PC Basement

The Colorado College Geology Department

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Cover Photo:
GY305 with Anne Fetrow at
a roadcut near Bond, CO

Colorado College Geology Department logo designed by Professor Sarah Schanz

The Precambrian Basement Newsletter
2025-2026

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Garden of the Gods photo by Steve Weaver

Land Acknowledgment

The Geology Department acknowledges that our educational programs are carried out in the homelands of the Ute and other Native peoples and rely on networks of travel paths developed by these peoples. We also acknowledge that Colorado College and our department were founded upon practices of resource extraction and land appropriation that dishonored and diminished the traditional lifeways in this region. These practices displaced indigenous populations, and degraded landscapes, and led to unequal distribution of wealth, health, and opportunity in the Rocky Mountain West. Yet the Ute and Native populations are living people with a present and a future as well as a past, and we strive to learn from their knowledge of Earth systems to create a more inclusive field of study while seeking to redress the exclusions and erasures they have endured.

Anti-racism Commitment

We commit to learning, listening, and working to become an antiracist department and program, in order to offer a welcoming place of study and home department for students of all backgrounds and identities. We acknowledge that a culture of racism often works unconsciously in our thoughts, actions, and words (Hill, 2008), and that without an active awareness of racism we as educators and learners may inflict harm. We recognize that the compositional diversity of the U.S. population as a whole is not represented among students and professionals in STEM fields, a disparity that is even more pronounced in the geological sciences. Addressing this limitation will strengthen earth science. Within the CC Geology Department, we are working to: 1) be engaged and actively aware of racism both in academia and everyday life, 2) counter racist expressions and behavior, and 3) take collective action to change, transform, or augment department policies, practices, and policies to be inclusive and equitable. We participated in URGE, a federally funded antiracism education workshop in geoscience, that guided our creation of Departmental policies and actions to form our own antiracist framework, which in turn helps to achieve the College's mission to become antiracist.

Department Philosophy

The Geology major curriculum is designed to provide a foundation for a professional career in the Earth sciences, provide the background for graduate school, which is a prerequisite for many professions, and provide an opportunity for CC students from other majors to combine their focus discipline with geology and educate students about the physical environment and humanity's place in it, as part of a liberal arts education.

Cited work: Hill, Jane H. 2008. The Everyday Language of White Racism. Malden, MA: Wiley-Blackwell.

Letter from the Chair

Hello Everyone! It has been a long time since I have had the pleasure of writing a 'Chair's Letter' for the Precambrian Basement, more than 10 years in fact. I can't say, however, that I am excited to be Chair again. For one, the number of meetings, online forms & approvals, performance evaluations, surveys and emails from a whole host of new College Administrators have increased exponentially since my last stint as Chair. But more personally, the only reason I am once again 'in charge' is because of Paul Myrow's recent retirement. For most of my 25 years at Colorado College I was the 'junior' faculty member; even when I celebrated my 18th year here, I was still the youngest person in the department. But all that began to change as Eric retired, then Jeff retired, and now Paul. Between them that is about 117 years of combined teaching, administrative and life experience along with unfailing support I had in the offices around me – what a comfort (especially when they were in the Chair's seat instead of me!). Now I can't escape the fact that the tables have largely turned, and one of my primary jobs is support our newer faculty members - Sarah, Michelle, and now Anne - just as Eric, Jeff, and Paul supported me. Heady stuff.

Thankfully, I am not doing any of this Chairing and leadership stuff alone. First and foremost, there is still Christine - with her own 32 years of experience! - to keep me on the straight and narrow. Then there is Mandy – herding cats for 17 years - to help with so much, but especially the budget, all things logistical, and all things that make us a community. Although she has been here a shorter time, Elizabeth has also put her stamp on the department, with online calendars, labels (on everything!) and lots of ideas on how to run our operation more smoothly. Finally, there are you students, who have always been an integral part of the CC Geology department. Your leadership contributions include the formal (think paraprofessionals), the informal (think of those friends who sat with you while you revised your Pueblo strat section for the umpteenth time or who did the boot dance with you on a cold outcrop), and the financial (in support of internship programs, financial aid, the purchase of equipment & more). When you consider all of these things together, you begin to understand why CC Geology is so special.

Well, it looks like I have gotten a bit off-topic here. I should probably be giving you a summary of the many things CC Geology has accomplished over the last year, but since I've only been doing this job for a few months, I'm going to give myself a pass (it's great to be in charge!). Instead, I will leave the details of these accomplishments for individuals to describe in their personal updates, and I'll let you get on with reading this issue of the PCB. Until next time, please stay in touch with hellos & updates and have a wonderful year!

Henry Fricke

Chair, Department of Geology

Sarah Schanz

Geomorphology

Hello! I write this update from my sabbatical getaway – the far-off location of...my lab. It's got sun and there's even a beach (ok, it's a stream table, but there's sand and water).

This last year was an exciting one. The big landmark news: I got tenure (thank you to everyone who supported me and this process over the last six years!). But, the things that stood out just as much (or more) were developing a new class on glaciers and landscapes and exploring completely new field sites and study ideas with students this summer.

It's been a while since I designed an entire class from scratch, and I forgot how fun it is! Last spring was the first run of 'Glacial Impacts on Landscapes and Life', where we used each week of the block to examine a different timescale of impacts. We discussed the interplay of glacial erosion and tectonics, biologic activity on ice sheets, and the impacts of ice ages on human migration. Eric Leonard lent his expertise on a field trip, where we revisited one of his Keck research sites 30 years later and found new lines of evidence for complex ice retreat patterns in the San Juan Mountains.

The academic year ended on that high note and then blended into a summer of research discoveries that just kept going. I had a wonderful team of students collaborating with me this summer. Willow Craighead '26 and Lev Sugerman-Brozan '26 explored new field sites in the Wet Mountains; between them, they've helped narrow down the drivers of landscape change and discovered new evidence of a highly dynamic drainage network. Zoe Posner '27 and Avery Ordner '26 worked on sinuous rivers and investigated how changing climate will affect river dynamics as permafrost streams enter new vegetation and bed material regimes. Emmaline Derry '26 took GIS Specialist Alyssa Tews, and me river rafting to investigate impacts of bedrock fracturing on gorge development. Avery Rubins '27 brainstormed how we can test the impacts of drainage reorganization and mountain building on stream nutrient availability; look out for more on this in next years' update!

The Glacial Impacts on Landscapes and Life class poses in front of the former Glacial Lake Atwood.

And those are just the folks focusing on bedrock rivers. On the glacial end, Aden Berry '27 took a deep dive into image processing techniques developed by NASA scientists to compare rock glacier movement across different climatic zones in Colorado. Toby Fried '26 braved solo fieldwork in the Chugach Range, Alaska, to get grain size distributions and quantify the role of grain size in the paraglacial cycle. And Andy Sameshima '26 created new, high resolution geomorphic maps of two basins in the Sangre de Cristo range, CO, and in the process identified a previously unrecognized moraine sequence. Co-advised with Henry, Makena Hatch '26 is combining two numerical models (written in different coding languages, of course) to link PETM hydroclimate changes in mountains to sedimentary features in the basins. And, last but not least, I've been learning a lot about culverts from Keira Gupta '26 who is building a machine learning model to accurately predict scour based on the geologic setting and culvert properties.

What did *I* do this summer? Aside from tagging along on everyone else's field work, I've been working on wrapping up manuscripts from my recent NSF grant and helping Nathaniel Cutler '25 prepare his thesis for publication – which we just submitted yesterday! From my bedrock rivers NSF work, I have a co-authored paper that we are revising for resubmission, and another paper in the works that builds

on results from Annie Breyak '25, Zhilin Shi '23, and Piper Kent '23.

On the home front, the focus is gardening and small home projects! We took a short vacation to Durango this year and finally got to see Mesa Verde and Hovenweep. I've been converting more of our lawn to native gardens and re-painting our walls. But, we spend most of our time running after Arthur; he's 2.5 now and is enthusiastic about hippos, car transporter trucks, and his scooter.

The Glacial Impacts on Landscapes & Life class points in the direction we think the glacier went. "More research is needed."

Anne Fetrow

Sedimentology, Stable Isotopes, and Aqueous Geochemistry

Hello Earth Science friends! I am elated to have joined the Geology Department this Fall! I am loving the CC campus, colleagues, and students, and am overjoyed to be back in Colorado – for the long-haul this time!

Teaching: And we're off! During Block 1, Henry and I co-taught Introduction to Earth Systems (GY140) and it was great to get a better sense of the pacing of the Block Plan and learn some of the field sites near to the Springs and beyond in southern CO. We lucked out with our great group of students and with the weather for our field trips down to the San Luis Valley and all over the Front Range. I'm looking forward to teaching GY140 again in Block 5 (don't worry – a little snow won't deter us!).

I taught Sedimentology and Stratigraphy in Block 2 and feel fortunate for the motivated and sharp group of 11 students that embarked on the wild ride of Sed/Strat with me (see photo below)! We were in the field almost half of the days of the block, describing stratigraphic sections in the Garden of the Gods, at the Pueblo Reservoir, near Rifle in western Colorado, and outside of Green River, Utah in the San Rafael Swell. Students examined several rises and falls of the ocean throughout geologic history and wrestled with the complexity that outcrop-based observational science can provide – oh, and we also had lots of fun and almost ate our weight in fruit snacks!

I am looking forward to teaching a new course, "Lakes through Time", in Block 7. This class aims to blend modern- and paleo-limnology to understand lakes as active ecosystems and sedimentary systems. We'll head out to the Great Salt Lake for a week of the Block to investigate how the geologic setting, human water management, and climate change are impacting a critical Western US lake ecosystem. After that, we will head to the Green River Formation to examine a paleo-lake sedimentary system that preserves some of the best records of climate and biodiversity during the Eocene.

Research: This Fall, I went to Mono Lake in eastern California to conduct water sampling for oxygen stable isotope analyses. This work is a continuation of my postdoc research with

collaborators at the University of Michigan that seeks to assess the role of evaporation both in the modern and paleo-Mono Basin system using triple oxygen isotope geochemistry and lake-core sedimentology. I am eager to spin up research projects here at Colorado College! I have two main projects that I aim to start this year that include: 1) continuing work on Cretaceous terrestrial paleoclimate estimates using clumped isotopes from wetland carbonates. This will involve measuring sedimentary sections of the Newark Canyon Formation in central Nevada, carbonate petrography, and stable isotope analyses up at CU Boulder. 2) I'm excited to revive a project I started during my PhD that focuses on why and when carbonate forms in wetland systems. This research utilizes short sediment core from ephemeral wetlands from Las Tablas de Daimiel National Park, Spain and will include sediment description, carbonate petrography, and establishing a carbon and oxygen isotope record.

Outside of CC: Our move from Michigan this summer went smoothly, and we are SO thrilled to have landed in Colorado Springs! It has been exciting to explore trails and restaurants with my partner, Corbin, and our bouncy doodle, Cashew. Cashew is learning how to be a good office dog so say hello if you're in Palmer!

GY305 (and paraprof Charlie) measuring section in Pueblo

Sed/Strat checking out the Great Unconformity from a sedimentologic perspective

Christine Siddoway

Structural Geology

2025 is a great year! All the GY courses I taught, I loved, along with all the students who took the courses – spirited, fun, funny, and individualistic. This is also a good year from the standpoint of trips and travels, new projects, getting Antarctic/IODP research out into pubs, and public-facing science activities. And my College-service assignment includes work on a team that is investigating how to expand geothermal exchange capabilities at CC as a step on the way to meeting/exceeding CC's carbon neutrality goals!

Classes this year started out with a GY400 Research Seminar focused on the Tava Sandstone – but with an utterly new slant involving methods that could explore our subglacial deposition hypothesis. Three committed Geo majors and colleague Liam Courtney-Davies (CU-Boulder) all engaged in GY400. We imaged quartz surface textures using scanning electron

microscopes at CC, then used characteristics to determine transport processes that shaped the quartz grains (the dominant constituent of the Tava). The high resolution SEM images were examined using the SandAI software created by Michael Hasson (CC 2019 grad and past paraprof) et al. (See Michael's 2024 PNAS pub, if you want to try out SandAI). For the second half of class, the team re-located to CU-Boulder for work at TRaIL (Thermochrology Research and Instrumentation Lab), drawing upon Liam's expertise to measure REE (rare earth element) concentrations in oxides, using use laser-ablation ICP mass spectrometry. Key result? Tava quartz is multicycle sediment affected primarily by coastal, fluvial transport, and the Fe-oxides associated with Tava derived from significant geothermal fluids as well as meteoric waters.

