

Carleton Geology Newsletter

Volume XXXVIII

2013



Our love is → pure ← and *simple*

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Department of Geology

Carleton College

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Northfield, MN 55057

Dear Alumni and Friends,

I am pleased to write to you and tell you that 2012-2013 has been a productive and fun year for the geology students and faculty here at Carleton College. We had eleven fantastic students graduate with a geology degree and we wish the class of 2013 all the best as they pursue their dreams, interests, and careers beyond the college's campus. We have 22 majors in the class of 2014 who are scattered around the world to conduct research and education. This past spring we welcomed 20 to the class of 2015 and we are looking forward to educating and preparing these budding geologists to be successful.

As always, there were many field experiences for students and faculty this year. In the fall, we went to the Black Hills, in the spring we had another successful field trip to the Upper Peninsula, Michigan despite wintery conditions.

This year, while Mary was on Sabbatical and Sarah was on maternity leave, we were fortunate to have Carrie Jennings, Jennifer Wright, and Bob Tipping as visiting professors. Carrie taught Geomorphology, Jen taught Tectonics and Bob Tipping taught Hydrology.

During this year's alumni reunion weekend, we had a field trip to Wangs Corner where several alumni joined us. It was during this trip that Don Frost shared the wonderful news that as part of their 30th Reunion, the class of 1983 Geology Majors raised \$30,000 for a Geology scholarship fund. With this donation the class expressed their gratitude to the department as they pay it forward for the next crop of Geo Majors. This fund will be used to support the financial aid needs of many Geology Majors for the 2013/2014 academic year. The class of '83 was the largest graduating geology class in Carleton history. We are very grateful to Rob Alexander, Don Frost and the entire class of '83 for their time and generous gift.

The faculty are busy and productive in their research, teaching and services to the college. You will find detailed accomplishments of each faculty in the pages that follow. Much of our departmental success is due to the extraordinary skills of Jonathon Cooper and Ellen Haberoth. Their talents, and tolerance are evident in these annual reports, which they start putting it together in advance. We know that geology departments are by their nature cluttered and dusty places, but thanks to Kass McKenna, our custodian, who continue to keep labs and classrooms in Mudd Hall a model for cleanliness. If you would like to learn more about our department, please browse through the web site to read more information about the department's various research and academic endeavors. Should you have any questions or need assistance, feel free to stop by, or contact any one of us. Thanks for your interest and continuous support of the department.

Sincerely,
Bereket Haileab

DEPARTMENTAL NEWS

FACULTY UPDATE - CLINT COWAN

This year went faster than any other I can remember. Some professional highlights include working with our Allensworth 5th Year Intern, Zach Stewart '12, on a project in the Jordan Sandstone (with Tony Runkel at the Minnesota Geological Survey); we are working the results up for publication this summer. I took 13 students to Belize (see separate item in this Newsletter). Once again I'm doing the groundwork to take 24 students to New Zealand for next Winter Term— I'll do 5-weeks on the North Island, then hand off to Sarah Titus, who will do the South Island. This summer I am continuing my research into the Late Proterozoic and Late Cambrian carbonate factory peculiarities. I will also be leading an Alumni Adventures Walking Tour to the Orkneys and Shetland Islands in the North Sea in August.

I enjoyed teaching this year, it was good to get back into the swing of things after last year's sabbatical, and a highlight was the Climate studies course GEOL 115, for which we used the University of Minnesota LacCore facility. I based the whole term's work on analyzing sediment from a lake we cored in the Twin Cities (we cored that lake on a very very blustery Saturday in early January!). This research-based course only worked because Amy Myrbo (who runs the LacCore lab) was so enthusiastic to help us (and Ailsa McCulloch '12 interning at LacCore helped a lot, too). e really delved into the geological and ecological history of the Holocene (and recent development) of this part of Minnesota, and it was great fun (pollen, charcoal, $\delta^{18}O$ -calcite, sediment composition, etc.). Geology Department endowed funds (generously donated by our Alums and Friends of the Department) make this sort of hands-on, real-research-based course possible (the Dean of the College could not fund this sort of endeavor). Another teaching highlight was when Dan Jones '02 (who is doing a post-doc at the University of Minnesota) helped me with my Paleo class (GEOL 230) this spring, including teaching us about microbes that inhabit the springs in the Cannon River Wilderness Park (as a tie-in to teaching early Earth evidence for microbial metabolisms). After doing so much bio-geo stuff this year, especially in Belize, I'm looking forward to teaching 20 incoming freshmen Geology in the Field this coming Fall Term. On a personal note, this was a particularly sad year for me, as I had to say goodbye to my dog, George, who died of cancer in January; the students in the Department were so kind to me, that it made me realize just how close this geology community is- it is definitely unique for departments on campus.



Ailsa McCulloch '12 helping students at the LacCore facilities



*Left picture:
Students coring a lake bed
with help from Amy Mybro,
LacCore lab manager.*

*Right picture:
Close-up of a lake bed core*

*Bottom picture:
Students coring Lake
McCarrons*



FACULTY UPDATE - SARAH TITUS

There have been some big changes in the Titus/Davis household this year. There is now a new member of our family named Freya (rhymes with “hey-ya”), who was born in late September. True nerds will know that Freya is the name of the Norse goddess of love/fertility/war/death etc. who rides around in a chariot driven by cats. Our Freya usually rides around in her parents’ arms, a lime green pack, or snuggled up with her grandpa.

Having a baby has surprisingly not stopped geology in its tracks. I spent a week in the field last summer with Lucy Livesay '14 and alumna Alice Newman '11. We were working in central California looking at deformation bands (see photo). I took my Structural Geology class (and Josh and Freya) to southern California in February. Students mapped in Painted Canyon and visited some folds at Durmid Hill; they were sometimes distracted by the local baby (see photo). I spent a week in Maryland in March with Mariah Radue '14 and alumna Amanda Yourd '11 (see photo). We were looking at a classic structural geology site called South Mountain, made famous when Ernst Cloos meticulously measured

deformed ooids around the fold in order to characterize deformation. Next, our family is heading to Cyprus for a few weeks with Sarah Alexander '14 and Chelsea Wagner '14 to collect data from the Troodos ophiolite (and to bake in the brutal Mediterranean summer).



Freya '34 lounges in the desert with geology majors Josh Zoellmer '14, Mary Reagan Harvey '14, Anderson Cole '14, Ry Garlow '14, and Brian Frett '14.



Lucy Livesay '14 and Alice Newman '12 examine a cluster of deformation bands.



Mariah Radue '14 and Amanda Yourd '12 look for cleavage in the Weverton Quartzite above Harpers Ferry. (above)



FACULTY UPDATE -

BEREKET HAILEAB

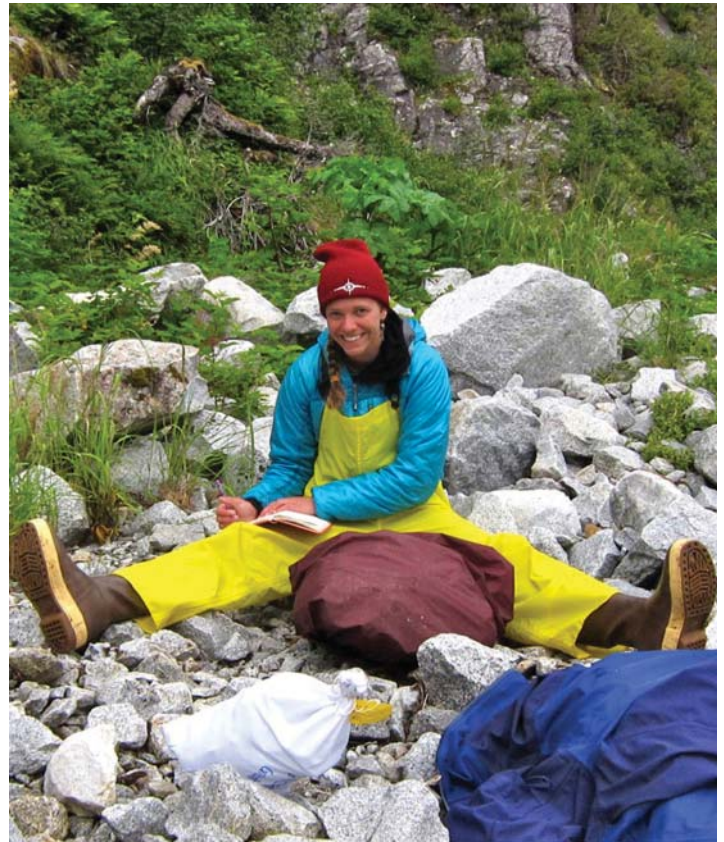
In the winter of 2013, I traveled to Ethiopia with Adam Maloof ('98), Nick Swanson-Hysell ('05) and Merissa Tremblay graduate student at the University of California Berkeley to map metasedimentary rocks in Tigray region to learn the climate of Earth millions of years ago. We had a productive field season.

In December of 2013, Nancy Wilki and I will be leading a Carleton College Alumni Adventures field trip to Tanzania with an optional Ethiopia extension. It should be a fun trip.



