CAGONT 2010

Book of Abstracts

Edited and compiled by:

K. Wayne Forsythe

The Canadian Association of Geographers – Ontario Division (CAGONT) held its 2010 Annual Meeting from October 15-16, 2010 at Ryerson University in Toronto, Ontario. The meeting was jointly hosted by the Department of Geography (Faculty of Arts) and the Centre for the Study of Commercial Activity (Ted Rogers School of Management).

This document contains the paper and poster abstracts that were part of the CAGONT 2010 program. The author(s) are solely responsible for the content of their abstracts. Abstracts are listed alphabetically by the lead author's last name.

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CAGONT 2010 Plenary Speaker

The CAGONT 2010 organizing committee was very pleased that **Dr. Nigel Waters** agreed to be the plenary speaker at CAGONT 2010.

The title of his talk was:

Including Diversity: GIS Methodologies and Paradigms in the Big Tent

In June 2007, Dr. Waters was appointed as the Director, Geographic Information Science Center of Excellence (GISCE) and a Professor of Geography and Geoinformation Science at George Mason University in Fairfax, Virginia. In addition, he is a Professor Emeritus of Geography at the University of Calgary. He has also been appointed the Henrietta Harvey Distinguished Lecturer for Fall 2010 at Memorial University in St. John's, Newfoundland.

For his academic studies, Dr. Waters received the Downing College Prize in Cambridge, and the McIntosh prize from the University of Western Ontario. He was nominated twice for the Master and Superior Teaching Awards at the University of Calgary, and has conducted numerous studies in GIS, modelling, spatial analysis and transportation geography. He is a former President of the Western Division, Canadian Association of Geographers (WDCAG), and an associate editor of GeoWorld where for 21 years he has contributed the Edge Nodes column. At the University of Calgary he was the Founding Director of the Masters in GIS Program (MGIS) and of the Transportation Theme School and Transportation Studies Major. Prior to leaving the University of Calgary, he participated in two GEOIDE research projects, leading a SSHRC Project and was working with the Nobel Peace Prize winning Carter Center in Atlanta as the Technical Director of the Mapping the Media in the Americas Project (www.mediamap.info).

CAGONT 2010 Special Student Session I

Field Trip Planning: A Geography Signature Pedagogy

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Keywords: Teaching and learning, course design, field trip planning

Abstract

Participants in this session will explore the underlying pedagogies associated with field teaching. In small groups the participants will develop answers to some of the common field trip planning questions. As well, each participant will have the opportunity to commence planning of their own trip. Kolb's experiential learning cycle and the principles of active learning are tightly entwined in field teaching. These theoretical underpinnings often disconnect with the reality of operationalizing a field trip. How do you ensure that students are engaged during the field trip? What is the appropriate amount of work students should be doing on a field trip? How do you evaluate field work? How do you ensure accessibility of the trip? University budgets are under increasing scrutiny with fewer available funds. How can a field trip program be sustained in this environment? How do you effectively manage the risk associated with a field trip? What logistics need to be considered?

CAGONT 2010 Special Student Session II

Designing your first course: how should Geographers differentiate between core and elective courses?

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Keywords: Teaching and learning, course design

Abstract

Participants in this session will explore the basic concepts of course design as applied to Geography courses and will examine the approaches to core versus elective courses. In small groups, participants will discuss learning objectives and outcomes, both those which apply to all courses and those which are specific to Geography. What do you *have* to teach? What content/approaches do you *wish* to teach? What is *necessary* to meet the demands of the program? How do you evaluate student performance? Is performance evaluated differently for core and elective courses?

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Hydrology and carbon fluxes in two Arctic wetland systems: Northern Siberia and Canadian High Arctic

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Keywords: permafrost, northern wetlands, hydrology, carbon

Abstract

Numerous lakes and ponds exist in northern wetlands which are important ecological niches in High Arctic environments, providing habitats for northern fauna and flora and represent considerable reservoirs of carbon. We explored variability in hydrology and carbon dynamics in ponds and lakes at Polar Bear Pass (PBP), Bathurst Island, Nunavut and on Samoylov Island in the Lena Delta, Northern Siberia. Detailed hydrological and hydrochemical investigations were initiated in the summer of 2007 and have been continued in the summers of 2008, 2009 and 2010 at PBP to answer questions of sustainability of this large freshwater ecosystem under ongoing climate change. Similar hydrological and biochemical data was collected in the summer and early fall of 2008 on Samoylov Island to determine water budgets as well as physical and chemical characteristics of freshwaters. The extent of hydrologic transfer of carbon from land to aquatic freshwater ecosystem and seasonal dynamics of dissolved organic carbon (DOC) at both study sites were assessed in detail. Various biochemical analyses of water samples were used in the identification of pathways in carbon components delivery into the ponds and seasonal dynamics of carbon in the ponds. Evaluation of terrestrial pathways of carbon in both wetland environments showed distinct differences in DOC concentrations in ponds, lakes, streams, frost cracks, surface and subsurface waters at PBP and on Samoylov Island. Comparison between the sites provides a better understanding of the carbon dynamics in northern wetlands which is essential for estimating carbon budget and predicting changes in carbon sinks and sources in the future.

Towards a Local Service Advantage: a Preliminary Analysis

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Keywords: Economic Development, Service Work, Post-Fordism, Global Cities

Abstract

This paper proposes that jurisdictional advantage can be generated from a more productive service class. To this point, analysis of competitiveness using Florida's (2002) four-part occupational typology has focused on the importance of the "creative class" in securing economic prosperity. The lower autonomy "service class" has been left out of discussions of competitiveness both implicitly and explicitly because they do not bring in wealth from without. With this in mind, this paper presents several stylized facts that attempt to unsettle conventional assumptions about service work and competitiveness. First, modern technology has paved the way for the formation of service agglomerations that perform internationally, a host of services that have traditionally been local. Second, a more productive service sector provides an infrastructure that in turn makes creative workers and the broader economy more productive. This improvement in efficiency is due to the fact that is Service workers are responsible for the speed at and quality with which goods, ideas, and people circulate around and between economies. They also control many aspects of a firms "brand", from sales to customer service to support. The paper concludes with an evaluation of Toronto's prospects of generating jurisdictional advantage through specific policy interventions that intend to improve the quality and mobility of service work.

The Geography of Work in Major Canadian Cities

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Keywords: Occupational Class, Geography of Labour, Transit, Urban Planning

Abstract

The purpose of this research is to examine the spatial distribution of work in major Canadian cities using Florida's (2002) main occupational groups: the creative, service, and working classes. An initial exploration of the geography of work in the City of Toronto has revealed a clear division between the service and creative classes whereby members of the creative class occupational group enjoy greater access to rapid public transit infrastructure. The research is suggestive of specific municipal policy interventions that would benefit a dominant proportion of the labour force (specifically, the service class). This research determines whether the Toronto pattern is observed in two other major Canadian cities, Montreal QC and Vancouver BC and in the smaller cities of Hamilton ON, Kelowna BC, Halifax NS, and Calgary AB. To accomplish this objective, Statistics Canada labour force data is organized and mapped at the census tract level (by census tract dominance), and corresponding rapid transit systems are overlaid over the resulting occupational map. The occupational maps provide an empirical setting to discuss the salience of occupational class in Canadian urban geography, and the transformation of the Canadian economy into post-Fordism. They also highlight the spatial inequities that may demand the attention of Canadian municipalities.

A Study of Women's Access to Mass Transit in Dhaka City

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Keywords: Urban women, Accessibility, Mass transit, Bus service, Dhaka city

Abstract

Women in Dhaka city face problems in using existing mass transport system which is mainly bus oriented. The strategic transport plan of the city ignored women's special needs of transport accessibility and affordability; and subsequently it failed to suggest any special measures for them. This empirical study is carried out to identify the difficulties and problems of women transit users in Dhaka city. The findings from a questionnaire survey of 210 women point up the women's dissatisfaction with the existing mass transit provision having an index value of 2.141, based on a four point likert scale. It also demonstrates that eve-teasing, snatch theft and transport workers and male passengers' behaviour threaten safety and security of the women and reduces their accessibility to the existing mass transit. Moreover, traffic jam, lack of reliable bus services and poor interior design of the public bus make their journey inconvenient. Therefore, the study recommends policy measures, such as more women-only buses, more reserved seats for women in the public buses, lower transit fare, appropriate bus route design and enforcement of law and order, to promote convenient and comfortable journey for women in Dhaka city.

Reconstructing the Empowerment Process: Perspectives of Bangladeshi Immigrant Married Women in Relation to their Labour Market Integration Experiences in Toronto, Canada

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Keywords: Empowerment, Bangladeshi Immigrant women, Labour market integration, Labour Market Barriers, Community based organizations.

Abstract

Immigrant women, who are members of a visible minority group, are disadvantaged in the Canadian labour market. Considering the situation of visible minority women in a position of relative powerlessness, the notion of empowering them to gain access to appropriate forms of employment has been highlighted in the current literature. Drawing on theoretical perspectives of women's empowerment, this study investigates the labour market integration of Bangladeshi married women in Toronto. Insights from poststructuralist feminism and feminist qualitative methods have enabled this study to explore how Bangladeshi married women, who are family and dependent class immigrants, are trying to make a place in the Canadian labour market. The inquiries of the study are explored through three types of qualitative research methods consisting of focus group discussions with Bangladeshi Married women, participant observation in a Community Based Organization (CBO) and in-depth interviews with three CBO workers. The study's findings reveal that, overall, Bangladeshi married women have difficulties accessing employment in the mainstream labour market, as well as in the self-employment sector because of a number of socio-cultural and structural barriers including gender and racial discrimination that are prominent in the employment sector. The study also critically analyzes the notion of women's empowerment, and sheds light on how the empowerment process takes shape in the practical context through the influence of women's different positionalities, micro level socio-cultural factors and macro level policies.

Community-based Vulnerability Assessment of Tuktoyaktuk, NWT to Environmental and Socio-economic Changes

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Keywords: climate change, adaptation, Arctic, Tuktoyaktuk, vulnerability

Abstract

This poster characterizes the vulnerability of Tuktoyaktuk in the western Canadian Arctic to climate change in the context of ongoing socio-economic and environmental changes. Research made use of the Community Adaptation and Vulnerability in Arctic Regions (CAVIAR) framework for assessing current exposures and adaptive strategies, future exposures, and future adaptive capacity. Existing stresses in the community influence livelihoods and local economy, health and well-being, and infrastructure. Strategies for adapting to adverse conditions have largely been consistent with traditional Inuvialuit practices for risk avoidance, rather than planned actions in response to anticipated changes in climate. In light of projected intensification of climate change and a proposed natural gas pipeline in the Tuktoyaktuk area, the community will experience new stresses and changes in adaptive capacity in the future. Of particular concern is the rate of coastal erosion that threatens community infrastructure. Financial contributions from higher levels of government will be required to obtain the technological resources necessary for protecting the shoreline and relocating buildings at risk. The capacity to deal with future exposures related to livelihoods and food security is highly variable in Tuktoyaktuk, depending on employment and activities that people participate in, their social relations, and their options for financial income. This research contributes an empirical case study of the influence of climate change in an Arctic community and is integrated with the CAVIAR consortium's pan-Arctic assessment and comparison of community vulnerability.

Interactions between snow cover, ground surface temperature and topography (Andes of Santiago, Chile, 33.5°S)

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Keywords: ground thermal regime, snow cover duration, mountain permafrost, BTS, Andes

Abstract

Mountain environments have highly variable topography, surface type, and snow cover properties and thus heterogeneous surface energy balance and heat exchange. This is reflected in the spatial variation of ground temperature and mountain permafrost distribution, which is an important control for slope stability and water resources in the semiarid Andes. Ground surface temperature (GST) reflects heat exchange between the overlying atmosphere and snow cover, and the underlying ground.

This study aims to improve the understanding of topo-climatic factors affecting the spatial variation in GST in the Andes of Central Chile based on in-situ measurements with automatic temperature data loggers. A collection of 37 one-year time series of GST from a valley in the Andes of Santiago was used to calculate mean GST (MGST) and other parameters at the lower permafrost limit. Mixed-effects models were applied to identify controls on the spatial variation of GST while accounting for spatial autocorrelation.

Elevation and snow disappearance date (SDD) were found to be key controls of MGST. A two week delay of SDD yielded 0.3˚C lower MGST. MGST was cooler by 0.6˚C at locations with openwork boulders compared to finer debris. An ad-hoc snow sensitivity analysis suggests the effect of SDD shows nonlinear air temperature dependencies and warrants future investigation.

Spatial variation in MGST is high at distances in the tens to hundreds of metres. SDD and substrate play important roles at equal elevations and can locally alter the 0˚C isotherm altitude by hundreds of meters compared to the regional average.

Tourism and Sustainable Development in Ghana: the Case of the Paga Crocodile Pond

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Keywords: community development, sustainable tourism, Ghana

Abstract

This paper examines the characteristics of tourism at the Paga Crocodile Pond destination in Paga, Ghana. I emphasize sustainable development principles, and use a community-based tourism framework. Telephone interviews with key tourism stakeholders in Paga are analysed in relation to government and tourism board documents, in order address the following questions: What are the characteristics of tourism activities and organization relating to the Paga Crocodile Pond? What are the socioeconomic and environmental effects of tourism activities on the Paga community? What are stakeholders' attitudes about the possibility for further tourism development at Paga? What are the prospects for developing the Paga Crocodile Pond into a sustainable community-based tourism destination/site? The paper ends with some preliminary recommendations for sustainable tourism development at Paga.

Access to Health Care Services in the Outer Suburbs of York Region: the lived experience of recent immigrants from India with diabetes

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Keywords: Immigration, Health Care Services, Diabetes, Access, Suburbs

Abstract

The paper discusses my MA thesis which is currently in progress, and draws upon immigration and health literature including immigrant health trends, diabetes prevalence and access to health care services. Current work suggests that although immigrants make up a growing percentage of Canada's population, little is known about immigrant's socio-economic, cultural and geographic barriers to accessing health care services, especially in the suburbs of the Greater Toronto Area. Geographic studies involving qualitative methods may provide a more nuanced understanding of specific accessibility barriers experienced by recent immigrants, and help in further understanding the complexities of immigrant experiences with health care that can not be gleaned from cross-sectional surveys. The study investigates through their lived experience, access to health care services of immigrants with diabetes in the outer suburbs of York Region, Ontario. The research design includes a descriptive data analysis that is based on information from both Statistics Canada and the Canadian Community Health Survey which provide suburban settlement patterns and health status data. The primary methodological tool for the study is qualitative in-depth interviews that involve 20 Indian immigrants between the ages of 50 to 65 who are diabetic. This study will provide insights that are useful to health providers in terms of identifying needs and resources when working with ethnic groups and will help to further illuminate environmental influences on health.

Decomposition of the Space-Time Variability of Lake Erie Ice Cover Fields (2003-2007)

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Keywords: Emprical Orthogonal Functions, spatial variability, ice cover, Lake Erie, surface circulation

Abstract

Space-time relationships of winter ice cover anomaly fields in Lake Erie for the winters 2003-2007 are decomposed using Empirical Orthogonal Function (EOF) analysis. EOF analysis of weekly ice cover fields in Lake Erie for the five winters shows that the leading two EOFs explain 88% of ice cover variability. First EOF (EOF1), which explains 78% of the variance, is associated with annual winter cooling. Spatial mode of the EOF1 shows highest amplitude in Lake Erie's central basin, hinting to Central Basin surface freezing as an indicator of typical winters. Time series of EOF1 shows a sharp dimming in its amplitude during the winter of 2006, indicating an unusually warm winter. The second EOF (EOF2), which explains 10% of the lake ice cover variance, is associated with difference in timing of the ice cover formation, drifting and melting between Lake Erie's western and eastern basins. The time series of EOF2 exhibits early freezing in the Western Basin (December and January) while the Eastern Basin exhibits late freezing in (March and April), consistent with Winter surface circulation in Lake Erie observed in Beletsky et al. (1999).

