus of research at present continues to involve the Talladega belt in the southernmost Appalachians of Alabama. In March 1998, she presented results of ongoing structural and petrographic studies of her favorite rock type from the area, a metamorphosed volcanic rock commonly termed "metadacite," at the Geological Society of America Southeastern Section Meeting. The presentation was entitled *Mylonitization and Oblique Fault Movements in the Talladega Belt, Alabama*. Beth received a WKU Summer Faculty Fellowship for 1998 to begin a new aspect of the Talladega project, "Application of High-



Resolution Ion Microprobe Dating to Metavolcanic Rocks in the Talladega belt, Alabama." She will be working with Calvin Miller, professor at Vanderbilt University, and former WKU Geology major Sam Vinson (who is presently working on a Master's degree at Vanderbilt) to separate grains of the mineral zircon from the volcanic rocks, after which

they will apply a new method of isotopic age-dating to the samples. Dates obtained on the different growth zones in the zircons should reveal the age and crystallization history of the volcanic rocks in the Talladega belt, and yield a solution to a long-standing and perplexing problem concerning the tectonic history of the southernmost Appalachians.

The Summer Fellowship allowed Beth to spend two weeks in the field this summer for continued mapping and sample collection. Two WKU Geology students, Emily Hirsch and Travis Williams, joined her as field assistants. Camping at Cheaha Mountain State Park (the highest point in Alabama), they managed to survive close encounters with hurricane-force winds, wild boars, ravenous squirrels, and friendly natives who treated them to pork chops and all the trimmings one evening after a long day in the field. They also found time to help Travis collect samples of black slate for continuation of a research project that he began in the spring. He won the "Undergraduate Best Paper Award" at the WKU Sigma Xi Research Conference



for his presentation on the preliminary phase of the project, in which he used the scanning electron microscope (under the direction of Debbie Kuehn) to compare slates with unmetamorphosed black shale.

Beth continues to maintain an interest in the tectonic evolution of the Norwegian Caledonides (the subject of her Ph.D. dissertation), and is presently finishing two manuscripts based on work there. In May she was invited to give a seminar presentation to the Department of Geology, University of Kansas, where she spoke on *Mapping Stratigraphy in Complex Metamorphic Terranes: A Case Study from the Trondheim Nappe, Norwegian Caledonides*.

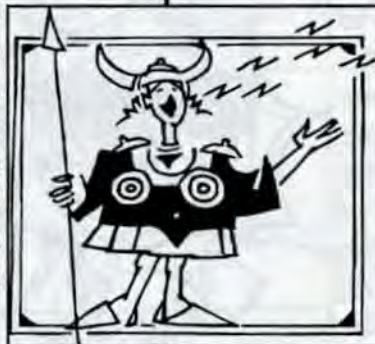
The Geology Club kept Beth hopping this year, sponsoring field trips to the Falls of Ohio, Horse Cave, and the St. Francis Mountains in southeastern Missouri. Fund-raising continues to be successful, and at the spring Rock and Mineral Sale, the club discovered that it could make just as much money selling geodes and other interesting stuff people had collected as it could with the usual consignment materials. It may put a little more stress on our rock saws, but for a good cause!

The Spring Break trip to look at Proterozoic (up to 1 billion years old), unmetamorphosed rhyolites and granites exposed in the St. Francis Mountains attracted almost 20 participants. The Geology Club, and especially president Brad Milliman, did a wonderful job of organizing meals, campsites, etc. Unfortunately, they couldn't control the weather, which could be described as "38 degrees and raining" for most of three days. Although most of the participants (including Beth!) opted to pack up their waterlogged tents and leave a night early, a good 'n muddy time was had by all. The other major field trip of the year was the annual Structural Geology/Petrology field trip to the southern Appalachians of east Tennessee and western North Carolina, which Beth co-led with Ken Kuehn. As usual, this took place in the late spring, and this year the trip was blessed with sunshine (finally!).

Life never seems to slow down; Beth's husband, Darcy, an archaeologist, landed a tenure-track position at the University of Kansas (that's KU, not

UK), so who knows what the future holds? What happens, it would seem to involve good basketball!