My subsequent courses (GY315, GY140, GY212 and two GY405 blocks) all had highlights, such as: (1) fabulous weather for Structural Geology in Block 8 – I've scarcely ever been able to teach GY315 in that block. (2) Volunteering at Concrete Coyote (thanks for the opp, Steve Wood!) – students shoveled, dug, and wheelbarrowed to construct Hügelkultur , right before a rainy summer, so the plantings on the Hügelkultur took hold. (3) Co-taught the field methods course, GY212, with visitor Max Huffman, achieving a great blend of geomorph, bedrock structure, and geophysics, all conjoined in GIS maps by students. (4) Finally started looking seriously at the premier gneisses/structures at Wilkerson Pass, thanks to research student April Simmonds who chose to do thesis research there. (5) Identified and confirmed a heretofore unknown Cryogenian sand ridge, opposite the "big sandstone dike" outcrop that many CC Geo majors visited with Jeff Noblett, in the past.

Keeping research and teaching in balance, I did submit an NSF proposal last June. Fate of the proposal is obviously unknown, but – the plan for the joint project was super-fun to develop since it involves Matt Tankersley, '18, who's now a postdoc at the University of Kiel.

Our young dog, Hazel, got to partake in many of the field forays in the various locations. In the one year since I informed about Hazel's arrival, in the PCB, this burly chocolate lab has acquired many nicknames: H-bomb, Hãzilla, and Brutissima are the most used. (You get an idea about her personality!) Hazel often gets together with Geo dogs: Cashew (Anne's) and GibbsFreeEnergy (Michelle's) for afternoon play/energy dissipation sessions.

In the travels and trips category: (1) A long overdue return to Grand Cañon, for a 2-week dory trip in June (before the raging wildfires hit the Rims); (2) travel to Japan for Thermo2025 conference (Kanazawa), collaboration with IODP colleague (Univ Toyama), and reunion with my college roommate/lifelong friend in Chiba; (3) junkets to Madison for family (saw Dave Freedman '14 who just moved to WI: good choice, Dave) and to GSA in San Antonio.

And to finish up the 2025 news: Science communication! Things lined up in a good way so I could offer events for the Colo Springs Cool Science Festival (a city-wide celebration of science that lasts >2 weeks in October). I gave a Science-on-Tap evening pub talk, along with a guided hike to Seven Falls. Broadmoor Resort, owner of Seven Falls, wonderfully provided free admission for the group (half of which was kids). The only stipulation was that our hike had to begin at 7:30 a.m. On that day, freezing-cold air filled the canyon! … but everyone stayed in good spirits. Earlier in the year, the Broadmoor also allowed filming in S Cheyenne Canyon by a documentary team that I worked with. The blended team came from Roller Coaster Road TV, Bolder Brighter Studios, and Leo Films-Canada : a heroic, committed, all-out group of filmmakers who charged into dense oak on the steep canyon walls, and piloted drones loaded with costly video equipment right up to the cusp of a lightning storm. Here's hoping that the documentary reaches its intended destination! It's for a PBS series, Transparent Earth, coming out sometime in 2026.

Really great seeing many of you at Homecoming and for the Myrow Celebration. Stay in touch, and see you again soon!

Michelle Gevedon

Petrology and High Temp Geochemistry

As 2025 ends I find myself reflecting on a year that was both deeply challenging and quietly meaningful; this year required patience, resilience, and care, but despite its difficulties, offered many moments of connection and gratitude.

Early in the year, my family unexpectedly said goodbye to our beloved dog, Stella. She had been part of our family for nine wonderful years and lived a full thirteen. Losing her was as heartbreaking as it was sudden and set a tender tone for much of what followed. In the months since, we have been learning how to carry that loss while making space for new joy, including welcoming a very sweet and gentle new puppy, Gibbs (yes, named for Free Energy), a Labrador–Great Pyrenees mix who has quickly found his way into our hearts.

Spring and summer brought small but memorable moments of wonder: discovering a robin's nest on our back deck (twice!), watching the eggs hatch successfully, and planting a new tree in our yard, a quiet but hopeful marker of growth. We enjoyed a rainy but triumphant Dodgers–Rockies game win, a wonderful Old Crow Medicine Show concert in Pueblo, and saw one of our favorite bands from our former Texan life, Uncle Lucius, perform at the beautifully strange Meow Wolf space in Denver.

August took me back to Austin for lab work with students (specifically, *in situ* U-Pb dating of rodingite minerals, part of an NSF-funded project that has been fun yet surprisingly challenging) where we also watched the Congress Avenue Bridge bats emerge at dusk, caught a Round Rock Express game, and, as always, appreciated the city's incredible food.

September offered a restorative visit to the hot springs in Glenwood Springs, and Fall brought a thrilling Dodgers World Series victory and the celebration of our dog Jasper's 15th birthday, an unexpected milestone we are especially grateful for. October found students Jake Hams '26 and Charlie Hite '25 presenting their preliminary geochemistry and geochronology results on Aotearoa New Zealand rodingites at the Annual GSA meeting in San Antonio (they crushed it!). October and November brought students to visit the new (and very fancy!) electron microprobe lab at CSU Fort Collins for more rodingite investigation, and to the Arizona LaserChron Center for U-Pb and Hf isotope investigation of ~1.7 billion year old rock from New Mexico.

This year also brought new creative exploration. I re-took up making pottery, which proved to be simultaneously fun, frustrating, and unexpectedly complementary to my work in geology. That work grew into a new interdisciplinary course, GY250: Earth, Fire, and Form, The Geology of Ceramics, in collaboration with the Bemis Fine Arts Center, where students used pottery as analogs and launching points to discuss geologic principles while practicing the craft and earning Creative Process general education credit. Watching their growth across scientific and artistic boundaries was one of the most fulfilling parts of my year.

As the year closed, we were fortunate to spend the holidays with family, a fitting and comforting way to end a demanding but meaningful year. I am deeply grateful to the CC community for their support, encouragement, and shared commitment to our work. Even in difficult seasons, the people around us make all the difference. Here's to carrying forward the lessons of 2025 with care, curiosity, and hope.

Henry Fricke

Geochemistry and Soil Science

see Letter from the Chair

Aaron Chesler

Visiting Professor of Glaciology/Natural Hazards

Hi! My name is Aaron Chesler, and I am a Visiting Assistant Professor split between the Geology and Environmental Studies and Science Department for this academic year. While I am new to the Geology Department, I have been in the Environmental Studies and Science Department since Fall 2023. This year I am teaching Introduction to Global Climate Change, an Independent Research Project, Energy: Environmental Thermodynamics and Energetics, a new course on Alaskan Glacier Change, and Introduction to Geology. When I am not teaching, I am working on job applications, wrapping up prior research on the South Pole Ice Core and starting new work on modern changes in Alaskan glaciers, supporting the Juneau Icefield Research Program as a member of the Academic Council, and thinking about spending some time in the mountains!

My teaching and research focus on the interactions in earth, ocean, atmospheric, and polar systems. I broadly label myself as an Earth Scientist with specific research components intersecting geology, cryosphere, oceanography, and atmospheric sciences. I use geochemical (trace element, ion, and isotope geochemistry) and microparticle methods to support my analyses along with atmospheric models, climate reanalysis, and Python data analyses. My work on the South Pole that I am working on publishing focuses on Southern Hemisphere Westerly Wind Variability and ocean-atmosphere interactions over the past 54,000 years. More recently, I have also been working on developing new research in Alaska focusing on more modern climate dynamics. While I have always been excited about glaciers, I do have a background in geology, with an M.Sc. degree in Volcanology and Geologic Hazards, as well as earning my B.S. in Geology at St. Lawrence University.

This past year has been quite busy; I have a paper in-review in EGU's Climate of the Past focusing on Southern Hemisphere Westerly Wind dynamics during the Holocene using the South Pole Ice Core dust record. The pre-print of the paper is available online, and our results suggest that the winds have been increasing over the past 11,000 years which can drive ocean upwelling and CO2 outgassing into the atmosphere! This past summer I spent 7 weeks in Alaska teaching and completing research on two different undergraduate research programs; 1) the Juneau Icefield Research Program (JIRP) and 2) the Wrangell Mountain Field Studies Program. I am a senior faculty member on JIRP and have been involved with the program since 2011. The past three summers I have been involved as teaching faculty and during the past two summers I have been Academic Lead during Orientation and Block 1 of the program. After spending two weeks on JIRP, I flew up to Anchorage and then made my way to McCarthy, AK where I spent the next five weeks as faculty with WMFS. This was my first time with the program, and I loved it. I was able to collect supraglacial and periglacial water samples for water isotope analysis that I'll be presenting this year at the American Geophysical Union Conference (December 2025) in New Orleans. If you are there, please stop by!

Snowpack sampling on the Lemon Creek Glacier, Juneau Icefield (Summer 2024). Both students in the photo were CC students at the time (the one on the rope was my senior thesis student [class of '25] and the one managing the rope is a current CC student [class of '26])! I had the easy job of opening sampling bags and labelling them in the snow pit.

Sampling a supraglacial lake with two students (left) and myself (right) on the Root Glacier.

Max Huffman

Visiting Professor of Geomorphology

Hi Everyone,

I'll use this as a chance to introduce myself. I'm Max Huffman, a fluvial geomorphologist and visiting professor here in the department. I'm joining CC after finishing my Ph.D. at the University of Delaware, where I worked on developing numerical models to track and quantify the impacts of past, present, and future land use changes, anthropogenic activity, and river restoration practices on watershed form and function, particularly their capacity to transport sediment and associated contaminants.

I kicked things off co-teaching Earth as a Physical System with Christine! It was a beautiful blend of structural and surficial geology, packed with fieldwork, including some spectacular camping in Canon City. Most of the students then tagged along with me in the following block in Landscape Processes and Evolution, where we kept the fieldwork going. We ventured near and far, including some dendrochronology in Cheyenne Canyon, stream surveying in 11-Mile Canyon and some treacherous hiking through Great Sand Dunes NP as part of a three-day trip at the Baca Campus. I then said goodbye to these familiar faces and dived into Environmental Geology with a class full of (mostly first-year) students. While the unseasonably warm and dry weather made it possible to get the Environmental Geology students to more outcrops in Block 4 than I had expected, I'm personally hoping for a more classic Colorado winter and some better skiing conditions for us all in the coming Blocks!

I'm kicking off the spring semester with something new for the department, a methods course on geostatistics, and I'm excited to see it come to life.

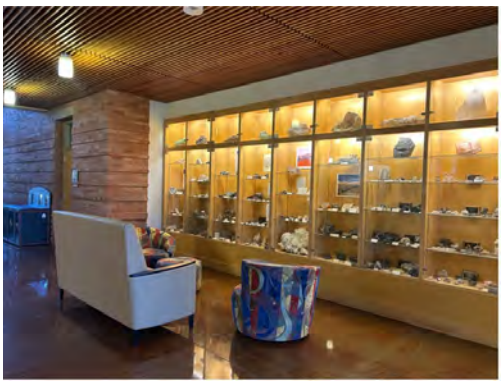
Students in GY320 surveying the South Platte River in Eleven Mile Canyon

Elizabeth Erickson

Technical Director

Hello! Eventually these PCB's may feel less novel, but as I near the end of my third year in the department, I often still feel new.

Facility changes and departmental upgrades continue the long march forward. Through the generosity of alumni and donors, we will soon have a fully revamped array of all research and teaching petrographic and stereo microscopes. These will better serve the needs of faculty research as well as expose students to the modern microscopy technologies most used in industry and academia today. Along with microscopes, we have been renewing the thin section teaching suites, to ensure students continue to receive the best education at Colorado College. Additional changes are underway with the addition of Dr. Anne Fetrow to the department's faculty. With her focus on terrestrial and carbonate sedimentology, stable isotope geochemistry, and paleoclimatology, there is a lot of opportunity for exciting developments in the department instrumentation and equipment. Please help extend a big welcome to Anne!



While my passion for organization and efficiency has gotten to flourish these past couple years, I look forward to things settling in so I can get into more involved on deeper projects, such as method development, to further expand the capacity of our existing instrumentation. A recent change is the development of a departmental safety program and training system.

Going forward, I will be systematically creating in-depth Standard Operating Protocols for all instruments and equipment on a room-by-room basis. The goal is to better document existing procedures while opening the potential for more applications. In addition to better facilitating student training and access to our lab spaces for class, thesis projects, and prosaic interest opportunities. It is an exciting time!

Block 5 GY310 students use the brand new microscopes!

There are many more changes coming down the pipeline as we help Sarah, Michelle, and Anne settle into their careers at CC. We hope you'll join us for Geology Day on March 7, 2026. Come see the exciting talks and posters our students have participated in, as well as a lab space open house to see all the changes we've been making throughout Tutt Science and Palmer Hall.

