

# Acadia University

## Earth and Environmental Science Newsletter Summer 2022



### ***View from the Department***

We have people together again! Yes, sometimes we wear masks, but we are working together, learning together, supporting each other, and advancing the frontiers of science! Cautiously at first, but with increasing confidence – we are learning all over again. Students entering second year, and some even third year, were experiencing the “in-person” learning for the first time.

Through the course of the pandemic we have all had to adapt to new ways of working. Many of the new tricks will continue – we have come to rely on committee meetings on MS-Teams or Zoom, sometimes even with committee members just around the corner. Many professors now run classes remotely, or in

a hybrid fashion, but whether that has promoted attendance at 8.30 a.m. lectures has yet to be determined. The online microscope has enabled us to demonstrate more minerals and rocks in thin section than we ever dreamed of showing our students before. Many of us have now set up home offices, adorned with interesting book-cases or specimens, or have found a meaningful background to express our personality. And research collaboration is now more constrained by time zone differences than by travel plans. Change can be good!

The Canadian geoscience community recently held a three-day conference in Halifax, with over 800 delegates registered. This event has been in the planning from long before the



word ‘Covid’ was a thing and adopted the theme “Riding the Waves of Change.” What an apt slogan for 2022!

Change is one of the constants in our business of science education, and change is something the Earth and Environmental Science Department is going to experience a lot in the next few years. Several of the faculty and staff are getting a bit long of the tooth, snowy on top, or whatever idiom you want to use to disguise age and it will be time over the next five years to bring in fresh new faces. We started the process this year, when Pam Frail, our technician for the past ten years and thin section manufacturer *extraordinaire* retired in March. Technicians with skills in making thin sections, curating rocks, and generally keeping things running are not easy to find, but we were extremely lucky to have received unsolicited an inquiry from Lucas Evans, then working as a lab technician in North Island College, BC, but with several years of commercial thin section production in Queensland, Australia, who wanted to relocate to the Annapolis Valley! It seemed too good to be true, but Luke has turned out to be a perfect fit for Acadia and started here in May. The rock room is back up and running, and he is turning his attention to the analytical equipment too now.

The next change will happen over the summer when Rob Raeside retires. More about that elsewhere, but we look forward to welcoming his replacement, Deanne van Rooyen, coming to us from Cape Breton University. Deanne is no stranger – as an adjunct professor at Acadia she has co-taught graduate-level courses in structural and metamorphic geology (thanks MS-Teams!) and co-supervised M.Sc. students for several years.

It’s likely no secret to everyone reading this newsletter that it is the geology side of the department that will change over the next few years. It is said that time spares no one, and that will be shown emphatically as almost all of us will conclude our careers in Huggins Science Hall in the next 5 years. Of course, that doesn’t mean we will stop “doing geology” – in one way

or another, I expect all of us will continue to discover, learn or teach about the Earth for many years to come. However, such a shift of personnel provides lots of opportunities for new professors and directions for the department.

One thing that has not changed is the quality of students studying in Earth and Environmental Science. While the straight-A students no doubt would thrive in any setting, I often feel we do our best job with basic-Bs or solid-Cs. I have lost count of the number of students who find themselves struggling to maintain marks or interest in another major, take an elective course in geology, and drop by to ask about switching programs. They may still struggle with the details, but when they are genuinely interested in the topic, they work to understand it. Often those are the graduates who do well in business – they had to work hard to grasp the knowledge and that hard work training sets them up well to succeed after they leave Acadia.

Through the pandemic, it is that interaction with students that we have missed most. While we managed to hold classes most of the time, the opportunities for out-of-class interactions were sorely limited. Weekend field trips were impossible, and even on class trips it was tough to communicate – have you tried talking to people in the back row of a van with masks on? Students, however, rose to the challenge, as seen by the range of activities in the next section of this newsletter. We hope you enjoy learning about our activities, which are a sample of the news items from the past year that we have posted on [our website](#).

### **Giving to Acadia**



Feel free to drop a note to [ees@acadiau.ca](mailto:ees@acadiau.ca) (that message goes to the department head) as we love to hear from you! We’ll gather up your news and include it in our next letter!

All the best,

**Rob Raeside**, retiring Department Head



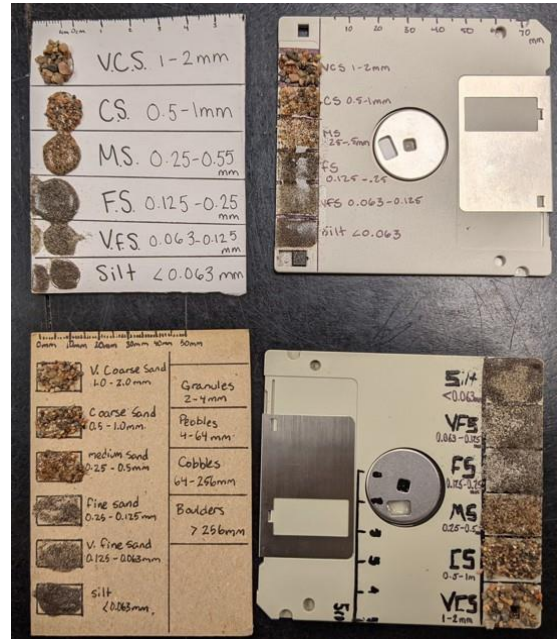
## HIGHLIGHTS OF THE YEAR

The year 2021-2022 was another “Covid year”. Nova Scotia made a valiant attempt to keep the virus at bay, with the cost of restricted travel and periodic shut-downs, but eventually it arrived in force. However, the time bought allowed for mass vaccination and the acquisition of lecture and lab presentation skills online, so our classes were much less affected than in the previous year.

One of the shutdowns happened half-way through field school in late April 2021, with the result that we had to rearrange the start of term in September to accommodate a week of field work at Camp Geddie on the North Shore of Nova Scotia. What a delight that was! No threat of snow, no steady sea breezes off the +1° Northumberland Strait, no 4-layer protection and frozen fingers at Arisaig! Several students took to the waters swimming. There is something to be said for field work in September! That was also the opportunity for new(ish) professor Mo Snyder to be introduced to the field school, but in a repeat visit in May 2022 we ensured Mo could experience the real thing! It did mean that Rob Raeside had to run two field courses back to back, first in Cape Breton Island, then at Camp Geddie.



Dr. Morgan Snyder's presence has been increasingly obvious in the department. Mo settled into a second year of teaching in the tenure-track position. Students were back in the classrooms in the fall term and one of Mo's exercises was to make grain size analysis charts – a good use for old computer disks! Some of these charts were still in evidence at Field School in May.



