

**L'Association canadienne des géographes
Congrès annuel
11-15 août, 2013**

**Canadian Association of Geographers
Annual Meeting
August 11-15, 2013**

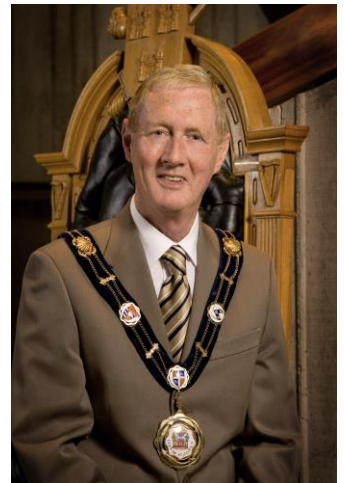


Memorial University

MESSAGE FROM THE MAYOR

As Mayor of our Capital City, I am delighted on behalf of council and its citizens to extend greetings and best wishes to all delegates attending the 2013 annual general meeting of the Canadian Association of Geographers.

We are glad St. John's was chosen to host this year's annual meeting. Our city offers an exciting blend of old world charm and modern amenities, not to mention the Newfoundland Hospitality for which we are famous. The many festivals and events held throughout the year showcase our rich culture, history and heritage. Over the next few days, we hope you will make our city your home and you will take the time to visit some of the City's historical and natural landmarks and points of interest and enjoy the city's night life with its great entertainment and finest cuisine.



We wish you well in your discussions as you meet to exchange ideas and knowledge to help you deal with the challenges facing your organization today. We hope your conference will be a rewarding and unforgettable experience and you have an enjoyable stay in our city.

A handwritten signature in black ink that reads "Dennis O'Keefe". The signature is written in a cursive style.

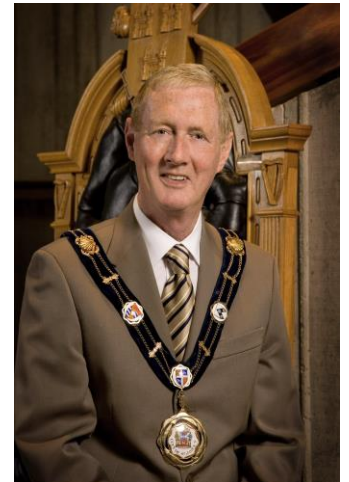
Dennis O'Keefe
Mayor

ST. JOHN'S

MESSAGE FROM THE MAYOR

En tant que maire de notre capitale, je suis très heureux au nom de notre conseil et de ses citoyens de présenter mes salutations et meilleurs vœux à tous les participants du congrès 2013 de l'association canadienne des géographes.

Nous sommes heureux que St Jean ait été choisi pour héberger le congrès cette année. Notre ville offre un formidable mélange de charme de l'ancien monde et de services modernes, sans mentionner l'hospitalité terre-neuvienne pour laquelle nous sommes réputés. Les nombreux festivals et événements prenant place tout au long de l'année mettent en valeur notre riche culture, histoire et patrimoine. Pendant les prochaines journées, nous espérons que vous ferez de notre ville votre foyer et que vous prendrez le temps de visiter certains des sites historiques et naturels et autres sites d'intérêts de la ville et profiterez des activités nocturnes qu'offre la ville avec ses divertissements et gastronomie.



Nous espérons que vos discussions se passeront pour le mieux quand vous vous rencontrerez pour échanger des idées et connaissances pouvant aider à faire face aux défis que rencontre votre organisation. Nous espérons que votre conférence sera une expérience enrichissante et inoubliable et que vous passerez un agréable séjour dans notre ville.

A handwritten signature in black ink that reads "Dennis O'Keefe". The signature is written in a cursive style.

Dennis O'Keefe
Maire

ST. JOHN'S

President's Welcome

As President of the Canadian Association of Geographers (CAG), it is my pleasure to welcome you to the 2013 national conference and annual general meeting of the CAG. Our Association has held a national meeting every year since 1951. These meetings provide an extraordinary opportunity for academic and professional geographers from across Canada to gather and exchange ideas, discoveries, and camaraderie.

This year's meeting and conference is being hosted by Memorial University of Newfoundland in St. John's. This is the third time that our MUN colleagues have hosted the national meeting—having done the same in 1969 and 1997. St. John's is always a welcoming community to spend time in. And the organizing committee has done a fabulous job at organizing field trips and outings that showcase the physical and cultural landscapes in and around St. John's.

In addition to the paper/poster sessions and field trips, a good deal of Association "business" is always accomplished at these meetings. CAG's executive team, journal editor and secretary work hard all year long to ensure that that Canadian Geographers' interests are represented at national and international forums, and that our various publications, events and services operate smoothly. We also have been exploring ways to better connect and grow our membership and to support geographical interests more broadly. I hope that you will all attend the annual general meeting to learn more about these activities, and I encourage you to engage with your colleagues in making our geographic community stronger.

As luck would have it, I will not be able to attend the activities in St. John's this year because of scheduled surgery. But I will be with you in spirit, and will participate in the executive meetings by Skype. I look forward to

En tant que présidente de l'Association canadienne des géographes (ACG), j'ai l'honneur de vous accueillir au congrès national de 2013 et à l'assemblée générale annuelle de l'ACG. C'est depuis 1951 que notre Association se réunit chaque année. Ces rencontres constituent pour les géographes universitaires et professionnels de partout au pays une formidable occasion de se réunir et d'échanger idées et découvertes dans un esprit de camaraderie.

Le congrès et l'assemblée se déroulent cette année sous les auspices de l'Université Memorial à Saint-Jean, Terre-Neuve. Il s'agit en effet de la troisième fois que nos collègues de l'Université Memorial organisent le congrès national, les deux fois précédentes remontant à 1969 et 1997. La communauté de Saint-Jean est toujours très chaleureuse et il est agréable d'y séjourner. De plus, le comité responsable de l'organisation a accompli un travail superbe en nous proposant des excursions et des sorties qui mettent en valeur les paysages physiques et culturels à Saint-Jean et aux alentours.

En plus des séances de présentation orale ou par affiche et des excursions, ces réunions sont l'occasion de réaliser un nombre important d'activités en lien avec l'Association. L'équipe de direction de l'ACG, la rédactrice-en-chef de la revue et la secrétaire travaillent sans cesse d'arrache-pied durant l'année afin de s'assurer que les intérêts des géographes canadiens soient représentés dans le cadre de forums nationaux et internationaux et que l'ensemble de nos publications, événements et services fonctionnent sans à-coups. Nous avons aussi étudié différents scénarios possibles permettant de mieux rapprocher et accroître le nombre d'adhérents et d'appuyer les intérêts géographiques plus largement. J'espère que vous serez tous des nôtres lors de l'assemblée

catching up with many of you at some of the regional meetings over the next year as well.

In closing, I would like to give my heartfelt thanks to the organizing committee of this year's conference. The CAG is very grateful for your willingness to host us, and for the exemplary program that you've put together.

Best wishes from your President,

Jean Andrey

générale annuelle pour en connaître plus sur ces activités et je vous encourage vivement à vous investir avec vos collègues pour que notre communauté géographique repose sur des assises encore plus solides.

Fruit du hasard, une intervention chirurgicale m'empêchera d'être présente lors des activités prévues à Saint-Jean cette année. Tous mes vœux vous accompagneront et je compte toutefois participer à distance aux rencontres du comité exécutif par l'intermédiaire de Skype. J'attends avec impatience de revoir plusieurs d'entre vous également dans le cadre des congrès régionaux au cours de la prochaine année.

En terminant, je tiens à exprimer mes remerciements les plus sentis au comité responsable de l'organisation du congrès cette année. L'ACG est très reconnaissante de nous avoir si généreusement accueillis et du programme tout à fait admirable que vous avez conçu.

Je vous pris de recevoir mes meilleures salutations.

Votre présidente, Jean Andrey

Dean's Welcome

Bienvenue and welcome to Memorial University! It is a pleasure to be hosting the 2013 Conference for Canadian Association of Geographers with scholars from all over the world. It is fitting that this CAG conference is taking place here in Newfoundland, not only because the Geography Department at Memorial University houses one of the most collegial and productive group of researchers in the country but because they have in common with their colleagues a deep respect for the significance of *place*. The concepts of place and space perhaps ground the work of faculty and students most pervasively in the Faculty of Arts – in the Humanities and the Social Sciences – where we are investigating, among other issues, the future of the fisheries and climate change, health and safety, alternative food systems, the impact of the oil industry on identity, and economic and cultural changes for coastal communities. I very much look forward to hearing about *your* research at the CAG sessions over the next couple of days.

But here we are not all work and no play. I hope you are able to experience all that St. John's and Newfoundland and Labrador have to offer. I highly recommend taking one of the field trips offered during this CAG conference, and... Enjoy!

Lynne Phillips
Dean, Faculty of Arts

Welcome et bienvenue à l'université Memorial! Nous sommes très heureux d'accueillir le Congrès 2013 de l'Association Canadienne des Géographes et les chercheurs y participant provenant de différents pays à travers le monde. Le fait que ce congrès de l'ACG soit organisé à Terre-Neuve est très approprié, non seulement car le département de géographie héberge l'un des groupes de chercheurs les plus collégiaux et productifs au pays, mais aussi parce qu'ils ont en commun avec leurs collègues un profond respect pour le concept de *lieu*. Les concepts de lieu et d'espace servent probablement de fondation au travail de la plupart des professeurs et étudiants de la Faculté des Arts – dans les sciences sociales et humanités– où nous examinons, entre autres choses, le futur des pêches et les impacts des changements climatiques, les questions de santé et sécurité, les systèmes alternatifs alimentaires, l'impact de l'industrie pétrolière sur l'identité et les changements économiques et culturels sur les populations côtières. J'attends avec impatience l'opportunité d'en apprendre plus sur *votre* recherche pendant les sessions du congrès des jours prochains.

Mais nous ne sommes pas uniquement ici pour travailler. J'espère que vous aurez aussi l'occasion de profiter de ce que St. Jean et Terre-Neuve et Labrador ont à vous offrir. Je vous recommande vivement de participer à l'une des excursions offerte pendant le congrès et... profitez-en bien!

Lynne Phillips
Doyenne, Faculté des Arts

Head's Welcome

A very warm welcome from the Department of Geography to all of the delegates at the CAG 2013! We are delighted that we have been able to attract so many people from so many different places to St John's, the culturally vibrant capital of the ruggedly beautiful province of Newfoundland and Labrador. This year we have attracted over 350 delegates and our programme has over 250 papers and posters. Besides a full academic we have some amazing field trips around the Avalon Peninsula both before and after the official programme. Our free field trips in the middle of the conference will provide a welcome break and will allow our guides to showcase the beauty of St John's and the immediate surroundings. We hope you enjoy the conference and your time in Newfoundland and Labrador.

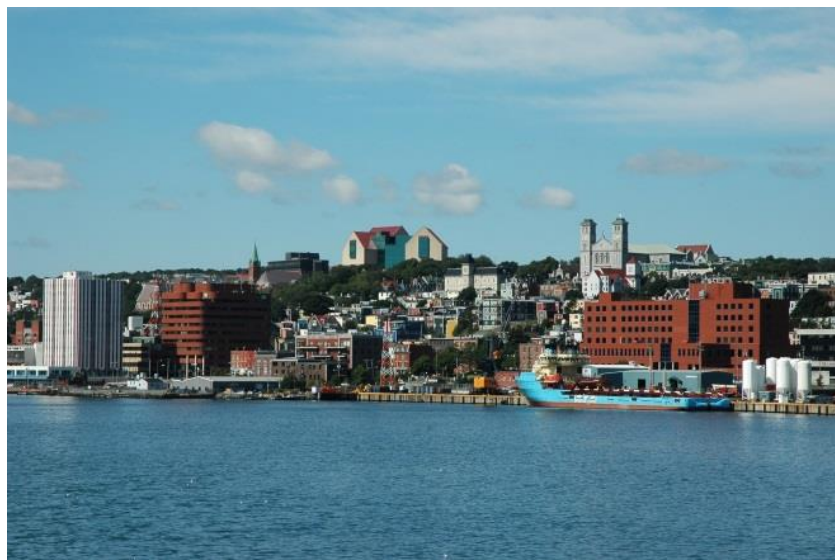
I want to thank my colleagues for their work leading up to and during the conference. A special thanks to Jenn Thorburn – this conference would not have been possible without her hard work and extraordinary organisational skills.

Charlie Mather
Head

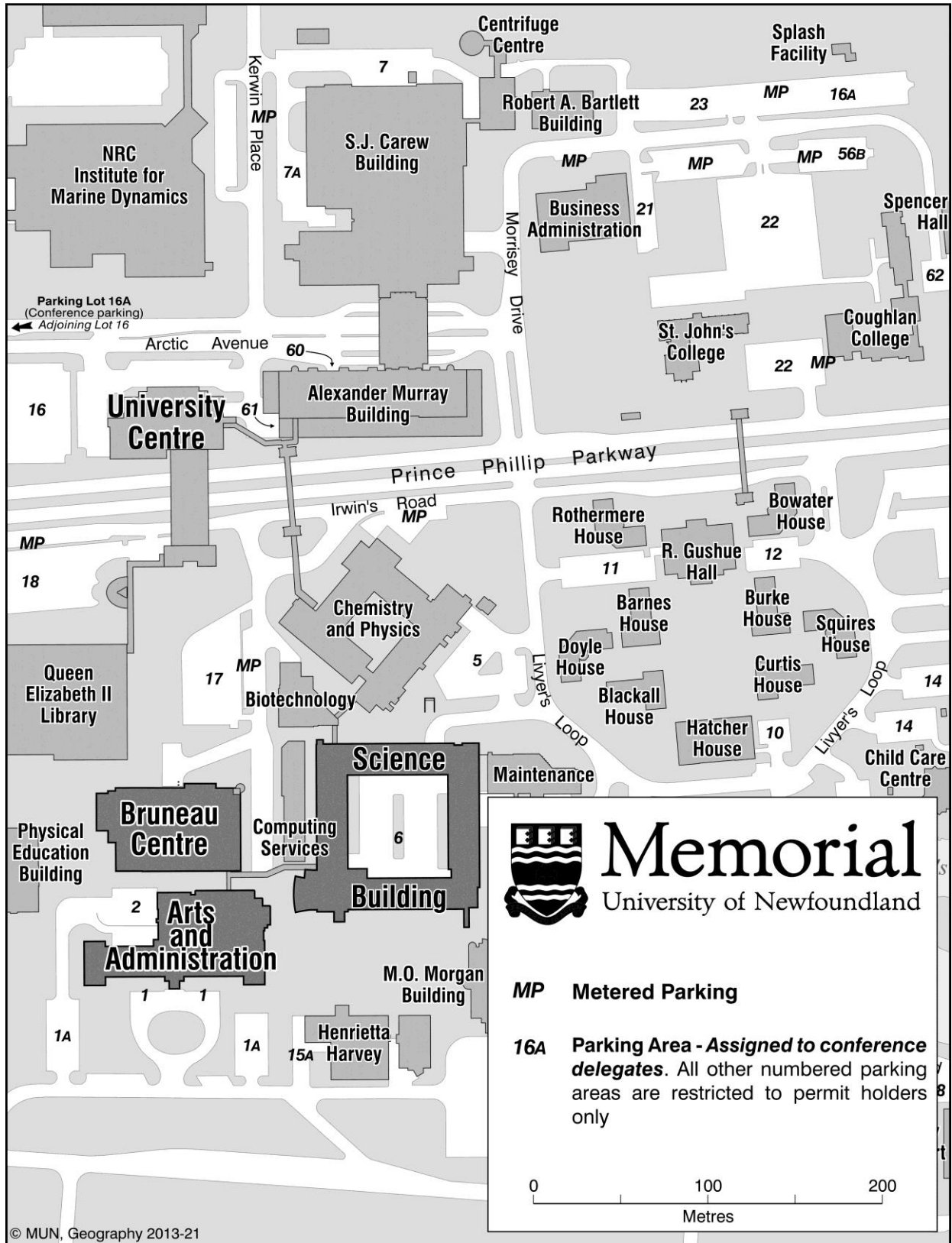
Je suis très heureux, au nom du département de géographie, d'accueillir chaleureusement tous les participants au congrès 2013 de l'ACG! Nous sommes ravis d'accueillir tant de participants provenant de tant d'endroits différents à St. Jean, la vibrante capitale culturelle de la belle province de Terre-Neuve et Labrador. Cette année, le congrès a attiré plus de 350 participants et notre programme inclut plus de 250 présentations orales et posters. Mis à part le programme scientifique, nous avons d'incroyables excursions sur la péninsule d'Avalon, à la fois avant et après le programme officiel. Nos excursions gratuites au milieu du congrès fourniront une pause bien méritée et permettront à nos guides de vous montrer la beauté de St. Jean et de ses environs. Nous espérons que vous apprécierez la conférence et votre séjour à Terre-Neuve et Labrador.

Je désire remercier mes collègues pour leur aide avec l'organisation de cette conférence. Un remerciement particulier à Jenn Thorburn sans qui l'organisation du congrès, du fait de son travail et des ses qualité exceptionnelles d'organisation, n'aurait pas été possible.