Mandy Sulfrian

Academic Administrator (a.k.a the glue that holds the department together)

Here we are again, Fall in Colorado, and it's been a beautiful one. Cool nights and warm days and the leaves are beautiful!

This has been a good year; the department has lots of majors and I really enjoy getting to know them. Still, I've been counting the blocks until I retire in June of 2026. Looking forward to traveling, camping more, just messing around a lot. It will be bittersweet, but it's time.

In June 2025 we went camping with our son, daughter-in-law, and grandson in Nevada. Chris, our son, had planned out a weeklong trip where we drove on 500 miles of dirt road, following part of the Pony Express trail, and camping where we liked. We saw so many beautiful and remote places that we never had the chance to visit when we lived in NV for 22 years. It was a wonderful trip and we really enjoyed everything about it. But I do have to admit that finally getting to a hotel was a welcome sight at the end of the trip!

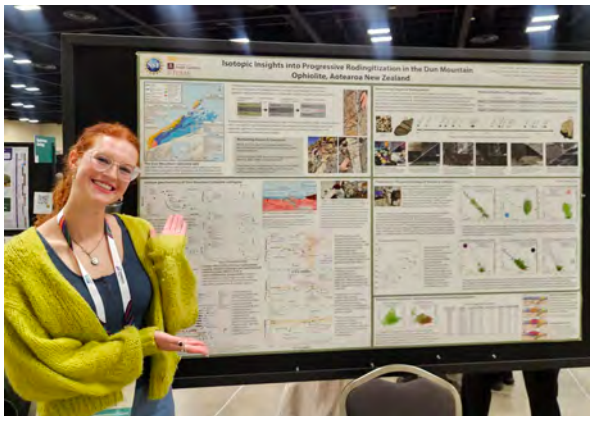
Otherwise, we're happy that CC hockey is back in full swing. We're looking forward to getting together with friends and family during the holidays and hope you have a good Fall and Winter!

—Take care and keep in touch!

Charlie Hite

Paraprof

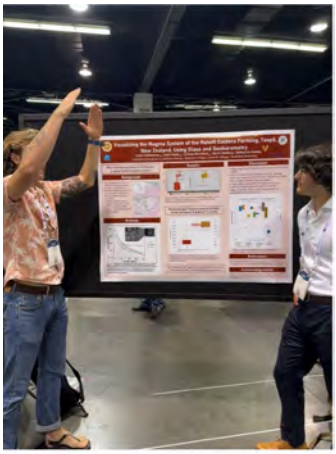
Hi PCB, I'm writing to you now as a CC geology alum and in my role as paraprof! I spent last summer as a Noblett-Witter intern at the Denver USGS working on the Geochron Database project with my supervisors Leah Morgan and Amy Gilmer. My role was to find geochronology publications focused on the critical minerals/ore exploration in the Rocky Mountain West region and then to input their calculated ages and associated sample GPS coordinates into the database. My breadth of knowledge about geoscience has been so expanded by my three summers as a Noblett-Witter intern, and I am so grateful! Another big thing in my life was that I presented at my first conference—GSA in San Antonio! I presented a poster on my senior research along with current senior Jake Hams. I also had the opportunity to present that same research in the 2nd annual GSA Spanish session as a talk! While at CC I minored in Spanish and studied abroad in Izamal, Mexico, so I'm grateful I received the opportunity to contribute to the bilingual geosciences community. As I ponder my geology career after paraproffing, I'm leaning towards working in the critical mineral exploration or geothermal energy industries. My plan is to get a master's degree in a couple of years time. In my free time, I enjoy spending time with my guinea pig (Piggy Stardust aka Bowie), flyfishing, hiking, and crafting.



Until next time,
Charlie

Lachlan McCallum
Paraprof

Hello PCB! I am Lachlan, one of the paraprofessionals this year with a newly obtained BA in Geology from CC. I had an excellent four years with the CC geology department, with plenty of excellent field trips, the ability to study abroad in New Zealand and work with volcanic plumbing systems, and completing a thesis analyzing the microstructure of a shear zone in Lamoille Canyon, Nevada. Looking forward, I am excited to announce that I have been accepted into a Master's program for Sustainable Energy Science with the Iceland School of Energy in Reykjavik, Iceland. I will be focusing on geothermal energy development and management, hoping to use this experience as a bridge into the industry.



(Left) Lachlan presenting on volcanic plumbing systems at GSA '24. (Right) Lachlan, freshly graduated, posing with thesis advisor, Tyler Grambling. (Bottom) Lachlan at Mt Ngauruhoe (Mt Doom) mapping lava flows.

Lenny Lorenz
Paraprof

Since the spring semester I have been working on my capstone project to analyze zircon collected form the Zuni Mountains in Northwestern New Mexico. In the spring I spent a lot of time crushing, milling, water tabling, and Frantz-ing samples to prep for zircon separation. Over the summer I spent the first and last few weeks of the summer doing more prep work. This fall I got to learn about heavy liquids separation to get the zircon separates for dating. I attended the fall GSA meeting where I took the University of Arizona laserchron short course before going to collect U/Pb and Lu/Hf data in mid November. I am super excited to see what my data says, and share it at Geo Day in the spring. I am also excited to join the department as a paraprof after I graduate in December 2025!

Lenny at the University of Arizona LaserChron center collecting data for her thesis

"I guess we're 'professionals' now?"

Eric Leonard

Former Geomorphology Professor

Well – in 2025 I focused more on travel than on geology, although I didn't neglect the latter entirely. Lisa and I decided that we didn't really want to be in the country or near a television on January 20 (you can probably figure out why) so we travelled to Costa Rica and spent that particular day offshore snorkeling – and another week or so enjoying the warm days, the cloud forest, great coffee, etc. Then in the late spring I went on a bicycle tour in northeastern Italy – down from the Alps to the Italian Lakes region – overall downhill made it easier. Following the bike tour, I spent a few days in Padua and Venice and then headed up to the Dolomites for some hiking. In the early fall Lisa and I spent several weeks in Spain – mainly staying in a friend's small house, in a tiny village in Asturias – situated right between the Bay of Biscay coast and the Picos de Europa. We had a wonderful time, relaxing, walking, being tourists, speaking our very broken Spanish and eating great food. We also took a variety of domestic trips – Boston, Utah, northern California, Kansas. Next up is an alumni trip I will be leading in New Zealand in February 2026 – emphasis on geology, hiking and wine. As of my writing this (in late November) there are still a few spaces available for that trip if any of you want to go.

My "not-complete neglect" of geology over the last year or so involved talks dealing with glaciation and paleoclimate (and even New World archaeology and Precambrian geology!) that I gave to local groups, as well as a bit of ongoing modeling and continued writing related to our developing understanding of the last glaciation and deglaciation in the Rockies.
And who can believe that my young colleague Paul Myrow has now retired? Sigh.

Paul Myrow

Former Sedimentology/Stratigraphy Professor

Paul's very first year teaching at CC (found in my dad John Hite's 1988 yearbook!)

Well, it finally happened... retirement! I taught my last class, Historical Geology, in Block 8, and it was great fun. I then moved into a new house, built a garage with a friend, and have been tying up endless loose ends. So, I am not really sure what my retirement will actually look like yet. However, it is off to a nice start, and I am busy as hell and enjoying it so far!

I would like to thank everyone who attended my retirement event, and all those who could not make it but sent well wishes my way. It was very gratifying to see so many of my students and colleagues and share a fantastic weekend of talks, roasts, and a bit of field work. I love all of you and feel deeply honored by the flood of emotions and well-wishing I experienced.

Much of my life in the last six to eight months was taken up with the various transitions. I filled dumpsters up with all of the obsolete papers, books, and various odds and ends that I accumulated over 38 years at CC. Fortunately, I moved to a house with a large basement into which I moved a lot of my office (rocks, maps, books). I spent four months tearing down an old garage by hand and building a large new one with a friend. Who knew that construction was so hard?

Although I am retired, I plan on continuing my research career. The highlight of my past year was the publication in GSA Bulletin of a paper about the nature of river systems prior to the colonization

of terrestrial ecosystems in the middle Paleozoic. The paper, written with Bob Gaines (Pomona) and Mike Lamb (Caltech) on the Tapeats Sandstone of central Arizona, was a chance for me to "geek out" on the details of fluvial sedimentology, which I had not done in a serious way before. These strata contain trace fossils, which we believe are the oldest record of animals on land. We hope to write a second, short format paper on the topic shortly. I am now finishing up a paper on exposures of the Fountain Formation right here in town, with a critique of Pennsylvanian climate papers written of the last twenty years that postulated a very cold equatorial climate. The paper, which has alumnus Mingxi Hu as a co-author, suggests a much less extreme climate.

I am still working with two students on their senior research projects. Oliver van Linder '26 is working on a thesis on a Cambrian deposit on Kangaroo Island, south Australia. Sadie Almgren '26 is doing a stratigraphic and geochronologic study of the Dawson Formation here in town. She is heading to Princeton to work in a lab run by CC alumnus Blair Schoene. Sadie is dating ash beds from the Dawson, which will allow us to time the uplift of the Front Range in the Colorado Springs area.

In terms of travel, I attended a conference in Turin, Italy and then went to Poland to sample rocks for Re/Os dating of the Hangenberg Extinction event in the latest Devonian. I later took a trip to northern China and gave a lecture at a meeting centered on the evolution of life on the North China platform. I was able to then head to the field further north in China with my ex-postdoc Jitao Chen for several days looking at upper Paleozoic strata.

My wife Natalia and I took off for Argentina two days after the retirement event and spent a few weeks in Buenos Aires. There, I was able to practice my Spanish and meet a language tutor that I have been working with online for the last year. I am finally starting to feel comfortable speaking the language (primitively!). That is about all…please keep in touch and best wishes for the new year!

Paul's very stylish hat reads, "Career-Achievement Smooth-Move Award 1987-2025"

CC emeritus professor Eric Leonard recounts his years working alongside Paul

Geology Day Presentations

April 5th, 2025

Talks

Nathaniel Cutler '25 "A Framework for In-Stream Large Wood in Snow Avalanche-Prone Environments."

Anders Pohlmann '25 "Stable Isotope Geochemistry and Petrography of the Rocky Range Mining District, Milford, Utah"

Jesus Lara-Rivas '25 "Exploring the metasomatic process of Rodingitization"

David Mims '25 "Investigating Rodingites with Strontium and Oxygen Isotope Geochemistry to better understand the history of the Dun Mountain Ophiolite"

Charlie Hite '25 "Stable calcium isotopes as a fundamental tracer for rodingitization processes in the Dun Mountain Ophiolite, South Island, New Zealand"

Lachlan McCallum '25 "If They Don't Want Me To Dance, They Shouldn't Let Me in the Shear Zone"

Ilene Kruger '25 "Frictional Properties of Simulated Fault Gouge from the Ramapo Seismic Zone, NY/NJ"

Annie Breyak '25 "A Carbon Isotope-Based Investigation of Mammalian Paleoecology Across the Cretaceous/Paleogene Boundary in the Denver Basin, CO, U.S.A."