Assessing Spatial and Temporal Variability of Ephemeral Streamflow in Southern Ontario

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Keywords: Headland hydrology, stream monitoring, ephemeral flow, agricultural basins, sensors networks

Abstract

The episodic expansion of stream networks into their headwater ephemeral channels during storm events can result in transport of sediment and pollutants downstream, particularly in agricultural basins. Unfortunately, the duration and timing of these events are rarely measured. Ephemeral streamflow monitoring has been undertaken in the past using direct observation as well as specialized sensors with varying degrees of success. An electronic resistance (ER) sensor design is presented that allows for the observation of flow events in ephemeral channels and mitigates many of the issues found with previous sensor designs. The design of the novel sensor and the setup of sensor networks in two agricultural basins in Southern Ontario are described, as well as considerations for data processing with regard to monitoring ephemeral streamflow at high spatial and temporal resolutions. Three models of network expansion are described, the duration and timing of expansion are compared to meteorological events and the controls on flow initiation and expansion are assessed based on various catchment characteristics. Just over 83% of observed events followed a coalescence expansion model, with the majority being incomplete coalescence, while upward expansion accounted for just under 10% of expansion events. Upward expansion, together with complete coalescence, show that around 40% of all expansion events connect the ephemeral channel to the flowing stream network. As such, 60% of expansion events can result in potential deposition of pollutants into the channel, but not the movement of those pollutants downstream. This is important when considering the treatment of agricultural fields in relation to when the connecting flow events occur, especially in predominantly agricultural catchments where eutrophication is a problem.

Cultivating a Social Ecology: Voices From Community Gardens On Social Nature and Environmental Justice

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Keywords: social ecology, community gardening, social nature, environmental justice, Ottawa

Abstract

Community Gardens are spaces where ideas of society and nature come together in ways that challenge conventional narratives of one another. Social ecology, a radical school of thought focused on blurring the lines between the nature and people in terms of justice and oppression, has primarily focused on the ecological materialism of cities (Carson, 1986). Recently the questions of culture have been introduced to the field through poststructuralist theory, and community gardens provide a clear case where critically examined social constructs of spatial discourse are important in revealing the nature-society relationship in the ecologically historical dialectic of social ecology (Clark, 1997). Through a discourse analysis of accounts given by community gardeners on their experiences gardening in Ottawa this thesis shows that spaces such as community gardens, which are ultimately very limited in their ability to radically alter the political economies of food production in cities, stand as equally important spaces where discourses on social ecology may occur. These discourses are fundamentally important in building movements of resistance as they act as spaces for marginalized peoples to ontologically challenge their marginalization and conceive of radically different possibilities for the spaces in which they face oppression. As written by bell hook (2009), wilderness can become a place to challenge and resist oppression. In the case of this thesis, community gardens provide an example of ways in which urban manifestations of nature can produce a similar kind of space.

A Geomatics Approach to Exploring Rooftop Photovoltaic Feasibility

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Keywords: Geomatics, photovoltaics, lidar, Web-GIS, urban visualization

Abstract

Growing concern over environmental impacts and sustainability of conventional power generation has thrusted green energy technologies into the spotlight. In Ontario, particular attention is being paid to small-scale rooftop installations of photovoltaic (PV) cells through the feed-in tariff programs.

This presentation describes a Web-GIS application that was designed to permit users to explore the potential suitability of individual buildings within Toronto's core for PV cells. The approach used in this tool calculates monthly solar insolation values for each building with consideration of the shading effects of structures and natural topography. In addition to facilitating online visualization of photovoltaic suitability, the tool also provides basic capabilities to assist users to compare the relative merits of different configurations of solar cell investments.

Finally, the difference between solar models that include and exclude vegetation will be investigated. A comparison between flat-roof and complex roof models will be made, highlighting the challenges present in visualizing the urban landscape.

An overview of Canada's contemporary book trade in light of circa four decades of policy interventions

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Keywords: book publishing, cultural nationalism, cultural industries, cultural policy, media industries

Abstract

Canada's book trade is fascinating not only because it really consists of two book trades — the Anglophone and the Francophone — but also because it is a site of intense and sustained policy interventions designed to foster greater domestic control. Examining the country's book policies, Statistics Canada data, trade association membership rosters and trade directories, this paper reveals that Canada's contemporary book trade is characterized by three features: circa forty years of government interventions in response to foreign dominance; the central role of foreign firms despite these interventions; and the dominance of Toronto and Montreal as domestic sites of book production.

A Day of Extreme Heat and Humidity: Spatio-temporal Implications for Public Health

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Keywords: Urban heat island; Humidex index; Heat exposure; spatial interpolation; Toronto

Abstract

Extreme heat events are forecast to increase in frequency, intensity, and duration throughout the 21st century. The public health consequences of heat are felt most intensely in metropolitan areas where population density is high and the presence of the urban heat island (UHI) phenomenon exacerbates the potential for heat exposure. In this study we use geostatistics (ordinary kriging) with meteorological data to interpolate hourly prediction surfaces describing apparent temperature (humidex index) across the Greater Toronto Area (GTA), Canada. Meteorological data were obtained from 77 locations for six days in 2008 when extreme heat alerts were issued for the City of Toronto. Temperature and humidity were combined to produce a humidex index for each hour and then amalgamated into a composite hourly dataset, with 24 maps representative of a 'typical' extreme heat alert day. Results show a significant difference in humidex values between urban and rural locations, this discrepancy is greatest at 3 AM (3.8°C), $t(42) = 6.362$, $p<0.000$. A cumulative heat exposure map, showing humidex degree hours (HDH) ≥30°C, identifies the downtown core of the City of Toronto and much of Mississauga (west of Toronto) as likely to experience dangerous levels of prolonged heat and humidity (HDH ≥ 65) during a heat alert. We recommend that public health officials use apparent temperature and exposure duration when developing spatially-explicit heat vulnerability assessment tools; HDH is one approach that unites these risk factors into a single metric.

Case of the West-End Accommodation Review Committee Process

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Keywords: school closure, governmentality, rationalization, neoliberalism, Toronto

Abstract

This paper examines how neoliberal policies in education are reshaping local school board agendas for the production of competitive schools. The outcome of communities competing for quality education creates spatial inequalities in education. This case study draws on public school closure meetings, defined as the Accommodation Review Committee process by the school board, that were held in the west end of Toronto, Ontario and involved four elementary schools. Participant observation at these meetings showcased that the broader public has a lack of agency in impacting a school board's position of deciding which school to close. To understand the interactions of power play at these meetings a Foucauldian perspective of governmentality as well as an analysis of Forester's role of planners, is employed. The paper argues that under the guise of community inclusion in the Accommodation Review Committee process are rationalizations to erode the socially just nature of public education. Neoliberalism in education involves prioritizing choice, efficiency, standardization and accountability. Specifically, these strategies disenfranchise schools not offering speciality programs, such as French immersion programs which allows parents to opt out of their local school. Schools compete on their ability to recruit parents and students to sustain full enrolment and avoid school closure. Undersubscribed schools are evidently considered the 'rational' choice to close and if located on valuable property are easily sold off. Strategically-located specialty programs are of concern because they compromise the foundational core of what public school systems stand for: equal and equitable education for all students.

Alternative Pipelines: the Role of Film Industry Events in Connecting Toronto to non-Hollywood Production Centres and Markets

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Keywords: cultural industries, pipelines, film industry

Abstract

Recent attention to cultural industries has highlighted the importance of local buzz, institutions and labour pools for competitive clusters of cultural industry production, as well global pipelines and networks to connect local production to global markets, capital circuits, and innovative firm practices. In the film industry, this connection between local-global dynamics has typically been considered in terms of the horizontal (dis)integration of studio filmmaking, namely runaway productions. However, in the increasingly polycentric and polyphonic commercial film industry, emerging markets such as China and India are not only major consumers of Western film, at home and their Diaspora, but major producers as well. The growing international segment of production and consumption, as well as shifting platforms for film distribution may challenge the established Hollywood studio system that has historically dominated the international film industry. This paper explores current trends in the film industry and how particular industry events, such as major film festivals, function to build and reinforce alternative pipelines, personal and professional networks that may lead to innovative practices and new ventures. In particular, it draws on preliminary findings from a case study of the Toronto International Film Festival.

Geographic Literacy: A Benchmark Study of Ontario Secondary School Students Approaching Graduation

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Keywords: geographic, spatial, literacy, education, students

Abstract

This presentation reports on an ongoing research project in the field of geographic literacy, with an emphasis on secondary school geographic education. The heart of the project is the establishment of a meaningful benchmark of geographic literacy among secondary school students nearing graduation in Ontario. In this presentation we begin with an overview of the concept and measures of geographic literacy. We then summarize the results of recent previous attempts at obtaining benchmark data for geographic literacy in the US and Canada. These results, and the survey instruments used, are then critically examined for their shortcomings. Based on this analysis we then discuss the construction of a revised survey tool which can overcome previous limitations and better assess spatial reasoning skills and student understanding of the round earth. The presentation includes a sampling of geographic literacy questions that may challenge those in attendance.

A rose by any other name: understanding the effects on health and quality of life of food allergen labelling in Canada

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Keywords: Food allergy, allergen labelling, mixed methods

Abstract

Food allergies are estimated to affect 6-8% of Canadians and are believed to be increasing in prevalence. Further, 50% of Canadian households are affected by food allergy, either directly or indirectly. Since there is no cure for food allergies, the only management strategy is to follow a strict avoidance diet. As a result, the manner in which allergen warnings are communicated on packaged commercial foods is of paramount importance to the health and well-being of many Canadians. Although Health Canada has taken steps to amend the Canadian labelling system, changes have yet to be implemented and the use of precautionary allergen statements on commercial food products remains voluntary. At the moment, we understand little about the perceptions and behaviours of the Canadian public with respect to allergen precautionary statements. This is a major gap in our ability to respond to this issue from a policy perspective. This research uses a mixed methods approach to begin to address this gap. Preliminary quantitative results suggest that risk communication via precautionary statements is not effective, as consumers continue to purchase labelled products for situations involving food allergic individuals. Further, purchasing behaviour is affected by a variety of demographic characteristics. Follow up qualitative data are currently being collected to understand the purchasing behaviours of affected individuals. This presentation will focus on the preliminary quantitative results and next steps.

Policy implications of neighbourhood effects on health research: towards an alternative to poverty deconcentration

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Keywords: Health geography, neighbourhood-effects, social policy, urban poverty, municipal fragmentation and competition

Abstract

While researchers continue to build on the evidence that where one lives has an independent effect on one's health, the theoretical and empirical work of translating this research into effective social policies is relatively thin as current urban policy discourse often draws on problematic assumptions about urban poverty. In light of a new generation of 'experimental' research on the health effects of neighbourhoods based on housing mobility programs, this paper addresses the politics of 'poverty deconcentration' that implicitly undergirds much of this new research. By raising critiques of poverty dispersal and housing mobility programs rarely considered in the health literature, this paper challenges the central 'treatment' of poverty dispersal in the new experimental literature. This paper argues that efforts of poverty deconcentration, without addressing the structure of municipal competition and fragmentation, simply react to symptoms of urban poverty and ignore the underlying factors that shape neighbourhood resources that structure health outcomes. These factors include 1) municipal fragmentation, 2) exclusionary landuse planning, and 3) municipal competition. Effective and just social policies aimed at improving neighbourhood influence on health must address the competitive and fragmented municipal structure that produces a patchwork of affluence and deprivation in urban settings today.

Perceptions of a Changing Climate: Voices from The Gambia, West Africa

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Keywords: Climate change, public perception, traditional knowledge, adaptation, resilience, The Gambia

Abstract

Despite their negligible contributions to the global climate change problem, residents of sub-Saharan West Africa are anticipated to be among the most drastically impacted by its effects. Many of these residents are subsistence farmers and small-scale fishermen who rely heavily on their local environmental knowledge in order to survive. This study seeks to give a voice to those who may otherwise remain under-represented, both within the climate change literature and in decision-making at the local, regional, and national levels. In February 2010, 34 residents of The Gambia were interviewed to gauge their understanding and perceptions of climate change. Results from this study show that traditional knowledge is rapidly becoming unreliable as a result of weather which is increasingly unpredictable and extreme. This loss of traditional knowledge has caused significant anxiety, especially among those respondents who already lack the adaptive capacity necessary to respond to climate change.

The Importance of Geography In and To Education in Ontario

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Keywords: education, literacy, historical experiences, spatial relations

Abstract

As evidenced by the requirements laid out to receive an Ontario Secondary School Diploma (OSSD) geographic literacy is not as high a priority as reading or mathematical literacy in the Ontario education system. Some questions arise from this situation; why is this the case? Should the discipline of geography actively advocate for extensive geographic education resulting in spatial literacy amongst children? Why is this important for geography as a discipline? And how might this be achieved? In this paper I address these questions through a discussion of the importance of geography *in* and *to* education I Ontario. Firstly, I address the importance of geography *in* education. I contend that the development of geographic and spatial literacies for children is important to both academic and social success. I argue, therefore, that it is important for geography, as a discipline, to play a significant role in advocating for the importance of geographic and spatial literacy development amongst children. Secondly, I address the importance of geography *to* education. In this section I argue that continued efforts in the area of children's geographies are crucial to increasing the prominence and success of geography education in Ontario. Understanding children's experiences of space, spatial relations and power relations within varying social and cultural contexts historically and contemporarily can provide potentially valuable information for future curriculum development and policy development pertaining to education.

Creativity, Tourism and Economic Development in a Rural Context: the case of Prince Edward County

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Keywords: Creativity, Rural Economy, Economic Development, Prince Edward County

Abstract

Located on Lake Ontario, Prince Edward County, Ontario, Canada is equidistant (about 200km) from both Ottawa and Toronto. Described by its own web site as "A beautiful island adventure, the County is a mecca for artists, nature lovers and anyone looking for a beautiful island adventure ... for a weekend break or for life. Renowned for its sailing, fishing and giant sand dunes, The County also offers live theatre, artists' studios and galleries, unique regional cuisine and a flourishing wine region." Prince Edward County is an outstanding example of a rural community that has leveraged its natural resources with a focus on the creative economy including gastronomy, enology, culture and heritage, and the visual arts to create not only a desirable tourist destination but also vibrant regional economic development. In this paper, we use a combination of quantitative and qualitative data to examine the underlying intentions and strategy of this development focus along with the actual performance, growth, and underlying economic and demographic changes in the region. We demonstrate the impact of both planned, intended changes and serendipitous events, conditioned on a willingness to adapt, in creating lasting advantage for the region. We conclude by offering insights on what other rural communities can learn from the Prince Edward County case in terms of revitalizing their tourist economies and enhancing overall regional economic development.

Wind Farm Knowledge and Tourist Behaviour in the English Lake District National Park

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Keywords: Windfarms, tourism, national park

Abstract

There has been a significant amount of research on attitudes towards wind farms, showing broad general opinion to be largely favourable (cheap, carbon-free "green" energy) and local reaction to be much more negative (concerns about landscape impact, noise and health hazards). There has been some work on the potential effect of wind farms on tourists: "Would you come back if wind farms were developed here?" This paper looks at the likely effect of wind farm development around the English Lake District National Park. The distinctive feature of this approach is that it looks at the question in the context of the visitors' knowledge of wind farms. How much do Lake District visitors really know about wind farms, and what effect does their level of knowledge have on their stated intentions of revisiting the park? Interviews were conducted in the summer of 2008 with 525 visitors in the park. Of these, 412 (78.5%) answered questions about their knowledge of wind farms; including such things as the size of the units, the amount of power generated and the rules governing their siting. Responses were then compared with the stated intent to revisit the park should wind farms be constructed on its perimeter. Results showed that knowledge levels were generally low; lowest at younger ages (late teens and early twenties) where support for wind farm development was highest and rising with increasing age to the mid-forties and later where the prospect of wind farms in the landscape was viewed more negatively.

Mapping the Flow of Craft Beer in Southern Ontario June to August 2010

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Keywords: craft beer, beer shed, brewery, sustainability, terroir

Abstract

Large scale commercial brewers dominate the marketplace, but the industry has seen rapid growth in recent years of artisanal firms that both target and stimulate demand for a wider choice of beverages. Distinct taste profiles are often achieved through the use of local ingredients and traditional methods that minimize environmental consequences of production, distribution and waste disposal. This paper examines the changing landscape of consumption that reflects the appearance of 41 craft breweries across Ontario by digitally mapping their individual beer sheds to illustrate the beer landscape. In addition, questionnaire surveys of participants in craft beer events measure their perception of the product and provide insight into their motivations and behaviour.

