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U Calgary's Geoffrey Hay and his team score victory at MIT Climate Conference by finding lost heat costs Calgary homeowners millions: In seeking creative new ideas to address global climate change from the bottom-up, the MIT Climate CoLab announced today the grand prize and honorable mention winners of its 2013 round of contests. The grand prize winner, Dr. Geoffrey Hay and his team from the University of Calgary, took home the $10,000 award for their proposal HEAT (Heat Energy Assessment Technologies), a project that shows homeowners where their homes are wasting heat, how much it's costing them, and how to fix it — all on Google Maps and all for free. Calgarians may have barely stirred in their sleep one spring night in 2012 as a small-engine plane flew back and forth over the city's neighbourhoods at low altitude. But the images collected by a sophisticated, thermal imaging camera on board the aircraft are now waking residents to the financial and environmental cost of the heat that's silently seeping from their homes. The project is the brainchild of geography professor Geoffrey Hay who began wondering four years ago why his recently constructed two-storey home in the Cougar Ridge subdivision was always cold. While the home had triple-pane windows, a high-efficiency furnace and good insulation, images from the study prompted Hay to use a thermal camera that showed him there were gaps around his doors and leaks in a window that had been poorly caulked. "The quality of building in Calgary, and other places in Canada is pretty appalling," he said. "Collectively, we could be saving huge amounts of money." In part due to the climate, people in this country are among the highest per capita users of energy in the world. Heating buildings in Canada accounts for about a third of all energy use and about 35 per cent of greenhouse gas emissions. Hay said the beauty of the web-based map service is it allows homeowners to see where heat is leaking from their homes and to compare their residence to others in their neighbourhood. "It's hard to get people to act on something they can't see," said. "The images show hot spots from overhead that often correspond to poor roof insulation or leaking windows." The invention will help residents improve their home energy efficiency, save money, and reduce greenhouse gas emissions. Calgary Herald | MITei

Brock U's Joshua Thienpont and Michael Pisaric expose environmental impact of oil and gas exploration on Arctic lakes: A couple of Brock researchers are part of a collaborative research team whose recent findings suggest that the legislated method for disposing of land-based drilling wastes associated with oil and gas exploration in Canada's Arctic is no longer effective. Their findings are based on the group's latest research on the cumulative impact of climate warming and oil and gas exploratory activities during the 1970s and 80s on lake ecosystems in the Mackenzie River Delta region of the Northwest Territories. "Lakes in the region are undergoing warming, they're being impacted by permafrost thaw, and now on top of that, there's also the impact of hydrocarbon exploration," says Joshua Thienpont, a post-doctoral fellow in Brock's Geography Department working under the supervision of associate professor Michael Pisaric. Hydrocarbon exploration industries in Northern Canada dispose of their drilling wastes into pits called "drilling sumps." These are Olympic pool-sized craters dug into the permafrost and filled with industrial wastes - primarily cuttings and drilling fluids. "Only 30 or 40 years ago, it was assumed that these sumps were a permanent disposal mechanism - that this material would be locked in the permafrost forever," Thienpont says. "But we now know the permafrost is not as permanent as we had originally thought." Based on the research, he also notes, "Sumps are probably not the perfect disposal method in regions of warm permafrost, which is not only likely to thaw, but already thawing." Brock News

Memorial U's Norm Catto explains that warming waters will bring many changes to eastern Newfoundland: Provincial regulations on building near the coast may be too simplistic, according to Norm Catto, a geography professor at Memorial University. The province doesn't allow new properties to be built closer than 50 metres from the coast. Catto says one limit for the whole province ignores the impact of sea level rise on different coastlines. Some are steep cliffs, others more gradual, sloping sandy beaches. Catto has been studying sea level change in Newfoundland and Labrador since 1989. He says the volume of water in the ocean is just one factor affecting sea levels. Eastern Newfoundland was covered by glaciers until about 13,000 years ago. Catto compares the effect a glacier has on the land below it to a spring. The weight of the ice pressed the land down, and when the ice melted, the land sprang back up again, higher than its previous level. Much of the island is sinking back down after the initial up-spring. Catto says this is the dominant factor affecting sea level rise in our area. As the ice caps melt, however, the volume of water in the ocean is going to play a greater part. The Compass

York U's Philip Kelly comments on Canadian government response to Philippines typhoon relief: The federal government announced two separate aid packages on the weekend: a promise of up to $5-million to assist with humanitarian aid in typhoon-affected areas and a new fund that will see Ottawa match the money donated by individual Canadians to typhoon relief during the next month. "There's clearly a lot of very worried people in [Canada's Filipino] community who are undoubtedly wanting to see the federal government act," said Philip Kelly, a professor of geography at York University in Toronto who studies Filipino migration and labour issues. "I think where there is a significant immigrant community from a particular place, then the interest is always going to be heightened in the Canadian context." The Globe and Mail

