ACADIA UNIVERISITY – Department of Earth and Environmental Science

Enrolment: Student numbers have been steady for the past two years. ENVS has 70 majors, GEOL has 26, ENGO had 13. The relative proportion of ENGO majors is increasing this year. Graduate student enrolment (MSc only is steady but low because full funding is required for acceptance of graduate students. Graduate student study permits have become more difficult to obtain, many departments on campus have been impacted by this, and a number of prospective students have had to apply several times or appeal initial denials, some have been successful.

Our service courses are very popular and oversubscribed (300+ per section and healthy in summer options); we are limited in how many we can offer because of personnel constraints.

Faculty: We have 7.5 faculty positions (including an instructor). Two or three retirements are expected over the next two years (instructor this year, two more to follow). Our Igneous petrology position is being readvertised this year, we had a failed search in 2023-24 so Dr. Sandra Barr has been graciously filling her own position after attempting to retire. Sabbatical replacements for the next academic year will be a challenge and we anticipate having to reduce course offerings for the coming year. This year's budgeting process has not been completed so we have not received permission to replace the instructor position or to advertise for sabbatical replacements yet. Given campus-wide budget constraints we are concerned.

Noteworthy: The Acadia Petrographic Lab Thin Section facility is busier than ever. Equipment replacement is an evergreen concern, both for lab facilities and teaching (e.g. microscopes etc.).

Faculty research funding is healthy, the department has several NSERC holders, and some have funding from sources like Mitacs, provincial grants, and industry partnerships. The university remains very supportive of faculty and student research with internal grants and student research awards.

Submitted by Deanne van Rooyen and Nelson O'Driscoll

BRANDON UNIVERSITY – Department of Geology

Current Faculty:

- 4 Full-Time Faculty (all Full Professors), 1 Half-Time Professional Associate (shared with Northern Manitoba Mining Academy), 1 Full-Time Instructional Associate (Micro Analytical Facility Director). 1 Full-Time continuing appointment of Instructional Associate (in charge of 1st to 4th Year Geology Labs) (This was approved in August).

Programs:

- *Undergraduate Geology Degrees*: 3-Year Major, 4-Year Major, and 4-Year Honours

- *Undergraduate Program Streams*: Geology, Environmental Geoscience, Palaeontology and Stratigraphy

- *Masters of Environmental and Life Sciences* (MELS)

Current Student Enrolment:

- Geology Majors (16 students)

- Geology Minors (10 students)

- MELS (0 student)

- Service Course (≈ 140 students)

Major Short-Term Challenges:

-Low student enrollment (though a slight increase from last year).

Noteworthy: The department hosted a very successful GAC-MAC-PEG conference on May 19-22, 2024. The conference attracted over 350 academic and industry people from all five continents. The Local Organizing Committee was led by Hamid Mumin and Paul Alexandre.

Submitted by Rong-Yu Li

CAPE BRETON UNIVERSITY

Architectural plans for our new science building, the Centre for Discovery and Innovation (CDI), are nearly complete. Geology successfully pushed back at (initially reduced) space allocation and secured two dedicated teaching labs, as well research and storage space (which we have never formally had). The design process allowed us almost complete say in the layout and furnishing. Geology was also allocated ~$150,000 of institutional ACOA funding for new teaching equipment. While ostensibly for the CDI, that equipment (e.g., a stream table, microscopes, teaching models, AR sandbox, rock saws, and field equipment) is already purchased and is in use. An additional $150,000 was allocated towards an interior stratigraphic teaching wall and exterior rock garden. This will see a two story, 10 m x 7 m stratigraphic wall centrally located in the new CDI, as well as boulders and a geological timeline embedded in the exterior landscaping. [See here for an overview video.] At present we have incomplete funding, and are seeking sponsors—suggestions or connections are appreciated!

CBU faculty has grown slightly. We retained our three permanent faculty (1 TT, 1 Instructor, 1 Lab Instructor), and added a sessional instructor to cover course releases. We have also quietly added adjacent faculty: three graduate-level trained paleontologists (in Biology and the research office) on permanent or term contracts. Collectively, this means that CBU employs—in some role—five trained paleontologists and two sedimentologists, plus a geochronologist; six at the PhD level, and six through a geology stream. While not fully utilized, this expertise positions CBU as a ‘sleeper’ soft rock power house in Eastern Canada.

CBU has continued to build its relationship with the Cape Breton Fossil Centre. One of our faculty received partial teaching release to develop a proposal for a formal relationship between the Centre and university, which would expand our paleontology and geotourism research and teaching capacity.

Changes to immigration rules and state-level relationship between Canada and India have impacted CBU as a whole. Our dramatic growth has abruptly reversed, and we are entering an austerity phase. So far, Geology has been relatively unimpacted. Domestic enrolment is steady (our 'elective courses’ have continued to grow) and our service courses for Public Health and Engineering, while down from pre- to early-COVID numbers, have not significantly changed year on year. (Most of the drop to in enrolment this academic year was in Business, but we expect a drop in 2025-2026 in our core ‘hydrogeology’ course delivered for Public Health.) While these enrollment changes are creating significant anxiety across campus, they present opportunity for Geology, as the university is strongly encouraging new revenue streams and strengthening domestic recruitment.

CBU is launching a new course this year focused on oceans and climate. We are also in the final stages of approval for a formal 2-year transfer program to Acadia university, which will allow us to directly recruit geology majors from high schools for the first time. We are also pursuing a minor through our School of Arts and Social Science in Earth and Environmental Studies, to increase internal recruitment for our courses.

Departmental research is productive. We have successfully attracted funding from a variety of sources, including internal (CBU) grants for students, community grants, and external grants (e.g., Mitacs). We have integrated undergraduate students into field-based

projects—including outside of the Maritimes—and are working with faculty at other institutions to co-supervise graduate students. In February, one of our students won the Rupert MacNeill Award for best undergraduate talk at the Atlantic Geoscience Society Colloquium.

We have been very active in outreach, including a well-attended music and nature event during Cape Breton's Celtic Colours International Festival 2024, which introduced visitors to the geology in the Coxheath Hills trails.

Submitted by Jason Loxton

CARLETON UNIVERSITY

Enrolment: Our four-year undergraduate enrolment is 93, spread over 9 programs and concentrations. We also have 8 students in B.Sc.H. - Environmental Science with Concentration in Earth Sciences, and 48 students taking Minors in Earth Sciences. In 2023-24 we had 2497 students registered in service or general interest courses, compared to 2726 in 2022-23, the decrease a result of dropping one course from our offerings last year. For 2023-24 we have 39 graduate students, 20 MSc and 19 PhD. Carleton now waives the non-resident tuition for international PhD students.

Faculty and Staff Members: After completing interviews for a new Assistant Professor specializing in Structural Geology and critical mineral exploration, our department will have 11 faculty members, including two with cross-appointments. We were pleased to welcome Dr. Elliott Skierszkan in January 2024 as an Assistant Professor (Ph.D. University of British Columbia, Hydrogeology, cross-appointed with the Institute of Environmental Science). Dr. Skierszkan's expertise focuses on understanding the processes driving contaminant release into water resources.

We are unfortunately down one faculty member, as sedimentologist Dr. Lyle Nelson departed to take a faculty position at the Massachusetts Institute of Technology on July 1, 2024. Efforts are underway to replace this vital role, though we face financial challenges similar to other Ontario universities, such as the tuition freeze at 2019 levels, stagnant grant transfers, and reduced numbers of international students permitted entry into Canada. The university is considering buyout programs for faculty beyond the normal retirement age to reallocate funds for new hires across departments.

Dr. Giorgio Ranalli, who has served the department for 54 years, since 1970, continues as our sole Distinguished Research Professor, and Dr. Richard Ernst remains our Scientist in Residence. The department is further supported by five administrative and technical staff members. We also regularly hire contract instructors each semester to cover vacancies resulting from sabbaticals and other leaves of absence.

Retirements: Professor Brian Cousens, our igneous petrologist, plans to retire in December 2025. In the upcoming budget cycle, we will apply to replace his position, as well as a vacant position in sedimentology. In retirement Brian will remain active with the department and plans, together with Tim Patterson, to lead our fall 2026 capstone field course in southern California.

New Environmental Geoscience Program. Our new program in Environmental Geoscience and been approved and will begin accepting students for September 2025. Together with our existing program in Vertebrate Paleontology which already has a significant enrollment, we are confident that the addition of this new Professional Geoscientists Ontario (PGO) compliant offering will significantly increase our undergraduate program enrolment.

New Course Only M.Sc. in Critical Resource Management/Mineral Resource Exploration. With support from BHP, our department is in the final stages of developing a new

online, course-only master's program tailored for early-career geoscientists aiming for management roles and mid-career geoscientists seeking career advancement. Professor Jim Mungall is expected to serve as the program's inaugural Director, and course development is currently underway. The program's first intake of students is tentatively scheduled for January 2026. We are confident that this unique program will substantially boost our graduate student enrollment. Being fully online, it eliminates visa requirements for international students and allows employed industry professionals to complete coursework remotely.

Super Honors M.Sc. Following the example of several other institutions, we will offer undergraduate honors students the opportunity to complete an M.Sc. in one year if they expand upon the research conducted for their B.Sc. honors project, provided they continue working with the same supervisor. This approach benefits students by allowing them to earn their M.Sc. a year sooner, reducing time in school and potentially boosting career earnings. Supervisors also benefit, as the likelihood of publishing the results of the honors research significantly increases.