FACULTY UPDATE - CAM DAVIDSON

It's been another good year in Northfield. In the Fall, I had the opportunity to teach Geology in the Field (Geo 100) as a FOCUS seminar. FOCUS is an HHMI (Howard Hughes Medical Institute) funded program at Carleton designed to support students and promote diversity in the sciences. I had a talented group of aspiring doctors, but hopefully I convinced a few of them to become Geology majors... time will tell. In Winter and Spring terms, I taught Mineralogy and Petrology to more or less the same group Geology majors, and few Chemists. So by the end of Spring, we all got to know each other perhaps a little too well! John Garver (Union College) and I, and our students, are still beavering away on unraveling the transport history of the Chugach Prince William terrane in southern Alaska. We had six students with us this summer (June 16 – July 11) where we spent about 10 days in the Seward area, and the rest of our time in Southeast Alaska, near Sitka. If you are interested in what we have discovered thus far including publications and links to abstracts, please see our research website: http://minerva.union.edu/garverj/alaska/chugach_Keck.html. If you want to see pictures and the world-wide release of the movie "Keck Alaska 2013- a day in Whale Bay" check out our Facebook page: <https://www.facebook.com/KeckAlaska>.



Bri Rick '14 taking notes on the Crawfish Inlet pluton, Whale Bay, Alaska.



Brian Frett '14 (left) and Adrian Wackett (Trinity University) confident about heading into the deep reaches of Small Arm, Whale Bay, Alaska.



Spectacular sheeted dike complex of the Resurrection Ophiolite near Seward, Alaska.

VISITING FACULTY UPDATE - BOB TIPPING

Fillmore County Field Trip – GEO 340, May 19, 2013

The weather this spring has not been good for getting out in the field, even for the hydrology class (GEO 340). Where rain can be a good thing for teaching and learning, snow and bad driving conditions are not.

Our trip to see the karst of Fillmore County, Minnesota, delayed by snow (in early May!), finally took place on Sunday, May 19th. We were joined in the field by Tony Runkel and Julia Steenberg of the Minnesota Geological Survey, along with two students from Gustavus College. An intense rain storm gave way to a sunny day, as we toured sinkholes, springs, a quarry and a blind valley. The day ended with a tour of Niagara Cave, where water within the cave drops nearly 60 feet near the cave entrance. In an area of Minnesota where water is seen only at springs and streams along valley bottoms, the students got a better idea of how quickly water is moving underground.



Duncan Stewart Fellows for 2012-13

Each year, the geology faculty faces the difficult task of selecting a few students to be Duncan Stewart Fellows. The Duncan Stewart Fellowship was established in 1976 by Daniel Gainey, class of 1949, in honor of Duncan Stewart, professor of geology at Carleton for nearly 25 years. We select the Stewart Fellows based on a combination of excellence in scholarship, a high level of intellectual curiosity, potential for scientific growth, and involvement in departmental activities. As we make this selection, we realize how fortunate we are to have so many talented, interesting, and impressive students within the department.

We are very pleased to announce that Mariah Josephine Radue '14, and Chelsea Anne Wagner '14 Lucia Fay Livesay '14 (pictured left to right), have been named Duncan Stewart Fellows, extending the number of Stewart Fellows over the years to 106. Congratulations and keep up the great work!



Carleton Geology People Awarded NSF Fellowships

We are proud to report that Noah Randolph-Flagg '11, a Carleton Geology graduate has been awarded a National Science Foundation graduate research fellowship for his graduate work. The fellowship program provides funding of support worth a total of over \$100,000. The fellowship also carries an annual stipend of \$30,000 plus a onetime allowance of \$11,500 for education. The following Carleton geology graduates Nicholas Roberts '13, Charlotte Alster '12, and Travis Drake '10, were recognized with honorable mentions.

2013 Awards

Distinction in Geology

Taylor J. LaCasse '13

Nicolas Mattos Roberts '13

Mortar Board

Rachel Elizabeth Johnson '13

Brianna Joy Rick '13

Chelsea Anne Wagner '13

Phi Beta Kappa

Nicolas Mattos Roberts '13

Phi Beta Kappa First Year Prize

Lydia Claire Auner '15

Sigma Xi

Taylor J. LaCasse '13

Caroline Rebecca Scheevel '13

Tyler Clarisse Schuetz '13

Writing Portfolio Recognition

Ryan Levan Lawrence '14

Kolenkow Reitz Fund for Undergraduate Research

Callum Laird McCulloch '15

Leah Irene Nelson '15

Mariah Josephine Radue '15

Sam '75 and Meg Woodside Endowed Fund for Career Exploration

Lucia Fay Livesay '14

The June 4th issue of EOS had a vaguely familiar looking rock on page 209. Sure enough, it's a rock from the Carleton Geology rock garden and was photographed by Callan Bentley who publishes this blog : <http://blogs.agu.org/mountainbeltway>.



It's one of three rocks from our garden in his "Friday folds" feature for May 24. Also his blog post (June 2) entry are pictures of the sidewalk geologic timescales created by some of our spring term students.

Senior Projects - 2013

Graduating senior geology majors, their hometown and titles of integrative exercise (“comps”) projects. To read these comps or past years comps please visit our website <http://apps.carleton.edu/curricular/geol/comps/index/>:

Thomas Birren, Round Lake Park, IL, Petrology of the Nickel Lake Macrodike: Implications for Exploration of Magmatic Ni-Cu Sulfide Deposits, Duluth Complex, Minnesota.

Laura Karson, New York, NY, Urban Science Education in the United States: Developing Lesson Plans to Overcome Misconceptions.

Taylor LaCasse, Mount Desert, ME, Using a coarse-grained conglomerate to investigate lateral offset along the Leavenworth Fault Zone, North Cascades, Washington.

Schuyler Metcalf, Norfolk, CT, Geochemistry of Twin Sisters Creek dike swarm, Fort Bayard New Mexico: Evidence for low angle subduction of the Farallon Plate during the Laramide Orogeny.

Lillian Pearson, Madison, WI, From Feathered Dinosaurs to Modern Birds: “Discovery-based” Lesson Plans in the Evolution of Feathers.

Jennifer Piela, Amherst, MA, Exploring relationships between climate and topography using 10BE cosmogenic nuclide-derived erosion rates and stream long profiles in the Western Ghats, India.

Rose Prullage, Evanston, IL, Monitoring water quality by examining the relationship between water chemistry and microbial communities in streams of Rice County, Minnesota.

Nicolas Roberts, Cambridge, MA, Provenance of the Chugach-Prince William Terrane, southern Alaska using U/Pb isotopes, Hf isotopes, and Raman spectroscopy of detrital zircons.

Caroline Scheevel, Austin, TX, Using local mine blasts to determine crustal velocities of the Ruby Mountains, Nevada.

Tyler Schuetz, Tustin, CA, Examining the paleoenvironment of the Chickaloon Formation, Matanuska Valley, Alaska through Campeloma and Unionoida fossil assemblages.

Kaj Snow, Decorah, IA, Uranium-Series Dating of Calcite from Cold Water Cave: Evidence Against Speleothem Growth During the Late Pleistocene.

Andrew Wolter, Elysian, MN, Creating a Laboratory Showing the Differences and Similarities in Vertebrate Bone Analyzing Modern and Ancient Specimens.

Class of 2014

Sarah Alexander, Shoreview, MN
 Cassandra Brigham, Paris, France
 Catherine Christenson, Eden Prairie, MN
 Jennie Chu, San Francisco, CA
 Anderson Cole, Aspen, CO
 Brian Frett, Wilmette, IL
 John “Ry” Garlow, Triadelphia, WV
 Mary Reagan Harvey, Birmingham, AL
 Rachel Johnson, Woodbury, MN
 Maureen Kahn, Whitefish Bay, WI
 Elizabeth Kimberly, Stillwater, MN
 Ryan Lawrence, Olympia, WA
 Lucy Livesay, Manitou Springs, CO
 Chloe Nelson, Madison, WI
 MacKenzie Persen, Paradise Valley, AZ
 Mariah Radue, Mount Airy, MD
 Brianna Rick, Burnsville, MN
 Milana Socha, Chesterton, IN
 Kaopua Nani OK. Sutton, Hilo, HI
 Chelsea Wagner, Marlborough, MA
 Cameron Webb, Portland, OR
 Joshua Zoellmer, Richfield, MN

Class of 2015

Lydia Auner, Madison, WI
 Anders Berglund, Minneapolis, MN
 Leah Cromer, Cincinnati, OH
 Luke Fairchild, Wausau, WI
 William “Bill” Grimm, Hinsdale, IL
 Hannah Jones, Mobile, AL
 Charles “Omar” Kaufmann, Winnetka, IL
 Caroline Lauth, Minneapolis, MN
 Callum McCulloch, Woodside, CA
 Katherine McLellan, Edina, MN
 Frank “Rudy” Molinek, Davidson, NC
 Leah Nelson, Altamont, NY
 Jayne Pasternak, Short Hills, NJ
 Jeremy Randolph-Flagg, Kappa, HI
 Ian Reeves, Berkeley, CA
 Julia Reich, Marine on St Croix, MN
 Lauren Salberg, Longview, WA
 Erica Sheline, Atlanta, GA
 Jackson Van Fleet, San Francisco, CA
 Jacob Viesselman, San Tan Valley, AZ