Mackenzie Boyd '25 "Investigating the Diet of Hadrosaurian Dinosaurs from the Kaiparowits Formation Using Carbon Isotope Geochemistry"

Lucy Rogers '25 "U-Pb Geochronology of the Varied Lithologies within the Cow Creek Pendant, Southern Sierra Nevada's, California"

Posters

Maya Mossanen '25 "Sediment pulses and river evolu tion in an Alaskan proglacial river system"

Sadie Almgren '26 **& Jake Hams** '26 "Defining the Extent of Te-ahi-a-Tamatea/Rāpaki Dike through Field, Geochemical and Mineral Fabric Analysis"

Avery Ordner '26 "Colorado's Jurassic Savannah: Using Paleo-Ecological Niche Modeling to Visualize Relationships Between Environments and Sauropod Dinosaurs"

Anders Pohlmann '25 "Hematite REE and Quartz surface textures of Tava Sandstone and REE comparison to Cryogenian Banded Iron Formations"

Charlie Hite '25 "Quartz grain and REE analysis of Tava sandstone injectites in support of midcontinent glaciation during Snowball Earth"

Lenny Lorenz '25 "Understanding the Matrix: What can we learn from Rare Earth Elements in the Sandstone Cement"

Departmental Awards

Annual student awards

Rocky Mountain Association of Geologists Award:
Annie Breyak '25

Association of Women Geoscientists:
Ilene Kruger '25

Estwing Outstanding Senior Geologist:
Charlie Hite '25

William A. Fischer Special Recognition:
Nathaniel Cutler '25

RMAG McKenna Scholarship:
Sadie Almgren '26
Harold Oppenheim '26

Gould Scholarship:
Jake Hams '26
Lev Sugerman-Brozan '26
Elizabeth Spradlin '27

Putman Scholarship:
Mackenzie Boyd ‘25
Charlie Hite ‘25
Elizabeth Spradlin ‘27

Charles Rhoads:
Jesus Lara Rivas ‘25
Lenny Lorenz ‘25
David Mims ‘25
Avery Ordner ‘26
Jake Hams ‘26

Wold Family Fund:
Mackenzie Boyd ‘25
Charlie Hite ‘25

Talks

Student lunch talks and visiting lecturer series

Spring 2025

Block 6 - “Rockin’ Around the Southern Latitudes: Geology in Patagonia” presented by students Willow Craighead ‘26, Emma Zucotti ‘26, and Emmaline Derry ‘26

Fall 2025

Block 1 - Willow Craighead ‘26, “Thanksgiving in the Wet Mountains: a Knickpoint feast”

Lev Sugerman-Brozan ’26 “Cobbling Together a Thesis: Stream Capture and Landscape Transience in the Wet Mountains, CO”

Block 3 - Chris Gale ’01, Applied Natural Sciences, presented “From Study to Site: Insights into a Career In Environmental Consulting”

Block 4 - Naomi Joyce Rodgers, Visiting Professor at Occidental College, presented “On the Hunt for Cryptic Thrusts”

Spring 2026

Block 5 - Karen Chin, Professor of Geology and Curator of Paleontology at CU Boulder, presented “An Arctic marine ecosystem in the greenhouse world of the Cretaceous”

Block 5 - Toby Fried ‘26, “Summer Field Work and RKMF Expedition in Alaska!”

Faculty Publications

From 2024-2025
**indicates a CC geology student or alum*

Christine Siddoway

Courtney-Davies, L., Flowers, R.M., **Siddoway, C.**, Tasistro-Hart, A., and Macdonald, F., (2024), Hematite U-Pb Dating of Snowball Earth Meltwater Events, Proceedings of the National Academy of Sciences, 121 (47) e2410759121, https://doi.org/10.1073/pnas.241075912.

Fonseca Teixeira, Ludmila Maria, Laurent, O., Troch, J., **Siddoway, C.**, Tavazzani, L., Deering, C., and Bachmann, L., (2024), Tracking quartz and zircon provenance in sedimentary rocks using Ti distributions: Unlocking the volcanic-plutonic connection in old igneous systems, Earth & Planetary Science Letters, v. 643, https://doi.org/10.1016/j.epsl.2024.118906.

Siddoway, C.; Tankersley, M.; Tinto, K. and Bell, R.E., 2025, Characteristics of Thinned Crust and Magnitude of Lithospheric Extension in the West Antarctic Rift System. Geological Society of America (GSA) abstracts with Programs, v. 57 (3).

Siddoway, C.; Courtney-Davies, L., Flowers, R., Oppenheim, H*., Hite*, C., Lorenz, L*. and Pohlmann, A*., (2025), Investigation of a Cryogenian Subglacial Environment using Quartz Micromorphology and Rare Earth Element Signatures of Tava Sandstone Injectites and Sand Ridges. Geological Society of America (GSA) abstracts with Programs, v. 57 (3).

Anne Fetrow

Fetrow, A. C., Levin, N. E., Passey, B. H., Zimmerman, S. R.H., Gronewold, A. Connecting Paleo to Present Evaporation Estimates using Mono Lake Water and Carbonate Triple Oxygen Isotopes and an Isotope Evaporation Model. Abstract PP42B-06 presented at (2024) Fall Meeting, AGU, Washington DC, 8-13 Dec.

Sarah Schanz

Sarah A Schanz, Melissa A Burt, Sandra Clinton, Mica Estrada, Milena Guajardo, Paul R Hernandez, Linlin Luo, Natalia Maldonado, Meg Patterson, Ilana B Pollack, Qiyue Zhang and Emily V Fischer. (2025). "PROGRESS: A transferable mentoring program for undergraduate earth science programs." American Geophysical Union Abstracts with Programs.

Sarah A Schanz, Annie Breyak*, Ya-Shien Lin, and Brian J Yanites. (2025). "Climate controls timing of meander cutoffs and bedrock terrace formation." American Geophysical Union Abstracts with Programs.

Paul Myrow (Emeritus)

Myrow, P.M., Gaines, R.R. and Lamb, M.P., 2025. Low sinuosity meandering rivers before vascular plants: Cambrian Tapeats Formation, Arizona, USA. Geological Society of America Bulletin.

Opitek, K., Zaton, M., *Hu, M., Schiffbauer, J.D., Selly, T., **Myrow, P.**, 2025, Morphology and mode of life of a peculiar Devonian microconchid tubeworm Aculeiconchus from Wyoming, USA: Lethaia, p. 1–13, https://doi.org/10.18261/let.57.4.8

Betts, M.J., Claybourn, T.M., Holmer, L.E., Skovsted, C.B., **Myrow, P.M.**, Stemmerik, L., Topper, T.P., Park, T.Y.S., Hughes, N.C., Crowley, J.L., and Jagodzinski, E.A., 2024, First multi-proxy chronostratigraphy of the lower Cambrian Byrd Group, Transantarctic Mountains and correlation within East Gondwana: Gondwana Research, v. 136, p. 126-141.

Hughes, N.C., Kolenko, R., **Myrow, P.M.**, and Houck, K., 2024, Carboniferous trilobites from Colorado: systematics, morphology, and enrolment: Irish Journal of Earth Sciences, v. 24, p. 277-298.

Rivas, A., **Myrow, P.M.**, Smith, E.F., Nelson, L.L, Briggs, D.E.G., and Tarhan, L.G., 2024, Morphology and preservation of Gaojiashania, an enigmatic tubular fossil from the upper Ediacaran Dunfee Member, Deep Spring Formation, Nevada, USA: Palaios, v. 39, p. 444–461.

Schoenneman, B., Hughes, N.C., and **Myrow, P.M.,** 2024, Eye structure and function in Ameura (Trilobita, later Carboniferous), from Bond Colorado: Irish Journal of Earth Sciences, v. 42, p. 299-307.

Gaines, R.R., García-Bellido, D.C., Jago, J.B., **Myrow, P.M.**, and Paterson, J.R., 2024, Emu Bay Shale: a unique early Cambrian Lagerstätte from a tectonically active basin: Science Advances, 10, eadp2650.

*Hu, M., **Myrow, P.M.**, Fike, D.A., Di Pasquo, Zaton, M., Fischer, W.W., and Coates, M., 2024, Depositional History of Devonian to Lower Mississippian Strata, northern Wyoming and southern Montana: Geological Society of America Bulletin, v. 136, p. 3311-3334.

Myrow, P.M., Goodge, J.W., Brock, G.A., Betts, M.J., Park, T.-Y.S., Hughes, N.C., and Gaines, R.R., 2024, A tectonic trigger to the first major extinction of the Phanerozoic: The early Cambrian Sinsk Event: Science Advances, v. 10, p.eadl3452.

Noblett-Witter Family Fund Student Internships

Summer 2025

Student	Host Organization
Mackenzie Boyd '25	American Museum of Natural History
Rodney Johnson '28	Denver Museum of Nature & Science
Max Krueger '28	Denver Museum of Nature & Science
Emma Zuccotti '26	Florissant Fossil Beds
Jesus Lara Rivas '25	INSTAAR
Elizabeth Spradlin '27	Concrete Couch
Charlie Hite '25	USGS Denver
Makena Hatch '26	Drummond Carpenter

GSA 2025 in San Antonio, TX

October 19-22

The CC geology department had great representation at this year's GSA conference! Current students, alumni, and faculty presented! We enjoyed exploring the riverwalk, running into former CC geo alumni, and getting lots of free stuff in the exhibit hall.

Posters

Corra Lewis '27: "High-Resolution Evidence for Early Holocene Climate Variability in Mud Pond, NY"

Lev Sugerman-Brozan '26: "Investigating Volcanically Forced Shifts in North Pacific Climate in Model Simulations and Alaska Tree Ring Records"

Jake Hams '26 and Charlie Hite '25: "Isotopic Insights into Progressive Rodingitization in the Dun Mountain Ophiolite, Aotearoa New Zealand"

MacKenzie Boyd '25: "Investigating the Diet of Hadrosaurian Dinosaurs from the Kaiparowits Formation Using Carbon Isotope Geochemistry"

Talks

Charlie Hite '25: "Investigaciónes Isotópicas Sobre la Rodingitización Progresiva en la Ofiolita de Dun Mountain, Aotearoa, Nueva Zelanda"

Professor Henry Fricke: "The Whole Tooth and Nothing but the Tooth: How Isotopic Data from Multiple Tooth Components Can Be Used to Study Both Animal Biology & Behavior (Enamel) and Soil Hydrology (Dentine)"

Professor Christine Siddoway: "Investigation of a Cryogenian Subglacial Environment using Quartz Micromorphology and Rare Earth Element Signatures of Tava Sand Injectites and Ridges, Colorado Front Range"

A selfie on the riverwalk. In the back row from left to right, Jake Hams '26, Lenny Lorenz '25 (winter), and former CC visiting professor Tyler Grambling. Front row from left to right MacKenzie Boyd '25, Charlie Hite '25, and Lev Sugerman-Brozan '26 attend GSA 2025 in San Antonio.

AGU 2025 in New Orleans, LA

December 15-19

Posters

Professor Aaron Chesler: "Spatial variations in fluvial and glacial watershed $\delta^{18}O$ in Alaska and Canada"

Professor Sarah Schanz: (second author recent alum Annie Breyak '25): "Climate controls timing of meander cutoffs and bedrock terrace formation"

and

"A transferable mentoring program for undergraduate earth science programs"

Paul Myrow Symposium

Celebrating a 38-year career with the Colorado College Geology Department
Saturday November 8th, 2025

SATURDAY SYMPOSIUM SCHEDULE:

8:45 **John Grotzinger**, Harold Brown Professor of Geology, California Institute of Technology "Sedimentologic Revolution on Mars: Two Decades of Discovery"
9:15 **Jitao Chen**, Professor of Sedimentary, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences "From Facies Analysis to Global Changes"
9:45 **John Goodge**, Professor Emeritus, University of Minnesota "On firm ice — the Myrow effect in Antarctica"
10:30 **Bob Gaines,** Edwin F. and Martha Hahn Professor of Geology; Chair of Geology, Pomona College "Adventures in the Cambrian with Professor Paul Myrow"
11:00 **Mike Lamb**, Professor of Geology, California Institute of Technology "A Ripple in Time: Reconstructing Ancient Shallow-Water Environments"
11:30 **Nigel Hughes**, Professor, University of California, Riverside "Developing insights into the controls of growth within an ancient arthropod, the Silurian trilobite Aulacopleura koninckii (Barrande, 1846): An adventure in paleo-evo-devo"

LUNCH

1:00 **Katie Snell '02**, Associate Professor, University of Colorado Boulder "Hot and high times in the Western US: perspectives from terrestrial carbonates"
1:30 **Justin Strauss '06**, Associate Professor, Dartmouth University "On the Ediacaran–Cambrian transition in northwestern Canada"
2:00 **Michael Hasson '19**, Ph.D. Student, Stanford University "Modern analogs and the (unlikely) paucity of pre-vegetation meandering rivers"
2:45 **Lauren Birgenheier '02**, Associate Professor, University of Utah "Critical minerals in coal & rocks along the way"
3:15: **Tianran Zhang '18**, Postdoc, UC Berkeley "New insights into the end-Ediacaran Reed Dolomite of the White-Inyo region, eastern California and western Nevada"
3:45 **Woody Fischer '00**, Jean-Lou Chameau Professor of Geobiology, California Institute of Technology "Earth's early carbon cycle"
4:15 Closing remarks
6-10 Dinner and "Roast"

SUNDAY SCHEDULE:

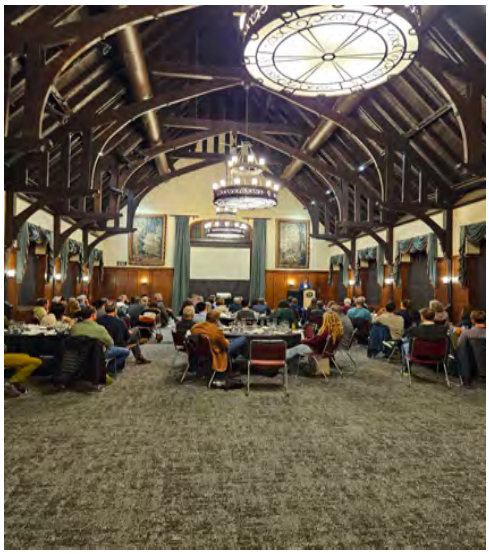
8-noon Local field trip led by Paul and his thesis student Sadie Almgren '26 to Pulpit Rock, Colorado Springs, CO

After 38 years teaching geology at Colorado College, Paul Myrow celebrated his retirement surrounded by family, friends, colleagues, and his many former advisees. After a day of fabulous talks mixing geologic discovery with the occasional Paul anecdote, everyone gathered in Bemis Great Hall for dinner and speeches. It was immediately clear to anyone who stepped into that room just how much Paul is appreciated and the impact he has made. The air was filled with laughter and a sense of deep respect and gratitude. Every speaker from recent alumni to colleagues of many decades remarked on Paul's incredible ability to engage students with passionate, engaging lectures and incredible fieldtrips. We laughed, reminisced, and shed a few bitter-sweet tears throughout the evening.

