



**News Digest of the Canadian Association of Geographers
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Memorial U's Trevor Bell reacts to report that mid-winter thaw in Arctic smashing records: The North Pole thawed recently, hitting above-freezing temperatures, and experts say it's because of a burst of warm, southern air coupled with diminishing Arctic sea ice. "Warmer temperatures and depleting sea ice could not only be detrimental for the environment, but for people living in Canada's Far North, according to Trevor Bell, a geography professor at the Memorial University of Newfoundland and founder of SmartICE. That's because Inuit rely on their Arctic environment for hunting, cultural activities and travelling, said Bell. His project, which [earned nods from the United Nations](#), is drawing on technology, remote sensing and traditional knowledge to help Northerners deal with their changing climate. The goal is to provide them with near-real time information on ice conditions so they can travel safely, said Bell. "Because Inuit and people living in the Arctic are so closely tied to the land ... it has a huge impact," he said of changes in ice and weather conditions, adding that it can have both physical and mental effects on people. "These unpredictable extreme events or unpredictable ice conditions cause people to have accidents on the ice, maybe leading to trauma," he said — something that is "really, really hard on communities." [CBCNews | North](#)

U Saskatchewan's John Pomeroy and a better way to predict storms caused by rising temperatures: Researchers at the University of Saskatchewan said they've seen winter temperatures in the Northwest Territories rise up to 8 C over the last 50 years. At the same time, temperatures across the Prairies have risen 2 to 3 degrees overall, which has affected precipitation. "The increase in winter rainfall in the Prairies means an increase in spring runoff and flooding associated in the snow melt," said John Pomeroy at the University of Saskatchewan. "In the North, so far we haven't seen dramatic changes but we're anticipating those as the climate continues to shift. "We can see a doubling of some stream flows in northern Canada over the next 100 years which would be really damaging for the infrastructure." Pomeroy said his team has come up with a more precise model to predict what the future could look like as water levels continually change. Grid squares to evaluate the weather have been narrowed down from 50 kilometres to four. "It means you can look at the impact of severe storms much more accurately than ever before," Pomeroy said. The study, which evaluated the Mackenzie and the Saskatchewan River basins, included 40 scientists from eight universities and worked with four federal agencies. Head researcher Howard Wheeler said Western Canada "has some of the most dramatic changes in anywhere in the world at the moment." "It's obvious when you look at the glaciers in the Rocky Mountains in the last few years, they'll be pretty much gone by the end of the century," Wheeler said. [National Post](#)

U Victoria's Chris Bone asks whether apathy about climate change the greatest threat to the planet? Climate change has contributed to record forest fires, insect infestations and destructive hurricanes. But stirring people to action can still be tough, says Chris Bone, assistant professor of geography at the University of Victoria. Bone said people now appreciate natural forces, like fires and storms, are related to climate change. "We are not going to have more fires or bigger fires every single season or bigger insect outbreaks every year," Bone said. "It's more complex than that. Bone, who studies relationships between "disturbances" like fires and insects and geography, said natural disturbances have been increasing, in frequency and severity, in recent years. Last year, for example, B.C. wildfires burned a record 12,000 square kilometres. That far outdistanced the previous record of 8,550 square kilometres, set in 1958. Meanwhile, the mountain pine beetle is destroying large numbers of trees in the B.C. Interior. Warmer winters mean more pine beetles survive. In Eastern Canada, the spruce budworm is wreaking a similar toll. Bone said that without regular, linear, this-follows-that evidence, many people — especially those in government — are less motivated to make adjustments. So it becomes necessary to persuade people individually to make changes. "The greatest challenge now is giving people a sense of responsibility and ownership, [a sense] that their individual decisions matter," he said. "Small changes do matter when you have enough people making them." [The Times Colonist](#)

