

Glacial Deposits

Volume 41
September 2016



In This Issue
Sublett's 45-Year Legacy pg. 4
A New Research Field for Hydrogeology pg. 15

- 2** Jim Carter's Inducted into Hall of Fame
Current Faculty and Staff
- 3** Student Adventures in Japan
- 4** Sublett's 45-Year Legacy
- 5** Field Excursion: PrairiEarth Farm
Welcome to the Department
- 6** Faculty Spotlight
- 7** National Recognition for Geography
Scholarships and Awards
- 8** A Year in Pictures
- 9** Flashback Photos 1979 to 1981
- 10** New Mexico & West Texas, Spring Break 2016
Congratulations, 2016 Graduates
- 11** The Life of a Geologist-in-Training
- 12** Mapping Functional Needs Populations
Reflections on Teaching
- 13** Field Camp Experience Still Vibrant After 45 Years
Bill Shields Retires!
2016 Geography Internships
- 14** Tales of Geology Research from the Field
2015-2016 Donors
- 15** A New Research Field for Hydrogeology



Greetings from The Department of Geography-Geology

A Message from the Chair



Greetings from Geography and Geology Redbirds! I hope this message finds you in good health and spirit. I am pleased to report that Illinois State and our Department continue to thrive during this challenging budgetary time facing the State of Illinois. The year 2016 marked my 16th year as a member of our faculty, and on July 1, 2015, I proudly began my service as Chair.

In August 2015 Dr. Sublett retired after completing 45 years of service to Geography that includes the coordinatorship of the Internship Program and the publication of our yearbook, *Glacial Deposits*. We hope to carry on with the yearbook tradition through this publication that offers a newly conceived presentation that we hope you will enjoy. Mike will be succeeded by Dr. RJ Rowley in the capacity as the Internship Coordinator. In the fall we welcomed Dr. Banik as our new Assistant Professor of Geology. In the spring two new staff members joined us, Ms. Megan Maher and Mr. Paul Meister, as our GIS Technician and Outreach Coordinator, and our new Coordinator of Academic Services in Geology, respectively. Mr. Bill Shields announced his retirement effective August 1st.

Several of our faculty received prestigious awards and recognitions last year. The Geography Program received national recognition for its excellence in Undergraduate Education from the American Association of Geographers. Drs. Himley and Rowley were granted tenure and promoted to Associate Professor. Dr. Kostelnick was named the 2015 Outstanding University Teacher. Dr. Matthew Himley was our most recent recipient of the University Research Initiative Award and was named as the next Douglas Clay Ridgley Fellow. Dr. Catherine O'Reilly joined the University's Million Dollar Club for her exemplary grant activity. Dr. David Malone received the Janice Witherspoon Neuleib Research Award and was selected one of two 2016-17 College of Arts and Sciences Lecturers for his scholarly and teaching accomplishments. A total of 143 undergraduate and 21 graduate students majored in our programs. This spring, The Department was able to award seven undergraduate students academic scholarships supported by our programs' endowment funds.

I invite you to browse through this yearbook to learn more about our accomplishments and other news and developments from the past year. The Department is grateful to its alumni, donors, and other friends for their continued support in these challenging times. Please consider visiting us the next time you are in town or simply drop us a note to let us know how you are doing.

Dagmar Budikova
Chair, The Department of Geography-Geology

Jim Carter Inducted into Hall of Fame

By: John Kostelnick

This spring, Dr. Jim Carter, emeritus faculty member of Geography, was inducted into the College of Arts and Sciences Hall of Fame. Jim served as a faculty member of Geography between 1992 until his retirement in 2005. He taught Earth's Dynamic Weather and Geographic Techniques, what is now known as Doing Geography. This is a well-deserved honor that testifies to Jim's many accomplishments.



Jim has made diverse and lasting contributions to the Geography discipline and to Illinois State through his research, teaching, and professional service. Jim is a pioneer in computer mapping, and has worked in this area for over 50 years. He was present from the onset at key conferences and workshops organized in the 1960s and 1970s when computer mapping was in its infancy. In the 1980s, he published an early book on the topic. An article authored by Jim in 1992 about digital elevation mapping was recognized in 2007 as one of the top 10 cited articles of all time in one of the premier journals in cartography.

Life today would be very different (and arguably much less convenient) without location-enabled phones, Google Maps, and GPS navigation devices in our cars, all of which build upon these early developments in computer mapping that Jim was involved in.

Jim has served his discipline admirably in key leadership positions at the international, national, and state-levels. His active involvement in professional service have made him well-known in many circles. I remember vividly a time when I traveled with Jim to Santiago, Chile, to attend the International Cartographic Conference. As we entered the conference venue together, Jim was immediately greeted by colleagues from around the world. It had the feeling of being in the company of a rock star. I'm convinced that six degrees of separation, the theory that everyone is connected to everyone else through six people, does not apply to Jim, but rather something like two degrees of separation is more likely, given his vast network of colleagues and friends around the world.

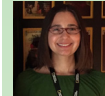


As well, Jim has extended the influence of his work to other audiences outside of academia in meaningful ways. For many years, he has worked tirelessly along with his wife, Diane, to organize and coordinate map and compass orienteering events at Comlara Park that have been well-attended by members of the community. His research on ice flowers has reached many through popular press outlets, including a recent piece featured in the *New York Times*. From weather maps to ice flowers to Dora the Explorer and everything in between, he truly epitomizes the definition of a geographer as one who explores, studies, and explains Earth, and all that is within it.

Current Faculty and Staff



Dr. Tenley Banik
Assistant Professor of Geology;
Petrology, Volcanology, Geochemistry



Dr. Amy Bloom
Instructional Assistant Professor of
Geography;
IGA Co-Coordinator



Dr. Dagmar Budikova
Professor of Geography & Chair;
Climatology, GIS



Dr. James Day
Professor of Geology;
Paleontology, Paleoecology,
Paleogeography



Dr. Matt Himley
Associate Professor of Geography;
Nature-Society, Political Ecology,
Latin America



Dr. John Kostelnick
Associate Professor of Geography;
GIScience, Cartography, GEOMAP
Director, IGA Coordinator



Dr. David Malone
University Professor of Geology;
Structure, Stratigraphy, 3-D
Mapping



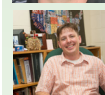
Dr. Catherine O'Reilly
Associate Professor of Geology;
Biogeochemistry, Water Quality,
Hydrogeology



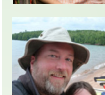
Dr. Reecia Orzeck
Assistant Professor of Geography;
Political Economy, Historical and
Social Geography, Middle East



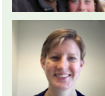
Dr. Eric Peterson
Professor of Geology;
Hydrogeology, Karst Hydrology



Dr. RJ Rowley
Associate Professor of Geography;
Sense of Place, Cultural Geography,
Internship coordinator



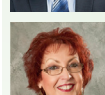
Dr. Jonathan Thayne
Associate Professor of Geography;
Landscape Ecosystem Function
Modeling, Remote Sensing, Latin
America



Dr. Lisa Tranel
Assistant Professor of Geology;
Geomorphology, GIS Applications



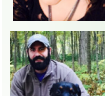
Dr. Henry Zintambila
Assistant Professor of Geography;
Precipitation Geochemistry,
Climatology, Africa



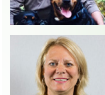
Karen Dunton
Administrative Clerk



Megan Maher
Assistant Director of GEOMAP,
Public Outreach Coordinator, GIS
Technician



Paul Meister
Coordinator of Academic Services in
Geology, GEO 102 Instructor



Jill Thomas
Geography Advisor, Teacher
Education Specialist, Geography
Lecturer



ISU students (Jace Walsh, Kris Walton, Courtney Tyler, Atley Newlin, and Isidro Espinoza) at Chusonji, a temple complex at World Heritage Site Hiraizumi in northern Japan.