**CONRAD MOORE** presented two papers dealing with drought equilibrium from 1905 through 1994 in the eastern and interior United States at the annual meetings of the Kentucky Academy of Science and the Association of American Geo-graphers. In addition, he presented a paper in Denver on 19th-century hydrological droughts in the Great Plains at the annual meeting of the Association for Arid Lands Studies. A manuscript of this paper currently is under review for publication. Enrollment in the various environmental courses taught by Dr Moore continues to remain at maximum capacity.



**ALBERT PETERSEN** presented a paper at the American Popular Culture Association meeting in Orlando, Florida, this past April. The paper, titled *Meerschaum Carvers of Turkey*, resulted from field work in Turkey during the 1997 summer. This past summer, Petersen participated in a geography institute for teachers conducted at the University of Louisville.

During the past year, Petersen served on a Kentucky Department of Education curriculum committee designing a testing program in the social studies that will be administered to pre-service teachers throughout the Commonwealth. Petersen continues to serve as one of two members from Kentucky on the U.S. Board of Geographic Names, although place-name changes in Kentucky have been few.

Dr. Petersen was appointed again by Governor Patton to serve on the Kentucky Historic Preservation Review Board. His interest in historic preservation led to a class project this past spring semester to develop a National Register Nomination for the small Warren County community of Oakland.

**MARY CATHERINE PRANTE** has been concentrating on teaching and finishing her dissertation work. During Fall Break, she successfully defended her dissertation (with Honors!), received the degree Decem-



over 31, and attended commencement at the University of Kansas in May. Otherwise, the Soil Map Compilation Project that Debra Kreitzer (Graduate Student), Christina Loy (Undergraduate Senior), Guy Perry (Undergraduate Senior), and Kevin Vaughan (Graduate Student) were working on through Summer and Fall 1997 is drawing to a close, and the Mammoth Cave GIS Project is progressing nicely, thanks to Guy Perry's superb efforts.

**L. MICHAEL TRAPASSO**, as usual, has been teaching several of the meteorology and climatology courses in the Department, while still running the College Heights Weather Station. He continues to give talks to local community groups and professional organizations, as well as publishing articles on different topics in a variety of magazines and journals. This past year, however, Dr Trapasso applied for his first sabbatical leave ever in the 19 years he has been a faculty member at Western. The sabbatical took place during the Spring 1998 semester, which allowed him to travel during the months of January and February down to Antarctica. December through March (austral summer and autumn) is the prime time to explore this continent because parts of the land are exposed, and a sabbatical leave was required for an extended visit. Having explored the other six continents, Dr Trapasso described Antarctica as the highest, coldest, windiest, driest, loneliest, most remote and least-known continent on earth.

As a physical geographer and a bioclimatologist, Trapasso was interested in studying the perceptions of ozone destruction by the people who live in the 'land of the ozone hole.' He started the trip with several weeks in Argentina, making his way southward towards the Antarctic. His research included visits to universities and research institutions to interview people in several different social strata in order to gather a multitude of views in this complex issue. Among the interviewees were government officials, media people, scientists, environmental personnel,

tourists, and ordinary citizens. Their perceptions on ozone depletion varied according to employment status, personal interest, and geographical location. As Dr Trapasso acknowledges, "It will certainly make for an interesting article when completed."

During his trek, Trapasso traveled north to south, stopping in the various environmental regions that comprise Argentina. In the northeast 'rain forest region' he visited Iguazu Falls, a fabulous series of 56 waterfalls that tumble over the major vertical displacement of a fault line. From there he moved southward into the Pampas, the drier, subtropical grasslands so well suited to the raising of beef cattle. A side trip found him up in the Andes mountains and lakes region. The spectacular scenery of mountains, glaciers, and lakes was dotted with quaint little towns that were remarkably Alpine in appearance and character. Continuing southward, Trapasso headed into the



Patagonian Steppe, known for its shorter, drier grasslands/desert. He found Patagonia 'much more green' than expected; evidently El Niño had dropped twice the usual amount of rain. Finally reaching Tierra del Fuego, Dr Trapasso was allowed to set up his base of operations at an Argentine research institute called CADIC (Centro Austral de Investigaciones Científicas). From

the port of Ushuaia (the southernmost city on earth) he boarded the vessel M.S. Explorer for an eleven-day cruise to the Antarctic Peninsula. By prior agreement, Dr Trapasso paid for his passage by serving as the onboard weather expert and lecturer. A soon-to-be-released article will describe his trip 'around Cape Horn' and his encounter with two Subpolar storms! Finally, on February 11, 1998, Trapasso stepped foot upon his seventh and last continent.