Importance of Service Courses: As a small department, our service courses are highly valuable, and we aim to expand these offerings to ensure that, each year, at least 10% of Carleton students are introduced to some aspect of Earth Sciences. Like many universities, most Carleton students enter without a background in Earth Sciences, as it's not typically covered in high school and is not required for students in other departments. For many, including future K-12 science teachers, these courses may be their only exposure to Earth Sciences at the university level. Additionally, these courses have the potential to attract the Ottawa general public, serving as an important outreach channel for the Department of Earth Sciences.

Field Based Experiential Learning. Our department is fortunate to have two endowments dedicated to experiential learning: the W.H. Collins Memorial Endowment and the Sethu Raman Endowment for Field Education in Earth Sciences. These funds allow us to provide up to $2,500 to each graduate and undergraduate student in our major and combined programs, supporting their participation in one of our many national and international field courses each year. This funding ensures that every student, regardless of financial means, has access to experiential learning opportunities—a cornerstone of our department's training philosophy and now a focal point in our recruitment efforts.

Submitter by Tim Patterson

DALHOUSIE UNIVERSITY

Earth Science undergraduate student enrolments have increased over the past five years (2020-21 to 2024-25) by ~42%, with an overall increase in Environmental Science undergrads of 47% over the same time period. However, the ERTH student numbers for 2020-21 were anomalously low so the number of ERTH students realistically is mostly stable. Enrolment in the ERTH 2nd yr required courses, which is a good measure of program health, are steady. Enrolment in EES-taught first year courses have exceeded their caps. Graduate student enrolments are on a mild downward trajectory since 2020-21, with the number of PhD students variable and a steady decrease in MSc students.

<u>Faculty and staff</u>

There are no new faculty hires to report. We had a failed search in 2024 for the endowed Elizabeth May Chair and plan to run a new search in 2025. Dr. Vittorio Maselli, who was hired as the Canada Research Chair (Tier 2) in Coastal Zone Processes, has left Dalhousie as of 31 Mar 2024 to take up an appointment at the University of Modena. Dr. Lawrence Plug is retiring as of 31 Dec

2024. The department currently has 18 full time faculty, 12 research and 6 teaching. This includes Dr. Shannon Sterling who took an 80% leave for 2024/25. This is significantly below the needed number of faculty for normal operations, so we were given a green light this Spring to run 4 searches. Two are replacements searchers for Dr. Lawrence Plug and Dr. Anne-Marie Ryan, who passed away three years ago, one is an NSERC Tier 2 CRC search in Land to Ocean Biogeochemistry, and the last one is the repeat of the Elizabeth May Chair search. The NSERC Tier 2 CRC position we won in a university wide competition. All searches are for research faculty. Unfortunately, Dalhousie University announced a hiring freeze in September and two of our replacement searches had to be abandoned.

Support for Teaching and Research

The National Facility for Seismological Investigations has deployed all of its 120 next-generation ocean bottom seismometers in the Gulf of St. Lawrence, offshore New Zealand, Offshore BC, offshore Nova Scotia, and in Baffin Bay and is actively working on securing further work. The deployments just this year have generated about $500k in User Fees. The EES researchers received two NSERC RTIs each valued at $150K. One is to purchase equipment to measure soil N2O emissions from the Canadian boreal to Neotropical forests, and the other to purchase a gamma ray spectrometer for dating natural materials across the Holocene-Anthropocene transition. The EES department continued with renovations to teaching and research space.

Challenges and Progress

The main challenge we face is drop in faculty numbers combined with a recent hiring freeze (please see faculty and staff). Absenteeism also is major residual problem from COVID. It's not clear how/when this will be resolved, particularly because it is practised by our leadership (administration).

Submitted by Mladen Nedimović

LAKEHEAD UNIVERSITY

Faculty and Staff: We currently have four full-time faculty members, down from seven last year ago. This sudden decrease reflects the retirements of Drs. Hill and Fralick in June and the resignation of Dr. Philips. Fortunately, we have been granted replacement positions, one in sedimentology and stratigraphy and the other in structural geology and tectonics. Dr. Zhiquan Li will be joining the department as our new sedimentologist in January, and we are currently interviewing for the structural position, which will have an August 1 start date. The department continues its attempts to recruit a Tier II Canada Research Chair in Critical Metal Systems. The department currently has two research chairs (NOHFC IRC Chair in Mineral Exploration and Faculty of Science and Environmental Research Chair).

We continue to rely on sessional support to allow faculty course reductions for administrative responsibilities and research chairs and to cover teaching for faculty on sabbatical leave. Because of our current faculty numbers approximately 70% of courses are being taught by sessional instructors. Fortunately, the Thunder Bay region provides us with an exceptional talent pool of PhD- and MSc-level sessional instructors (many of whom are Lakehead alumni). I cannot satisfactorily state my appreciation for their continued willingness to support the department, especially during this unprecedented time of staffing challenges.

The past year has been difficult on an administrative level as the department had no administrative assistant from August 2023 to February 2024, when finally, a temporary assistant was hired. The lack of support put additional strain and responsibilities on the Chair and the delay in hiring reflects inefficiencies outside of the department. We currently have four emeriti professors, all of whom remain active in the department. We maintain a highly utilized (both internal and external clients) lapidary facility, which is staffed by

two full-time technicians. The department is currently without an administrative assistant. The department also has 11 adjunct professors and 2 professional associates. In addition to the instructional staff at the Thunder Bay campus, we maintain a limited-term instructor for our first-year course offerings at our Orillia campus.

Enrolment and Programs: Since 2020 the department has been experiencing steady and consistent growth, marking a turnaround in the decade-long trend of declining enrolment (from 140 in 2011 to 49 in 2020). We currently have 95 majors (up from 72 last year) across our undergraduate and graduate programs (HBSc Geology, HBESc Earth Science, HBSc Water Resource Science and MSc Geology). Our enrolments trends reflect increased interest in the MSc program (19 students) and an exceptional increase in the number of Geology and Earth Science (environmental geology) majors over the past two years, with these programs now having 48 and 15 students, respectively. Our Water Resource Science program underwent a major overhaul of the curriculum. While the HBSc Water Resource Science with Specialization in Applied Environmental Water Management partnership program with Confederation College remained unchanged, the Lakehead-only HBSc program in Water Resource Science was renamed to Water Science. This renaming was done to reflect the major curriculum changes, making the new program not only more robust but also compliant with PGeo knowledge requirements, along with our two main programs, HBSc Geology and HBESc Earth Science."

Submitted by Adrew Conly

LAURENTIAN UNIVERSITY - Harquail School of Earth Sciences

Enrolment: The last students admitted into the Environmental Geoscience BSc program have now graduated, and that program is no longer offered. All undergraduate enrolments are now in the BSc specialization in Earth Sciences, which is designed to meet Professional Geoscientists Ontario (PGO) accreditation. The total enrolment at the BSc level increased from last year (n=57). The number of first-year students seems to have reached a steady state over the last 3 years, fluctuating between 15 and 17. The number of students continuing to the second year of the program varies slightly year over year. We typically gain 3 to 5 students from other sciences or engineering while losing a few (often because they struggle with the compulsory chemistry, physics, and calculus needed to meet PGO knowledge requirements). At the graduate level we have 18 students in the PhD program, 16 in the MSc program (thesis-based) and 19 in the course-based Applied MSc program.

Faculty and Staff: Our faculty complement is currently ten tenured or tenure-track faculty members, including Dr. Stefanie Brueckner, who joined our school in July 2024. We are recruiting an Assistant Professor in Sedimentary Petrology, set to start in 2025. This will bring the number of full-time faculty to eleven. The university administration has committed to replacing retiring faculty, particularly because our programs align well with the university strategic plan, although future replacements may depend on sustained enrolment growth. Our staff includes three full-time and one part-time member.

Research Centres: The Mineral Exploration Research Centre (MERC) continues to lead applied research projects with industry partners. MERC has associated staff, postdocs, and Research Associates that are not counted as part of the Harquail School of Earth Sciences.

Submitted by Pedro Jugo

MCGILL UNIVERSITY - Earth and Planetary Sciences

It has been a year of change and uncertainty in the Department of Earth and Planetary Sciences. We have now experienced a year under a new administrative structure, in which our administrative support is shared across three departments (with Geography and Atmospheres and Oceans). While we have in many ways adapted to the new reality, it seems that both the administrative team and faculty are taking on increasing administrative loads. Restructuring of provincial funding to the universities continues, and although the much-anticipated decline in enrollments did not hit McGill this year (as it did the two other English-speaking universities in the province), continued university-wide budgetary challenges loom. Long-time professor Olivia Jensen retired this summer, and two tenured faculty members departed, leaving a significant hole in our capability of teaching. On the positive side, our undergraduate enrollment, while still low by historical standards, has notched upward noticeably compared to last year. We also completed a departmental strategic plan last year, which will alleviate work associated with a planned academic review this year.

Students

Undergraduate enrollment across our major and minor programs remains low by historic standards, but the aggregate numbers are stronger this year compared to the past few years. Specifically, we have seen a marked increase in our geology program. In addition to students that are solely enrolled in our program, we have students in the joint major in Physics and Geophysics (joint with the Physics Department) and the Earth System Science Program (joint with the departments of Atmosphere and Oceans and Geography), and a few other joint or faculty programs. Increased outreach efforts appear to be paying off in our draw of students from the CEGEP system, and we have more of a pipeline of prospective students than in past years. As a reminder, in the Québec system, our undergraduate program is only 3 years.

Student enrollment numbers

Degree	**Enrollment**
PhD, Earth and Planetary Sciences	43
MSc, Earth and Planetary Sciences	14
BSc Major/Honours in Geology/Earth and Planetary Sciences	15
BSc Major/Honours in Earth System Science	19
Other BSc and BA programs partly in Earth Sciences	11
Minor in Earth and Planetary Sciences	2

Our graduate student numbers remain strong, dominated by PhD students. Many of our students are supported by major fellowships, including NSERC Vanier, PGS/CGS-D, CGS-M, and FRQNT doctoral fellowships, which recently have opened to allow Canadian and International students to apply. We also benefit from many endowed departmental scholarships. Approximately 50% of our graduate students are international.

