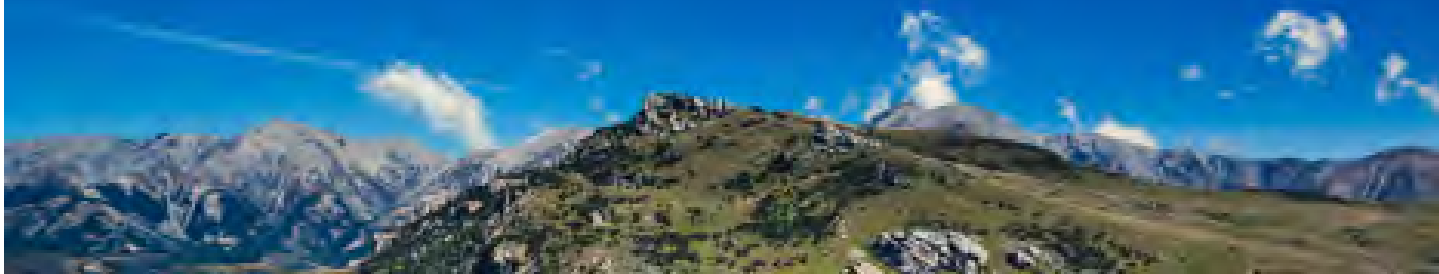


Geneseo Geology Newsletter 2016-2017



Mountains above Cave Stream, New Zealand. Photo by Keith Walters.

Dear Alumni and Friends,

Hello Geneseo Geologists! Welcome to the 2016-2017 edition of “From Under the Rock.” It has been a tumultuous year with lots of change, but it looks like we have landed on our feet again. As many of you know, last March we were disappointed to learn that Ben Laabs had taken a position in the geology department at North Dakota State University. This move cost us not one, but two excellent members of our department since Nancy Mahlen, our Instructional Support Specialist, also left. Ben, Nancy, and Caleb are now settled down into their new home in Fargo where they are enjoying being much closer to family. While we were all sad to see Ben and Nancy go, it has been a great move for their family and we wish them the best of luck.

Another major change for the department came with the retirement of Diane Lounsbury, our secretary since 2013. In late September, we were thrilled to welcome Laurie Montgomery to the department as our new, full-time secretary. Laurie joins us from the Admissions Office at Geneseo and is a perfect fit. If you are visiting the College, please stop by, introduce yourself, and welcome her to the Geology family.

In other good news, Dr. Sarah Gaudio joined the department in late December as our new Instructional Support Specialist. Sarah and her family are most recently from Sacramento, California, but she is originally from Ohio. She has jumped into the job with both feet helping us organize the introductory labs and managing our chemicals. We are very excited to have Sarah as part of the team.

In August, Dr. Lindsay MacKenzie joined us for a one-year teaching appointment as a visiting faculty member. Lindsay has been a valued member of our team, taking students in her Advanced Paleontology class on interesting field trips, including a behind the scenes tour of the collection at the Royal Ontario Museum (ROM) in Toronto. We wish her good fortune in her future endeavors.

This upcoming August we are pleased to have Dr. Jackie Whittmer-Malinowski, most recently from the University of Illinois at Champaign-Urbana, joining the faculty. Jackie and her family visited the Geneseo area in mid-March to look at schools, houses, and job opportunities for her husband. We are all looking forward to her arrival.

Lastly, I would like to introduce our next chair, Dori Farthing. Many of you know Dori, who joined the faculty in 2004 and teaches Mineralogy and Petrology. She led our January 2017 field trip to New Zealand, featured in [this](#) promotional video produced by the campus photographer, Keith Walters.

Please keep us informed of your personal news and activities so we can continue to update our alumni and friends on the exciting things Geneseo geologists are doing around the world.

cheers,



The Graduating Class of 2017



At the Big Tree after the Senior Luncheon. Lunch and all of the awards that given to our seniors are sponsored by donors to the Geology Fund. Thank you!



AJ Engelbert, Julianne Sweeney, Kendall Fitzgerald, and Lauren Brandt, all PBK inductees and winners of the Agate of Academic Achievement.



Brennan Voorheis ('18) and Gavin Gleasman ('19; not pictured) won the Geology Fund Alumni Scholarship.



Julianne Sweeney and Kendall Fitzgerald, winners of this 2017 Megathin Award, also known as the "hammer award." All hammers have been stratigraphically cropped out because Scott forgot to bring them to the awards ceremony.



