GeogNews

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U Northern British Columbia's Brian Menounos uncovers detaila about how the Cordilleran Ice Sheet melted: The ice sheet that covered much of Western Canada at the end of the last ice age melted earlier and more quickly than thought. New findings bolster evidence that the melting of the Cordilleran Ice Sheet could have boosted sea levels by up to three metres. Brian Menounos, the Canadian researcher who led the study, spent 10 years helicoptering into remote mountaintops in B.C., the Yukon and the Northwest Territories with his team, then hammering, chiselling, and sawing rectangular rock "brownies" from huge boulders to take back to the lab. The boulders were located in moraines – huge piles of rock and debris left behind by melting glaciers that scientists use to understand past climate change. "If you want to understand future and present day, then it's often good to look at the past," said Menounos, a geography professor at the University of Northern British Columbia who holds a Canada Research Chair in glacier change. Menounos and his team used a different chemical clock — beryllium-10, which is found in quartz. Because a layer of ice protects surfaces from cosmic rays, the amount of beryllium 10 in rocks shows when surfaces were ice-free and exposed. Beryliium-10 dating of 76 boulder brownies from 26 sites showed that high alpine areas in Western Canada were ice free as early as 14,000 years ago. By looking at moraines at different elevations, Menounos and his colleagues found that while the alpine ice melted quickly, large chunks of ice may have remained in valleys and other lower lying areas until 11,000 years ago, as the climate fluctuated between warmer and cooler over several thousand years. CBCNews | Prince George Citizen

U Waterloo's Peter Deadman finding common ground on foreign soil: Peter Deadman's passion for understanding environmental and human interactions has taken him places. The Faculty of Environment Geography professor's research focuses on using advanced geographic information technologies to model land cover change in response to socio-environmental forces. For more than a decade, Peter explored the application of agent based models to understand the land use strategies of multi-sited forest farmers in the Amazon estuary. Peter's research has provided a deeper understanding of the challenges facing the communities that live near Marajó, a Brazilian coastal island bordered by the mouth of the Amazon River to the west and northwest, and the Atlantic Ocean to the northeast. "My main interest has always been trying to understand environmental problems, and how human decision making affects the environment," says Peter. "The interaction between humans and the environment might vary from one country to another, but the challenges are often the same." In addition to his work in the Amazon, Peter has also examined the application of 3-D models to explore the response of wetland vegetation communities to water level changes in Great Lakes coastal wetlands. "Environmental problems exist everywhere," says Peter. " UWaterloo Daily Bulletin

U Victoria PhD graduate Robert Newell creates virtual environment for coastal planning project:
What if you could experience the beauty of Sidney Spit (at the northern tip of Sidney Island) without leaving your home? Robert Newell has applied cutting-edge technology to develop a virtual reality experience that takes visitors on a tour of the park, over land and underwater, using visualization tools. "Geographic visualization helps us see and interact with our environment in a virtual way," says Newell, who graduates from UVic this month with a PhD in geography. "By using GIS (geographic information systems) mapping technology and video game development software, I developed an immersive experience of Sidney Spit." Newell is passionate about coastal planning and says geovisualization is a promising tool for engaging the public and decision-makers when it comes to parks and urban development. "I could show you what a coastal place would look like if, for instance, there were offshore wind farms or a new marina or dock," he says. Growing up in Vancouver, Newell has always been drawn to the coast. Prior to starting his PhD, Newell had not experienced the beauty of Sidney Spit. That all changed as he developed his research project. He spent hours doing fieldwork in the park, sometimes camping overnight. When not working, Newell's preferred activity was to take long walks. "I've developed a hobby of going for lengthy walks," he says. "After submitting a draft of my thesis, I did a 16-day walk from Victoria to Port Hardy (552 km)." "Part of this bizarre hobby," says Newell, "is designing the routes. I use Google Earth and record my paths with a Garmin GPS unit. I've probably always been a geographer at heart." Newell quickly realized how interdisciplinary geography is as his project involved spatial sciences, human environments and collaborative management. When he met his PhD supervisor, Dr. Rosaline Canessa, he was immediately excited about working with her on coastal geovisualization research. The UVic Ring