Charlie Mather
Directeur

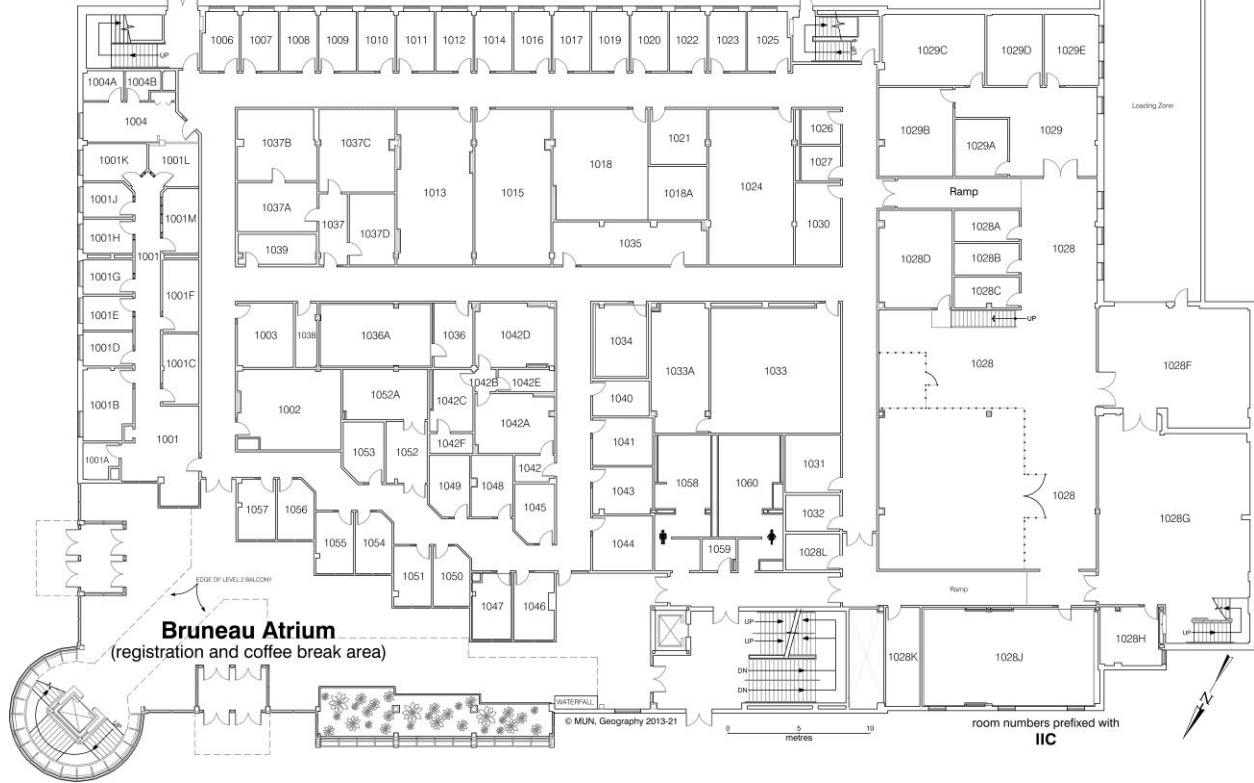


CAMPUS MAPS



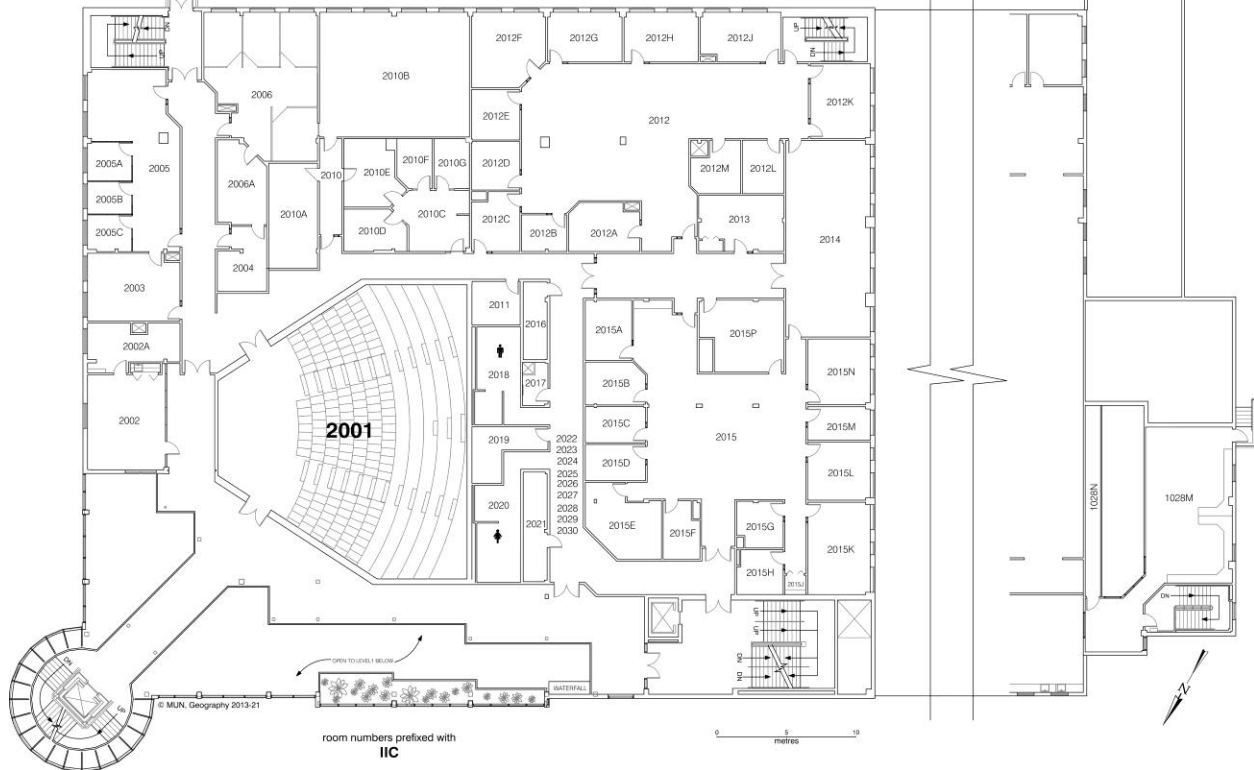
BRUNEAU CENTRE for RESEARCH and INNOVATION

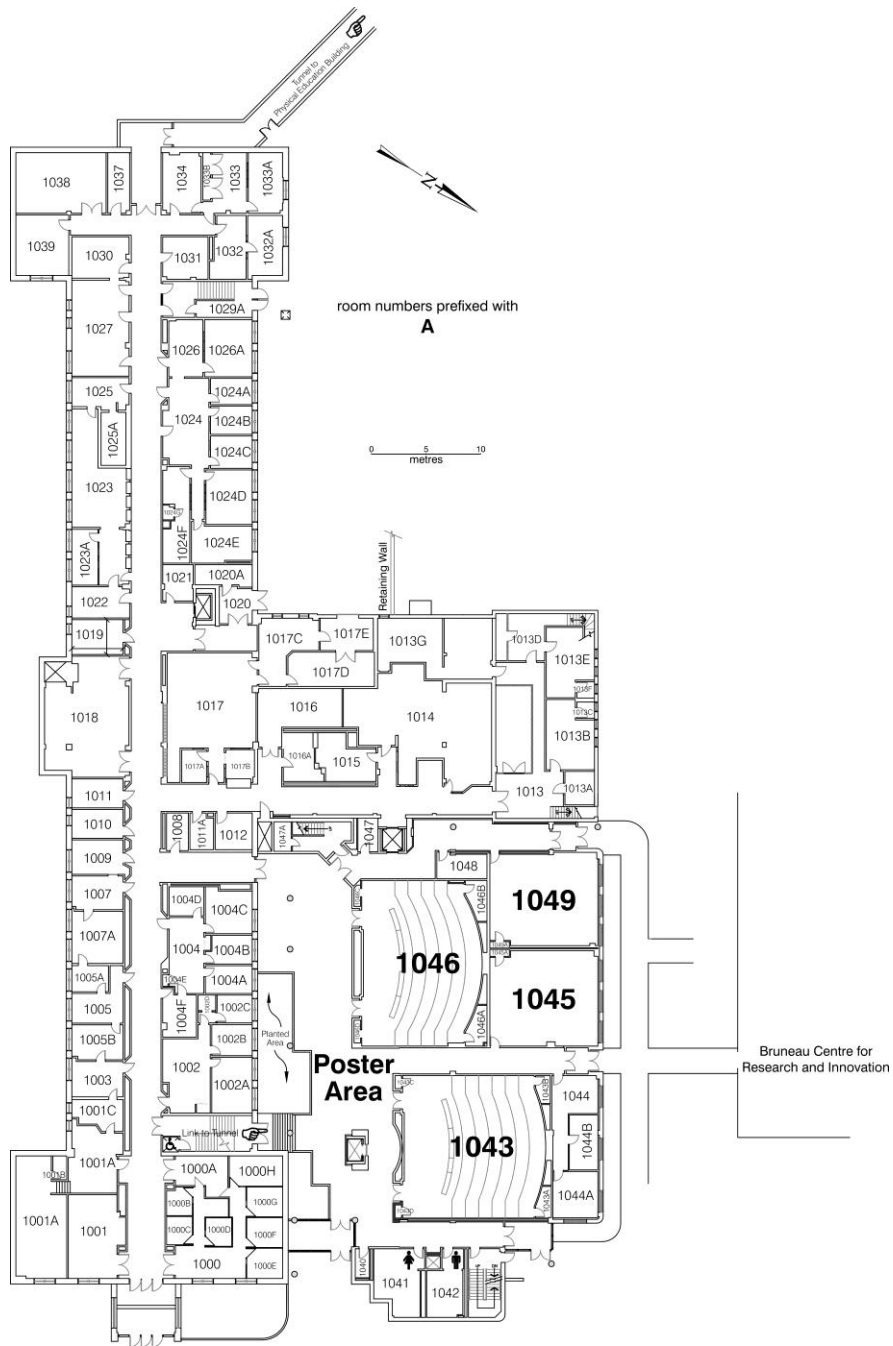
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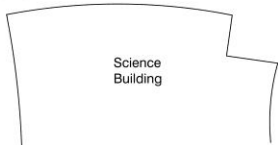
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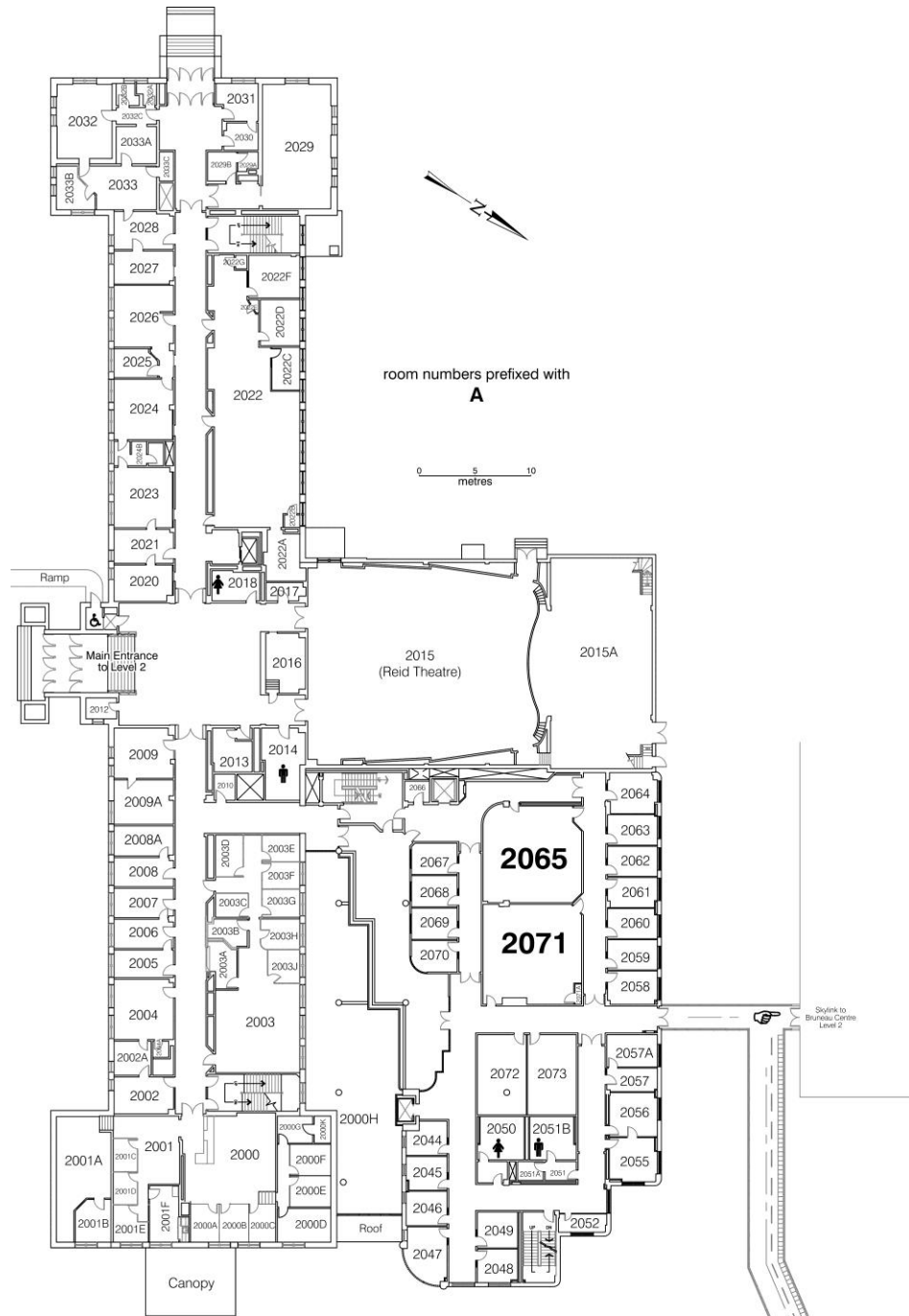
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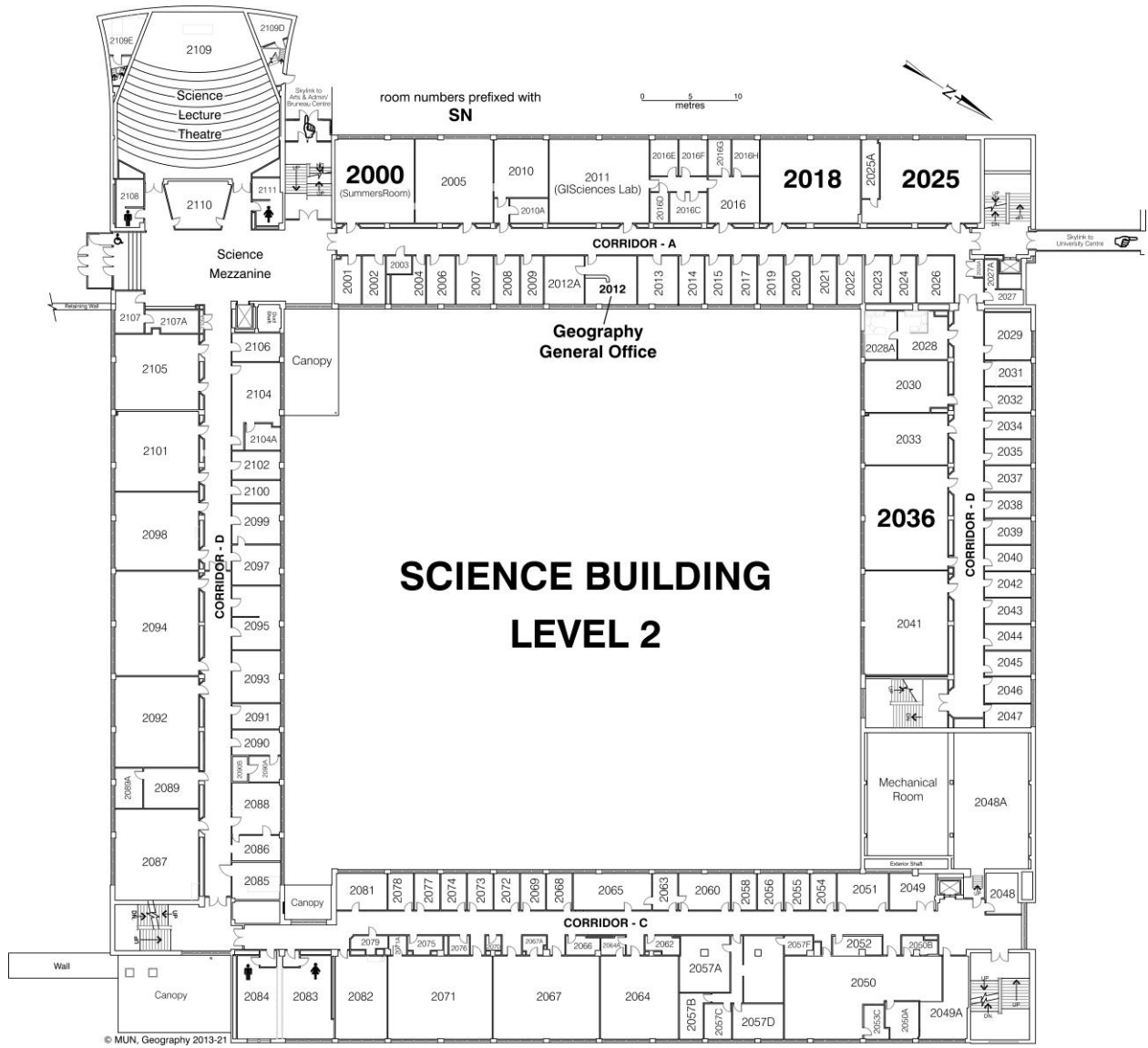


ARTS & ADMINISTRATION BUILDING LEVEL 1





ARTS & ADMINISTRATION BUILDING LEVEL 2



Social events

Icebreaker Reception

Sunday, August 11

18:30-22:30

Ceremonies begin at 19:00

The Rooms, 3rd floor

9 Bonaventure Avenue

Cost: free (cash bar)

Name badges are required for admittance (registration is available on site)

The opening icebreaker will feature a welcoming address by Dr. Gary Kachanoski, President of Memorial University, followed by a reception. The presentation of the CAG Awards will also take place at this time.

* * * * *

The Canadian Association of Geographers Awards

CAG Award for Scholarly Distinction in Geography

The purpose of the award is to recognize a member of the CAG for outstanding scholarly work in geography either in the form of sustained contributions over a number of years or as a single major research contribution.

CAG Award for Geography in the Service of Government or Business

Established in 1997 in recognition of the primary importance of excellence in geography in the service of government or business, the CAG offers this award to someone who has carried out major work for or in the public or private sector.

CAG Award for Service to the Profession of Geography

This award is intended to recognize a member of the CAG for exceptional professional service over a period of years - for example, in the university training of geographers, in administration or similar activities in the public service, as an officer of a learned society, or in such other ways as have significantly advanced the profession and practice of geography in Canada.

CAG Award for Excellence in Teaching Geography

In recognition of the primary importance of teaching excellence in geographic education, the CAG offers, since 1997, this award to a member who teaches in a recognized university, college, CEGEP or high school.

The Julian M. Szeicz Award for Early Career Achievement

This award honours the memory and achievement of Dr. Julian M. Szeicz (1965-1998).

The award is presented annually in recognition of research achievement and career potential by a Canadian geographer at an early career stage. The purpose of the award is to foster the development of geographical studies of Canada and to provide recognition of recently established geographical practitioners.

The Starkey-Robinson Award for Graduate Research on Canada

This award gives recognition to high quality graduate research that furthers understanding of the geography of Canada.

The Robin P. Armstrong Memorial Prize for Excellence in Indigenous Studies

This award recognizes and promotes excellence in applied research on Canada's Aboriginal peoples. It was established to commemorate the contribution of Robin P. Armstrong to research on Aboriginal issues within the government of Canada and the CAG.