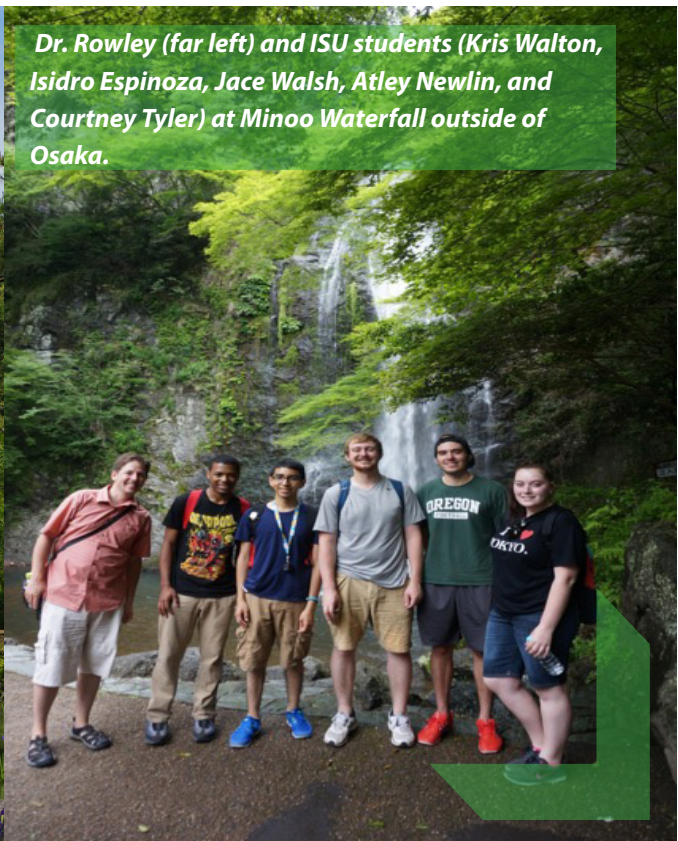
Student Adventures in Japan By: J. Jace Walsh

Traveling has always been my biggest passion. Our planet is a vast array of cultures, foods, and people for us to experience and learn from. Therefore, it has always been my goal to reach as many places as I can in my short time on this Earth. Experiencing different locations such as the Dominican Republic, Italy, and most recently Japan, has helped me in furthering my career as a Geography/Social Science educator. Being an educator of Geography and other Social Sciences can at times be extremely difficult. You must teach students about that vast array of cultures, near and far. By visiting and immersing myself in our complex and amazing world, I better my ability to educate my students. What better way to teach about the geographical landscape of a place like Japan than to immerse yourself into the country itself? I was one of five students on Dr. Rowley's 2015 study abroad to Japan. During our three-week stay

in the Land of the Rising Sun, I had the pleasure of observing a variety of physical and human geographic characteristics, as well as seeing many historically significant sites. Here is a small sample of those wonders: the WWII bombing sites of Hiroshima and Nagasaki, various Buddhist and Shinto religious sites including Zojoji temple in Tokyo, a sumo wrestling tournament, the XVIII Olympic Winter Games site at Nagano, numerous Samurai-era castles (such as the one at Matsumoto), two Nippon Professional Baseball games, and Fuji-san (Mount Fuji). Traveling abroad is a good idea for any student, no matter what their future career may be. Experiencing a different culture helps to broaden a student's horizons and to educate not only about the land they are visiting, but also about who they are as a person. It is more than a resume item; it is a life-changing experience.



Kinkakuji (Golden Temple) in Kyoto.



Dr. Rowley (far left) and ISU students (Kris Walton, Isidro Espinoza, Jace Walsh, Atley Newlin, and Courtney Tyler) at Minoo Waterfall outside of Osaka.



Dr. Michael Sublett at his tree dedication in front of Felmley Hall.

Sublett's 45-year Legacy

By: Megan Maher

On the 22nd of January 1970, The Department of Geography-Geology at Illinois State University mailed a letter to Mr. Michael D. Sublett of Tinley Park informing him he had been recommended for the position of Assistant Professor of Geography. The letter offered him a mere \$10,350 per year starting on September 1st, 1970. His acceptance marked the beginning of Dr. Michael Sublett's long and successful 45 year career with Geography until his retirement in August 2015.

His early days were spent in a 48 square foot office located in Schroeder Hall with just a stapler, desk, two chairs, file cabinet, bookcase, and chalk. Dr. Sublett taught five classes then, including four sections of Climate and two hours of Canada, all on Tuesdays and Thursdays. In 1971, he became the sponsor for Gamma Theta Upsilon (GTU). With the help of the GTU student members, he began the *Glacial Deposits* era starting in 1972. Before his retirement, 40 issues of the yearbook were published!

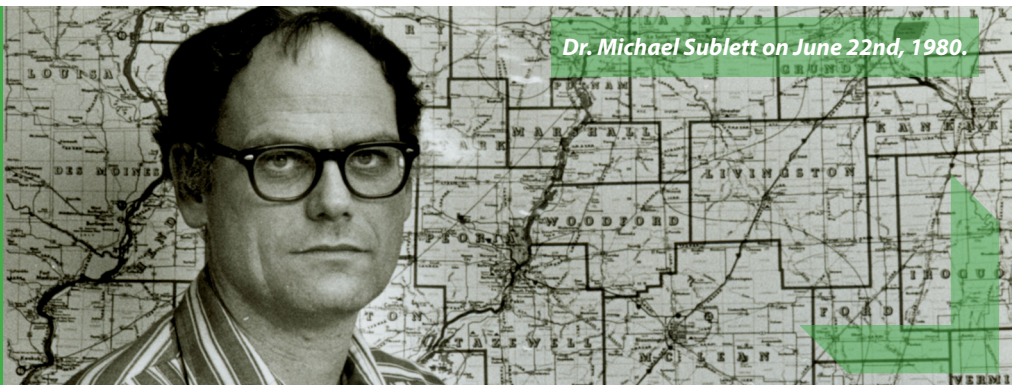
From 1978 to 1988, Dr. Sublett served as Chair. During this time, the University was experiencing a tumultuous period of change from a

into a pre-internship course. A couple years later, before an internship was a catalog requirement for all traditional majors, Dr. Sublett had managed to place 100 percent of geography majors in an internship. Approximately 550 students successfully completed an internship through this program under Dr. Sublett's supervision. The impact the internship program has had on students has been incredibly valuable. One alum commented on the program in the 2015 Alumni Survey stating, "Requiring students to obtain an internship before graduation was a very positive trait." Having completed an internship at ESRI, in Redlands, California, I can attest to the immense benefits a student gains from our program.