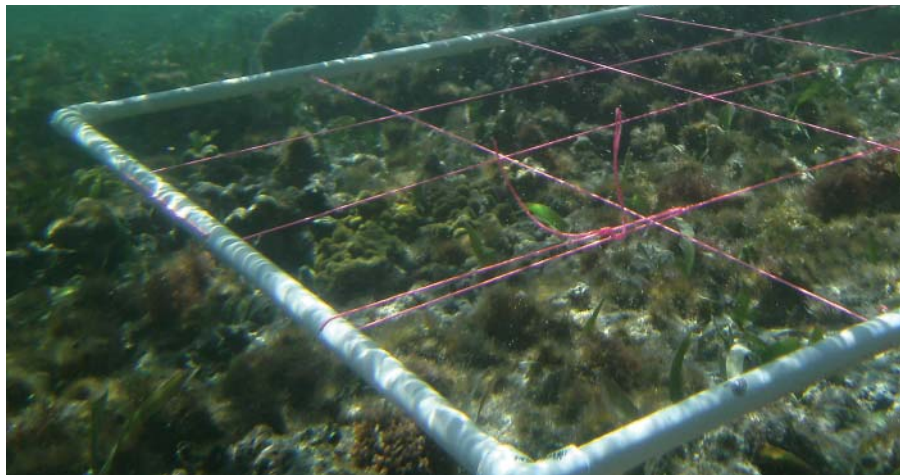
BIOGEOSCIENCE IN BELIZE - CLINT COWAN

Thirteen students (and our TA Zach Stewart '12) participated in a two-term course that centered on field work for two weeks on Tabacco Caye, Belize, during Winter Break 2012. This OCS-sponsored program enjoyed a setting literally right on top of the largest barrier reef system in the eastern hemisphere. Although we did visit the reef a few times, our field work focused on its associated marginal marine environments (patch reef, mangrove, tidal flat, lagoon, and sea grass beds), because the shallow seafloor was more readily accessible for study by snorkelling. Students did intense benthic surveys and grid counts of marine invertebrates that populate the seafloor around a small atoll-like caye. We made maps and collected data along transects, identified benthos, etc., and then the students spent much of Winter Term investigating possible causes for the distributions we mapped (e.g., windward – leeward differences, disturbance interval, competition, recruitment, and human-influenced changes in the area. It was maybe the best 2 weeks of field teaching and learning that I have ever experienced. We had a great time and learned a lot.



Braving the black flies to get seafloor benthic transects adjacent to the mangrove. From l to r: Liz Wison (ENTS '14), Alison Hall (Bio '15) and MacKenzie Persen (Geo '14). Mixed-majors and -class years on this trip fostered a great deal of transfer of knowledge, perspective and methodologies between the different disciplines. We learned a lot from each other.

Left: Most of our time was spent collecting data about benthic organisms around Saddle Caye (even not so charismatic organisms). Trends in benthos gave us a start at understanding the controls on the ecosystem.



Below: Students had to learn how to document their data collection in and under the water. This is obviously the site of one team's sixth something...



Carleton People Present Papers at GSA and AGU Annual Meetings

The following Carleton Geology Department people presented papers in technical sessions at the meeting of the Geological Society of America in Charlotte, North Carolina; as well as regional meetings of Geological Society of America. The Carleton folks are indicated in bold face type, and students and alums are indicated with their class years. The presentations listed are only those which involved a current Carleton student or employee; many other Carleton alums, too many to list here, also presented papers at the meetings.

Marks, Sarah R. '12, Mogk, D.W., Henry, D.J., Mueller, P.A., Foster, D.A., **Davidson, Cameron**. "Precambrian Geology of Yellowstone National Park (YNP) and surrounding areas: mylonites and shear zones."

Olivas, S.J., **Davidson, Cameron**, Garver, J.I., Doser, D.I., and **Hilbert-Wolf, Hannah L '11**, "U/Pb detrital zircon study of the Upper Cretaceous to Eocene strata of Kodiak Island, Alaska."

Birren, Thomas H. '13, Haileab, Bereket, Gibbons, Jack '07, "Geochemistry of the nickel macrodike and implications for Cu-Ni Sulfide exploration."

The following Carleton Geology Department people presented papers in technical sessions at American Geophysical Union annual meeting in San Francisco, CA in December 2012.

Christenson, Catherine '13, Prullage, Rose '13, Harvey, Mary Reagan '14, Haileab, Bereket, Harrison, Ben K. '04 "Geochemical analysis of surface water in Rice County, Minnesota."

Chu, Jenny '13, Haileab, Bereket, Denny, Adam '12, Harrison, Ben K. '04. "TP and depth conditions of the basalt suites from the Crescent Formation on Olympic Peninsula."

Haileab, Bereket., Denny, Adam '12, Harrison, Ben K. '04, "Expanded Geochemical Analysis of the Eocene Crescent Formation, Olympic Peninsula, Washington."

Scheeval, Caroline '13, Litherland, M., Klemperer, S.L., "Repeated Mine Blasts Recorded on a Dense Broadband Array, Ruby Mountains, Nevada."

Professional Talks Given in the Geology Department This Year

Professional and technical talks given in the Geology Department this year included:

Lora Armstrong, Post-Doc, Department of Earth Sciences University of Minnesota – "Earth's carbon cycle at extreme depths: 'Superdeep' diamonds and their high pressure mineral inclusions"

Daniel S. Jones '06, Post-Doc Fellow, Department of Earth Sciences University of Minnesota – "How microbes form caves: Hydrogen sulfide dynamics in the Frasassi cave system, Italy"

Ben Harrison '03, Post-Doc, Department of Earth Sciences University of Minnesota – "Microbe-mineral interactions and sedimentary Microenvironments"

Lauren Idleman, Advanced Masters Teaching Assistant, Department of Earth Sciences University of Minnesota – "Thermal history of the continental crust along strike-slip fault zones"

Dr. Bob Jacobel, Professor of Physics St. Olaf College, "Water Beneath the Ice – Investigations of an Antarctic Subglacial Lake"

PAINTED CANYON - NICK ROBERTS '13

This past February, Professor Sarah Titus led her Structural Geology class on a five day field trip to the Salton Trough in southern California (paid for by the Henrickson Fund) to map Painted Canyon, the mouth of which crosses the trace of the San Andreas fault. The class spent four incredible days in the winter desert mapping the nonconformable contact between early Pleistocene sediments and much older metamorphic rocks.

The mapping process involved everything from large-scale analysis lithology changes to the measurement of bed and fold orientations. Students worked in groups of three and each group mapped a different section of the canyon. The students gained invaluable field skills and had the opportunity to work with some seriously deformed sedimentary rocks—a rare treat coming from the good old St. Peter sandstone and Decorah Shale of Minnesota.





During our structural geology class mapping exercises to the Mecca Hills region along the San Andreas Fault Zone, Jonathon (the new “Tim”) and a group of students stumbled across this great find. We passed the GPS coordinates of the pot, known as an Olla, to Bureau Land Management archaeologist George Kline, who recovered the artifact. We received correspondence from George after we returned to Carleton indicating that the Olla was indeed intact, and that there was sufficient residue to carbon date. To read more about the recovery, follow this link to the BLM’s newsletter. http://www.blm.gov/ca/st/en/info/newsbytes/2013/567extra_archeological_discovery_pot.html



CLASS OF '83 SCHOLARSHIP FUND ANNOUNCED DURING SPECIAL FIELD TRIP DURING REUNION WEEKEND

One of the highlights of this year's alumni reunion was the geology field trip to Wangs Corners on Friday afternoon. About two dozen alums (and several current students) accepted the invitation to collect fossils and revisit one of our favorite local outcrops. We also made a stop at the Holden Farms turkey manure compost facility to learn about ground water protection in a farm setting. Many thanks to Bereket and Ed Buchwald for leading the trip, and to Ellen Haberoth for all her organizational support. Tim Vick tagged along to document excursion in words and pictures.

During the trip Don Frost '83 announced the new \$30,000 Scholarship Fund that the largest class of geology majors in history is presenting to Carleton.

In Don's words, "The '83's Reunion Theme is 'Size Matters,' since we are one of the biggest classes ever – 549. In keeping with that theme and because the '83s are the biggest Geo class ever with 41 majors, we wanted to do something special for our 30th. Thus, we have set up the 'Class of 1983 Geology Scholarship Fund' and have asked the 1983 Geo



Don Frost '83 took the opportunity to announce the new scholarship fund being raised by his class of geology majors. Thanks Don!!

Bereket and Ed took us to a site where Holden Farms composts turkey droppings and bedding and converts them into fertilizer to sell. Despite the obvious environmental risks of this kind of facility and the susceptible local groundwater geology, the facility is well designed and has proven to be a model of safe manure handling. It does have a distinctive odor, however.



Bereket got us started with a brief orientation at the Wangs outcrop. Many participants fondly remembered this outcrop from their Intro class, when they first got "turned on to geology."