He describes this trip as one of the greatest adventures of his life. "It was like living within a National Geographic television special." During those few months when the ice retreats, exposing some islands and parts of the peninsula, austral birds and mammals rush to the shores to "feed and breed." Penguins by the millions, seals and birds of many kinds, whales other aquatic creatures, rest up, raise their young, then vacate before the winter ice returns.



Scientists at research stations are the only permanent residents; the animals are just passing through. Altogether three research stations were visited while on Antarctic soil: the Palmer Station (American), Port Lockroy Station (British), and the Almirante Brown Station (Argentine). Trapasso found all his colleagues most hospitable and informative. During his forays onto Antarctic soil Trapasso shot many rolls of film from which an assortment of classroom and community slide presentations will be assembled. No doubt many of his presentations for the coming year will concentrate on "The Last Continent." Though his sabbatical leave has given him the opportunity to accomplish some fascinating travel, and it has all been great fun, Trapasso admits that "I'll be ready to get into the classroom again this coming Fall 1998 Semester."

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## ALUMNI CONTRIBUTIONS

Contributions to the Department of Geography and Geology Development Fund remained steady over the past year. The number of individuals contributing to our Fund reached 85! Thanks to everyone for helping us achieve our goals this year, but we need your help now more than ever as budgets continue to be extremely limited; your contribution will go a long way to ensuring that we have sufficient supplies and equipment for student use. When you receive a call from our students, or whenever the spirit moves you, make a contribution to the Department and to the University. Be sure to specify that the money be designated for use by the Department of Geography and Geology. Our profound thanks to our contributing alumni. We gratefully acknowledge gifts from:

Thad S Abell  
James Austin Anderson  
Cynthia Ann Atkins  
Norval Baird  
Curtis Barman  
Ronald K Barnhill  
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 Douglas Yates  
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## ALUMNI NEWS

**Jerry T. Finley** (1966, MA) retired on June 30, 1997, as Guidance Counselor of Muhlenberg South High School and his spouse, Majorie, retired from the same school as librarian. Future plans include travel and more time for hunting and fishing.

**Mark H. Freer** (1991) reports another addition to the Freer family in March 1998. The "little one" will be joining spouse Tammy, daughter Taylor, and Mark. At work (Owensboro Riverport Authority), Mark oversees the primary aluminum inventory imported from Russia, South Africa, and Brazil and distributed throughout the southeastern U.S. Mark is also still kicking the old soccer ball around.

**Luke D. Hall** (1976 M.S.) continues to teach geography and geology full time at Ventura College, CA (11,000+ students). He served as Academic Senate President for 1997, moved into a new \$12.5 million science complex in January 1998, and applied for an \$80,000 grant for a regional GIS center. Luke has one daughter in the third year of the Engineering program at Virginia Tech and a second daughter entered college this August. Luke sends his best wishes to all the fine staff, students, and former students at WKU.

**Larisa Keith** (1997) reports that things are going well. She just finished her first year at the University of Cincinnati where she is working on a Masters in Community Planning and Geography. She lives in Cincinnati and enjoys the city very much.

**Loretta Bush Kessler** (1988) reports that she worked for exactly eight years for Intergraph in Reston, Virginia. She supported the US Government's map production operations at DMA/NIMA, which uses Intergraph workstations. Loretta is now supporting her spouse's Ph.D. studies in Kansas. Fritz has one more year to finish his Ph.D. in Geography/Cartography and once he gets a teaching position they will see what unfolds with Loretta's career.