This summer I had the chance to sit down with Dr. Sublett and interview him about his time as a professor at Illinois State University. During our 65 minute interview, we talked about his favorite class to teach, his favorite research project, and what he believed his greatest accomplishments were as a teacher. The field course was his favorite class to teach, "because you got to work with the students in the field and you got to know them so well." In Dr. Sublett's seminar course, he assigned a project known as the Senior Field Problem, or the SFP as it was referred to in class. Over the years, the topic of the SFP changed several times. His favorite topic dealt with rural square miles. The students would travel to their assigned square mile and interview the farmers and others that lived within it. He said this was his favorite topic because, "I loved opening the eyes of suburban students to the fact that there was a farm community out there." All of the SFP essays, as well as essays from Dr. Sublett's other classes, are now part of the archives at the McLean County Museum of History. Dr. Sublett considers this collection of 1,036 essays among the achievements of which he is most proud.

Through his responses it is clear how much Dr. Sublett loved teaching and enjoyed his students. After reading through the Alumni Survey, it is apparent his dedication to the Department and to the students has kindled a great respect for him. Here is what a couple of our Alumni stated in the survey: "The critical thinking and consistency in writing skills that Dr. Sublett pushed on all of us left a lasting mark on me and my life." "Dr. Michael Sublett was the most challenging and consistent educator I have ever had. Because of his teaching style, I have been

"The critical thinking and consistency in writing skills that Dr. Sublett pushed on all of us left a lasting mark on me and my life."
~Anonymous, Alumni Survey



Dr. Michael Sublett on June 22nd, 1980.

Normal teaching school to a more research-oriented institution. Dr. Sublett affectionately refers to this time period as "Jaws 1, 2, and 3" (in reference to the popular *Jaws* movies), because at any moment the State of Illinois would take back funding and the undergraduate Geography Program was in danger of closing. However, thanks to Dr. Sublett's efforts the undergraduate program survived and subsequently thrived.

One of Dr. Sublett's most impactful contributions to the Department was the implementation of the internship program. In 1985, Dr. Sublett began the preliminary talks about the program. The program would require every traditional geography student to complete an internship for credit in order to graduate. By 1987, Dr. Sublett had turned the seminar class

able to surpass several necessary promotions and skip to the current job I hold."

Dr. Sublett began his retirement in August 2015. However, he continues to be involved with the Department in many ways. Today, he is working on his river naming study, which looks at the renaming practices of rivers at the point where two rivers join. Dr. Sublett has encouraged, mentored, and kindled many geographers' careers. Therefore, I would like to say on behalf of myself and all of the other students whose lives he changed, happy retirement and we all wish you the best!

Field Excursion: PrairiErth Farm By: Leslie Mason

Every semester, Matt Himley takes students from his GEO 205 (Living in the Environment) class on a field trip to PrairiErth Farm, an organic farm near Atlanta, Illinois. During these half-day trips, Dave Bishop, the owner of PrairiErth, gives students a tour of farm operations and discusses the farm's dedication to pursuing sustainable forms of agriculture. Student feedback on the trip has been overwhelmingly positive. Students find Mr. Bishop inspirational and are often amazed by the complexity of the farming system, which incorporates a variety of agro-ecological techniques (e.g., crop rotation, cover crops, agro-forestry). From a pedagogy standpoint, Dr. Himley has found this field trip to be an excellent addition to a section of GEO 205 that focuses on agriculture, as the trip provides students a firsthand look into the world of alternative agriculture. In the following paragraphs, Leslie Mason, a geography major, reflects on her recent trip to PrairiErth.

When I heard that my GEO 205 class was going to visit an actual organic farm, I jumped at the opportunity. I was really looking forward to learning about the farm, and about the farming techniques they used, considering that I had never come into close contact with a farm before, and in particular because this one was organic. (I switched from eating conventional foods to organic foods, because my family eats it regularly and also to stay healthy.) During the trip, while the little creepy crawlers weren't attacking me, I learned many new things, including that the farm produces numerous different kinds of veggies and livestock, that it provides important ecosystem services, and that the farm generates a portion of its electricity from solar. The most interesting thing I learned was about the bees. I learned that two million bees were transported from Florida to their farm. The bees are good for various things, such as producing honey and pollinating the crops. It was also interesting to learn that we can keep honey forever without having to refrigerate it.

Some things I learned about the farm connect back to material that I learned in GEO 205, including material, of course, on organic farming. In one of my class sessions, I learned that organic farming is a farming practice that explicitly avoids chemical inputs and transgenic crops. At PrairiErth, they do not spray their crops and they also do not use GMOs. Another concept from class that I thought the farm connected to was animal rights. I learned that the animals on their farm are raised in stable and clean conditions and live happy lives—all of which reduces concerns people may have about animal suffering.

These sorts of field trips are essential to my geography experience at ISU. It's one thing to learn about a topic, but it's a completely different ball game when you're actually experiencing it firsthand. You get the opportunity to gain a different perspective when you encounter in real life what you learn about in the classroom. I not only can better appreciate what I've learned here in college, but I'll also be able to draw on such experiences in the future. My professor, Dr. Himley, whom I call Matt, really inspired me to someday not only teach my students, but also to engage their thinking processes with various types of activities. He has set the standard of a caring, interactive, and profound professor, and hopefully, one day, I'll be as great as him. I am beyond thankful to be in such an intriguing major and outstanding department!



The farm owner, Dave Bishop (center), talking to students about raising pigs, and the role they play on the farm.

Welcome to the Department!



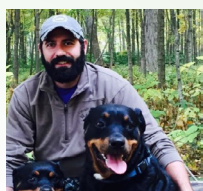
TENLEY BANIK

Tenley joins the faculty as an Assistant Professor of Geology. She holds an M.S. (2008) and a Ph.D. (2015) from Vanderbilt University. Her research interests include using mineral-scale analyses to investigate magmatic processes, crust formation, and physical volcanism in glaciated and polar environments. Tenley will be teaching courses in mineralogy, petrology, as well as a new senior elective course in volcanic processes that she will offer for the first time next spring. Check out the faculty spotlight for more information about Tenley.



MEGAN MAHER

Megan joins the Department as our new GIS Technician and Public Outreach Coordinator. Megan graduated from our Geography program in 2014, Summa Cum Laude. She interned at the Environmental Systems Research Institute (ESRI) where she worked as a Technical Marketing Location Analytics Specialist. In the fall she returned to Bloomington to work as a GIS Technician for McLean County Regional Planning Commission. In her capacity as the Outreach Coordinator, she will in part assist Dr. RJ Rowley, our new Geography program internship coordinator, with related activities.