Majors to contribute with a total dollar goal of \$30,000. (This goal was actually achieved!) In establishing this scholarship, the '83 Geo alums are affirming one of the college's highest aspirations to make an exceptional undergraduate liberal arts education accessible to students of all economic backgrounds. Additionally, we all hope to encourage and sustain the geology department's spirit of exploration and adventure. The Class of 1983 Geo Scholarship Fund will be a fully expendable, current restricted fund intended to support geology majors in the 2013-2014 academic year. Recipients of the scholarship will be students in good academic standing with demonstrated financial need as determined by the Office of Student Financial Services."

The main organizers, Don and Rob Alexander, worked hard during Reunion to initiate the new fund and bring it up to its goal of \$30,000. Good work, and many thanks to the Class of '83 for their generosity!



NEWS FROM ALUMS

Faculty and Staff Updates (Retired and very happy updates!)

Cynn timer and I had another good year. Last fall we spent three weeks sailing on Rainy Lake in northernmost Minnesota. It was great including sailing while it was snowing during early October! By Thanksgiving we made it to Portland, Oregon, to visit Adam and his family. Adam is now one of the vice presidents as well as CIO of Lewis and Clark College. We found out what people are talking about when they mention the weepy weather in the Great Northwest.

On my birthday in October I finally retired as Scoutmaster of Troop 337. It was a great run but to be truthful I really can't keep up when we are hiking. Now I will have more time to work on the problem of bringing the national BSA into the 21st century; we got part of the way.

As I write this note Cynn timer and I are visiting daughter Julie and her husband Chris in Beaufort, South Carolina. It is a fabulous place for nature lovers, and we only wish we could have our sailboat here too. We are hoping to get the family together in August in the Thousand Islands on the St. Lawrence River. If all goes well Charles and Silvana will get married while we are all together. Won't that be grand.

Last year about this time we had a terrific visit with Mark Gonzalez and his family who had come to Northfield to celebrate Ian's graduation from St. Olaf, of all places. So let me say that you alums are especially welcome to visit us when you get to Northfield. We cannot wait for reunion weekend just a few weeks away now. Please think about attending reunion yourself; it is a great experience.

Ed & Cynn timer Buchwald

Greetings to all! The Vicks are doing fine and have had a great year.

In our retirement, Jean and I have been doing some birding, cross-country skiing, traveling, volunteering, chamber music, and some parenting (of the adult-children type). Jean was very pleased with herself that she could celebrate the one-year anniversary of her hip replacement operation by going skiing in the Arb. That may not sound so much like something to celebrate, but just wait, you all will get there soon enough. She says, "Yoga pays off!"

A highlight of our year was a boating trip we took last September on the Erie Canal from Rochester, NY, down the Mohawk River and into the Champlain Canal, past Fort Ticonderoga and up into Lake Champlain. I wasn't even sure that was possible, but we did it! We even had fun. The Mohawk River Valley and Lake Champlain are scenic and rich with the history of the first 150 years of our nation. This April we spent a magical night camped in a blind on the bank of the Platte River being serenaded by thousands of sandhill cranes on their northward migration. Jean has posted photo albums of it all on her Facebook page – we both take pictures but she has been doing most of the posting.

Jean volunteers for numerous projects around Northfield, and I have been volunteering for Carleton in the Arb, Dacie Moses House, and even the Geology Department web site, in addition to managing the alumni web pages for the Beloit College (my alma mater) Geology Department and helping with some other things such as the sidewalk poetry competition in Northfield. And, of course, I continue to participate in the long-standing tradition of Friday morning coffee in Sayles with the Carleton science techies, which is always enjoyable.

Our son Andrew and his wife Laurie are happy in their "new" 18th century farmhouse in Maine; he's now a computer programmer for the Maine state government. Daughter Laura came back from Europe a year ago and is now a luthier in a violin shop in Minneapolis, and she's bought a house up there. I'm so happy that both kids are able to follow their dreams and still earn enough to pay their bills and contribute to an IRA!

Best wishes to everyone for a happy and successful year in 2013-14!

Joe Colgan '98 awarded Presidential Early Career Award for Scientists and Engineers

Dr. Joseph Colgan '98, a research geologist with the USGS, was named one of President Obama's recipients for the Presidential Early Career Award for Scientists and Engineers, including a reception at the White House. This is the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers. Joe was recognized for his work in the Basin and Range. Congratulations Joe!

Kristin Bergmann '04 awarded Outstanding Student Paper Award at AGU

The Outstanding Student Paper Awards (OSPAs) are awarded to promote, recognize and reward undergraduate, Master's and PhD students for quality research in the geophysical sciences. Kristin was recognized for PhD work on Carbonates, for research titled "The clumped isotopic record of Neoproterozoic carbonates, Sultanate of Oman". Congratulations Kristin!

Beth Schwarzman, Carleton class of 1966 passed away while leading a Carleton Alumni Grand Canyon trip.

The geology department is sad to relay the news that Beth Schwarzman '66, has passed away while leading a raft trip on the Colorado River through the Grand Canyon, one sponsored by the Carleton Alumni Association. Beth has had an exceptional career and impact on the geosciences, particularly at the elementary school level where she was praised for innovative approaches to teaching science to children. Beth graduated from Carleton with a BA in Spanish, and minor in geology. She received a Masters in geology from Stanford, and went on to work as a researcher for the USGS, subsequently leading education and outreach programs at the survey. A long-time resident of Falmouth, MA, she is the author of "The Nature of Cape Cod" (University Press of New England, 2002).

1942. Charles D. Edwards Not much - retired. (Age 92 years.)

1949. Jim Dorman Just returned from luncheon meeting of Engineers Club of Memphis where we heard about a contaminating effluent plume from a local landfill detected by a soil resistivity survey. This year, tutored math & science at Southwest Middle School, Memphis, TN. Led science class discussion and study of Chelyabinsk meteorite explosion of February 15th!

1954. Marion E. (Pat) Bickford I remain in good health and active. My research has focused on rhyolitic volcanism associated with Proterozoic sedimentary basins in India. I have just completed editing 2 GSA Special Papers that will celebrate the 125th Anniversary of the founding of GSA: Book I deals with advances in many sub-disciplines over the last 50 years; Book II deals with 50 years of the impact of the Geological Sciences on society.

1955. William D. Bryant I've been retired for 14 years. The days just drift by. Nothing new, sorry.

1956. Richard Buchheit There were 3 geology majors in the class of 1956. Sadly I'm the lone survivor - Bob Scheevel passed in May 2006 & Don Kohls in October 2012. Cook County and the State are trying to reach an agreement with Superior National Forest to trade out of lands in the BWCAW. I'm reminding them to factor in the mineral resource values in any evaluation - - the USFS & environmentalists don't like this.

1956. Richard Buchheit There were 3 geology majors in the class of 1956. Sadly I'm the lone survivor - Bob Scheevel passed in May 2006 & Don Kohls in October 2012. Cook County and the State are trying to reach an agreement with Superior National Forest to trade out of lands in the BWCAW. I'm reminding them to factor in the mineral resource values in any evaluation - - the USFS & environmentalists don't like this.

1958. Dante Shapiro Stephensen It is not time to retire, but we will close our doors July 31, 2013. What next, either build another jazz club or teach at Ga. State Univ or travel the world via hobby, biblical archeologist.

1959. Ed Husted Basically nothing. I'm still head of the paralegal program at the University of Alaska Fairbanks. The only exposure I have to geology is that the curriculum review committee I serve on is chaired by the head of the university's geology department. The committee meets each Friday in the geology library which sometimes smells like wet sedimentary rocks and which has the biggest piece of native copper I have ever seen.

Hans Nelson Fortunately my good health has allowed me to remain very active in my field of marine geology during my retirement. So active, that I have never even submitted information to the Carleton Geology Newsletter. I have continued to teach turbidite short courses around the world (e.g. New Zealand, Japan, Belgium, Spain recently). I also

have been an associate with the Turbidite Research Group at University of Leeds, UK, and have provided lectures for them, oil companies, and numerous other professional meetings throughout USA and Europe. These and my wife Carlota's similar work activities, plus having 4 daughters in four countries on three continents have resulted in travels to 20 some countries in the past few years. I have been very lucky to undertake research in every ocean and continent on the planet. Recent research on turbidite systems has centered off western North America, the Gulf of Mexico, the Mediterranean and Antarctica. A main focus has been using turbidites to develop paleoseismic records, particularly for the Cascadia Subduction Zone and the northern San Andreas Fault. My co-authored 2012 USGS Professional Paper 1661F and 2013 NHESS Special Issue on underwater paleoseismology summarizes some of this research. Despite my continuing professional life, I still get time to enjoy my family, gardening, biking, skiing and swimming pool while looking at the Spanish Sierra Nevada Mountains.

1960. Rene Fournier A little travel lots of snow shoveling We got more than MN! Following HS football and baseball of godson Also Xcountry and track of a relative in NJ Busy with Alumni Fund. If you have not given do so
Michael W. McLanahan Celebrated 50th wedding anniversary and 50 years with the McLanahan Corporation. Formed Varsity Air LLC and bought twin jet. First grandson graduates from Juniata College this year.