Establishing a Baseline for Water Quality Monitoring of Source Water Streams near North Bay, Ontario

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Key Words: water quality, drinking water, watershed, Atlantic salmon, Brook trout

Abstract

Over the past decade, water quality has moved to the forefront of municipal concerns in Ontario. Increasing stress from land use practices and demand for water resources has become obvious to both the government and the public. This paper focuses on the importance of establishing a baseline database for the water quality of two creeks near North Bay, Ontario. These creeks were picked based on the region's history, community involvement, vulnerability to development, and their contribution to North Bay's drinking water (source being Trout Lake). Specific issues looked at include a large zinc spill in 1967 on one (4-Mile Creek) which at the time wiped out the native Atlantic salmon population but has since made a comeback and are now the only non-andromonous Atlantic salmon population in Ontario. The other (Doran Creek) has an aggregate pit operation which in the past has released large amounts of sediment into what is a Brook trout spawning creek. A summary of the sampling and processing methodology and a preliminary analysis of the data collected thus far is also included.

Assessing Community Capacity to Respond to Changing Climate: The Case of Dawson City, Yukon

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Keywords: climate change, vulnerability, adaptive capacity, Dawson City

Abstract

A vulnerability framework was employed to assess the probable response of Dawson City, Yukon, to anticipated changes in the physical environment emanating from climate change. The community, with a permanent population of some 1500, sits on a flood plain at the confluence of the Klondike and Yukon rivers close to the junction of two significant bio-zones. Dawson has long dealt with exposure to the volatility of global markets and local environmental conditions, the latter manifest in extreme weather conditions, flooding, and forest fire. Warming, increased spring run-off and drier summers may bring with them accelerated permafrost melt, and the possibility of increased flooding and incidence of forest fire.

This IPY funded project, in collaboration with the community and the Northern Climate Exchange utilized community interviews and workshops leading to the development of a plan that recognises that vulnerability and the capacity to adapt to changing circumstances are the outcome of a synergistic mix of factors. These include the magnitude of environmental and economic challenges facing the community and external and local characteristics conditioning adaptive capacity.

In the course of this paper we review the plan development process, and critically review the broad utility of the approach to the development of community based adaptive strategies.

Assessment of Green Roof Potential in Toronto, Canada

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Keywords: Green roofs, sustainable development, climate change, urban heat islands, GIS,

Abstract

The projected growth in urban populations indicate that the economic, environmental, and health care costs associated with urban heat islands (UHIs) will become an important factor in the ongoing development of urban centres. Indeed, it is believed that global climate change trends will only increase the frequency and intensity of extreme heat events related to urban heat islands (UHIs). The City of Toronto, Canada seeks to mitigate and adapt to these effects by encouraging the widespread implementation of green roof technologies. In an attempt to refine and focus preliminary work on the effects of green roof development in the city, this paper employs GIS techniques to identify and quantify potential available roof area based on a number of factors including building type and neighbourhood characteristics. Under several selection scenarios, the impact of green roof development on ambient air temperatures and building cooling costs is estimated. With an eye to developing best practice efforts, the results are examined both on a neighbourhood basis, with attention paid to existing neighbourhoods of interest, and aggregated for the City as a whole.

'Don't check-in, check-out!' The Geographies of Boycott Campaigns as Labour Strategy: A Case Study of 'Hyatt 100'

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Keywords: service economy, boycotts, precariousness, labour geography

Abstract

Over the past two decades, geographers have examined the spatial reorganization of capitalism, and the proliferation of neoliberalism. The deregulation of Keynesian social programs and the implementation of neoliberal policies have significantly reshaped labour markets. The labour movement has particularly felt pressure in combating the negative effects of such policies and overcoming barriers to organizing in new workspaces and sectors. This paper will explore the spatial and scalar strategies of union organizing efforts, looking specifically at boycott campaigns devised to pressure employers. Using an empirical case study of the 'Hyatt 100', a group of room attendants working in three non-union hotels in Boston, MA, I will highlight the complexities of boycott campaigns by examining issues of empowerment, time-space sensitivities, and the opportunities and challenges that arise as they relate to a broader class struggle. Through an analysis of the 'Hyatt 100' campaign, I reveal the particularities that shape developments of the campaign, as well as the various socio-spatial relations that occur across scales. I argue that a spatial analysis of boycott campaigns is significant to understanding the opportunities and limitations of this strategy as it relates to the political-economic environment.

Paleohydrological Reconstruction of Athabasca River Discharge from Analysis of Lake Sediment Cores

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Keywords: Athabasca River, river contaminants, oil-sands, paleohydrology, Peace-Athabasca Delta

Abstract

Perceived negative effects of oil sands development is a major environmental issue in Canada. In the Peace-Athabasca Delta, controversy has arisen regarding the relative contributions of industrial versus natural sources of oil-sands-derived contaminants. Current monitoring programs are not designed to identify long-term trends in contaminant accumulation but these are needed to address this controversy. To tackle this critical knowledge gap, research will aim to reconstruct Athabasca River discharge from analyses of lake sediment cores collected from flood-susceptible basins upstream of the delta. Sediment cores will be analyzed by a wide array of physical and geochemical techniques. These historical records will provide the necessary paleohydrological context to interpret patterns and trends in subsequent stratigraphic contaminant analyses. Findings will help determine the relative contributions of industrial and natural contaminants in the delta.

Fruit Stands and Contested Identities: The Strategies for (and Challenges of) Controlling the Tourist Gaze for Aboriginal Community-Based Tourism Businesses in the Southern Interior of British Columbia

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Keywords: Aboriginal Tourism, British Columbia, Tourists Gaze, Identity

Abstract

This paper relies on information gathered over the summer of 2010 from participant observation and in depth semi-structured interviews at 5 different Aboriginal community-based tourism businesses in the Southern Interior of British Columbia, Canada. The findings indicate that tourism is opening up new lexicons for identity formation as well as new practices for the reclamation of space and place in this area. Strategies employed by the various Bands were found to challenge the reductive dualisms of 'empowered tourist' and 'disempowered host' that are evident in much of the literature surrounding the study of tourism in geography. Through the creation of 'backstage areas', the posting of signage and maps with traditional language and place-names, and the sharing of cultures and histories by Aboriginal interpreters, the 'tourist's gaze' was controlled and a strong indigenous ownership of place was asserted.

However, by investigating fruit stands, which are one of the most common tourist attractions in this region, this research shows the many challenges still faced by those involved in community-based Aboriginal tourism. Through the analysis of tourist information and products available at these popular road side attractions, this research concludes that the common 'tourist's gaze' is still directed towards colonial notions of the other, thus perpetuating stereotypical and essentializing images of indigeneity in the Southern Interior.

Characterizing hydrological processes that control lake water balances in Wapusk National Park (Manitoba) using water isotope tracers

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Keywords: Hydrology, Water Isotope Tracers, Hudson Bay Lowlands

Abstract

The Hudson Bay Lowlands (HBL) have experienced some of the greatest warming in the circumpolar north over the past ~50 years. Wapusk National Park (WNP) was established in 1996 to protect a representative area of the HBL, yet little is known about the hydrology of the freshwater basins that dominate this landscape, how they have responded to climate change and variability in the past and how they will evolve in the future. Water isotope tracers are being utilized to identify the relative influence of hydrological processes such as snowmelt, rainfall and evaporation on individual lake water balances and at the landscape scale, as well as their intra- and inter-annual variability. In 2010, surface water samples from 40 lakes spanning the boreal forest – coastal tundra ecological zones were collected with the aid of a helicopter at three time-steps (spring-summer-fall). The 40 lakes were selected to include a wide array of morphometric characteristics (e.g., depth, surface area). Preliminary isotope results from spring lake water sample collections indicate that the 40 lakes reflect a broad range of hydrological conditions, which bodes well for more in-depth water balance characterization. Findings will contribute knowledge to anticipate hydrological changes in the HBL and sound scientific background for environmental management for WNP, an area identified as very sensitive to climate changes and which provides habitat for large populations of wildlife.

Monitoring the Snow-Free Period's Hydrology of Prairie Wetlands: a Multi-temporal analysis of Landsat ETM+, Radarsat-1 SAR and Ancillary DEM from LiDAR

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Keywords: Prairie Wetlands, Hydrology, Wetland Mapping, Remote Sensing, Prairie Potholes Region, Saskatchewan

Abstract

In the Prairie Potholes Region, wet areas, which occur where the ground water table nears or intersects the ground surface, serve as major sinks and/or sources of atmospheric greenhouse gases. Despite their importance, the number and size of wet areas are not accurately known, as monitoring efforts are often limited to a single date of observation which is inadequate to capture their spatial and temporal dynamics. Remote sensing is the only approach that can provide synoptic mapping of the spatiotemporal dynamics of wet areas, however, optical and radar remote sensing techniques have demonstrated only partial utility for wet area mapping. In this study, we compare different mapping techniques, based on wet area maps produced from (1) aerial photography (scale 1:50,000) provided by government agencies, referred to as the "status quo", (2) optical (LANDSAT ETM+), (3) and a combination of optical and radar (RADARSAT-1 synthetic aperture radar. Compared to the status quo, the optical approach resulted in a 150 to 370% increase in the number of wet areas and 38 to 292% larger wet area coverage. Combining optical and radar resulted in a similar increase in the number of wet areas but 100 to 600% larger wet area coverage. The combination of data from the optical and radar images was able to improve wetland inventories by capturing a higher number and larger extents of wet areas than the currently available government agency maps. Furthermore, the time-series of wet area maps were used to derive a probability map to reveal their spatiotemporal dynamics. The power of this wet area mapping approach is that it captures wet areas under open and closed canopy conditions and it captures the response of these wet areas to changing climatic conditions in essence by creating spatiotemporally dynamic maps.

Agricultural Crop Identification Using SPOT 5 Multispectral Imagery in Temiskaming District, Ontario

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Keywords: remote sensing, SPOT 5, agriculture, crop identification

Abstract

In recent years, there has been an increased demand for assessing the spatial distribution of agricultural crops in Northern Ontario. Local farming organizations have indicated that this information would be a useful resource for future crop monitoring and management. The purpose of this investigation was to determine whether a single or multiple SPOT 5 multispectral images are required for accurate crop identification. Specifically, two SPOT 5 satellite images, featuring four spectral bands (green, red, near-infrared, and mid infrared) at a pixel resolution of 10m, were utilized to identify agricultural crops in the Temiskaming District of Ontario. Crops under investigation included canola, corn, winter wheat, soy and white bean, oats, barley, and a range of forage species. Local field crops were verified using on-site data collection, conducted in late July. The remote sensing data were acquired on August 8, 2010 and August 29, 2010. Each image was classified independently, and then combined for a final classification. Additionally, the effect of the mid-infrared band on classification accuracy was examined. A range of supervised and unsupervised classification techniques were applied to the individual and combined images. As anticipated, the results indicate that the inclusion of additional data enhances mapping accuracy. However, it is suggested that one image taken at the appropriate stage of growth may suffice for accurately identifying the most economically important cash crops in the region, particularly canola and soybean.

Spatial and Temporal Variability of Precipitation in the Okavango-Kwando-Zambezi Catchment, Southern Africa

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Keywords: Annual precipitation, ENSO, climate shift, southern Africa

Abstract

Recent multi-decadal trends over southern Africa indicate declining mean annual and increasing inter-annual variability of precipitation, as well as an increased number of warm phase ENSO events. Such changes in precipitation may influence vegetation and animal abundances and distributions which have implications for the future Kavango-Zambezi Transboundary Conservation Area (KAZA). The KAZA region provides a vital wildlife corridor within which local precipitation and exotic streamflow constitute important water sources in an otherwise water-limited ecosystem. Variability in inter-annual regional precipitation pre/post the global 1970s climate shift are examined within the Okavango, Kwando, and Zambezi (OKZ) catchments through the analysis of annual rainfall patterns 1950-2005. Mean inputs to each basin are divided into "wet" (upper tercile) or "dry" (lower tercile) years and their numbers, for Period 1:1950-75 and Period 2:1980-2005, compared to random using the hypergeometric distribution. The frequency of ENSO events and corresponding rainfalls within these periods are also investigated. The coincidence of local rainfalls over KAZA and regional upstream catchment inputs are examined to determine if and how association in precipitation patterns vary over the OKZ catchments. Results indicate decreasing mean precipitation and increased numbers of "dry" years across all three sub-catchments in the last quarter of the twentieth century. Contemporaneously, significant associations with ENSO occur throughout greater proportions of all basins and exhibit a general southward shift in their location. Knowledge of spatio-temporal patterns provides important information for local collaboration between national parks (wildlife) and communities (agriculture) about decisions concerning water access and usage in KAZA.

Monitoring Reclamation Efforts and Vegetative Health within the Athabasca Oil Sands

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Keywords: Landsat, oil sands, change detection, vegetation, Gateway Hills

Abstract

Meeting energy requirements while protecting the environment can be very challenging; this is especially true in the petroleum industry where large scale disturbance can readily occur as result of spills, and site contamination. This study examines the use of remote sensing used as a tool for environmental monitoring of reclamation efforts in the Gateway Hill oil sands of Alberta, Canada. Oil companies working in the oil sands of Alberta are required, by law, to revitalize exploited surficial mine sites. This involves returning the land back to pre-disturbance conditions, requiring long term (20-25 year) monitoring of vegetative re-growth. The analysis of vegetation indices derived from orbital remote sensing data is one method to quantify the rate of vegetation re-growth as result of reclamation projects in a temporally consistent manner where in situ measurements are not feasible, or cost effective to perform. Landsat Thematic Mapper (TM) satellite imagery spanning a temporal period of 13 years (1992 – 2005) has been examined to determine the rate and extent of vegetative re-growth. NDVI analyses were used to give insight into the health of the vegetation within the reclamation site. In addition, spectral signatures of the vegetation were examined to further evaluate the status of the vegetation. These methods allowed the progress of the reclamation effort to be evaluated quantitatively. This study revealed that the Gateway Hill site appeared to make a gradual recovery over time, with the majority of the development and growth occurring in the latter years of the project. The study also revealed that remote sensing at the spatial and spectral resolution garnered by Landsat TM was found acceptable for providing both detailed information about the spatial extent of vegetative coverage as well as the relative status (i.e. health) of the vegetation cover based on mean spectral response over a time period representing 13 years of reclamation effort.

Spatial Regression and Clustering in Examining Tobacco Use in Indian Men

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Keywords: tobacco, spatial regression, spatial clustering, India

Abstract

India is home to approximately 120 million smokers. These smokers have been demonstrated to be predominantly male, and over the age of 25. It has been suggested that specific socioeconomic characteristics are indicative of two distinct types of tobacco smoking: the wealthy and highly educated smoke predominantly traditional cigarettes, while the poor, uneducated, and rural Indians are more likely to smoke small, hand-rolled bidi cigarettes. This paper presents an analysis of the characteristics of 1.3 million males aged 25-69 (482,145 smokers) collected during the 1998 Special Fertility and Mortality Survey. It further demonstrates the application of spatial and geographically weighted regression modeling of correlated risk factor data in comparison to traditional ordinary least squares regression analysis, and highlights the implications for health service delivery and policy development. Preliminary analysis is consistent with previous findings regarding socioeconomic correlates of smoking. The results of applying spatial regression models include improving model fit, and the identification of geographically varying correlations of previously identified socioeconomic characteristics. In conjunction with the detection of one large bidi smoking cluster, and three small cigarette smoking clusters, these results demonstrate the importance of accounting for spatial relationships in the analysis of large geographic areas using relatively small areal units.

Greyfields and Ghost-Boxes: the next retail wave?

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Keywords: Power Centres, Big Box stores, greyfield, vacancy, ghost boxes, retail development

Abstract

Power centres are now a well established shopping centre type in Canada. Since the late 1980s the country has witnessed the widespread development and clustering of big box stores into a broad range of power centre venues. As the number and size of power centres has increased so to have the questions with regard to their vitality and viability. Using data from a comprehensive longitudinal data set of power centres across Canada, this paper addresses a number of key questions facing retail development: Can the waves of power retail development continue? Are we approaching saturation? Is Canada destined for the 'greyfield' phenomenon that has blighted parts of the US retail landscape? This paper focuses its attention on vacancy rates and how they have changed at power centres across the country between 2005 to 2009. The analysis presented provides data on vacancy in terms of size of stores and length of vacancy over time. The data highlights increasing vacancy rates at power centres, however, limited vacancy of big box retailers, with vacancies instead increasing amongst the smaller ancillary retail stores. It is envisaged, due to the pace of the post-recession recovery, that over the next few years that the Canadian retail industry will continue to experience increases in power centre vacancy rates and potentially the emergence of more ghost boxes.