Graduating Senior Drew Theal won the Department Service Award. I really don't know what we are going to do without Drew.



Mike Reed won an award for excellence in teaching and our two field camp scholarships: the Herbert Sheldon Field Camp Scholarship and the Robert Sirianni Field Camp Scholarship. Thanks to the Sheldon Family and to Bob Sirianni ('06) for their generous support!



Lindsay MacKenzie, Visiting Assistant Professor for the 2016-2017 academic year, will be missed! We were fantastically lucky that Lindsay choose to come work with us for a year. We wish her the best of luck in her future adventures.

Dinosaurs field trip to Texas, Spring Break, 2017



The whole crew at the west entrance.

Dinosaurs has come to Geneseo as an elective in Biology and Geology. The class was conceived as an alternate year 200/300 level elective, and when Sara Burch - a theropod expert and Assistant Professor in Biology - agreed to co-teach it became a Biology/Geology course. The class was lecture-assignment driven for the first half of the semester, and then spring break was a trip to Texas; the 300-level students write a research paper.

So, after 14 lectures that crossed the gamut of dinosaur topics as well as Mesozoic geology and flora we headed to Texas - chosen because the weather in March can be delightful. I flew to Dallas on Friday to gather the vans and shop for lunch/essentials and the 18 students and Burch arrived on Saturday. Our first day of actual geology began on Sunday with an AM visit to the Ben Brook Spillway near Fort Worth where the Lower Cretaceous Goodland Formation is well exposed. It was a chilly morning, we explained the goals of the trip and expectations for the field journals - 25 % of the course grade - and away students went to find fossils. There are marine fossils galore at this site - regular and irregular echinoids, clams, oysters, snails, and numerous cephalopods in the chalky limestones. The same



Apatosaurus at Dinosaur Valley State Park.

strata outcrop in Big Bend and give an idea of the change from marine shelf to terrestrial that occurred in the Cretaceous. Students were also asked to keep track of the modern dinosaurs, which on this morning included a Cooper's Hawk. We then drove to the Fort Worth Museum of Science and History, had the first of our picnic lunches, and after this museum and its dinosaurs we headed to the Perot Museum of Nature and Science in Dallas - wow. Spectacular displays of dinosaurs, marine reptiles, including fossils collected in west Texas, as well as a really spectacular gem collection.

Monday found us in Dinosaur Valley State Park near Glen Rose. Here is where large sauropod tracks were first recognized and described in the bed of the Paluxy River. After examining the fiberglass dinosaurs near the entrance of the park - the Texaco models first displayed at the 1964 World Fair in New York City - we



Trackways exposed in the Paluxy River - look at Megan's feet to see theropod tracks.



Archosaur limb bone fragment in conglomerate, Triassic Dockum Group at Champion Creek.



Students at the K-Pg boundary in the lower Black Peaks Formation at Rough Creek.

hiked the river and found numerous tracks of sauropod and theropod dinosaurs, as well as a yellow-bellied sapsucker to add to the modern dinosaur list and another exposure full of lower Cretaceous marine fossils.

Tuesday found us in Colorado City where Triassic rocks, dominated by red sandstones and conglomerates, outcrop in the road cuts and valley sides. We scampered about and found a few scrappy bones, including one sizable archosaur limb bone, the first scorpion and road runner of the trip, before heading to Alpine and the Museum of Big Bend. This marked are transition from the hill country of central Texas, the dry Llano Estacado of west Texas, to the serious desert of the Trans-Pecos.

On Wednesday morning we drove into Big Bend National Park and hiked out on Dagger Flats. Here the Upper Cretaceous strata of the Pen-Aguja-Javelina-Black Peaks formations are exposed in a series of dipping beds. The afternoon was spent at the new dinosaur exhibit - very good - and then a stop at Boquillas Canyon where the students examined Lower Cretaceous reef rocks and swam across the Rio Grande to



Alamosaurus vertebrae in the Javelina Formation at Rough Creek.



Alamosaurus at the Perot Museum in Dallas.

Mexico. Dinner was at the Starlight Theater in Terlingua - a fine end to a fun day.

Thursday morning was the highlight of the trip. We parked on the side of the road and then descended off the Pleistocene gravel terrace into the badlands of Rough Creek. We found dinosaurs. We found giant crocodiles. In all four separate sites and various scatter that contained hadrosaur, sauropod, theropod, fish, and amphibian remains were described. The afternoon adventure - in the heat - was a death march into the wastes of Dawson Creek where the first Quetzalcoatlus fossils were found in the 1970's. It was starkly beautiful, but compared to the bounty of fossils found in the morning it was somewhat of a let down, although the Cretaceous-Paleogene boundary was observed. Dinner was once again at the Starlight where "Diego Burgers" - one pound of meat, bacon, two eggs, cheese, and all the fixings, was a choice menu item.