1961. Don Davidson Enjoy being a docent on early mining methods in Tubac, AZ (silver capital of US in 1858). Also had a good golf year as Club Champion in AZ plus shot my age -2 in April.

1962. Walter Alvarez This past year marked the 20th Anniversary of the Coldigioco Geological Observatory, an Italian teaching and research institute in the Apennine Mountains of Italy, where many Carleton geology students have learned field mapping, as well as Italian culture, history, art, and cuisine. Dave Bice (class of '81, faculty 1987-2004) and Walter Alvarez (class of '62) are founding members of the Observatory, which is directed by geologist Alessandro Montanari and artist Paula Metallo. For all of the Carleton alums who have had the good fortune of studying at Coldigioco, here is a recent newsletter to bring you up to date. news.coldigioco.org

1963. Wendell Duffield has moved to Whidbey Island in Puget Sound. Now he can pretty much relax from the Flagstaff AZ area threat of forest fires, and only worry about earthquakes, tsunamis and such that lurk in the Pacific Northwest!!

1964. Peter Rowley After a slim 2012, my consulting business is flourishing again. Mostly work for Southern Nevada Water Authority, doing geologic mapping & framework for groundwater resources. And publishing

geologic maps and reports for Utah geological survey and Utah geological association. Dawna still working for BLM managing her 2 National Conservation Areas.

1965. Jan Tullis As of July 1 2013, I will transition to emeritus status at Brown; however I plan to remain very active in undergraduate teaching & advising. I am looking forward to the trip to N Scotland in August (with my 2 sisters) led by Clint Cowan.

1969. Alan Hartley Lots of copyediting, mostly related to the Middle East. Avocationally, a little geology and lots of personal research, mostly to do with connections between language, geography, history, and natural history.

1970. Chuck Kureth Just moved from Novi, MI to Granger, IN (in the South Bend area). Our address will change again soon as we just purchased a condo here!

1971. Karen Lubke After living in Dallas for 4 years, Nexen decided to relocate in Houston. So as of September 2012, I became a Houstonian for the 3rd time. I guess I'll call this home.

Roy Kruse After traveling the world for 25 years, covering more than 3 million miles to 81 countries I have now taken a local job as a courier covering the Twin Cities. From macro to micro, I guess!

1972. Mark Taylor Rowing through Ladore Canyon this summer and leading a Grand Canyon trip next summer.

1973. Dick Pautsch I basically majored in field trips at Carleton, so now that I've retired, life is one big field trip. Doing a lot of birdwatching as I wander from coast to coast. Drinking a lot of fine beer in Boulder. Trading stocks.

1976. Jim Evans At a time when there are so many attacks on working men and women, I am pleased to tell you I helped negotiate the fist collective bargaining agreement at my school (850 faculty/20,000 students). It took 2 years (over 1000 hours negotiating time) but provides real protection to non-tenure track faculty, expands academic freedom and non-discrimination protections.

1976. Barb Wonson Liukkonen is loving the retired life near Two Harbors, MN, population 3000. "We built a house on the Stewart River last summer and are nearly settled in. Lots of wildlife and birds to watch, and a new garden to create. We have two guest rooms, if you're coming to the North Shore and need a place to stay. Retired from the U of MN after 30 years, and they let us keep our email addresses: Liukk001@umn.edu"

Heather Macdonald In addition to working on On the Cutting Edge, which has great resources for geoscience faculty with it's great website at the Science Education Resource Center at Carleton <http://serc.carleton.edu/NAGTWorkshops/index.html>, I'm also working on a relatively new project, SAGE 2YC (Supporting and Advancing Geoscience Education in Two-year Colleges) with Eric Baer ('91), Bob Blodgett, and Jan Hodder. It

would be great to hear from any and all geo alumni who teach at a two-year college, both to know how many Carleton grads teach in community colleges, and also to offer the opportunity to get on the geo2yc email list (through SERC) if not already on the list. Send me an email - rhmacd@wm.edu.

1977. Camille Parrish Completing another fine year in the Bates College Environmental Studies Program. I am working with another Carleton Geology Alum Holly Ewing! Small world since both of us are also from Oklahoma. My 2 daughters have graduated from college and are enjoying their lives/jobs. We are all traveling to Alaska this summer: hiking, kayaking, visiting friends, and hopefully bear watching from a distance. Fulfilling one of my life time dreams. Greetings to all in the class of 1977!

1978. Craig Banister This past year, I've continued participation in the Colorado Archaeological Society -- the lab curations and excavations at Blackfoot Cave. Last fall we found a metate, about 7 feet deep, with charcoal radiocarbon dated at 5,100 years before present. On an archeology survey to West Bijou, about 20 miles east of Denver, I visited the K-T boundary site made famous by Kirk R. Johnson. I also joined a geology club in January, and have really enjoyed the field trips, exploring Colorado geology.

Betsy Turner-Bogren Dennis and I celebrated our 30th wedding anniversary in 2012 and our 31st year of living in Fairbanks. Our sons Wiley (29) and Max (26) have launched on their own adventures afar, Wiley in remote sensing and Max in engineering/product design. I started working at ARCUS spring of 2010 - its great to be back in the world of earth sciences. I'm skiing lots (loving the extended snow season in Fairbanks) and hiking and biking in the off season. Hope to see many Geo alums during the 2013 reunion!

Steve Ingebritsen Looking forward to working with Noah Randolph-Flagg (2011), Callum McCulloch (2014), and Ilana Crankchaw (2016) there at USGS – Menlo Park this summer.

Elizabeth (Liza) Doull Wright Our oldest son has just graduated from the University of Delaware so there we are – a generation past my Carleton experience – which seems like yesterday. So, we've got one biochemist headed to Princeton, an aspiring engineer and... an upcoming high school senior so there is still hope for a geologist! TN just mandated teaching intelligent design in high school so we need all the geologists we can get!

Zachary G. Wilson Looking forward to rafting the Colorado River through Cataract Canyon with my two brothers, followed by the Telluride Bluegrass Festival. Putting some saddle time in on the RAGBRAI bike ride in Iowa, followed by a visit to scenic southeastern Minnesota.

Dorothy Davis Morrow Same old, same old - and

super glad about that. Had enough change in my early years after college that plodding and stable is good. Am enjoying parenthood immensely even though trying teenage years my oldest has now ventured into. Anticipating retirement around age 70 - another 12 years or so, but who's counting?

Laura Nadelhoffer I've been out of the work force since July, 2012, traveling, cooking, and managing the 35th reunion program for our class. This June I'm starting a new job @ HSBC and hoping I can re-adjust to the work week!

Brenda Pommerenke Our third and youngest child will be a high school senior this Fall, so we are attending college fairs and visiting campuses. The other side of the coin is that we are beginning to plan the healthcare and financial changes that we will make as we leave the full-time jobs and strive towards retiring!

Alison Krafft Rempel Just finishing our first, and maybe last, year as empty-nesters. My oldest, Sarah, is graduating from Carleton in June, then spending the summer in Ghana, and then moving home to look for a lab tech job. My youngest just finished a great first year at St. Olaf!

Lisa Doull Wright Sorry to miss the reunion! Our youngest son is headed to UVM in August, so cheering for the local high school band will be entirely voluntary and without "voluntary" obligations! We will be spread between VT, NJ, (Dad in PA), SC, and TN with our heads to the grindstone for 2 "double tuition" years and 4 years where we have a wonderful reason to visit Vermont & wander down to Princeton with hopefully lots of SC visits in between.

1979. Marie Del Toro All is great in Portland! Our daughter, Hollynd, will be attending Santa Clara University in the fall and to celebrate we are going to Mexico City this summer.

Dan Maturen Working my 1st season as a bear tech in Alaska at the incredible Katmai National Park. Sharing this adventure with my sweetheart Mary Horak Binger '78, who also works here as a Park Ranger.

1980. Mindy Bell I have a new job connecting STEM-related businesses to schools and promoting science, technology, engineering and math activities in Flagstaff. It is great to have a new challenge. Darrell has an active research program at NAU investigating proxy paleoclimate signals archived in Arctic lake cores. Lindsey is close to graduating from NAU in anthropology and then who knows what is next!

1981. Eliazbeth "Beth" Dyer Clary Graduated with an MFA in Creative Writing in January from Fairfield University. Finally settling into the field I probably should have pursued from the start! But then I'd have missed out on all those field trips!

Bonnie Rohr Still practicing family medicine but moved

practice location and home just recently. Our youngest child graduated from high school in 2012 so why not?

Heyo Van Iten Just got back from a short research stint in Nanjing, China. Field work in Brazil (July), where my Brazilian colleagues appear to have discovered something really quite important just below the Precambrian/Cambrian boundary. Looking forward to the combined Cambrian/Ordovician/Silurian subcommissions field conference next June in Sweden/Norway.

1982. Heidi Wells (Bredenbeck) We are very excited that our son, Dylan, will be attending Carleton this Fall as a freshman. I guess the brainwashing worked a little too well. Our younger son, Evan, will be entering high school this fall. Changes are also afoot in our professional lives as we are winding our book business down and I am starting to look for gainful employment for the first time in 20 years. My husband, Brad, continues with his save-the-world efforts at TSC Global (low income housing in developing countries).