PAUL MEISTER

Paul joins the Department as the Coordinator of Academic Services in Geology. Like his predecessor, Bill Shields, Paul will be teaching our Principles of Geology course and coordinate its multitude of laboratory sections and teaching assistants. In the summers, he will help as an instructor and student mentor at our Geology Field Camp. Paul is a teacher by training who graduated from ISU in 2007 with a BS in Earth and Space Science Education, and is on track to earn his MS in Hydrogeology in December 2016. Before joining us on July 1, he taught science at Prairie Central CUSD since 2008.

Faculty Spotlight

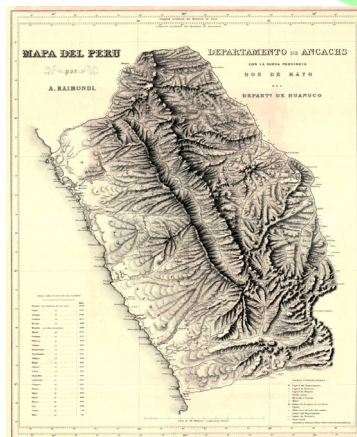
In this section, we would like to shine a spotlight on the accomplishments, research, and publications of a few of the Department's faculty members. This year's spotlight is on...



Dr. Matthew Himley

Dr. Himley is utilizing his Ridgley Fellowship to advance two research projects, one on the social and environmental impacts of mine closure at the Pierina gold mine in Peru, and the second on the role of scientists in the historical evolution of the Peruvian mining industry. For the latter of these projects, he plans to hire ISU geography majors as research assistants to develop a series of maps that will help people visualize

the geography of scientific exploration in Peru during the late nineteenth century. Dr. Himley is also using fellowship funds to develop new field trip opportunities for his GEO 205 (Living in the Environment) and GEO 342 (Economic Geography) courses.



This map was published in 1873 to go along with a monograph that Museo Raimondi published on the mineral 'riches' of Peru's Ancash region.

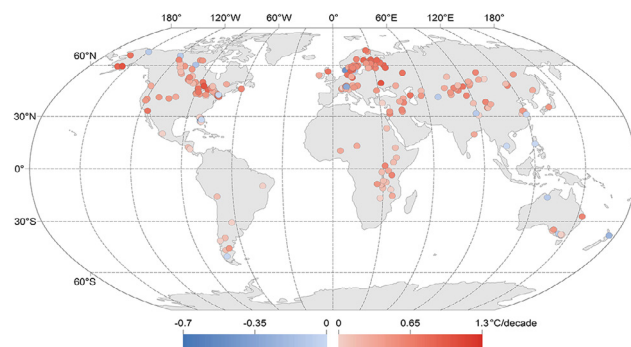


Dr. Catherine O'Reilly

In the fall, Dr. Catherine O'Reilly became a new member of ISU's Million Dollar Club for bringing over \$1,000,000 in grant money to ISU from her various research projects. One of these efforts funded by NASA and the National Science Foundation that she led alongside 60 other peers from around the world, including our own

Dr. RJ Rowley, received much attention in the media and the scientific community this past year. The work titled "Rapid and Highly Variable Warming of Lake Surface Waters Around the Globe" was published in December 2015 in a prestigious scientific outlet of the American Geophysical Union, *Geophysical Research Letters*. According to the publication website, as of July 7, 2016, the article has been picked up by 55 news outlets and tweeted by 103! Its findings point to a pattern of global lake warming rates averaged at 0.34 degrees Celsius, or 0.61 degrees Fahrenheit per decade, during the 1985-2009 period. The study is the largest of its kind that successfully combined and analyzed a variety of observed

and satellite surface water temperature measurements from 235 lakes around the globe that are known to contain more than one half of the world's freshwater supply. The discovery and documentation of these changes are of considerable interest to the scientific community and our society due to their potential impact on drinking water as well as fish and other animal habitat through the projected rise of algal blooms over the next century.



Map of trends in lake summer surface temperatures from 1985 to 2009. Most lakes are warming, and there is large spatial heterogeneity in lake trends.



Dr. Tenley Banik

Next spring, Dr. Banik will introduce a new senior/graduate elective course in Volcanic Processes, which will engage students in exploring physical volcanic processes and their impact on humans and Earth via mathematical modeling, hands-on classroom activities, and (hopefully) a field trip. Tenley's research interests include using mineral-scale analyses to investigate magmatic processes, silicic crust formation in non-subduction settings, and physical volcanism in glaciated and polar environments. An aspect of her recent research project involves using zircon analyses to investigate copper ore-forming processes in Nevada. Combining zircon and whole rock analyses to understand the timing and nature of silicic crust-forming processes in Iceland is an ongoing aspect of Tenley's work and she spent

several weeks over the summer collecting samples to support future work. Tenley recently developed a collaborative project that focuses on using detrital zircon to investigate correlations between climate change, deglaciation, and increased volcanism in Iceland's past (and future?). The project is designed to provide in-depth, hands-on research experiences for undergraduates and two student researchers (Alivia Stoller, Class of 2016; Krista McGillivray, Class of 2017) worked on this project with previously collected samples during the 2015-16 academic year. Krista (and a new student recruit) will continue this work on Tenley's newly collected samples this year with the goals of synthesizing data and their presenting results at a professional conference.



Guadalupe Mountains on November 24th, 2014.

National Recognition for Geography

By: Dagmar Budikova

This spring, the Geography Program earned an honorable mention in the inaugural Award for Program Excellence by the American Association of Geographers. The award honored non-PhD.-granting geography programs that have significantly enhanced the prominence and reputation of geography as a discipline, and demonstrated the character of a strong and engaged academic unit. The paragraphs below highlight some of our more prominent points of pride.

Geography has considerable history on our campus and beyond. Ours is the first stand-alone Geography department in Illinois and among the very first in the country. Four buildings on our campus are named after geographers. We are the home of the Alpha Chapter of Gamma Theta Upsilon.

Today, we house the National Geographic's

abroad experiences, and professional development. Since the late 1980s, all of our traditional geography major graduates completed an internship experience. This commitment has enabled our graduates to transition into their professional lives in a career area related to geography with an overwhelming majority feeling prepared for the workforce upon graduation.

Dagmar Budikova (center) receiving the honorable mention from Sarah Bednarz (far left), the president of the AAG at the AAG Awards Luncheon in San Francisco.



Illinois Geographic Alliance that continues to serve the geography education needs of teachers throughout our state. Geography houses GEOMAP, the Institute for Geospatial Analysis and Mapping, which provides hands-on research and project experiences for students in Geographic Information Science.

Our program is comprised of eight full-time faculty members dedicated to our students, Illinois State University, and the discipline of geography. Our faculty boast considerable linguistic diversity with all but one member being proficient or fluent in at least one other language in addition to English, and half have active research agendas abroad. Many are routinely recognized for their excellence as teachers and scholars by the university, our community, and the discipline.