Friday was a nine hour drive-a-thon back to Dallas. We returned to Rochester on Saturday, and thus the trip ended.



Overlook of Big Wing Hill along Dawson Creek.

New Zealand, January 2017

This photo scrapbook of our latest field trip was put together by Dori Farthing, the leader and organizer of this year's January field trip. Many of the photos were taken by the campus photographer, Keith Walters. Keith is a true artist and a pleasure to travel with. [Click here to watch Keith's video from the trip.](#) Enjoy!



Setting up departmental tents at Cass Field Station. It was a windy and sunny start to our whole trip.



Writing field notes near Castle Hill Basin. For those of you that saw the live FaceBook feed, it took place here.



The group following the path to Cave Stream. (photo from Keith Walters)



The students straddling the Alpine Fault as it bisects the road at Franz Joseph. The group has one foot on either plate. (photo from Keith Walters)



Students climbing out of Cave Stream. Even though they got wet, they are still grinning! (photo from Keith Walters)



The whole group standing in the heart of a rainbow, Hooker Valley Track. This rainbow followed us for most of the trek. (photo from Keith Walters)

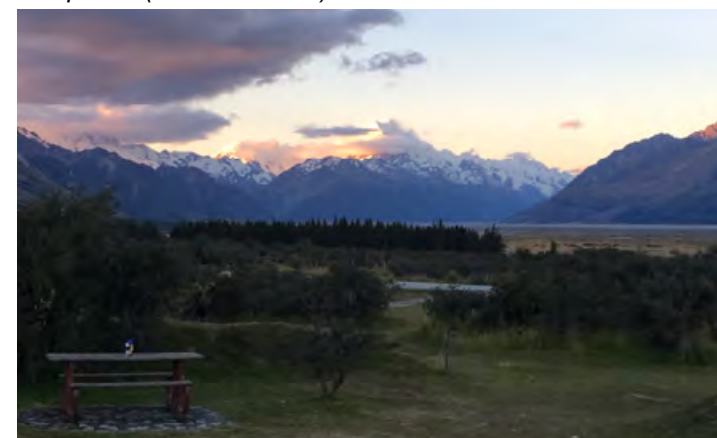
New Zealand, January 2017



Group photo at our stop at the Clay Cliffs, South Island. The student in the front row in red is Jin-Si Over. We were delighted to have her join our trip as a student. (photo from Keith Walters)



Chrisanne Ross ('18) and Amelia Mindich (Dec. '17) enjoying some ukulele time after dinner at the Glentanner campsites (near Mt. Cook).



The view of Mt. Cook from the Glentanner Campsites. We couldn't have asked for better weather and stunning views of the peak.



The night sky over the Glen Tanner campsite (photo from Keith Walters)



View of the Cathedral in downtown Christchurch. The front part of the building was destroyed in the 2011 earthquake and I think we as a group found it quite sobering to see how earthquakes have affected this vibrant city and how it is rebuilding.



Geneseo students at the base of Soda Springs, a small waterfall along the Tongariro Crossing.

New Zealand, January 2017



Paige Havener ('18), admiring the still smoking peak of Mt. Ngauruhoe (aka. Mt. Doom) as she walked the Tongariro Crossing.



Lauren Brandt ('17) and Brennan Voorheis ('18) creating a bit of geological face-art from volcanic soils collected along the pathway by the Waimakariri River.



Looking towards the caldera at White Island.



S-rich mineralization at White Island.



Part of our group enjoying the Maori Feast. Thank you to our alumni for helping to support this great meal and experience! As you can tell from the packed table, we ate well.



Anna Chinchilli ('18) standing by columnar basalts at Maori Bay. This was a great place to see geology and also to do some tide-pooling!

Faculty News

Dori Farthing



Dori standing in front of Devil's Bathtub (Geothermal Wonderland, NZ).