Paul and Sadie Almgren '26 lead a trip to Pulpit Rock

Justin Strauss '06 presents at the symposium talk session

Paul gives the final speech at his dinner reception



Paul's dinner and "roast" in Bemis Great Hall. What a gorgeous venue!

Beth McMillan '91 gives a speech. Beth was Paul's very first advisee!

Congratulations, and thank you Paul!

Alumni Spotlight - Katie Snell '02

Hello CC Geo community! Thanks for the opportunity to share with you; having transitioned a few years ago into being a tenured professor at CU Boulder, it is an interesting time to think about how I ended up here and reflect on CC Geo's major role in my career.

I don't remember consciously deciding to be a scientist, and certainly not a geologist. For one thing, growing up, I didn't know any scientists who actually did "science" as a career. But I LOVED going on trips to the Science Museum of Minnesota, and had a shelf in my room full of pretty little rocks I'd collected on family trips. So, I suppose the signs were there, but I was definitely not aware of it at the time.

I CAN remember that by the time I applied to college, I was interested in "the environment" and thought vaguely about pursuing environmental science. I'm not sure, though, that I had any idea what that actually meant. When I showed up at CC in the fall of 1998, I was lucky enough to be assigned Eric Leonard as my faculty advisor, having initially listed Environmental Science as a potential major. That particular idea didn't last long, however. Freshman year, after a math class, I thought I'd be a math major; after an astronomy class, I thought I'd be a physics major. In my sophomore year, I took Physical Geology with Eric (because everyone says you have to take at least one Geology class at CC!), and then I thought, well, maybe I'll study Geophysics, and by the time I took Historical Geology with Paul at the end of that year, I'd declared Geology. But, because I didn't have a clue what to do with that as a career, I thought I'd ALSO be pre-med. This led to a completely ridiculous Junior year, in which I was slated to take all 8 blocks as lab classes: Geomorph, Sed/Strat, Chem 107, Mineralogy, Petrology, Chem 108, Structure, and Cell Biology (in that order), so that I could complete the major and my degree on time. This is just one example of the block plan saving my ass: nowhere else could a person take pre-reqs for another class in the same semester and actually have that class be useful! I made it through Structural Geology with Christine, and at that point was completely hooked on Geology, and totally burned out. I dropped pre-med, dropped cell biology and finished out the year taking Broadway Music pass-fail.

If there is a theme in this experience, it is that I had a very hard time deciding between subjects. For me, choosing Geology itself was a kind of non-decision: I realized at some point (like many before me) that Geology is the ultimate applied science, and that I could use all the bits of math, physics, chemistry, and biology that I'd enjoyed and apply them in a single major. My pathway into and through my academic career has been much the same: more of a process of ruling out some things I really didn't want to do (like picking forams), and leaving the rest open to explore, rather than narrowing down to a very specific topic.

Katie (second from the right), Paul (fourth from the right), and the entire science crew conducting fieldwork in Northern India in 2001

Alumni Spotlight - Katie Snell '02 Cont.

My experience in CC Geology opened the door to many truly fantastic experiences that I feel incredibly fortunate to have had. My undergrad honors thesis with Paul took me to remote northern India where I learned about features like Hummocky Cross Stratification; HCS remains my favorite sedimentary structure of all time, even though I have few occasions these days to run across it in the field. While I worked on my sedimentology-focused thesis senior year, I got to take classes with Henry, who was then the brand new CC faculty member. This opened my eyes to the power of stable isotope geochemistry in tackling many paleoenvironmental questions, and I realized the combination of these topics was particularly potent together. This launched what is now my primary research field and yet one more "non-decision" decision keeping these two pieces of my interests in action.

While in grad school, CC Geo handed me another valuable opportunity when Paul asked if I'd be interested in teaching his Sed/Strat class. That block cemented for me the joy of teaching, and gave me the confidence that I could be successful as an educator in addition to a researcher. This experience also showed me the perspective of CC Geo from the faculty, and gave me a newfound appreciation for the dedication and hard work it takes to teach on the block plan. By noon of Friday at the end of the first full week of 3-hour lectures, with afternoon labs and field trips, I put my head down on Paul's desk and fell asleep. It was a lot harder teaching sed/strat than it had been to take it! But thanks to CC paraprof extraordinaire that block, Zion Klos, and a great crew of CC undergrads, it was an amazing and deeply enriching experience.

Katie and her family in Germany last year.

The ability to put together quantitative estimates of ancient temperatures and other geochemical datasets with detailed field-grounded sedimentological data has resulted in interesting research results and collaborations, none of which would have been possible without the unique geological education that CC provides. So, thanks to the years of support and encouragement from many members of the CC Geo community! These days, my research group and I are busy trying to fund the next sets of deeper time terrestrial paleoclimate projects that should get me into the field and keep the stable isotope lab busy. Outside of work, I greatly enjoy being back in Colorado at CU Boulder, where my husband and I keep ourselves out of trouble chasing after our two energetic elementary school-aged kids. Next time you're in Boulder, come say hi! I'm always up for a coffee or science chat. Just don't ask me to make any hard decisions…

Katie's 2002 major's photo

Alumni Spotlight - Adair Stevenson '02

Hey fellow CC Geology Alumni/Students/Faculty,

My name is Adair Stevenson. I graduated in 2002. I worked at Mountain Chalet through college and a little after. I was also a para professional, worked as chef for Christine's Field camp and Worked on a USGS map of the Manitou area with Christine. After that I started working as a soil's technician for a local engineering firm CTL Thompson in C. Springs doing soil testing for construction sites. I started with compaction testing soil for residential and commercial projects to make sure the buildings were built on a solid foundation. Then I started drilling to make sure the site they wanted to build on was suitable for building in the first place. After a while I moved back to South Carolina to be closer to my family (still miss CO tons).

When I got back to SC, I started working at another Geotechnical engineering firm called S&ME as an Associate Project Manager. In 2009 our company became the lead geotechnical testing firm on an AP1000 Nuclear Reactor project at VC Summer Nuclear Station. After a few years they hired me directly to be one of the head geotechnical field engineers. We were responsible for mapping the saprolite and bedrock for the two reactor foundations to make sure there were no active faults. Cause an active fault line under a Nuclear reactor is kid of a bag thing lol. To get to the solid bedrock we had to blast twice a day. So, for a year I would watch the blasters set their explosives and then they would let me pull the trigger and yell "Fire in the hole" over the radio and watch the explosion at least once a day. It never got old.

Nuclear work is no joke though, and there is so much red tape and common sense doesn't exist so I left and went back to two other geotechnical engineering firms., as a Project Manager. About 6 years ago I landed back at my original Company S&ME. I am now the Constructions Services Team Leader/Project Manager, Project Geologist, and I oversee a team of 12 technicians who perform engineering inspection tasks for the project owner to make sure they are getting a quality project and that their buildings and foundations are structurally sound. I have worked on nuclear projects, schools, dams, industrial facilities, banks, golf courses, parks, bridges, retail, restaurants etc. If you can build it, I've worked on it. Our current massive project is a 1,600-acre site that will be the future home of the New Scout Motors Electric (EV) manufacturing facility. Volkswagen bought the Scout Vehicle concept (It looks like a bronco they stopped making them in the 80's I think) and wants to start making EV versions by next year. I am a member of the National Association of Women in Construction. I have my Professional Geologist License in SC and NC. I have certifications from The American Concrete Institute, The International Building Code in Concrete, Soils, Fireproofing and Masonry, Asphalt concrete and soils certifications from the SC Department of transportation, Erosion Control and various others. I am also the radiation Safety Officer. We use Nuclear Density gauges for testing.

I currently live in Blythewood South Carolina with my 4 rescue dogs.
Two Pyrenees mixes, a full-blooded Great Pyrenees and a crazy Husky. Since the geology in SC is not quite as cool and exposed as CO, I've become even more obsessed with Shark tooth and fossil hunting and go every chance I get.

Adair's 2002 major's photo

Lev Sugerman-Brozan '26

This summer I conducted independent research with Dr. Schanz, focusing on mapping, quantifying, and dating drainage divide migration and stream capture events at the crest of the Wet Mountains, Colorado. We identified captured drainages using remote sensing techniques in ArcGIS Pro and TopoToolbox softwares. We then completed fieldwork to identify and map geomorphic structures and take samples for optically stimulated luminescence (OSL) dating. Stay tuned for our dates in January! We then used a numerical model in LandLab to project this transient landscape forward in time to quantify the rate of drainage divide migration and visualize this landscape in equilibrium. This was an incredibly interesting and fulfilling project and I can't wait to continue research in this area!

I also participated in the Keck Geology Consortium's Advanced Research Fellowship this summer, focused on using dendrochronology to infer recent climatic histories in southeast Alaska. We traveled to Juneau and Angoon, Alaska to collect new cores and update older series, and then prepped and processed our samples at the College of Wooster's Tree Ring Lab.

My individual project for this fellowship, advised by Dr. Allison Lawman, was a proxy-model comparison between mountain hemlock tree temperature reconstructions and the Community Earth System Model Last Millennium Ensemble (CESM-LME) to quantify prolonged post-volcanic cooling signals in North Pacific climate; I presented this work at GSA in San Antonio. It's been a great year of research!

Best,
Lev

Makena Hatch ‘26

Hi PCB! My name is Makena Hatch and I am hugely lucky to have received the continued supported of the Noblett-Witter Internship Program this past summer. I am a fourth-year student studying Geology with additional coursework in Environmental Science. My specific interests include leveraging mathematical frameworks to model Earth systems. My 10-week long internship with Drummond Carpenter this past summer solidified my interest in environmental consulting as a future career path. Drummond Carpenter is a leading environmental and water resources engineering consulting firm. Under Dr. Bud Davis, I contributed to environmental modeling, data analysis, and reporting efforts, while gaining hands-on experience in the field of environmental consulting. I engaged with sustainable solutions in environmental engineering, created renderings to be used for scientific communication with clients, and supported the development of an open-source, Python-based workflow to monitor invasive species across the Tampa Bay region.

The largest project I worked on while interning at Drummond Carpenter was scripting the Invasive Species Dashboard for the Tampa Bay Estuary Program. The Tampa Bay Invasive Species Dashboard offers a comprehensive view of invasive species distributions alongside ecological indicators throughout the Tampa Bay region. By integrating spatial and temporal data with ecological metrics such as the Florida Landscape Assessment Model (FLAM), this dashboard supports informed regional management and conservation efforts.

A poem by Walker Thompson ‘26

“From a Grant Proposal”

Overview:
of late summer streams
of past suggestions.
they exist in that ice
in rock tries
to measure the non-years.

take termini as melt-derived place,
take elevation as pose

Cascade space and cirque
morph heavens time

insight into present
in stories,
non-inference in melt

Intellectual merit:
water in
perennial source
hydrology in patterns between
ice and streams.

As change,
occupy drama.
In addition, recede

they are in time
between insight and impact

recent ecologies of future.

References:
logic,
of Total Environment
influences transition:

Glacier in dimensions
source waters of Process
in Long-term
logic

A CC Geo Reunion in Anchorage, Alaska

Ben Gross ('02) hosted a gathering of what we believe is the largest concentration of CC geo majors per square mile outside of Palmer Hall. We all live in Anchorage, AK but 7 out of the 8 in the attached photo live within a few blocks of each other in the same small neighborhood (Airport Heights). In fact, Ben and Kimball Forest ('77) live right next door to each other. We drank beer, reminisced and took some quick photos for the Precambrian Basement.

Fun additional fact three of us - Bryn Clark ('00), Cortney (Kitchen) Carman ('03) and Ted Starns ('07) - all also attending the University of Wyoming for graduate school.