We pride ourselves in educating the next generation of traditional geographers, geography teachers, and global citizens through a curriculum rooted in the liberal arts tradition that fosters experiential learning opportunities including field studies, study

We boast an average 1:10 faculty/student ratio and junior/senior level class size of less than 20. This environment gives students opportunities to participate in high impact co-curricular activities including faculty-led research. Since 2010, as an example, over 60 students were mentored by faculty members producing numerous professional presentations and peer-reviewed publications with students listed as authors or co-authors. Some works have been published in prestigious outlets like the *Annals of the AAG*, *The Professional Geographer*, and *The Geographical Bulletin*. Our students and alumni consistently express the highest overall rates of satisfaction with our program.

Our program is well-integrated in a multitude of programs at Illinois State through various teaching, research, and student mentorship activities and practices. We maintain close relationships with our alumni and have established many valuable relationships on campus, across our community, and the discipline.

Scholarships and Awards

Louis Miglio Scholarship:
Zachary Malone
Ryan Gelber

Harry Lathrop & Arthur Watterson Memorial Award:
Tyler Rothschild
Brent Crain

George R. Means Geography Scholarship:
Cory Fruge
Brooke Schumacher

Margaret Means Endowment Stipend:
Jackie Kelly
Kyagaba David Lwanga

Eunice Blackburn Scholarship:
Jordan Leaf
Kyle McHale

Gamma Theta Upsilon Inductees:



(left to right)
Brooke Schumacher
Cory Fruge
Lauren Blaney
Jordan Leaf (not pictured)

Alumni visiting us this year for Alumni Day during Homecoming:

Joseph J. Fluder III (BS Geography 1999)
Chief Operating Officer
SWCA Environmental Consultants

Andrew T. Maas (BS Geology 2001)
Geologist
ExxonMobil

A

Year

In

Pictures



Flashback Photos

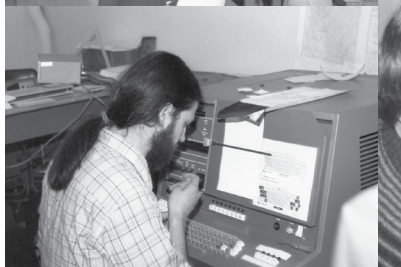
1979 to 1981



Bill Walters
E. Joan Miller
Else Schmidt
Eric Johnson
GTU 79-80
GTU 80-81
James Patterson
John Trotter
Richard Hart
Rus Casale
Skip Nelson
Tom Searight
Mike Sublett



Can you Find?





Standing near the Mexican border, the GEO 306.15 class includes (from left to right): Professor Rowley, Gary, David, Andrew, Kyle, Brooke, Ken, Cory, Marc, Jackie, and Britney.

New Mexico & West Texas, Spring Break 2016

By: Brooke A. Schumacher

Last fall students had the chance to meet, listen to and discuss with geographer William Wyckoff about his thousands-of-miles adventure in the West. His book, *How to Read the American West*, was a hit among students and faculty alike; and it became a basis for the class GEO 306.15: New Mexico and West Texas. Myself and nine other geography students were lucky enough to travel to New Mexico and spend a few nights in West Texas exploring the Southwest with fresh midwestern eyes over Spring Break of 2016. Leading this expedition and driving over 4,000 miles was Professor RJ Rowley, who was born and raised in the West. He knew most of us had never seen the red dirt of Oklahoma or eaten Texas barbecue or smelled the dry air of New Mexico, and, therefore, he was just as excited as us!

We started off on a Saturday morning around 6AM and by nightfall we were cruising through Texas and sleeping in Amarillo. Our first day in New Mexico we had the chance to visit the Living Desert Zoo and Gardens State Park and see our first glimpse of mountains. We watched Professor Rowley chase roadrunners and took pictures of white sand and fiery sunsets. Throughout the week we saw the United States/Mexico border; for some of us it was the first time seeing another country. We took time to reflect on what this wired wall means and the price some pay to get to the free land we walk on. We paced on pavement down

to the end of a cave in Carlsbad Caverns and studied street signs signifying one was in the city of Carlsbad. We saw depictions of aliens across Roswell and noted the personification it gave the city. Our van trekked up the face of the mountain and we studied the land that Billy the Kid wandered upon. We hiked around Three Rivers Petroglyph Site and sought out ancient drawings and what they meant to this landscape. We had the chance to see how digital media creates frenzies of excitement at places like the Very Large Array with the movie *Contact* or in Albuquerque with the TV-drama *Breaking Bad*.

We ate great food, learned more about each other than most cared to know, took way too many pictures, and studied some amazing things about a state that's quite detached from Illinois in distance but not so much in relevance; and I think that was the greatest lesson of all. I came home and saw Bloomington-Normal, my hometown, and the state of Illinois itself in a different light. I noticed things that had always been there but I never took the chance to stop and recognize them. Professor Rowley's field class allowed us to open our eyes to the geography that surrounds us. It is one of the most impactful field classes you can take as a Geography undergrad at ISU. As a geographer, this class brought new meanings to places I call "home."

Congratulations, 2016 Graduates!

Geography

Brent Crain
Kristen Driscoll
Chenoa Hobson
Zachery Ignatowicz
Jacquelyn Kelly
Jordan Leaf
Kyagaba Lwanga
Kyle McHale
Sean McKinney
Christy O'Donnell
Brent Silver
Jonathon Smith

Geology

Cassandra Arnold
Thomas Bouleanu
Maria Cook
Brett Kenning
John Konrad
Ruben Lazaro
Alex McKillip
Kelly Sanks
Kyle Schusler
Alivia Stoller
Alex Taylor
Elena Topping

Hydrogeology

Audra Hanks
Zachary Kisfalusi
Jessica Ludwikowski
Paula Pryor
Ellyn Rickels
Tamru Taye



Right to Left: Sean McKinney, Kyle McHale, Jordan Leaf, Jackie Kelly, Alyssa Greenwald, Greg Farias, Brent Crain, Kristen Driscoll, and Dr. RJ Rowley



The Life of a Geologist-In-Training By: Kacey L. Garber

As geology majors at Illinois State University, we are offered many amazing opportunities. In fact, the experiences we get to have are the most rewarding aspects of being a geology major. We also have excellent and caring professors, who are always willing to help us with anything and keep us heading in the right direction. While I may be a bit biased, I truly believe that our Department is one of the best at ISU due to the experiences we get to have, the size, and our professors. I'd like to share my experience as a geology student this past year at Illinois State University.

Unlike many geology programs, ours offers classes with field trips as part of the curriculum. These classes include Structural Geology, Petrology, Sedimentology, and Stratigraphy, with field trips where we are able to show our professors the skills we have learned in class by applying them as we work in the field. Not only are these field trips educational and required, but they are also a ton of fun and give us a sense of accomplishment. I got to visit and learn about the geology of many fascinating areas I had never been to before, including Baraboo, Wisconsin; the St. Francois Mountains of Missouri; areas of eastern Iowa; and areas in western Illinois. Senior Everett Wood says, "The field trips in which we embarked upon during the 2015-16 school year were both educational and exhilarating." We also have the opportunity to take a field course over spring break. I traveled to and learned the geology



Our group for the 2016 spring break trip, standing at the top of the Permian Reef Trail in Guadalupe Mountains National Park, Texas.