U Calgary's Dianne Draper using "disruptive technology" to complement course learning experiences: The days where students only sit in rows, face a lecturer at the front of the room and scribble notes with pen and paper are done. As the scholarship of teaching and learning progresses, researchers are finding innovative methods to engage students – from those studying geography using their iPhones to help understand a sense of place to instructors using iPads to capture and share their thoughts in real time as they grade papers. "We're turning the selfie into a tool to have students learn about the environment they're in," says Dianne Draper, a professor in UCalgary's Department of Geography, one of many faculty using "disruptive technology" to complement their courses. "Students are often preoccupied with grades and they tend to miss the bigger picture in many courses," she says. "We're trying to figure out ways to engage students more effectively with the content of the course so they get excited about what they're actually learning. Sometimes, that means handing in a few selfies as part of a photo essay. In a recent environmental geography class, for example, Draper had her students take selfies with and/or pictures of greenery and other biophilic design elements amidst the steel, glass and concrete in downtown Calgary. On a group study program in Italy, Draper's colleagues Andrea Freeman, Darren Sjogren and Aaron Williams had their students photograph ancient and contemporary infrastructure built to protect against natural hazards, such as earthquakes and landslides. "Photography encourages students to look closely at the surrounding environment," says Draper. "They identify concepts and literature that's discussed in class and communicate a 'scientific' story." Students are expected to curate their photos and hand in assignments with brief captions explaining the picture. Unlike their Instagram feeds, they present the academic principles illustrated in the photos. The assignments often lead to more communication between student and faculty than when students are assigned a traditional essay. "We try to help them 'see differently,'" says Draper. "This is a challenge because they're used to looking at their little screens and we want them to look more broadly at the environment around them and provide evidence and/or evoke emotion through their photographs". Handing in a few selfies as part of a photo essay also helps students acquire some of the communication skills they need to meet the challenges waiting for them in today's hyper-technological workplaces. "It's not just about essays or lab reports anymore." UCalgary

Recent Theses and Dissertations

Caitlynn Beckett, Rethinking remediation: Mine closure and community engagement at the Giant Mine, Yellowknife, Northwest Territories, Canada. MA Thesis. Department of Geography, Memorial University, St. John's, NL. Supervisors: Arn Keeling and John Sandlos.

Sydney Clackett. 2017. Long-term changes in global and local atmospheric mercury as recorded in white spruce tree-rings in central Yukon Territory. MSc thesis. Department of Geography and Planning University of Toronto, Toronto, Ontario. Supervisor: Trevor Porter.

Siliang Cui. 2017. Temporal and spatial variations of PM2.5, surface O3, and smog in Ontario, Canada. MSc thesis. Department of Geography and Planning University of Toronto, Toronto, Ontario. Supervisor: Jane Liu.

Jina Gill. 2017. The Rouge uncovered: Community participation, urban agriculture and power dynamics in the creation of Canada's first national urban park. MA thesis. Department of Geography and Planning University of Toronto, Toronto, Ontario. Supervisor: Sarah Wakefield.

An Kosurko. 2017. Volunteer experiences of place making for sustainable community development. MA thesis. Graduate Program in Sustainability Studies, Trent University, Peterborough, Ontario. Supervisor: Mark Skinner.

Scott Mackey. 2017. Modeling photovoltaic solar farm site suitability using a multi-criteria evaluation in southern Ontario, Canada. MSA Major Research Paper. Master of Spatial Analysis Program, Department of Geography and Environmental Studies, Ryerson University, Toronto, Ontario. Supervisor: K. Wayne Forsythe.