**Kevin Kinne** writes that he enjoys receiving the newsletter and alumni magazines. Kevin and his spouse Marilyn run *Vintage Treasures* in Cleveland, TN.

**Nathan Alan Knight** (1996) currently is raising tobacco and beef cattle as his main source of income. He also is combining his geography and history background to produce non-fiction articles as he explores opportunities in freelance writing. Nathan also remains active in historical research and preservation. He has begun to restore an 1878 (ca.) log cabin.

**Merle E. Lamon** (1938) has retired from teaching and as high school principal in Paoli, Indiana. His long and distinguished career includes military service from 1939 to 1945 in the European theater, where he received many decorations and citations, and teaching in Indiana, Colorado, Michigan, and Missouri. He served as the President of the Geography Club at Western from 1937 to 1938.

**C. Allan Lockyer** (1977 MACT) is an associate professor at Francis Marion University in South Carolina. He is currently writing about Mexico and says he enjoyed reading David Keeling's "Fieldwork in Mexico" article in last year's Geogram.

**Thomas A. Martin** reports that he recently received his AICP Certification (American Institute of Certified Planners) and is employed as a Senior Planner at Mayes, Sudderth & Etheredge, Inc.



**Jerry Wallace Ralston** (1969) has been employed as Superintendent of Schools for the Webster County School District in Dixon, KY, for the past eight years. His oldest daughter, Laura, is presently a junior psychology major at Western with plans to become a school psychologist.

**Bryon R. Settles** (1994) was promoted in August 1996 to GIS Specialist and Assistant Director of the Hamilton County Planning Commission in Indiana. His responsibilities include various planning activities as well as aiding in the creation and implementation of the county-wide GIS system.

**Richard K. Snow and Mary Lusker-Snow** (1996 M.S.) are doing well in their doctoral programs at Indiana State University. They enjoyed last year's Geogram, and the Department sounds busy and productive. The information and encouragement they received from the Department are treasured — "thank you" to all and keep up the good work! Richard and Mary report that they have but a year remaining to complete their doctoral degrees.

**J. Brad Stephenson** (1991 M.S.) is a karst hydrogeologist with P.E. LaMoreau and Associates, Inc. in Tennessee. He married Seaira Parks Lovely on 9/28/97 in Loudon, TN, and Britton Dotson (1991 M.S.) was the Best Man. Brad is the co-editor, with Barry F. Beck, of *The Engineering Geology and Hydrogeology of Karst Terraines: Proceedings of the Sixth Multidisciplinary Conference of Sinkholes and the Engineering and Environmental Impacts of Karst*, Springfield, MO, April 6-9, 1997, 516 pp.

**Jonathon W. Thompson** (1989) works as a senior geologist for Patriot Eng. and Env. in Indiana. He reports that Jonathon Jr. has just started kindergarten, but he already knows all of his basic rocks and minerals. Not doubt he will be the equivalent of a graduate geologist by the 6th grade!

**Joseph C. Thornton** (1977, Geology) is Director of CBM Environmental and manager of the northern regional office of this small consulting firm. The company has offices in Charlotte and Greenville, NC, and Frankfort, KY, providing services in geology, hydrogeology, and engineering.

**Ross W. Workman** (1993) remains very interested in meteorology. When not "working," he conducts various observing programs in his backyard observatory. He thanks the Department for putting him on the mailing list for the newsletter and says that his years in the Department were "absolutely wonderful." Ross is Planetarium Director and Resident Astronomer for the Land Between the Lakes Association.

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**GEOGRAM** is designed, edited, and produced for the Department by Dr David J. Keeling.  
 david.keeling@wku.edu

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# GEOGRAM 1998

## Alumni Information

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(include maiden name)

Major \_\_\_\_\_ Year of Graduation \_\_\_\_\_

Current Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Occupation \_\_\_\_\_ Employer \_\_\_\_\_

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**inside...**

Dr Deborah Kuehn Says Goodbye.....	page 3
Adventures in Geography.....	pages 7-9
Faculty Notes .....	pages 11-22
Alumni News .....	pages 23-24