Both the Department and the Faculty have endeavoured to increase student take home pay to adjust to the rapidly rising cost of living in Montreal. The recently announced increase to NSCERC PhD and MSc fellowships helps, but also raises the question of how to manage large inequities in graduate student take home pay.

The tension around student pay at McGill culminated in tense contract negotiations between McGill and the TA union, followed by a disruptive strike at the end of the Winter 2024 term. A new contract is now signed, and it has increased student take home pay, but this has had nominal effect in our department as our students are paid mainly through research stipends and fellowships.

Faculty and Staff

Following a retirement and two departures this calendar year, Earth and Planetary Sciences currently has 15 tenured and tenure-track faculty, which includes 2 faculty jointly appointed to other departments and one faculty lecturer. We are currently conducting a search for another faculty lecturer. The two departed faculty members are now adjunct members of the department, and we have added one new adjunct faculty member. Two emeritus professors remain actively involved in our department.

Our faculty includes 1 CRC-Tier 1 and 3 CRC-Tier 2 chairs (1 departing faculty was a CRC-Tier 2), as well as a James McGill Professor (university equivalent of a CRC-1), a William Dawson Scholar (university equivalent of a CRC-2), and three endowed chairs. One jointly appointed faculty member is a McDonald Fellow.

We currently have 8 post-docs in the department, which represents a significant decline compared to the last few years, which were buoyed by a post-doctoral funding scheme that is winding down.

We also have 5 research associates in our department funded on soft money by individual researchers, along with 2 technical laboratory staff, supported in part by instrumental user fees.

Our core administrative staff are now shared between the departments of Geography and Atmospheric and Ocean Sciences, and we have no fixed administrative staff within our unit. This restructuring of administrative staff into pods/hubs is part of a larger trend at the university and presumably across Canada. We have two staff members funded by limited duration funding, one of whom is a communications specialist working on outreach and recruitment, and the other a research assistant who provides research support broadly across the department.

Research

Our department remains research intensive, with most of our tenure-track faculty are supported by NSERC Discovery grants, along with diverse public, private, and endowed funding sources, A recently successful CFI will finance the replacement our electron microprobe. Other research infrastructure includes a dual inlet isotope ratio mass spectrometer, a gas chromatograph-isotope ratio mass spectrometer, a gas chromatograph mass spectrometer, multiple cavity ringdown analyzers, an ICP-MS, an ICP-OES, and experimental petrology facilities, along with numerous sample preparation laboratories and more specialized equipment. Our access to analytical infrastructure and technical expertise is greatly enhanced by the participation of most members of our department in the Geotop Research Centre in Earth System Dynamics, based at UQAM. The research centre is currently under restructuring following a failed renewal bid last year with the Fonds de Recherche du Québec. A new proposal will be submitted next year.

Challenges and Future Outlook

The major challenges facing our department are the low undergraduate enrollments coupled with the recent loss of tenure-track faculty and limited prospect of replacements as significant budget tightening is forecast. Although we will hire a faculty lecturer this academic year, the outlook for tenure-track faculty hires is bleak, and we will likely have to adjust our academic program to accommodate a diminished number of teaching faculty.

A long-term challenge in EPS is the poor state of our building and physical plant. Many of our laboratories underperform due to frequent power issues (unplanned and planned outages, unstable power supply), floods, poorly built and maintained structures, and limited HVAC capability. Some of these issues may be alleviated in the planned future move to the old Royal Victoria site, but the proposed completion date of that site is still at least five years away, and no decisions have yet been made regarding whether all or part of

EPS will be involved in the move. We are therefore in a position of having to make do with our current space for the foreseeable future.

Submitted by Galen Halverson

McMASTER UNIVERSITY, School of Earth, Environment & Society

SEES has a complement of 25 fully appointed faculty and an additional 2 with joint appointments. The 25 include 5 teaching faculty including one 3 year contractually limited appointment, and 19 research professors. 12 of the 19 research professors would be considered either earth or environmental scientists and of these, all currently hold NSERC awards. SEES has research expenditures that range from $4.5 – $6.5 Million/per year or about $250-$350K per faculty member.

2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
$6,010,178	$6,516,276	$4,569,451	$5,088,881	$4,492,147	$4,727,786

This year we had one retirement, James Smith in Hydrogeology. In 2023-2024 four faculty were awarded tenure, promotion and/or permanence. Among our faculty group, 3 members hold CRC chairs: Mike Waddington is a Tier 1 Chair in Ecohydrology, Alemu Gonsamo is a Tier 2 Chair in Remote Sensing of Terrestrial Ecosystems, and Gita Ljubicic is a Tier 2 Chair in Community-Engaged Research for Northern Sustainability. Janok Bhattacharya is the Susan Cunningham Research Chair in Geology, and Dr. Elli Papangelakis is the Fairley-Gadsby Chair in Fluvial Geomorphology. Both are privately funded. In the last year, Dr. Antonio Páez won the Edward L. Ullman Award in Transport Geography, given by the American Association of Geographers, and Dr. Allison Williams was elected as a fellow of the Canadian Academy of Health Sciences.

We received a generous $500K donation from Keith and Traci MacDonald that will be used to fund the Undergraduate Student Research Experience Award and a Faculty Research Award.

In 2023-234 we had 249 students enrolled as 2–4-year Earth and Environment and Environmental Science majors and 8 in Physical Geography with about 102 PGO certifiable. We have an additional 68 post 1st year BSc students, that includes students in our Hons. Biodiversity and Environmental Science as well as iSci students in the Earth Sciences and Environmental Sciences concentrations. We also taught 2,872 students in our 2nd year service and 1st year classes. Enrollments are down from 2022/23, but this is being observed across the board in all departments in the Faculty of Science. We presently have 97 graduate students. About 60% are PhD versus MSc and most in earth and/or environmental science. Over 50% of our graduate students are female and about 20% are Visa students.

Although McMaster is in a positive financial state, owing to chronic underfunding and reduced international enrollments, we are expected to be facing a fiscal crisis in the next few years. McMaster is attempting to be proactive in seeking sources of new revenue, as well as controlling costs. Cost cutting measures include a hiring freeze, enhanced retirement plan, reduction on non-research related travel.

Submitted by Janok P. Bhattacharya

MEMORIAL UNIVERSITY OF NEWFOUNDLAND AND LABRADOR

Department of Earth Sciences, Fall 2024

STUDENTS Year	Fall 2020	Fall 2021	Fall 2022	Fall 2023
Undergrads				

EASC majors/hons	59	47	55	63	- One CRC Tier I in Boreal Biogeochemistry - One CRC Tier II in Marine Geology - One Hibernia Project chair in Tectonics of Sed Basins	60
2nd-4th year						
Grads					- Eleven retired emeritus or Honorary Research professors	
M.Sc.	50	39	37	39	- Five adjunct faculty, all active in department activities - Five post-doctoral fellows	36
Ph.D.	27	26	30	26		29
Total grad	77	65	67	65	Staff	65

Undergraduate Enrolment Enrolment (total of majors) in the BSc/BSc(Hons) Earth Sciences program was at an all-time high in Fall 2014 (with 194 undergraduate students enrolled). Enrolment continued to fall each year until 2022. In Fall 2023, we seen an increase in both the number of majors (~14% over last year) and the number of students registered in first year EASC courses (highest enrolment in EASC 1000 in a fall semester since 2013). Many students are looking for a career path that will see them working toward climate change action and environmental stewardship. In the fall 2024 term there is a total of 135 students registered in EASC 1000.

Graduate Enrolment Graduate numbers are stable; seven more students (5 Ph.D. and 2 M.Sc.) arriving in January 2025. This will bring us to 72 total. International students are still having difficulty in securing VISAs/study permits.

Faculty complement

One faculty member newly hired jointly with Geography Dept in Marine Geology/GIS, (Jan, 2024).

Total = 23 faculty members (including three University Research Professors) plus one more cross-appointed with GEOG and BIOL

Four office staff and 10 research, technical and instructional support staff

Challenges

- University budget cuts – most faculty hiring now frozen.
- Continuing low enrolment of undergrad majors, while 1st year enrolment is up.
- Staffing in the department office – potential loss of 1 position. With new union agreement, there were major improvements to staff salaries at the low end of scale for new employees and recent hires, with 8K to 12K higher minimum starting salary.
- Cost of living is dramatically out-pacing graduate student income.

Other notes

- Completing Academic Unit Planning exercise this year, the first in over a decade.
- New triple-quad ICP- MS installed, operational
- New low- level trace element clean lab essentially complete after multiple delays.
- New IRMS ordered, expect to be installed in 2024 for stable isotope group.

Submitted by Greg Dunning

MOUNT ROYAL UNIVERSITY, Earth and Environmental Sciences

Enrollment: Though we do not have graduate programs, we do have a number of undergraduate programs (majors, minors, and concentrations) that our department contributes to and on which we are dependent. Our numbers are relative steady over the last few years in our majors and minors. There is a positive trend to our registration numbers in many of programs.