Danielle Elizabeth Mitchell. 2017. Visualizing the *Big Three*: Geospatial interpolation of heavy metal sediment contamination in Lake Erie. PhD Dissertation. Environmental Applied Science and Management Program, Ryerson University, Toronto, Ontario. Supervisor: K. Wayne Forsythe.

Shihao Wang. 2017. A quantitative study of ozone deposition velocity over a mixed temperate-boreal forest. MSc thesis. Department of Geography and Planning University of Toronto, Toronto, Ontario. Supervisor: Jane Liu.

Queen's U's Audrey Kobayashi participated on panel exploring Canadian identity. Kobayashi touched on the reality of multiculturalism and how it affects society. Queen's University Journal

Carleton U's Elyn Humphreys introduced Elmwood students to her research site at Mer Bleue bog. Elyn taught the girls about the formation of the bog, the role bogs play in the carbon cycle and the unique flora within a bog. Elyn also gave the class a tour of her study site where she is monitoring the greenhouse gas flux between the bog and the atmosphere. The data generated from this study will provide us with a better understanding on how northern bog environments are responding to changes in climate. Carleton DGES

Hot Papers by Canadian Geographers

Ella Belfer, James D. Ford and Michelle Maillet. 2017. Representation of Indigenous peoples in climate change reporting. Climatic Change 145:57–70.

Godfred O. Boateng, Ellis A. Adams, Mavis Odei Boateng, Isaac N. Luginaah, and Mary-Margaret Taabazuing, 2917. Obesity and the burden of health risks among the elderly in Ghana: A population study. PLOS|One. doi.org/10.1371/journal.pone.0186947

Sebastian Dalgarno, Janet E. Mersey, Ze'ev Gedalof and Moira Lemon. 2017. Species-environment associations and predicted distribution of Black Oystercatcher breeding pairs in Haida Gwaii, British Columbia, Canada. Avian Conservation and Ecology 12:9. doi.org/10.5751/ACE-01094-120209

Susan J. Elliott. 017. 50 years of medical health geography(ies) of health and wellbeing. Social Science & Medicine. doi.org/10.1016/j.socscimed.2017.11.013

Crystal A. Ennis and Margaret Walton-Roberts. 2017. Labour market regulation as global social policy: the case of nursing labour markets in Oman. Global Social Policy. DOI:10.1177/1468018117737990

John Jeremy Escobar and Chui-Ling Tam. 2017. Indigenous power struggles in the Peruvian Amazon: A spatio-cultural analysis of communication. Environmental Communication. DOI:10.1080/17524032.2017.1371055.

James D Ford, Jolène Labbé, Melanie Flynn, Malcolm Araos and IHACC Research Team. 2017. Readiness for climate change adaptation in the Arctic: a case study from Nunavut, Canada. Climatic Change 145:85–100

Christine Gibb. 2017. A critical analysis of vulnerability. International Journal of Disaster Risk Reduction. doi.org/10.1016/j.ijdrr.2017.11.007

Emily Grisé, Ron Buliung, Linda Rothman and Andrew Howard. 2017. A geography of child and elderly pedestrian injury in the City of Toronto, Canada. Journal of Transport Geography. doi.org/10.1016/j.jtrangeo.2017.10.003

Samantha Hajna, Nancy A. Ross and Kaberi Dasgupta. 2017. Steps, moderate-to-vigorous physical activity, and cardiometabolic profiles. Preventive Medicine. doi.org/10.1016/j.ypmed.2017.11.007

Aliénor Lavergne, Fabio Gennaretti, Camille Risi, Valérie Daux, Etienne Boucher, Martine M. Savard, Maud Naulier, Ricardo Villalba, Christian Bégin and Joël Guiot. 2017. Modelling tree ring cellulose δ18O variations in two temperature-sensitive tree species from North and South America. Climate of the Past 13:1515-1526.