*Grain size charts, 90s style?*

Travel was still a bit dicey in the fall term, even before the omicron variant appeared, but we did manage to get in a field trip to the Lunenburg area to visit The Ovens for a spot of gold panning and a visit to the Sea Caves trail. A week or two later a few students ventured to St. Mary's University for the annual Atlantic Universities Geoscience Conference (AUGC), with Amanda Smith bringing home some of the hardware. Most of us followed along virtually, improving our online conferencing skills.

The AUGC is one of ten conferences that happen under the auspices of Science Atlantic, an organization that has now been around for over 60 years. That required some celebration, and all 18 universities across the Atlantic Provinces participated in naming a tree on campus to celebrate the event. We chose the old apple tree outside Emmerson Hall – did you know it can trace its lineage back to the apple that Sir Isaac Newton saw fall when contemplating gravity?

A different form of competition occurred at the Carson Cup, but again, E&ES failed to bring home the hardware. This annual soccer game between Environmental Science and Environmental and Sustainability Studies teams is a highlight of the fall term, and ended in a tie,

with a shoot-out sending the thoroughly recycled cup to ESST. We thought ENV5 would win easily this year as the team was captained by Parker Ingham, who spent the previous year as a soccer coach for a team in Halifax. However, it seems he had to switch sides at some point in the game as ESST was down a player.



*Both teams enjoy a photo op on a very soggy field at the Carson Cup.*

One of the big events of the year was the search for a new professor in the area of metamorphic geology, tectonics, mineralogy, atmospheric science, or some combination thereof. While we had interruptions and complications in the process, we concluded the task over the winter and will welcome Dr. Deanne van Rooyen to the department for the fall term. Deanne is a graduate of Carleton University and has been teaching at Cape Breton University for the past decade. If that name sounds familiar, you may have noticed her in the photos of the Cape Breton field school, which she took in as one of her graduate students was in attendance.

Several students in Environmental Science distinguished themselves last year. Rachel Clarke had a paper published in *Chemosphere*, and Haley Geizer had one in *Ecotoxicology and Environmental Safety*. Both papers were derived from their honours theses. Also, Grace Nissen



*Grace Nissen on Sable Island*

was the first winner of the “Inspired by Sable Island” award. Grace submitted a proposal to study the freshwater lens on Sable Island that the whole island ecosystem relies on. She received \$500 and a day trip to Sable Island National Park Reserve with Parks Canada.

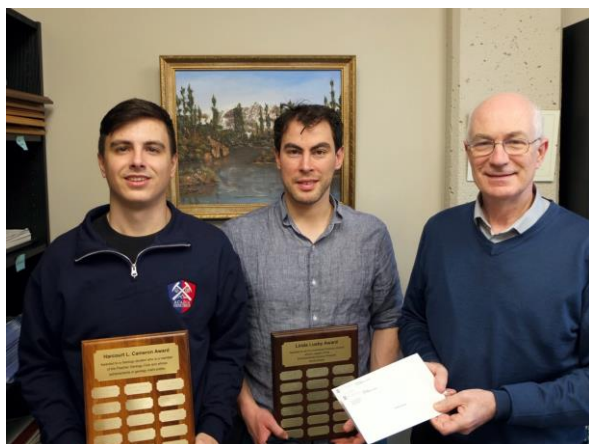
Notable also was the award of CMIEF (Canadian Mineral Industry Education Foundation) scholarships to five students in the geology program – the most obtained by any university in Canada last year. Two other students received Young Mining Professionals Scholarships for 2021 as Indigenous Scholarships in the Ore Group. All of these awards require students to research and apply and we congratulate the students on their success.

Covid’s omicron variant hit hard at the end of the fall term and into the new year. Exams were shut down half-way through, although with all our experience online, that scarcely mattered any more. Unfortunately, it did put pay to the annual AGS Colloquium which was to be held in Fredericton. Instead, the conference went online, and 185 participants beamed in to discuss geoscience. Several students received awards or honorable mentions for their talks or poster presentations. Next year, AGS will convene in Truro (we hope!) The Science Atlantic Environment Conference was also victim of omicron, and although things were recovering by March, it also went online, hosted by Dalhousie University. Next year, Corner Brook – that will be an adventure in March!

After a Covid break in 2020 and a very reduced event in September 2021, SIFT (the CSPG-sponsored Student-Industry Field Trip) resumed in May, and Mitch Maracle was able to join it from Acadia. He travelled to Calgary and spent two weeks investigating the energy business, with visits to processing facilities, the Royal Tyrrell Museum, and company offices downtown, and field trips to the Red Deer River badlands and the Rocky Mountains. He described it as a whirlwind of sedimentology.

The end of term saw a cautious return to social activities, one being the Fletcher Club–ESSA pot-luck and awards dinner. Organized by the two student societies this is always an opportunity to celebrate another year of learning. The recipients of the Linda Lusby Award in





*Cameron and Parker receive the Cameron and Lusby awards*

Environmental Science and the Harcourt Cameron Award in Geology were announced as Parker Ingham and Cameron Greaves respectively. These two young men were both heavily involved in running the clubs over the past two years.

The end of term saw many activities that promised a return to “normal”. The Climate Change course sponsored a successful poster session with 50 posters on display in the Huestis Pavilion. The Communications and Critical Analysis Class (ENVS 4423) announced the winners of the grant-writing contest for the ‘O’Driscoll Research Foundation’. Four students received ‘funding’ for their proposals and more importantly a chocolate bunny and the applause of their peers. With the melting of the winter snow, Cliff Stanley took the Mineral Deposits class on field trips to the Brazil Lake lithium



*Lorraine, cook at Camp Geddie, surprised us with a “Happy Retirement” cake for Rob Raeside, decorated with papaya hammers and chocolate chip rocks!*



*Our first live convocation in 3 years, where 28 students graduated in Earth and Environmental Science.*

deposit and The Ovens and five more students received their Earth Rings at a ceremony at Dalhousie. Both the environmental science and geology field schools proceeded normally (both were cold), and the May convocation saw 28 new Acadia grads to add to the list.

The final major event of the year was Halifax 2022 – the joint annual meeting of the Geological and Mineralogical Associations of Canada, accompanied this year by the International Association of Hydrogeologists and the Canadian Society of Petroleum Geologists. With over 800 delegates, this was the first major meeting for most of us in three years and was a huge success. It had been planned several years in advance as a means to celebrate the 50<sup>th</sup> anniversary of the Atlantic Geoscience Society.