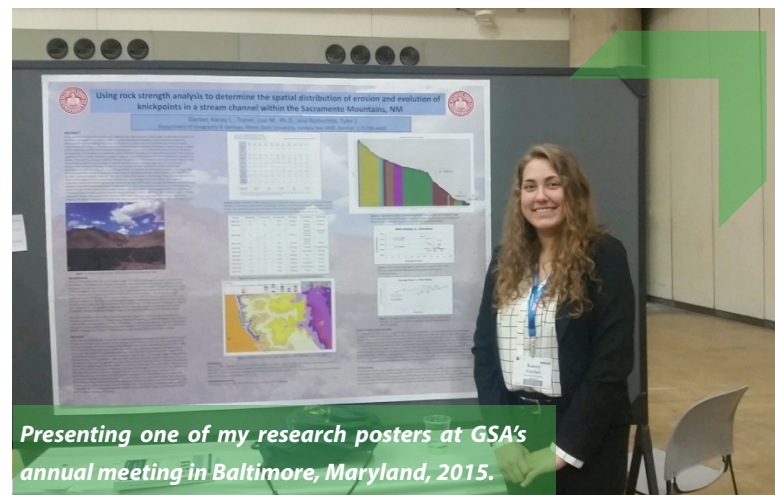
participating in research and presenting it at GSA because it was certainly the most enriching experience I have had as an undergraduate so far. Another opportunity we have as students is to run our own Geology Club. The club was inactive when I was starting my junior year, so I decided to take it on as the new leader and try to improve its status so that we could continue to have this opportunity. I think this club is a great way for the department to socialize outside of the classroom. As a club, we have had social events, such as group dinners and bowling nights, and volunteer opportunities, such as working at GSA meetings and participating in local events. I plan to incorporate hiking trips and other travel opportunities as funding permits for the 2016-2017 school year. I also plan to re-introduce the Geography vs. Geology bowling tournament during the fall semester. We also have a colloquium series where geologists from other institutions visit and speak about their research, which helps us



Our 2015 Structural Geology group. Taken above Devil's Lake in Devil's Lake State Park, Baraboo, Wisconsin.

of various regions in Texas and New Mexico on these trips and had an amazing time as well. During these field trips, we have acquired essential skills such as making observations, making interpretations based on our observations, field mapping, taking structural measurements, taking field notes, drafting stratigraphic columns, constructing cross sections, and sampling.

Being a small department, we develop closer relationships with our peers as well as our professors. This connection provides us the opportunity to either help professors or graduate students with their research or begin our own research project with a professor. Over the past two years, I have had the honor of working on research with three of my professors. This work has helped me refine what I want to accomplish as a geologist in the future. Working on research also gives us the opportunity each year to travel with the Department to the Geological Society of America's annual meeting to present our research, receive feedback from other geologists, become familiar with other current research, and make professional connections. I was fortunate enough to present two of my research projects as posters in Baltimore at the 2015 meeting. I strongly advocate



Presenting one of my research posters at GSA's annual meeting in Baltimore, Maryland, 2015.

further refine our interests for our future careers. Being a geology major at Illinois State University has been a challenging but rewarding experience for all students in the major. Without our exceptional professors and the opportunities we are allowed, our experience would not be the same. This is a department that sincerely cares about the success of its students and giving them the best education and training in geology as possible.

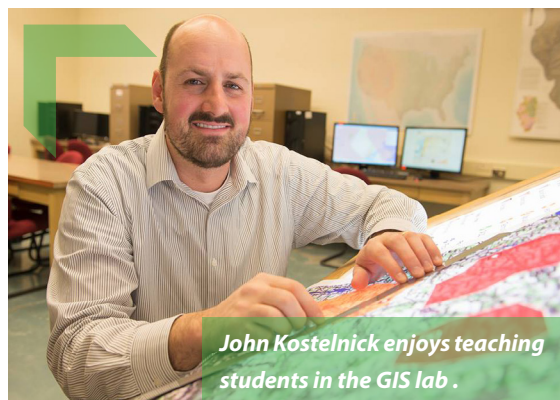
Mapping Functional Needs Populations

By: Brooke Schumacher, Clifton Ulbricht, John Kostelnick

ISU Geography and GEOMAP recently partnered with the McLean County Health Department to survey and map the functional needs populations in Bloomington-Normal. Funding for the project was provided by the Illinois Department of Public Health. Functional needs populations are those people that may require special attention (e.g., medical, transportation, supervision, communication) during times of emergency or disaster. Professor John Kostelnick and two Geography students, Brooke Schumacher and Clifton Ulbricht, worked with McLean County Public Health, Illinois Department of Public Health, and Centers for Disease Control (CDC) personnel to conduct a door-to-door survey within randomly selected neighborhoods in Bloomington-Normal over a three week period in May and June. Following guidelines developed by the CDC for community surveys, each survey team randomly selected households in targeted neighborhoods and administered a questionnaire that asked respondents questions related to medical, transportation, supervision, and communication needs of the household. "Does anyone in your household speak a language other than English?" and "Does your household have an emergency communication plan?" were among the questions asked. Surveys were also available for completion online, which increased the total number of completed surveys to nearly 450 total. After numerous knocks on front doors, hundreds of questions answered, and many conversations with residents, we were finally ready to do what geographers do best: create maps! The ISU team created approximately 30 maps from the survey results, each mapped down to the Census block-group level. The resulting maps will be used by the Health Department and other emergency responders for emergency/disaster planning purposes. McLean County was the first community to conduct such a functional needs survey in Illinois, and lessons learned and best practices from the project will be shared with other communities in the state.



McLean County Functional Needs Survey Team: Brooke Schumacher (second from left), Professor John Kostelnick (third from right), and Clifton Ulbricht (far right).



John Kostelnick enjoys teaching students in the GIS lab.

work with them to see the entire process of how geographic data are collected in the field and then transformed into maps that hopefully will benefit the entire community.

Reflections on Teaching

By: John Kostelnick

I am honored and humbled to be a recipient of an Outstanding University Teaching Award at Illinois State University. The term "teacher" has never been a title that I immediately associate with myself. Rather, I view myself as a geographer who enjoys what I do, and is excited when I have the opportunity to share my enthusiasm for geography with students who share the same interests. Much of what I have learned about teaching is due to my great fortune of being around others who do it so well and serve as examples that I strive to emulate—both when I was a student, and throughout my career at ISU. My passion for geography is fueled by my strong belief that geography matters—in our world, in our country, in our communities—and as geographers, we have much to contribute to society. My thanks go out to every ISU student whom I have worked with in the classroom over the years; you share in this honor with me.



John and students having fun in the field.