The Relationship between Proximity to Light Rail Transit Stations and Property Values in the City of Ottawa

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Keywords: Geographically Weighted Regression, Transportation, Property

Abstract

Mapping and spatial analysis are integral elements in the analysis and presentation of many geographic studies concerning multiple variables. In GIS analysis there are many tools which can be utilized to study the relationship between variables. One of these tools is geographically weighted regression (GWR). GWR is a powerful tool which examines the relationship between the variables for each individual point on a map. GWR is extremely effective because it will indicate where the relationship is the strongest or weakest. This is important for cartographic displays of the results. A number of studies have shown that there is a positive correlation between transportation nodes and the value of residential property in the immediate vicinity of such nodes. This study uses GWR and cartographic displays to determine the relationship between the location of Light Rail Transit stations and property values in the City of Ottawa. Preliminary results of the study have indicated that there is a weak relationship between proximity to transit stations and property values. However, it is anticipated that further analysis will indicate that in some areas of Ottawa, the relationship between proximity to transit stations and property values will be stronger than in other areas.

D.I.Y. in Decline? The re-emergence of management and specialization in the music industry

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Keywords: Independent music production, digital technologies, employment experiences, market dynamics

Abstract

The so-called 'MP3 Crisis' has altered the industrial structure of the music industry and the way in which music is produced, promoted, distributed and ultimately consumed. In particular, new digital technologies and market dynamics have increased the importance and scale of independent music production. In fact, according to the Canadian Independent Recording Artist Association (CIRAA), 95% of all musicians in Canada are not affiliated with major or independent record labels. Instead they operate as independent entrepreneurs who are responsible for the entire range of creative and non-creative tasks on their own – an approach known as Do-It-Yourself, or D.I.Y.. After an initial period of enthusiasm in which musicians were eager to chart their own career trajectories, a growing number of independent musicians are becoming disenfranchised with the demands and risks associated with the D.I.Y. model. Drawing on 65 interviews with musicians in Toronto I explore the 'dark side' of D.I.Y. and provide evidence of a counter-trend whereby independent musicians are 'getting help' from a range of collaborators and contracted specialists including fashion designers, web designers, and publicists. In addition, I argue that managers are becoming important 'team members' who can articulate and direct the strategic vision of the musician. Ultimately, I demonstrate that 'getting help' allows musicians to re-specialize on being creative, which increases their ability to compete and succeed in the reconfigured marketplace for music.

Analysis of Historically Significant Natural Hazards in the Okanagan Valley, BC

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Keywords: natural hazards, Okanagan Valley, historical records, socioeconomic loss.

Abstract

The purpose of this paper is to present some results of an analysis of historically significant natural hazards in the Okanagan Valley of southern British Columbia. Hazards include interface forest fires, floods, droughts, mass movements such as debris flows, windstorms, and other meteorological hazards such as cold snaps, heat waves and hail and snow storms. The analysis is carried out using archives of the Kelowna Daily Courier, the primary newspaper of the Okanagan Valley whose archives date back the furthest of any print news media in the valley (to January 1929). The archives are being used to evaluate the frequency of occurrence of natural hazard agents as well as their impacts including fatalities, injuries, property damage, economic losses, and various forms of societal disruption. Using these as criteria, the intention is to draw some conclusions about the relative importance of natural hazards that have historically affected the Okanagan Valley. Results suggest that meteorological hazards, especially cold snaps and heat waves, have been the most frequently occurring natural hazards in the Okanagan, the impacts of which are expressed most significantly in the agricultural sector. The potential for flooding from spring snowmelt is frequently discussed but rarely results in actual flooding.

Toronto's Urban Heat Island: Exploring the Relationship between Land Use and Surface Temperature

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Keywords: Urban heat island, land use, density, surface temperature, Landsat

Abstract

Increasingly warm temperatures in urban areas are becoming a major concern for planning and public health officials. The built environment with its different land uses is considered to be contributing to rising temperatures and more frequent extreme heat events. In the context of Toronto's urban heat island, this paper explores the association between land use and surface temperature using 2009 land use data and surface temperature derived from a 2008 Landsat Thematic Mapper (TM) thermal image. Zonal statistics revealed that mean temperatures were high for commercial and resource/industrial land uses (29.1^{o}C) and low for parks/recreation (25.1^{o}C) and water bodies (23.1^{o}C). The differences between temperatures for these land uses were statistically significant. In addition, a correlation analysis revealed that surface temperature tends to increase as polygon area increases for commercial and resource/industrial land (r = 0.405 and 0.259 respectively), and decreases as polygon area increases for parks/recreation land and water bodies (r = -0.264 and -0.323 respectively). In an alternate approach based on kernel density, it was found that temperature tends to increase as the concentration of commercial and resource/industrial land uses increases, and to decrease with concentration of parks/recreation and water bodies. Such concentrations of homogenous land use associated with high surface temperature were identified in north and south Etobicoke, northwest North York, and northeast Scarborough. To mitigate hot surface temperatures, it is recommended that municipal planners and decision-makers review regulations and formulate policies that are specific to "hot" land uses, in particular commercial and resource/industrial.

Environmental Management and Egyptian Tourism

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Keywords: Environment, tourism, management, policy, planning, Egypt, Red Sea

Abstract

This paper examines the growth of tourism and the subsequent issues related to environmental policy. Egypt has a substantial history of environmental policy but environmental degradation still occurs for a variety of reasons. This paper outlines the evolution of environmental policy in Egypt, and presents key limitations that hinder the implementation of these policies. These limitations are based on an examination of environmental policy to Red Sea tourism practice and development. These were determined by analysing laws and legislation, conducting in-depth, unstructured interviews with key informants, and through observation and recording along the Egyptian Red Sea coast. It was found that external and top-down initiation of environmental awareness, multiplicity of institutions and authorities, lack of a clear political voice for the environment, poorly-planned privatization, and changing role of government impede the practice of environmental policy.

Populations Patterns of Mining Towns in Northern Ontario

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Keywords: four stage model, single-industry, northern Ontario, demographic change, population

Abstract

In 1971, Rex Lucas created a four-stage model to describe demographic change in single-industry communities. Over the past 40 years, several scholars have applied, critiqued, and proposed additional stages to the model, which has been largely applied to centres in British Columbia. This paper uncovers if the Four Stage model of Lucas (1971) applies to single-industry mining communities in northern Ontario. The communities of Sudbury, Timmins, Red Lake, and Marathon are studied; each is heavily dependent on mining as the main source of production. Demographic data collected from Statistics Canada are used to uncover the population structure of each community since its construction. Analysis shows all four cases follow the model and that three of the communities have successfully reached the final stage. The future of these communities is uncertain due to unpredictable trends in single-industry employment percentages in each case, and the irregular demand for the resources being mined.

Influences of Hurricanes on Southern Ontario's Precipitation Extremes

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Keywords: Tropical cyclones, Precipitation Extremes, Southern Ontario

Abstract

During the hurricane seasons (June-November) from 1950-2000, precipitation extremes (PEs) and their association with the occurrences of tropical cyclones were examined in Southern Ontario (SO). The classification of PEs was based on the top 50 precipitation daily events during 1950-2000 for the 5 selected cities (Windsor, London, Toronto, Trenton and Cornwall). Tropical cyclones that had exerted influences on SO were closely examined for the temporal and spatial overlap with PEs. Half of these storm systems barely had their rain bands scraping the border of SO; yet, they had unloaded a tremendous amount of rainfall. While the hurricanes that traversed SO were correlated to the La Nina phase and the warming of Atlantic Multidecadal Oscillation (AMO+). The statistical test verified our observed result of the influences of tropical cyclones, including tropical storms, on PEs to be highly significant, despite SO was far removed from the main developing region (MDR) of hurricanes and tropical storms. Overall, the influence of hurricane-day on PEs (8 -16%) in each city had a particular bias towards some of the most extreme daily rainfall records. Among all of the storm systems, Hurricane Hazel set a record amount of precipitation in Toronto that topped out as the most severe events in the five cities. Overall, these recorded intense precipitation days in SO, coupled with the arrival of hurricanes, were enhanced and fueled by the combination of the natural variability of the ocean-atmosphere phenomena.

The Role of Public Education in Regional Economic Development Processes

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Keywords: public education, economic development, Waterloo, governance, labour, human capital

Abstract

Within the field of economic geography there has been extensive discussion and debate concerning the drivers of economic growth at a regional scale of analysis. Academic opinion has coalesced, in part, around the importance of stocks and flows of human capital to regional development outcomes. This is often framed within a 'talent' discourse, in which regional economic growth is said be driven, at least in part, by the knowledge embodied within a region's labour pool, through an increased capacity for innovation and 'spillover' effects. However, while much research has been produced around the need to create conditions that attract and retain a talented labour force, the mechanisms through which regions can *develop* talent to generate productive growth has been under-theorized.

This research paper explores how systems of public elementary and secondary education can impact upon economic outcomes within a human capital approach to regional development. Using the Regional Municipality of Waterloo as a site of examination, a literature review is conducted that explores the means through which the relationship between education and regional development is affected by institutional and geo-spatial processes in an intra-regional context. The paper utilizes a methodology that combines content analysis of policy documents with interviews with key stakeholders from the Waterloo community. Findings suggest the opportunity for greater local cooperation between education and economic development stakeholders to achieve common goals, and reflect the importance of neighbourhood-based interventions to achieve this outcome.

The Role of a Windsor-Québec City High-Speed Rail Corridor in the Transition to Canada's Green Economy

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Keywords: High-Speed Rail, Windsor-Québec City Corridor, Green Economy

Abstract

Proponents of a high-speed train in Canada's busiest transportation corridor say it would dramatically reduce greenhouse gas (GHG) emissions, create millions of jobs, and enhance the nation's quality of life by reducing healthcare costs, enhancing productivity and consolidating inter-regional linkages. Calls for high-speed rail (HSR) in the Québec City – Windsor corridor date back to the early 1970s and continue to be voiced today. Ontario Premier Dalton McGuinty, for example, recently expressed support for the project: "I like it because it fights climate change, it fights traffic congestion, so it enhances our productivity levels, it creates jobs and it enhances our quality of life." Despite political support from the Premiers of Ontario and Québec, and popular support for HSR as noted in recent polls, concrete plans for an HSR link in the corridor have never come to fruition. This paper explores the potential role that such a transportation link could play in the transition to a green economy. It estimates the level of capital required for the project, the number of jobs expected to be created, and the amount of GHG emissions that could potentially be saved by reducing automobile and air travel in the corridor.

A Study of the Motivations of Ottawa Community Gardeners: From Food Security to Social Capital

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Keywords: community garden, food security, social capital, sustainable development

Abstract

Community gardens are dynamic places, layered with meaning. Recent literature on community gardening in North America provides insight into the myriad benefits of this practice, using themes of sustainable community development, food security and social capital as analytical lenses. Researchers in Toronto, New York and Vancouver have engaged with community gardeners to uncover their diverse motivations for gardening; however, similar data does not exist for Ottawa. This paper attempts to address this lacuna, drawing on primary data collected during a 4th year honours research project. This study attempts to reconcile key imperatives around sustainable development: ecological, social and economic. Emphasis is placed on the role that community gardening can play in reconciling the most fundamental imperative – the social. 20 Ottawa community gardeners completed a questionnaire that surveyed their motivations regarding themes of food security, sustainable development and/or social capital. This paper will discuss and contextualize how those motivations work to foster sustainable community.

Ecohydrological and Carbon Functioning Implication of Road Construction and Removal in Western Boreal Fen, Fort McMurray, Alberta

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Keywords: wetlands, reclamation, eddy covariance, closed carbon chamber, carbon flux

Abstract

Canada's Boreal forest is comprised of a rich mosaic of wetlands, surface water bodies and forests that represents a significant store of water and carbon, while serving as valuable habitat for a variety of species. The research site is part of the Boreal forest and is located in Fort McMurray AB. This research will assess the effects of roads on wetland hydrologic functioning and CO2 exchange, and techniques for road reclamation in a wetland within the Western Boreal Plain. The research methods used include the eddy covariance and closed dynamic chamber approaches to assess evapotranspiration and vegetation productivity during the growing season. Shallow monitoring wells were also installed to determine groundwater flow and hydrological conditions of the ecosystem and their influence on these fluxes.

The preliminary findings obtained during the first field season will be presented and will provide baseline conditions for the hydrological impacts of road construction on wetland carbon sink functioning. A framework for continued monitoring of this system based on the pre-existing remedial conditions but also on the post remedial conditions of the wetland will also be presented.

Point pattern analysis for geographic references in the Toronto Star

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Keywords: News mapping, spatial analysis, urban patterns

Abstract

Journalism is about answering questions. While the "Where?" question is of the most interest to geographers, there has been little research on the locations included in news coverage. This project explores the ways in which geographic information systems and spatial analysis can be used to explore geographic references in local news stories published by the Toronto Star in 2008. The data were collected by the Local News Project at Ryerson University`s School of Journalism, They include information on the subject matter of news articles dealing with Toronto as well as geo-coded references that are mapped and managed using an ArcMap Geodatabase. Point pattern analysis methods are explored to determine the distribution of geographical references found in the Star's local news coverage. The analysis compares the spatial patterns of all stories referenced within the City of Toronto with the distribution of those stories dealing with selected topics such as crime, business, or arts and entertainment. Geographic references were also aggregated to City neighbourhoods, and nearest neighbour analysis, cluster analysis, and other spatial statistics were used to understand the spatial patterns of the different story types. Preliminary visual examination shows consistency in the coverage patterns across different story types. Many articles refer to downtown locations along the Bay Street and Church-Yonge corridors, the Waterfront communities and the surrounding neighbourhoods. The analytical measures will also contribute to The Local News Project's mapping of other local media outlets, particularly in cases where the visual patterns of coverage are less readily apparent.

A comparison of safe water and community well-being indices among First Nations

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Keywords: First Nations, drinking water, community well-being

Abstract

This research attempts to answer the following question. Why do some First Nations access safe drinking water under the current governance structure, while others fail to make any measurable improvements? Three recent national studies conclude that location, accountability, economies of scale, operators, standards, and population growth are the key underlying challenges. We argue that it is more than a technological problem; socio-economic factors also contribute to the challenges to access safe water. In an effort to answer this question, we compare the drinking water risk index from Indian and Northern Affairs Canada with the community well-being index from Stats Canada. We examine these indices to determine if there is a correlation between 'at risk' communities for drinking water and community well-being. A comparison of over 250 communities across Canada reveal that there is no significant correlation among communities 'at risk' for drinking water and community well-being. This could be a function of the direct dependency of First Nations on the federal government for capacity to provide safe water. In addition, fragmentation of responsibilities, upstream land use activities, or accuracy of water risk surveys are also possible explanations. Regardless, it supports the need for qualitative data from community members on perception of drinking water risk, and barriers to accessing clean water.

Evaluating the Benefits of Local Programs on Childhood Well-Being in Hamilton, Ontario

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Keywords: Childhood, well-being, Hamilton, local programs

Abstract

The emergence of programs focused on the improvement of childhood well-being has become a recent trend at both the local and broad-based levels. Childhood well-being can be evaluated based on social, physical and environmental determinants. The purpose of this paper is to evaluate the benefits of attending local programs in low-income neighbourhoods, such as the Children's Breakfast Club, as a means of benefiting children's social, physical, and environmental well-being, with a focus on North Hamilton, Ontario. The structure of this paper draws on: the background of community-based organizations, (including the Hamilton Children's Breakfast Club), and the social, physical, and environmental determinants of childhood well-being, as well as future possibilities. Participation in a community program and further research outlined the impact of local programs, such as the Children's Breakfast Club, in providing a beneficial foundation for the positive development of childhood well-being determinants, in the low-income neighbourhood of study. The incorporation of a breakfast program in less fortunate areas provides the opportunity for children to develop constructive, motivational, and educational interactions outside the school environment. In addition, the nutritious breakfast meals offered at the Breakfast Club provide essential nutrients that benefit children, especially those from low-income households. The safe and welcoming atmosphere of the Breakfast Club has also proved to establish a comfortable environment that encourages learning and social cohesion. Therefore, the inclusion of local programs, such as the Children's Breakfast Club, are outlets that promote healthy childhood well-being, especially in low-income neighbourhoods.