1983. Rob Alexander I had the wonderful pleasure of hosting geo major Andrew Wolter '13 for a 2-week externship in December. He did a great job mapping some subsurface oil reservoirs for a new field under development. This is a great program run by the Career Center to provide work experiences / career explorations! Attention all geo alums, especially those working in environmental, water resource, policy areas: The next generation of Carleton Geos is waiting for you to join in and try hosting an extern! Andrew stayed with us and shadowed me to work for 2 weeks so effort is not imposing and it was a lot of fun to boot! We know all too well that society needs more well-rounded geos to tackle numerous earth science related issues.

Laura Ferguson Jacobson My husband (Paul Jacobson '83) and I were walking through the Interlochen Arts Academy (in Northern Michigan) en route to a concert, and out of a building came a group of smiling and laughing musicians- including Tim Vick!! He was attending a masters class there and had stepped outside for a break- such a nice surprise! Looks like he is enjoying his retirement! My own family is doing well, includes two college students and one in high school. We will miss reunion for the first time since graduation- but we still love you all!

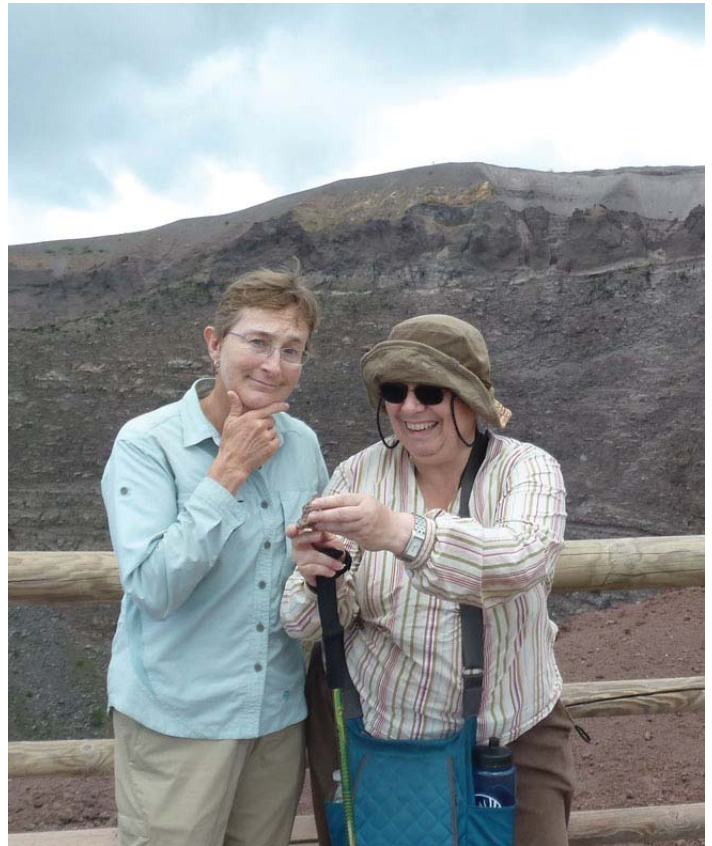
1984. Mark Gordon What's new with me? I found out that Roy Luck is also a Carleton and UT grad who works for Shell. Somehow, we maintained parallel paths for 15 years before intersecting. Since the last newsletter, Cecilia and I have taken two vacations to Hawaii. We also visited Cecilia's family in Transylvania where we attended an all night wedding reception. This year it is off to Alaska. This is a return for me (field camp in '83) and a first for Cecilia.

Carolyn White Having fun with revegetation and stream

restoration projects in Houston. Lots of storm water treatment wetlands going in. Glad to stay in touch through FB!

Christine Siddoway In June, Mary Savina and I had the opportunity to visit Mt Vesuvius together, during an ACM sponsored faculty seminar for development of interdisciplinary curricula. Mary and I are doing our utmost to inspire liberal arts faculty to incorporate earth and environmental sciences standpoints and quantitative tools in their efforts! (*picture below*)

1985. Jon Parshall Once again putting my Geology



degree to good use (cough)! I was named Naval History Magazine's 2012 Author of the Year for an article I co-authored regarding the attack on Pearl Harbor, drawing parallels between it and the 9/11 attacks. Whodda thunk?

1986. Mary-Russell Roberson I participated in my first - very short - triathlon yesterday - 250 yards swimming, 9 miles biking, and 2 miles running. I loved it! I am still doing freelance science writing for a number of clients, including the Science Education Resource Center at Carleton.

Sean McKenna The empty-nest bit us hard after our son, Kyle, went to college in the fall, and Karen and I decided it was time for a new adventure. We left Albuquerque after 18.5 years and moved to Dublin, Ireland. Hot, dry and sunny has been exchanged for cool, damp and cloudy.

The change in work took me from Sr. Scientist at Sandia National Laboratories to Sr. Manager at IBM Research in their Smarter Cities Technology Centre where I lead a group focused on water and the environment. We'd love to share a pint or two with any Carleton visitors.

1987. Christopher Carlson I am still working on groundwater policy and management issues for the US Forest Service in the national HQs in Washington, DC (approaching 8 years!). Opportunities abound for influencing how 193 million acres of public land are managed, but it can be challenging to make change happen. From water supply issues to range management and minerals activities, there are a wide variety of activities and issues on the National Forests and Grasslands that can affect groundwater resources. In 2012, the Forest Service published national protocols for the inventory of groundwater dependent ecosystems: <http://www.fs.fed.us/geology/groundwater.html>.

I continue to work to get a draft of the agency's first national groundwater management policy published in the Federal Register for public comment. Though I think I have said this before, it looks like the policy may get cleared by for publication sometime in the summer of 2013. It should fit well into the priorities of the Secretary of Agriculture, but timing is everything. Hopefully, it will be seen soon! My wife, Martha Anderson (also Carleton '87) and I are having a great time with our 7-year-old son Niklas, who is now finishing 1st grade. Best wishes to all. If you are going to be in the DC area, look us up. Chris

1989. Benjamin Edwards & Kim Felknor-Edwards '89 It's been a very busy spring for us! Kim has been teaching HS geometry full-time as a long-term substitute, and I've been on sabbatical trying to catch up on research write-ups. While Kim was spending 15+ hours a day preparing lectures, tests, and grading endlessly, I got a chance to go and investigate lava-snow interactions at the Tolbachik eruption (still ongoing at the moment!) in Kamchatka, Russia. The trip was funded by an NSF RAPID grant and a bit of money from National Geographic <http://news.nationalgeographic.com/news/2013/05/pictures/130508-glacier-lava-volcano-kamchatka-geology-science/>, and I saw amazing things!! For anyone that wants to see a few pictures, I've got a set going on Flickr http://www.flickr.com/photos/bens_digital_images/sets/72157633263335250/ that I'll try to add to periodically. Unfortunately I couldn't take any students on this trip, but I'm leaving for Iceland in two weeks with three undergraduates to finish work on a quarry that exposes a beautiful section through a subglacial pillow lava ridge. Teagan is well into the college search, and is looking across North America, from Maine to British Columbia (we decided we didn't want her going to Europe her first year, even though she'd love to start in France/

Germany/UK). She's certainly considering Carleton too, but competition will be tough... Kaelan was in her high school's musical this year and loved that – so I suspect we'll be hearing a lot more singing in the near future around the house and elsewhere... Hope everyone in the Carleton geocommunity is doing well! If you are traveling through central PA stop in for a visit with us!

Bill Dinklage I just finished my first year of teaching at SBCC after moving here from Utah last summer. The geology department at SBCC is fabulous, and I like the job a lot. I'm thankful for that because I liked by job teaching for a decade at Utah Valley University a lot, too.

1990. Andy Garrett I'm finishing my first year in my new role as the Director of the National Disaster Medical System at the U.S. Dept. of Health and Human Services. I still live in Bethesda, and work downtown in DC. We had a very busy year with Superstorm Sandy, with our deployed federal medical teams treating over 10,000 patients and 3,000 veterinary encounters in NY and NJ. The family is doing well, and my daughters Amelia (almost 5) and Adeline (just 1) remain the highlights of my life, and we love being outside for hiking, birdwatching, a bit of camping, and some light recreational geology (the parts I can remember!). Best wishes to everyone back at Carleton and to all the alums. *(Andy's daughters pictured below)*

Rebecca Arenson Just got married on April 6, 2013 to



Scott Rachlinski, a wonderful guy, and am now a stepmom to Lucas (12) and Katherine (8). I'm in the process of changing my last name to Arenson-Rachlinski, amusing everyone since I said I would never change my last name, and definitely would not hyphenate. I will now have a last name that will never be pronounced or spelled correctly! We had a nice small wedding at a local spot (historic train

station) and enjoyed getting family and friends together. Then off to Tortola for R&R. I just finished moving up to Scott's place, and now I have a dreadful commute to DC for work. After years of living within walking distance to work, I'm in shock. On the plus side, I can finally have a long-term garden with fruit trees, since for the first time I am not a renter. Looks like a busy, fun, interesting year.

Mark Newcomb Working first self-employed gig conducting an economic impact analysis of winter backcountry recreation in the Teto-Yellowstone region.