Field Camp Experience Still Vibrant After 45 Years

By: Dave Malone

I celebrated my silver anniversary teaching Field Camp during the summer of 2016. Tenley Banik, Jed Day, Eric Peterson, Paul Meister, and Bill Shields were on hand as Field Camp instructors as well. Forty students from fourteen different schools participated in Field Camp 2016. This year also marked the first year in the 45 year history of camp that neither Western Kentucky University nor Northern Illinois University were partners. I am pleased to report that our Field Camp remains academically sound and fiscally stable even in these uncertain budget times. In 2016 the weather was fabulous thanks to El Niño, and the raincoat was only out for one day. Our first stop is still Sheridan College where we focus on the regional stratigraphy and complete traditional mapping projects at Amsden Creek and Steerhead Ranch. We expanded our stay at Mickelson Field Station this year where we developed a new mapping project that focused on the South Fork Slide in the Shoshone River Valley. The geology of this area is beautifully complicated. If you are interested in learning more about this area, alum Andrea Leonard and I published a paper on this in the *Journal of Geology* in 2014. We still do the Heart Mountain Slide project near the field station. We also turned the Alkali project into a two-day field exam. Unfortunately, Yellowstone is becoming so crowded that it is difficult to get any meaningful teaching done there any longer, and we are most likely going to take this tour off the schedule in 2017. Our final base is Black Hills State University in Spearfish. We still do the



Field Camp in the Absaroka Range of Wyoming.

Rochford project, which is my favorite, but we no longer work on the Tertiary intrusions in the northern Black Hills. Places like Whitewood Peak have become too congested to work. We have developed a challenging new project at Custer State Park along the margin of the Harney Peak Batholith to make sure we give igneous geology fair coverage. We headed for home in the smoke of a lightning-induced fire at Crow Peak that consumed more than 2000 acres.

Bill Shields Retires!

By: Dagmar Budikova

In April, Bill Shields announced that he will be retiring effective August 1, 2016, after 16 years of service in the Department. Bill will be remembered as one of ISU's greatest professors and student mentors. Bill brought much of his passion, enthusiasm, and knowledge for geology into our introductory geology course, Principles of Geology, that he offered to almost 1500 students each year! Geology's healthy major counts can undoubtedly be attributed in part to his efforts. Some may say that he is retiring at the pinnacle of his career given that in the spring he was named by *The Best of Bloomington-Normal* as THE hottest male professor on campus! Throughout the years Bill garnered respect as an award-winning teacher, community member, and an exemplary university citizen. We thank Bill for sharing his time with us and wish him and his family all the best into the retirement years. Bill, you will be missed. Don't be a stranger!



Bill Shields.

2016 Geography Internships

Alyssa Greenwald
USDA Gypsy Moth Project
Brent Crain
Illinois American Water
Frank Limandri
Village of Schiller Park
Zach Ignatowitz
ComEd
Christy O'Donnell
Illinois State University

Greg Farias
McLean County IT
Department
Jackie Kelly
City of Crystal Lake
Jon Smith
Lava Beds National
Monument
Sean McKinney
City of Mt. Prospect

Kristen Driscoll
Sugar Grove Nature
Center
Jordan Leaf
Springfield-Sangamon
County Regional Planning
Commission
Ken Sekulski
Illinois American Water

Kyagaba Lwanga
FEMA: Chicago Office
Kyle McHale
Illinois American
Water
Lauren Blaney
City of Crystal Lake

Tales of Geology Research from the Field

By: Lisa Tranel



Audrey Happel taking notes and collecting samples.

Mouse droppings, avian flu, scratched eyes, even dirty diapers didn't keep graduate hydrogeology and undergraduate geology students from doing research in the Guadalupe Mountains over spring break in March 2016. For two weeks, students worked with Dr. Lisa Tranel to collect field observations and samples to study geomorphology and tectonics in the Guadalupe Mountains of west Texas and southeast New Mexico.

Audrey Happel and Sam Schoenmann started their graduate studies in Fall 2015 and decided they wanted to explore the mountains for their thesis research. The brave undergraduates along for the adventures included Kacey Garber, Kirsten Schaefer, Jeremy Neundorff, and Chad Cremer.

Audrey spent the majority of her time on the west side of the mountain range collecting samples to understand the tectonic and geomorphic evolution of the Rim Escarpment. She took her assistants on some harrowing excursions up steep slopes covered in thorny vegetation. As one student put it, everything is sharp in the Guadalupe Mountains! Although it was a challenging experience, the students not only succeeded in collecting samples, but they took away valuable life skills that can't be learned in a classroom setting. They learned teamwork to help each other walk down the slopes safely, how to look on the bright side of painful situations, and how to keep calm in sticky situations!

Sam was interested in the evolution of the large,

east draining catchments in the range and focused his study on the rock strength properties and channel profiles. He scrambled off trail with his field assistants (with permission from the park rangers, of course) to document bedrock observations from end to end of each of the canyons.

The smallest member of our group was our tiny cheerleader, River (Tranel) Bannister. She kept the students entertained with riveting tales about Squishy Turtle and his undersea friends, and lightened the mood with her easy smiles. She also celebrated a landmark three-month birthday while we were out in the field.

Our research group stayed at the Ship-On-The-Desert in the Guadalupe Mountains National Park, former home to Wallace Pratt, chief geologist for Humble Oil and Refining Company (later to become Exxon).

Pratt built and moved into the house after retiring. After later moving to Tucson, Arizona, Pratt donated his land and buildings to become a large part of the national park. The building itself is designed to resemble the structure of an oil tanker. The site is eligible for the National Register of Historic Places list, so not much has changed since the 1960s. But any shower is a welcome shower after a long day in the field! Now it is available to researchers working in the park. Since it isn't used on a regular basis, there were a few little critters that left occasional marks while using the house, too!



River Bannister enjoying the evening at the Pratt Lodge celebrating her three-month birthday.

Opportunities like these are unique for us all. How often do we get to stay in a historic landmark, and one that belonged to a famous geologist, no less? And visits to national parks frequently involve long lines of cars full of tourists trying to get the best picture and move on to the next point of interest. This research took us off the beaten path to remote areas of the landscape that few people ever encounter. The field research was a success, but more importantly, the obstacles and experiences helped form strong bonds among the members of our group and reaffirmed our love for geology.

2015-2016 Donors Thank you!