Donald Leffers. 2017. Real estate developers' influence of land use legislation in the Toronto region: An institutionalist investigation of developers, land conflict and property law. Urban Studies. doi.org/10.1177/0042098017736426

David Lieske, Megan MacIntosh, Lee Millet, Soren Bondrup-Nielsen, J. Bruce Pollard, Glen Parsons, Nic R. McLellan, G. Randy Milton, Frances MacKinnon, Kevin Connor and Lauren Banks. 2017. Modelling the impacts of agriculture in mixed-use landscapes: a review and case study involving two species of dabbling ducks. DOI:10.1007/s10980-017-0579-7.

Brian Menounos, B.M. Goehring, G. Osborn, M. Margold, B. Ward, J. Bond, G.K.C. Clarke, J.J. Clague, T. Lakeman, J. Koch, M.W. Caffee, J. Gosse, A.P. Stroeven, J. Seguinot and J. Heyman. 2017. [Cordilleran Ice Sheet mass loss preceded climate reversals near the Pleistocene Termination](). Science 358:781-784.

Mohammad Moniruzzaman and Margaret Walton-Roberts. 2017. [Migration, debt and resource backwash: how sustainable is Bangladesh-Gulf circular migration?]() Migration and Development. DOI:10.1080/21632324.2017.1358799

Mei Wang, Jianghua Wu, Peter M. Lafleur, Junwei Luan, Huai Chen and Xinbiao Zhu. 2018. [Can abandoned peatland pasture sequestrate more carbon dioxide from the atmosphere than an adjacent pristine bog in Newfoundland, Canada?]() Agricultural and Forest Meteorology 248:91–108.

Randy W. Widdis. 2017. [Greater New England as cultural borderland: a critical appraisal](). Acadiensis 46:97-121.

Other "Geographical" News

Filipinos urge Trudeau to take out 2,500 tons Canadian trash festering in 103 shipping containers in Manila: Justin Trudeau's visit to the Philippines brought him within a short walk of a Canadian controversy that has lingered in the Port of Manila for years: about 100 stranded containers crammed with thousands of tons of rotting trash from Canada. The case of the rancid Canadian garbage, festering in Manila for about four years, is well known in the Philippines — it's made headlines and led to protests by environmental and public-health activists. They've been calling on Canada to repatriate the waste, which is said to include old wires, CDs, used plastic cups and soiled adult diapers. Estimates in local news reports say there could be as much as 2,500 tons of trash in 103 shipping containers. The shipments were allowed into the country because they were allegedly disguised as recyclable plastics. Upon inspection, however, customs officers discovered they were stuffed with reeking household trash — or worthless landfill junk. The customs bureau warned the material could be hazardous and impounded the shipment. [CBCNews]()

What grades do I need to get into Canadian universities? Grades are a strong indication of student quality and potential. Maclean's presents the over-all grade average of incoming first-year students. Here, the average final-year grades of full-time, first-year students entering university from high school or Quebec's CEGEP system. Grades shown are for students entering university in their home province in fall 2016. [Maclean's]()

Global carbon pollution rises after 3 straight flat years: Global carbon pollution rose this year after three straight years when emissions of the heat-trapping gas didn't go up at all, scientists report. Preliminary figures project that worldwide carbon dioxide emissions are up about 2 per cent this year, according to an international team of scientists. Most of the increase came from China. [CBCNews]()

Study of impact of climate change on temperatures suggests more deaths unless action taken: The largest study to date of the potential temperature-related health impacts of climate change has shown that as global temperatures rise, the surge in death rates during hot weather outweighs any decrease in deaths in cold weather, with many regions facing sharp net increases in mortality rates. [ScienceDaily]()

Some Not So "Geographical" News

The CAG works for geographers on Twitter. Keep up-to-date by following @CanGeographers
GeogNews Archives: http://www.geog.uvic.ca/dept/cag/geognews/geognews.html
@CanGeographers Weekly: https://paper.li/CanGeographers/1394987315