U Calgary's Stefania Bertazzon and Rizwan Shahid map out seasonal surprise in Calgary air quality: A University of Calgary study of seasonal air pollution will be of cold comfort to thousands of Calgarians living south of the Bow River: that crisp, wintry air they're breathing in is the worst in the city. The analysis, conducted by Stefania Bertazzon and Rizwan Shahid of the Geography of Health and GIS Analysis research group at the O'Brien Institute for Public Health in the Cumming School of Medicine, sheds new light on air quality variations and the potential impact on schoolkids in neighbourhoods that lend themselves to more active forms of transportation. Bertazzon is a professor in the Department of Geography. Shahid is an adjunct assistant professor for the department and a geographic information scientist at Alberta Health Services. "I've done studies on air pollution and every time someone sees the data they say, 'Oh, wow, the area where I go jogging is in one of the most polluted parts of the city,'" Bertazzon explains. "People do not realize how much air pollution varies throughout the city. Rizwan had been doing a lot of work on child obesity and neighbourhood walkability, so we put our heads together." The team pulled readings from the city's network of air monitoring stations, as well as data from The City, to devise their own air quality health index with readings for ozone, nitrogen dioxide and particulate matter, pollutants that impact human health. Using ArcGIS and open data from the City of Calgary, the team mapped school neighbourhoods and assigned to each a walk, bike and transit score to calculate just how foot-, cycle- and transit-friendly they are for kids. They found some surprising seasonal variations. The summer map above shows that pollution levels tend to be higher in the downtown core, along major corridors, like Crowchild Trail and Deerfoot, and in the northeast quadrant. That makes sense, considering traffic emissions degrade air quality, and knowing that the northeast is home to many industrial emitters and a major airport. But when it comes to winter air quality, Shahid and Bertazzon were surprised to see a more diffused pattern settling in over the city's south end. [UToday](#) | [Calgary Herald](#) | [CBCNews|Calgary](#) | [CTV News|Calgary](#) |

Recent Theses and Dissertations

Sinead Kathleen Earley. 2018. [Forests, beetles, and climates in British Columbia's Central Interior: historical geographies of paradigm change in forest science and management, 1945 – present](#). PhD dissertation. Department of Geography and Planning, Queen's University, Kingston, Ontario. Supervisors: Laura Cameron and Warren Mabee.

New in [The Canadian Geographer / Le Géographe canadien](#)



Kirby E. Calvert. 2018. [Measuring and modelling the land-use intensity and land requirements of utility-scale photovoltaic systems in the Canadian province of Ontario](#). The Canadian Geographer / Le Géographe canadien. DOI:10.1111/cag.12444

This paper summarizes the land-use impacts and land requirements of utility-scale photovoltaic (U-PV) systems in the Canadian province of Ontario. The empirical research is based on an analysis of approximately 95 projects representing over 1000 MW of U-PV systems province-wide. Findings from this empirical assessment are combined with information about future technological advances in order to develop a modelling framework that can forecast land requirements of U-PV systems within evolving market and technology contexts. Specifically, the model is used to estimate the land requirements of U-PV systems in a hypothetical future in which U-PV systems supply all mid-day electricity needs in Ontario, including added demands from a completely electrified light-duty vehicle fleet. Under this scenario, on an installed capacity basis and assuming that 20% of mid-day electricity demand is met with rooftop PV, an area equivalent to 0.5% to 8.5% of Ontario's agricultural land would be required, depending on panel efficiencies and system packing factors. These land requirements are manageable, particularly as more land-efficient technologies are deployed and as regulations are designed to mitigate the land-use impacts of U-PV systems.



U Waterloo Geography students were on-hand for 2018 federal budget announcement. Recently, Bill Morneau tabled Canada's 2018 budget, which includes \$1.3 Billion over five years for Canada's conservation efforts. A lucky group of 22 University of Waterloo [geography](#) students in the course "[Transforming Canadian Resource Management](#)" saw this announcement live while camped out in the Government Leader in the House of Commons and Waterloo MP Bardish Chagger's office. This course is currently offered by Geography, but taught by [Trevor Swerdfager](#), Assistant Deputy Minister (Delivery and Results), Department of Fisheries and Oceans. Mr. Swerdfager has been commuting from Ottawa on a weekly basis, and students spent the first seven weeks studying the evolution of Canada's resource management system. This was followed by a field trip to Ottawa to learn how conservation and resource management decisions are actually made in Ottawa. Students in the course included undergraduate geography students, [Master of Climate Change](#) students, and [PhD](#) students. [UWaterloo Environment](#)

U Victoria's Chris Darimont mentioned in an article that reported on an abandoned cougar carcass found in Alberta, outside of cougar-hunting season. Many people on social media expressed their outrage at the suspected poachers while others debated cougar hunting. Still others suggested whoever killed the cat may have acted in self-defence. Alberta has regulated its cougar population since 1969. An annual quota allows up to 155 animals to be hunted each year. But Chris Darimont, associate professor of geography at the University of Victoria, has noted that science shows there are risks in overharvesting, because it's tough to count carnivores and get a clear picture of the population. [National Post](#) | [CTV News](#) | [Globe and Mail](#)