Program	2021-2022	2022-2023	2023-2024
BSc Environmental Science	180	178	173
BSc Geology	83	92	97
Minor in Geography (across all bachelor degrees)	20	20	18
Minor in Geoscience (across all bachelor degrees)	9	9	14
BSc General Science – concentration in Geology	7	14	12
BSc General Science – concentration in Geography	19	24	38

Faculty & Staff: The department currently has 14 tenured faculty, 4 tenure-track faculty, 2 professor emeritus, 2 full-time lab instructors, 2 senior lecturers, 3 technologists, and 1 administrative assistant. We also have 15 contract faculty teaching in the department this fall. We hired a Senior Lecturer in Human Geography and an Assistant Professor in Environmental Science last year. We have permission to hire a limited-term (2-year) Assistant Professor in Geography (specialization in spatial and data science) this year. There was a failed search last year for an Indigenous Assistant Professor in Earth and/or Environmental Sciences, but we will re-advertise this year.

Research: Being a multidisciplinary department, our research activities cover a wide breadth of science including mineral resources, radiogenic isotopes and tectonics, marine geology, petroleum, ichnology & palaeontology, environmental forensics (arson, wildfires), Digital Earth, ecological engineering and ecosystem reclamation. Faculty are funded through NSERC (Discovery Grants, CREATE, SPG), CFI, CFREF, Metal Earth, and other external grants. Major renovations to G-Wing are ongoing and will result in new teaching and research labs for Geology.

Highlights: Our Post-baccalaureate Certificate in Spatial Data Science, has been approved and is largely funded through the Government of Alberta's Targeted Enrolment Expansion (TEE) program. We have also secured $550K of additional funding for this program from TECTERRA. Our first intake for this one-year certificate will be fall 2025. The Geology Program completed its second program review. We have also secured $60K over the next three years for geology field-based learning from the Canadian Association of Petroleum Producers (CAPP).

Challenges: Student retention in our majors, minor and concentrations. Finding contract faculty to teach courses. A lack of office space for contract faculty and research assistants. A lack of research space, including specimen storage space, and instrumentation.

Submitted by Michelle DeWolfe

QUEEN'S UNIVERSITY

Annual Overview

- Nineteen faculty, including two jointly appointed to other units, and numerous highly qualified adjunct instructors

- Programs include B.Sc. (Maj), B.Sc. (SSP), B.Sc. in GeoScience, Environmental Geology, and Geological Engineering
- 261 undergraduate majors between two programs (students declare major in 2nd year)
- 31 MSc & MASc students
- 15 Master of Earth & Energy Resources Leadership (MEERL) students (80% online – MBA for resource sector)
- 33 PhD students
- Four post-doctoral fellows

This past year has been one of continued growth in our undergraduate programs despite Queen's University's structural deficit. Enrolment is up 70% and 21% in our GeoScience and GeoEngineering programs, respectively. Because all students take a common first year, these numbers are based on student entry after second year. The number of graduate students is similar to last year with more domestic students than international. The number of postdoctoral fellows is also steady.

All departments have had to make substantial adjustments to address the structural deficit. Geological Sciences and Geological Engineering lost a clerical staff position and most administrative services have been centralized. Two retirements in January 2025 (Hutchinson and Diederichs) and one in May 2025 (Narbonne) and implementation of further measures to reduce the deficit will negatively impact the department. Unless a new hire is granted, we will struggle to offer our Geological Engineering program. Support for technical positions required to operate instrumentation has also become increasingly difficult and more reliant on research grants.

The continued strong support from our alumni has provided stability in spite of these financial challenges. Two recent significant donations are directed towards graduate programs and research in energy and resources ($1.3 million) and machine learning ($1.15 million). Endowments for field courses, teaching assistantships, postdoctoral fellows, and lab renovations have allowed faculty to continue to attract outstanding undergraduate and graduate students as well as postdoctoral fellows. Stephen Smith's gift of $100 million to the Faculty of Engineering to re-imagine engineering education is reshaping how we deliver our Geological Engineering program.

Submitted by Peir Pufahl on behalf of Dan Layton-Matthews

SAINT FRANCIS XAVIER UNIVERSITY

At STFX University, our enrollment continues to be low relative to the mid-2010's although our first and second year numbers have increased significantly in 2024/25 from 2023/24. We continue to adapt to significant changes in our geoscience faculty complement with 3 retirements in the last several years, and only one new TT. We presently have 5 permanent faculty with 3 support staff and one cross appointed faculty member from the climate and environment BASc program. Backfill limited term and sessional positions fill many of our geoscience courses, and we struggle to balance staffing with course offerings. As a result, we continue to undergo revision of our program and course offerings, and have made recent changes to many course names and levels in an effort to address our reduced TT faculty complement and declining student enrollment. As present, we offer a core departmental program with concentration options in Geoscience and Environmental Science however, plans are moving forward to reduce this to one central stream that will encompass both geoscience and environmental science themes. Highlights from this academic year include the advanced field methods course in Spain in February 2025.

Our research program remains by far the strongest of all StFX programs in terms of external grant funding. We continue to bring in MSc students through our StFX program, and PhD student

enrollment through arrangements with other institutions (a formal arrangement with MUN, primarily). Between faculty and support staff we currently hold 6 NSERC grants, and have faculty and support staff funded through NSERC Engage and CREATE as well as MITACS and NSERC Alliance Missions grants and other funding agencies.

Submitted by James Braid

SAINT MARY'S UNIVERSITY

Students & programs

- Current student enrolment for the Fall 2024 is
  - BSc Geology Majors: 26 students
    - Honours: 3 students
  - BSc Geology-Environmental Science Double Major: 1 students
  - BSc Geology Minor: 5 students (3 ENVS, 2 Chem)
  - MSc Applied Science (Geology): 9 students
  - PhD Applied Science (Geology): 9 students

This August we submitted a proposal request to rename the program/department "Earth Science," as well as restructure the program into three streams: 1 general stream, 1 which follows P.Geo. Geology knowledge requirements, and the other than follows P.Geo. Environmental Geoscience knowledge requirements. We hope these changes will come into affect for Fall 2025

To combat on-going enrollment challenges, have been offering out 1000-level service course as hybrid – students can choose to tune in synchronously on campus and/or synchronously online and/or asynchronous online. Have seen enrollment jump five-fold. We hope this will lead in increasing awareness of geoscience and interest in our program.

New 1000-level service course: GEOL1211 Atlantic Ocean: Formation, Fossils, Phenomena: Students will take an in-depth look at the Atlantic Ocean - including the polar regions, the equator, and everywhere in between. Course topics will include aspects of the Atlantic Ocean's formation, marine geology, marine vertebrate and invertebrate species, and atmospheric and oceanic circulation patterns/phenomena.

Faculty and staff: Welcoming new Assistant Professor Dr. Jillian Kendrick in January 2025 who will teach both Igneous and Metamorphic petrology courses. Dr. Kendrick completed a PhD at the University of Waterloo in 2022 and is currently a post-doctoral fellow at McGill University. She specializes the geochemical evolution of Earth's crust and the role of metamorphic and igneous processes that contribute to crustal evolution.

- Currently 7 full-time faculty, of which
  - 4 tenured professors, including, 1 full professor, 2 associate-level (1 CRC tier II), 1 assistant-level
  - 1 senior lecturer
  - 2 tenure-track assistant professor
  - 1 post-doctoral fellow
- 2 professors emeritus, 6 part-time faculty
- 2 full time technicians
- 1 full time administrative assistant

Submitted by Erin Adlakha

SIMON FRASER UNIVERSITY

Faculty and Staff: We currently have 13 faculty members consisting of: 1 Associate Professor, 9 Full Professors, 1 Senior Lecturer, and 2 Lecturers. We also have 21 adjunct faculty, 4 Associate Members,

and 5 Professor Emeriti. Our staff consists of 1 Department Manager, 1 Graduate secretary, 1 Manager of Operations, and a Resource Specialist (on parental leave).

Recent and upcoming Changes: We continue to face important challenges with our faculty compliment. This year, 1 Teaching Professor (Dr. Eileen van der Flier-Keller) and 1 Professor (Dan Marshall) retired, and we have an additional retirement coming in September 2025 (Diana Allen - Hydrogeologist). Fortunately, we recently received permission to hire 3 new Tenure-Track positions in: 1) Critical Minerals Geochemistry (search currently underway); 2) Critical Minerals Resources with an Igneous Petrology focus (this is considered a SFU strategic hire) - advertisement has just received final approval and is being circulated; and 3) Hydrogeologist (SFU targeted equity hire for tenure-track Black Scholars).

We are in discussions with other SFU Faculties about creating a Critical Minerals Institute and a Critical Minerals cluster hire. The other faculties include Arts and Social Sciences (in particular Political Science, School of Public Policy, and Indigenous Studies), and the Beedie School of Business.

Enrollments: We have a total of 65 students consisting of 64 declared Majors and 1 Minor. Our undergraduates take streams in either Geology or Environmental Geoscience, both of which lead to Professional Registration with the Engineers and Geoscientists of British Columbia. We continue to focus efforts on Recruitment and Engagement. In spite of the continued net decline in faculty, our Graduate program remains stable with 40 students representing 16 PhD and 24 MSc.

Challenges: 1) Low Enrollment - this is our most pressing problem! Our low enrollments put us in a poor light compared to other departments in the Faculty of Science. The increased recruitment and engagement we are undertaking are only band aid solutions. To make lasting improvements there are systematic barriers we have to overcome that include, but are not limited to: a) lack of accessible pathways for science students to navigate their way into Earth Sciences (e.g., Sci students must take intro Chem, Phys, Math and Stats which substantially boosts their enrollments); b) lack of proper Earth Science curriculum in high schools; c) overcome the negative bias against Earth Sciences in media.

2) Faculty renewal - in the past 5 years we have had 6 faculty retire/leave. More faculty are coming up for retirement with at least 1 in the Fall of 2025 and another 2-3 within 5 years. Although we consider ourselves fortunate to have been granted 3 new positions this year, thanks in large part to a supportive Dean, we will still be shorthanded.