All the geology faculty were involved at this event, held in the new Halifax Convention Centre. Not to be outdone, Nelson O’Driscoll and his graduate student Molly Bradford, headed to the SETAC conference in Denmark at the same time. Peace and quiet prevailed at Acadia as a result of nearly all the faculty at conference!

Full details and more pictures from all of these events can be found on the Earth and Environmental Science web page.

In closing, when I sent out a message to you, our alumni, seeking details about your whereabouts and leaking the news of my retirement, I was overwhelmed by the responses! Thank you to many graduates (well over 100 of you) who responded not only with updates on your current locations, but very kind comments about your experiences over the years. It is good to know I may have made a difference!

## WHAT NEXT – ANOTHER NEW OFFICE?

Rob Raeside started teaching at Acadia in 1982. He has occupied a few offices around the campus and now plans his next move into retirement.

Forty years ago, in **February 1982**, my office was a shared student space on the second floor of the Earth Science tower at the University of Calgary. It had a good view west to the Rockies, but no clear view of what would lie ahead for me. My PhD defence date was set, and I had been watching the notice board in the main office for various job postings. A post-doc research position at the U of C? A summer position with the Geological Survey? More petrographic analysis with Shell Minerals, a job I had been doing one day a week for a year? Short-term teaching positions at Carleton or Tennessee? All of these were possibilities, but then an ad appeared for a position at a small university I had never heard of in Nova Scotia. I checked who might be the current metamorphic petrologist who was leaving Acadia, only to find that there was not one. How could a university claim to give universal education without a metamorphic petrologist? I was dumbfounded, but I applied. The rest is history.

**July 1982** – arriving at Acadia, I was soon ensconced in Huggins 305 – a closet-sized space on the sunny south side of the shiny, still fairly new building. It was smaller than my space in Calgary, but big enough for my typewriter and nascent bookshelf. I was switching orogens, so had very few rocks at the time. The big single-pane windows were good for growing cactus and starting tomatoes in February.

**July 1984** – after two summers of field work in the Cape Breton Highlands, my collections quickly overwhelmed the space available and it was time to develop a “lab”. A room was available in the basement of Huggins, recently vacated by the School of Home Economics. It still had cooking and laundry equipment in it, but when that was moved out, it provided a great space for rock storage and map layout, and was a lot closer to the rock room for dashing back and forward to get rocks slabbed for thin sectioning. It was also pleasantly cool in the summer, but come September it was a long way from the classrooms on the third floor. I had graduated from the typewriter to a TurboDOS terminal, which allowed for word processing – all now archaic terms for increasingly

mechanized means of writing, but at the time seemed (albeit skeptically) as the way of the future. Email was not yet invented.

**Summer 1986** – the number of students studying geology dropped off sharply, and the “honours room” on the third floor was no longer occupied for thesis purposes. Time to move my rock and map collection upstairs and buy a “personal computer” and printer – another first for the campus that took a few memos to the business office to get approved. I have never been very good at working in two spaces, so that interior lab space became my home for many years.

**1995** – Jack Colwell completed his third three-year term as department head and would soon retire, and a new victim had to be found. Sandra Barr and I discussed the options over breakfast at the Cape Breton field school. It was clear that to be department head would require some significant effort, which would be at the expense of other activities. At that time, the Geology Department had a somewhat dubious reputation on campus – student numbers had fallen drastically and the term “a sunset science” had been aired. How wrong that was to be! Under the two previous department heads, relations with other units were variously confrontational or submissive and the department needed a strong voice and firm hand to guide it into the 21st century. I think a toss of a coin was involved, but in the end, I moved into HSH 325, the head’s office.

Professors rarely get any training in how to teach, and likewise department heads get very little direction in how to direct a unit. Jack Colwell, the previous head left on a round-the-world sabbatical year, collecting rock suites at various mines in the US, New Zealand, Australia, and Malaysia and visiting several alumni who worked there. It was a case of learning by doing. One of the first steps was to morph the existing and increasingly popular double major in Geology and Biology into a new program in Environmental Science. Another major change involved the Acadia Advantage program that ramped up at the end of the 1990s, with every student being issued a laptop

computer. Behind the scenes lay much work arranging for the wiring and renovation of classrooms and the rewriting of courses to take benefit of the new system.

**July 2003** – it is always ominous when the Dean of Science schedules a visit. What was coming down? Budget cuts? A grievance issue? Bad news comes to mind first! This one was different – would I take over as head of Chemistry for a year? Chemistry had 8 professors, 6 of whom had been hired in the past 4 years, and the other two were heading out on a sabbatical leave in Toronto. They needed someone to run the show for a year. So mornings were spent in Huggins, afternoons in Elliott Hall! It was a lot of work, but there were many benefits. Learning how another unit functions was surely beneficial for both the Geology and Chemistry departments, although that stack of 100 student profiles that required review for advising was alarming. That was the year after the elimination of Grade 13 in Ontario, and all universities were bulging at the seams. It was the year that the Chemistry program was up for accreditation, which required 600 pages of documentation. But it was also the year I was editing a volume on infrared spectroscopy, and I was very pleased to have new colleagues who could help me understand that. My colleagues in Geology were very supportive and quietly took on tasks that were slipping there. You'd think they would learn...

**July 2006** – another scheduled visit from the dean! What did he want this time? Only a request for me to take over his office for a year, while he filled in as Vice-President (Academic). That would mean vacating the head's office and moving back to the sunny south side of the third

floor of Huggins, next door to where I started! The office was tastefully furnished, but the job was not something I had ever contemplated. One year turned into more than three years and gave me a whole new perspective on how a university functions. I continued to teach most of my courses and do the student advising, which kept me connected to geology, but I also ventured into the world of student recruiting, Board of Governors meetings, and dealing with other administrators. One of the jobs accomplished during this period was the creation of the Department of Earth and Environmental Science and the integration of the various programs under one common management.

**January 2010** – back to the north side of Huggins, a base I have retained most of the time since then. Now I teach only one subject that I was initially hired to teach (optical mineralogy), a demonstration of the flexibility needed to be a professor at a small university. However, having to pick up new courses along the way is always inspiring.

**July 2022** – time to make way for the next generation of educators. I have been told that I am expected to apply to teach Atmosphere in the fall (and I did!) I was honoured to be appointed as *professor emeritus* at the spring convocation, so I will retain my ties with the university. I plan to continue to serve as secretary of the Atlantic Geoscience Society and organize occasional conferences. I will also continue to edit volumes for the Mineralogical Association of Canada, and work as copy editor for *Geoscience Canada*. I will finally(!) have time to weed the garden and one son is returning to Nova Scotia from NWT so I will soon have grandchildren at hand ... time to start on educating the next generation.