Back row from left to right: Ted Starns ('07), Louis Sass ('00), Bryn Clark ('00), Tobey Carman ('03), Kimball Forest ('77), John Freeman ('79). Front row from left to right: Ben Gross ('02) and Cortney (Kitchen) Carman ('03)

Rave Reviews for *Memphis to the Mountain*

Production company Sender Films was founded by CC geo graduate Peter Mortimer '97 and CC political science graduate Nick Rosen. Born from a passion for climbing, Sender Films has spent twenty years telling stories of outdoor adventures, with an emphasis on character, humor, and heart.

Their 2025 documentary series *Memphis to the Mountain* has been receiving rave reviews. It tells the story of young Memphis climbers tackling Mt. Kenya's 16,000-ft tower, pushing past boundaries and fears while battling altitude and inner doubts on their journey of self-discovery. *Memphis to the Mountain* is available for streaming in the U.S. on Hulu and Disney+, and internationally on Star.

Premier of *Ocean with David Attenborough*

This spectacular documentary came out last spring, and CC geology graduate Ian Miller '99 attended the premiere in his role as Chief Science and Innovation Officer for the National Geographic Society. Before joining the Society, Miller spent 15 years at the Denver Museum of Nature & Science, most recently serving as the director of Earth and Space Sciences. At the premier, Ian and his Wife Robyn Rissman, were elbow to elbow with Sir David, himself, as well as as His Majesty King Charles! The documentary is a call-to-action for stewardship of Earth's oceans.

GSA Society Fellowship 2025 Awardee Gary Gianniny '83

Gary Gianniny is a respected research scientist with a history of service to our society and a long record of excellence in education, As a professor at Fort Lewis College in Durango Colorado he has a strong record of research in the Paleozoic of the Ancestral Rocky Mountains. He has had great impact

through his mentoring undegraduates, with more than 86 student co-authors on abstracts, mostly from GSA meetings. He has served as Chair of the Sedimentary Geology Division. He also served as the chair of the Fort Lewis Geology Program recruiting and retaining a diverse student body.

—Richard Langford '79 (nominator)

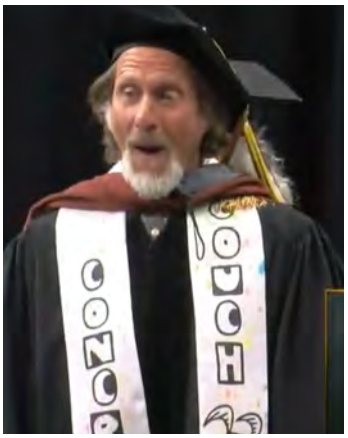
A CC and High School Reunion!

In the photo, from left to right: Andrew Bradford ('94), James Bradbury ('95), Ada "Yodi" Sapp (maiden name: Hewitt) (94') and Nick Kekic ('94). Andrew and James, both Geology majors who still work in the geosciences (broadly speaking), reconnected with each other and with two other CC friends in the spring of 2025, during our Northfield Mount Hermon reunion (high school class of 1990). We all have incredibly fond memories of Colorado College! Currently, Andrew and Ada live in Colorado, James lives in Massachusetts, and Nick lives in Vermont.

Tianran Zhang '18 receives 2025 Guarini Graduate Student Teaching Award

Tianran was selected for this award in recognition of her outstanding contributions to undergraduate education at Dartmouth! She is currently a postdoc at UC Berkely where her focus is permafrost stratigraphy and paleoclimate records. To read her interview upon receivin the award, visit https://guarinigrad.dartmouth.edu/blog/2025/06/17/student-spotlight-tian-ran-zhang/. Tianran visited the department in November to give a talk at Paul Myrow's symposium!

Steve Wood '84 Receives Honorary Degree at Commencement 2025



Steve graduated from CC in 1984 knowing he loved art and geology. Later, while teaching at Bemis Art School, his class was offered the opportunity to paint a mural at the downtown bus terminal, and he was hooked. In 2003, Steve co-founded the non-profit Concrete Couch where he still works today. The organization's mission is to work with kids and community groups to create public art, to build community, and to create environments and experiences that humanize our world. They have installed many of Colorado's favorite public art sculptures and murals with the mission of building community, creating places, and sharing skills in order to facilitate positive human connection with each other and the physical world around us. Over the past two decades, Concrete Couch has completed over 800 community art projects and held 4,500 free classes. Check out concretecouch.org for upcoming engagement opportunities, updates on projects, and more!

"I really think that Concrete Couch has been crowd-sourced, crowd-created, and continues to be changed and mutated and permutated by all the people who have worked on it. That legacy I definitely want to keep going." — Steve Wood 2018

RoadSide Guide of Vermont and New Hampshire soon to be published

Marli Miller '82, geologist-photographer-author-extraordinaire, visited the Dept in mid October. The photo is of Marli out on a local hike with Christine Siddoway. Marli was returning to Eugene OR from Vermont-New Hampshire, where she'd been at work on one of her 2025 sabbatical projects is *The RoadSide Guide of Vermont and New Hampshire*. Talk about ambitious!

Homecoming Weekend 2025

Tom Collins '05 with his son and wife take a selfie with Christine Siddoway during Homecoming weekend

Andy Newman '05 and his pup visit Palmer!

Mike Beckel '05, Andy Neuman '05, and Tom Collins '05 visited for homecoming and reminisced with Christine about their 2005 Regional Studies trip to Scotland. This vintage photo pictures the three of them and other kilted classmates, in their everyday field gear while in the Highlands.

Joe Gartner '00 was also here for Homecoming — thanks for coming by Palmer Hall, Joe! Joe has an impactful current pub on Post-Wildfire Debris Flows, in Advances in Debris-flow Science and Practice, https://pubs.usgs.gov/publication/70252670.

Paraprof Reunion at Paul's Symposium

Back row from left to right: Justin Strauss '06, Ryan Ewing '98, Lew Parker '99, and Jack Denman '96. Middle row left to right: Tianran Zhang '18, Zhilin Shi '23, Michael Hasson '19, Izzo Steenrod '21, and Vikki Crystal '14. Front row left to right: Claire Lukens '04, Blair Schoene '99, Woody Fischer '00, Mingxi Hu '21, and current paraprof Charlie Hite '25

Sierra Melton '18

Hi CC Geology! While a lot has changed in my life since I graduated in 2018, it still feels like not too long ago that I was studying geology all over Colorado and the southwest with the amazing CC professors and students. I am now in the final year of my PhD in Geosciences at Penn State, and I am finishing my research work remotely in Fort Collins (where my husband is a PhD candidate at Colorado State University in paleoanthropology). The adventurous spirit of CC has followed me into my graduate studies, as my PhD has taken me to Greenland, Antarctica, and Svalbard to study glaciers using geophysics. My research primarily focuses on the physics of iceberg calving from marine ice cliffs such as that at Greenland's Helheim Glacier, and I also got to help with research into the bed character of Thwaites Glacier in West Antarctica.

In other news, my husband Tewabe and I just welcomed our daughter Adey into the world in mid-September. After two tough weeks in the NICU, she is doing amazing!

Perched on an iceberg in the fjord in front of Helheim Glacier (Greenland), where we deployed geophysical instruments using a helicopter.

Chris Gale '01

Hi everyone, I don't think I've ever provided an update to the PCB so I guess this is long overdue. For the past 20+ years, I've been working in the environmental consulting industry working on site characterization and remediation of soil, soil vapor, and groundwater impacts. I live in Encinitas, CA with my wife, Jennfier, our 14-year old son, Henry, and our two rescue pups, Rocky and Frida. I'm currently VP/Senior Scientist at Applied Natural Sciences, a small phytoremediation speciality company where we use trees and other plants to address soil and groundwater contamination. I'm still using my geology degree but now am a geologist pretending to be a tree guy. In my current role, I'm lucky enough to get to travel all over the country planting trees and have even had a few projects in the EU. My family and I really enjoy traveling and have taken trips to the UK, Ireland, Italy, Alaska, Hawaii, Mexico, and most recently enjoyed a trip to Maine (where I grew up) and were able to spend a few days exploring Acadia National Park.

Izzo Steenrod '21

Izzo is living and working in Ashcroft, CO for the Aspen Center for Environmental Studies. Izzo helps host wilderness retreats and leads snowshoe and hiking tours. Izzo spent the summer in Alaska as a student with the Juneau Icefield Research Program digging mass balance pits, learning to telemark ski, and loving living on a glacier!

Best,
Izzo

Lee Vierling '92

Hi All!

Kerri (Tashiro) Vierling (CC Bio '90) and Lee Vierling (CC Geo '92) are still kicking in Moscow, ID. This fall, Kerri started as the Associate Dean of Academics at the University of Idaho College of Natural Resources. Lee has been the Associate Dean of Research in the same college for the last couple of years, so there is currently a lot of associate deaning going on in the family. However, that will change at the end of 2025 when Lee retires from U. Idaho so that he can go back to trundling large rocks down tall mountains, among other things!

Virginia Butler '15 and Daniel Butler '15

We welcomed another daughter this fall to join our family in Denver. While neither of us works in geology any more, we get to see lots of our fellow geo majors around Denver!

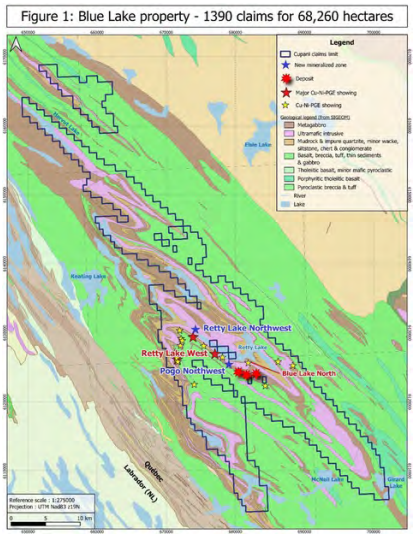
Justin Strauss '06

Greetings from Norwich, VT. I am still an Associate Professor in the Department of Earth and Planetary Sciences at Dartmouth, although most of my time is spent wrangling my two young kiddos (Vincent is 4 and Margot is 2). I look forward to visiting the Department for Paul's retirement party in November – it will be hard to imagine the Palmer basement without him! Please stop by and say hello if you find yourself in the Upper Valley of VT/NH.

Cheers,
Justin

Van Wombwell '85

Still practicing armchair geology! A potentially interesting example is CUPANI Metal's hunt for copper, nickel, palladium and gold in the Labrador Trough. They've staked claims over a large amount of land and are the first to be using modern geophysical survey methods to hunt for economic concentrations. They are encouraged by similarities to the geology of the Raglan Mine.



September 23, 2025 press release: https://cupanimetals.com/press-releases/65

203 pages of light reading about exploration efforts here: https://tinyurl.com/5yp8ucyr

-Van

Matthew (Matt) Rosales '08

Hello from Hudson, NY! All is well here with Cate, Esmé (2yrs) and me. I'm still at Hartree, continuing to do mining finance, and managed to get into the field this year in Norway, Peru, the UK and Nunavut, even if short stints great to see some amazing rocks and scenery! Please drop me a line if coming to the NY area.

Hudson Halloween parade

Mines and Fjords, Norway

Chalcopyrite veins, underground copper mine in Peru

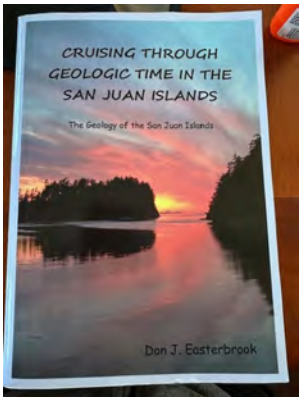
Matt Tankersley '18

Moin and hello from northern Germany! It's been a few years since an update, but I'm happy to share that I finished my PhD in New Zealand back in 2023. I spent the following year and a half searching for a postdoc and traveling around the mountains of Europe and South America. As it seems to go, after this long postdoc search, I was then offered two positions in the same morning! I managed to accept both :) I finished a 6-month postdoc at Lamont Doherty Earth Observatory outside NYC in April 2025, before moving to Kiel in northern Germany to start a 3-year postdoc at Kiel University! I have yet to learn German, but I'm sure it will come soon :) I'm very happy to still be collaborating with Christine and researching Antarctica's subglacial geology, mostly with airborne geophysics. I'm missing the mountains of NZ and CO, but frequent trips to visit my girlfriend in the mountain city of Innsbruck, Austria, make living in the flatlands alright.

All the best,
Matt Tankersley (class of 2018, paraprof 2019-2020)

Ann Clarke '72

My husband and I took a week-long cruise in early September on the Catalyst out of Bellingham, WA, and around the San Juan Islands. We were introduced to terranes, which are pieces of tectonic plates that have been crumpled up on each other. The beaches were filled with rocks, large and small, that had washed down from exotic terranes. Some of the rocks dated from the Precambrian and are thought to have originated in northern Eurasia. The channels between the islands were deepened by glaciers and then flooded. Had fun trying out kayaking.