Migration and Food Remittances – A Strategy for Ensuring Household Food Security in Northern Ghana

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Keywords: Migration, Food Remittance, Food Security, Environmental Change, Northern Ghana

Abstract

The history of labour migration between the northern and southern regions of Ghana has been dominated by movement of migrants from the north to work in mining towns, cash crop growing towns and major government administrative cities in the south. Increasing environmental degradation in northern Ghana in recent decades together with adoption of structural adjustment programs in the country has led to a decline in the agricultural sector causing a further increase in migration from the area including the Upper West Region (UWR). A declining mining sector has also led to migration away from mining centers. The receiving areas of these migrants are generally Ghana's two biggest cities (Kumasi and Accra) and the fertile agricultural lands of the Brong Ahafo Region (BAR). A previously seasonal migratory pattern from the north to the south of Ghana has been replaced by a permanent form. Migrants in the BAR engage in food crop cultivation as their main means of livelihood to support their family that travelled with them and those left in their places of origin. Remittance to dependents in UWR from migrants in BAR is increasingly in the form of food. In-depth interviews with migrant farmers in the BAR and their dependents in the UWR reveal a strong dependence on these food remittances. Preliminary results from analysis of interviews shows that extent of reliance on food remittance from migrant farmers depends on household wealth, gender composition and age structure of household as well as household production levels.

Unlocking Key Knowledge of the Home: Domestic Door Locks and Space

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Keywords: domestic space, door locks, public/private, discipline, power

Abstract

In this presentation I describe a research project I am undertaking on door locks and their role in disciplining the constitution and use of domestic space. Domestic locks exemplify one material manifestation of a 'truth' that has become widely accepted through the process of socialization. My research explores how this 'truth' is reflected through taken-for-granted practices that have been woven into the blue-print of Western domestic experience. I examine why people lock the doors that connect home and neighborhood, and explore the relationship between lockable doors inside the home and the acts that they make private. I argue that domestic door locks re-enforce a variety of value-saturated practices; values that are provoked by the lock and are reflected through human interaction. I explore this relationship through in-depth interviewing.

A GIS-Based Approach to Projecting Responses of Sugar Maples to Climate Change in Ontario, Canada

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Keywords: Sugar maple, GIS, climate change mapping, Central Ontario

Abstract

Climate change is projected to threaten the forests of Ontario. A rise in surface temperatures and changes to precipitation patterns are forecast across the province. These changes are likely to impact the distribution of forests and stress tree species, such as the sugar maple (*acer saccharum*). Temperature increases are likely to shift the range of sugar maples northward. However, this migration is projected to be limited by the acidic, shallow soils, rocky terrain and steep slopes associated with the Canadian Shield environment of central and northern Ontario. This project uses computer-based software called GIS (Geographical Information Systems) to project where the sugar maples in Ontario are likely to be located in the future. Maps will be produced to show how sugar maples will respond to climate change by the year 2070 under the low, medium and high level carbon emission scenarios available from climate change models. Data of the natural factors thought to be most important for the growth of sugar maples (surface temperature, precipitation, soil moisture, soil type, and slope) will be entered into the GIS model and will be ranked according to how much of an influence they have in sugar maple development and health. Results from the model will show the limits of the species growth in Ontario taking into account all of the natural factors and future climate projections at once. One of the major goals of this project is to develop maps that can be used to help syrup producers plan strategies to manage and cope with the effects of climate change.

The environmental impact of food in Montreal: A food miles analysis of shepherd's pie

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Keywords: Food miles, environmental impact, food distribution, food system, climate change.

Abstract

Personal choices and global issues are brought together by everyday food consumption. In a world where food products often travel thousands of kilometres from the farm gate to the table, most consumers do not understand the complexity of this distribution network. The transportation of goods has an impact on all aspects of sustainability, and contributes, through the extensive burning of fossil fuels, to global climate change. The literature on food miles has, so far, been mostly interested in non-local imports of foodstuff, and in Canada, has faced limitations regarding the availability and quality of data. The research reported here was design to study small scale, local transport of foodstuff. Its specific aims are to explore the geographic provenance of selected food products consumed in Montreal, to assess the distance travelled by those items from the farm to the consumer, and to investigate the environmental impact resulting from the transportation of these goods. To do so, ingredients of a traditional meal (shepherd's pie) have been tracked, and information about types of vehicle used and load carried in shipment were gathered through informal interviews with farmers and retailers. A weighted Emission Ratio (WER) method was developed to assess the CO_2 emission per kilogram of food resulting from the shipment of the ingredients composing this dish.

Homeless Women and 'Safety': An Exploration of the Literature

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Keywords: Homeless women, safety, physical/emotional/housing security

Abstract

Research addressing women's experiences of safety has been both popular and widely documented in the last 20 years. Additionally, the study subject of homeless women has also proven to be of great interest in academia. However, little if any explicit attention has been paid to the experiences and lived realities of homeless women as it pertains to matters of safety. The purpose of this paper is to explore whether existing geographical (and other) literature conceptualizes public safety in a manner that is both relevant and applicable to the realities of homeless women. Safety, as relevant to homeless women, shall be broken down into three distinct manifestations: physical security, emotional security or well-being and housing security. In the form of an analytic literature review, I will explore how each is represented in the literature and whether these existing conceptualizations are congruent with the realities of homeless women. This study suggests that while existing literature on physical security is applicable to the safety needs of homeless women, it does not accurately capture the gravity of the affronts to their physical security. Regarding emotional security, greater study and research is needed to theoretically link well-being and safety, particularly with respect to homeless women. Additionally, while housing security as a matter of safety has previously been established in the literature, more work is needed on problematizing the 'home' as a site of safety and security as it applies to homeless women. Furthermore, I argue that it is difficult to separate one issue of safety from another, as each is greatly impacted by the existence or lack of another security. Future research which acknowledges the interconnectivity between housing security and physical and emotional security is needed.

Analyzing Slope Failure of Coprates Chasma, Valles Marineris, Mars using High Resolution Stereo Camera (HRSC) and Context Camera (CTX)

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Keywords: Valles Marineris, Coprates Chasma, HRSC, CTX, ArcGIS, slope failure, landslides.

Abstract

Valles Marineris is considered by many to be the Grand Canyon of Mars, which is located in the Tharsis Province. With walls exceeding 11 kilometres in height, Valles Marineris is a major interest of study in planetary sciences. Positioned to the east of Oylmpus Mons, the largest volcano on Mars, Valles Marineris is believed to have formed due to plate tectonic activity. The formation of Valles Marineris is theorized to have occurred during the Late Noichain/Early Hisperian Era which is presumed to have occurred between 3.6 and 3.9 billion years ago. Visually comparing Context Camera (CTX) imagery with the High Resolution Stereo Camera (HRSC) images, it has been seen that significant slope failure incidents occurred within Valles Marineris, specifically the area known as Coprates Chasma. With the use of ArcGIS spatial, and 3D analyst, topographic information was extracted from a digital terrain model (DTM) acquired from HRSC imagery. The analysis of the slope failure within the Coprates Chasma was categorized into 1 of 15 classes to identify prominent areas of slope failure. Although only some landslides were large enough to be detected by the terrain analysis based on the scale of the mass movement, this research indicates that methods to determine slope stability may be applied to non-terrestrial bodies with a high degree of confidence.

A Comparison of Labour Market Outcomes of Immigrants and the Canadian-born in 2006

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Keywords: Immigrants, Labour market outcomes, Geography, Integration

Abstract

In 2006, more than 20 percent of Canada's population aged 15 and over were foreign-born (Zietsma 2007). Despite a substantial immigrant population, there is an underutilization of immigrant skills and persistent pay inequities that may be attributable to difficulties arising from ubiquitous barriers to economic integration (Reitz 2001a; Gilmore 2009). Factors such as a lack of recognition of foreign credentials and professional experience as well as workplace discrimination can act to inhibit economic integration. Existing literature has found that immigrants, specifically recent immigrants, are falling behind their Canadian-born peers in the labour market despite having a higher average education level (Badets & Howatson-Leo 1999; Frenette & Morisette 2005; Picot 2004). Though these disparities have been widely studied, more attention to the geographic variation of the labour market outcomes is warranted as the labour market position of immigrants and the Canadian-born differ across geographies; therefore, the comparison should be made in the Canadian economy but also in the context of regional and local economies. This paper examines labour market outcomes in terms of participation and unemployment rates, and median incomes of immigrants and the Canadian-born across varying geographic scales including national, provincial and census metropolitan areas in 2006. Further, the analysis compares the labour market outcomes of immigrants in 1996 and 2006.

Negotiating Urban Sustainability in Ottawa

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Keywords: urban sustainability, urban intensification, discourse theory, political ecology

Abstract

Urban sustainability, though widespread within the popular and academic discourse, is seldom scrutinized critically. This paper, broadly informed by poststructural political ecology, and methodologically framed by Foucaultian discourse analysis, interrogates how knowledge is produced through the exercise of power. Specifically, this paper draws on empirical research using a case study in Ottawa, Canada, to gain insights into how urban sustainability is discursively produced by social actors and institutions, such as provincial and municipal governments, property developers, and individuals living in central urban areas. Central to this analysis are questions around what counts as nature, how this nature is socially 'produced' and what practical consequences result from the normalization of particular constructions of urban sustainability. In the 2003 City of Ottawa Official Plan, hegemonic and globalized discourses of sustainability privilege growth and legitimize the sustainable development discourse by commodifying all aspects of nature, essentializing growth as part of a 'development apparatus' that seeks to sustain the commodity 'nature' to serve the global economy. Residents of Old Ottawa South contest the practical consequences of these hegemonic discourses to negotiate space for their own visions of sustainability, privileging those aspects that contribute to quality of life, community identity, and heritage preservation.

Retail Development for Lakeview, Mississauga

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Keywords: Retail, Redevelopment, Lakeview Community

Abstract

The goal of this research is to propose a retail plan for Lakeview in south-eastern Mississauga. The demolition of the Lakeview coal-power Generating Station in 2007 and the active participation of the Lakeview Residents Association in visioning the redevelopment of this site provide the impetus for this retail plan. The following principles guide our research: retail must meet the requirements of the local community, it must attract consumers from outside the area, and it must provide an ambience that retains consumers and helps to create a strong sense of community. To achieve the research goal and satisfy the research principles a number of tasks were completed. Data extracted from the Census of Canada at the Dissemination Area level and joined to map files using ArcGIS provide the basis for a community profile. Analysis of different retail locations offer context. Information on store types, built structure, strengths, weaknesses, and ambience compiled for each location inform our proposal for Lakeview. Working off of research gathered from the community profile, analysis of existing retail sites, visits to previously redeveloped sites, and the ideas articulated in the Lakeview Legacy Project (2008) and the Lakeview Corridor Heritage Park (2010), retail development appropriate to the Lakeview area that meets the research principles is proposed.

Spatial Analysis of Violent and Property Crime and Related Neighbourhood Characteristics in the City of Toronto

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Keywords: spatial analysis, crime, neighbourhood characteristics, social disorganization, spatial dependence

Abstract

The City of Toronto, which is the central municipality of the Toronto CMA, is served by the Toronto Police Service. It had the highest police-reported crime rate in 2006 compared to other major police services in the Toronto CMA. Crime prevention and reduction fundamentally depend on identifying the spatial distribution of crime and the underlying driving factors. The overall aim of this study is to establish a spatial analysis framework based on a combination of Graphical Information Systems (GIS) and quantitative techniques for better understanding the spatial patterns of violent and property crime, as well as their relationship with the socioeconomic, demographic, dwelling characteristics of neighbourhoods in Toronto. The 2006 police-reported crime data and 2006 Population Census at the census tract level are used in this analysis. Findings show that as a whole, downtown areas and neighbourhoods located on the east of Humber River, account for large portions of all types of crime in Toronto. Specifically, neighbourhoods which tent to experience higher rates of violent crime have a higher percentage of residents with low socioeconomic status associated with high mobility and poor housing conditions. Property crime rates are distributed more evenly; however, certain clusters of especially high property rates are evident and roughly correspond to downtown areas of higher commercial activities. The results from this study are expected to provide a resource of information for the development of crime reduction strategies in the city of Toronto.

Champion of the Earth?: Questioning Guyana's Low Carbon Development Strategy

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Keywords: low carbon development; environmental sustainability; deforestation; Amerindians; Guyana

Abstract

Through an internationally supported climate change mitigation program intended to reduce deforestation in Guyana's hinterland regions, the Government of Norway is engaged in negotiations with the World Bank and the Government of Guyana for the provision of substantial grant aid through a global carbon market scheme entitled the Low Carbon Development Strategy (LCDS). For his leadership within and support of the LCDS, President Bharrat Jagdeo was awarded the UNEP 'Champion of the Earth' Award on 22 April, 2010. However, the feasibility of the scheme, which includes economic transformation of the country as a key goal, the environmental sustainability of the benefits proposed, which include a restructuring of the forestry and mining sectors as well as the creation of a hydro-electric project deep in the interior of the country, and the social and environmental consequences of the strategy upon the Amerindian peoples of Guyana as the primary inhabitants of the hinterland are questions that require further investigation.

Based on ethnographic research, an exploration of the issues and controversies surrounding the LCDS, including a critique of global carbon-offset schemes, a review of Guyana's environmental politics, specifically the LCDS, and an investigation into the broad Amerindian reticence towards the strategy is presented. This paper suggests that while REDD (Reduced Emissions from Deforestation and Degradation) schemes may be an integral component of future climate change mitigation treaties, social and environmental sustainability need to be prioritized over economic solutions and the LCDS should not been seen as a substitute for global reductions in carbon emissions.

"Negotiating Belonging": Jamaican Migrants' Social Networks in Toronto's Inner Suburbs

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Keywords: Caribbean migration, Toronto's inner suburbs, social networks, social capital

Abstract

The proposed research focuses on how, given their markers of "difference" within new social contexts, Black Jamaican migrants in Toronto's inner suburbs negotiate their "racial" and gender identities to construct social networks, as well as the ways that the resources contained in these networks may be useful in meeting daily needs. It is based on the premise that social networks function as social contexts through which identities may be expressed and (re)negotiated that also provide valuable access to resources in the form of social capital. With these perspectives, this research will draw particular attention to the ways that Black Jamaican migrants' social networks shape experiences of belonging and alienation within the city. In so doing, it will focus on an inner-suburban area where Jamaican migrant concentration is most pronounced, roughly corresponding to two neighbourhoods Northeast of Etobicoke Central called "Brookhaven-Amesbury" and "Beechborough-Greenbrook".

newsatlas™, a Tourism Platform for Muskoka and Parry Sound Regions

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Keywords: tourism, collaborative geomatics, social media

Abstract

Although Muskoka and Parry Sound Regions have a special sense of place in the minds of millions of Canadians, their socio-economic statistics are some of the worst in Ontario. In order to ensure job creation and retention, and sustained prosperity, the region must put creativity and place as the centrepiece of a new economic development vision. To enable this vision, the Centre for Community Mapping is developing a novel tourism web platform as a software service (SaaS). By January 2011, the Muskoka and Parry Sound collaborative atlas (**newsatlas**™) will be launched and the groups and organizations that use, enjoy, represent, protect, and develop the commercial, environmental, recreational, heritage and cultural assets in Muskoka will all, in time, be active participants, providing, organizing and maintaining the atlas content.

Content is contributed by using **newsatlas**™ secure mediated online community network services, map-based event calendars, participatory mapping with airborne photography and content management services. Content management services will configure modular map-based pop-ups (mapups™) to hold text, image, video, audio and web-link content. Mapups™ will be configured as channels for online transaction services and for mobile 'push' applications in later phases of the **newsatlas**™ project.