## Footnote



The Department is delighted to announce that Rob's position will be filled by Dr. Deanne van Rooyen. Following her PhD at Carleton, Deanne has been teaching introductory geology and environmental science at Cape Breton University for several years. However, her main experience is in metamorphic geology and tectonics and she will bring a new approach to petrological studies to Acadia.

Deanne is currently both president of the Atlantic Geoscience Society and past president of the Geological Association of Canada, so needs little introduction to the local community. We look forward to her arrival at Acadia, although we have yet to work out which office she will be in!

## **Lamenting the loss of the Acadian forest that I never got to know**

**An opinion piece by Riley Scanlan, originally published in the Chronicle Herald, March 8, 2022**

*Riley Scanlan graduated from Acadia with honours in Environmental Science in 2020 and is completing the Master of Environmental Studies program at the school for resource and environmental studies at Dalhousie University*

As a student of forest ecology, I've noticed an interesting similarity in the mentors and teachers I have been so fortunate to learn from. Several of them spent many nights and weeks exploring forests out of their own curiosity and enjoyment during their youth. Each recounts stories of their first experience sleeping under the canopy of an old-growth forest, encountering wildlife miles from the nearest road, and digging through the soil to discover what lies underground. Later, as they began their respective careers, they started to learn species names, examine ecosystem processes, and ask scientific questions about trees.

Growing up in a city, I was unable to develop this relaxed connection with forest ecosystems. Aside from summers at an overnight camp, which I was privileged to attend, I am only now as a young adult working to take — and make — the time to walk curiously through forests. The forests I walk through today are nothing like those of my mentors' youth. I know this because I was lucky to study old-growth forests during my undergraduate degree. The 30-to-50-year-old forests that fill in the gaps between clearcuts, farms, and towns would have once been an uncommon sight amid the large, old-growth stands hundreds of years old that blanketed Nova Scotia. The few that remain lie in small, secret pockets of the province; largely inaccessible.

Though forests at all succession stages are necessary to maintain ecosystem health and provide benefits to humans, extensive, industrial clearcutting has created an altogether unsustainable forest.

The more I learn about the Wabana'ki forest — known to many as the Acadian forest — the more I mourn my lost opportunity to learn from and experience expansive, intact forest ecosystems. The Mi'kmaq have sustainably stewarded these lands for thousands of years and show it is indeed possible to do so today.

As trees are connected and interdependent on each other, this loss of a relationship with forests in my generation is equally intertwined with other issues we face. A mental health crisis affects all those around me, and yet we are destroying an incredibly effective treatment: nature.

If not for the need to sequester carbon and regulate water cycles in the midst of a climate crisis — to provide vital habitat during a biodiversity loss and mass extinction event, to ensure stands remain for future generations of woodlot owners, fellers and carpenters — then I urge the government to at least consider that destroying forests deprives my generation and future ones of the opportunity to learn from and connect with these amazing ecosystems.

I join the choir of Nova Scotians urging the provincial government to halt cutting on Crown forests until the recommendations of the Lahey report, An Independent Review of Forestry Practices in Nova Scotia, have been implemented in full. A transition to ecological forestry as outlined by Prof. William Lahey was needed 20 years ago during my childhood, but today will have to suffice.



## WHERE ARE THEY NOW?

Some news of the achievements and adventures of our alumni/alumnae.

**Hend Alhudhaif (BSc Envs 2017)** finally started her Master of Public Health degree at Alfaisal University in Riyadh. Her husband Ziyad and the kids are doing great; Ziyad works at the Saudi Ministry of Environment and likes his job and Hend will start her new job at the Saudi Electricity Company in Riyadh as an environmental analyst in July.

**Donnelly Archibald (MSc 2012)** earned a PhD from the University of Adelaide (2016) and completed a post-doc at StFX University (2020), where he now teaches geology. He has two children, Matilda is 3 and Callan is 1.

**Kelli Armstrong (BSc Envs 2012)** works as a project manager at Bron Ltd. in Nassau, Bahamas. Some of her projects have involved the Global Youth Climate Network (GYCN) [Climate Action Position Paper](#) where she was part of the Coordination Team last year while serving as the 2021 GYCN Climate Ambassador for The Bahamas; she started a professional [Instagram page](#); participated in the first [One Young World Bahamas Caucus](#), was featured by The Office of The Prime Minister on [International Women's Day](#), and co-authored an expert presentation on climate change for [The Bahamas Think Tank](#)

**Hannah Arsenault Gallant (BSc Envs 2020)** has graduated from Queen's University with a MA in Political Studies, specialization in Political and Legal Thought. Her research project was entitled "Democratizing Citizenship Across Species Lines: Introducing a Basic Income for Domestic Animals Alongside Animal Agora Environments." She now resides back in PEI, working at a law firm, Cox and Palmer, and the Learning Disabilities Association of PEI as the learning disabilities awareness month coordinator. In the fall, she will be off to Dalhousie's Schulich School of Law to begin her Law School journey! She is honoured to be a recipient of a Renewable Schulich Entrance Scholarship, valued at \$52,000.00, for her time at Dalhousie.

**Jolene Ashini (BSc Geol 2016)** completed her JD at University of Victoria and will be articling in Toronto in the fall.

**Barry Banks (BSc Geol 2005) and Jillian Bambrick Banks (BSc Geol 2005)** were married in 2011 in the Acadia chapel and have lived in Baton Rouge, Louisiana, where Barry worked for a

survey company and Jill completed her PhD at Louisiana State University. They now live in Antigonish, NS, and have twin girls who just turned 7 years old. Jill teaches at St. FX in the Earth Sciences Department. Barry is a freelance contractor as an offshore Party Chief and Project manager specializing in preliminary surveys for east coast windfarm installation projects.

**Emily Beveridge (BSc Envs 2011)** is currently on maternity leave with daughter Carmen Jean who arrived in October 2021. She will return to work in the fall as a lawyer at Pape Salter Teillet LLP, in Dundas ON.

**Megan Beveridge (BSc Envs 2004)** works for BC Parks as a senior policy analyst, based in Victoria, BC.

**Peter Brown (BSc Geol 1986)** retired from Chevron and lives on Salt Spring Island, BC. As a "mentor and old sage" he writes, "If I could voice just one thing in 50 words or less, I would have to say that the global community needs to stop politicizing science for their own self-interest and purpose. Real science is objective – question, observe, gather data, analyze, hypothesize, test, conclude, and so forth. Remain true. Science is not a political weapon to be distorted and hurled at your opponent."