Wiley Lecture and Reception

The Creative Potential of Historical GIS Anne Kelly Knowles (Middlebury College)

Monday, August 12
17:00-18:00 (lecture)
18:00-22:30 (reception)

Lecture in Bruneau Centre for Research and Innovation (IIC), room 2001
Reception in Bruneau Centre for Research and Innovation (IIC) atrium

Cost: free

Sponsored by John Wiley & Sons Canada Ltd and Wiley Blackwell

Please wear your name badges

This lecture will discuss historical GIS as a gateway to creative geographical scholarship. While growing numbers of geographers, and others, are using GIS well for specific analysis in their research, its potential contributions have been limited by its being treated primarily as an analytical tool to produce results or make fairly standard kinds of “data” maps. Studies of the U.S. iron industry and the Holocaust provide examples of using GIS and other methods of geovisualization as means of exploring ideas and cultivating geographic imagination. In scholarship and teaching, I will argue, historical GIS can be a source of inspiration as well as proof. Finding the limits of GIS and conventional mapping can also be a springboard to more deeply creative interpretations.



CAG 2013 Banquet

Thursday, August 15
18:30-22:30
Meal begins at 19:00

Johnson Geo Centre (175 Signal Hill Road)

Cost: \$80 (cash bar)

Name badges and ticket are required for admittance

This event will take place in the reception hall at the Johnson Geo Centre, a geological interpretation centre located on Signal Hill. Most of the centre is located underground, in an excavated glacial formation that shows the exposed bedrock of the hill. The conference banquet will feature a three-course meal, followed by a performance by a local band, The Rolling Kings. The exhibits will be open during the banquet for attendees.

Those who wish to continue socializing after the event may wish to head down to George Street or another downtown location.

Activités sociales

Réception de bienvenue

Dimanche 11 août

18:30-22:30

Les activités commencent à 19:00

The Rooms, 3^{ème} étage

9 Bonaventure Avenue

Entrée gratuite (bar payant)

Badges de conférence requis pour entrer (inscription possible sur le site)

La réception sera ouverte par un mot de bienvenue de Gary Kachanoski, président de l'université Memorial. La présentation des prix de l'association canadienne des géographes prendra également place pendant cet événement.

* * * * *

Prix de l'Association Canadienne des Géographes

Le prix pour distinction universitaire en géographie

Ce prix vise à souligner le travail exceptionnel accompli en géographie par un membre de l'ACG pour des contributions soutenues pendant plusieurs années ou une contribution majeure.

Le prix de géographie au service du gouvernement ou des affaires

Pour reconnaître l'importance primordiale de l'excellence de la géographie au service du gouvernement ou du monde des affaires, l'ACG décerne ce prix à quelqu'un qui a réalisé d'importants projets pour le secteur public ou privé.

Le prix pour services rendus à la profession de géographe

Ce prix est décerné en reconnaissance de plusieurs années de services professionnels exceptionnels à un membre de l'ACG chargé de la formation universitaire des géographes, au titulaire d'un poste de nature administrative ou autre dans la fonction publique, à un cadre de société savante ou à quiconque a grandement contribué à l'avancement et à l'exercice de la profession de géographe au Canada.

Le prix d'excellence pour l'enseignement en géographie

Pour reconnaître l'importance primordiale de l'excellence des professeurs de géographie, l'ACG décerne ce prix à un membre de l'ACG qui enseigne dans un établissement reconnu, que ce soit une université, un collège, un cégep ou une école secondaire.

Le prix Julian M. Szeicz pour réalisations en début de carrière

Ce prix rend hommage à la mémoire et aux réalisations du Dr Julian M. Szeicz (1965-1998). L'ACG décerne ce prix annuellement pour récompenser une contribution à la recherche et l'excellence d'un

géographe canadien en début de carrière. Le prix a pour but de favoriser les études en géographie sur le Canada et de reconnaître le travail des nouveaux géographes.

Le prix Starkey-Robinson de la recherche supérieure sur le Canada

Pour reconnaître la valeur de la recherche supérieure de grande qualité qui contribue à l'avancement des connaissances sur la géographie du Canada.

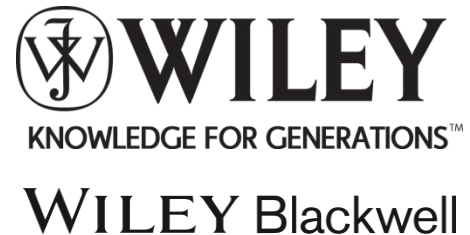
Bourse commémorative d'excellence Robin P. Armstrong pour les études autochtones

Pour reconnaître et promouvoir l'excellence en recherche appliquée sur les autochtones du Canada. Cette bourse commémore la précieuse contribution de Robin P. Armstrong aux recherches sur les questions autochtones menées au sein du gouvernement canadien et de l'ACG.

Conférence Wiley et réception

The Creative Potential of Historical GIS
Anne Kelly Knowles (Middlebury College)

Lundi 12 août
17:00-18:00 (conférence)
18:00-22:30 (réception)



Conférence dans la salle 2001 du Bruneau Centre for Research and Innovation (IIC)
Réception dans l'atrium du Bruneau Centre for Research and Innovation (IIC)

Entrée gratuite

Commandité par John Wiley & Sons Canada Ltd et Wiley Blackwell

Portez vos badges svp

Cette conférence discutera de l'utilisation de SIG historiques comme moyen d'accès à la recherche créative en géographie. Alors qu'un nombre croissant de géographes, entre autres, utilisent les SIG pour effectuer des analyses spécifiques dans le cadre de leur recherche, la contribution potentielle des SIG a été limitée par le fait que ces outils sont traités principalement comme des outils analytiques permettant de produire des résultats ou des cartes relativement traditionnelles. L'étude de l'industrie du fer aux É.U. et de l'holocauste illustrent d'autres méthodes de géovisualisation permettant d'explorer des concepts et de cultiver l'imagination géographique. Je soutiens que, en recherche et en enseignement, les SIG historiques peuvent être source d'inspiration mais aussi servir de preuve. Identifier les limites des SIG et de la cartographie traditionnelle peut aussi servir de tremplin à des interprétations plus poussées et créatives.

Banquet de l'ACG 2013

Jeudi 15 août
18:30-22:30
Le repas débute à 19:00

Johnson Geo Centre (175 Signal Hill Road)

Coût: \$80 (bar payant)

Badges et tickets requis à l'entrée

Cet événement se tiendra dans le hall de réception du Johnson Geo Centre, un centre d'interprétation géologique situé sur Signal Hill. La majorité du centre est situé sous la surface, dans une formation glaciaire excavée exposant la roche de Signal Hill. Le dîner de conférence sera un repas composé de trois services, suivi par une performance d'un groupe de musique local, The Rolling Kings. Les salles d'exposition seront ouvertes pendant le banquet pour les participants.

Les participants souhaitant continuer les festivités après le banquet sont invité à se diriger sur le rue George Street ou à d'autres endroits au centre-ville.

SPONSORS

We would like to gratefully acknowledge the following sponsors:



SCHEDULE

(corrected as of August 5, 2013)

Sunday, August 11 | Dimanche 11 août

12:00-17:00	Registration Inscription	IIC lower atrium
09:00-17:00	CAG Executive Meeting	SN 2000
18:30-22:30	Icebreaker Reception and Awards	The Rooms – 3 rd floor (9 Bonaventure Avenue)

* Registration will also be available at The Rooms 18:30-21:00. *

Monday, August 12 | Lundi 12 août

08:00-17:00 Registration | Inscription IIC atrium

08:30-17:00 Poster Session A | Séance de communication par affiche A Arts atrium

09:00-10:20 Paper Session M1 | Séance générale M1

M1.1	Qualitative Methodologies in Community-Based Research I (SS43)	A 1043
M1.2	Critical Perspectives on Resource Extraction: Resource Work and Planning for Development (SS11)	A 1045
M1.3	Critical Geographies on the Canadian North I (SS10)	A 1046
M1.4	Climatology: Time-Series Analysis, Variability and Trends I (SS07)	A 1049
M1.5	Workers 'On the Move' in Canada: Employment-Related Geographical Mobility I (SS41)	A 2065
M1.6	Social Dimensions of Coastal Governance and Marine Planning I (SS29)	A 2071
M1.7	The Politics of "Home" I: Home and Mobility (SS32)	SN 2018
M1.8	Migration and Health I (SS23)	SN 2025

10:20-10:40 Nutrition Break | Pause santé IIC atrium

Sponsored by  **esri** Canada

10:40-12:00 Paper Session M2 | Séance générale M2

M2.1	Qualitative Methodologies in Community-Based Research II (SS43)	A 1043
M2.2	Critical Perspectives on Resource Extraction: Social and Environmental Impacts I (SS11)	A 1045
M2.3	Critical Geographies on the Canadian North II (SS10)	A 1046
M2.4	Climatology: Time-Series Analysis, Variability and Trends II (SS07)	A 1049
M2.5	Workers 'On the Move' in Canada: Employment-Related Geographical Mobility II (SS41)	A 2065
M2.6	Social Dimensions of Coastal Governance and Marine Planning II (SS29)	A 2071
M2.7	The Politics of "Home" II: Home as a Site (SS32)	SN 2018
M2.8	Migration and Health II (SS23)	SN 2025

12:00-13:20	Lunch Break / Study Group Business Meetings Repas du midi / Réunions d'affaires des groupes d'étude	
	SG2: Environment and Resources	A 1045
	SG3: Tourism and Recreation	A 2071
	SG8: Rural Geography	SN 2025
	SG10: Public Policy Issues	SN 2018
	SG11: GIS-SIG	A 1049
	SG12: Geographies of Asia	A 1046
	SG14: Diversity, Migration, Ethnicity and Race	A 2065
	SG16: Urban Geography	A 1043
13:20-14:40	Paper Session M3 Séance générale M3	
M3.1	The Role of Heritage in Rapidly Urbanizing and Expanding Cityscapes (SS33)	A 1043
M3.2	Critical Perspectives on Resource Extraction: Social and Environmental Impacts II (SS11)	A 1045
M3.3	Geographies of Asia I: East Asia (SS17)	A 1046
M3.4	Exploring Biogeographic and Ecogeographic Questions using Remote Sensing and Geographic Information Systems I (SS14)	A 1049
M3.5	Workers 'On the Move' in Canada: Employment-Related Geographical Mobility III (SS41)	A 2065
M3.6	Transport Geography (SS34)	A 2071
M3.7	The Politics of "Home" III: Place Attachment and Detachment (SS32)	SN 2018
M3.8	Alternative Food Geographies I: The Canadian Experience (SS02)	SN 2025
14:40-15:00	Nutrition Break Pause santé	IIC atrium
15:00-16:40	Paper Session M4 Séance générale M4	
M4.1	Urban Sustainability (SS36)	A 1043
M4.2	Weather and Society (SS38)	A 1045
M4.3	Geographies of Asia II: Southeast, South and West Asia (SS17)	A 1046
M4.4	Exploring Biogeographic and Ecogeographic Questions using Remote Sensing and Geographic Information Systems II (SS14)	A 1049
M4.5	n/a	A 2065
M4.6	n/a	A 2071
M4.7	Rethinking Rural Resilience: Tourism's Future in Rural and Peripheral Development (SS28)	SN 2018
M4.8	Alternative Food Geographies II (SS02)	SN 2025

M1.1 Qualitative Methodologies in Community-Based Research I (SS43) A 1043**CAG Special Session***Organizers/Chairs:* Tara Cater and Jen Daniels (Memorial University)

- Learning through failure: Ambition and reality in emancipatory community-based research (**Nugent**)
- Kinder cuts and passionate modesties: the complex ecology of “creative methods” and participatory research (**Franks**)
- Crystallization, Spiked- Suits, and Partial Connections: Exploring the field (**Cater, Daniels**)
- Understanding the Human Dimension of an Indigenous Fishery: Potential and Limits of Some Participatory Methods (**Lalancette**)

M1.2 Critical Perspectives on Resource Extraction: Resource Work and Planning for Development (SS11) A 1045**CAG Special Session***Organizers/Chairs:* Suzanne Mills (McMaster University) and Emily Eaton (University of Regina)

- Current resource-development trends and local employment and economic impacts: contrasting trends in policies and strategies? (**Olmos**)
- The Mining Industry and Urban Development in the North: The Case of Fermont in Quebec (**Simard, Brisson**)
- In-situ and out of place: EI, oil, and the making of a migrant workforce (**Mazer**)
- Residential or FIFO? Canadian and Australian experiences with attracting workers to regional towns (**Storey**)

M1.3 Critical Geographies on the Canadian North I (SS10) A 1046**CAG Special Session***Organizers/Chairs:* Emilie Cameron (Carleton University) and Julia Christensen (University of British Columbia)

Sponsored by the Indigenous Peoples Working Group

- Dome Petroleum, Ambitious LNG Economies and the Afterlives of "Aggressive" Pipeline Development (**Peyton**)
- Spaces for Change: Oil Development vs. Protection in Lancaster Sound (**Fusco**)
- Extractive Industry in the Atlantic Subarctic: Toward a Critical Historical Geography of Contemporary Labrador (**Thistle**)
- Critical Geographies of Arctic Climate Change: Toward Different Locals (**Cameron**)

M1.4 Climatology: Time-Series Analysis, Variability and Trends I (SS07) A 1049

CAG Special Session

Organizer/Chair: Guillaume Fortin (Université de Moncton)

- Local climate and alpine plants distribution on four summits in the McGerrigle mountains (**Fortin et al.**)
- Variability in extreme weather events in the Northeast of New Brunswick since the 1950's (**Mallet, Fortin, Germain**)
- Intercomparaison, entre les Alpes du nord (France) et la péninsule gaspésienne (Canada), des tendances nivologiques récentes en milieu de montagne (**Dumas et al.**)
- Trends of growing degree days in Gaspé Peninsula (Quebec) since 1970 (**Raymond et al.**)

M1.5 Workers 'On the Move' in Canada: Employment-Related A 2065
Geographical Mobility I (SS41)

CAG Special Session

Organizers/Chairs: Kathy Fitzpatrick and Christine Knott (Memorial University)

* Sponsored by the Royal Canadian Geographical Society *

- Employment-related geographical mobility (E-RGM) in the Atlantic Canadian crab and shrimp fisheries (**Power, Foley, Neis**)
- Long Distance Labour Commuting from a Northern Canadian small town: The Workers' Perspective (**Ryser et al.**)
- Mobile workers of carboniferous capitalism: Cape Breton coal workers in the Alberta Tar Sands (**Lionais**)
- Mobile lifestyles: gender and place attachment in negotiating mobility to the petroleum industry in the Hammerfest region in Norway (**Aure**)

M1.6 Social Dimensions of Coastal Governance and Marine Planning I A 2071
(SS29)

CAG Special Session

Organizers/Chairs: Andrew Song, María-José Barragán Paladines, and Melinda Agapito (Memorial University)

- Stakeholders' images of coastal fisheries: elucidating their contents and characteristics through a South Korean example (**Song**)
- Governance images of the paradise: Galapagos Marine Reserve Case Study (**Barragán Paladines**)
- Place attachment and environmental stewardship on the coast (**Canessa**)
- Vulnerable to What?: A Framework for Assessing Multiple Stressors in Coastal Communities (**Bennett**)

M1.7 The Politics of "Home" I: Home and Mobility (SS32)

SN 2018

CAG Special Session

Organizers/Chairs: Patricia Wood and Julie Young (York University)

- At home abroad? Student mobilities between Canada and the Global South (**Prazeres**)
- Changing Places; Changing Homes: Comparative study on the perceptions of home from the South Asian and African in-migrants and the Hong Kong Chinese out-migrants in a Hong Kong Village (**Ng**)
- Home feelings of the chronically mobile (**Ley, Duyvendak**)

M1.8 Migration and Health I

SN 2025

CAG Special Session

Organizers/Chairs: Nathaniel Lewis (Dalhousie University) and Kathi Wilson (University of Toronto Mississauga)

- The mobility of new physicians across Canada (**Liu, Bourdon**)
- Promoting Sexual Health Among Immigrant Men who are Gay/MSM: An Exploratory Study of the Greater Toronto Area (**Lewis, Wilson**)
- "Here it is serious, it is a big issue": Developing a population health intervention to improve newcomers' understanding of food allergies (**Harrington, Wilson, Asanin Dean**)
- Determinants of immigration health in Canada: a comparison among multiple ethnic groups (**Wang**)

M2.1 Qualitative Methodologies in Community-Based Research II (SS43) A 1043

Chair: Candice Christmas (Queen's University)

- Unpacking Material and Social Determinants of Health and their Effect on Early Childhood Development in Kingston, Ontario Neighbourhoods (**Christmas, Rosenberg**)
- Evidence for a New Urbanism: Revitalization of Downtown Retail and Commercial Activity (**Ceh, Hernandez**)
- Integrated Community Sustainability Planning in Mid-sized Municipalities: A Comparative Case Study (**Williams et al.**)
- Urban Community Land Trusts in Canada: Building on the U.S. Community Land Trust Model and Movement? (**Bunce**)

M2.2 Critical Perspectives on Resource Extraction: Social and Environmental Impacts I (SS11) A 1045

CAG Special Session

Organizers/Chairs: Suzanne Mills (McMaster University) and Emily Eaton (University of Regina)

- From Cutlines to Traplines: Post-Industrial Land Use at the Pine Point Mine (**LeClerc**)
- Negotiating sustainable development in the heart of the Alberta Oil Sands: Integrated Community Sustainability Plans and the Regional Municipality of Wood Buffalo (**Haley, Lionais**)
- Enclosing life? Radiation, wastage, and the value of differentiated lives (**Stanley**)
- Aboriginal Title and the Politics of a Pipeline (**Wood, Rossiter**)

M2.3 Critical Geographies on the Canadian North II (SS10) A 1046

CAG Special Session

Organizers/Chairs: Emilie Cameron (Carleton University) and Julia Christensen (University of British Columbia)

Sponsored by the Indigenous Peoples Working Group

- Adaptation, Work, and the Work of Adaptation: Remaking Inuit workers at Rankin Inlet in the 1950s and 1960s (**Keeling**)
- Urban outcasts in the Canadian North: understanding northern homelessness through a critical geography of institutionalization (**Christensen**)
- Tracking a message from Nunavut: Working together to build evaluative capacity for local knowledge translation on the topic of Arctic country food security (**Hirsch et al.**)
- The Rural Geographies of Masculinity (**Hawkins**)

M2.4 Climatology: Time-Series Analysis, Variability and Trends II (SS07) A 1049

CAG Special Session

Organizer/Chair: Guillaume Fortin (Université de Moncton)

- Les principales variations thermiques récentes (1960-2012) et futures (2021-2050) en milieu de moyenne montagne: comparaison entre le Vercors (Rhônes-Alpes, France) et la péninsule gaspésienne (Québec, Canada) (**Bigot et al.**)
- Comparison between current thermal extremes (on 1970s) and future (on 2030s and 2080s) in the Northern French Prealps (**Rome, Li, Bigot**)
- Analysis of temperature sensitivity for endangered plant performance, Great Northern Peninsula, Newfoundland (**Belbin et al.**)

M2.5 Workers 'On the Move' in Canada: Employment-Related Geographical Mobility II (SS41) A 2065

CAG Special Session

Organizers/Chairs: Kathy Fitzpatrick and Christine Knott (Memorial University)

* Sponsored by the Royal Canadian Geographical Society *

- A History of E-RGM in Seafood Processing in NB: an "era of mobilities" (**Knott**)
- Up in the air: Employment-related geographical mobility and Hurricane Igor (**Sodero**)
- Different family dynamics associated with commuting excess distances to work for wives and husbands: An Empirical Analysis under the Canadian Family Context (**Haan, Ci, Walsh**)
- Preparing for the next boom: The implications of mine construction and expansion in BC's Interior (**Martin et al.**)

M2.6 Social Dimensions of Coastal Governance and Marine Planning II (SS29) A 2071

CAG Special Session

Organizers/Chairs: Andrew Song, María-José Barragán Paladines, and Melinda Agapito (Memorial University)

- Social-Ecological Systems and Governance Insights for Enhancing Marine Protected Areas Effectiveness (**Ramirez**)
- What are the potential tradeoffs and hard choices for Newfoundland and Labrador marine protected areas (MPAs)? (**Agapito et al.**)

M2.7 The Politics of "Home" II: Home as a Site (SS32) SN 2018

CAG Special Session

Organizers/Chairs: Patricia Wood and Julie Young (York University)

- The Home: A psycho-spatial tool to empower, validate, and express the identities of aging men and women living alone (**Felsenthal**)
- Domestic Disturbances: Home as Site in the Work of Martha Rosler and Doris Salcedo (**Andrade**)
- Conceptualizing energy vulnerability at the scale of home and community (**Bouzarovski, Petrova**)
- Home as a State of Being in a Public Garden (**Hooykaas**)

M2.8 Migration and Health II (SS23)**SN 2025****CAG Special Session**

Organizers/Chairs: Nathaniel Lewis (Dalhousie University) and Kathi Wilson (University of Toronto Mississauga)

- Reframing Aboriginal Mobility as a Space to Create Transnational Networks of Connection & Support (**Snyder, Wilson**)
- Bio-power and Mobility in the Ableist City (**Cardona Claros, Masuda**)
- Immigrants' Perceived Quality of Life: Relationship to Adaptation in Second and Third Tier Canadian Cities (**Williams et al.**)

**Study Group Business Meetings
Réunions d'affaires des groupes d'étude****12:00-13:20**

Study Group 2: Environment and Resources	A 1045
Study Group 3: Tourism and Recreation	A 2071
Study Group 8: Rural Geography	SN 2025
Study Group 10: Public Policy Issues	SN 2018
Study Group 11: Geographic Information Science (GIS-SIG)	A 1049
Study Group 12: Geographies of Asia	A 1046
Study Group 14: Diversity, Migration, Ethnicity and Race	A 2065
Study Group 16: Urban Geography	A 1043

M3.1 The Role of Heritage in Rapidly Urbanizing and Expanding Cityscapes (SS33) A 1043

CAG Special Session

Organizer/Chair: Amanda Hooykaas (University of Waterloo/City of Kitchener)

- From Cultivation to Cul-de-sacs: Conserving and Integrating Our Rural Heritage into New Suburban Developments (**Van Sligtenhorst**)
- Hamilton: Brutal Beauty | Hidden Heritage (**Dunlop**)
- hiSTORY in the Revitalization of a Manufacturing Hub: A Case Study of Kitchener, Ontario (**Hooykaas**)

M3.2 Critical Perspectives on Resource Extraction: Social and Environmental Impacts II (SS11) A 1045

CAG Special Session

Organizers/Chairs: Suzanne Mills (McMaster University) and Emily Eaton (University of Regina)

- The Abstraction of Red Chris Mine and the Diminishing Returns of Environmental Assessment (**Peyton**)
- Fracking for Oil in Saskatchewan: Explaining social and regulatory absences in North American Context (**Eaton, Carter**)
- Resource Extraction, Landscape Transformation and Environmental Conflict: Oil and Gas Expansion in Kitimat British Columbia (**Hodson**)
- “I Don’t Really Think This is About the Mine:” An Ethnographic Analysis of Daily Immediate Encounters in Rankin Inlet, Nunavut (**Cater**)

M3.3 Geographies of Asia I: East Asia (SS17) A 1046

CAG Special Session

Organizer/Chair: David Edgington (University of British Columbia)

- Post-Political Populism and Local Sustainable Development under the Climate Change (**Wang**)
- Residents’ Attitudes Toward Landscape Change in a Konjuka Settlement in the Rural-Urban Fringe of Tokyo in 1993: An Analysis of Change 20 Years Later (**Waldichuk**)
- The ‘In-situ’ Dynamics of Japanese Electronic Subsidiaries in ASEAN Countries: Reflections from a Development Perspective (**Edgington, Hayter**)
- Global environmental change adaptation from the perspective of Bangkok’s urban poor (**Berquist, Daniere, Drummond**)

M3.4 Exploring Biogeographic and Ecogeographic Questions using Remote Sensing and Geographic Information Systems I (SS14) A 1049

CAG Special Session

Organizers/Chairs: Vincent Lecours and Yolanda F. Wiersma (Memorial University)

Sponsored by the University of Calgary Press

- Assimilation of remotely sensed soil moisture in the MESH hydrological model (**Xu, Li, Tolson**)
- Remote Sensing of Mountain Pine Beetle Forest Disturbance: Results from British Columbia and Perspectives for the Canadian Boreal Forest (**Peddle et al.**)
- Does mountain pine beetle respond to clearcut edges during the current outbreak at the landscape scale in British Columbia, Canada? (**Chen et al.**)
- The invasive shrub - soil moisture feedbacks revealed by remote sensing and wavelet analysis (**He**)

M3.5 Workers 'On the Move' in Canada: Employment-Related Geographical Mobility III (SS41) A 2065

CAG Special Session

Organizers/Chairs: Kathy Fitzpatrick and Christine Knott (Memorial University)

* Sponsored by the Royal Canadian Geographical Society *

- Employment-Related Geographical Mobility, Policies and Consequences for Newfoundland Home Care Workers (**Fitzpatrick**)
- The importance of place in mobility decision-making: Findings from Miramichi, New Brunswick (**Hanson**)
- Working here and there: Temporary Foreign Labour from the Philippines in Russell, Manitoba (**Bryan**)
- Experiences of Rural Newfoundland Women: Partners Working Out West (**Whalen**)

M3.6 Transport Geography (SS34) A 2071

CAG Special Session

Organizers/Chairs: Darren Scott (McMaster University) and Jean Andrey (University of Waterloo)

- Does the Built Environment Influence Auto Travel? Evidence from Halifax, Canada (**Scott, Chowdhury**)
- Discovering Approaching Interactions in Vehicle Mobility Data (**Wachowicz**)
- Broadening horizons: The Geography of Nova Scotia International Trade (**McCalla**)
- Light Rail, Land Use Change, and Image-Led Planning: A Comparative Review and Critical Assessment of Hamilton, Ontario (**Higgins, Ferguson, Kanaroglou**)
- The McMaster Institute for Transportation and Logistics: An Overview and Project Highlights (**Kanaroglou**)

M3.7 The Politics of "Home" III: Place Attachment and Detachment (SS32)

SN 2018

CAG Special Session

Organizers/Chairs: Patricia Wood and Julie Young (York University)

- Aboriginal Homes in a 'State of Care': Colonial Geographies and Child Welfare in Northern British Columbia (**de Leeuw**)
- 'Our home, our way of life': spiritual homelessness and the socio-cultural dimensions of Indigenous homelessness in the Northwest Territories (NWT), Canada (**Christensen**)
- Narrating home as place attachment (**Aure, Wiborg, Nygaard**)
- A political ecology of home: Attachment to place, political subjectivity and the Northern Gateway Pipeline Joint Review Panel (**Wood, Young**)

M3.8 Alternative Food Geographies I: The Canadian Experience (SS02)

SN 2025

CAG Special Session

Organizer: Charles Levkoe (University of Toronto)

Chair: Kristie Jameson (NL Food Security Network)

- Transforming our Food System: Opportunities and Challenges for Network Mobilization (**Levkoe**)
- Grown, harvested, and hunted: The role of self-provisioning in the food acquisition strategies of households on Newfoundland's west coast (**Lowitt**)
- Food, Culture and Transport: An unlikely comparison of southern Ontario and Newfoundland (**Phillips**)
- Northern Food Networks: Building Collaborative Efforts for Food Security in Remote Canadian Aboriginal Communities (**Schiff**)

M4.1 Urban Sustainability (SS36) A 1043**CAG Special Session***Organizer:* Mary Thornbush (University of Birmingham)*Chair:* Todd Randall (Lakehead University)

- Long Term Trends in Hydrologic Response within Three Urban Watersheds in the Great Lakes St. Lawrence Basin (**Trudeau**)
- Socioeconomic indicators of urban stream water quality in Fredericton, NB, Canada (**Bornemann**)
- Evaluating the impact of the OTS on air pollution and the built environment in central Oxford, UK (**Thornbush**)
- Measuring land use diversity in residential neighbourhoods: a case study from Les Minimes 'quartier', Toulouse, France (**Randall, Le Corre**)
- Using an Activity Based Cellular Automata Model for Sustainability Assessment (**White**)

M4.2 Weather and Society (SS38) A 1045**CAG Special Session***Organizer/Chair:* Amber Silver (University of Waterloo)

- Climate Change and Transportation in Prince George, BC (**Matthews, Andrey**)
- The Potential Implications of Climate Change for the Achievement of the Millennium Development Goal 5, in the Gambia, West Africa (**Conrad, Bartel**)
- Use of Weather and Climate Information for Winter Tourism Decision Making (**Rutty, Andrey**)
- Vulnerability to Climate Change in the Context of Multiple Stressors: The Case of Funafuti, Tuvalu (**McCubbin**)
- Watch or warning? Weather saliency and forecast preferences among Ontario residents (**Silver, Andrey**)

M4.3 Geographies of Asia II: Southeast, South and West Asia (SS17) A 1046**CAG Special Session***Organizer/Chair:* David Edgington (University of British Columbia)

- The Evolution of South Asian Slum Development in a Governance Void (**Fehr**)
- From livelihoods to wellbeing: Exploring sustainable tourism development in Bhutan (**Karst**)
- The environmental impact of physical expansion of Shandiz city on its periphery (**Alizadeh, Taheri**)

M4.4	Exploring Biogeographic and Ecogeographic Questions using Remote Sensing and Geographic Information Systems II (SS14)	A 1049
	<p>CAG Special Session <i>Organizers/Chairs:</i> Vincent Lecours and Yolanda F. Wiersma (Memorial University)</p> <ul style="list-style-type: none"> • Monitoring habitat change of threatened raptors in Saskatchewan Canada (Li) • Bottom-up and Top-Down Regulation Factors Influencing Moose Density in Newfoundland (Camus, Wiersma, Hermanutz) • A multi-attribute approach to mapping Boreal Woodland caribou habitat in Labrador (Schmelzer, Senécal) • Fine-scale habitat use and activity patterns of age 1 cod as revealed by acoustic telemetry (Schornagel, Gregory, Snelgrove) • Using Underwater Acoustic Remote Sensing to Investigate Spatial and Temporal Scales in Habitat Mapping (Lecours et al.) 	
M4.5	n/a	A 2065
M4.6	n/a	A 2071
M4.7	Rethinking Rural Resilience: Tourism’s Future in Rural and Peripheral Development (SS28)	SN 2018
	<p>CAG Special Session <i>Organizer/Chair:</i> Patrick Brouder (Mid Sweden University)</p> <ul style="list-style-type: none"> • Tourism as a complication and driver for waste management: interacting panarchies (Nagel, Gutberlet) • Cultivating Terroir Tourism in the Prince Edward County Wine Region (Holland) • Façade Programs on Cape Breton Island: A Panacea for Revitalization of the Tourism Industry? (Lemky) • Embedding Arctic Tourism Innovation in ‘Creative Outposts’ (Brouder) 	
M4.8	Alternative Food Geographies II (SS02)	SN 2025
	<p><i>Chairs:</i> Kristen Lowitt (Memorial University) and Daniel Rainham (Dalhousie University)</p> <ul style="list-style-type: none"> • Food Banks as Contested Spaces within Canadian Welfare Systems (Turner) • The Kuujjuaq Greenhouse Project: A Partnership Approach to Research & Community Development (Avard) 	

Authors are to mount their posters between 8:00 and 8:30 and leave them mounted until 17:00.

Les auteurs présentant une affiche sont priés de l'installer entre 8h et 8h30, de la retirer seulement après 17h.

1. So you think it will work, eh! A new economic development strategy for Port Colborne (**Bates**)
2. Understanding Community Connections in Nova Scotia Participatory Water Monitoring Programs (**Blair, Conrad, Castleden**)
3. Keys to success: Looking at the factors that impact the integration of community-based watershed monitoring in decision-making (**Buckland-Nicks, Castleden, Conrad**)
4. Gardening as a platform for social learning and community building (**Diduck et al.**)
5. A Spatial and Temporal Assessment of Water Quality in The Gambia River, and an Evaluation of the Capacity for Community-Based Monitoring in The Gambia, West Africa (**Healey, Conrad**)
6. The Influence of Atlantic Hurricanes on Southern Ontario's Precipitation Extremes (**Jien, Gough**)
7. Tracking Land Cover at the Abandoned Pine Point Mine: A Remote Sensing Approach (**LeClerc**)
8. The Influence of Natural Amenities on Suburban Growth in the Chicago Region, 2000 to 2010 (**Peterson**)
9. Observation of Portuguese Islanders in Toronto: Viewpoint of Directories of Ethnic Associations (**Takahashi**)
10. ONTARIO PLACE: A Place to Stand? A Place to Grow? (**Valadares**)

Tuesday, August 13 | Mardi 13 août

08:00-17:00 Registration | Inscription IIC atrium

08:30-17:00 Poster Session B | Séance de communication par affiche B Arts atrium

09:00-10:20 Paper Session T1 | Séance générale T1

- | | | |
|------|--|---------|
| T1.1 | Regional Science (SS61) | A 1043 |
| T1.2 | Bio-Cultural Approaches to Conservation and Resource Management in Aboriginal Settings I (SS04) | A 1045 |
| T1.3 | Post-Cod Fisheries in Newfoundland and Labrador: 20 Years On from Collapse (SS26) | A 1046 |
| T1.4 | GIScience (SS44) | A 1049 |
| T1.5 | Urban and Community Geographies I (SS63) | A 2065 |
| T1.6 | Public Involvement in Natural Resource Management: International Case Studies (SS27) | A 2071 |
| T1.7 | The Dynamic Coast - Addressing Knowledge Needs for Sustainable Development and Adaptation Planning on Canada's Coastlines; A Special Session in Honour of Don Forbes's Retirement (Coastal Dynamics) I: Reflections (SS42) | SN 2018 |
| T1.8 | Health (SS50) | SN 2025 |

10:20-10:40 Nutrition Break | Pause santé IIC atrium

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10:40-12:00 Paper Session T2 | Séance générale T2

- | | | |
|------|--|---------|
| T2.1 | Geography of Health and Health Care I: Rural Communities and Health (SS19) | A 1043 |
| T2.2 | Bio-Cultural Approaches to Conservation and Resource Management in Aboriginal Settings II (SS04) | A 1045 |
| T2.3 | Beyond Fish Stocks: Towards Socially Sustainable Fisheries I (SS03) | A 1046 |
| T2.4 | Geographies of Human Development in the Arctic: AHDR-II (SS18) | A 1049 |
| T2.5 | Urban and Community Geographies II (SS63) | A 2065 |
| T2.6 | Communities and Environment (SS60) | A 2071 |
| T2.7 | Coastal Dynamics II: Mobilizing Knowledge (SS42) | SN 2018 |
| T2.8 | Historical Geography I (SS51) | SN 2025 |

12:00-13:20	Chairpersons' Lunch	Junior Common Room
12:00-13:20	Lunch Break / Study Group Business Meetings Repas du midi / Réunions d'affaires des groupes d'étude	
	SG1: Canadian Women and Geography	A 1049
	SG4: Economic Geography	A 2071
	SG5: Marine Studies and Coastal Zone Management	A 1045
	SG6: Health and Health Care	A 1043
	SG7: Indigenous Peoples	A 1046
	SG9: Canadian Geomorphology Research Group (CGRG)	SN 2018
	SG13: Geographic Education	SN 2025
	SG15: Historical Geography	A 2065
13:20-14:40	Paper Session T3 Séance générale T3	
	T3.1 Geography of Health and Health Care II: Health Experiences and Work (SS19)	A 1043
	T3.2 Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials I (SS05)	A 1045
	T3.3 Beyond Fish Stocks: Towards Socially Sustainable Fisheries II (SS03)	A 1046
	T3.4 Dendrochronology in Canada I (SS12)	A 1049
	T3.5 Urban and Community Geographies III (SS64)	A 2065
	T3.6 Wine and Geography (SS56)	A 2071
	T3.7 Coastal Dynamics III: Sediments & Ecosystems (SS42)	SN 2018
	T3.8 Historical Geography II (SS51)	SN 2025
14:40-15:00	Nutrition Break Pause santé	IIC atrium

15:00-16:40	Paper Session T4 Séance générale T4	
T4.1	Geography of Health and Health Care III: Novel Tools and Methods (SS19)	A 1043
T4.2	Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials II (SS05)	A 1045
T4.3	Open Discussion on Fisheries Management	A 1046
T4.4	Dendrochronology in Canada II (SS12)	A 1049
T4.5	Resources and Communities (SS65)	A 2065
T4.6	Tourism-Related Issues (SS53)	A 2071
T4.7	Coastal Dynamics IV: Adaptation (SS42)	SN 2018
T4.8	Geographical Education (SS54)	SN 2025
16:45-18:00	Study Group Chairs Meeting	SN 2000
20:00-21:30	<i>Chasing Ice</i> Documentary	IIC 2001

T1.1 Regional Science (SS61)**A 1043***Chair:* Jamie Ward (Memorial University)

- Delineating and classifying functional economic regions for regional development and planning: A case study of Atlantic Canada (**Simms, Ward, Freshwater**)
- An Application of Audience Response Technology for Stakeholder Engagement and Structured Decision Support in Rural Newfoundland Communities (**Ward, Simms**)
- On the Commute and in the Workplace: Safety and Newfoundland Home Care Workers (**Fitzpatrick**)
- Modelling spatio-temporal diffusion of carsharing membership in Quebec City (**Vandersmissen, Thériault, Coll**)