Gregg Abbott	James Kipp
Ronald Able	Matthew
Anadarko	Klotzbach
Petroleum	Lee Larson
Corporation	Thomas Laue
Anchor QEA, LLC	Greg Leitch
Raymond Banks	Peter Lennarson
Sharon	Ellen Liehr
Batterham	Ryan Lindemann
Jodi Becker	James Mackey
BHP Billiton-	Dave Malone
Cybergrants, Inc.	Mary Ann Mantel
Douglas Blair	Dale Marks
Dagmar Budikova	Karen McArdle
Drew Carlock	Kylene McGarry
Gary Carnaghi	Heather Meister
David Carstens	E. Joan Miller
James Carter	Annette Moore
Charles Wiles-Oil	John O'Gorman
Account	Anthony Parato
Ronald	Gretchen Peters
Clendening	Paul Phillips
ConocoPhillips	Richard Rice
Loyal Darr	Amber Ritchie
James David	Gregory
Sheila Dinkelman	Robinson
Nancy Dodson	Erin Roche
David Elbow	Claude Rockel
Exxonmobil	Robert Rugg
Foundation	Arthur Sanders
Shannon Fluder	Thomas Schickel
Krystal	Terry Sedik
Foltynewicz	Paul Shanahan
Freeport-	Shell Oil Co
McMoRan	Foundation
Foundation	Darren Smith
Stephen Gardner	Michael Sublett
David Gisler	Laura Sugano
Sharon Gottschall	Nancy Taylor
Janet Goucher	Danny Thomas
Karen Gregorich	William Thorson
Mary Ann Griffin	Timothy Todd
Gregory Hair	Anthony Tomaras
Laura Hanna	Trevor Towns
George Hayner	Marilyn Tyler
John Heiser	Vulcan Materials
Eldonna	Company
Herzberger	Judith Wagner
Todd Hildreth	Edward
Amie Hinds	Washburn
Lara Hollowell	Ronald
Fred Horn	Weingartner
Cynthia Houchin	Marian Winter
Mary Howes	Susan Wygant
James Jacobs	Lois Yahr
John Kapchinske	Robert Young
Richard Kaylor	Glenn Zwanzig
Charles King	

Data Source: University Foundation.
Gifts received 07/2015 to 07/2016

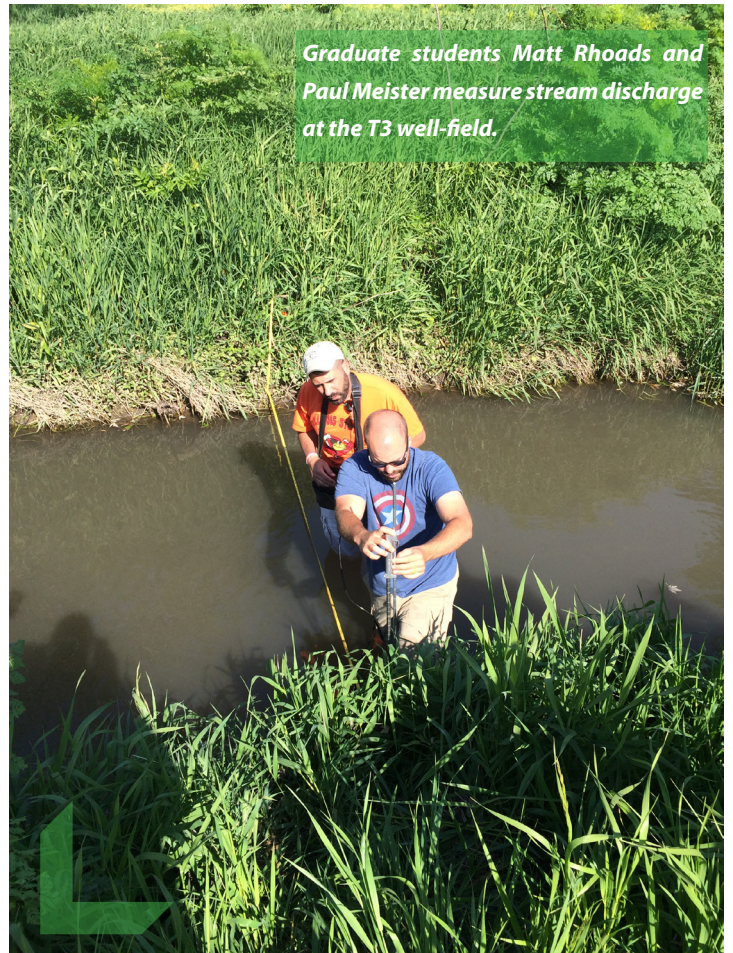
A New Research Field for Hydrogeology By: Eric Peterson



Dr. Eric Peterson surveys in a well at the T3 well-field west of Hudson.

In the summer of 2002, the Problems in Environmental Geology (GEO 456) course was first taught as a summer field course. Providing hands-on hydrogeology experiences, the course worked to build a research station at the field site on the Bloomington-Normal Wastewater District (BNWD) property south of Bloomington. Over the next 12 years, the “well-field,” as it is colloquially referred, developed into a formidable research station where dozens of students completed research projects and teaching and research collaboration with other universities have been developed. While the well-field is still used by the Department, a transition to a new field location has been occurring the past couple of years. A new research partnership with the City of Bloomington (CoB) has led to the development of a second research field, the T3 site, north of Normal and just south of Evergreen Lake. While the location of the course has changed, the content and goals have stayed true to providing field opportunities for the students. Through the course, students have installed over 30

wells, hand-auguring the holes, logging the cores, and installing and developing the wells. Field exercises focus on water sampling, flow in the unsaturated zone, measuring hydraulic conductivity using slug tests, and gauging discharge along the stream. The exercises have produced data instrumental in the development of a conceptual model for the flow of groundwater and on the transport and fate of nitrate in the T3 area. Being in a glaciated terrain, differences in the surficial geology between T3 and the BNWD well-field are not surprising. However, the differences expose students to the variations and complexities associated with glaciated systems. While the partnership with CoB is only two years old, T3 has become a popular site for student research. Already two hydrogeology students have defended their theses and two undergraduate students have completed independent research at T3. Two additional graduate students and an undergraduate are currently conducting research at the site. The research focuses on management practices to reduce the amount of nutrients delivered to streams from agricultural fields.



Graduate students Matt Rhoads and Paul Meister measure stream discharge at the T3 well-field.



Graduate students assist in the installation of a monitoring well at the T3 well-field.

Contact Us

The Department of Geography-Geology
Illinois State University
Campus Box 4400
Normal IL 61790-4400

E-mail: geo@IllinoisState.edu
Phone: (309) 438-7649
geo.illinoisstate.edu



Geography



www.facebook.com/isugeography

Geology



www.facebook.com/Illinois-State-University-Geology-339150137817

Beginning next year *Glacial Deposits* will reach readers mainly in digital format. Please contact the Department if you would like to continue to receive a print version of our yearbook in the mail. Thank you.

Editor: Megan Maher
Design and Graphics:
Megan Maher

Your Contribution Will Make a Difference!

You can help support The Department of Geography-Geology by making a contribution to our Foundation. You can make a donation by filling out this form and mailing a check to the return address or you can visit geo.illinoisstate.edu/giving/ for additional options.

Name

Mailing Address

City State Zip

Telephone

E-mail

Make checks payable to Illinois State University Foundation

Alumni, Keep in Touch!

We want to know how you are doing! Please keep us updated! You can update us by filling out this form and mailing it to the return address or send us an email at geo@IllinoisState.edu.

Name

Mailing Address

City State Zip

Telephone

E-mail

News and Comments:

