Spring Symposium 2011

The 2011 Geography Spring Symposium will be held on Friday, April 29 in Rm. 200.

The symposium is for all masters students in the second year of their course to present their projects to the Department in a relatively informal environment. The idea is to provide an opportunity for constructive feedback to those who are in the process of writing their theses. It also allows members of the Department to gain an appreciation of the breadth of research being conducted here.

The symposium will be held over the duration of a day and each presentation should be 15 minutes long with 5 minutes for discussion.

AGENDA

8.30 – 8.35 **Welcome:** Dr Marwan Hassan

Session Chair: Dr Dan Moore

8.35 – 8.55 Michelle Drenker (MA)
8.55 – 9.15 Natasha Cowie (MSc)
9.15 – 9.35 John Dewey (MA)
9.35 –9.55 Justin Knudson (MSc)

Coffee Break

Session Chair: Dr Merje Kuus

10.15 – 10.35 Sarah Davidson (MSc)
10.35 – 10.55 Emily Rosenman (MA)
10.55 – 11:15 Ian Parfitt (MSc)
11.15—11.35 May Farrales (MA)
11.35-11.55 Gregory Greene (MSc)

LUNCH

Session Chair: Dr Andreas Christen

1.00 – 1.20 Sophie Webber (MA)

1.20 – 1.40 Kimberly Bryson (MSc)

1.40 – 2.00 Sarah Panofsky (MA)

Break

Session Chair: Dr Jim Glassman

2.05 – 2.25 M. Vander Laan (MSc)

2.25 – 2.45 Alyssa Stryker (MA)

2.45 – 3.05 Marc Edwards (MSc)

Conclusion

ABSTRACTS

Michelle Drenker (MA)

European Scientists in Canada: EU Research Policy and Brain Drain

My study focuses on the emigration of scientists from the European Union to Canada and the resulting 'brain drain' for Europe. While brain drain encompasses a way array of professions and industries, the scientific research community is relatively cohesive, highly internationalized, and affords an arguably significant level of mobility for successful contributors. The European Union has attempted to remedy this loss of researchers through a variety of policies and programs aimed at attracting and retaining top European scientists. The project is framed around one critical question: why are European scientists emigrating to Canada and why do they remain there? This was not designed as a 'big picture' statistical study. Rather, the project focuses explicitly on a sample of natural scientists from the European Union working at UBC to gain a more close-up perspective on the motivations and concerns underpinning migration decisions. I use qualitative methods, including in-depth interviews as well as policy and media analysis, to help discern the scientists' perspectives on EU and Canadian research policy and its effect on career and migration choices.

Natasha Cowie (MSc)

Effects of Glacier Retreat on Proglacial Streams and Their Riparian Zones

As glaciers retreat, new headwater stream reaches are exposed and existing proglacial streams are subjected to changes in flow and sediment regimes. Establishment of riparian forest further contributes to the development of channel morphology and aquatic habitat characteristics. This study examines the trajectories of proglacial channel evolution in coastal BC and Washington, focusing on sites for which past glacier extents have been mapped and dated by other researchers. Presence/absence of riparian forest was assessed for twenty proglacial streams in BC based on air photographs and Google Earth imagery. Analysis revealed that occurrence of riparian forest was positively associated with age of channel reaches, July air temperature, and lake presence. Using DEM data, reaches were assessed for fish habitat potential according to BC Forest Practices Code criteria. In

summer 2010, field surveys were conducted on the uppermost reaches of ten proglacial streams in BC and Washington. Sediment supply and calibre, slope, and bankfull width and depth were measured in order to designate reach morphologies. Channel morphologies exhibited a high degree of variation, reflecting the complex topography and sediment and water dynamics of proglacial zones. Morphologic transitions were frequently abrupt and appeared to be heavily influenced by sediment availability and gradient changes.

John Dewey (MA)

Immigrants without health insurance: the all-American neoliberalization of risk?

My thesis revolves around a troubling statistic: the high rate of U.S. immigrants lacking health insurance. This rate—estimated to be ~3 times as high as that of "native-born" Americans—is associated with sub-standard access to care, "over-use" of ERs, and ballooning uncompensated costs.