Elizabeth Hunt I married Justin Johnson in November 2012. We had a small ceremony in Burlington, VT with our kids and my parent. In February, we went to Australia to visit his family.

1991. Kari Cooper & Eric Cowgill and I are still on the faculty at UC Davis. Our older daughter Katja is now 3 1/2 and off the picture looking for interesting pine cones with Eric (she has most recently expressed a plan to become a farmer). Eric and I are busy with the continual balance of kids and careers. The main focus of Eric's research these days is understanding the late Cenozoic tectonics of the Caucasus, in the central Arabia-Eurasia collision zone, which has taken him to Azerbaijan and Georgia in recent years for field work. I've been continuing to focus on understanding sub-volcanic magma systems, most recently in the Cascades (Mt Hood, Lassen Peak), New Zealand, and Yellowstone. *(picture below)*

1993. Ben Surpless Tenured! Woo-hoo!

Beth Pratt-Sitaula We just moved to Colorado! Come visit. Ajay has a new job here with a power systems company. I'm working part time on various science education projects including a new geoscience field camp that starts this summer in Nepal.

1994. Brett (Kessler) Dooley Butch (Alton Dooley, '91) was promoted to the Acting Assistant Director of Research at the Virginia Museum of Natural History. He frequently questions whether or not this is a good thing. I'm teaching another new class in the fall (Biology of the Environment). It should be a nice, non-majors course. Our son Tim will be finishing his high school home schooling by taking the GED in June or July. He also starts driving this month.

Kind of crazy to think of him as that grown up!

Julia Daly Once again, I didn't scale any 8000m peaks, skydive, or win the lottery (nor did I try). I was able to hike quite a bit with my students for research, nordic ski in pursuit of my kids, and enjoy some tasty local beer. I look forward to more of the same in the coming year, maybe with some running thrown in.

1995. Bryn Perkins We are well! still in Prague, bought a flat, moved from management consulting to running a small hostel group (Geo majors past and present please give me a shout if coming through Prague), very excited about implementing open-book management there. Katie and I have an awesome little boy Ruben (2 in August 2013) and are expecting a sibling for him in November 2013.

1996. Karissa Baker I'm finishing my fourteenth year



Kari Cooper '91
The photo is of me and our younger daughter (Simone, now 2) discussing rhyolite dome emplacement at Glass Creek Dome (one of the Mono-Inyo chain in Eastern CA) on the annual UCD Geology fall field trip for graduate students. Simone is engrossed in figuring out how to use a hand lens.

teaching Earth Science at St. Paul Academy. This year I also taught an environmental science elective and an independent research elective for the first time. I enjoyed both of those courses a lot and am looking forward to teaching them again next year. I'll be back at Carleton in June for a week for an AP Environmental Science workshop, and I'm looking forward to some time on campus. Our children are growing up too fast. They are 4 and 7 years old now, and that happened in the blink of an eye!

Kevin Theissen Our family has grown by one. Axel Theissen was born on April 1, 2013. We are all very excited-- especially big sister Maja (2).

1997. Lisa Van Arsdale I got married to a wonderful woman who fills out anything marked "business reply" from college - lucky me!

1998. Megan Anderson I had a recent job title change from "Assistant" to "Associate". Who-hoo! Guess I'll be in the teaching business for a while yet. To celebrate, my husband and I went on a long-awaited honeymoon to New Zealand. No geology (except oggling a rock or two here and there), just relaxation, taking in the landscape, and eating some Tasty Cheese.

Kristin Propson Scott Propson ('96) and recently I moved to the small but interesting town of Decorah, Iowa. We have a 2 year old daughter, Elsa, and we are expecting a baby boy this fall. We just finished renovating an old 1865 brick house. Stop by and see us if you ever find yourself in NE Iowa!

1999. Bretwood Higman Right now I'm about halfway through a 800 mile walk/packraft around Cook Inlet Alaska with my family (including Erin McKittrick, '01, and children Katmai, 4 yrs, and Lituya, 2 yrs.). More here and on FB. The only "real" science I've been doing lately is continued work on seismic hazards in SW Alaska (a very politically loaded topic - see here) and paying work documenting coastal geomorphology in the arctic by helicopter. This project ended when the turbine engine in the Bell 206 helicopter self-destructed and we plowed into the tundra. Fortunately a soft crash... actually less scary than riding on the back of 4-wheelers that our intrepid rescuers from Pt. Hope brought. This fall we'll be traveling in Alaska and the Pacific NW, conceivably even getting to MN, on tour for Erin's new book.

Alison Anders I'm busy raising two young rock hounds - Oscar, who is currently all about dinosaurs, and Leo who just loves dirt. Looking forward to summer fieldwork in the midwest & Svalbard. Can't wait for reunion next year!

2000. Annie Winkler Real Pickles became a worker-owned cooperative this year! Thanks to a huge community investment campaign and the hard work of the five founding worker-owners, we made the conversion from a

proprietorship to cooperative. The conversion secures our social mission for the long term and expands our current mission to include a democratic workplace and access to ownership for our employees. I couldn't be more excited to be making local, organic, fermented veggies!

Luc Mehl I survived my first year of teaching but am still nervous about the second. I also survived a 30-day, 370-mile ski and raft traverse through Wrangell/ St. Elias/ Kwane national parks that was pretty cool.

Nina Berglund We moved from Phoenix to Sacramento, CA in August 2012 so that Gus Chung ('99) and I could work on the California High-Speed Rail Project. When the entire system is completed it will run from San Francisco to Los Angeles in under three hours at speeds capable of over 200 mph. It is exciting to be part of such a historic project. I am currently drafting procurement documents and other contracts, as well as helping to manage the procurement process. Our little Juliet is two and a half and quite the little princess. We are also pleased to announce that we are expecting a baby boy in early October 2013!

2001. Carl Tape Baby girl Sophia Nadin Tape, born 9/7/2012! I taught a new class at UAF called Inverse Problems and Parameter Estimation. I write this from a magical conference setting in Erice, Sicily.

Ani Kame'enui Still working on environmental policy as a lobbyist on public lands issues for the Sierra Club.

Phil Anderson After five years as a postdoc/lecturer in the UK, my wife Anne ('00) and I have settled back Stateside in Amherst, MA. I will be working as a Senior Research Fellow in the Biology Department at the University of Massachusetts on the evolution, biomechanics and paleontology of Mantis Shrimp.

2003. George Tangalos Continuing to pursue international Nordic skiing fame, racing in Worldloppet events across Europe - Poland, Czech Republic and Austria completed.

Elizabeth (Liz) Cassel I'm in my second year of my post-doc fellowship at the Jackson School at UT Austin, and I'm working on projects in southern Peru and across the western US.

Tiffany Larsen I am enjoying being in Paraguay since September of 2012 as an Environmental Conservation volunteer with the Peace Corps! In addition to sweating more than I ever have before, I have been working with farmers on reforestation, green manures, and fruit tree grafting projects. Paraguay is a very unique place, with two national languages and a long history of war and suffering. Yet, you will find a TV in almost every wood shack and the most "tranquilo" people ever! I am enjoying everyday to it's fullest, easy days and hard days! You are welcome to follow me along and see photos in my blog: <http://tiffanyannlarsen.wordpress.com/>.

Bess Koffman I got my PhD in Earth and Climate

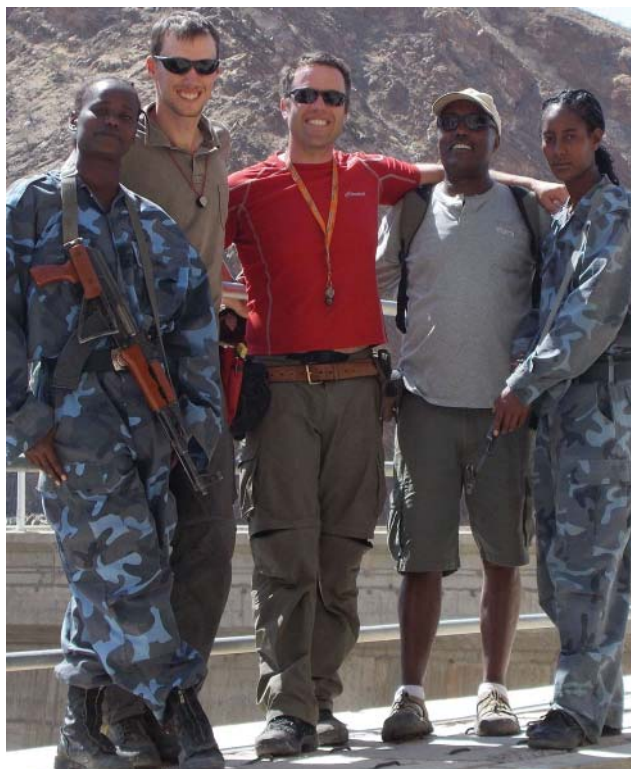
Sciences from the University of Maine in May. I'm now working on a 2-year postdoctoral research project at Lamont-Doherty Earth Observatory, with support from an NSF Office of Polar Programs postdoctoral fellowship. I'll be studying dust transport and biogeochemistry in the Southern Hemisphere, analyzing samples from New Zealand and Antarctica. Would love to re-connect with Carls in the NYC area!