Hot Papers by Canadian Geographers

Claire Bernard-Grand'Maison and Wayne Pollard. 2018. [An estimate of ice wedge volume for a high arctic polar desert environment, Fosheim Peninsula, Ellesmere Island](#). The Cryosphere Discussion. doi.org/10.5194/tc-2018-29

Leigh Evans, Andrew C. VanderZaag, Vera Sokolov, Hambaliou Baldé, Doug MacDonald, Claudia Wagner-Riddle and Robert Gordon. 2018. [Ammonia emissions from the field application of liquid dairy manure after anaerobic digestion or mechanical separation in Ontario, Canada](#). Agricultural and Forest Meteorology. doi.org/10.1016/j.agrformet.2018.02.017

Piers Evans, Emma L. Davis, Ze'ev Gedalof and Carissa D. Brown. 2018. [Small herbivore enclosure cages alter microclimate conditions](#). Forest Ecology and Management 415–416:118–128.

Carol Hunsberger, Courtney Work and Roman Herre. 2018. [Linking climate change strategies and land conflicts in Cambodia: Evidence from the Greater Aural region](#). World Development. doi.org/10.1016/j.worlddev.2018.02.008

Lauren Jewett, Adil Harroud, Michael D. Hill, Robert Côté, Theodore Wein, Eric E. Smith, Gord Gubitza, Andrew M. Demchuk, Demetrios J. Sahlas, David J. Gladstone and M. Patrice Lindsay. 2018. [Secondary stroke prevention services in Canada: a cross-sectional survey and geospatial analysis of resources, capacity and geographic access](#). CMAJOpen. DOI:10.9778/cmajo.20170130

Michel Paquette, Daniel Fortier and Warwick F. Vincent. 2018. [Hillslope water tracks in the High Arctic: Seasonal flow dynamics with changing water sources in preferential flow paths](#). Hydrological Processes. DOI:10.1002/hyp.11483

Laura Schoenberger and Alice Beban. 2018. ["They Turn Us into Criminals": Embodiments of fear in Cambodian land grabbing](#). Annals of the American Association of Geographers.

Sayed Mohammad Nazim Uddin and Jutta Gutberlet. 2018. [Livelihoods and health status of informal recyclers in Mongolia](#). Resources, Conservation and Recycling 134:1–9.

Other “Geographical” News

"Contra-power" harassment of professors by students isn't that common, but it's a real problem: Academe's [Me Too movement](#) has thus far focused on professors harassing students, or senior professors harassing junior professors. And that makes sense, given the obvious power differential between those groups: in many cases, students depend on faculty members for not only grades but mentorship, recommendations and professional opportunities. Much the same can be said for the dynamic between junior and senior faculty members. Yet a recent case highlights the fact that professors, too, may be vulnerable to abuse by students. There is relatively little recent research on the topic, at least as compared to quid pro quo harassment in academe, in which someone with institutionally conferred power hints at or demands sexual favors in exchange for professional ones. But a [2012](#) study of 524 professors found that 91% reported at least one act of student incivility or bullying and 25% experienced at least one “sexual behavior” from a student. Women, racial minorities, younger faculty members and those with less experience and credentials reported more such instances, and more women than men reported a “serious incident” of student incivility, bullying, aggression or sexual attention during their careers. [Inside Higher Ed](#)

When journals play favorites: Academic publishing is supposed to favor the strongest research -- regardless of who's producing it. Yet we know that isn't always true. Various studies suggest that the system leans toward significant or favorable results over null ones, research coming from elite institutions, and male authors over women, for example. A new study examines another possible kind of bias: whether journals favor research affiliated with their publishing institutions. The short answer is yes. "The results confirm the existence of academic in-group bias, at least in some academic journals," the study says, borrowing the psychological term for favoritism toward members of one's own group. "This means that in-group bias could be an important factor underlying the acceptance and publication of academic articles -- or equally, the rejection of articles by out-group authors." As for possible explanations, the paper says it could just be simple favoritism. Alternatively, it says, "journal editors may use pedigree as a signal for quality: journals may find it hard to assess the quality of all papers that reach the editor's desk, and so rely instead on the institutional affiliation of the authors." [Inside Higher Ed](#)

Current deforestation pace will intensify global warming: Scientists affirm the prolongation of an annual deforestation of 7,000 square km can nullify the efforts for reducing GHG emissions. The study brings a new assessment on the importance of tropical forests in world climate regulation, and calculates a 0.8 °C rise on Earth's temperature in a scenario in which they are extinct. [ScienceDaily](#)

Some Not So "Geographical" News

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