The "uninsured immigrant" class has been constructed in recent decades through the conflict between expanding immigration and "restructuring" low-wage labor and insurance markets. Given this history, I ask which groups assume the most cost-risk associated with immigrant health needs. In the mid-1990s, the federal government's answer was: not us. Uninsured immigrants were told to pay their own way, though the true effects were felt "downwards" at state and local levels.

Uninsured immigrants are addressed in Obama's health care reform—insofar as they are given the "privilege" of compulsorily purchasing private insurance. At this point, however, the deal looks like more of the same: risk is transferred to immigrants themselves, costs continue to rise, and cash-strapped states are hardly in a position to offer aid. Is this merely a continuation of the neoliberalization of risk? Is the plight of uninsured immigrants more dependent upon their status as immigrants, or as low-wage workers in an increasingly insurance-less economy?

Justin Knudson (MSc)

Proglacial river temperature patterns: Lillooet River, BC

Glacier runoff is important during warm, dry weather for maintaining streamflow and moderating water temperature, and potential effects of climatic warming and continued glacier retreat pose a threat to these functions. Most previous research on summer river temperature has focused on systems without glacier cover, for which streamflow can be approximated as being at steady state. In glacier-fed streams, however, streamflow varies diurnally, adding to the complexity of stream temperature patterns. This study investigates streamflow and water temperature in Lillooet River, a glacier-fed stream in the Coast Mountains of British Columbia. River temperature, discharge, and weather were monitored continuously over a four-month period between July and October, 2010, on Lillooet River and two major tributaries. Stream discharge and temperature of the tributaries were often out of phase with conditions in the Lillooet River, and produced lateral stream temperature variations that persisted for a considerable distance downstream of the tributary junctions. The importance of relative source water contribution and timing of flow on river temperature are highlighted.

Sarah Davidson (MSc)

Large wood affects channel hydraulics and morphology, and thereby influences habitat availability for aquatic organisms. Attempts at quantifying the effects of large wood on channel processes through experimental manipulation of wood loads, however, are limited by the large temporal and spatial scales at which the relevant processes operate; it is both difficult and costly to manipulate large volumes of wood over long time periods. The primary objective of my research is to address this gap by investigating the relationship between the wood load in a channel and its associated hydraulic and morphologic effects using a model system. Five experiments, each comprised of several five hour runs, were conducted using a stream table with wood loads scaled to 0 m^3/m^2, 0.01 m^3/m^2, 0.015 m^3/m^2, 0.02 m^3/m^2, and 0.025 m^3/m^2. The addition of wood consistently decreased water velocity, while increasing variability in depth, pool frequency, and facies complexity. These hydraulic and morphologic changes may be associated with increased habitat quality for aquatic organisms. The non-linearity of the morphologic response suggests the presence of thresholds in channel response, and points to the importance of other factors, such as wood orientation and distribution, in determining the morphologic impact of wood addition.

Emily Rosenman (MA)

Post-Katrina Place-Making: transformations and inequalities in rebuilding New Orleans

This project considers the transformation of post-hurricane New Orleans through the reshaping of city planning and governance practices. The city's 2010 zoning ordinance seeks to create a transparent and understandable map of land and corresponding social uses in New Orleans; this so-called "place-making" style of planning is used both to unite and fragment the city's neighborhoods. On one hand, a city-wide discourse of rebuilding and renewal attempts to counter the images of poverty and inequality that dominated news coverage during the hurricane. However, urban planning practices are increasingly putting to work a fragmented discourse that constructs New Orleans as a set of neighborhoods in competition with each other for the purposes of attracting residents, investment, and resources. Through interviews and archival research, I examine the ways in which planners, developers, and community groups attempt to unite neighborhoods behind development and reinvestment strategies. Combined with an analysis of 2010 census data on population changes in New Orleans, I reflect on some of the persistent inequalities and exclusions that are overlooked in celebrations of community-based planning, resilience

Ian Parfitt (MSc)

Volunteered Geographic Information for Species Conservation

Volunteered geographic information (VGI) holds the promise of leveraging public interest and digital information and communications technology to greatly increase data collection at costs far reduced from expert data collection methods. The utility of data collected by lay practitioners is questioned by the expert and scientific community, however, since by definition these non-experts are not formally trained in study design, or in methods for controlling locational and attribute accuracy of collected data. A number of recent studies have compared VGI data to authoritative datasets and found little difference between accuracy and utility in the crowd-sourced data relative to the expert data. Most studies have focused on the OpenStreetMap data set, comparing it to UK Ordnance Survey road data, for instance. In my study I will consider VGI for species conservation by comparing a

dataset of volunteered sightings of badgers to a badger habitat suitability model built by experts from badger telemetry data collected by experts. The goal of my study is to uncover where these volunteered data can replace or augment expert data, and where VGI is not suitable for species management at present.

