Department of Geography and Environmental Management  
Faculty of Environment, University of Waterloo

ANNUAL REPORT TO FACULTY COUNCIL AND GENERAL ASSEMBLY 
2019-20

The Department of Geography and Environmental Management (GEM) is ranked in the top 150 of the QS World University Rankings of Geography departments and occupies the fifth position in the country. It is also ranked in the top 40 Geography Departments according to the Shanghai Academic Rankings of Word Universities. On both counts, our success rests on the strong commitment of its faculty, staff and students to academic excellence in scholarship and learning and its vibrant, supportive and engaging environment within the Faculty.

Academic Plans
The department offers undergraduate plans in Geography and Environmental Management, Geomatics, and Geography and Aviation; all but the Aviation program are available as regular and co-op streams. There is continued activity in the 2+2 and 1+2+1 undergraduate plans with Chinese universities, including Wuhan University, China University of Geosciences (Wuhan), China University of Geosciences (Beijing), Capital Normal University (Beijing). Our graduate thesis programs (Masters and PhD programs) continue to be strong and our 1 + 1 + 1 program continues to develop. The Masters in Climate Change (MCC) program continues to strengthen with students being drawn from across Canada to this and the online Graduate Diploma in Climate Risk Management that was launched in September 2018.

The department also partners with a number of other academic units in the delivery of undergraduate and graduate plans. We also contribute strongly to the University’s Collaborative Water Program which is delivered by multiple departments through the Water Institute and also the Faculty if Science’s Water Science Specialization. Through our partnership with the Department of Geography and Environmental Studies at Wilfred Laurier University, the Waterloo-Laurier Joint Graduate Program in Geography continues to thrive.

Faculty and Staff
GEM is home to 35 faculty including three Canada Research Chairs (Tier 2): Sarah Burch (SSHRC), Maria Strack (NSERC) and Christine Dow (NSERC). It is also home to three University Research Chairs (Daniel Scott, Claude Duguay and Susan Elliott). During the year we welcomed Dr. Wesley Van Wychen, Dr. Grant Gunn, Dr. Helen Jarvie and Dr. Quinn Lewis into the Department in areas of geomatics and physical geography. In 2019 we celebrated the 50th Anniversary of the Faculty of Environment along with our colleagues and students from across the Faculty. Geography was one of the founding units in the Faculty and so the year was especially resonant with us.

We have had a stable year on the staff front. The department is very fortunate to have a highly skilled complement of staff who are essential in maintaining the high quality and level of service to students and faculty alike. Susie Castela continues as the Department Administrator while Alan Anthony and Teresa Wilson continue as Graduate Program Administrators. Miljana Kovacevic is the Undergraduate Program Advisor for Geography with Jesse MacLeod undergraduate advisor for Geomatics, Aviation and international undergraduate programs.

Research
Research continues to be a high priority activity, as faculty participate in research projects representing $7.6 million in funding (about 60% of the faculty total). Major ongoing funding sources include SSHRC and NSERC and several other departments or government agencies (e.g. Canadian Space Agency, Indian and Northern Affairs Canada, Alberta Innovates, Ontario Ministry of Agriculture, Food and Rural Affairs, Natural Resources Canada, Meteorological Service of Canada, The European Space Agency, The Japan Aerospace Exploration Agency, and Environment and Change Canada). Provincial sources of funding include the Ontario Centres of Excellence. Geographers also participate in collaborations (e.g. SSHRC Partnership, Networks of Centres of Excellence [AllerGen, ArcticNet and Meopar], CFI, NSERC CRF) based at other universities. The Department is also a very active player in Global Water Futures (a federally-funded CFREF project) with substantial funding to team leaders Merrin Macrae and Claude Duguay. Private sector research partnerships continue to be important, as funding is received both directly and through NSERC and OCE collaborations. Some of our private sector partners include Suncor Energy, Syncrude Canada, the Canadian Oilsands Innovation Alliance, DeBeers Canada, and Climate Change Emissions Management Corporation. Our international research partnerships also continue to grow.

During the year colleagues and students received significant recognition for their scholarship and discipline-specific contributions. Dr. Susan Elliott received the 2019-20 Michelle Harkness Mentorship Award for Mentoring Excellence, and Andrew Ding and Ben Woodward received the Dean of Environment Scholarship for Excellence. Suzanne Kearns was the winner of the Northern Lights Aero Foundation “Elsie” Education Award which honours Canadian women who have made outstanding contributions to aviation and aerospace.