Submitted by Dan Gibson

THOMPSON RIVERS UNIVERSITY

Thompson Rivers University continues to offer a range of courses ranging from first to 4th year courses, but without a degree program. Between the Geology, which is housed in Physical Sciences, and Physical Geography, which is part of the Faculty of Arts, the university offers all of the courses to meet the knowledge requirements for professional registration with Engineers and Geoscientists BC. This year the eliminated all specializations of the associate degree programs so there is no longer an associate degree in geology. The university also put in abeyance the minor in archeology and geology because students were having difficulty getting the required courses for the minor.

Geology courses are taught by one full-time faculty member and usually one or more sessional instructors. In 2023-24, the full-time faculty member, Nancy Van Wagoner, reduced their workload to 60%, and a one-year limited LTC was hired. Van Wagoner returned to full-time in 2024-25 and a full-time sessional instructor has been hired.

In 2023-24 enrolments were strong.

· Geology 1110 Introduction to Physical Geology with Lab—3 lecture sections, and 6 lab sections: Total enrolment 109 students

· Geology 2070 Forensic Geology and Geologic Hazards (problem-based)—14 students,

· Geology 2050 Earth History: Global Change Through Time with lab—14 students

· Geology 2100 Earth Materials with lab: 16 students

· Geology 4480 Special Projects 2 students

· Total enrolment 155 3 credit hour students

· The following courses are available online through TRU World

GEOL 1011 Introduction to Geoscience

GEOL 1031 Dinosaur Earth

GEOL 1111 Introduction to Earth Science

GEOL 2051 Geologic Time

GEOL 2071 Geologic Hazards and Forensic Geology

GEOL 2391 Environmental Geology

GEOL 3191 Geomorphology

New Equipment: We will have a new Micro-Imaging and Chemical Analysis Lab (MICA). AxiaChemiSEM with BS, SED, EDS and CL detector, and Carbon coater. This faculty integrates Zeiss EVO SEM, Gold sputter coater, Carbon, microtome, ICP-MS and digital light microscope with x-y stitching.

We have also purchased a DJI mini 4Pro drone for use in GEOl 4480 field research program, Geologic Hazards course, and our upcoming field school.

Geology Classroom: The geology classroom was renovated last year (plus) and renovations are almost complete. We now have a classroom museum which was developed by a former sessional instruction Dr. Simon Booker (now at Saint Mary's University in Nova Scotia).

Major Challenge: We have been trying for over a decade to start a BSc in Geoscience. A complete proposal was submitted again this year in collaboration with physical geography. However, the provincial environment seems unfavourable, and that along with institutional financial challenges, etc. has deterred the proposal once again.

On the positive side we will go forward with certificate and diploma programs, geoscience minor, and EGBC-qualifying program within the General Science degree. All of the backend work has been done for another attempt.

Submitted by Nancy von Wagoner

UNIVERSITÉ DU QUÉBEC À MONTRÉAL – Sciences de la Terre et de l'atmosphère – 2024

A return to pre-pandemic teaching and research conditions has prevailed in 2024. Since February 2022, all teaching and training activities at UQAM have been fully in-person, though we have preserved a hybrid format for special activities such as research seminars and thesis defences. Many resources like virtual field trips,

recorded lectures and digital rock collections, developed for the COVID-19 period, remain useful and perennially available to staff and students.

Enrolment

2024 shows enrolment numbers consistent with those from previous years. Overall, enrolment, particularly for the BSc in geology, remains below pre-pandemic levels (i.e., 2020), although a higher number of 1st year students were admitted in Fall 2024 than in years past, which may represent the start of an upward trend. Nonetheless work is ongoing with regards to advertising our programs and making them more attractive. A major update of the energy-resources program *("Certificat en Ressources Énergétiques Durables")* remains on the horizon, which we hope will serve to attract a new diversity of students.

Enrolment in graduate level programs remains strong. It has held firm for thesis-based Earth Science MSc. In all other programs enrolment has increased substantively, notably at the PhD level (31% increase with respect to 2023), for the MSc in atmospheric science (70% increase) and MSc in Earth Science "without thesis" (131% increase). The latter, geared towards industry and including professional internships, is particularly attractive to foreign students – its increase in enrolment is consistent with an overall increase of international student admission at UQAM in 2024, across all disciplines.

Program	**2020**	**2021**	**2022**	**2023**	**2024**
BSc in geology	85	57	45	46	49
BSc in atmospheric sciences	34	32	29	31	27
Certificate in applied geology	15	22	14	11	11
Certificate in sustainable energy resources	42	30	28	19	25
Certificate in atmospheric sciences	11	12	10	10	10
Major in geology	3	0	4	2	2
MSc in Earth sciences (without thesis)	13	15	16	13	30
MSc in Earth sciences (thesis)	29	28	26	23	24
MSc in atmospheric sciences (thesis)	15	16	16	10	17
PhD in Earth and atmospheric sciences	28	28	35	32	42

Faculty/staff

Following 2 recent retirements, the Department currently has 22 regular faculty (including 1 in semi-retirement). A professor in Quaternary Geochronology joined us in January 2024, and a new professor in Atmospheric Remote Sensing started in September 2024. As of fall 2024, we have 3 emeritus professors, 15 adjunct professors, and 17 sessional lecturers. Our departmental staff includes 3 administrative personnel, 1 IT technician (with an additional new hire coming in fall 2024), 2 laboratory technicians and 3 research officers.

The department was recently attributed a new position in "Hydrometeorology and Extreme Weather Events"; the hiring process is expected to be completed by mid-2025. The department is also working on identifying further faculty staffing priorities for the coming years; future needs include expertise in Physical Oceanography, Metamorphic Petrology and Sustainable Energy.

Research activities

Research within the department spans a wide range of themes and disciplines, including geochemistry, geochronology, fundamental and applied geophysics, hydrogeology, Quaternary geology, structural and

economic geology, paleoclimatology, and environmental sciences. Several of the geoscientists also have active collaborations with the atmospheric sciences, particularly in terms of paleoclimatic studies and interactions between climate and water resources. Most of the departmental research is carried out with strong links to research institutes, either affiliated directly to UQAM or externally funded groups of which UQAM is a member. These include UQAM's environmental science institute, the GEOTOP research centre in Earth system dynamics (a multi-institutional strategic cluster funded by the FRQNT, with 45 regular members including 21 from our department), the ESCER climate-modelling institute, and the RIISQ network for flood research. The department owns several meteorological instruments, deployed on the roof of our building, that are used for academic and research purposes, and part of active research collaborations with Environment and Climate Change Canada and Ouranos on the development of the Canadian regional climate model. Other active partnerships include the Canadian Space Agency, NASA, provincial/federal governmental organisations dedicated to environment, weather or natural resources, and industry (e.g., mining, exploration, water-resource management). These affiliations facilitate a broad range of interdisciplinary and inter-institutional collaborations, including training of graduate students and postdocs. Our success rate in research funding (federal, provincial, government and industry partnerships) is very high, and several researchers play an active role in international projects as PIs, co-PIs or collaborators.

Challenges

Student enrolment remains a concern; we hope that the small uptick in BSc student numbers this year will be the beginning of a longer-term upward trend, and that we can reverse the decline in numbers for the certificates and the short-term decline in graduate student enrolments. University funding is largely based on undergraduate enrolments, and underfunding translates into challenges for the upkeep of our programs via, for example, the availability of funding for technicians and other support staff, equipment maintenance, scientific equipment for teaching and others.

2024 has seen an important rebound of international student admission, both in our department and across the entire university, at all academic levels. Delays with immigration and student permits is therefore a major issue with regards to student retention. This may disproportionately affect French-universities like UQAM, given that a high proportion of international students come from French-speaking African nations for whom student visa attribution is relatively difficult, and delays demonstrably longer. The recent announcement from the federal government regarding forthcoming reductions in international student permitting is also an important concern.

Inflation has proved to be a major challenge for the department, especially for laboratory infrastructure/ consumables and the significant rise in costs associated with field camps (e.g., accommodations, vehicles, fuel) that are taking place at the same time as budget freezes or budget cuts at the university.

Submitted by Benoit Saumur and Philippe Lucas-Picher, October 2024

UNIVERSITY OF ALBERTA

Recruitment

1) Paul Akaabre*, Assistant Professor, Urban and Regional Planning (began July 1st, 2024). PhD UBC, Post-Doc UToronto. Research - planning systems impact on resource availability

2) Elmond Bandauko*, Assistant Professor, Human Geography (starting July 1st, 2025)

PhD Western, Post-Doc Cornell (ongoing). Research - Urban governance.

*Paul was hired through a UAlberta ""Black academic excellence cohort hire"" program. Elmond, interviewed as part of Black Cohort search, hired for our Human Geography program.

3) Canada CIFAR AI Chair - Awarded one of 21 CIFAR AI chairs available at UAlberta. Advertised for Remote Sensing and Machine Learning in Earth/Environmental Sciences. Result - a failed search (few applicants, 3 candidates interviewed, none acceptable). Second search with modified job description underway.

Replacements (None)

UAlberta remains largely under a hiring freeze. Total cuts to the annual UAlberta budget between 2019 and 2022 of $222 M, yielding a total budget of ~$435 M, down from ~$660 M. Annual budget held constant since 2022 resulting in an effective further 10% cut over the past two years due to inflation. Faculty Science running a deficit of $5M this year. Starting to lose faculty to positions elsewhere (in the US).

Faculty of Science looking to institute a 'lab fee' for all science students as a means of addressing budgetary issues.