**Jennie Byron (BSc Geol 2002)** has started with ESRI in Boston as a senior solutions engineer for the AEC industry. She is excited for the change and enjoys working with environmental and geological data in a different way while supporting AEC and environment clients. She and Ash had a baby daughter, Ava, in November, 2019.

**Chloe Caldwell (BSc Geol 2017) and Austin Green-Slade (BSc Geol 2017)** are in Calgary. Chloe has been working as an environmental consultant for Ballast Environmental since 2019, mostly doing Phase 1 and Phase 2 ESAs for commercial and industrial sites in Alberta and for the oil & gas industry. Austin has been working for Waterline Resources since 2018 as a hydrogeology consultant, primarily with oil & gas companies in Alberta.

**Cait Champion (BSc Envs 2007)** is working as a General Surgeon in Parry Sound, ON, where she is also an Assistant Professor at NOSM University. She and her husband, Graham, recently welcomed

their son Adrian Thomas Taqqaugaq Airut Champion-Clark into their family in July 2021 through adoption in Nunavut. She is fortunate to live and work in a beautiful place on Georgian Bay with lots of opportunity for outdoor adventures!

**Stuart Clow (BSc EnvSci and Geol 2012)** recently became Co-Chair of the board of directors at a youth-focused charity in downtown Dartmouth called the MacPhee Centre for Creative Learning. He has also accepted the role of President for a youth football non-profit called the Halifax Argos. He works as an advanced analytics advisor for Bell Network and Technology Services.

**Sarah Coughlan (BSc Envs 2003)** has been working in education for 16 years. At first she taught mostly math and science, but for the last 10 years she has been working in the fields of Special Education and Inclusion, currently as head of the Education Support Services Department at Riverview High School, NB. Her two sons aged 6 and 9 love hiking and collecting rocks.

**Corey Curl (BSc 2004)** has been with AGAT Laboratories for 15 years, and recently relocated to Halifax where he is a senior laboratory technician specializing in specialty mercury analysis (ultra-low-level mercury/methyl mercury). Most of his work currently comes from his homeland of Labrador in relation to the hydroelectric power plant at Muskrat Falls.

**Giselle Deane (BSc Envs 2015)** has been working at the Bimini Research Station in the Bahamas. She has been accepted into an MS program in GIS and Technology at Georgia Tech in the fall.

**Olivia Dennis (BSc Envs 2015)** works for Colchester County as a process/laboratory technician at their five wastewater treatment facilities in Truro, NS.

**Dewey Dunnington (BSc Envs 2012; MSc Geol 2016)** earned a Ph.D. from Dalhousie and his P.Geo. in Nova Scotia. He's now a software engineer building high-performance data infrastructure at Voltron Data and lives in Wolfville with his wife Catherine and two kids (8 months and 22 months!) Occasionally he moonlights as an instructor in Geomorphology too.

**Vic French (MSc Geol 1984)** is still active in the industry in management and field exploration with 60 years in both mining and mineral exploration throughout Newfoundland and Labrador. Operating from head office in Bay Roberts he manages and directs the activities of several private, junior companies. He and his wife Audrey

reside in Bay Roberts, and he still gets out into the field from time to time searching for those “elusive mines”. Great memories of the years at Acadia and the dart tournaments in “the corner” sanctioned by thesis supervisor and superb geologist Sandra Barr.

**Owen Gaskill (BSc Geol 1999)** manages a couple of dialysis clinics in Calgary. He got married in 2018 and has an 18-month-old son, Arthur, who is surely the best thing in the world. He writes, “I am not sure what I thought I was doing with my life before he came along, but it wasn’t important.” He recently attended a talk on the geology of the Rockies, which reminded him how much he likes geology. He is keen to meet up with anyone from his year in Calgary – contact [ees@acadiau.ca](mailto:ees@acadiau.ca) for info.

**Kaesy Gladwin (BSc Geol 2001)** and his partner Amanda have finished their time away and returned home, now living near Annapolis. He spent a few years in Sudbury, then in gold exploration in Nunavut from 2008-2019, and most recently in northern BC, where he recently stepped down from the VP Exploration role with Cassiar Gold.

**Moirra Goodfellow (BSc Geol 2008)** works in Human Resources Counsel for UNB, living in Saint John, but working also in the Fredericton campus.

**Braeden Gray (BSc Geol 2019)** works for Aurora Geoscience in several areas, from core logging to geophysical surveys in Northern Canada. Aurora has three main offices in Yellowknife, Whitehorse, and Vancouver, but he lives in Calgary and they fly him out for projects.

**Chris Helmer (BSc Geol 1997)** runs his own hydrogeology consulting business in Kitchener, Ontario. With the development sector in Ontario so heated his biggest challenge is finding staff to support his growth. Chris is looking forward to showing his family Acadia during a vacation to the Annapolis Valley this summer.

**Thomas Howell (BSc Geol 1983)** is retiring after 36 years with the RCMP, the last 15 years as a detachment commander at various locations in Yukon and Alberta. He lives with his wife Melody in the Lethbridge area and have three grown children in various locations in western Canada. As a gift for sticking out with him and all the moving around, he is surprising Melody with a trip to Paris this fall. First time to Europe so should be interesting.

**Gareth Howells (BSc Geol 1987)** lives in Whitehorse, Yukon, and practises mainly corporate and commercial law and keeps connected with his geological background by acting for publicly traded and private mining corporations with operations in the Yukon and around the world. His elder son, Gavin, recently won a gold medal at the Canada Wide Science Fair, senior level, and he appears to be interested in studying science at university.

**Erin (Mullins) Klinghammer (BSc Envs 2002)** is the Environmental Operations Manager at the Southeast Regional Service Commission, based in Moncton NB. Most recently she has taken on an extra role as the Manager of the Mosquito Control Division, which has brought her back to her studies in aquatic ecology and marshes and is very rewarding. She works on mosquito control and projects in the marshes such as invasive species identification, bird surveys, water quality, and how the Petitcodiac River is changing since the installation of the new bridge last year and the complete removal of the old causeway.

**Jessica-Ann (Turner) Krbavcic and Steve Krbavcic (both BSc Geol 2015)** married in 2018 and now have an infant daughter, Gemma. Jessica and Steve have worked in environmental consulting in Barrie, ON, and Jessica is now a research and development technician at Cronos Group and Steve is a property and development assessor in Barrie.