—Typed on tiny keys!

Emory Pollatsek '23

Emory was hired in December at the Denver Museum of Nature and Science (DMNS) as an Earth Sciences collections assistant. They have been working hard to help manage the geology collections and work on the renovations for the new Gems and Minerals hall.

Thanks,
Emory

John Dolson '71 and Debbie Dolson '73

John and Debbie hosted the annual Carbonate Sedimentology Lab (CSL) barbecue at their home in Coconut Gove in October, with 28 faculty and students attending. John is an Adjunct at the University of Miami Rosenstiel School of Marine, Atmospheric, and Earth Science (https://www.earth.miami.edu/). He will be teaching a graduate course in Petroleum Geology next semester, is semi-retired, but still consulting with projects in Brazil. The evening was a great success with music and a Didgeridoo contest and great way to unwind after two days of talks to sponsors. John also gave a talk to the Houston Museum of Natural Science regarding historic preservation of Dinosaur tracks at Dinosaur Ridge (dinoridge.org) where he and fellow CC grad Joe Tempel ('71) were among the first founders in 1989. The talk centered around the importance of volunteering to preserve critical paleontological and environmental sites and his later efforts to help obtain Egypt's UNESCO World Heritage status in 2005 for Whale Valley (https://whc.unesco.org/en/list/1186/). His updated Whale Valley guidebook and historical perspectives are available as a short article in AAPG's Explorer magazine "Preservation of the Valley of Whales" and the full guidebook at (https://tinyurl.com/ys9p2snz).

CSL barbeque party

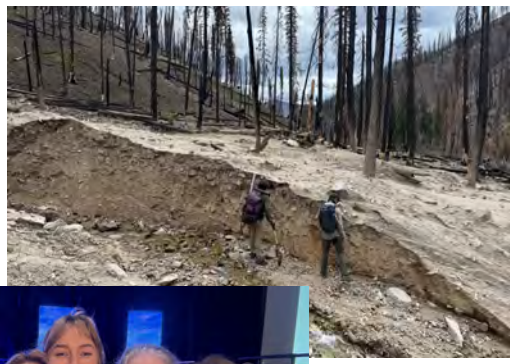
Dave Mendel '06

I live in Denver with my family including three wonderful daughters. They've all grown into soccer players, so I spend a lot of my time driving to/from practices and games. I also still play myself as much as time allows. Professionally, after over a decade as an environmental consultant I took a job with CDOT about four years ago, and I manage the Environmental and Hazardous Materials Unit within the Property Management group, meaning we cover the entire State handling things from asbestos to leaking underground storage tank sites to construction stormwater and all sorts of other "environmental" issues. I work with a great team and have endless opportunities to continue learning, which certainly keeps it interesting. In my travels around the State I always get a kick from seeing road cuts or geomorphology features from our CC field trips!

-Dave (class of 2006 and former paraprof)

Jen Pierce '95

Jen Pierce is a professor of geoscience in the department of Geoscience and the School of the Environment at Boise State University where she has been for 20 years! She enjoys skiing, mountain biking, playing music, and spending our time outside with her two daughters and a variety of pets. She directs the Idaho Climate Literacy Education Engagement and Research group (iCLEER) and the Earth Wind and Fire lab. Her current research interest included wildfires in post fire erosion, soils as a solution to climate change, and K -12 outdoor education.



Jen and Co at the QG&G division reception at GSA 2025

Sam Dashevsky '78 and Kimball Forrest '77

Both Sam and Kimball have lived in Alaska and remained close for over 30 years. Recently they teamed up on a prospecting trip for heavy metals in central Alaska. Kimball had the helicopter and Sam had all the sampling gear and local geological expertise so they teamed up for a field effort, panning and sampling an area that Sam is investigating.

Feels like many years since our field work at CC but we have both done extensive field work in Alaska so it seemed totally normal. Great fun, good stories and we did a lot of work. Results??? top secret :-)

Kimball on the left and Sam on the right

Elle (Emery) Shafer '12

Elle's biggest update since she last shared with the PCB in 21/22 is the birth of her two daughters—Cathryn (10/2022) and Charlotte "Lottie" (2/2025). The girls are keeping Elle and her husband, Max, very busy as their family enjoys the mountain lifestyle—hiking, skiing, and fishing—in Teton Valley, Idaho. Cathryn attends a forest preschool where she is already collecting rocks and identifying mineral colors— it seems her future is bright! Elle also continues to work as an environmental educator and artist in her "free" time.

Elle and her family at Lake Agnes in State Forest State Park, CO

Lisa Seaman '87

I recently attended a CC soccer reunion and I was pleased to meet another geology grad (and former soccer player), Laura Crossey, class of '77. Last year, I retired from my job as a User Experience Researcher at a company called Autodesk, and over the past few years, I've been painting. Landscapes, pets, birds, etc. And I even attempt to paint rocks! I'm attaching one example painting, "Morning Light at Capitol Reef."

While I didn't have a career in geology, I still love hiking, backpacking, and camping. I think my favorite rocks in the landscape are granite, especially glacially polished granite, and Wingate Sandstone.

To see more of Lisa's gorgeous paintings, check out her website: https://www.lisaseamanart.com/

Patrick Williamson '82

Still working as a Principal Hydrogeochemist with INTERA (and enjoying it), with projects in the US, Mexico and Colombia. I design and manage projects, mentor staff and develop business opportunities. I recently moved up in the mining consulting food chain as a water and mine waste expert on two Independent Technical Review Boards for mining projects. Happily married (47 years) and enjoying all the Boulder area has to offer. Skiing as much as I can in the winter (IKON). Biking and hiking in the summer (just bought my first gravel bike).

Anybody interested in a career in mine waste geochemistry should get in touch.

Regards,
Patrick

Also, check out this Water Values Podcast episode with Patrick at https://tinyurl.com/ykr3u8da! In the episode he discusses the interrelationship between water and mining.

Rima Givot ’98

Rima teaches high school science (Biology, AP Biology, Chemistry, Environmental Science (with a geology component) at Sisters High School in central Oregon, and enjoys life with my young adult sons — now adventuring on their own. She exchanged news with Christine at time of Myrow Symposium!

Eugenie Haring ‘23

I have been working on farms since graduating and currently am growing flowers at a small farm in Lincoln, MA. I am applying to master’s programs in landscape architecture this fall and plotting a move out West!

Best,
Eugenie

Vikki Crystal ‘14

We are thrilled to hear about Vikki’s new position as Administrative Coordinator at Geological Society of America! Thanks for passing this update along Christine!

Emma Revenaugh ‘24

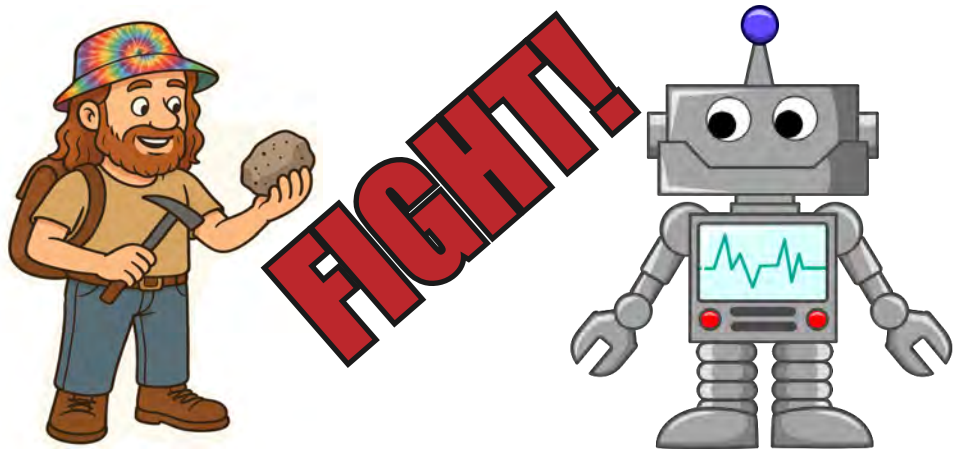
Emma was a 2025 AmeriCorps Water Quality Resources Assistant with Green Mountain Conservation Group! Read more about her work at the GMCG website here: https://gmcg.org/about-green-mountain-conservation-group-2/americorps/. Thanks for passing this one along too Christine.

Nancy Calhoun ‘07 and Betsy Friedlander ‘07

Nancy and Betsy take their kids skiing!

Geologists vs ChatGPT

Which are from real 2025 publications and which are AI generated?



OPTION 1

We show that, like quartz, zircon retains diagnostic sets of surface textures and remains a viable and robust indicator of paleo-transport environment in ancient sedimentary rocks. This result is especially powerful for paleoenvironmental interpretations of sedimentary rocks that experienced significant quartz recrystallization or metamorphism. Moreover, complex transport histories are likely to be preserved over longer time scales on zircon grains due to the mineral's hardy nature. Paired with U-Pb dating, zircon microtextures constitute a promising new tool for paleoenvironmental and provenance studies of (meta)sedimentary rocks as old as Paleoarchean, opening a new avenue to decipher Earth's earliest environmental archives.

OR

OPTION 2

Detrital zircon grains carry a resilient imprint of their journey through Earth's surface environments. Distinct microtextural assemblages reveal the mechanical fingerprints of aeolian, fluvial, and foreshore transport and persist even through metamorphic overprinting. By capturing these subtle signatures, zircon offers a powerful new window into sedimentary processes long erased from the rock record. This approach expands the toolkit for reading Earth's earliest environmental archives and deepens our ability to trace the evolution of surface dynamics across geologic time.

OPTION 3

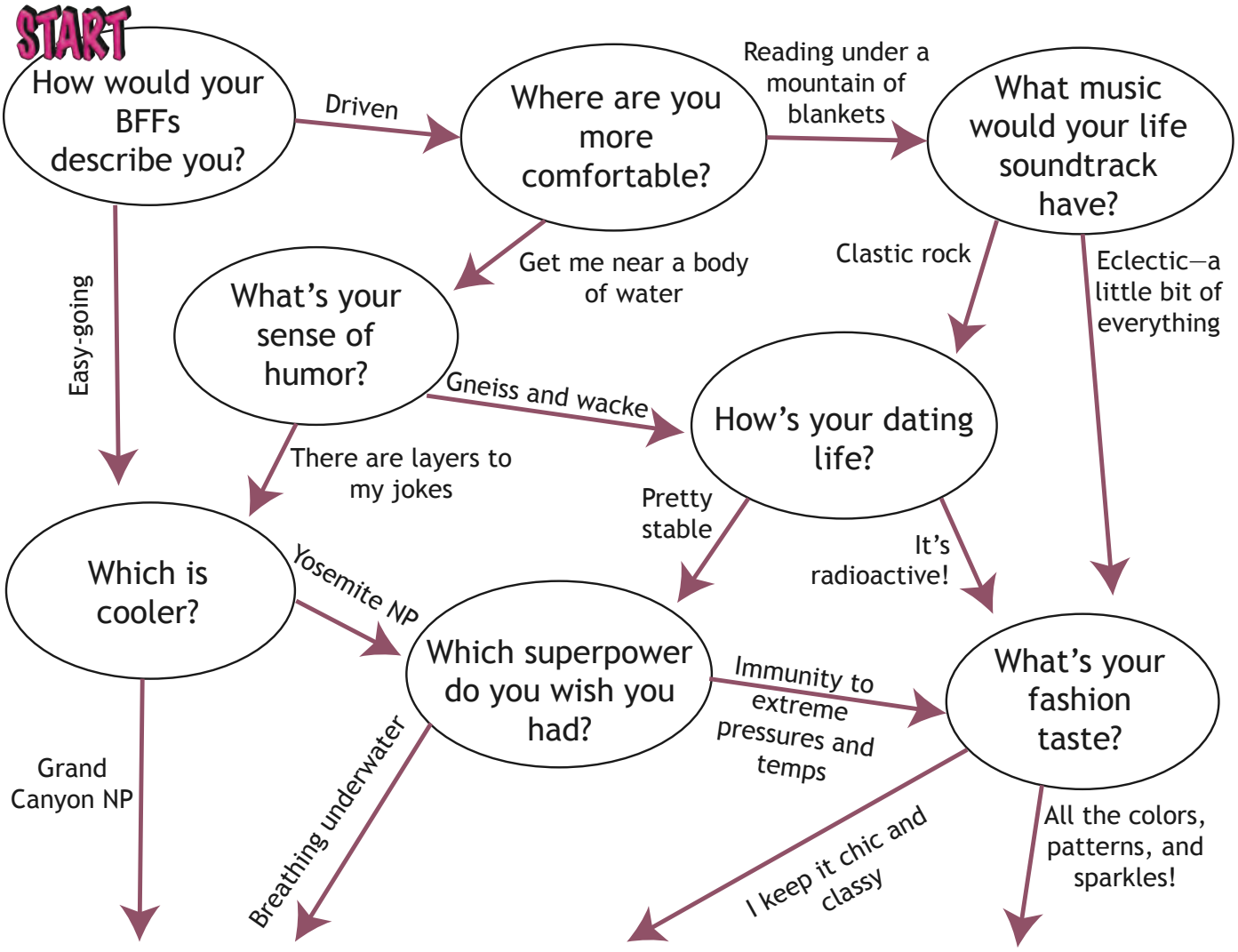
This study redefines river hydrological connectivity by integrating fluvial geomorphology, emphasizing how longitudinal, lateral, and vertical flow dynamics shape carbon emissions across river systems. Future research should apply this framework at broader spatial and temporal scales, incorporating advanced technologies and socioeconomic factors to more accurately assess and manage watershed carbon fluxes.