Other

- Integrated Petroleum Geology program (a 1 year, non-thesis, applied MSc in petroleum geology) being revised. Now the Integrated Energy Geosciences (IEG) program with concentrations in (1) Petroleum, (2) Carbon Capture and Storage, (3) Geothermal, and (4) Minerals.

- Renaming department to better reflect the scope of teaching and research. A 'naming' competition is underway. Our hope is to avoid a Boaty McBoatface situation.

- Search is underway for a new departmental chair (starting July 1st, 2025)

- Maya Bhatia - enormous fallout from Maya Bhatia's death while in the field in August 2024.

Submitted by Stephen Johnston

THE UNIVERSITY OF BRITISH COLUMBIA – Department of Earth, Ocean and Atmospheric Sciences

Overview

We are a large interdisciplinary department delivering research and teaching related to understanding and addressing critical environmental challenges, discovering and recovering the critical minerals and metals needed for the clean energy transition, and advancing knowledge of Earth's dynamic systems. EOAS offers interdisciplinary undergraduate and graduate degrees programs in: atmospheric sciences, earth and ocean sciences, environmental sciences, geological engineering, geology, geophysics and oceanography. The department's research covers diverse areas, including climate change, mineral deposits, marine ecosystems, earth structure, and natural hazards, leveraging UBC's prime location near the Pacific Ocean for hands-on learning and fieldwork. With state-of-the-art facilities and partnerships with industry and global research organizations, our department prepares students for impactful careers in science, engineering, policy, environmental management, research and academia.

Faculty and Staff

We currently have 56 faculty members ranging in rank from Lecturer to Full Professor. In terms of demographics, 36% of our faculty are female and 7% are Indigenous or racialized. The latter is a shortcoming we are looking to address. Demographically, we have recently experienced several retirements, and are expecting a similar number in the next 3 to 5 years. In terms of replenishment, last year we completed three new hires, including a CRC 1 Chair in Isotope

Geochemistry and Geochronology. We are currently advertising for a CRC 2 Chair in Critical Minerals.

Professors	25
Professors of Teaching	3
Associate Professors	8
Associate Professors of Teaching	1
Assistant Professors	10
Assistant Professors of Teaching	2
Grant-Tenured Professors	1
Lecturers	6
TOTAL	**56**

Graduate and Postdoctoral Studies

Our department offers graduate degrees in several specializations including Atmospheric Science (PhD, MSc), Geological Sciences (PhD, MSc), Geological Engineering (PhD, MASc, MEng), Geophysics (PhD, MASc, MSc), and Oceanography (PhD, MSc). These graduate programs are complemented by a large group of postdoctoral fellows and research associates.

Research Associates	17
Postdoctoral Fellows	28
Doctorate (PhD)	88
Masters with Thesis (MASC/MSc)	83
Masters without Thesis (MEng)	16
TOTAL	**232**

Student Enrolment

In 2020 we saw a low of 522 students enrolled across our seven undergraduate degree specializations. Since then, we experienced a 4% increase in 2022 followed by another 8% increase in 2023 for a current total of 588 undergraduate students. In terms of demographics, 58% of our undergraduate students are female. This ranges from Environmental Sciences, where 73% of the cohort is female, to Geological Engineering, where 28% are female. Approximately 22% of our students are international.

Undergraduate Students (Total, All Years Combined)

Environmental Sciences	197
Geological Engineering	108
Oceanography	94
Earth and Ocean Sciences	89
Geological Sciences	63
Geophysics	21
Atmospheric Sciences	16
TOTAL	**588**

Space and Facilities

In 2012, we opened our $75 million Earth Science Building (ESB), which allowed us to fully house our department in one complex since the merging of the geological sciences, geophysics and oceanography departments more than 25 years ago. The ESB is adjoined to the Earth and Ocean Science building, which houses the Pacific Museum of the Earth and additional research, teaching and office space. In 2022, we opened our $3.5 million UBC-Teck Geological Field Station located in the Okanagan near Oliver, BC. These two major infrastructure successes have placed us in a strong position of having addressed two of our most critical needs.

UNIVERSITY OF BRITISH COLUMBIA - OKANAGAN

The Department of Earth, Environmental, and Geographic Sciences currently has a faculty consisting of 4 Professors (1 cross-appointed), 8 Associate Professors (2 in the Educational Leadership stream), 3 Assistant Professors (1 in the Educational Leadership stream), 2 Lecturers, and 5.5 staff members (including 2 in administrative

support, 2 in lab support, 1 professional programs coordinator, and 0.5 in department management). Currently, two faculty members are on secondment as Associate Deans, and one is serving as the Dean of the Faculty of Science.

In 2024, Drs. Yuan Chen and John Greenough retired, and Ms. Darcelle Paquette joined the department as a 0.5 FTE Department Manager, shared with the Department of Computer Science, Mathematics, Physics, and Statistics. The department successfully concluded searches for two Assistant Professor positions: Dr. Jen Baron in Fire Ecology and Dr. Tarryn Cawood in Critical Minerals. Dr. Renelle Dubosq, who was hired last year, began her Assistant Professor position in July 2024. Advertisements are being prepared for a Lecturer position in Earth Observation to establish an instructional stream within the existing Master of Data Science professional program (following a failed search last year) and for a Tier 2 Canada Research Chair in the broad field of Environmental Resilience.

Currently, the department has 160 students enrolled across its programs, including Earth and Environmental Sciences (EESC), Geographical Information Sciences, and Freshwater Sciences. The EESC program alone has 112 majors and 24 minors. Additionally, there are 16 PhD and 21 MSc students in the Earth and Environmental Sciences degree program, as well as 5 postdoctoral fellows.

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Submitted by Kyle Larson

UNIVERSITY OF CALGARY, Department of Earth, Energy, and Environment

The department has undergone a major transformation in the past year. The new Department of Earth, Energy, and Environment (EEE) represents a fundamental expansion of focus for our department, integrating three multidisciplinary programs to better meet the needs of society and the various communities we serve. Key development activities include a re-design of the Geoscience curriculum into a more comprehensive and flexible Earth program, the launch of a new Energy Science program, development of new graduate micro-

credential programs (Subsurface Evaluation for Clean Energy), and research expansion into new areas that align with our departmental vision (see hiring details below). The new Earth program will lead to a new BSc Geoscience degree that replaces current BSc Geology and BSc Geophysics degrees, and more experiential and student-driven learning experiences. The new first-year Earth 210 course launched in Fall 2024 to positive reviews. Development of a new common core of geoscience courses is underway, alongside a careful review and mapping of upper year courses. To address accessibility, enrollment and financial concerns around field courses, plans are in development for an introductory field activities course to be offered across multiple programs (e.g., all EEE students plus non-majors) followed by a new integrated (geology, environmental geoscience, and geophysics) field course for all Earth majors. A new Energy Science program, designed to be the first of its kind in Canada, was approved by the province in summer 2024 and will begin accepting students for Fall 2025. The new Energy Science major will cover the fundamental scientific principles of energy systems, as well as the role of energy in society by addressing the technological, environmental, and socioeconomic challenges. This new interdisciplinary program will dovetail with the current Earth and Environmental Science streams in our department and further diversify and strengthen the Energy focus that our department was built on. We expect this new program will have more than 400 undergraduate majors once it achieves steady-state, and we are excited for the students and researchers to tackle the energy challenges of tomorrow. In one last exciting piece of news, the City of Calgary will host the 38th International Geological Congress in 2028, thanks in large part to efforts from faculty members at the University of Calgary and Mount Royal University. We are excited to have geologists from around the world join us to share in all that Calgary and our department has to offer.

Students and Programs

Undergraduate (Fall 2024, major programs)

- Geology: 187
- Geophysics: 39
- Environmental Science: 312
- Natural Science: 774 total, but only a small percentage are Geoscience concentrators[a]
- Energy Science: not available

[a] Estimated Geoscience concentrators ≈ 60

Current enrolment numbers for the undergraduate Energy Science concentration are not available, but typically hover around 40-50 students. The new Energy Science program described above is anticipated to add over 100 students per year into the department. We have approximately 5,700 students enrolled in service and general interest courses across Earth and Environmental Sciences.

Graduate (Geoscience only)

- Total graduate students: 96 (48 Domestic, 48 International)
- MSc thesis: 33
- MSc course-based[b]: 3
- PhD: 56
- Visiting/exchange students: 4

[b] Moratorium on accepting course-based MSc implemented in 2022-2023.

Faculty and Staff

We currently have 42 faculty members (excluding emeriti and adjunct) that comprise 35 research stream and 7 teaching stream professors, including three seconded to major administrative roles (Associate or Vice Dean, and Office of the VPR). This complement does not include faculty members currently cross-appointed with the Energy Science and Environmental Science programs noted above. In the past year, we have been fortunate to hire six new faculty members in strategic and interdisciplinary areas. Joining us are Dr.

Myrle Ballard (CRC, Indigenous Science for Human and Ecosystem Health), Dr. Ben Barst (Environmental Chemistry), Dr. Justin Ezekiel (Subsurface Clean Energy), Dr. Adriana Guatame-Garcia (Critical Minerals), Dr. Erin Nicholls (Water Security), Dr. Deborah McGregor (CERC, Indigenous Ways of Climate and Water Sustainability for Planetary Health and Well-being). In recent years, all administrative and technical support staff have been moved to a central service model within the Faculty of Science, so it is not possible to designate departmental staff numbers. In terms of renewal and growth, we anticipate several retirements in the coming year, and we also have expanded teaching and research needs with the new Energy Science degree, so we are working closely with leadership to pursue strategic opportunities for hiring.