Happy 2017! What a busy year it has been from planning the capstone experience to New Zealand to small things like being an invited story reader for 2nd graders visiting the campus (I read *Ada Twist Scientist*). Our family is doing great and both of my children still say they want to be geologists when they grow up. Here on campus, I continue to help guide our students through those 1st 2 upper level courses of mineralogy and petrology and you will be pleased to know that we have a thriving group of students that keep me on my toes (mineralogy had 50 students!). I have been enjoying having our NSF-funded SI's help with these courses. These super-t.a.'s help the enrolled students and also improve how I teach content. I also love watching how the SI's grow as educators and scientists. On a research front, I have been continuing my work on the scholarship of teaching and learning, through a nation-wide teacher observation project. We just had a manuscript accepted, so if you would like to know more about the state of teaching geology in US colleges, let me know. My rock-based research is also going well. I continue to work on studying zircon crystals in my historical slag samples and also am just starting to work on describing some new samples

from a historical smelter in Delaware with the help of a student, Davitia James. I also am really enjoying my collaboration with Dr. Jim Aimers (Anthropology) on the petrography of Mayan pottery from Belize.

Scott Giorgis



The Fall 2017 Structure field trip included a visit to the Champlain Thrust in Vermont. Go mullions!

Howdy Geologists. My students and I are continuing working on projects that many of you are familiar with: the Central Range in Trinidad, magnetism and pluton emplacement in the Henry Mountains, and trying to figure out how to use the Augmented Reality (AR) Sandbox best in class. The donors to the Geneseo Foundation supported two summer student research projects last year. Mike Reed ('17) collected gravity data to calculate a depth-to-bedrock map for the Genesee River valley between Dansville and Avon. This region used to be a Finger Lake, but the sediments of the Genesee River filled it in and robbed us of a lake-side campus. The other student, Rebecca Rost ('16) worked on incorporating dipping planes into the AR sandbox. This sandbox project has been tons of fun because it has given me the chance to work with some Geology alumni (Brian Sheldon and Jenna Hojnowski '07) who are teaching Earth Science locally. The annual Structural Geology field trip included stops in Vermont this September and, believe it or not, it did not rain on us. I'm continuing to teach at the Wasatch-Uinta Field Camp out in Park City, Utah, so if you live in the Salt Lake region look for a Geneseo Geology Alumni gathering this June in your part of the world. On the home front, Dominick (4th grade) and Elena (1st Grade) are growing up and keeping Tania

and I on our toes. They are very into Star Wars ("Dad, wouldn't it be cool if there was a wooden version of Chewbacca's laser crossbow?") and Harry Potter, so we have lots to talk about as a family. It is always fun to hear from you and see you in person, here in Geneseo or out and about. Please keep in touch. Cheers!

Jeff Over



With Jin-Si at Thermal Wonderland on the North Island of New Zealand.

Geologists and friends!

Another year of wonder. Of note is that I switched from being the paleontologist to being the stratigrapher as Dr. Jackie Wittmer Malinowski joins us in August, so for perhaps the last time I taught paleontology and stratigraphy in an academic year. In the spring I taught a dinosaur class with Sara Burch in Biology - more on this in another section - so now we have two new electives: Sedimentary Petrology (GSCI 353) and Dinosaurs (BIOL/GSCI 263/363). After a summer that included field work in central Colorado with Mike Bates '17 and Josie Chiarello '19 the semester started with the Retreat to Tioga, PA. The weather was good, we swam, and the hike across Pine Creek was uneventful as the stream was low. GSA in Denver was in late September where numerous students and alumni gave talks or posters. The trip to New Zealand was brilliant (thank you Dori) and the spring semester busy with the new dinosaur course and 34 students in Stratigraphy. The plan was for the entire Strat class to go to Pittsburgh for NE GSA, but the return from Texas was the night before my conodont session on Sunday morning, so the trip became optional. Zeke McGinn '17 gave a well received talk and several students, as well as alumni Chris Wade '13, Amy (Spaziani) Metz

'10, Sean Sanguito '11, Liz Huss '12, Chelsea Lyell '10, and Chuck Krueger '11 were there for dinner at Max's Allegheny Tavern. Numerous papers have come out in the last year: an article with lead author Claudia Spalletta on updating the Famennian conodont zonation; Mike Whalen as lead author on the Late Devonian biotic crisis in western Canada; Amanda Lanik '13 and others on the Belpre Tephra; Erika Danielsen '15 on conodonts from Mongolia; Chris Wade '13 on Clinton conodonts; and Nick Sullivan '10 and others on Middle Devonian strata in Mongolia. In family news I moved to Lima Road in Geneseo and Jin-Si graduated in December from UNC-Wilmington (summa cum laude) in Geology/Oceanography and is starting the graduate program at the University of Victoria (British Columbia) in August.