May Farrales (MA)

Holding Spaces: Geographies of Filipino-Canadian youths' educational experiences

Vancouver public high schools have become a touchstone for immigrant youths' experience. In these spaces of public education, a paradox that faces first- and second-generation Filipino students comes into view. Whilst Filipinos on the whole have the highest rates of university education among contemporary migrants to Canada, previous research has identified low rates of university graduation (and even high school completion) among Filipino youths in a number of Canadian cities -- a seeming failure of social integration. I approach this generational disjuncture by drawing on interviews, focus groups and survey data gathered from Filipino students in Vancouver high schools and post-secondary institutions. Positing their educational experiences within recent literature on immigrant integration and the role of education, I reflect on how factors such as migration experience, pressure and support within the family and school affect the educational outcomes of Filipino youths. By attending to the particular experiences of Filipino students, I consider the implications and limitations of viewing Filipino immigrant youth's educational attainment as an anomaly that does not fit into a common immigrant narrative.

Gregory Greene (MSc)

Fire History of the Darkwoods: Quantifying the Past to Plan for the Future

This study investigates fire regimes of the mixed-conifer, mountain forests of the Nature Conservancy of Canada's (NCC) "Darkwoods" property in the South Selkirk Natural Area of southeastern British Columbia. To assist the NCC in maintaining and restoring forests to conditions suitable for Mountain Caribou and Grizzly Bear habitat, this research aims to reconstruct the spatial and temporal variation in historic fires and assess human impacts on fire regimes during the 20th century. In the summer of 2010, we surveyed the southeastern-most watershed of the Darkwoods property for direct and indirect evidence of fire. A systematic survey revealed over 1000 scarred trees. We used GIS to overlay a 1 Km grid to establish 40 plots and five supplemental plots. We obtained 140 cores from 14 high-elevation plots, and removed 147 fire-scar cookies from the remaining 31 plots. Fire scar analysis suggests variable plot level fire return intervals ranging from 3 to 296 years. Between the years 1700 and 1900, nine large, widespread fires and 13 small fires occurred. Since 1900 only one large, widespread fire in 1904 and 12 small fire events occurred, but no fires have been recorded since 1966. Our findings indicate 20th century fire exclusion has been successful, suggesting important implications for forest management and restoration.

Sophie Webber (MA)

Performing vulnerability in Kiribati: assembling exposure, sensitivity and adaptive capacity

I draw on the Kiribati Adaptation Program, a pilot climate change adaptation project implemented by the World Bank and funded by the Global Environment Facility (GEF) and several other donors, to understand how and what actors must perform to become legitimate in the market for climate change adaptation. I attempt to interrogate these performances using theories of performativity and assemblage. The country's leaders, bureaucrats and other spokespeople are frequently on show and must perform the nation's vulnerability. These performances cite particular statistics about climate change, including sea level rises, expected inundation and increasing storm frequencies. Similarly, performances draw on tropes of underdevelopment in Kiribati, such as overcrowding and poor access to freshwater. Performances and matters of fact are co-dependent, together forming a collection of things that enact vulnerability. Seeing vulnerability as a collective recognises that it can be added to, in turn reiterating the shapes of vulnerability.