**Alex Levy (BSc Envs 1998)** is section head with the Fish and Fish Habitat Protection Program, Fisheries and Oceans Canada in Halifax.

**Gerald Lewis (BSc Geol 1993)** has worked for Canadian Natural Resources Ltd. for the past 18 years in various areas and depositional environments, starting with heavy oil in the Lloydminster area, slowly making his way west and now in the BC foothills working the tight gas Montney Fm. He lives in Calgary with his wife and three children.

**Rachel Lewis (BSc Geol 2019)** is currently pursuing her MSc in Environmental Sciences from the University of Guelph. Her research funding is through Agriculture and Agri-Food Canada at the Fredericton Research and Development Centre and her research study is collaborative with McCain's Farm of the Future.

**Sharine Li (BSc Envs 2018)** is currently in her final year of veterinary school at the University of Melbourne, Australia.

**Dave Lowe (BSc Geol 2005)** is Assistant Professor and Hibernia Project Chair at Memorial University. He teaches field school, sedimentology, and researches on sedimentary rocks across Newfoundland, onshore and offshore.

**Andrea Lundrigan (MSc 2009)** has worked at Wood Environment & Infrastructure Solutions in St. John's, NL as senior environmental geoscientist and project manager. She lives in Conception Bay South with her husband and three children. She has worked on contaminated sites and remediation activities. For the past six years she has enjoyed leading a project involving over 100 marine waterlot assessments, which has been a satisfying mix of upland and waterlot assessment work and collaborating with other consultants and site professionals. Now she has started a new role as Health, Safety, Security & Environment (HSSE) Manager and Regional Quality Assurance Lead (RQAL) for the Canada Infrastructure line of business.

**Jesse MacDonald (BSc Envs 2018)** works for the Maritime Aboriginal Aquatic Resources Secretary (MAARS) as their Habitat Impact Assessment Manager in Truro, NS.

**Clea Machold (BSc Envs 2005)** works as a rural family doctor in Collingwood, ON. She and her husband welcomed daughter Finnley (Finn) Maia Akitt into the world in January, 2021.

**Jason MacKenzie (BSc Geol 2006)** is employed at Redlen Technologies which has grown to ~170 people including many manufacturing staff in addition to the scientific and engineering staff. He manages the materials science and engineering group. The company was recently acquired by Canon in Japan which provided value for shareholders and secured expansion as their Photon Counting Computed Tomography (PCCT) products hit the market. Their CdZnTe (CZT) crystals enable full colour and molecular imaging in CT scanning by enabling energy discrimination at the detector.

**Kelly Mahoney (MSc Geol 1996)** works as Director of Policy, Legislation and Communications for the Department of Health and Social Services in Northwest Territories. Outside of government work, she keeps busy chasing her two children with ballet shoes or hockey pads.

**Ronald Massawe (MSc Geol 2012)** was teaching in Dar-es-Salaam, Tanzania, but was moving to the Geological Survey of Tanzania in Dodoma for a few years to assist in the capacity-building of



young geologists as Director of Geological Services. He is also involved in training artisanal and small-scale miners and encouraging staff to publish their geochemical and geological data. He is married and has a 3 yr old daughter.

**Abbi McFee (BSc Geol 2021)** works as the mine geologist at Scotia Mine in Cooks Brook, NS, after a spell at Pure Gold in Ontario as a production geologist. She will be married in August and has bought a house in Cooks Brook.

**Patrick McGinn (BSc Geol 1990)** leads a team of R&D biologists and chemists at the National Research Council in Halifax working in the field of biotechnology of algae and other single-celled microorganisms for applications in aquaculture and the field of natural products. Both his sons now study at Acadia.

**Heather McGuire (BSc Geol 2018)** completed her Master of Applied Science in Environmental Engineering, and works at WSP Canada Inc. as an environmental consultant. She will be married in the summer.

**Claire McIntyre (BSc Envs 2009)** works for Fisheries and Oceans doing oil spill research, as a chemistry technician. She is also involved with the Halifax Centre of the Canadian Meteorological and Oceanographic Society (CMOS) as a member of the Executive committee, working on planning events including the National Congress.

**Luke Melanson (BSc Geol 2013)** works as a marine geologist at IT International Telecom in Halifax. The company installs submarine fibre optic cables and he interprets and assesses the geologic conditions of the seabed before installation to optimize the cable route.

**Colleen (Tuttle) Ménard (BSc Geol 2003)** started a new position as Technology Leadership Program Manager with Canada's Ocean Supercluster in late 2021, following 12 years working for the Canada-Nova Scotia Offshore Petroleum Board. She and her husband live in the suburbs of Halifax with their 9-year-old and 2-year-old sons.

**Tyler Nelson (BSc Biol 2016, 2<sup>nd</sup> major Envs)** completed the MSc in Systematics and Evolution at the University of Alberta in 2019, studying spruce budworm moth evolution and ecology. He then started as a research technician with Agriculture and Agri-Food Canada in Summerland, BC, and is the curator of the arthropod collection.

**Andrew Nette (BSc Geol 2012)** is based in Canmore, AB, but is currently working for Newmont on a new project in British Columbia called Saddle, located on the Klastline Plateau just east of the Mount Edziza provincial park.

**Darren Payne (BSc Geol 1990)** completed a Planning Technology Diploma at CoGS and ventured out to Calgary. Planning never really got going but he has worked in the oil and gas industry on and off since the mid-90s as a geologist. Since oil-work tends to be sporadic, he attended Culinary school in Vancouver and currently when not at well site, works in a variety restaurants around Calgary.

**Jean-Luc Pilote (MSc 2011)** completed his PhD at Memorial University and works as a metallogenist with the Geological Survey of Canada in Boischatel, Quebec, currently working on gold metallogeny in the Abitibi greenstone belt. He and his wife have an infant daughter, Odessa.

**Calvin Pratt (BSc 2017)** has been working in the Rockies, including a spell as tour guide on the Athabasca Icefields. We hope he points out the stratigraphy and structural geology too!

**Lionel Rodrigues (BSc Envs 2002)** initially processed and peddled fruit wines, spirits and nutraceutical products for the international market with Sedna Nutra, and Rodrigues Winery & Distillery. In 2018, he worked as the head brewer for Dildo Brewery & Museum. This year he started as the sales and events manager for Newfoundland Chocolate Company in St. John's. He is married to Nancy (Bailey), and they have 2 kids, Xavier and Kiya. Kiya is an aspiring actor and skater, and Xavier is the Janeway Champion Child and designated spokesperson for the fundraising efforts of Newfoundland's main children's hospital.