T1.2 Bio-Cultural Approaches to Conservation and Resource Management in Aboriginal Settings I (SS04)**A 1045****CAG Special Session***Organizer/Chair:* Véronique Bussièrès (Concordia University)

Sponsored by the Indigenous Peoples Working Group

- Water Cooperation: Mother Earth has rights (**Hatcher**)
- A Case-based Typology of Aboriginal Participation in Model Forest Governance (**Bullock, Reed**)
- Planning the Labrador Forest: Nature, Culture and Economy according to the "Forest Plan for Forest Management District 19 Labrador/Nitassinan." (**Tytelman**)
- Can indigenous perspectives and knowledge be included in UNESCO Biosphere Reserves in Canada? (**Reed**)

T1.3 Post-Cod Fisheries in Newfoundland and Labrador: 20 Years On from Collapse (SS26)**A 1046****CAG Special Session***Organizer/Chair:* Dean Bavington (Memorial University)

- Cod Recovery and the Changing Politics of Crisis in Newfoundland and Labrador (**Davis**)
- From cod to shellfish and back again? The new resource geography and Newfoundland's fish economy (**Mather**)
- Techno-Science and Skeptical Fishermen in Post-Moratorium Newfoundland & Labrador (**Bavington**)
- The art of catching fish in waters that contain none: aquaculture as an accumulation strategy (**Banoub**)

T1.4 GIScience (SS44) A 1049

CAG Special Session

Organizers/Chairs: Yikalo Araya and Yuestas David (York University)

- Spatially explicit probabilities of residual vegetation patch existence within boreal wildfires (**Araya, Rimmel**)
- Bias reduction in land cover classification: a novel approach applied to support vector classification of Landsat imagery in the Maipo basin, Chile (**Brenning, Puertas, Meza**)
- Effect of grain size on morphological pattern elements within boreal wildfire residuals patches (**Singh, Rimmel**)
- Using Field Measured Parameters with the SWAT Hydrological Model to Quantify Runoff at the Sub-Watershed Level (**David, Rimmel, Robert**)

T1.5 Urban and Community Geographies I (SS63) A 2065

Chair: Josh Lepawsky (Memorial University)

- The Changing Geographies of Playgrounds in Toronto, 1913 and 2012 (**Murnaghan, Murnaghan**)
- Les mots pour dire la Basse-Ville d'Ottawa: Chronique journalistique d'une mort annoncée (**Gilbert**)
- Restructuration métropolitaine à Montréal entre 1996 et 2006 : l'évolution des liens entre le lieu de résidence et le lieu d'emploi (**Poulin**)

T1.6 Public Involvement in Natural Resource Management: International Case Studies (SS27) A 2071

CAG Special Session

Organizers/Chairs: Alistair Bath, Beatrice Frank, Jenny Glikman, and Carly Sponarski (Memorial University)

- Learning sustainable water practices through participatory irrigation management in Thailand (**Sinclair, Kumnerdpet, Moyer**)
- Toward UNESCO World Heritage Site status: engaging visitors and local communities in Mistaken Point Ecological Reserve (**Frank, Bath**)
- The design and implementation of an applied human dimensions facilitated workshop approach to achieving 100% consensus in "wicked" large carnivore issues in Europe (**Bath**)
- Discussion on engaging communities (led by Alistair Bath)

T1.7 The Dynamic Coast - Addressing Knowledge Needs for SN 2018
Sustainable Development and Adaptation Planning on Canada's
Coastlines; A Special Session in Honour of Don Forbes's
Retirement (Coastal Dynamics) I: Reflections (SS42)

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- Lessons from the landwash: 40 years of trying to get it right (**Forbes**)
- Navigating the estuary of Fraser River (**Church**)
- Structural signatures of wave and current processes in a lacustrine, barred shoreface: an analogue model for Holocene sedimentation, Georgian Bay, Ontario, Canada (**Greenwood**)
- Ties that bind: Anthropogenic influences on land-ocean interactions Fpointe in the coastal zone during the climate change (**Hatcher**)

T1.8 Health (SS50) SN 2025

Chair: Ofer Amram (Simon Fraser University)

- A comparative analysis of potential spatial access to palliative care services in two Canadian provinces (**Amram et al.**)
- Lung Cancer and Exposure to Traffic-Related Air Pollution in Halifax, Canada: A Case-Control Study (**Rainham et al.**)
- Refining a Decision-Support Model for Siting Palliative Care Services in Rural Canadian Communities (**Martin, Schuurman, Crooks**)
- Accessibility to Health Services in Mashhad: a GIS-Based Assessment for Redistribution of Infrastructures (**Alizadeh, Hosseinian**)

T2.1 Geography of Health and Health Care I: Rural Communities and Health (SS19) A 1043

CAG Special Session

Organizer/Chair: Jeff Masuda (University of Manitoba)

- Implications of climate change impacts in rural coastal communities with aging populations: Case studies from Nova Scotia (**Rapaport, Manuel, Keefe**)
- A Community Perspective of Drinking Water, Wastewater Treatment and Public Health in Coral Harbour, Nunavut (**Castleden et al.**)
- Experiences of Northern Medical Program Graduates and Strategies for their Retention in Rural Communities (**Paterson, Hanlon**)
- Voluntary Sector Leadership to Support Healthy Aging in British Columbia's Interior: The Role of Place Integration (**Hanlon et al.**)

T2.2 Bio-Cultural Approaches to Conservation and Resource Management in Aboriginal Settings II (SS04) A 1045

CAG Special Session

Organizer/Chair: Véronique Bussières (Concordia University)

Sponsored by the Indigenous Peoples Working Group

- Dictating the Terms of Their Own Development: Biocultural Conservation in Aboriginal Communities (**Roth, Youdelis**)
- A critical analysis of bio-cultural conservation in Canadian coastal aboriginal settings (**Bussières**)
- Bringing protected areas into town (**Scott**)

T2.3 Beyond Fish Stocks: Towards Socially Sustainable Fisheries I (SS03) A 1046

CAG Special Session

Organizer/Chair: Annie Lalancette (Concordia University)

Sponsored by the Indigenous Peoples Working Group

- Co-managing Small-Scale Fisheries – A Promising but Missed Opportunity in Newfoundland and Labrador (**Allen**)
- Fisheries policy and regional development: Insights from the Newfoundland and Labrador shrimp fishery (**Foley, Mather, Neis**)
- The impact of long-term fisheries closures on youth in Newfoundland coastal communities (**Power**)
- Exploring Aboriginal and Non-Aboriginal Understandings of Environmental Change and its Impact on Resources and Economic Development - Perspectives from NW British Columbia (**Matthews**)

T2.4 Geographies of Human Development in the Arctic: AHDR-II (SS18) A 1049

CAG Special Session

Organizers/Chairs: Gail Fondahl (University of Northern British Columbia), Andrey Petrov (Northern Iowa University) and Time Heleniak (American Geographical Society)

- The Arctic Human Development Report II: A Tool for Students, Policy Makers, Arctic Residents (**Fondahl**)
- Arctic Populations and Migration (**Heleniak**)
- Measuring Arctic Human Development: Human Capital and Education (**Petrov**)
- Discussants: Julia Christensen and Emilie Cameron

T2.5 Urban and Community Geographies II (SS63) A 2065

Chair: Josh Lepawsky (Memorial University)

- Segmented Assimilation of the Second Generation: The Role of Local Social Capital (**Preston, Ray**)
- From Risky Business to Common Sense: Sustainability and Urban Policy in Calgary (**Howard**)
- Les conflits urbains liés à la densification urbaine: le cas de 3 quartiers centraux de la capitale fédérale (**Benali**)

T2.6 Communities and Environment (SS60) A 2071

Chair: Andrea Procter (Memorial University)

- "Overlap": Causes and Implications of Overlapping and Contested Indigenous Claims to Territory in the Context of the British Columbia Treaty Process (**Turner**)
- The Boundaries of Indigeneity: Labrador Inuit and Innu examples (**Procter, Tytelman**)
- Increasing Aboriginal Participation in Environmental Assessment by Adapting Public Mapping Tool (**LeBlanc**)
- The community-based EIA was a success but the project is failing (**Spaling**)

T2.7 Coastal Dynamics II: Mobilizing Knowledge (SS42) SN 2018

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- The C-Change Project: Science assisted adaptation to climate change in Canadian and Caribbean coastal communities (**Mercer Clarke et al.**)
- Geoscience Information for Environmental Assessment along the Beaufort Sea Coast (**Couture et al.**)
- Coastal Change and Community Education: Fogo and Change Islands, NL (**Thompson, Dean**)
- Planning for the future: Preparing young professionals for coastal planning and climate change (**Manuel, Rapaport**)

T2.8 Historical Geography I (SS51)

SN 2025

Chairs: Gregory Ashworth (University of Groningen) and John Warkentin (York University)

- “Great Awakening”: Geographical Writing on Canada After Confederation and the Completion of the Canadian Pacific Railway (**Warkentin**)
- Friedrich Ratzel (1844-1904) - The founder of Human geography. Why have we forgotten? (**Ashworth**)
- The Spatialisation of Historical Sources (**Wachowicz, Owens**)
- Troubling the U.S./Canada Border: Relations between the 1817 International Boundary Commission and Indigenous people (**Schaefli**)

Study Group Business Meetings**12:00-13:20****Réunions d'affaires des groupes d'étude**

Study Group 1: Canadian Women and Geography	A 1049
Study Group 4: Economic Geography	A 2071
Study Group 5: Marine Studies and Coastal Zone Management	A 1045
Study Group 6: Health and Health Care	A 1043
Study Group 7: Indigenous Peoples	A 1046
Study Group 9: Canadian Geomorphology Research Group (CGRG)	SN 2018
Study Group 13: Geographic Education	SN 2025
Study Group 15: Historical Geography	A 2065

T3.1 Geography of Health and Health Care II: Health Experiences and Work (SS19) A 1043

CAG Special Session

Organizer/Chair: Jeff Masuda (University of Manitoba)

- Different world views, common future? The potential for cooperation between traditional healers and biomedical health care workers in Botswana (**Fried et al.**)
- Working Towards Recovery: Geographies of Mental Health and Employment within the Social Economy (**Buhariwala**)
- Mothers' perceptions and behavioural responses to environmental health risks to their children (**Laferriere, Crighton**)
- The impact of land use on sleep duration (**Chum, O'Campo**)

T3.2 Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials I (SS05) A 1045

CAG Special Session

Organizers/Chairs: Heather Hall (Memorial University), Kelly Vodden (Memorial University), and Sean Markey (Simon Fraser University)

- The State of Regional Development in Canada (**Hall, Greenwood**)
- Regionalism and Regional Development in Canada: A Critical Review of Theory, Practice and Potentials (**Vodden**)
- Watershed Planning and Regional Development - Part I (**Breen, Minnes**)
- Watershed Planning and Regional Development - Part II (**Minnes, Breen**)

T3.3 Beyond Fish Stocks: Towards Socially Sustainable Fisheries II (SS03) A 1046

CAG Special Session

Organizer/Chair: Annie Lalancette (Concordia University)

Sponsored by the Indigenous Peoples Working Group

- Indigenous fisheries in Bolivia's Northern Amazon: Characterization and perspectives towards community-based management of native and introduced species (**Carvajal-Vallejos**)
- Indigenous Fisheries in Bolivia's Northern Amazon: Socio-ecologic aspects and management challenges (**Macnaughton et al.**)
- Renewing "That Which Was Almost Forgotten or Lost": The Implications of Old Ethnologies for Modern TEK Among Canada's Pacific Coast "Salmon Peoples" (**Newell**)
- Indigenous Management Perspectives and Social Sustainability: The Case of the Tropical Rock Lobster Fishery in Torres Strait, Australia (**Lalancette, Mulrennan**)

T3.4 Dendrochronology in Canada I (SS12) A 1049

CAG Special Session

Organizers/Chairs: Bryan Mood (Mount Allison University), M. Graham Clark (Mount Allison University), Colin P. Laroque (Mount Allison University), and Trevor Bell (Memorial University)

- Dendroclimatological insights from a multispecies tree-ring width and density network spanning the British Columbia Coast Mountains (**Coulthard, Smith**)
- A multi-linear regression model of paleoclimate ice conditions off the coast of Labrador, Canada (**Clark, Bell, Laroque**)
- Investigating the influence of climate on intra-annual *Pinus banksiana* radial growth in Yellowknife, Northwest Territories, Canada (**Quann et al.**)

T3.5 Urban and Community Geographies III (SS64) A 2065

Chair: Johnathan Rose (Queen's University)

- The shaping of senses of place in and through the Newfoundland novel (**Ashworth**)
- Without Reservation: The Chatham-Kent Community Network and Caldwell First Nation Land Dispute (**Rose**)
- From "Lunar-scape" to Landscape: Regreening in Sudbury (**Boerchers, Fitzpatrick, Storie**)

T3.6 Wine and Geography (SS56) A 2071

Chair: Norman Jones (Bishop's University)

- Recent Climate Change Effects in the Montérégie Wine Region, Quebec, Canada (**Jones**)
- Measuring "stable variability" in soil moisture within vineyards in the Niagara Region of Ontario (**Jollineau, Fast, Reynolds**)

T3.7 Coastal Dynamics III: Sediments & Ecosystems (SS42) SN 2018

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- Nearshore Sediment Transport by Waves and Currents Under Sea Ice, North Shore of Prince Edward Island (**Manson, Davidson-Arnott, Ollerhead**)
- Sedimentation and Hydrodynamics in a Bay of Fundy Tidal Creek and Salt Marsh System (**Poirier, van Proosdij, Milligan**)
- Ecomorphodynamics of Coastal Marshes: Opportunities and Constraints for Climate Change Adaptation in the Bay of Fundy (**van Proosdij**)
- A Salt Marsh Restoration on the Bay of Fundy, NB: an Adaptation to Sea Level Rise and Climate Change (**Ollerhead**)

T3.8 Historical Geography II (SS51)

SN 2025

Chairs: Gregory Ashworth (University of Groningen) and John Warkentin (York University)

- Borderline provocations: Creative interventions in the logic of the border (**Young**)
- Abundant but finicky: An Assessment of the Availability and Usefulness of Standards Compliant Canadian Public Web Map Services (**Brauen**)
- Best Practices for Landscape Hazard Mapping in Nunatsiavut (**Riedlsperger, Bell**)
- The Role of Fieldwork in Canadian Undergraduate Geography Programs (**Leydon, Wincentak**)

T4.1 Geography of Health and Health Care III: Novel Tools and Methods (SS19) A 1043

CAG Special Session

Organizer/Chair: Jeff Masuda (University of Manitoba)

- Relevance Reviews: A new tool for health geographers? (**Garvin**)
- Equity-Focused Knowledge Translation: A framework for “reasonable action” on health inequities (**Masuda**)
- Finding time and making space: trialing Equity-focused Knowledge Translation in front-line Children’s Environmental Health (**Franks et al.**)

T4.2 Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials II (SS05) A 1045

CAG Special Session

Organizers/Chairs: Heather Hall (Memorial University), Kelly Vodden (Memorial University), and Sean Markey (Simon Fraser University)

- Territorial Innovation Systems: Lessons for Rural Spaces (**Carter**)
- The intersection of rural innovation and sustainability: Insights from Newfoundland and Labrador (**White, Vodden**)
- The Columbia Basin Rural Development Institute: Using Applied Research & Geospatial Technologies to Support Regional Development (**MacDonald**)
- Tourism as a regional development strategy: The realities for resource-based communities (**Koster, Lemelin**)

T4.3 Open Discussion on Fisheries Management A 1046

Organizer/Chair: Annie Lalancette (Concordia University)

T4.4 Dendrochronology in Canada II (SS12) A 1049

CAG Special Session

Organizers/Chairs: Bryan Mood (Mount Allison University), M. Graham Clark (Mount Allison University), Colin P. Laroque (Mount Allison University), and Trevor Bell (Memorial University)

- Dendroclimatological Study of Shelterbelt Trees in a Moisture Limited Environment (**Maillet et al.**)
- White spruce now and then: Determining the growth response of shelterbelt trees to climate change in the Canadian Prairies (**Davis et al.**)
- Determining Physiological Stress and Growth Thresholds of White Spruce in Southern Saskatchewan (**Mood et al.**)
- Downwind of Big Bitumen: A Dendrochronological Assessment of Atmospheric Pollution Effects from Athabasca Bitumen Mining (**Laroque, Kershaw, Castleden**)

T4.5 Resources and Communities (SS65) A 2065

Chair: Adrienne Johnson (Clark University)

- Green Governance or Green Grab? The biopolitics of the Roundtable on Sustainable Palm Oil (RSPO) and its processes in Ecuador (**Johnson**)
- Beyond Privatization: Negotiating water democracy in Cochabamba, Bolivia, after the Water War (**Razavi, Spronk**)
- Modelling risk, modifying behaviour: The introduction of novel weather insurance in St. Lucia (**Knudson**)
- The problem of unconceived alternatives in geographical reasoning (**Simandan**)

T4.6 Tourism-Related Issues (SS53) A 2071

Chair: Derrek Eberts (Brandon University)

- Initial findings from a climate change vulnerability assessment of Nova Scotia's coastal tourism industry on water resources (**Patara**)
- Disappearing reefs, disappearing divers?: The sustainability of diving as a conservation tool in a rapidly changing ocean (**Augustine, Dearden, Rollins**)
- Conservation vs. Development? Entrepreneurial Ecotourism in Northern Thailand (**Youdelis**)
- A 'New' Newfoundland and Labrador Sustainable Tourism Vision: Uncommon Potential (**Kennedy**)
- The Transformation of a Tourist Space: Puerto Vallarta's Malecon (**Eberts, Espinoza Sanchez**)

T4.7

Coastal Dynamics IV: Adaptation (SS42)

SN 2018

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- Connecting sense of place and climate change adaption: A case study of municipal wharves in the Shelburne and Queens Regions of Nova Scotia (**Brown**)
- Coastal Climate Change in Canada's North: A Systematic Review (**Parewick, Bell, Ford**)
- Assessment of the Risk to PEI's Coastal Residences, Infrastructure and Heritage from a Changing Climate: A Collaborative Project (**Fenech et al.**)
- Coastal Archaeological Resource Risk Assessment and Management in Atlantic Canada (**Robinson, Bell**)

T4.8

Geographical Education (SS54)

SN 2025

Chair: Bob Sharpe (Wilfred Laurier University) and Marcus Gillespie (Sam Houston State University)

- A Novel, Effective Approach to Teaching Science Literacy and Critical Thinking Using Case Studies (**Gillespie**)
- Investigating the Geographic Literacy Skills of Undergraduate Geography Students at the University of Toronto (**Leydon, Turner**)
- Experimenting with Place-Based Teaching across Disciplines (**Naqvi, Waldichuk**)
- Greening the Ivory Tower: A Discourse Analysis of Sustainability Policy in Post-Secondary Education (**Lidstone, Wright, Sherren**)
- Why Do Students Enrol in First Year Geography Courses? A case study of students at the University of Toronto Mississauga (**Leydon, Mclaughlin**)

Authors are to mount their posters between 8:00 and 8:30 and leave them mounted until 17:00.

Les auteurs présentant une affiche sont priés de l'installer entre 8h et 8h30, de la retirer seulement après 17h.

1. Large-scale flow intermittence in Canada: A 50-year study (**Bhamjee, Lindsay**)
2. Historical Aerial Photography Guides the Development of Restoration Protocols for Quarried Coastal Limestone Barrens (**Copp, Hermanutz, Bell**)
3. A Validation Against Observations of 24 Global Climate Models over Canada: Which GCMs Model Best and Where? (**Fenech et al.**)
4. Too Big to Ignore - Global Partnership for Small-Scale Fisheries Research (**Frank, Chuenpagdee**)
5. North America and Italy: shared concepts and challenging differences (**Glikman, Frank**)
6. Historical Population Health: Spatiotemporal Mortality Patterns of Hamilton, Ontario, 1881 & 1911 (**Ludlow**)
7. Modelling the Physical Coastal Vulnerability to Climate Change for the North Shore of Prince Edward Island (**MacDonald, van Proosdij, Scott**)
8. CanCoast: Mapping the characteristics of Canada's marine coasts towards understanding vulnerability to climate change (**Manson et al.**)
9. A Dendrochronological Investigation of Historic Spruce Budworm Cycles in Balsam Fir (*Abies balsamea* (L.) Mill) in Newfoundland (**Myers, Bell, Laroque**)
10. Remote sensing of nearshore marine habitats using single beam echo sounders - 50 kHz or 200 kHz? (**Reshitnyk, Robinson, Dearden**)
11. Retrospective and prospective study of the heat waves in West Africa (**Ringard, Rome, Diedhiou**)
12. A Comparative Mixed Methods Examination of Perceived Sense of Belonging between Immigrant and Canadian-born Groups in Second and Third-Tier Canadian Cities (**Williams et al.**)

Wednesday, August 14 | Mercredi 14 août

08:00-12:30	Registration InSCRIPTION	IIC atrium
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09:00-10:20	Paper Session W1 Séance générale W1	
W1.1	Place, Power, and Politics: Critical Historical Geographies and the Creation of Canada I (SS24)	A 1043
W1.2	Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials III (SS05)	A 1045
W1.3	Wildlife Management Approaches from a Geographical Perspective I (SS40)	A 1046
W1.4	Dendrochronology in Canada III (SS12)	A 1049
W1.5	Environment, Resilience, and Biodiversity I (SS55)	A 2071
W1.6	Coastal Dynamics V: Monitoring (SS42)	SN 2018
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10:20-10:40	Nutrition Break Pause santé	IIC atrium
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10:40-12:00	Paper Session W2 Séance générale W2	
W2.1	Place, Power, and Politics: Critical Historical Geographies and the Creation of Canada II (SS24)	A 1043
W2.2	Community-Based Water Monitoring and Management (SS09)	A 1045
W2.3	Wildlife Management Approaches from a Geographical Perspective II (SS40)	A 1046
W2.4	Feminist Approaches to Health and Health Care (SS16)	A 1049
W2.5	Environment, Resilience, and Biodiversity II (SS55)	A 2071
W2.6	Coastal Dynamics VI: Northern (SS42)	SN 2018
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12:00-13:30	Lunch BBQ for all delegates	
13:30-18:00	Free Field Trips (pre-registration required)	

W1.1 Place, Power and Politics: Critical Historical Geographies and the Creation of Canada I (SS24) A 1043

CAG Special Session

Organizers/Chairs: Vanessa Sloan-Morgan (Dalhousie University), Heather Castleden (Dalhousie University), Arn Keeling (Memorial University), and Matt Farish (University of Toronto)

Sponsored by the Indigenous Peoples Working Group

- Who's Feeling Hungry? Imaginaries, Exclusions and Possibilities in Food Security Discourse in Canada (**Wakefield, Frederickson, Brown**)
- A Feminist Environmental History of Forestry Sector Shifts in Eastern Ontario (**Dietrich**)
- 'Colony of Unrequited Dreams' (**Cullen**)
- Slow Violence and the Making of the Military North (**Farish**)

W1.2 Canadian Regional Development: A Critical Review of Theory, Practice, and Potentials III (SS05) A 1045

CAG Special Session

Organizers/Chairs: Heather Hall (Memorial University), Kelly Vodden (Memorial University), and Sean Markey (Simon Fraser University)

- Sense of Place...Now What? Place-based Development in an Era of New Regionalism (**Markey, Sarah**)
- Who is Ready for New Governance in Rural Development in Canada? (**Gibson**)
- Pacifiers, "Piñatas", and the Politics of Regional Development in Northern Ontario (**Hall**)
- Philanthropy: A Savior to Regional Development in Rural Areas? (**Barrett, Gibson**)

W1.3 Wildlife Management Approaches from a Geographical Perspective I (SS40) A 1046

CAG Special Session

Organizers/Chairs: Chris Malcolm (Brandon University) and Alistair Bath (Memorial University)

- Can slimy sculpin (*Cottus cognatus*) be used as an ecological indicator for Clear Lake, Riding Mountain National Park, Manitoba? (**McLaughlin, Malcolm, Sallows**)
- Connectivity as a measure of ecological integrity in northern pike populations in Riding Mountain National Park, Manitoba (**Malcolm, Sallows**)
- Where the Buffalo Roam: Exploring Aboriginal and Non-Aboriginal Beliefs about Wood Bison Disease and Management in Wood Buffalo National Park (**Will, Bath**)
- Understanding human dimensions components to enhance coexistence with large carnivores: wolves and brown bear in Abruzzo, Italy (**Glikman, Bath**)

W1.4 Dendrochronology in Canada II (SS12) A 1049

CAG Special Session

Organizers/Chairs: Bryan Mood (Mount Allison University), M. Graham Clark (Mount Allison University), Colin P. Laroque (Mount Allison University), and Trevor Bell (Memorial University)

- Tree rings as pollution archives: historical lead levels in St. John's (**Danek et al.**)
- Multiproxy reconstructions of mixed-severity fire dynamics in the Alberta Foothills (**Stretch Gedalof, Daniels**)

W1.5 Environment, Resilience, and Biodiversity I (SS55) A 2071

Chair: Jérôme Dupras (Université de Montréal)

- Towards the establishment of a Green Belt in the region of Montreal, Quebec: a look at the area, its actors and tools of implementation (**Dupras, André**)
- Examining Resilience in Toronto's Urban Forest: How Local Actors Influence Pest Vulnerability (**Vander Vecht, Conway**)
- Planning for Urban Biodiversity: An examination of the relationship between Integrated Community Sustainability Planning principles and novel ecosystem formation (**Stuart et al.**)

W1.6 Coastal Dynamics V: Monitoring (SS42) SN 2018

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- Coastal Monitoring in Newfoundland and Labrador (**Irvine**)
- An update on the beach profile monitoring program at the Irving Eco-Centre, la dune de Bouctouche, on the southeast coast of New Brunswick (**Bérubé, Desrosiers**)
- Evolution of the Coastline at Pointe de l'Est, Iles de la Madeleine, Québec (**Giles**)
- Decadal scale morphological response on a supply-limited mixed sediment beach, Point White, Bainbridge Island (**Osborne, Curtiss, Cote**)

W2.1 Place, Power and Politics: Critical Historical Geographies and the Creation of Canada II (SS24) A 1043

CAG Special Session

Organizers/Chairs: Vanessa Sloan-Morgan (Dalhousie University), Heather Castleden (Dalhousie University), Arn Keeling (Memorial University), and Matt Farish (University of Toronto)

Sponsored by the Indigenous Peoples Working Group

- Discursive Spaces of Spanish Influenza in Prince George, BC (**Hawkins, Hanlon**)
- Branding place and placing rights: Theoretical explorations of the right to the city in Vancouver's Nihonmachi/Downtown Eastside (**Masuda et al.**)
- Perspectives on the Maa-nulth Treaty: An Exploration of Local Indigenous-Settler Relations in Port Alberni, British Columbia (**Sloan Morgan, Castleden**)
- Alternatives for the Representation of National Groups in Parliament (**Forest, Medeiros**)

W2.2 Community-Based Water Monitoring and Management (SS09) A 1045

CAG Special Session

Organizers/Chairs: Cathy Conrad (St. Mary's University) and Heather Castleden (Dalhousie University)

- Community-based water monitoring and management: experiences from CURA H20 (**Conrad et al.**)
- When Ecology is Political: Variegated Authority in Canada's Community Based Watershed Groups (**Cohen**)
- Building capacity for improved community monitoring of private wells in Nova Scotia (**Chappells et al.**)
- Exploring Graduate Student Research on Community Based Approaches to Water Monitoring and Management (**Blair, Buckland-Nicks, Garda**)

W2.3 Wildlife Management Approaches from a Geographical Perspective II (SS40) A 1046

CAG Special Session

Organizers/Chairs: Chris Malcolm (Brandon University) and Alistair Bath (Memorial University)

- Multiple dimensions of hunting in the region of Gorski kotar, Croatia (**Kerezi, Bath**)
- Evaluating the impact of a wolf conservation project on attitudes toward wolves in Slovenia (**Mulej Tlhaolang, Bath**)
- Attitudes toward Coyotes: Similarities across a Rural and Urban landscape (**Sutherland et al.**)
- The role of emotions in human-wildlife interactions: A case study of human-coyote relationship in Cape Breton Highlands National Park (**Sponarski, Bath, Vaske**)

W2.4 Feminist Approaches to Health and Health Care (SS16) A 1049

CAG Special Session

Organizer/Chair: Caitlyn Henry (University of Toronto)

- Possibilities and Limits of Material Feminisms to the Feminist Geographies of Health Care (**Ustundag**)
- Nurse 'Shortages' and the Social Reproduction of American Health Care (**Henry**)
- Mobilizing Low-Income Aboriginal Women's Right to Food in the City (**Sobie, Masuda**)

W2.5 Environment, Resilience, and Biodiversity II (SS55) A 2071

Chair: Norm Catto (Memorial University)

- A Q-method investigation into rationale for household choice and location efficiency in Edmonton (**Borth, Summers**)
- Is the Greenbelt Plan inducing leapfrog development in Southern Ontario? (**Rafael Harun**)
- Supplementing stationary monitoring networks with mobile monitors: Siting Monitors Based on Long-Term Historic Data (**Adams, Kanaroglou**)
- The impact of interactions between core and periphery on land use planning Case study: Mashhad and Torghabeh (**Alizadeh, Taheri**)

W2.6 Coastal Dynamics VI: Northern (SS42) SN 2018

CAG Special Session

Organizers/Chairs: Trevor Bell (Memorial University) and Danika van Proosdij (Saint Mary's University)

Sponsored by the Canadian Geomorphology Research Group

- Mapping nearshore marine habitats of Arctic Bay, Nunavut: influences of geological inheritance, climate change, and anthropogenic impacts (**Edinger, Aitken, Bell**)
- Evidence for the submerged postglacial sea-level lowstand off eastern Baffin Island, Nunavut (**Cowan, Bell, Forbes**)
- Climate-change impacts on an emergent Arctic shoreline, Hall Beach, NU (**Manson, Forbes**)
- Coastal Evolution of a Subarctic Macrotidal Embayment (**Hatcher, Forbes, Manson**)

Thursday, August 15 | Jeudi 15 août

08:00-12:00	Registration InSCRIPTION	IIC atrium
09:00-10:20	Paper Session R1 Séance générale R1	
	R1.1 Political Ecology of Sovereignty (SS25)	A 1043
	R1.2 Waste and Indeterminacy I (SS37)	A 1046
	R1.3 Cultural Geography I (SS66)	A 1049
	R1.4 International Perspectives I (SS62)	A 2065
	R1.5 Labour Geographies and the Landscape of Austerity (SS21)	A 2071
	R1.6 Physical Geography II (SS52)	SN 2018
10:20-10:40	Nutrition Break Pause santé	IIC atrium
10:40-12:00	Annual General Meeting Assemblée générale annuelle	IIC 2001
12:00-13:20	Lunch Break Repas du midi	
12:30-15:00	CAG Executive Meeting	SN 2000
13:20-14:40	Paper Session R3 Séance générale R3	
	R3.1 Living with the Legacies of 20 th Century Urbanisms I (SS22)	A 1043
	R3.2 Waste and Indeterminacy II (SS37)	A 1046
	R3.3 Cultural Geography II (SS66)	A 1049
	R3.4 International Perspectives II (SS62)	A 2065
	R3.5 Exploring the Creative Class in Canada and Abroad (SS15)	A 2071
	R3.6 Environment and Human Migration (SS13)	SN 2018
14:40-15:00	Nutrition Break Pause santé	IIC atrium
15:00-16:20	Paper Session R4 Séance générale R4	
	R4.1 Living with the Legacies of 20 th Century Urbanisms II (SS22)	A 1043
	R4.2 Waste and Indeterminacy III (SS37)	A 1046
	R4.3 Cultural Geography III (SS66)	A 1049
	R4.4 A Special Panel Session on Career Development (SS01)	A 2065
	R4.5 n/a	A 2071
	R4.6 Physical Geography III (SS57)	SN 2018

16:30-17:30	Past President's Address	IIC 2001
18:30-22:30	Banquet	Geo Centre

R1.1 Political Ecology of Sovereignty (SS25)**A 1043****CAG Special Session***Organizers/Chairs:* Tyler McCreary and Vanessa Lamb (York University)

- Notes Towards a Political Ecology of Sovereignty (**Lamb, McCreary**)
- A sovereign history of crisis: Protecting nature to fund the state (**Erickson**)
- “Much in Blood and Money”: Environmental Necropolitics on the Margins of the Uganda Protectorate, 1890-1962 (**Cavanagh, Himmelfarb**)
- Rubber plantation and the production of "new" land governance in the Northwest of Vietnam (**Dao**)

R1.2 Waste and Indeterminacy I (SS37)**A 1045****CAG Special Session***Organizer/Chair:* Josh Lepawsky (Memorial University)

- Studying Waste/Discards with the notion of ‘Boundaries and Edges’ (**Akese**)
- A Preliminary Investigation of Waste to Energy Uptake by Ontario Municipalities (**Rollins, Baxter**)
- Food Waste: On the Horizon for Extended Producer Responsibility (**Maclaren**)
- Moving Waste Around: The Impacts of Waste Transportation from an Environmental Sociology Perspective (**Kuyvenhoven**)

R1.3 Cultural Geography I (SS66)**A 1046***Chair:* Bernard Momer (University of British Columbia, Okanagan Campus)

- The Writings on the Stall: Women's Latrinalia at the University of Winnipeg and Simon Fraser University (**Sawka**)
- Social Inclusion through Educational Interpreters: A Geographical Perspective (**Chrobok**)
- Omar Khadr, Hanna Arendt, and the ‘human rights vs. citizenship rights’ debate (**Capurri**)
- On Their Own: Why Youth Risk Homelessness in the North (**Plant**)

R1.4 International Perspectives I (SS62) A 1049

Chairs: Belinda Dodson (University of Western Ontario) and Katherine MacDonald (York University)

- Understanding Urban Food Security in Southern Africa: Insights from a Gender Analysis of African Food Security Urban Network (AFSUN) Survey Data (**Dodson, Riley**)
- Labour Geography and the post-colonial world: A study of autoworkers' strikes in India (**Pati**)
- Youth livelihood strategies and environmental decision-making in the Humid Forest Zone of Cameroon (**MacNeil, Carolyn Peach Brown**)
- Resource Development, Regional Policy and Quality of Life: Reconstructing the Pilbara, Western Australia (**Chapman, Tonts, Plummer**)

R1.5 Labour Geographies and the Landscape of Austerity (SS21) A 2071

CAG Special Session

Organizers/Chairs: Suzanne Mills (McMaster University) and Steven Tufts (York University)

- The Big Fix: Can Ontario's transit boom create good green jobs for all in an era of austerity? (**Nugent**)
- 'Greening Work' in Lean Times: The Amalgamated Transit Union and Eco-socialization of Canadian Transportation Systems (**Carey, Tufts**)
- Work in the neo-staples political economy: IBAs and Aboriginal governance in Canada's Nickel Mining industry (**Mills, Sweeney**)
- Labour Geography and the Age of Austerity (**Tufts**)

R1.6 Physical Geography II (SS52) SN 2018

Chair: Norm Catto (Memorial University)

- Green Dreams: A critical literature review on the barriers to implementing community-based composting initiatives in developing countries (**Soma**)
- Response of the prairie grasslands under disturbances of fire and grazing – a literature review (**Li**)
- Contribution of anomalous winter storm activity to extreme winter warming in Labrador (**Finnis**)
- Modelling sandy, braided channels using CEASAR-Lisflood (**de Boer**)

R3.1 Living with the Legacies of 20th Century Urbanisms I (SS22) A 1043**CAG Special Session***Organizers/Chairs:* Douglas Young and Lisa Drummond (York University)

- Problem or Possibility? The Legacies of 20th Century Socialist Urbanism in Asia and Europe (**Drummond, Young**)
- The Reproducible City in the Age of Automobility: The Case of South City, Prague (**Logan**)
- Healthy suburbs then and now: health, health consumption and the idea of “Great Places” (**Parish**)
- Driven into Debt? Assessing the Financial Legacy of Automobility and 20th Century Suburbanism (**Walks**)

R3.2 Waste and Indeterminacy II (SS37) A 1045**CAG Special Session***Organizer/Chair:* Josh Lepawsky (Memorial University)

- Fair trade e-waste? Exploring the possibilities and limits of an experiment in ethical economy (**Lepawsky**)
- Untangling complexity: analyzing waste management in tourism dependent communities (**Nagel, Gutberlet**)
- Defining Pollution by Defining Harm: The Rise and Fall of Assimilative Capacity from Sewage to Plastics (**Liboiron**)
- Legal geographies of waste in Canadian cities (**Parizeau, Lepawsky**)

R3.3 Cultural Geography II (SS66) A 1046*Chair:* Bernard Momer (University of British Columbia, Okanagan Campus)

- Natural Capital and Productivity - Lessons from Canadian Industry (**Pentelow Besco**)
- Public-Private Partnerships for Prison Infrastructure Delivery in Ontario: Neoliberalizing governance? (**Buitenhuis**)
- Portable and mobile borders: Anglo-Quebecers and Franco-Ontarians and Ottawa-Gatineau border (**Brosseau**)
- No Sir, She Was Not a Fool in the Field: Power, Gender and Sexual Violence in Cross-Cultural Fieldwork (**Ross**)

R3.4 International Perspectives II (SS62) A 1049

Chairs: Belinda Dodson (University of Western Ontario) and Katherine MacDonald (York University)

- China's Agricultural Geographic Agglomeration Pattern and Evolution Path : A Political Economic Perspective (**Li et al.**)
- Unreliable Amazonia: Acknowledging Regional Geopolitics (**MacDonald**)
- Irish pubs and dream cafes: Tourism, tradition and modernity in Nepal's Khumbu (Everest) region (**Nepal**)
- Informal Sector Business Tourism in the Global South: Evidence from Maseru, Lesotho (**Rogerson**)

R3.5 Exploring the Creative Class in Canada and Abroad (SS15) A 2071

CAG Special Session

Organizer: Taylor Brydges (University of Toronto)

Chair: Garrett Morgan (University of Toronto)

- The Geography of Class and Education (**Gilligan**)
- The Geography of Music (**Brydges et al.**)
- Representing the Creative in Creative Industries in China (**Marton**)
- Selling Difference: A comprehensive examination of place branding in Ontario communities (**Cleave, Arku**)

R3.6 Environment and Human Migration (SS13) SN 2018

CAG Special Session

Organizer/Chair: Reiko Obokata (University of Ottawa)

- Migration and Environmental Change in St. Lucia, West Indies (**Walters**)
- Un-Natural Categories: Re-conceptualizing environmental migration (**Obokata**)

R4.1 Living with the Legacies of 20th Century Urbanisms II (SS22) A 1043**CAG Special Session***Organizers/Chairs:* Douglas Young and Lisa Drummond (York University)

- Boundaries and Public Housing Redevelopment in Toronto's Don Mount Court/Rivertowne: From Isolation to an Integrated Fabric? (**Mair**)
- Implications of Policy Devolution for Social Housing Regeneration in Ontario (**Rollins, Buzzelli, Carlson**)
- Urban Policy Circulation and the Politics of Revitalization: The Calgary Municipal Lands Corporation and the "East Village Experience" (**Shmuely**)

R4.2 Waste and Indeterminacy III (SS37) A 1045**CAG Special Session***Organizer/Chair:* Josh Lepawsky (Memorial University)

- Thermochemical Waste Conversion: Uncertainty in Material and Energy Transformations (**MacBride**)
- Museum of Contemporary Rubbish (**Bradshaw**)

R4.3 Cultural Geography III (SS66) A 1046*Chair:* Karyn Butler (Memorial University)

- Public Pumping: The Lactation Support Program at Virginia Tech (**Porter, Oliver**)
- The Morphogenesis of an Amenity Landscape: The Okanagan Valley, British Columbia (**Momer**)
- Tehran's cultural landscape: Globalization, ethnical diversity and urban planning (**Fanni, Bagheri**)

R4.4 A Special Panel on Career Development (SS01) A 1049**CAG Special Session***Organizers/Chairs:* Rich Quodomine (New York State, Dept. of Transportation)

- Cross-Border Issues in Geography Jobs: Proving worth in a tough economy (**Quodomine**)
- Panel discussion to follow

R4.5 n/a A 2071

R4.6 Physical Geography III (SS57)

SN 2018

Chair: Norm Catto (Memorial University)

- Comparative analysis of coastal processes and natural hazards, Sachs Harbour and Gjoa Haven, Arctic Canada (**Catto et al.**)
- The Effects of Landscape, Regional Economies and Institutional Histories on Community Acceptance of Protected Areas: the case of Gaspésie National Park, Québec (**Buteau-Duitschaever, Slocombe**)
- How are moose affecting Newfoundland forests at an ecosystem level? (**Kissler, Hermanutz, Wiersma**)
- Coastal Erosion in Newfoundland: Short-term and Long-term Assessment (**Catto, Sherin**)

Past President's Address

IIC 2001

16:30-17:30

Banquet

Johnson Geo Centre

18:30-22:30

Study Group Business Meetings | Réunions d'affaires des groupes d'étude

Study Group 1: Canadian Women and Geography	Aug 13 (T)	A 1049
Study Group 2: Environment and Resources	Aug 12 (M)	A 1045
Study Group 3: Tourism and Recreation	Aug 12 (M)	A 2071
Study Group 4: Economic Geography	Aug 13 (T)	A 2071
Study Group 5: Marine Studies and Coastal Zone Management	Aug 13 (T)	A 1045
Study Group 6: Health and Health Care	Aug 13 (T)	A 1043
Study Group 7: Indigenous Peoples	Aug 13 (T)	A 1046
Study Group 8: Rural Geography	Aug 12 (M)	SN 2025
Study Group 9: Canadian Geomorphology Research Group (CGRG)	Aug 13 (T)	SN 2018
Study Group 10: Public Policy Issues	Aug 12 (M)	SN 2018
Study Group 11: Geographic Information Science (GIS-SIG)	Aug 12 (M)	A 1049
Study Group 12: Geographies of Asia	Aug 12 (M)	A 1046
Study Group 13: Geographic Education	Aug 13 (T)	SN 2025
Study Group 14: Diversity, Migration, Ethnicity and Race	Aug 12 (M)	A 2065
Study Group 15: Historical Geography	Aug 13 (T)	A 2065
Study Group 16: Urban Geography	Aug 12 (M)	A 1043

ABSTRACTS

Supplementing stationary monitoring networks with mobile monitors: Siting Monitors Based on Long-Term Historic Data

Matthew Adams, Pavlos Kanaroglou
McMaster University, Hamilton, ON, Canada

We present an optimization approach for siting mobile monitoring units within a stationary monitoring network to reduce the kriging variance (error) when interpolating a field of concentrations across the study domain. The monitors are located with the following assumptions: (1) Monitors will be located for a period of two weeks and then relocated; (2) A monitor measures only a single pollutant; and (3) Historic data is able to be applied to locate the monitors, due to some stationarity in kriging variance. Determining the location of mobile units is formulated as a combinatorial problem, given a set of potential monitoring locations; we choose the set of locations that maximizes the collection of data in locations with high kriging variance.

Hamilton, Ontario, Canada's air quality monitors have a poor spatial distribution across the city. The NO₂ monitors are clustered towards an industrial region on the northern edge of Hamilton; their locations are due to known industrial pollution issues. Hamilton is currently undergoing residential and commercial development in the city's periphery, which is increasing vehicular traffic along many roads. The modified traffic patterns change the locational-distribution of air pollution sources. Maintaining the current monitoring locations is important to retain long-term data sets. However, the new sources require increased monitoring in poorly serviced areas. Given the cost of installing permanent monitoring stations, it is unlikely in the current environmental funding paradigm that new stationary monitors will be installed. There is a potential to supplement this network in poorly serviced locations with mobile monitors.

SS55 W2.5

What are the potential tradeoffs and hard choices for Newfoundland and Labrador marine protected areas (MPAs)?

Melinda Agapito¹, Rodolphe Devillers¹, Evan Edinger¹, Ratana Chuenpagdee¹, Mariano Koen-Alonso²
¹*Memorial University, St. John's, NL, Canada,* ²*Northwest Atlantic Fisheries Centre Fisheries and Oceans Canada, St. John's, NL, Canada*

The objectives for marine protected areas (MPA) set by the Government of Canada are intended to protect high biodiversity areas which include not only the endangered species but also the commercial and non-commercial fishery resources. While these objectives are well intended and justifiable, achieving these objectives raises the question "what are the associated social competing realities?" Our study developed a GIS-based multicriteria approach where evidence-based information and stakeholders' priorities are integrated into the assessment method using Newfoundland and Labrador waters as the case study area. Species-rich areas were identified based on species abundance and diversity (i.e. richness and evenness) of ground fish, seabirds and habitat-forming species such as corals and sponges. Species status (e.g. endangered), and regionally rare and endemic species distribution for ground fish was also included. Socioeconomic and other human-use areas were identified based on fishing data, oil and gas activities and marine commercial traffic. Our approach shows that there are

overlaps between species-rich areas and high socio-economic activities in the outer shelf, along the shelf edge and some areas inshore. This implies that attaining the above stated objective will require socially related tradeoffs and hard-choice decisions for Newfoundland and Labrador MPAs. We recommend that identifying these tradeoffs or hard choices must be based on a comprehensive participative and communicative strategy.

SS29 M2.6

Studying Waste/Discards with the notion of 'Boundaries and Edges'

Grace Akese

Memorial University, St John's, NL, Canada

Recent methodological approaches to the study of waste/discards in geography converges around two main concepts: materiality and performativity. This move has involved a focus on research methods that is attentive to the unstable material properties of waste and the different associations that emerges around these materials. Lepawsky and Mather recently proposed the notion of 'boundaries and edges' as a methodological construct that provides a possible way for waste scholars to grapple with the unstable material register of waste and it related associations. 'Boundaries and edges' are relational effects of actions of things, people (including those of researchers) and places. They are effects of relations that are always in the making through the practices that order things, people and places. We therefore have to follow practices as a way into the realities of 'boundaries and edges'. This paper is a reflection on the notion of 'boundaries and edges' through a discussion of how I studied the practices of trading electronic waste in Accra, Ghana.

Taking the notion as a methodological point, I use empirically grounded instances to explore what it means for waste/discard scholars to search for 'boundaries and edges' in their research practices. How might we do waste/discard studies that are attentive to the making, unmaking, and remaking of boundaries and edges? What might boundaries and edges offer us? Exploring these questions, I aim to open up their notion as both a subject and method of inquiry.

SS37 R1.2

Accessibility to Health Services in Mashhad: a GIS-Based Assessment for Redistribution of Infrastructures

Katayoon Alizadeh¹, Seyedeh Negar Hosseinian²

¹Islamic Azad University, Mashhad Branch, Iran, ²Islamic Azad University, Mashhad Branch, Iran

In the process of fast urban development some cities faced with a kind of asymmetric spatial distribution of public services. One of those services which are vital for everybody is health infrastructures. Equal access to health services is principle of course for those in equal needs. This research intends to assess the accessibility to health infrastructures from population centers for each urban district. The case study is Mashhad which is the second significant metropolis in Iran with 3 million inhabitants and 12 municipal districts. There is no equality in spatial distribution of health services in distinct areas of Mashhad. Although, there is a frequency of transport services in different modes in this city, they must restructure based on infrastructures spatial distribution. This research has been done through descriptive analytical method with the use of Geographical Information System (GIS) and digital

map databases. These Instruments have made it possible to measure the physical accessibility including, travel time, distance, spatial distribution. Consequently, this research has been conducted the aspects which caused to unequal distribution of health services in Mashhad's municipality zones. In addition, the result makes it possible to recognize the shortages of health services and identify opportunities in each district in order to redistribution of health infrastructures.

SS50 T1.8

The environmental impact of physical expansion of Shandiz city on its periphery

Katayoon Alizadeh¹, Foroozan Taheri²

¹Islamic Azad University, Mashhad Branch, Mashhad, Khorasan Razavi, Iran, ²Ferdowsi University, Mashhad, Khorasan Razavi, Iran

The small countryside city of Shandiz, with a population of about 55,000, is located 35 km to the west of the Mashhad metropolitan. Due to Shandiz's natural beauty, suitable climate, and its close proximity to Mashhad, which is the largest city in the eastern half of the country, many people own second houses in this area. In addition to this, Shandiz hosts millions of visitors annually. Its economic role, which is parallel and complementary to Mashhad, has caused population growth, the increase of activities, and physical expansion, all of which exceed the city's capacity. The aim of this descriptive and analytical study was to evaluate the impact of city expansion on the environment and aid in preventing further harm to the natural environment of this perimeter. Data collected were from population and housing statistics, and aerial and satellite images from a variety of timeframes. Results show that the existence of an integrated environmental management system in order to coordinate development projects and the expansion of tourism programs that meet environmental conditions are necessary and achieving sustainable development with quality of life in this area without considering environmental limitations and capabilities cannot be sustained.

SS17 M4.3

The impact of interactions between core and periphery on land use planning Case study: Mashhad and Torghabeh

Katayoon Alizadeh¹, Foroozan Taheri²

¹Islamic Azad University, Mashhad Branch, Mashhad, Iran, ²Ferdowsi University, Mashhad, Iran

Mashhad which is a multifunctional metropolis has been located in the north east of Iran. Compare to the other functions, tourism has more significant role in its economy. Mashhad hosts more than 20 millions of visitors and pilgrimages annually. Countryside settlements which are located around this city benefits from this huge amount of tourists. Torghabe, with a population of about 13244, is located 12 km of the Mashhad metropolis. Due to its natural beauty, many people choose this city for spending their holidays. Little by little Torghabeh has changed its function from an agricultural settlement to a touristic town. This functional change has changed land use planning in this area and has had various impacts on economic life of its inhabitants. This descriptive and analytical study shows that during the past 30 years more than half of the agricultural lands have been changed to the other land uses like shopping centers, restaurants, hotels and even second homes. These changes threat vulnerable environmental conditions in this area. The results shows land use change is more than carrying capacity in this area and without considering environmental aspects Torghabeh cannot be sustained as a healthy

city.

SS55 W2.5

Co-managing Small-Scale Fisheries – A Promising but Missed Opportunity in Newfoundland and Labrador

Sharmane Allen

Memorial University, St. John's, NL, Canada

Recently there have been indications that the Northern cod stocks in NAFO Division 2J3KL may be recovering, especially in coastal areas. After two decades of debate focused on what precipitated the collapse of the stocks and the subsequent harvesting moratorium in 1992, there has been minimal consensus concerning how these stocks should be properly governed when and if they return. In 2004, the Fisheries Resource Conservation Council (FRCC) recommended that the Department of Fisheries and Oceans (DFO) establish Coastal Fisheries Councils comprising small-scale fish harvesters and their communities to co-manage cod fisheries within the 6-mile limit. The FRCC alleged that DFO's top-down fisheries management regime limited fish harvesters participation, excluded fishing communities, and was ineffective in addressing local needs and conditions. Without the establishment of a co-management regime capable of responding to regional fishery systems, the FRCC predicted that the future of small-scale fisheries would be in jeopardy. DFO did not act on the FRCC's recommendation despite evidence worldwide that co-managed fisheries are a viable management alternative. Nor has there been any public pressure to do so despite the fact the recommendation was based on extensive consultation with affected communities and fish harvesters in NAFO Divisions in 2J3KL. This paper offers insights into why the recommendation was not implemented and explores the potential benefits of fisheries co-management in Newfoundland and Labrador's small-scale fisheries.

SS03 T2.3

A comparative analysis of potential spatial access to palliative care services in two Canadian provinces

Ofer Amram, Nadine Schuurman, Valorie Crooks, Rory Johnston, Allison Williams

Simon Fraser University, Burnaby, BC, Canada

Access to health services such as palliative care is determined not only by health policy but by a number of legacies linked to geography and settlement patterns. In this study, we introduce a series of spatial analyses designed to illustrate potential spatial access to palliative care services. We introduce a means of determining one-hour travel time catchments to palliative health services and then extend the spatial model to integrate available beds as well as documented wait times. A telephone survey was conducted of all palliative care facilities with designated palliative beds within the provinces of Saskatchewan and Newfoundland. In addition to identifying the number of palliative beds in each facility, the researchers also collected information regarding additional services and individual facility waitlist/access times. Using a two-step floating catchment, bed availability for each one hour catchment is examined in relation to wait time for each facility. The one-hour catchments provide the basis for the relative comparison of potential spatial access to services among geographically diverse provinces with distinct histories of service implementation.

SS50 T1.8

Domestic Disturbances: Home as Site in the Work of Martha Rosler and Doris Salcedo

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Though distinct in form, artists Doris Salcedo (Colombia, 1958) and Martha Rosler (U.S., 1943) both consistently evoke notions of home drawing from specific social and political realities that have permeated the collective memory of their generation with the specificity of their geographic origins. In the case of Martha Rosler, her evocations are centered around the domestic sphere, a symbolically imbued space that presents itself with the everyday physicality and its tension with the public sphere. For Salcedo, home is a complex set of relations tied to the nation state yet deeply implicated in a subjectivity whose history cannot escape the violence under which its identity has been constructed. This paper sets out to examine the definitions of home that emerge from the practices of these two artists. The pairing of the two allows this paper to also function as a device through which to interlock their work as signifying practices with a theoretical framework that incorporates geography, critical theory, feminism, memory and media studies. Moreover, this paper will elucidate how in their articulations, home is simultaneously a singular and individual experience, as well as a plural and collective one.

SS32 M2.7

Spatially explicit probabilities of residual vegetation patch existence within boreal wildfires

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Wildfires are frequent boreal forest disturbances in Ontario and emulating them with forest harvesting has emerged as a common forest management goal. Since wildfires typically contain a considerable number of unburned residual patches of various size, shape, and composition, we present means for learning their characteristics to improve the subsequent emulation of wildfires with forest harvest planning. We present a method for developing probability maps for the existence of residual vegetation within wildfire dominated landscapes. We use the Random Forests ensemble learning approach to predict the occurrence and distribution of residual vegetation patches based on selected predictor variables: proximity to wetlands, water bodies, old burns, or non-vegetated areas, in conjunction with site characteristics comprising slope, elevation, a ruggedness index, and land cover type. Satellite derived land cover data is partitioned into training and validation data; the model is constructed and calibrated using the training data and evaluated with the validation data. The resulting probability maps, one for each predictor variable, are combined and used to predict the existence of residual vegetation patches within the study area. Our predictions are compared with the observed residual patches for assessing the accuracy of our predictive model.

SS44 T1.4

The shaping of senses of place in and through the Newfoundland novel

Angela Ashworth

University of Birmingham, Birmingham, UK

The novel as a literary genre developed as an arena for political and satirical dialogue between writers and their readers but in the course of the nineteenth century it also became a forum for both shaping and reflecting senses of place, particularly in times of political and social upheaval. Victorian novels such as Eliot's *Middlemarch* and Gaskell's *North and South* are well-known examples. The Newfoundland novel has also attracted considerable interest in this respect, particularly since Confederation in 1949.

This paper will explore this phenomenon through the depiction of the Newfoundland outport, as it is envisioned by local, diasporic and outsider writers. In the past, the outport has functioned as a historical artifact, embodied sentiments of yearning and loss and been held up as a symbol of nationhood. Since the Cod Fishing Moratorium in 1992, the outports have predictably declined in importance, evoking mixed emotions and stimulating speculation about the way forward for Newfoundland, as demonstrated in the 2003 Royal Commission on Newfoundland's place in Canada.

This ambivalence concerning the real and symbolic significance of the outport in the shaping and reflecting of the identity of This Place is observed and analysed by examples from these regional novels. In this context, the contribution by cultural geographers to literary studies is evident but the influence of novelists and their readers on perceptions of senses of place is far greater than is realized. The Pulitzer Prize award to the American novelist, Annie Proulx in 1993 is just one high profile example.