The Role of Inter-basin Landscape Conditions and Vegetation in Runoff Processes at Polar Bear Pass, Bathurst Island, Nunavut

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Keywords: streamflow, moss, frost table, ground ice, soil moisture

Abstract

A large, ecologically important wetland occurs at Polar Bear Pass, Bathurst Island, Nunavut (75º 40', 98º 30'). This High Arctic wetland receives water contributions from many rivers and streams found in the surrounding hillslopes. Due to the insulating properties of thick moss, heavily vegetated stream basins possibly indicate areas rich in ground ice, which could act as sources of water for the wetland during drought periods or under changing climate conditions. To determine how differences in landscape and vegetation cover influence ground ice formation, active layer development, and runoff processes (e.g. streamflow, storage), two of these stream basins were selected - one with abundant moss cover and another with sparse moss cover. Streamflow, frost table, and soil moisture conditions were measured at each site in 2009 and 2010 and detailed vegetation surveys were completed at both sites. If the insulating properties of moss promote ground ice formation this would potentially represent an important storage component in the water balance for heavily vegetated drainage basins and could modify runoff by ensuring a shallow active layer. Under changing climate conditions ground ice storage could be important for maintaining streamflow from the hillslopes; a key water source for the wetland at Polar Bear Pass.

Assessing Climate Change Vulnerability and Adaptive Capacity of Tourism Destination Communities: The Viability of an Indicator Based Approach

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Keywords: climate change, vulnerability, adaptive capacity, indicators, tourism

Abstract

Small islands and coastal areas are particularly vulnerable to the adverse impacts of climate change and require the planning and implementation of appropriate adaptation measures. Knowledge gaps remain in how to comparatively assess the vulnerability and adaptive capacity of communities, particularly for climate-sensitive economic sectors such as tourism. The application of indicators can assist with rapid vulnerability assessments, in particular the ranking and comparison of vulnerability and adaptive capacity amongst systems and thereby inform adaptation planning. Methodologies to develop indicators that measure the dynamic processes (contexts) of a tourism destination's vulnerability and adaptive capacity need to be further developed. My research examines the viability of an indicator approach, by developing and applying a set of process-based/ contextual indicators to comparatively assess small-island tourism destinations at the destination and household level. I examine two tourism destinations in the Caribbean, one that has had recent exposure to climate-related events and one that has not. The Caribbean is considered a '*tourism vulnerability hotspot*' due to the sector being vital to its economy and because climate change impacts are predicted to be significant. The climate change hazards to be examined are long-term sea-level rise and an increase in sudden and extreme events, such as hurricanes. Developing and applying local level vulnerability and adaptive capacity indicators for destination communities can enable the identification of the communities and stakeholders most at risk and inform local initiatives to build the adaptive capacity of the most vulnerable stakeholders.

Past and Future trends in Toronto's Urban Heat Island

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Keywords: Climate Change, Urban heat island, Statistical downscaling, Toronto

Abstract

According to a recent forecast by United Nations, more than half of the World's population will be living in urban areas by the end of this century. As a result there is now growing focus to assess the impacts of urbanization on local climate change, city's infrastructure, biodiversity and human comfort. This study analyzes the past urban heat island (UHI) at Toronto using the temperature data from the urban station at Toronto downtown and the rural station at Millgrove, for the period of 1955-2005. Toronto exhibits a well developed UHI, causing higher temperatures at nights and in winter months compared to the surrounding areas. The nighttime UHI intensity derived from the minimum temperature shows statistically significant trend, and is also higher in magnitude in winter than in summer. The analysis is then extended to project the UHI intensity at Toronto using the statistical downscaling techniques, and the atmospheric variables from the climate model data supplied by two general circulation models under the medium high (A2) emissions scenarios, for the 2020s, 2050s, and 2080s. The results show further strengthening of the nocturnal heat island at Toronto that is most pronounced in 2050s and 2080s, and also shows higher frequency in winter. Therefore, the downscaled scenarios, which are representatives of the impacts of an emerging urban heat island on the city environment, should be taken into account by the infrastructure designers and building planners, and incorporate these into the future mitigation and adaptation strategies.

The Map-Maker's Baptism by Fire – Experiences with Creating an Alumni Map

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Keywords: Alumni map, cartographic design, GIS software, map-making, performance issues

Abstract

Maintaining a meaningful relationship with alumni is an increasingly sophisticated endeavour for higher education institutions. To visualize the geographic distribution of its alumni, Ryerson's University Advancement asked us to produce a world map and a map of Canada showing the 90,000 alumni for whom a residential location was known. To protect the privacy of the alumni community, anonymized records were geo-coded by postal code, and then aggregated to municipalities within Canada, and to countries for the world map. These counts were mapped as proportional circles.

Several software tools and datasets used in the project introduced unique obstacles in the production of these maps. Microsoft Excel and Access applications provided the tools required to correct, pre-process and consolidate the non-spatial data, although the older Excel 2003 version could not handle the given number of records. The non-spatial and spatial join operations in ESRI's ArcMap using a point-based, national postal code dataset of approximately 1.2 million records could not be completed in a work day. This computer performance issue was overcome by eliminating redundancies in the data and partitioning the national into provincial datasets. Regional municipality boundaries extending into water bodies resulted in thematic symbols requiring manual relocation to appropriate locations on land. Finally, not enough information was obtained in order to adapt colour schemes, font families and sizes, or labels to the needs of the client.

This hands-on, start-to-finish project provided a unique learning opportunity about the challenges as well as ultimate success of real-world map-making.

Spatial & Socio-Economic Impact of Wal-Mart on an Inner-City Location: Dufferin Mall

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Keywords: Wal-Mart, socio-economic impact analysis, Big Box Retailer

Abstract

There has been much debate regarding the impact of Wal-Mart on communities and regions. Though many Wal-Mart studies focus on the United States and on the many negative outcomes associated with this retailer on communities, this study aims to provide a more balanced approach to understanding an inner- city Wal-Mart in the Canadian market place. This paper utilizes empirical techniques with respect to trend series analysis, multivariate regression analysis, choropleth mapping, and observational studies to gain insight into the existence of an inner-city Wal-Mart located in a densely populated metropolitan centre. The aim of this study is to show plausible impacts, positive and negative, of Wal-Mart on surrounding businesses, property values, population income levels, employment rates, and retail development in and around Dufferin Mall. The findings indicate that the existence of an inner-city Wal-Mart can have positive affects at a localized scale, such as increased tax revenues, better retail shopping and increased competition. It is clear that much of the literature on the impact of Wal-Mart stores needs to be re-evaluated in light of inner city locations. These locations do not necessarily have the same socio-economic outcomes on communities that suburban and exurban locations can exhibit.

"Extra, Extra, Read All About It!" Toronto Print News Media Coverage of Type 2 Diabetes

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Keywords: Agenda setting, content analysis, lifestyle approach, social determinants, type 2 diabetes

Abstract

In Ontario, the prevalence of diabetes rose by 69 percent in the last decade, a growth rate that far exceeds the World Health Organization's (WHO) projected rise of 23 percent for Canada between 1995 and 2005. This increase was greatest in the City of Toronto, particularly among individuals under 50, young women, and ethnic minorities. This paper study examined Toronto mainstream newsprint media framing of type 2 diabetes. Manifest content analysis was performed on three Toronto newspapers: the Toronto Star, the Globe and Mail, and the National Post, to examine the degree to which media employ a social determinant of health approach. The study also investigated the racialization of diabetes. Findings mirror that of biomedical discourse which racializes the disease and emphasizes individual behavioural factors. These outcomes have major implications for diabetes programs and policies due to the agenda setting function of the media.

Exploring the Geography of Television News Consumption in Canada

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Keywords: television, media research, spatial autocorrelation, Canada

Abstract

In Canada, there is a need for research on media usage. Often Canadian media researchers rely on foreign data to understand the Canadian experience. Foreign sources, especially those from the United States, cannot account for the unique media environment that exists in Canada. This research seeks to address this need by describing and mapping the geographic distribution of television news consumption in Canada. In doing so, the influence of spatial autocorrelation is considered. Socioeconomic and demographic characteristics of Total, National, Local-Regional, and U.S. News audiences are profiled using linear regression analysis. Considerable regional differences in television news consumption are observed between French and English Canada along with significant positive spatial autocorrelation throughout much of French Canada. The consumption of U.S. news overall is much lower than expected, however, considerable positive spatial autocorrelation is found in the Windsor-Chatham-Kent area where proximity to and interaction with the United States are highest.

"Rock Vision" for Gold Search — Geographic Imaging Field Techniques

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Keywords: Remote Sensing, geographic imaging, field techniques, gold exploration

Abstract

In recent decades scientific visualization (SciViz) has helped the human eye to see patterns in observed data. While SciViz is typically done in a lab or office, sciences such as geography, geology, biology, and forestry frequently require field observations. Mobile electronic devices now allow us to combine field observation with SciViz in situ. The paper presents an example of in situ SciViz using eyewear 'goggles' equipped with basic image enhancement capabilities. The screens of the eyewear display images from a digital camera and a controller allows the viewer to modify several image parameters, including brightness, contrast, hue, and saturation. Both real-time and near-real time viewing are supported. Examples of field use for gold search in the Sierra Nevada (CA, USA) and gold prospecting in Northeastern Ontario (Canada) will be presented, including right-on-site enhanced image observation of mineral-related colour, pattern, and structure in rock assemblages. The paper traces our research on the utility of saturated remote sensing and ground imaging from desktop processing in the lab, through notebook computer base-camp processing in accessible sites, to using goggles, and more recently smart-phone 'apps' in hard-to-reach sites. Applications of remote and right-on-site image enhancement techniques extend from impervious materials such as rocks, to vegetation and soils in wilderness, and rural and urban settings. The uses of this approach spans natural as well as man-made objects such as infrastructure. The paper will address the advantages, limitations, and drawbacks of the eyewear and related technologies presented.

Coupling LiDAR and high resolution digital imagery for biomass estimation in mixed wood forest environments

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Keywords: LiDAR, biomass, data fusion, forestry

Abstract

While widely used for inventory purposes, current optical image analysis methods do not easily provide three-dimensional structural information about the forest cover required for detailed biomass assessment. LiDAR remote sensing has been shown to provide such structural information; however, they lack the ability to provide inferences on species differentiation and relative health of forest ecosystems available from passive optical data. This research examines the integration of these two technologies to permit volume and biomass estimates using both the spatial and spectral characteristics in a mixed-wood forests in central Ontario, Canada. It was found that while acceptable structural estimates were produced exclusively from LiDAR data in forest stands where the dominant species was known *apriori*, the inclusion of spectral information to determine the distribution of species increased accuracies by permitting suitable species-specific algorithms to be employed on a plot-by-plot basis, extrapolating to measures of stem counts, volume, and biomass of mixed wood trees per hectare. Improvements in large-area quantification of biomass using remote sensing techniques to define biologically distinct vegetation groups may assist in reducing the uncertainty of estimates of aboveground carbon sequestration in forested ecosystems, enabling a better understanding of the role of forests in the global carbon cycle.

Do Neighbourhoods Matter?: Exploring Neighbourhood Significance through the Eyes of Women Who have experienced Housing Instability

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Keywords: supportive housing; marginalized women; homelessness; neighbourhood effect

Abstract

Over the past decade, there has been a surge of academic interest in the significance of neighbourhood in relation to health and quality of life, based on the underlying assumption that place matters (Ellaway et al. 2001). Interestingly though, studies of the significance of neighbourhood in relation to one's health and sense of home have tended to focus almost exclusively on residents who resist or are concerned about living near emergency shelters and transition housing (Hill et al. 1994; de Wolff 2008). The focus of this project, in contrast, is whether or not the neighbourhood makes a difference in quality of life and feelings of home for low income residents who are experiencing or have experienced housing instability. This study explores these under-examined connections through two separate but complementary investigations. The first draws upon evidence gathered through the HHiT (Housing and Health in Transition) study, which looks at the relationship between housing instability and health, to examine whether there are statistically significant relationships between health, feelings of home and neighbourhood, for homeless and unstably housed male and female respondents in Ottawa. The second investigation is a participatory photovoice project with women living in an Ottawa supportive housing development. Pictures that the participants take of 'their' neighbourhood are used to elicit conversations about ways in which it influences their quality of life, and sense of 'home'.

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Simulations of Surface Temperature and Ice Cover of Large Northern Lakes Using 1-D Models: A Comparison with MODIS Satellite and *in situ* Observations

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Keywords: Lake surface temperature, lake model, MODIS

Abstract

The one-dimensional (1-D) Freshwater Lake (FLake) model and Canadian Lake Ice model (CLIMo) are used to **s**imulate lake surface temperature (LST), freeze-up and break-up dates, and ice thickness for sections of various depths on Great Slave Lake (GSL) and Great Bear Lake (GBL), Northwest Territories, Canada**.** Model results are compared with LSTs from satellite remote sensing thermal data (Moderate Resolution Imaging Spectroradiometer (MODIS). Simulated ice conditions from both models are validated against historical data extracted from the Canadian Ice Database (CID). The main goal of this project is to evaluate the known FLake model, which is currently being implemented as a lake scheme in several numerical weather forecasting and regional climate models, for a large and deep lake (GSL) and to improve our understanding of the spatial and temporal variations in surface water/ice temperature on the lake.

Preliminary results show that ice-out (break-up) dates obtained with the FLake model occur earlier, when compared to in situ observations and estimates from CLIMo. A better agreement is also found between CLIMo simulated ice thicknesses and CID in comparison to FLake. The root mean square error (RMSE) for CLIMo and FLake is 4 and -6 days for break up and 2 and 5 for freeze up, respectively. The larger overestimation of ice thickness with FLake is likely due to the fact that snow depth on ice is neglected in this model.

Bangladesh Municipality Development Fund: A Success story for Sustainable Urban Development

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Keywords: Sustainable, Urban, Development, Municipalities, Bangladesh

Abstract

There are 313 municipalities in Bangladesh according to 2010 information in four major categories. These municipalities are containing at least 50,000 people in their own jurisdiction area up to 10 million in case of Dhaka municipality. The municipalities are being treated as the local government body to provide services for urbanites and to collect revenues for the central government. Meeting the vital needs to the urbanites is a key element of a sustainable urban development. But the notion of needs is in itself a diffuse and problematic concept in the poorly budgeted municipalities in Bangladesh. Still there are good practices to ensure the harmonized development in urban areas in Bangladesh considering the poor governance, lack of capacity and skilled manpower and inadequate budget. This paper tries to focus the success stories of Bangladesh Municipality Development Fund (BMDF) for sustainable urban development in Bangladesh through financing infrastructure development in municipalities as well as recovering the grants given by donor agencies as a participatory program. This paper also emphasizes the need of such a very good organization in one of the poorest nations to ensure the public money be utilized for better infrastructural development and civil works to attain harmonize and sustainable urban development through country wide. The experiences of Bangladesh might be very useful in similar countries in the world that are having economic problems, poor governance and lack of transparency of using public money for a sustainable urban infrastructure development.

'Gateway Spaces' of London, Ontario: Making Places of Acculturation

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Keywords: Immigration, lived experience, acculturation, integration.

Abstract

This paper presents an overview of my Master's work on the lived experiences of recent immigrants in London, ON. This research explored the spatial and social practices employed by newcomers which contribute towards their self-identified sense of place attachment. Analysis of interview data suggests that the socio-spatial manifestations of the processes of integration occur in 'gateway spaces'; these are places of our everyday lives where newcomers and long-time Canadians come to share-space. This paper will also present preliminary doctoral research which addresses several of the numerous questions raised regarding the processes and practices that give rise to these sites of positive cross-cultural interaction. Valentine, Sporton, and Nielson (2008) argue that the practical processes of immigrant settlement and 'fitting-in' have received little attention from geographers. It is my intention to expand the inquiry on these practical processes of acculturation in the Canadian context. This work is guided by the overarching question, *'How do these 'gateway spaces' act as sites of acculturation, both for immigrants to gain the practical knowledge of living in London as well as members of the host community to positively receive diverse cultures into their community?'*.

Study on 3D Topology Construction Based on PLC Structure

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Keywords: GIS, 3D Topology, PLC structure

Abstract

Currently, the need of spatial information in form of 3D is increasing as a result of the quick change of urban areas. Meanwhile, with the development of computer science, GIS designers are able to provide users with 3D GISystems which can solve spatial problems more efficiently than traditional GISystems. However, the construction of 3D topology which plays a vital role in the 3D spatial analysis is not completely developed. The aim of this paper is to find a way of 3D topology construction, which can be used especially in 3D buildings construction. Based on PLC structure which represents the boundary of 3D objects, the construction of 3D topology can perform well in urban buildings. By comparing the 2D topology construction, a tentative method is presented and tested at the end of this paper.