**Alan Sexton (MSc Geol 1988)** was encountered at the Halifax 2022 meeting in May. He is vice-president for project management with GeoVector Management Inc., in Ottawa.

**Bryanna Sherbo (BSc Envs 2017)** finished her MSc in Biology at the University of Manitoba, studying the effects of dissolved organic carbon on primary production at the Experimental Lakes Area. She also worked for the Manitoba Metis Federation as an aquatic biologist and in October 2021 got hired by Fisheries and Oceans Canada in Winnipeg to work as an aquatic technician studying walrus, beluga, and narwhal populations in the high Arctic. She will be conducting aerial

surveys of walrus and narwhal this summer, based in Resolute, Nunavut.

**Justin Sinclair (BSc 2019)** is working in Yukon at a porphyry copper deposit at project Casino for Aurora Geosciences. Spending all of February in the tundra for a gravity survey was quite an adventure! Driving by caribou on snowmobile every day, batteries dying from the cold, and of course the northern lights. Many challenges, but worthwhile when you see the data you've collected are good!

**Andrew Spring (BSc Envs 2001)** completed a MSc in Environmental Engineering at Toronto, and worked in industry and for NGOs for a few years before he went back to a PhD in Geography and Environmental Studies at Wilfred Laurier University, working on sustainable food systems in Canada's North. He recently took up a faculty position at Laurier and lives in Kitchener with his wife Jennifer Baltzer '00) and two kids.

**Ben Sweet (BSc Envs 2010)** is Director of Environmental Technologies at QM Environmental. His information was contributed by his wife, **Maria Gushurst-Jones (BSc Envs 2010)** who tells us Ben went on to get his Masters in Chemical Engineering from UNB in 2018 just before their son was born. They also welcomed a daughter in 2020. In 2021 they purchased 200 acres of beautiful vacant land in Pocologan, New Brunswick. The Pocologan River runs right through the property, and they have big plans to help the forest recover from previous logging. Maria and Ben now spend their free time working on forest regeneration and conservation.

**Michael Tamosauskas (BSc Geol 2020)** is finishing up his MSc at Laurentian on *Depositional Environment and Gold Potential of the Ament Bay Assemblage in the Sturgeon Lake Greenstone Belt, Northwestern Ontario* and enjoying learning about Precambrian geology and improving his presentation skills.

**Paul Ténière (MSc Geol 2002)** is president and CEO and a Director/Technical Advisor for junior mining companies and does geological consulting focused on NI 43-101 technical reporting and helping mining companies list on the Canadian stock exchanges. Being involved with so many mining companies based all around the world he works strange hours especially on Australian and New Zealand projects. From his position, he sees mining projects being developed on the basis of high metal prices. He suspects we are in the early

stages of another major supercycle with a strong focus on Cu, Zn, Ni, Li and other commodities that contribute to the green economy, EV revolution, and the general move away from fossil fuels, so it's a very exciting time to be an exploration and mining geologist and we need more individuals entering the mining industry. It is the busiest he has seen things in nearly 25 years. Paul still works from home in Rothesay, NB, but will likely move back to Toronto in the near future as it does make things easier on the business development and networking front.

**Jose and Helen Texidor (MSc 2007 and admin assistant 2006-07)** moved to Alicante, Spain, where Jose is now working for Orla Mining as Manager of Mineral Resources. Although mostly working from home, he has regular visits to mines in Zacatecas, Mexico, and projects in Panama. Helen works part-time for Zelus Material Handling but is also busy looking after the house, garden, orchard and two teenage daughters.

**Dimitri Tzekakis (BSc 2009)** completed the Master of Marine Science from Memorial University and now lives in Victoria, BC, working as a marine geoscientist, mostly for US windfarms.

**Emma Vost (BSc Envs 2008)** is a provincial biologist with the Nova Scotia Department of Natural Resources and Renewables in Coldbrook, NS. She got married in 2021 and now has two children.

**Kat Voy (BSc Geol 2013)** was accepted into the M Library & Information Services program at U Alberta.

**Blair Way (BSc Geol 1985)** is based in Brisbane, Australia, but is involved primarily in Canadian listed companies seeking lithium, gold, copper and uranium. He is CEO, President and Director of Patriot Battery Metals, currently exploring a 50 km-long greenstone belt for lithium in the James Bay region of Quebec. His 8- and 11-year old children enjoy going to the site and seeing the drilling and are always on the lookout for visible gold.

**Robin Westland (BSc 2010)** has accepted a tenure-track professorship at Thompson Rivers University in Kamloops. She began applying for positions over Christmas, never dreaming she would actually get one, and then got the first one she applied to! She will be teaching in the Geography and Environmental Studies Department.

**Aléna Wilson (BSc Geol 2000)** really enjoyed working in the oil industry but decided to attack another passion, wine. She completed the WSET Diploma in 2017 and got accepted to do a Euromasters MSc in Viticulture and Enology. She packed her bags and moved to France for one year and a second year in Piemonte, Italy, where she completed thesis work. She came back to Nova Scotia for Christmas 2019 with the intent of returning to Italy and her significant other, but Italy closed its borders two days prior to her flight. After evaluating what opportunities still existed she started looking for PhD opportunities. She is now living in Piemonte again, doing her PhD in Agricultural Sciences with a focus on terroir and specifically the potential impacts of climate change

on the Nebbiolo grape within the growing region of Barolo. She hopes to complete it in 2024, but will finally be coming back to Nova Scotia this summer to visit family and her dog for the first time since 2020.