Submitted by Edwin Cey

UNIVERSITY OF MANITOBA

Faculty and Staff: We have 13 faculty members consisting of: 2 Assistant Professors, 2 Associate Professor, 4 Full Professors, 1 Distinguished Professor, 1 Senior Instructor, and 3 Instructors. We also have 8 Professor Emeriti, 1 Senior Scholar, 1 Research Associate, 1 Post-doctoral researcher and 6.5 FTE technicians. Our staff consists of 1 Administrative Assistant, 1 Financial Assistant and 1 Receptionist.

Recent and upcoming Changes: We continue to face important challenges with our faculty compliment. This semester (Fall of 2024), we have 2 people on sabbatical, 1 on administrative leave, 1 is Acting Dean and 1 is acting Department Head. Fortunately, we recently received permission to hire a new Tenure-Track position in Structural Geology (to start advertising in January 2025) and we have hired a new Assistant Professor in Geophysics (start date January 1, 2025).

Enrollment: Undergraduate enrollments have started to increase (28 in second-year mineralogy) very slightly, and we now have a total of 54 undergraduate students consisting of 39 in the Majors/Honors program and 15 in the General program. We now have three undergraduate streams including Geology, Geophysics and Environmental Geoscience, all of which lead to Professional Registration with the Engineers and Geoscientists of Manitoba. We continue to focus efforts on Recruitment and Engagement. Our Graduate program has always been small compared to other, similar size, departments and we continue to struggle to recruit graduate students. We currently have 9 PhD students and 9 MSc students. A number of the faculty and staff are participating in a variety of outreach programs to help with recruitment at the undergraduate level.

Challenges:

- Low Enrollments and no buy-in regarding the Environmental Geoscience (0 students enrolled).
- Difficulty in recruiting Graduate Students and Post-doctoral Researchers.

Submitted by Mostafa Fayek

UNIVERSITY OF NEW BRUNSWICK

The department hired Dr. Kynan Hughson as assistant professor to replace B. Broster who retired in 2023. Kynan's specialty is applied remote sensing of glacial landscapes on Earth and cryopheres on other planetary bodies (e.g. Ceres). Retirement of a senior XRD technician enabled the department to create a new hard-money Research Technician position to oversee operation of the laser ablation and XRD facilities. Retirement of a Geological Technician in our thin section shop led to replacement hire of new personnel

currently undergoing 6-months of intensive training so that our thin section and rock preparation services are maintained at high standards. We may face several retirements on the 5-year horizon and significant effort will be needed to secure replacements in the face of VP-level budgetary scrutiny.

We've seen a modest increase in 2nd year undergraduate student numbers this year, with Geological Engineering students forming the largest cohort. This trend is likely to continue with the UNB Faculty of Engineering striving to increase acceptance rates over the next 10 years. Engineering plans to move to a common-core for first year students and this will involve a newly-developed 'Sustainable earth sciences for engineers' course taken by upwards of 400 first-year engineering students. We anticipate spill-over into our geological engineering and earth science programs in proportion to this planned increase in Engineering enrolment.

We continue to offer four field schools (1st year, 2nd year, 3rd year structure/mapping, 3rd year environmental). Our student societies are active and we are back in the cycle of biannual endowed field trips for senior undergrads (upcoming trip to Iceland). Students are actively participating in AUGC, AGS, PDAC, and have had decent success securing summer jobs in industry or with geological survey organizations.

Graduate numbers have been steady at about 24 students with 4-6 graduations per year matched by new intake. Two post-doctoral fellows have also helped cover teaching when necessary. UNB School of Graduate Studies has launched recruitment scholarships to attract international students (e.g. tuition waivers). The majority of research faculty are supported by NSERC Discovery grants with a mix of industry/government grants and contracts. New faculty have had success with building new labs with startup funds provided by the department and the Dean of Science which have leverage external funds from CFI and NB Innovation.

Submitted by Chris McFarlane

UNIVERSITY OF OTTAWA, Earth & Environmental Sciences

Human Resources

Overall enrolment in our undergraduate and graduate programs remains relatively stable, maybe with a slight increase most notable in Y2 and Y3 courses.

• 250 students enrolled in our primary honours programs: 142 (103 female/32 male/7 other) in Environmental Science, 57 (23/31/5) in Geology, 37 (21/14/2) in Environmental Geoscience, and (5/7/0) in Geology-Physics.

• 5 PDFs and 2 research associates

• 19 (9/7/3) PhD students (9 international), and 27 (18/7/2) MSc students (4 international)

• 14 (4/10/0) faculty members. This includes one named position (Newmont Chair in Economic Geology), a University Research Chair, a replacement professor (non-permanent), and a teaching professor.

• 2 teaching support staff

• 2.5 administrative support staff

• 23 technical staff

<u>HR updates:</u>

• Currently advertising or interviewing for 3 new positions: (1) CRC-1 in Low Temperature Geochemistry, (2) Assistant Prof position in Sedimentary Geology, (3) Assistant Prof position in Solid Earth

Materials (Petrology). Latter two positions were frozen in 2023 and recently re-opened.

• Recent hire of new Director for AE Lalonde AMS Lab.

Physical Resources

• Continuing issues (it bears repeating on an annual basis since there is no improvement): difficult to recruit researchers who require substantial lab space and/or start-up funds. Substantial CFI allocations allotted to CRC positions only. Slow response by Facilities/physical resources for lab renovations once funds are in place.

Noteworthy

• uOttawa-hosted, NSERC-funded iMAGE CREATE (image-create.ca) iMAGE-CREATE will continue for another 2 years. So far the program has funded 48 trainees. 31 CREATE trainees and affiliates have participated on 26 research cruises worldwide. More than 40 participants have attended the highly successful 2-week Seafloor Mapping School, and 30 CREATE-funded trainees have completed at least one required field training activity.

Challenges

• Mental health issues amongst students and employees appear to be increasing.

• Offering enough courses in French with recent increase in international undergrad population from Africa.

• Reduction in visa quotas for international students will negatively impact an already tight financial situation. University seeking ways to increase revenue (virtual programs remain a primary target for this purpose).

Submitted by Glen Milne

UNIVERSITY OF REGINA, Earth Sciences

Enrollments

Program	2020	2021	2022	2023	2024
BSc Geology	41	39	28	26	28
BSc Environmental Geoscience	19	19	16	17	6
MSc	14	14	12	18	17
PhD	6	6	4	4	4

*****Note: BSc programs include Honours students

Undergraduate numbers remain below pre-CoVID-19 levels, but we have seen a slight increase in Geology majors this year. Environmental Geoscience numbers have decreased, as it appears in previous years the totals included Geography and Environmental Studies (Faculty of Arts) majors; if those were included, the numbers would be 13 instead of 6. Increased recruiting efforts this year include the inclusion of Earth Sciences faculty at community visits and participation in the Faculty of Science Showcase in November 2024. Our departmental name change, from Geology to Earth Sciences, became effective in late June 2024. It is anticipated that this will aide in ongoing recruitment efforts. Our graduate program numbers have remained consistent over the past 5-years.

Faculty and Staff

Faculty and staff levels have remained at their current levels, and we have an ongoing search for a tenure-track faculty member in critical minerals. The tenure-track search is being initially targeted at a candidate that self identifies as a woman, to address gender disparity in the Faculty of Science; a similar approach is being taken for searches in other departments. Our department is currently supported by the centralized College West administrative office with the primary contact being Chris House.

Support for Teaching and Research

Two lab instructors continue to support our program delivery, and two faculty members were selected to participate in the UR2 Fellows for developing teaching at the introductory level. Six out of nine research faculty currently hold NSERC Discovery Grants, with two applying this cycle. We continue to be supported by funding through NSERC Alliance and Mitacs grants. Proposed infrastructure including a LA-ICP-MS system is included on an CFI Innovation Fund application to be submitted in early 2025.

Challenges

While several previous challenges have been resolved due to faculty members returning from sabbatical or teaching release, we continue to face challenges regarding research infrastructure, budgetary constraints, and enrollment. One issue we have faced is low enrollment in our International Field School course, to the point where it has been unable to be run.

Submitted by Leslie Robbins

UNIVERSITY OF SASKATCHEWAN

Our research spans most areas of geology with particular strengths in geochemistry, tectonics, environmental geoscience, sedimentology and paleontology, and geophysics. Since 2022-2023, we have not added any new faculty members, so our faculty complement remains at 17 with the majority of our faculty members at the full professorial level. Of our 17 faculty members, 14 are full Professors, 1 is an Associate Professor and 2 are Assistant Professors. Our faculty members include 2 CRCs (Pickering and George), the Murray Pyke Endowed Chair (Eglington) and the McLeod enhancement chair (Mangano). Although many of our faculty are nearing typical retirement ages, continuing financial constraints within the university are such that replacing retiring faculty members continues to be a challenge. Fortunately, we are in the midst of a faculty search for a new CRC in critical minerals and have also launched an internal search for another enhancement chair (Shklanka chair) in critical minerals, made possible by a recent donation.

Undergraduate Affairs

We offer 4 undergraduate degree programs in the Department: Geology, Geophysics, Environmental Geoscience, and Paleobiology (jointly with the Department of Biology). The first three programs (geology, geophysics, and environmental geoscience) are designed to meet the academic requirements for P.Geo. licensure through APEGS.

Current student enrolments in these programs are geology (47), geophysics (3), environmental geoscience (12), and paleobiology (18). Undergraduate student numbers in our programs are still low and are well below their peak values in 2013.

A recently revamped first-year engineering program means that all incoming engineering students (~450) now take a 3-week modular course in geology. Although students transferring from Engineering to Arts and Science get credit for fewer courses than before (and this may be partly responsible for the low enrolment in our geoscience programs), the popularity of the course has also resulted in increasing student numbers in the Geological Engineering program such that our 2nd year core courses which are part of that program are close to capacity.