Amy Sheldon



The Sheldons and Bogers.

Greetings everyone! It's been another year spent with wonderful students. Physical Geology and Hydrogeology continued to have high enrollments with enthusiastic students, setting a fast pace to the academic year. This Spring, one of our seniors was able to directly apply knowledge she had just gained in Isotope Geochemistry during a graduate school visit, which was pretty exciting for her. My CFC research continues with dedicated students. Corey Hensen will be graduating in May (he's looking for employment if you know of anyone hiring), and apprentices Nancy Shemet ('18) and Scott Booth ('20) joined the team this Spring. I am Chair of the Senate Policy committee again this year, which has proven to be a bit more exciting than usual with proposals that impact the Humanities requirement, among others. It is good to see the campus community engage in a vibrant discussion of our academic values and how best to achieve them. The home front brought some challenging

health issues this year, but we manage to keep smiling. The kids continue to keep us active. Brian took on coaching Nick's modified soccer team in addition to his spring travel team. While Nick can now juggle a soccer ball a few hundred times in a row, Daisy proudly out-performs her male peers in pull-ups as a result of her commitment to gymnastics. The gymnastics bar that now resides in our living room was the best Christmas present ever – it is in constant use. Fortunately, it has a weight limit that Brian and I both exceed so we can't hurt ourselves. I hope the year has been wonderful for each of you, and we look forward to hearing from you throughout the upcoming year.

Nick Warner



Fox Glacier, New Zealand.

Greetings everyone. 2016/2017 marks my third full year here at Geneseo. Changes in the department have given me the opportunity to switch my teaching focus from Stratigraphy to Geomorphology, a subject that is closer to my own field of research. This spring marks the first year that I have taught this class. It has gone very well so far, and the students seem excited (and maybe sometimes a bit frustrated) to gain a bit more experience with GIS. Speaking of new classes... Lytton Smith from the English department and I led SUNY's first ever Study Abroad trip to Iceland last summer. The course is cross-listed as a Geology and English course and gives our majors an additional opportunity to gain field experience while integrating aspects of scientific writing with creative writing. The picture I included shows our happy group learning about glacial fissures on a guided glacial hike at Svinafellsjökull. We plan to offer this course every two to three summers. Research has also been going well. I continue my work with the InSight mission to

Mars (launch was pushed back to 2018). We published two papers this year on the early science results from our pre-launch landing site analysis. I am more than pleased that my student Julianne Sweeney ('16) was able to contribute work on two of these papers, earning author credit on both. Stay tuned to the journal Space Science Reviews for the entire InSight special issue. Just this March I took 6 students to the Lunar and Planetary Science Conference in Houston, TX to once again bring them over to the dark side of Planetary Geology. Julianne was able to attend the meeting to accept her GSA Dwornik Award for best undergraduate poster presentation. Amazingly enough, Mike O'Shea ('16) also won the honorable mention for this same award (we swept the poster category). I couldn't be more proud of my research students. Hopefully we will all one day actually get to see this mission take off and land on Mars!

Richard Hatheway



Dick and Linda Hatheway on the western shoreline of Iceland, June, 2016

The Hatheways continue to love life in Geneseo. We remain very much involved in the community, and have never regretted our decision to settle in this little village in 1968, essentially 50 years ago! Our kids, and now two grandkids, graduated from/are enrolled in Geneseo Central, while the other 3 grandkids and their parents live in Fairport. We consider ourselves fortunate that family remains in the area.

Our high point last year was spending 10 days in Iceland. We flew from Toronto to Reykjavik, where it was still light at midnight in early June, then joined a