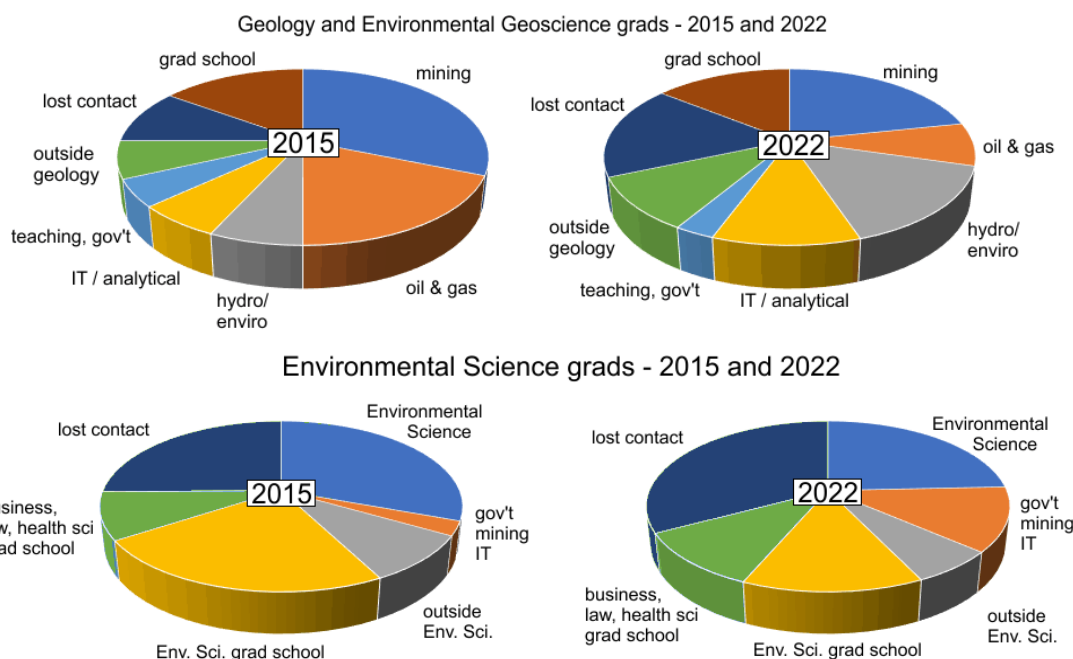
**Dylan Wyles (BSc 2018)** has been working at GHD Ltd. under **Jennifer Pushie (BSc Env Geosci 2019)** in the Emergency Spill Response department of environmental consulting as an Environmental Scientist for the past two years. Also on the team is **Ashton Baich (BSc Geol 2019)** so the spill response team at GHD for Nova Scotia is all Acadia grads.

## Final Thoughts

The units that now make up the Department of Earth and Environmental Science have provided annual updates to our graduates since 1989. You can review previous newsletters which are archived on [our webpage](#). Every year we collect information from our graduates from many sources – some of you have written us directly to let us know about changes in your careers or status. Others are encountered at conferences, alumni gatherings, or serendipitously on the street or in an airport. We even trawl through LinkedIn to see what you are doing! While we like to follow your tracks just to see what you are doing, we have an ulterior motive, trying to

keep up with the needs of current and incoming students. Knowledge of your work and travels provides us, your former professors, with information about what our current students will need to know. We thank you for the steady stream of facts. Keep them coming!

When potential students (or more accurately their parents) visit us on the Grand Tour, trying to select a destination for study, one of the questions that always comes up is, “what do you do with a degree in Environmental Science or in Geology?” We have researched the answer to this question using your data and present here some of the findings. Snapshots of our files were





taken for the 10-year period 2005-2015 and again for the period 2012-2022. They show some of the changes that have happened in our disciplines.

For graduates in Geology and Environmental Geoscience, the two charts below plot your destinations as two snapshots, one in 2015, the other in 2022. In each case the dataset includes all graduates in the previous 10 years. For the period 2005-2015 that was 160 graduates; for 2012-2022 it has grown to 203 graduates. These numbers include graduates for whom we do not have data (10-17% of you). While we have lost contact with more of you in the more recent block, the big changes are the shifts from the mining and especially the energy industries to the hydrogeology/environmental and IT or analytical industries. More graduates are also finding employment outside of geology. I doubt anyone is surprised to see the reduction of our recent graduates working in the oil and gas sector, but the growth in the IT/analytical sectors was less anticipated. It clearly shows that a degree in the natural sciences provides a strong foundation for employment in a wide range of industries.

A similar analysis of the Environmental Science program involved 111 graduates for the 10-year period up to 2015 and 140 graduates in the period up to 2022.

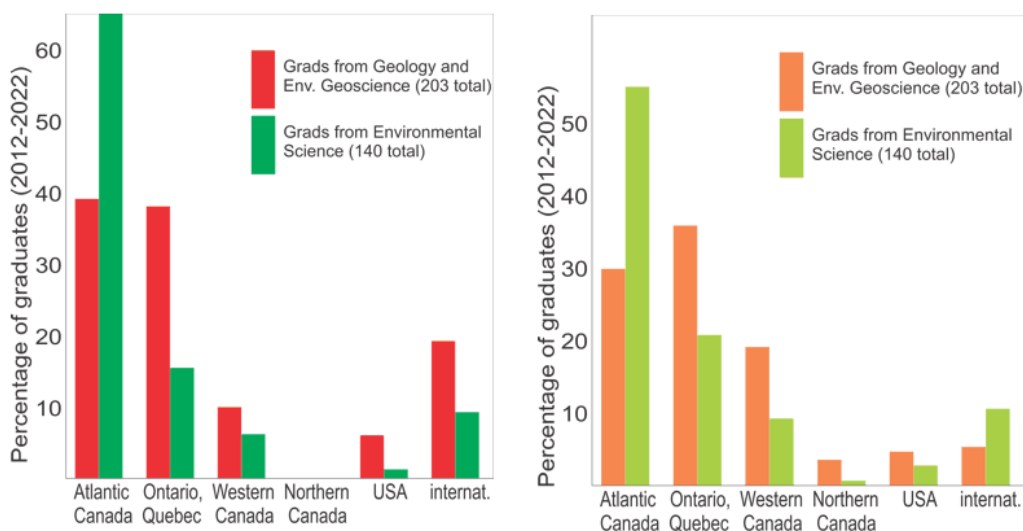
Clearly, we need to a better job at tracking where our Environmental Science graduates are – we have lost contact with nearly one-third of

the Env Sci grads. Tell your friends from Acadia we want to hear from them! For those we do know, fewer are in graduate school in Environmental Science, although a larger fraction is studying in other areas (mostly law or business). The number employed directly in the environmental industries has dropped back in 2022, but that is more than compensated by the number working in government and IT sectors, mostly in environmentally related fields.

We have also investigated the geographic location of your destinations after you left Acadia (below, right). It appears that Environmental Science graduates more easily find employment in Atlantic Canada, although the peak in Ontario/Quebec locations for Geology and Environmental Geoscience grads is partly due to the many Fleming students who come to those programs and return to Ontario.

The graph below, at left, shows where you came from to attend Acadia – it plots your home location at the point of application to university. The numbers in Environmental Science match well with the overall distribution of students across the university, over 60% from the four Atlantic provinces. However, the Geology/Environmental Geoscience numbers are anomalous with over one-third from Ontario, those being students who transfer from Sir Sandford Fleming College.

Taken together, these two graphs show a modest exodus to points west, and a definite hint of immigration by students internationally.



*Locations of grads from 2012-2022 when they applied to Acadia (left) and current location of grads from 2012-2022 today (right)*