We continue to run our three ""core"" field schools in Zortman, Montana (2nd-year); Flin Flon, Manitoba (4th-year) and a geophysics field school in Saskatoon (4th-year). Our two 2nd year international field schools continue to be popular; these took place in Ireland and northern Spain.

We are also developing more microcredentials as we now offer academic certificates (averaging 15 credits) in Geology Fundamentals, Quantitative Geosciences, Sedimentary Geology and Hard Rock Geosciences.

Graduate affairs

Current student enrolments in our graduate program are: MSc (26) and PhD (23). Our graduate student numbers have increased slightly compared with last year but seem to be at generally similar levels to previous years.

Submitted by Jim Lee

University of Toronto, Department of Earth Sciences, Chair's Update - October 2024

Faculty complement and support

We welcomed several new colleagues into continuing positions this past year (Prof Neil Bennett, Mineral Systems; Prof Rodrigo Correa Rangel, Near-surface Geophysics; Prof Michael Chazan, geoarchaeology – joining us at 50% from the Department of Anthropology; Prof Sarah Peirce, teaching stream, Geomorophology and Physical Geography). The Department of Geography paused enrollments in Physical Geography this past year, and Prof Peirce's appointment was moved over to Earth Sciences. Many of the Physical Geography courses will also be migrating to Earth Sciences. We hope this consolidation will support students interested in these topic areas as we will be able to offer a more integrated suite of courses. We also hope it will catalyze more interest in our courses and programs from a wider cross-section of students. We are currently searching for a tenure-stream position in Environmental Geoscience with focus in geobiology, biogeosciences, and/or interactions between Earth systems. As Chair, I am also trying to strengthen faculty mentoring networks following some new guidelines issued by our Faculty, and to promote professional development and well-being support to faculty members.

Research labs

We are in the process of opening our new CFI-funded GEMINAE lab, a femto-second laser-ablation mass spectrometry facility for metal isotopes, co-developed by Professors Sio, Gregory and Chu. We look forward to welcoming interested researchers and collaborators from Canada and internationally to use this facility alongside our other Departmental analytical facilities. We are seeking to improve the presentation of our Departmental analytical facilities (SEM, microprobe, several ICP-MS and XRD systems) and research collections on our website so that we can better get the word out that users are welcome.

Teaching

We are holding steady in enrollments in our Earth Sciences programs of study although hoping to see some more growth. Our focus on experiential learning including field and lab work and research training, growth in our "Earth and Environmental Systems" program, and recent recruitment of highly dynamic Assistant Professors has helped maintain enrolments, but we would like to be doing more. We have had some preliminary discussions about more integrations with data science programs offered by other Departments, as a way to draw in students with diverse interests and skills. We ran several international trips with undergraduate course components in Chile (Mineral Deposits and Igneous Petrology) and Turkiye (Global Tectonics and Structural Geology), and graduate student field trips. We continue to invest in updates to our undergraduate field and lab-based teaching equipment across geophysics, environmental geoscience and geology. We are rolling out new courses in Contaminants and Geoethics, and Topics in Critical Zone Processes this academic year, both of which address student interests and recommendations from our last external review. A number of instructors are working on enhancing Indigenous content in course and in field-based learning. We are closely connected with the UofT

Office of Indigenous Initiatives, and I was also asked to serve on the UofT Faculty of Arts and Science Indigenous Research, Teaching and Learning Committee. Through those activities, we are exploring with students the continuum of learning about Indigenous people, histories and concepts of land, to learning from Indigenous knowledge holders. For example, courses are including more readings from Indigenous authors or covering Indigenous topics, our graduate core course is expanding on the reflections students are engaged in related to the role of the natural sciences in answering the Calls to Action that emerged from Canada's TRC. In a separate initiative, we are also working our way through graduate curriculum changes which will incorporate key courses in analytical methods, statistics and coding for geosciences, and science communication.

Challenges and opportunities

We see tremendous opportunity for our research and teaching work to contribute to advancing science, and to key pressing societal issues. However, we face challenges around student recruitment, effectively communicating the nature of the activities in Earth Sciences, and supporting the escalating costs of research (administrative, labour, security/IT, funding graduate students and postdocs adequately) and of teaching, which also include supporting student (and faculty) mental health and wellbeing.

Sarah Finkelstein, Professor and Chair

YUKON UNIVERSITY

Yukon University continues to offer a two-year diploma equivalent to the first two years of a B.Sc. in geoscience, with existing and in-development block transfer agreements to ensure graduate mobility. Overall enrolment at Yukon University has increased slightly after sitting around historic lows for the previous two years, and this is mirrored in introductory geoscience course enrolments. Our introductory offerings (Physical Geology, Historical Geology) have enrolments of ~10 students, with non-major elective courses offered by the department (e.g. Introduction to Mining and Mineral Exploration; Earth Through Time) averaging 20 students. Core second-year courses (e.g., Mineralogy, Structural Geology) have enrolments of 5-6 students. The number of declared Earth Sciences majors stands at 15, a 66% increase from 2023. Approximately half of these students are international, drawn from a range of European and Asian countries. The program has graduated six students since its first graduating class in 2023, five of whom have continued into B.Sc. programs at southern institutions (Acadia (1), Mount Royal (2), UBC-V (1), VIU (1)).

The department has three full-time faculty (J. Cubley, M. Samolczyk, C. Morgan), supplemented with geography instructors from the broader School of Science. An additional group of permafrost and geoscience researchers (5) is housed in the Yukon University Research Centre with variable degrees of engagement with the instructional unit.

Department faculty are engaged in several ongoing research projects supported by the National Research Council and Geological Survey of Canada, among other funders. A major initiative is the Yukon Virtual Geology project (www.yukonu.ca/virtualgeology), which focuses on the development of virtual geology fieldtrips across the territory to heighten geoscience awareness and accessibility. Other projects include investigations into mineral deposits, water chemistry and radon linkages in Whitehorse aquifers; glacier fluctuation chronologies in the Cascade Volcanic Arc; and Cambrian trilobite biostratigraphy in northwestern Canada.

YukonU is partnering with Vancouver Island University on a second-year field school on Quadra Island each spring; the joint offering has been a big success over the past two years. This collaboration is in response to early-season logistical complexities in the North (snow!), and a desire to further strengthen a block transfer partnership between the two institutions.

The Earth Sciences program remains third-party funded, outside of the core grant provided to Yukon University by the territorial government. Sustainable enrolment remains the biggest concern but given the program's alignment with the institution's strategic goals, the program is on stable footing at present.

Submitted by Joel Cubley

UNIVERSITY OF WATERLOO, Earth and Environmental Sciences

Faculty, Staff, Postdocs and Research Associates

We recently hired a new regular faculty member in geophysics to replace a recently retired colleague and have one fewer teaching stream faculty (this person is the new geophysicist faculty hire). There was one new staff hire in the last year – an instructor responsible for running a number of our undergraduate labs, looking after the logistics of some of our field courses as well as having some teaching responsibilities. We also increased the number of postdoctoral fellows to 17 (from 12 last year) and have two fewer research associates. By the end of the 2024 year, we will have had 4 faculty retirements since Dec. 2023, and another colleague is planning to retire at the end of August, 2025.

Faculty, Staff, Postdocs and Research Associates

Regular Faculty (tenured & untenured)	21
Teaching Stream Faculty (definite term & continuing)	4
Postdocs	17
Research associates	8
Staff (permanent)	7
Staff (contingent on funding)	7
Research staff (paid by external grants)	30+

Current Student Enrolment

In 2024 we have 280 students in all years combined within our undergraduate Earth and Environmental Sciences programs (Environmental Sciences at 197 students and Earth Sciences at 83 students) and an additional 67 in Geological Engineering. For our Fall 2024 first-year enrolment, we have 27 first year incoming students (a slight decline from our highest enrolment of 33 in recent years but similar to the average for the past 5 years), 17 in Environmental Sciences and 10 in Earth Sciences, almost all in co-operative education. The Geological Engineering program enrolled 28 students in 2024, all in co-operative education and a significant increase over previous years' enrollments (average of 13 students/year in the previous 6 years).

Our Graduate program enrolment is currently 76 students (34 MSc and 42 PhD). We admitted 15 MSc students and 6 PhD students in 2024.

Undergraduate Fall 1st year enrolment	**2018**	**2019**	**2020**	**2021**	**202**
Earth Sciences	20	24	25	19	33
Geological Engineering	17	12	13	10	10

Graduate new enrolment	**2018**	**2019**	**2020**	**2021**	**202**
MSc	20	17	20	16	10
PhD	8	6	9	5	5
Total	28	23	29	21	15

Teaching

We continue to expand our on-line course offerings, building on the material and effort put into the virtual instructing environment during the pandemic. Our newest online offering is a course on *Disasters and Natural Hazards* (EARTH 270), which will be first offered in the Winter 2025 term. All of our large-enrolment first year courses

are now online, and we will continue to work on key second year courses that have potential to attract high enrolments. Some key topics of discussion in the teaching and learning community are student wellness, AI, blended courses and experiential learning. We are currently in the early stages of developing an online professional Applied MSc program that will initially focus on hydrogeology.

Other Challenges

While undergraduate enrolments are mostly holding steady, we are greatly concerned that graduate student enrolments are declining. In addition, due to recent and pending retirements, Faculty renewal will be key to ensuring that we can continue to excel as a research-intensive department and are able to comfortably meet the demands of our undergraduate and graduate programs. These topics have been identified as priority areas of attention in our recent strategic planning exercise.

Mario Coniglio
Chair and Professor Emeritus
Department of Earth and Environmental Sciences
University of Waterloo