Memorial U's Alistair Bath moderates wolf hunting and trapping debate: Highlights of the recent International Wolf Symposium symposium included a debate about delisting wolves, a panel discussion about state management of wolves, and a debate and discussion about hunting and trapping wolves. Moderator and group discussion leader Dr. Alistair Bath of the Department of Geography at Memorial University showed that more common ground exists than most with strong feelings towards wolves might believe. For example, nearly all in attendance agreed that wolves should not be hunted or trapped during biologically sensitive times, such as when they are pregnant or lactating with young pups. At the same time, nearly everyone agreed that a wolf which repeatedly preys upon livestock, despite the rancher's use of nonlethal preventive measures, should be removed. Switchboard

Geography and Environmental Management students to represent U Waterloo at COP19: Five students from the Department of Geography and Environmental Management will be part of a team of students representing The University of Waterloo at the COP19 conference in Warsaw, Poland from November 11-22, 2013. Undergraduate students Andrew Wong, Sarah Lukaszczyk, and Fatin Chowdhury from GEM, and graduate students Kai Reimer-Watts and Glenn Milner from the Masters in Climate Change program will be attending. Students from the University of Waterloo Coalition for Sustainable Development will be reporting on their activities at the conference through Twitter (https://twitter.com/envwaterloo/env-at-cop19) and through their a blog on their website (uwcsd.com).

Hot Papers by Canadian Geographers

Kyle A. Artelle, Sean C. Anderson, Andrew B. Cooper, Paul C. Paquet, John D. Reynolds and Chris T. Darimont. 2013. Confronting uncertainty in wildlife management:Performance of grizzly bear management. PLoS ONE 8:e78041. doi:10.1371/journal.pone.0078041

David Beauchesne, Jochen AG. Jaeger and Martin-Hugues St-Laurent. 2013. Disentangling woodland caribou movements in response to clearcuts and roads across temporal scales. PLoS ONE 8:e77514. doi:10.1371/journal.pone.0077514

Catrina A MacKenzie, Julia Christensen and Sarah Turner. 2013. Advocating beyond the academy: dilemmas of communicating relevant research results. Qualitative Research. doi:10.1177/1468794113509261

Anna J. Pieńkowski, John H. England, Mark F.A. Furze, Brian MacLean and Steve Blasco. 2013. The late Quaternary environmental evolution of marine Arctic Canada: Barrow Strait to Lancaster Sound. Quaternary Science Reviews. doi.org/10.1016/j.quascirev.2013.09.025

Gregory J. M. Rickbeil, Nicholas C. Coops, Margaret E. Andrew, Douglas K. Bolton, Nancy Mahony and Trisalyn A. Nelson. 2013. Assessing conservation regionalization schemes: employing a beta diversity metric to test the environmental surrogacy approach. Diversity and Distributions. DOI:10.1111/ddi.12146

Kevin W. Turner, Brent B. Wolfe, Thomas W.D. Edwards, Trevor C. Lantz, Roland I. Hall and Guillaume Larocque. 2013. Controls on water balance of shallow thermokarst lakes and their relations with catchment characteristics: A multi-year, landscape-scale assessment based on water isotope tracers and remote sensing in Old Crow Flats, Yukon (Canada). Global Change Biology. DOI:10.1111/gcb.12465

Other "Geographical" News

Military maps lead viewers down road of wartime secrets: The secret histories of thwarted invasions, guerrilla attacks and perilous patrols are revealed in a new display of military maps at Okanagan College. Offering an intriguing insight into little-known aspects of major world conflicts, the maps are something like a blueprint to an alternative version of the past. Displayed as part of Remembrance Day commemorations at the college's KLO Road campus in Kelowna, the historical maps help viewers understand the way things actually happened, but they also raise some imponderables. The Daily Courier

As Canadian as … the Norway Maple: Canada's new $5 and $10 polymer notes are now out, but they have the wrong maple leaf. Just as they did with the new $20 earlier this year, botanists and conservationists across the country will complain that it's not a Sugar Maple, that iconic symbol of all things Canadian and source of our sweet national elixir. Rather, the leaf is a Norway Maple, a non-native European species that doesn't behave: It exudes seeds and shade, outcompetes native species, and "invades" natural habitats. National Post

Get to Know a Projection: Lambert Conformal Conic: What the heck are projections, anyway? First of all, projections aren't maps, even though most maps have projections. It's a little weird, but think about it like this: If every point on a globe has a coordinate, then the projection is the formula that tells all those points where they will move when that globe is flattened – or projected. The operation never goes perfectly, and the final map is always a bit stretched and distorted. Johann Heinrich Lambert, the brains behind the projection that bears his name, was a cherubic, Swiss polymath born in 1728. Drawn to self-improvement at an early age, he wrote a manifesto when he was 14 in which he swore to use scientific reasoning to make the right life choices. Unlike most teenage proclamations in history, Lambert's stuck, and it even worked. He chose to study light, and discovered how it was absorbed by matter. He chose to study astronomy, and made accurate predictions about how star systems behave. He chose to study mathematics, and wrote the first exhaustive proof that pi was both infinite and non-repeating. Near the end of his life, he chose to study geography, and in 1772 published a set of seven new map projections. MapLab

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Some not so "Geographical" News

The CAG now works for geographers on Twitter. Keep up-to-date y following CanGeographers
GeogNews Archives: http://www.geog.uvic.ca/dept/cag/geognews/geognews.html

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