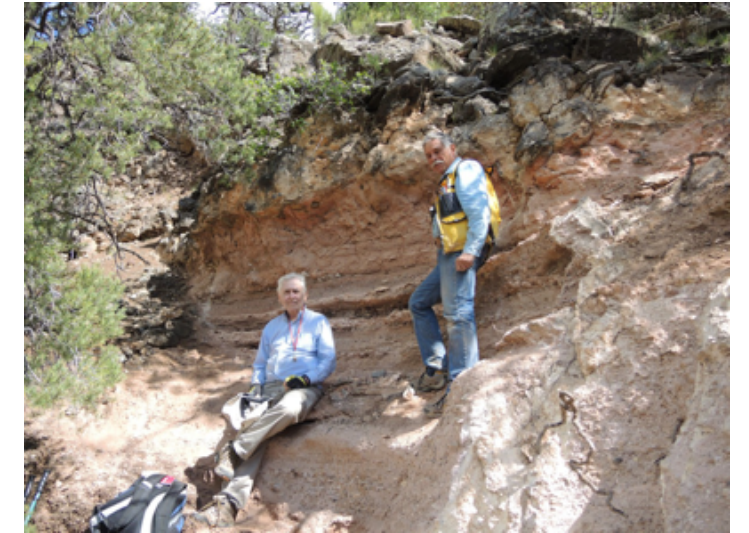
bus tour that circled the island. This trip was a different twist from anything we've done before, in that we had always planned our own trips from beginning to end. This go-around somebody else did all that, taking us to places we never would have found on our own. Another benefit was not having to worry about meals and lodging, all of which were pre-arranged. The days themselves were pure joy, taking in one spectacular geologic site after another (the trip was billed as the Natural Wonders of Iceland). Lots of volcanic features, glaciers, shorelines, geothermal activity, and waterfalls galore, seemingly each one more memorable than the one visited the day before. Perhaps the most humbling experience was standing in the rift valley at Thingvellir, where the North American Plate is moving westward while the Eurasian is pulling easterly. The thought of being in the rift valley atop the mid-Atlantic Ridge was enough to make a retired geologist feel truly insignificant in the grand scale of things.

The bottom line: one more item checked off the bucket list, and we would highly recommend it to anyone whose spouse is also willing to take geologic-related trips.

On a related note, earlier this spring we took a foray into Vermont, to check on the status of the Geneseo Bear Fountain restoration. You might have heard that in March of 2016 a milk truck plowed into our iconic landmark, significantly damaging both. While some parts of the fountain could be repaired, the basin itself and the block the bear was perched upon (aka the capital) had to be replaced. We found, and then saw it on location, a granite that closely matched that of the 1888 basin in Branford CT, and a chunk of brown sandstone for the capital in a construction storage yard near Albany. The 15' x 15' x 3' block of granite was removed from the quarry in CT and shipped to the Rock of Ages production facility in Barre, VT for milling, while the block of sandstone was taken to a stone carver in southern VT. We were able to visit both locations and talk with their personnel. The latest estimate is that everything should come together maybe by an end of June timeframe, when the new basin will be transported to Geneseo and the fountain reassembled. This will be a cause for celebration!

The moral of the above: just because you're retired, there's no reason you have to abandon your years of engagement with the profession.

Richard Young



R.A. Young and Arizona colleague R. Jeanne measuring section at relocated Grand Canyon gravel outcrop beneath basalts in the isolated Arizona Strip country of the western Grand Canyon.

After a 5 week visit to NZ family in January-February, while the Geneseo geology students toured the North and South Island, I returned to complete the research report for our 4-year faculty/student field work project at the West Valley Demonstration Project near Springville, NY. Geology majors Alex daSilva and Eraklis Hristodoulou spent two seasons completing field work at this interesting State and Federal waste site, which includes a glaciated valley nearly the size of Letchworth Park. After completing field reconnaissance, ground penetrating radar surveys, and 115 back hoe trenches last summer, we collected numerous radiocarbon and optically stimulated luminescence samples to verify the postglacial erosion history. We have determined more accurately the date of the last glacial recession from western and central New York, an event that had not been previously established across



Eraklis ('17) taking optically stimulated luminescence samples from fluvial sediments located between two tills exposed by a large landslide at the West Valley site.

the broader region with appropriate accuracy. This field work reaffirms the same glacial chronology we have recently established in the Genesee Valley, and suggests that the last ice advance was coincident with the well documented Younger Dryas cooling interval. In mid May of this year I returned to the isolated Arizona Strip country north of western Grand Canyon to try and relocate a Tertiary gravel outcrop that some colleagues and I have been searching for since 1977. This deposit, located at an elevation of 6100 feet on the rim of Grand Canyon, may clarify some of the history of events that occurred when the Grand Canyon had only begun to become incised across the Colorado Plateau some 5 million years ago. The success of our search is documented in the accompanying image of the missing outcrop, located the last afternoon of a 4-day search in dense pinoñ-juniper forest growing on local basalt flows.

My list of unfinished geology research projects is slowly being reduced with the aid of enthusiastic geology majors.



Matt Nigro ('17) and Katie Christoff ('17) showing off their graduation cap decorations.

The Geology Fund



Members of the graduating class of 2017 and the Geology Faculty and Staff would like express our gratitude for your consistent support of Geneseo and the Department of Geological Sciences. We could not do what we do without your support. THANK YOU!