Kimberly Bryson(MSc)

Assessing the impact of climate change on tundra vegetation through long-term experimental warming and fertilization

Increasing atmospheric concentrations of greenhouse gases have been the driver behind a rise in global average temperature over the past century. Warming at high latitudes has outpaced the global average in recent decades, and this imbalance is expected to continue. As a result, tundra ecosystems are vulnerable to profound change. Warming in the Arctic is expected to increase nutrient availability through increased mineralization rates, thus impacting tundra plant communities. The purpose of this study is to assess how mesic dwarf-shrub graminoid tundra responds to a warmer, nutrient enhanced environment. Species composition and abundance data was collected from experimental plots at Alexandra Fiord, Ellesmere Island over a 15 year period. Results indicate that the treatment response between growth forms differ, with shrubs responding the most vigorously. Treatment response varies at the species level, with some species exhibiting a strong positive response while others exhibit a negative response.

Sarah Panofsky (MA)

Northern Gateway and a Process of Ontological Exclusion

Enbridge's Northern Gateway is a proposed pipeline project that would link the Oil Sands to the BC coast in Kitimat in an attempt to open the Alberta market to China. The project is currently undergoing an environmental assessment by a federal Joint Review Panel of the Canadian Environmental Assessment Agency, and the National Energy Board. This talk is based on ethnographic research I conducted with the Office of the Wet'suwet'en, a First Nations' organization in Smithers, BC around their opposition to Northern Gateway. I consider one ethnographic moment, the preliminary panel meetings in Kitimat BC, to argue that the environmental assessment process is marked by the exclusion of Aboriginal ontologies. In their lack of acknowledgement of First Nations' authority and their dismissal of ontologies of interconnection and holism, the current panel for Northern Gateway reinvigorates structural and institutional legacies of colonialism. We must understand the meetings in Kitimat in relation to the history of the marginalization and dispossession of Aboriginal peoples in Canada. I then look to the ways in which the Office of the Wet'suwet'en and other First Nations groups are negotiating their opposition to Northern Gateway, reinvigorating traditional governance and building collectives both within and between communities.

Michael Vander Laan (MSc)

Urban morphology and building typology: Carbon emissions estimates through LiDAR and building energy simulation

It is well understood that cities contribute the majority (80%) of anthropogenic carbon emissions. Although models to quantify emissions exist, they are within isolated disciplines, and are targeted at specific scales, emissions processes, and end-users – not a priori compatible with planning needs. Furthermore, the majority of existing models rely on inventory data, which is typically only available at aggregate space and time scales. It is necessary however, that neighborhood-scale carbon emissions estimates are provided to determine the key relationships between urban form and emissions which can than be applied to future planning strategies. The advent of light detection and ranging (LiDAR) data in urban areas provides significant promise in facilitating the spatial data needed for context-sensitive emissions estimates. This research presents a methodology to integrate LiDAR data, building simulation software (EnergyPlus) and a building typology database. Building archetypes are derived, evaluated and associated with site-specific climatic variables. This approach is validated against direct emissions measurements at the neighbourhood-scale.

Alyssa Stryker (MA)

Placing Poverty: The First and Third Worlds in Canadian Representations of Poverty

This project began with an observation: in their public relations material, Canadian non-governmental organizations represent poverty in different ways depending on whether it is located in the so-called First World or in the Third. Unlike those whose work critically examines either representations of First World poverty or of Third World poverty, my aim is to learn from the relationship between these two different styles of poverty representation, to anatomize their similarities and differences, and to observe what happens when they intermingle or brush up against one another in unexpected ways. From this starting point I hope to gain insight into the discursive and material work that the First/Third World imaginary does in the contemporary world, and to make some remarks about what possibilities being classified as First World or as Third World open up or close off for different people and different places.

Marc Edwards (MSc)

Arctic heterogeneity: plant community response to experimental warming along a soil moisture gradient

Arctic plant communities show high levels of heterogeneity. This study investigates climate change response at the ecosystem scale in dry, mesic, and wet plant communities in the high Arctic. Changes in the amount and composition of vegetation have implications for regional carbon flux, feedbacks to climate change, and ecosystem function. Experimentally warmed plots set up in 1992 on Ellesmere Island use open top chambers to heat 1m sq sections of tundra. Estimates of above-ground biomass varied by community but were not found to differ between control and warmed plots. Community composition showed significant changes as a result of warming. Ecosystem CO2 flux values differed by

community but all communities were carbon dioxide sinks. Photosynthetic activity appeared to show greater response to warming than respiration. These community specific results have implications for future predictions throughout the Arctic biome.