OR

OPTION 4

Under the influence of climate change and human activities that disrupt natural rhythms, the original river hydrological connectivity pattern is disrupted, leading to changes in carbon emission patterns. These disruptions also affect habitat adaptability and cause significant disturbances to the ecological environment of thewatershed. Based on previous research, the present study redefines the river hydrological connectivity pattern according to fluvial geomorphology.

Which ROCK TYPE are you most like?



Sedimentary

You have a colorful, vibrant personality that people are drawn to. You can't stay away from the water, and like quartz, people might make the mistake of underestimating you. Usually on the move, you're shaped by your journey.

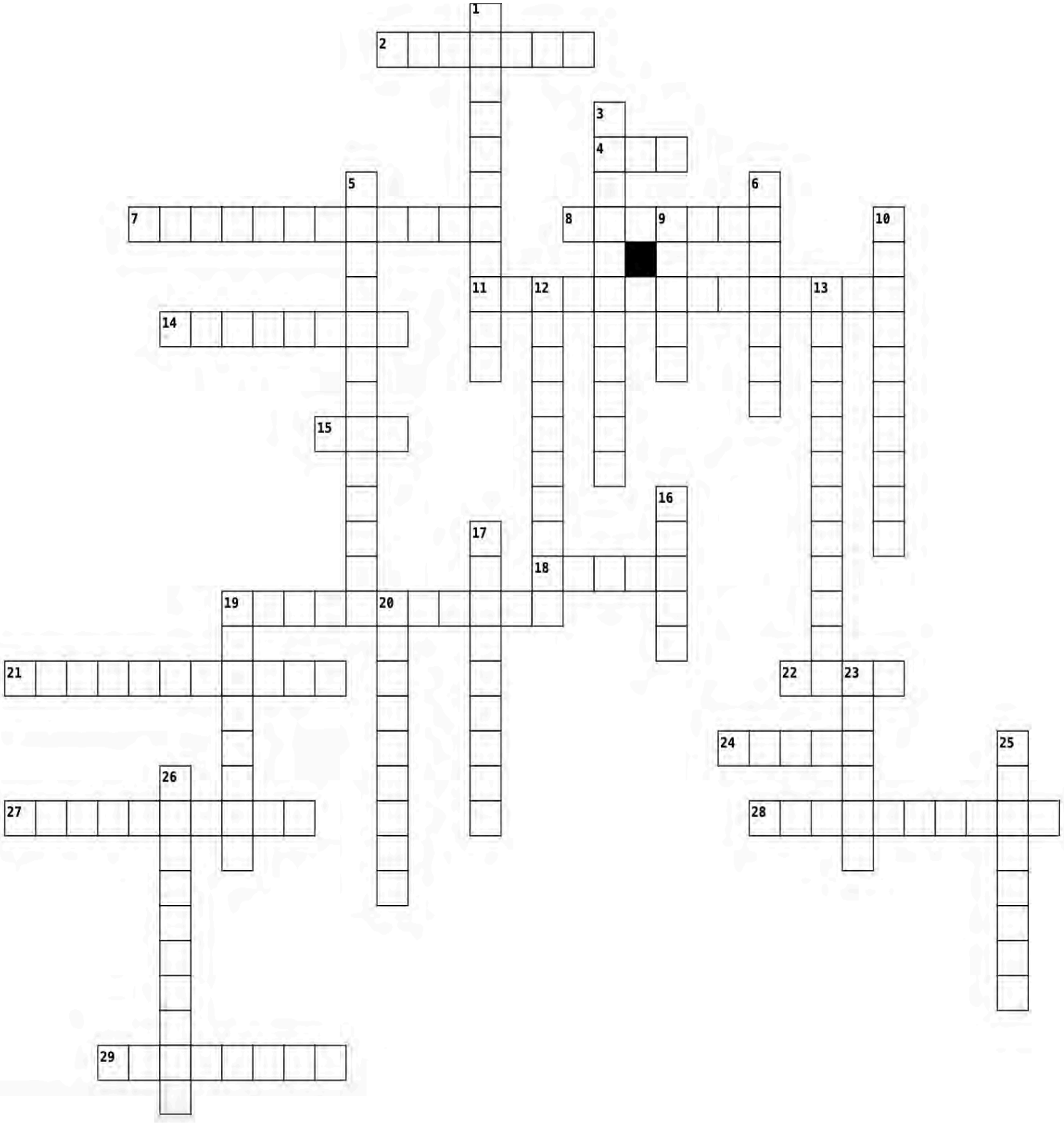
Igneous

You might be shy at first but you open up once people get to know you. You're a force to be reckoned with and you embrace that.You prefer a cozy evening discussing niche topics with a close group of friends. You are steady and patient— two wonderful qualities.

Metamorphic

You love change and surprises. You have a new hobby every week. You thrive under pressure, and delight in confusing people who don't understand just how cool you are. Keep on shaking things up and encouraging others to do the same!

Rocks, Minerals, and Mostly Etcetera



Across

2. Before the Proterozoic there was the _____
4. Sed structure characteristic of storm-dominated environments
7. Microbial mat!
8. A sedimentary rock composed of angular clasts
11. The CC cabin's full government name
14. Organic-rich, dark-colored soil of the Great Plains
15. Van activity of choice
18. First name Ogden, last name _____
19. What's a rock's favorite fruit?
21. Polished grooves caused by frictional movement between rocks along a fault
22. Good ol' halite's chemical formula
24. CC geology faculty and staff own cats, dogs, and a guinea pig but no _____
27. Award given to a graduating senior for a royal effup
28. Garnet, quartz, and zircon have this fracture type
29. Christmas rock

Down

1. Years Paul taught at CC for
3. The bacteria at Yellowstone are called
5. The best way to sleep outdoors on warm field trips
6. The sandstone unit unconformably overlying the PPG
9. Microcrystalline SiO_2 and a geo major favorite
10. I'm holding the depleted mantle!
12. Mica group mineral with a pink tinge
13. Often broke causing massive floods during the last ice age
16. Medusa turned her victims to what?
17. Likely the most famous crater on the planet
19. A now lithified soil
20. What's a geologist's favorite ice cream flavor?
23. Where the paraprofs spend a lot of time
25. Some Brunton models have this bearings format
26. Asbestos mineral used prolifically in pre-1970s construction

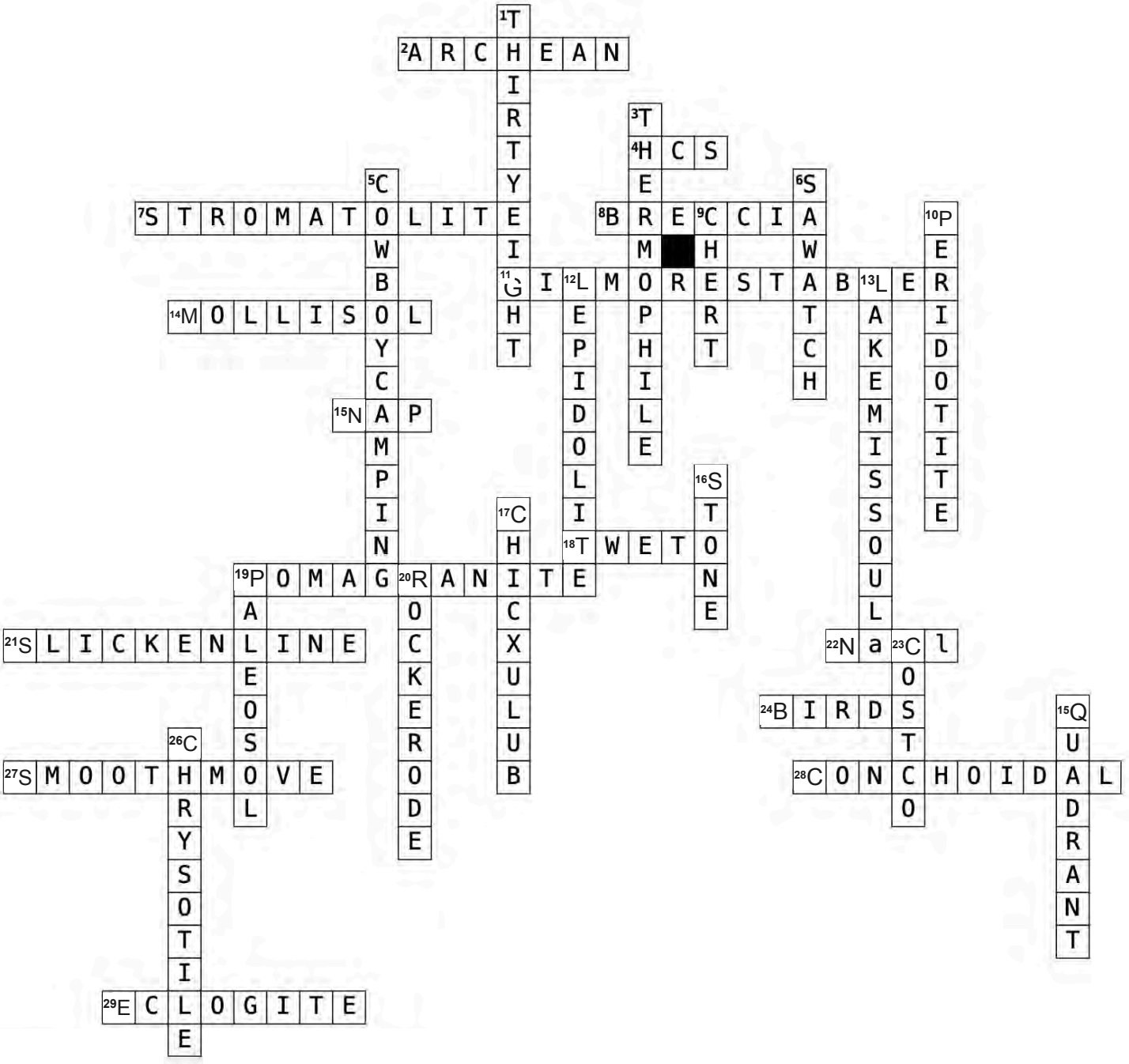
Block 2, 2025 GY305 with Anne Fetrow at the San Rafael Swell, UT

Geologists vs ChatGPT

Options 2 and 3 are AI generated!

Source publications:

- Marvin, M. C., Hasson, M., Colicci, V., Abubo, R., & Lapôtre, M. G. A. (2025). Microtextural analyses of detrital zircon for paleoenvironmental interpretations of metasedimentary rocks. Geology. Advance online publication. https://doi.org/10.1130/G53712.1
- Qin, J., Liu, Q., & Liang, L. (2025). Integrating fluvial geomorphology into river hydrological connectivity: Implications for carbon emissions. Journal of Environmental Management, 392, 126626. https://doi.org/10.1016/j.jenvman.2025.126626



Dear Colorado College Geology Alumni,

We hope you've enjoyed the 2025-2026 edition of the Precambrian Basement, CC Geology's annual alumni newsletter! We would love to hear what you're up to, where you've been, and where you are now. Please fill out this form and mail it to:

The Precambrian Basement
Colorado College Geology Department
819 N Tejon St
Colorado Springs, CO
80903

OR email us at precambrianbsmt@coloradocollege.edu

Last Name _____ First Name_____

Maiden Name or Nickname_____ Year of Graduation _____

Current Street Address _____

City _____ State _____ Zipcode _____

Home Phone _____ Cell Phone _____

Email _____ Website _____

Current Employment or Graduate School Info:

Recent Events, Exciting Adventures, and Other Comments