Academic Programs
Prestigious activities continued in our academic programming. For example, Dr. Christine Dow led an Arctic Field course on a commercial cruise ship with undergraduate students and Dr. Wandel led a field course to our partner institute in Germany. The Department’s delivery of high quality teaching and learning is dependent on our faculty and sessional instructors. However, it is also underpinned by the Associate chairs and staff whose work is invaluable to the success of our educational program.

Graduate – Chris Fletcher continued as Associate Chair, Graduate Studies this year. Alan Anthony continued as the Graduate Program Administrator for MES, MSc, MA and PhD programs while Teresa Wilson moved fully into the role of Graduate Program Administrator for the Masters of Climate Change and the Graduate Diploma in Climate Risk Management. Our graduate programs continue to be in demand. This year, 12 new PhD students and 59 Masters/Diploma students (29 in GEM, 27 MCC/GDip, 3 China 1+1+1) entered the grad program. In total, the total current enrollment consists of 120 Masters and 79 PhD students in our graduate program for a total of 199 students (full time and part time). The tally of UW geography graduate students receiving external awards was 1 Vanier Scholarship, 3 NSERC, 6 NSERC doctoral, 3 NSERC and 3 SSHRC masters, and ~8 OGS. During the 2019-20 academic year, 34 students received their Master’s Degree in Geography and 10 students received a PhD. Additionally, the total number of MCC students receiving their degree was 19.

Our successful EU Erasmus+ exchange initiative continued to provide opportunities for faculty and student mobility between GEM and Friedrich Schiller University, Jena (Germany) during the year.

Undergraduate – Ian McKenzie continued to serve as Director for Aviation, and Associate Chair, Undergraduate for Geomatics and international plans (2 + 2 and 1 + 2 + 1) and Johanna Wandel
served as Associate Chair, Undergraduate studies for GEM plans. Jesse MacLeod supported GEM in the Department office and to work with Miljana Kovacevic serving as Undergraduate Program Advisors, handling Geomatics/Aviation and GEM plans respectively. A total of 152 new students entered Geography plans in the 2019-2020 academic year (28 GEM Co-op, 5 GEM regular, 67 Geomatics Co-op, 3 Geomatics regular, and 59 AVIA). These first year admits were supplemented by 15 new 2+2/1+2+1 international students, along with 14 internal transfer students to our programs, bringing the overall total number of new students to 191. The demand from students seeking to transfer into Geography plans increased this year. In total, across all years and plans, there are 736 students enrolled in GEM.

At Convocation ceremonies in Spring and Fall of 2019 a total of 114 students received an Honours Degree in Geography, Aviation, or Geomatics with 16 students graduating with a General Degree in Geography. A further 48 students received a minor in Geography. A grand total of 178 students (majors and minors) graduated in 2019.

The Department’s Committee on Undergraduate Recruitment continues to conduct significant outreach to well over 100 high schools in Ontario and through social media strategies. In addition, a comprehensive undergraduate curriculum review, through the Curriculum Review Committee, re-aligned our geomatics degree plan programming. Significant progress has been made in rationalizing the core programming in our undergraduate plans to increase predictability of course offerings. Along with our regular in-person offerings, we now have five CEL online undergraduate courses available to students on and off campus, ranging from Fundamentals of Climate Change to Sustainable Food Systems to Global Environmental Health.

Finally, the department provides an important service teaching role for the Faculty and University with students from across the faculty and University attracted to courses that are offered in our degree plans and delivered by our instructors. In 2019-20, GEM contributes more than one third of all student teaching in the Faculty of Environment (including students registered in programs within the faculty and from other faculties) and almost 60% all teaching to students from outside the faculty who take courses in the Faculty. GEM remains committed to the delivery of high quality educational programming in geography, geomatics and aviation. 2020-2021 will be a challenging year for delivery of our programs but GEM is in a very strong position to work with our Faculty colleagues and rise to the challenges that we face.

Administration
Contributions in the past year to University and Faculty level administration include: Jean Andrey continuing as the Dean of the faculty. Peter Deadman became the acting Associate Dean for Graduate Studies in January 2020 and Dan Scott continues as the Director of the Interdisciplinary Centre on Climate Change and the Director of the Masters in Climate Change. External administration is full of vitality with Sanjay Nepal the President of the Canadian Association of Geographers and Rich Petrone the Past President of the Canadian Geophysical Union. The department also makes a substantial contribution to the university governance through representation in the Faculty Association (Executive and Board), Faculty Relations Committee, University Awards Committee, Senate, UARC and the faculty grievance committee.