A Critical Review of Urban Development Control Measures in Iran

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Keywords: Urban development, control Measures, Zoning, Building Density, FAR,

Abstract

Cities in response to various economic forces and demographic changes experience physical growth and development. This development is usually guided through special control measures known as zoning by-laws, most importantly density measures. This article discusses introduction of zoning and its control tools including density controls in Iran in late 1960's. It discusses the policy on minimum lot size as a way of controlling density, which led to social stratification within cities. The rapid urban growth after the 1979's revolution contributed to outset of high density development. The paper would scrutinize development policy changes including regulations for high density development. It is discussed that since the larger sites would receive a higher building density (FAR), the old low density neighbourhoods attracted higher development and changed character. The paper also analysis reasons behind this policy, as well as its economic and social consequences.

Sustaining Biodiversity in Human Places – Lessons from reconciliation ecology

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Keywords: biodiversity, reconciliation ecology, urban ecology, agroecology

Abstract

In the spirit of the International Year of Biodiversity, and in the context of my ongoing PhD research, I would like to discuss the potential of reconciliation ecology to help manage human-dominated spaces for biodiversity, and to bridge the human-nature estrangement in Western society. Reconciliation ecology – an approach to conservation biology developed by ecologist Michael Rosenzweig – is characterized as the modification and diversification of anthropogenic habitats with a view to harbouring a wide diversity of wildlife.[1] Reconciliation ecology aims to meet the needs of both humans and wildlife, thereby reconciling managed/engineered spaces and natural spaces, and ultimately reconnecting humans and nature. In the presentation, I will briefly review the physical and psychological estrangement of Western society from nature, present the concept of reconciliation ecology and related notions of countryside biodiversity and green infrastructure, offer examples of reconciliation ecology at work in diverse urban and rural environments, and discuss the significance of the reconciliation ecology approach in managing human spaces for greater diversity and sustainability.

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The Influence of Soil-Site Factors on Sugar Maple (Acer Saccharum Marsh.) Growth Response to Climatic Change in Algonquin Provincial Park

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Keywords: global environmental change, dendroclimatology, forest ecosystem dynamics

Abstract

Over the past several decades, concerns about climatic change and its potential impacts on Canada's various geographical regions and associated ecological processes has grown steadily, especially among land and resource managers. Sugar maple (*Acer saccharum* Marsh.) is considered a stable endpoint for mature forests in the northern hardwood community of central Ontario, and it tends to be the dominant species, in a beech-ironwood-yellow birch matrix. There are many biotic and abiotic factors that play a large role in the growth and productivity of sugar maple stands, such as soil pH, moisture regime, and site slope and aspect. This research undertaking aims to add to the body of literature addressing the following question: how do site factors influence the sensitivity of sugar maple growth to climate change? The overall objective of the research is to evaluate how biotic and abiotic factors influence the sensitivity of sugar maple annual radial growth to climatic variability. In order to complete this goal, 20 sites were identified in Algonquin Provincial Park based on variability of known soil and site properties. These sites were visited in order to collect biotic and abiotic site data, and to measure annual radial growth increment of trees. Using regional climate records and standard dendrochronological methods, the collected increment growth data will be used to build site-specific chronologies in order to determine the differences in tree growth response to climatic variability due to differences in soil and site quality.

The impact of gaming on rural heritage communities: A case study of Elora, Ontario

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Keywords: Rural decline, heritage tourism, creative destruction, community identity, gaming

Abstract

Since the early 1990s, rural decline has led many communities to begin social and economic restructuring (Markey et al, 2008). The tourism sector is an alternative to traditional rural livelihoods. Rural amenities and scenic landscapes have encouraged stakeholders to develop heritage tourism. The commodification of heritage has a profound impact on the place identity of rural landscapes. This is illustrated in the Model of Creative Destruction (Mitchell, 1998). Gaming recently has been introduced as a form of rural economic development in communities that commodify heritage. The introduction of slot machine parlours at racetracks (racinos) has helped combat the decline in the horse racing industry (Thalheimer and Ali, 2008). To date, little research has been conducted on the impacts that racino gaming developments have on rural heritage communities. This research seeks to address this deficiency in a case study of Elora, Ontario and the Grand River Raceway. Results suggest that the Grand River Raceway has not compromised Elora's identity as a heritage-scape, in the eyes of business owners and tourists. Although the presence of the Grand River Raceway suggests that Elora is at the stage of early destruction or is on the way to becoming a leisure-scape, its presence has not detracted from visitor experience, as predicted by the model of Creative Destruction. This situation is attributed to marketing, location and uniformity with the existing landscape. Furthermore, the Grand River Raceway has had both positive and negative socio-economic impacts on Elora.

Non-motorized Transport in Dhaka

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Keywords: Non-motorized transport, transport policy, land use, traffic congestion, the transport disadvantaged

Abstract

Non-motorized transport (NMT) includes travel modes such as walking and all non-motorized vehicles (NMVs) such as: bicycles, cycle-rickshaws, carts, and wheel chairs. NMT remains an attractive and essential means of transport for many cities in the global south, and holds many advantages over motorized transport (MT), particularly for marginalized or racialized populations. Over the last few decades, large cities in Bangladesh have been experiencing spontaneous and imbalanced transport sector development resulting in severe congestion and poor levels of service. The transport conditions in Dhaka, the capital of Bangladesh, are characterized by chronic traffic congestion and delays, low quality of public transport service, lack of comfort and safety for pedestrians, and a lack of facilities for NMVs. Non-motorized transport modes, particularly walking and cycle-rickshaw, are the dominant modes of transport in Dhaka, particularly for short distance trips. However, transport planning and investment in Dhaka has focused principally on motorization and automobility, and has ignored the needs of NMT. This paper describes the role of NMT in the overall transport system of Dhaka, and critically discusses the impacts of state sponsored restrictions on NMT infrastructure and use.

Opportunity Cost of Food Production Input and Its Impacts on Yield in Beijing's Countryside

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Keywords: Opportunity Cost, Food Production Input, Spatial Difference, Beijing's Suburb

Abstract

Investigations in districts and counties of Beijing's countryside demonstrate that, various factors have been influencing farmer's input will during food production, among which, opportunity cost is a variable that could explain the impacts from many factors. Based on the data from the survey of input, output and influencing factors in food production and social-economic statistical data in Tongzhou, Fangshan and Yangqing counties, this study analyzes the factors that impact labour input's opportunity cost (OC), and their spatial differences and causes.

Firstly, marginal analysis and statistical methods have been adopted to examine the influential factors of labour input's OC. It is found that, labour input's OC is higher at farms that are closer to the central urban area and the county town. Secondly, the Cobb-Douglas production function shows the most remarkable influence on food production from labour input in Tongzhou county. Thirdly, by comparing the spatial distributions of cultivated land's physical qualification and yield per unit, it is concluded that because of the rise of food production's OC due to urbanization in Beijing, the highest yield is not distributed at the higher-graded cultivated land which is closely located near the central urban area, but at the a belt which is a bit further from the central urban area.

Isotopic Characterization of Periphytic Algae in the Old Crow Flats, Yukon Territory, for Hydroecological Monitoring and Paleolimnological Applications

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Keywords: Old Crow Flats, hydroecology, periphyton, $\delta^{13}C$, cellulose

Abstract

The Old Crow Flats (OCF), northern Yukon Territory, Canada, is a region experiencing effects of recent climate change as suggested by recent observations of lake level decline. As part of a Government of Canada International Polar Year project, a long-term hydroecological monitoring program is being implemented to assess ongoing climate-driven changes to the ecosystem. Periphytic algae that accrue on artificial substrates are being explored as a tool for hydroecological monitoring. Artificial substrate samplers were deployed in and subsequently retrieved from 57 lakes in the OCF during the ice-free seasons of 2008 and 2009. Subsamples of periphytic algae are being analysed for organic carbon and nitrogen elemental and isotope composition, and cellulose oxygen isotope composition. These measurements are being performed to explore relations with nutrient status and hydrological conditions. Results from the 2008 samples showed strong relations among nutrient concentrations, hydrological conditions and carbon isotope composition of periphytic algae. For instance, snowmelt-dominated lakes have higher nutrient concentrations leading to elevated carbon isotope fractionation between dissolved inorganic carbon and algae. This promising result suggests that carbon isotope measurements of periphytic algae may be a useful tool for tracking hydroecological changes in lakes of the OCF. Ongoing analyses are exploring whether similar relations are evident in the 2009 sample set. In addition, cellulose oxygen isotope analyses on periphytic algae and surface sediments are being conducted to constrain paleohydrological reconstructions from analyses of lake sediment cores.

Geography of the Creative Economy in China

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Keywords: Creative Capital, Creative Class, China, regional economy, talent, technology, tolerance

Abstract

This work critically examines the emergence of a post-industrial economy in China as it continues to transform into a 21st century global leader. By employing two methods of analysis developed by Richard Florida (2002), this report explores the emergence of a creative, service-driven economy in China at provincial level. The first part of this report employs the occupational analysis and divides China's workforce into the four occupational categories defined by Florida (2002): Creative Class, Service Class, Working Class, and Fishing, Farming, and Forestry Class. The second part of this report employs the "3 Ts of economic development" analysis (Florida, 2002) including technology (high-tech employment and innovation), talent (education and skills), and tolerance (diversity and openness) and ranks China's regions according to their strengths in supporting a creative economy. We find that in China the service industries of major municipalities have grown tremendously between 1978 and 2008. The growth of the service industry in these large municipalities indicates the potential for an emerging post-industrial economy in China and a rising creative economy. Another major finding of this work is that the creative economy in China is unevenly distributed across the country, with the most creative regions found along China's Pacific coast and the least creative regions found in China's western and southern provinces. As a result of this pattern, China is unlikely to shift to a post-industrial economy all at once. Instead, the transition will occur in stages across the country.

Using Dendrochronology to Detect and Attribute CO_2-induced Growth Increases in *P. menziesii* and *P. ponderosa* in Western North America

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Keywords: Global Environmental Change, CO_2 Fertilization, Dendrochronology, Forest Ecosystem Dynamics

Abstract

Increased atmospheric CO_2 could increase photosynthetic rates and cause trees to use water more efficiently, thereby increasing overall growth rates relative to climatic limiting factors. CO_2 fertilization has been found across a range of forest types; however results have been inconsistent and based on short-term studies. Long-term studies based on tree-rings have generally been restricted to a few sites and have produced conflicting results. An initial global analysis of tree-ring widths for evidence of increasing growth relative to drought suggested a small but highly significant proportion of trees exhibit increasing growth over the past 130 years. These growth increases could not be attributed to increasing water use efficiency, elevation effects, nitrogen deposition, or divergence. These results suggest that CO_2 fertilization is occurring at some locations and may influence future forest dynamics but this does not appear to occur at all locations. The processes causing differential responses are the focus of this study. Here we illustrate response differences between Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). Using multiple site chronologies from these species over western North America, we demonstrate several site-specific explanations for differential responses to CO_2 fertilization, such as forest composition, density, slope, aspect, soil type, and position relative to range limits.

Analyzing Radarsat-1 Imagery to Determine Variability and Trends in Ice Cover on Shallow Lakes Near Churchill, Manitoba

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Keywords: Lake ice, RADARSAT, C-band SAR, Churchill

Abstract

Climate variability and change, especially in arctic regions, have been of increasing concern over the past several years. Previous studies have shown that lake ice freeze-up (FU) and break-up (BU) dates are useful indicators of local climatic conditions since these dates are heavily influenced by atmospheric forcing. Lake ice thickness has also been shown to be sensitive to climatic influences such as temperature and precipitation. Using a ten year historical archive of RADARSAT-1 (C-HH) ScanSAR Wide imagery (1996 to 2006) along with Canadian Lake Ice Model (CLIMo) data, patterns in climate were assessed. Low temporal resolutions of the RADARSAT archive made it difficult to tell exact FU and BU dates. CLIMo is a one-dimensional thermodynamic model capable of simulating ice phenology. In addition, the analysis of a series of RADARSAT-1 images is an indirect method of observing FU and BU dates without actually being present. Therefore, this archive was still useful in validating CLIMo's ice phenology dates. Despite annual air temperatures increasing from 1996 to 2006, it was found that FU dates were experiencing a trend towards earlier dates while BU dates were occurring later in the year. FU dates were found to be variable. This is due to the shallow lakes being influenced by air temperatures and strong winds delaying initial ice formation. BU dates had a correlation of 0.964 with spring 0°C isotherm dates which were also experiencing a trend towards later dates in the year. FU and BU dates are influenced more by temperatures preceding the events rather than annual air temperatures.

Permafrost in Canada's Subarctic Region of Northern Ontario

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Keywords: Permafrost, climate change, thermal offset, Frost number, Northern Ontario

Abstract

An investigation into the state of permafrost (permanently frozen soil) in Canada's subarctic region of Northern Ontario and along the southwestern shores of Hudson Bay has been ongoing since 2007. For vast geographical and isolated areas in North America, permafrost states are classified using mean annual air temperature isotherms. Where climate data is readily available, the usage of freezing and thawing degree-days can establish the Frost Number to classify permafrost states based on thresholds. In Northern Ontario, Frost methodologies have shown discrepancies in classifying permafrost states where field observations support continuous permafrost while calculations suggest a discontinuous state. To provide a robust approach in determining the permafrost state for this area, climate data has been applied to the Stefan equation, which incorporates parameters for soil organics, moisture content and soil thermal conductivity. Analysis of the regional climate has shown a decreasing trend in the number of freezing degree-days experienced in this region since 1993 ($r = -0.81$; $p = <0.000$). Field observations and soil characterizations have revealed highly organic and moist soils allowing for modifications to the soil energy balance, known as 'thermal offset' phenomenon, that promotes the development of permafrost during winter while providing thermal insulating effects during the warmer summer season. As climate-warming changes continue to be observed in Canada's North, these preliminary results suggest the possibility of future shifts from the classification of continuous to discontinuous permafrost states especially in soils that lack organic materials, which can have environmental, ecological and economic impacts.

Examining past temperature variability in Moosonee and Toronto, Canada through a day-to-day variability framework

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Keywords: climate variability, Moosonee, Toronto, day-to-day temperature variability, mid-latitude climate

Abstract

Temperature variability in Moosonee and Toronto is examined through a day-to-day variability framework. Statistical measures used in this study include standard deviation (SD), day-to-day temperature variability (DTD), DTD/SD ratio (G), change in day-to-day variability (ΔDTD), and threshold measures of 5°C and 10°C. Day-to-day temperature variability is significantly greater in Moosonee than Toronto, and Moosonee's climate is more random than Toronto. Monthly ΔDTD averages in Toronto and Moosone are affected by seasonal variation, the lake effect, and the freeze-up of nearby waterbodies. From 1959 to 1991, the increase in warming may be a significant factor to the increase in yearly ΔDTD averages in Moosonee and Toronto, and to the decrease in temperature minimum (Tmin) threshold exceedances of 5°C and 10°C in Moosonee and Toronto. As global warming continues, daily Tmin is projected to rise at a faster rate than daily temperature maximum (Tmax) (IPCC, pg 750, 2007); consequently, yearly ΔDTD may continue to rise, and Tmin threshold exceedances of 5°C and 10°C may continue to decline.

Integration of Geomatics Technologies for Sustainable Management in Viticulture

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Keywords: geomatics, GIS, sustainability, viticulture, agriculture

Abstract

Wineries are increasingly branding themselves as environmentally sustainable by promoting wines that are produced using innovative vineyard management strategies. These strategies, such as organic farming, claim to reduce the environmental footprint of viticulture operations by maintaining and preserving the resource base. At the same time, viticulture practices are moving from traditional hands-on approaches to more technology-based ones, such as the use of geomatics technologies to gain detailed spatial information about vineyards. This paper assesses the ability of geomatics technologies – including global positioning system (GPS), remote sensing and geographic information system (GIS) – to reduce the environmental impact of viticulture practices. First, it considers the role geomatics plays in the sustainable development of the environment and in agriculture. Next, it specifically evaluates the application of geomatics to viticulture management, with particular attention to the factors that threaten the sustainability of vineyard practices and how geomatics can control the effects of these environmental threats. The overall goal is to better understand the role geomatics plays in preserving the natural environment and promoting sustainable viticulture.