2004. Kristin Bergmann Nick Boekelheide ('04) and I are graduating in June. We've both had a great five years at Caltech and will miss biking in the San Gabes when we move east. Nick is starting a faculty position at Colby College and I have a post doc at Harvard. Let us know if you are in Maine/Boston!

2005. Will Gallin and Pam Moeller Will and Pam have a baby named Laura Jean Gallin, born on January 5th, 2012. We spent a long time trying to think of something funny to say, but just like NBC's The Office, we ran out of wit after Pam had the baby.

Nick Swanson-Hysell After an all too short stint in Minneapolis, Sarah, Madeline and I are moving out to the Bay Area at the end of July. I will be starting a faculty position in the Earth and Planetary Science Department at UC Berkeley. It will be an adjustment living on Cretaceous Franciscan complex melange after living on top of the Platteville Formation in the stable cratonic interior, but we are looking forward to hikes in the Berkeley Hills. In other news, I had a winter field season with Bereket and Adam Maloof ('98) in Ethiopia where this photo was taken with a couple friendly military personnel at the Tekeze Dam.

2006. Rachel E. B. Reid I got married in September



2012 to Leighton Reid, a tropical ecologist and Sewanee alum. This summer we're moving to Corvallis, OR, where Leighton will start a post doc at OSU and I will get to try my hand at working remotely. I hope to finish up grad school next spring and am excited about whatever will be next.

Molly Kent I am living in Northfield & working at Carleton and wondering what I did to get so lucky! I've been here since January, working at SERC and havin fun catching up with old friends.

2007. Megan Rohrsen Finishing my PhD and starting a post-doc at Briston University in England in the fall.

Kelly Hereid I graduated from the University of Texas with my Ph.D. in December, moved to New York, and took a job modeling natural catastrophes of all flavors, but focusing on those related to climate change. Interestingly, I moved here just before Hurricane Sandy, so I feel like I picked the right field. It was exciting to experience my first hurricane! (Extratropical cyclone, whatever, counts.)

Sarah Bergman I graduated with my M.S. in Earth and Space Sciences from the University of Washington in May 2013. I missed working with kids, so I went back to working as a science teacher in Colorado where I live with a great guy from the class of 2005.

Keith Christianson I married my Carleton sweetheart, Karen Campbell ('09), last June and we are both living and working in Houston, Texas.

Susan Schnur I was lucky enough to get a proposal to study seamount volcanostratigraphy funded through the IODP Schlanger Ocean Drilling Fellowship. I follow in the footsteps of Benjamin Harrison '03, Kelsey Dyck '06, Karla Knudson '06, and probably many other Carleton geologists who I don't recognize. Landlocked Minnesota is producing marine geologists!

Gloria Jimenez Just accepted an offer to begin my Ph.D. at the University of Arizona--joining the Carleton mafia there!

Sarina Yospin Living my teaching dream teaching elementary school. Got to take my class camping at Taylor's Falls this year - site of my first ever Carleton Geo trip! The kids are being indoctrinated with geo-love. Life is good!

2008. Elizabeth (Libby) Ritz Finished my PhD at Stanford, then moved to Texas to work at Hess Corporation as a geologist.

Ethan Hyland I'm in the last year of my PhD in Geology at the University of Michigan

2009. Jonathan Aronson Applying to Medical School!

Aaron Fricke I finished my Master's degree last year focusing on hyperpycnal flows in Lake Chelan, WA. I've moved into my PhD, which focuses on sediment dynamics in the tidally influenced portions of the Amazon and Mekong Rivers. I'll be taking a leave from grad school

next winter to TA the Carleton Geology program in New Zealand!

Kirke Elsass In 2012, I moved to Detroit. After a stint cooking in a barbeque restaurant, I am starting a program to become a high school science teacher in the city. I have also been coaching basketball, urban gardening, and helping organize an ultimate league in the city.

2009. Phil Varela I've started a new job as a Field Paleontologist at Dinosaur National Monument inventorying, monitoring, and molding/casting of Jurassic age dinosaur trackways during the summer of 2013. I will return to Chaco Culture National Historical Park later this year. I've really enjoyed living, working, and traveling in the west. The geology is great!

Kathryn Buckner Sworn into the South Carolina Bar. Looking forward to exploring opportunities in environmental law!

Phil Varela I've started a new job as a Field Paleontologist at Dinosaur National Monument inventorying, monitoring, and molding/casting of Jurassic age dinosaur trackways during the summer of 2013. I will return to Chaco Culture National Historical Park later this year. I've really enjoyed living, working, and traveling in the west. The geology is great!

2010. Stuart Sweeney Smith Finishing up my first year of my Masters Degree program in the Energy Resource Eng. Dept. Loving the California weather, but I miss the snowy winters...:)

Nate Ryan I continue to work at The Current as a photographer and filmmaker, enjoying life in the Twin Cities.

Allison Pfeiffer I started grad school at UC Santa Cruz this past September, looking at geomorphic controls on salmon spawning habitat. The redwoods, sunshine, and sea otters do make me yearn for those MN winters, but luckily I've got lots of Carls in the department here to keep me company. Best wishes to all in Northfield.

Neil Foley I'm in my 1st year of grad school at UC Santa Cruz studying glaciology. I will be doing fieldwork in Antarctica starting in December, but until then I am enjoying the nice weather in Santa Cruz.

2011. Nick Holschuh I'm in the second year of my Ph.D., heading down to Antarctica in November to collect data on the subglacial environment and seismic slip events which control the flow of Whillans Ice Stream (Ice Stream B).

Benjamin Parks I've been working at Brown as a research assistant this past winter and spring, and I'll be a grad student there this fall working on a project focusing in igneous petrology.

Ray McGaughey I've become a licensed and certified NYC tour guide! I lead a wide variety of tours including walking, bike, and bus tours. I've been able to do some rock climbing on the side but am looking to do more in the

near future.

2012. Hannah Hilbert-Wolf Half way around the world, but I'm still picking zircons! - also doing thermochronometry work in Scotland, catching sea turtles, and saying things like, "I reckon" and, "I'm keen" too often. For my thesis I'm exploring the East African Rift and trying to reconstruct the dynamic landscapes that influenced important faunal evolution (including hominins!). I am looking forward to feeling cold in Denver (See you at GSA!). Lucky to have had 2 Carleton friends visit me here in May.

Megan Ferre I will be starting a Master's program at the University of Texas at Austin this August in geosciences and geomorphology and am taking a trip with Sarah Marks ('12) to visit Hannah Hilbert-Wolf ('12) in Australia this May.

Sarah Marks Since graduating, I worked as a seasonal NYC Urban Park Ranger for sixth months and then did some traveling, including a month spent in New Zealand and Australia. In June, I'll start my Masters of Arts in Teaching at the American Museum of Natural History. Specifically, I'll be getting my masters to teach Earth Science for 7th to 12th graders.

Alex Walker I'm just finishing up my first year here at the USGS in Reston, VA working in the Water Resources Division. Currently, I'm working on two projects: wetlands restoration in the Florida Everglades and urban stream restoration in Northern Virginia. I'm really enjoying my experience, it's quite dynamic, and I'm constantly learning new skills.

Griffin Williams I'm working full time at the MN Geological Survey as a field assistant and part time at Midwest Supplies: Homebrewing and Winemaking.

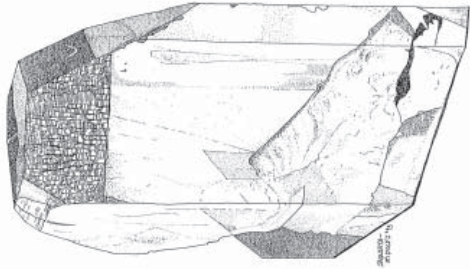
Laura Hockenbury Laura works for the office of Research and Development looking at the Ecosystem services of large river floodplain restoration efforts, specifically in regards to levee setback. New hobbies: bike commuting (22 miles), climbing, and snowshoeing.

Geology Department T-Shirts Available

We have a supply of geology T-shirts available that can be purchased by mail. The cost for a current year shirt is \$10 plus \$4 postage payable to Carleton College, and as a gift we will throw a previous years shirt in for free (it'll be a surprise what shirt from the past you will end up with). The 2012 - 2013 features a compressed "Carleton", and sheared "Geology" logo on the front. The back of the shirt is the text "Our love is pure and simple. (newsletter cover logos) The shirt is blue, and the text is white, and available in short sleeve and Long sleeve. As of writing sizes XS, S, M, L, and XL are available.

There is also a timeless (and priceless!) special shirt available for families with multiple generations attending Carleton. The shirt features a diagram of the interior of the Earth with the core labeled Carleton Faculty, and the layers going upwards toward the surface being Post Docs, Graduate Students, Seniors, Juniors, and Sophomores; the blebs of magma (which melted off the subducting plate) rising toward the surface are "Children that go to Carleton." It is a cardinal red with white ink. Sizes available S, M, and L. Email Jonathon at jlcooper@carleton.edu, or call at (507) 222-4401 to find if your size is still in stock.

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