Floodplain Development for a Semi-Alluvial River

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Keywords: semi-alluvial channels, floodplain development, river dynamics, bank sedimentology

Abstract

Channels with mixed gravel and till beds, commonly referred to as 'semi-alluvial', are prevalent in southwestern Ontario, yet mechanisms of their floodplain development remain unknown. Analyses of bank characteristics, aerial photographs, and high-resolution LiDAR imagery were done in order to hypothesize a genetic model of floodplain development for a semi-alluvial river. Floodplain alluvium consists of thin gravel deposits overlain by sand of varying thickness. Incision along the downstream end of the river has exposed up to 1.5 metres of till in the banks, which is typically absent in the upstream end of the river. Two genetic models are proposed, which are related to available stream power. In the first model, the channel creates a low relief, vertically accreted floodplain through slow meander extension and avulsion. The second model, however, possesses a more energetic and incisive channel that develops its floodplain through meander translation, extension, and chute cut-offs. Sedimentation typically occurs through vertical accretion while overbank deposition on laterally accreted medial bars develops a localized scrolled topography. Progressive channel incision, which is related to a downstream increase in channel slope and thus stream power, has created a 'stepped' topography. The increase in slope may be related to disturbance from agricultural clearance or adjustment to a lower base level farther downstream.

Arctic Waters and Climate Change in the Eyes of Canada's Inuit Community

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Keywords: Water, climate change, Arctic sovereignty, Inuit, Nunavut

Abstract

Water can mean different things to different people or groups of people. In the eyes of the Inuit, the Arctic waters hold social meaning, as they are seen as integral to Inuit livelihoods. Climate change poses serious threats to traditional Inuit livelihoods, via the projected changes to the Arctic waters. Of these serious threats, many cannot be avoided, but the loss of Arctic sovereignty is one that can be avoided. In examining these threats, I use the concept of "premodern waters" as a theoretical framework to explain the importance of the Arctic waters to the Inuit. Significant losses to Inuit culture and lifestyle will almost inevitably occur in the near future. Yet, if all is not to be lost, the Canadian government must show that they are willing to increase their level of commitment to protecting Arctic sovereignty for the sake of Canada's Inuit and non-Inuit populations alike.

The Influence of Modifiable Neighbourhood Definitions on Local Clusters of Hospitalization Rates: An Exploratory Case Study for Mississauga, Ontario

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Keywords: geographic information systems, hospitalization, modifiable areal unit problem, neighbourhood, public health, spatial clustering

Abstract

The interactions between health and place are not completely understood, yet it is widely believed that a person's residential neighbourhood is a contributing factor to their well-being. Therefore, public health analysts increasingly are examining health determinants at a local level. However, the definition of neighbourhoods is often more dependent on data availability than on the characteristics of the places under investigation.

In this research, we studied the influence of modifiable neighbourhood definitions across three geographic scales on the spatial patterns of hospitalization rates in Mississauga. Local clusters of hospitalization from all causes as well as neoplasm (tumor) were mapped and visually assessed for Census dissemination areas (DAs), Census tracts (CTs), and forward sortation areas (FSAs). In response to a secondary objective, we also compared the cluster maps generated using two different geographic information system tools, ArcGIS and GeoDA.

As expected, the 874 DA units showed the most detailed spatial patterns for both variables. For both causes of hospitalization and both tools, the clusters in the same neighbourhoods could often be found in the 114 CT units. In contrast, the 19 units at the FSA level showed hardly any clustering. The local spatial associations identified by the two tools differed slightly. This could be attributed to the randomization approach used in GeoDA, which produces different results each time it is repeated.

In summary, this exploratory analysis suggests that the more detailed DA and CT levels may offer suitable neighbourhood definitions, while data at the FSA level were too highly aggregated.

Improving Geographic Literacy among First-Year Undergraduate Students: Testing the Effectiveness of Online Quizzes

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Keywords: Geographic literacy, online assessment, learning tools, university teaching

Abstract

Strong geographic literacy skills can improve achievement at the university level by helping students to make sense of new information, data, and concepts. The importance of these skills to student learning extends beyond geography to a broad range of disciplines, yet academic studies suggest a recent decline in geographic literacy skills across North America. Geographic literacy consists of two complimentary components – geographic knowledge and geo-spatial recognition; the former an individual's ability to recall the names and locations of geographic locations and the latter being their ability to locate these places on a map. Existing tools to improve geographic literacy predominately focus on mapping tasks; however these should be complimented with exercises that improve students' understanding of the broader geographic significance of these locations. This study tested the effectiveness of online quizzes as a tool to improve the comprehensive geographic literacy skills of students in a first year geography course at the University of Toronto-Mississauga. The series of five voluntary quizzes asked students to locate landmarks of a variety of scales on a map, while also questioning their broader significance (e.g. as a Canadian province, member of the G8). Measuring geographic literacy both before and after the quizzes using paper tests, our data indicate that mean student geographic literacy levels increased proportional to the number of online quizzes completed. Our results indicate that online quizzes can act as an effective tool to improve geographic literacy at the university level, and highlights Blackboard as a useful dissemination method.

The Identification of Biomass Burning Events through Analysis of ACE occultation retrievals obtained from 2004 to 2007 over Alaska and Indonesia

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Keywords: ACE, stratosphere, troposphere, biomass burning

Abstract

The Atmospheric Chemistry Experiment (ACE) satellite orbits in a low Earth orbit at 650km with an inclination angle of 73.5^{o} and has obtained solar occultation data over the poles and mid-latitude regions since August of 2003. The dataset used in this study included data from the years 2004 to 2007 which contained records from areas exhibiting atmospheric chemistry of major biomass burning events. Vertical profiles and correlation plots were devised for biomass burning tracers including ethane C_2H_6, carbon monoxide CO, hydrogen cyanide HCN and acetylene C_2H_2. Vertical profiles indicated higher than normal concentrations of the four species in the upper troposphere and lower stratosphere providing evidence of known fire events over Indonesia in 2006. Correlation plots provided evidence of strong relationships between CO and HCN, as well as between HCN and C_2H_6 over the Alaskan region in 2004, during the time of another documented burning event. This paper verifies the use of ACE occultation retrievals as a means for the identification of significant biomass burning events and discusses its potential for future applications.

Web-Based Participatory Mapping for Parole Boundary Mitigation

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Keywords: participatory mapping; Geographic Information Systems; geoweb; government

Abstract

Correctional Service Canada (CSC) operates over eighty parole offices nationwide as part of its community reintegration mandate. Each office manages parolees in its catchment area, which span in size from under 10 km^2 to over 1,000,000 km^2. This situation poses unique geographical problems in maintaining comprehensive nationwide coverage, especially in remote regions.

This paper details the project development and execution of a nation-wide initiative to map jurisdictional boundaries for the federal parole system, based out of CSC National Headquarters in Ottawa. Polygons representing jurisdiction areas were created, based on written descriptions from the regional offices, and the challenges and assumptions in this process are discussed. Regional and local offices across the country were then asked to utilise a purpose-built web-based mapping tool to view and submit changes to the boundaries. The tool was created using Google Maps API with both English and French versions, and the received data were projected and analysed in GIS.

The focus will be on the tool development and the challenges inherent in evaluating user submissions and mitigating jurisdictional boundaries (with respect to physical and human geographical features). Furthermore, this work poses an example of how GIS and user-friendly web technologies can facilitate user participation in spatial decision making while highlighting one of the ways in which the federal public service is embracing 'Web 2.0'.

Exploring the effectiveness of on-line quizzes to improve geographic literacy: A case study of first year undergraduate geography students at the University of Toronto Mississauga

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Keywords: Geographic literacy, Geographic knowledge, Geo-spatial recognition

Abstract

This study explores the effectiveness of on-line quizzes to improve geographic literacy levels of students enrolled in GGR117Y: Where on Earth, an introductory first year geography course taught at the University of Toronto Mississauga. Geographic literacy levels were determined from a hard copy test completed by students at the start of the winter term. Students completed the test without the assistance of aids or collaboration with other students. Questions examined both geographic knowledge and geo-spatial recognition. Throughout the winter term students were provided with an opportunity to complete five on-line quizzes administered through Blackboard Academic Suite. Each on-line quiz was composed of similar question types and provided feedback on answers to encourage students to expand their geographic literacy. At the end of the winter term students completed second hard copy test again without the assistance of aids or cooperation with other students. The tabulated results show noticeable improvements in geographic literacy on the second hard copy test. The study concludes that for a student population who are visual learners and technologically proficient the on-line quizzes, through repetition of similar question types and feedback responses, proved to be an effective tool for developing geographic literacy skills.

The Relationship between the Urban Landscape and Invasive Species' Distribution in Ontario

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Keywords: invasive species, landscape ecology, mute swans, urban landscapes, spatial analysis

Abstract

The spread of invasive species is a growing concern in Ontario due to their significant impacts on our ecosystem functions and services. In many cases, little is known about invasive species' ecology, interactions with the environment and dispersal patterns in non-native ecosystems. Yet to effectively plan and manage for future invasions and range expansion of invasive species, ecosystem managers must understand the invasion process, movement, and ecology of invasive species. The mute swan was introduced to Ontario in 1958 and is considered to be an invasive species due to its negative impacts on both the native flora and fauna. This study examines the relationship between landscape structure and mute swan's distribution, specifically examining the role of urban development in its invasion. Using Ontario Breeding Bird Atlas surveys, mute swan's distribution is mapped and related to a number of landscape variables using regression analyses. Preliminary results indicate that the distribution of mute swan is highly correlated to urban areas. As a key aspect of invasive species management is prevention, these findings suggest that mute swan populations in urban areas should be a first priority. Furthermore, these findings may suggest that urban development may play a role in facilitating mute swan's range expansion; an issue which will be further investigated.

I'm Not Going to Call it the "Final Frontier": Human Geographies of Outer Space

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Keywords: outer space, cultural geography

Abstract

In 2007, *Progress in Human Geography* published a call by Fraser MacDonald for critical geography to consider outer space. At the time, despite 50 years of human activity in Earth orbit and beyond, few social scientists had considered the topic. Three years later, the situation is unchanged. Other than geopolitical and legal studies on orbital logistics and international outer space law, science studies research on national space agencies, and one notable, but slim, sociology collection (*Space Travel & Culture*, 2009), the study of outer space remains largely outside the social science study area, including that of human geography. My presentation will give an overview of the cultural geography research project I am starting, on the ways extraterrestrial spaces and places have been represented in popular discourses. I am considering how outer space is variously constructed as part of nature, part of human society, humanity's future home, an opportunity (or biological imperative) for exploration, and how the presence of humans there, either directly or through technological proxies, is considered an ethical or unethical practice. Despite the fact that the vast majority of humanity will never leave this planet, many of us have imagined what it might be like; studied, worked for, and written about real or imagined extraterrestrial places; and care deeply about past, present, and future ventures in outer space. With this paper I hope to echo MacDonald's message and encourage other geographers to look up.

The Effects of Various Treatments on the Spectral Response of Canola Fields in North Eastern Ontario

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Keywords: Canola, Remote Sensing, Yield, Leaf Area Index, Agriculture

Abstract

With the increased demand for cash crops and the development of new hybrid plants adapted to cooler climates, Northern Ontario is experiencing a transition from beef cattle to cash crop production. Consequently, local farmers are currently exploring the feasibility of various treatments to increase yields. The purpose of this investigation was to examine the effects of select agricultural treatments (fungicide, herbicide, and micronutrient) on the spectral response of canola (*Brassica campestris*), currently considered one of the most profitable crops for this region. Specifically, over a five week period from July 22, 2010 to August 5, 2010 spectral signatures, leaf area index and chlorophyll content measurements were collected using an ASD FieldSpec HandHeld Portable Spectroradiometer, an AccuPAR LP-80 Ceptometer and an OPTI-SCIENCES Chlorophyll Content Meter, respectively. The data were recorded from four distinct canola treatment plots located in Verner, ON. In addition to a standard plot (i.e. no treatment) one plot had a boron application, another a boron and fungicide application and fourth plot was treated with a boron, fungicide and herbicide application. Analysis of the remote sensing data revealed potential relationships between treatment applications, spectral signatures and the overall health and yield of the canola crop. Preliminary results indicate that the spectral signatures could be an effective indicator of canola crop production.

Ambulante Citizenship: Informal Street Vendors in Lima, Perú

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Keywords: street vendors, informality, neoliberal citizenship, latin america

Abstract

Since 1996 in Lima, Perú, the street vendor "problem" has been addressed through neoliberal logics and practices. The neoliberalization of street vendor regulations have produced a decline in policy responses that address the redresses of informal street vendors. This practice results in the rise of the "entrepreneurial" response and the reaffirmation of formal citizenship through formalization. Street vendors are thus differentiated based on their response to responsibilization measures, drawing differences on vendors between compliance and non-compliance, governability and non-governability, and permission and prohibition.

The differentiation of vendors through formal citizenship has created an environment of punitive measures in public spaces: the right to appropriate spaces for economic security has been replaced by eradication strategies that municipalities claim create a public space for "all" citizens. Yet eradication strategies are exclusionary and delimit citizenship practices to market participation: producers are to be in private property spaces and a consuming and leisurely public can appear in public spaces. Securities and rights granted through formalization strategies reaffirm the role of the state in defining who can substantively be a citizen based on the ability to participate in public spaces. Further, formalization strategies reproduce structural inequalities of already precarious labourers who appropriate public spaces as a way of claiming economic security.

Research on Mixed model and EM algorithm

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Keywords: linear mixed model, EM algorithm

Abstract

In the realm of Geodetic Science, classical data processing theory is based on Gauss-Markov Model and Least Square methods. If observations are uncorrelated, errors are homoscedastic and have expectation zero, then according to Gauss-Markov theory, the least squares estimator is the best linear unbiased estimator (BLUE). However, this hypothesis always doesn't hold. The practical observations often carry simultaneously various model errors, e.g. heteroscedastic errors, linear or nonlinear system errors, gross errors as well as truncation errors. Thus the least square methods would produce inaccurate or even wrong estimates. In addition, neither rectifying function model nor amending stochastic model can cope simultaneously heteroscedastic errors, system errors and gross errors.

This paper research mixed model and the EM algorithm, in order to simultaneously cope with all types of model errors. Treated as independent normal unobservable signals, the system errors, gross errors and heteroscedastic errors are formulated into a mixed model. Then the complete data vector is constructed by composing the unobservable variables and the observation vectors. EM algorithm is used to estimate simultaneously the unknown parameters, the model errors as well as the variances of these errors. Thus mean shift or variance inflation method can be used to amend the model errors. Simulated examples demonstrate this new method is both accurate and convenient.

The Use of Satellite Remote Sensing for Environmental Monitoring and Assessment: From Regional, Municipal to Local Extent

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Keywords: Flood Hazard, Image Classification, Land Surface Temperature, Landfill, Rainfall-Runoff

Abstract

Remote sensing image processing techniques have attained to a mature stage that enormous applications are explored in Earth science and environmental studies. In this paper, three case studies are presented to demonstrate the use of different remote sensing data and techniques for environmental monitoring and assessment. The first case study utilized panchromatic SPOT images to detect flood hazard using image classification with a case study on the Nile River, Egypt. Grey Level Co-occurrence Matrix (GLCM) textures are generated to compensate the lack of spectrum information for image classification. Both the computed flooding area and classification accuracy are close to the result from manual digitization. The second case study acquired multi-temporal Landsat TM images (from year 1985 to 2010) to monitor the municipal solid waste disposal sites in the city of Ottawa by computing the land surface temperature (LST). Preliminary data analysis reveals that the LST of the landfill site is higher than the immediate surrounding areas and the air temperature during the decomposition process by up to 9 °C and 14 °C, respectively. The last case study adopted the stereo IKONOS images to extract 3D topographic information for the development of rainfall-runoff model in a small urban area in Toronto. Through these examples, the use of satellite remote sensing can minimize the efforts and costs in data acquisition, field measurement, and manpower for environmental studies in different geographic extents. In addition, remote sensing technique can provide a rapid scenario for the authorities to render subsequent decisions.