SS64 T3.5

Friedrich Ratzel (1844-1904) - The founder of Human geography. Why have we forgotten?

Gregory Ashworth

University of Groningen, Groningen, The Netherlands

Human Geography before Ratzel was an encyclopedic collection of random facts arrayed in arbitrarily bounded regions. Humboldt, Ritter, Reclus etc did not seek any overarching explanatory framework to explain the spatial patterns of people on the earth.

Ratzel, with a background in the natural sciences, determined to go beyond description, putting human geography within a scientific explanatory context. The core of this was the relationship of people to place through a social ecology determined by cultural change. This relationship, summarized in the *Anthropogeographie* (vol. I, 1881 /vol. II, 1891) created the framework for theorizing about the people-land nexus. He thus laid the foundation for the following generations of geographers in settlement (Taylor, Sauer, Geddes, Mackenzie, Burgess) social (Bruhnes, Vidal de la Blache, Huntingdon) and political (Mackinder, Bowman, Whittlesey) geography.

If Ratzel pioneered a scientific human geography then why has he been forgotten and his ideas no longer read, especially in Germany. Writing copiously in German, his ideas were developed and translated by his students, who at best misunderstood the subtlety of his conceptual framework (reducing it, as Semple did, to a simplistic environmental determinism) or even perverting it to support a racially determined social Darwinism as justification for Germanic expansionism (Kjellen, Haushofer).

None of these ideas have any support in his writings and it is only by going back to the now largely inaccessible literature that his decisive contribution to our discipline can be appreciated.

SS51 T2.8

Disappearing reefs, disappearing divers?: The sustainability of diving as a conservation tool in a rapidly changing ocean

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¹*University of Victoria, Victoria, BC, Canada,* ²*Vancouver Island University, Nanaimo, BC, Canada*

Diving is an important industry that aids the conservation efforts of Thailand's marine protected areas. This study examines the perspectives of divers visiting the Andaman Coast in 2000 and again in 2012 to estimate the changes to the demand for diving, characteristics of divers, and the vulnerability of the industry to climate change. As a lucrative tourism industry, diving can act as an incentive-based conservation tool providing economic benefits that make preserving coral reefs more valuable than exploiting them. Declines in coral health due to natural and anthropogenic pressures, as well as a recent massive bleaching event, have significantly changed the characteristics of visitors and reduced demand for diving. These changes threaten the sustainability of diving as a conservation tool and suggest the need for revised tourism management. Coastal management authorities both in Thailand and around the world can use this as evidence of the need for adaptive management when planning for climate change and associated uncertainty.

SS53 T4.6

Mobile lifestyles: gender and place attachment in negotiating mobility to the petroleum industry in the Hammerfest region in Norway

Marit Aure

Norut, Northern Research Institute, Tromsø, Norway

The petroleum industry is currently changing the region of western Finnmark and especially the town of Hammerfest. Hammerfest is the second biggest municipality in Finnmark, the northernmost county of Norway. The petroleum industry is highly mobile and the population of Hammerfest has increased with more than 10 per cent the last 10 years. A considerable part of the labour force in the industry work on-shore and off-shore rotations on a fly-in/ fly-out basis. During the hey-days of the Snøhvit development (the first petroleum development in Hammerfest, by Statoil) in 2006, there were about 1000 persons from abroad working on temporary contracts in Hammerfest, constituting 10 per cent of the population. Commuters from other parts of Norway added to this. At the end of 2011 the total percentage of commuters to Hammerfest was about 17.5 percents of the workforce. The study explores mobilities; inmigration, non-migration and commuting among employees in the petroleum industry in Hammerfest and Kvalsund. My main research question is how to understand women and men's employment related mobility as part of their life project. This is studied by interviews with newly hired employers in the petroleum industry. Questions have dealt with how they negotiate, understand, represent and practice different kind of mobilities. Focus is on the role of gender and place in living, moving and commuting and talking about it. The relationship between representations and practice is discussed with regard to

understandings of gender, place and place attachment.

SS41 M1.5

Narrating home as place attachment

Marit Aure¹, Agnete Wiborg², Vigdis Nygaard³

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In what is considered an increasingly globalized world how to understand home, place and people's relation to places are central topics. People's attachment to place is in different ways linked to their decisions about moving or staying and with questions of identity as some of the ways people and places interact. This paper approach "home", from studies of how people talk about place attachment in relation to staying or moving. Instead of focusing on how place attachment influence decisions about moving or staying, we ask how place attachment can be understood through the way people talk about it, how it is shaped and how it changes. We want to use a dynamic approach and thus to ask for how place attachment and the feeling of home is developed through peoples engagement in the place and also how it changes through time. We use an interactional perspective and see home and place attachment as a result of people's actions/ activity and a relation between people and place which develops and changes through time. This approach will focus on the process of doing and shaping of place attachment. Perspectives from environmental psychology including discussions of homes can expand the discussions in the migration and mobility literature on sense of place, by highlighting affective and cognitive factors. The analysis draws on qualitative individual and group interviews with people in three different towns/cities in Norway in different ages, life situations, with different educational backgrounds and migration stories.

SS32 M3.7

The Kuujjuaq Greenhouse Project: A Partnership Approach to Research & Community Development

Ellen Avard

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Inuit villages in Nunavik currently face complex social challenges as well as numerous food security issues. In 2009 a preliminary study was conducted in order to assess the social and cultural acceptability of greenhouse initiatives in this region. Since then, research has continued on the subject through the facilitation and documentation of a greenhouse pilot project in the village of Kuujjuaq. This work-which is being elaborated within the paradigm of Community-Based Participatory Research-embodies a critical geographic approach, and as such, actively involves not only academics, but also stakeholders from all levels of government, representatives from Inuit organizations, NGO's, local businesses and, most importantly, community members.

This approach ensures community ownership of the research and the results generated by this co-production of knowledge are being integrated into a model for a new type of local food system in the North. This model will not only contribute in a significant way to the advancement of research on food security, ecological design and community capacity building in the North, but it will also contribute to policy development and will help address the social, economic and environmental challenges facing

Arctic communities in a sustainable, culturally appropriate manner.

SS02 M4.8

The art of catching fish in waters that contain none: aquaculture as an accumulation strategy

Daniel Banoub

University of Manchester, Manchester, UK

In an interesting footnote to his chapter on the labour process in *Capital Vol. 1*, Karl Marx notes, "it appears paradoxical to assert that uncaught fish [...] are a means of production in the fishing industry. But hitherto no one has discovered the art of catching fish in waters that contain none." Far from predicting modern fish farming, Marx does point us to some of the difficulties in analysing the political economy of aquaculture: have 'uncaught' fish become a 'means of production'?

This paper will seek to outline a theoretical framework for the political economy of aquaculture. Drawing on critical resource geography, I will pursue three goals: 1) to move beyond the nature-society dualism, treating aquaculture as a socio-natural and socio-technical hybrid; 2) to adequately theorise materiality, examining how the biophysical characteristics of resources actively shape the organisation of production; and, 3) to recognize the cultural and discursive aspects of these developments, noting how aquaculture is part of wider processes of neoliberal subject formation.

Through an examination of the emergent cod aquaculture industry in Newfoundland and Labrador since 1992, this paper will argue that aquaculture is an attempt to subsume the reproductive biology of fish as a vehicle for capital accumulation.

SS26 T1.3

Governance images of the paradise: Galapagos Marine Reserve Case Study

Maria-Jose Barragan Paladines

Memorial University, St. John's, NL, Canada

Galapagos Marine Reserve (GMR) may still be perceived by many as a pristine hot spot of marine biological diversity when in reality it is also a site threatened by migration, urban development, tourism infrastructure, and increasing tourists numbers. The creation of governance images from the interest group's perspective can differ or be equivalent regarding their involvement with the Marine Protected Area (MPA) and its resources. This paper illustrates, a) how these images are, b) how they influence the GMR governance, and c) some implications for the future of the GMR. Through a qualitative approach using semi-structured interviews (n=39), four main clusters of activities were surveyed (i.e., tourism, small-scale fisheries, scientific research, and management), highlighting the role of tourism and small-scale fisheries sectors due to their relevance in the local economy. The findings corroborate the existence, either alternatively or simultaneously, of contradictory and complementary visions about the GMR from members of the interest groups. The type of use of marine resources by the sectors, actors and users, contributes to the formation of the images. It also raises commonalities in the reality visualization rooted on common values and principles. The exploration of these diverse and complementary visions is critical to deal with the threats and challenges in GMR's governance, issues that can be understood and accordingly managed toward the successful achievement of the wellbeing

for the social and natural elements of the system.

SS29 M1.6

Philanthropy: A Savior to Regional Development in Rural Areas?

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The year 2012 has been full of changes on the regional development front throughout Canada, and particularly in Newfoundland and Labrador. Regional development actors, processes, and agencies have shifted or are still shifting. The recent funding cuts by both the federal and the provincial government have re-iterated the dependence of regional development initiatives on government funding. When funding is available there is no problem; however, in times of austerity and during changing political priorities this dependency becomes a liability. These shifts have created the need to reflect on the new reality of regional development. Through this reflection, philanthropy emerges as a potential strategy.

In this paper we explore philanthropy, particularly through community foundations, as a mechanism to facilitate and fund regional development. We also present findings from an ongoing research initiative investigating the synergy of community foundations and regional development in Newfoundland and Labrador. The context of the philanthropic environment in the province, particularly the strong sense of place and identity, provide unique opportunities to connect philanthropy to regional development. This paper, thus, enhances our current understanding of community foundations by identifying potential roles the philanthropic movement can play in regional development.

SS05 W1.2

So you think it will work, eh! A new economic development strategy for Port Colborne

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Port Colborne, a city located at the southern end of the Welland Canal with a population of 18,500 in 2011 (Statistics Canada, 2011), has been engaged in re-making its economy following a period of economic decline and high unemployment. In 2010, City Council adopted an economic strategy that identified five priority areas on which to focus its efforts at economic development. The five sectors viewed as potential growth areas in the report include home-based self-employment (the 'lone eagle sector'), advanced technology-based manufacturing sector, with an emphasis on supporting 'green' industries, multimodal logistics based on the city's location on the Great Lakes shipping corridor, tourism and culture, and a senior government services sector with an emphasis on health care services and post-secondary education and skills training. This research examines progress towards achieving the goals set out by the economic strategy document since its approval in 2010. The research uses a range of quantitative and qualitative methodologies and offers insights into the economic development challenges faced by small cities that lie at a distance from large metropolitan areas.

Poster Session A

The design and implementation of an applied human dimensions facilitated workshop approach to achieving 100% consensus in "wicked" large carnivore issues in Europe

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While there is unanimous agreement that to achieve successful conservation, key interest groups or "stakeholders", as they are often labelled, need to be engaged in a meaningful way, there are few examples where governments are truly willing to take the time to effectively engage groups, gain trust and build management plans through true consensus processes. Too often, public consultation is merely a one shot meeting with concerned citizens to discuss a draft species management plan that has already been unilaterally created by the wildlife agency. Thus it should not be a continuous surprise when such plans are not successfully implemented and conservation challenges such as poaching of animals occurs. Building a management plan from nothing (i.e., no draft plan), gaining a common vision, agreeing on principles, biological data, threats and hunting quotas requires a process. This applied human dimension facilitated workshop approach (AHDFWA) is that process and it has been implemented successfully to achieve 100% consensus on a wolf management plan in Croatia, a brown bear and wolf management plan in Bulgaria and currently being employed in Slovakia as various groups work toward a brown bear management plan. The stages of this engagement tool from pre-workshop 1 to full consensus by workshop 9 are illustrated using these European examples.

SS27 T1.6

Techno-Science and Skeptical Fishermen in Post-Moratorium Newfoundland & Labrador

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In an editorial in the Globe and Mail in 2010, entitled "Cod in Newfoundland: Already seen that drama" columnist Jeffrey Simpson argued a typical line: The cod fishery in Newfoundland collapsed because "there were too many parties, and too many politicians, with vested interests in ignoring science, or playing it down, or claiming that the results were biased." Jeffrey claims that "They are still around, and vocal [but]... None of these individuals or groups has separate, better scientific data. They have only anecdotal reports from fishermen, claiming fish to be more abundant than the scientists do."

There is much to protest in Simpson's column but he is simply reflecting what most serious commentators on the Newfoundland cod fishery and other fisheries around the world believe. It is clear how people can live sustainably with fish, listen to the scientists with the best scientific data and ignore the fishermen with their anecdotes about abundant fish stocks.

My paper will explore the consequences of this framing of fisheries science as unitary and legitimate and the dismissal of fishermen and their qualitative observations. I use the history of the Newfoundland and Labrador cod fishery as an exemplar of this move to place fisheries science above and outside of politics to serve economic ideologies and managerial interests that understand fish as natural, and fishermen as human, resources.

SS26 T1.3

Analysis of temperature sensitivity for endangered plant performance, Great Northern Peninsula, Newfoundland

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The unique soil and climate conditions of Newfoundland's Great Northern Peninsula make it a provincial hotspot for rare plants. Among these species is the endangered endemic *Braya longii*. While the 2012 Environment Canada Recovery Strategy for *B. longii* listed climate change as a threat of high concern, the climate sensitivity, particularly temperature, of the plant's life cycle is largely unknown. Decade-long tracking of life-cycle events for individual *B. longii* plants and subpopulations living on both natural and anthropogenically-disturbed substrates has generated an important record for sensitivity analysis. Over the same period a network of climate stations and sensors recorded air, surface and ground temperatures across the plant population range.

Mixed-effects modelling suggests that basal diameter declines with increasing temperature indices for plants on natural substrate, while the length of the longest leaf and longest flowering stalk and the number of fruit per stalk increase. On anthropogenically-disturbed substrate, the temperature sensitivity is noticeably different, with only the length of the longest flowering stalk increasing with temperature. Weak temperature sensitivity for reproductive parameters on disturbed substrate, where the majority of plants are found, indicates that some subpopulations may be at risk of increased competition from better-adapted invasives in a warming climate.

SS07 M2.4

Les conflits urbains liés à la densification urbaine: le cas de 3 quartiers centraux de la capitale fédérale

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À l'instar de plusieurs villes occidentales, la capitale canadienne a mis en place, dès le tournant du XXI^e siècle, une politique de densification urbaine pour contrecarrer les effets néfastes de l'étalement urbain. Cette volonté de densifier est justifiée par une crise aiguë du centre-ville ottavien qui a connu, entre 2001 et 2006, une importante hémorragie démographique en faveur des banlieues environnantes. Pour freiner ce mouvement de suburbanisation, la ville implanta, dès 2006, plusieurs projets immobiliers de haute densité dans ses secteurs centraux. Cependant, rares sont les projets qui ne se sont pas heurtés à l'acceptabilité sociale : en effet, ils ont suscité de fortes réactions, voire de véritables conflits urbains, largement manifestés dans l'espace médiatique. Ceci dit, on a souvent associé cette contestation sociale au syndrome bien connu du « pas dans ma cour ». Or, les recherches que nous avons menées - à travers l'analyse de la presse locale - sur les projets mis en place dans 3 quartiers centraux d'Ottawa (Plaines Lebreton, Basse-ville Est, Vanier) ont révélé que la réaction des résidents n'y était pas réductible à ce phénomène. Dans cette communication, nous présenterons les différentes préoccupations sociales ainsi que les argumentaires mobilisés pour faire barrage à ces projets.

SS63 T2.5

Vulnerable to What?: A Framework for Assessing Multiple Stressors in Coastal Communities

Nathan Bennett

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In the literature on vulnerability and adaptation to global environmental change, it is broadly recognized that communities are experiencing a broad array of social, economic, and environmental changes. Academic and practitioners in this field also acknowledge that exposure to multiple stressors exacerbates vulnerability and undermines the adaptive capacity of individuals, communities, and sectors to the impacts of climatic and other global environmental changes. However, there remains a paucity of empirical research on local outcomes or the interactions of multiple stressors or practical tools for the integration of multiple stressors into adaptation policy and practice. Yet, there is an extensive body of previous research on the types and nature of changes that communities are experiencing albeit not necessarily under the rubric of “exposure” or “stressors”. This presentation will report on a collaborative project that reviews and merges previous empirical studies to create a comprehensive framework for use in research or applied projects focusing on vulnerability or adaptive capacity of coastal communities. The framework will serve an important reference for future work in this field while also providing a tool for quantitative or qualitative analysis of multiple exposures and stressors.

SS29 M1.6

Global environmental change adaptation from the perspective of Bangkok's urban poor

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Cities across Asia recognize that they must respond to climate changes if people and places are to be kept above water. This paper focuses on Bangkok as it ranks in the top ten port cities vulnerable to climate change related flooding. The most devastating impacts of climate change will be suffered by the city's most vulnerable residents: the poor (Marks, 2011). Not only do impoverished people occupy physically vulnerable space; they are also the least equipped to recover from the disruption of their livelihoods (Manuta et al., 2006).

Lebel et al. pose a crucial question: "An outstanding issue for further research is the question of agency in flood and disaster governance: How have individuals-from local community leaders through to national-level politicians and bureaucrats-successfully influenced policy and programs to avoid institutional traps and improve adaptive capacities to climate change? (Lebel et al., 2012: 56)."

We examine the role of both 'state' and 'society' and the potential for synergy between them. We are inspired by Evans' (1997; 2002) on the instances of state-society complementarity and synergy. Looking at 'constellations of agents', implies a focus on: '(...) an assemblage of actors whose prospects and capabilities cannot be assessed without taking into account the aims, strategies and capabilities of the rest of the actors with whom they share a common arena (Evans 2002, 23)". We respond to Lebel et al. (2012) by examining the emergent method of 'community-based adaptation' and reviewing case studies of adaptation action from other vulnerable communities in the global South.

SS17 M3.3

An update on the beach profile monitoring program at the Irving Eco-Centre, la dune de Bouctouche, on the southeast coast of New Brunswick

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The Irving Eco-Centre, la dune de Bouctouche, is located in southeastern New Brunswick along Northumberland Strait. It was developed in the mid 1990's by J.D. Irving Limited in order to preserve one of the few remaining great sand dunes on the northeast coast of North America. Characterized by a variety of coastal landforms and habitats, this 12-km long sand spit quickly became a very popular place for professionals and students who wanted to learn more about dune geomorphology and ecology. In 1999, with the help of Don Forbes of the Geological Surveys of Canada, the Eco-Centre's staff undertook a beach profile monitoring program to study the impact of coastal storms on shore bird habitat. The program stalled in 2006 because of budget cuts. In 2007, Dominique Bérubé and Marc Desrosiers of the Geological Surveys of New Brunswick took charge of the program and collected data until 2012. A recent analysis of the dataset showed that the most important changes in the beach profiles occurred during the storms of October 29, 2000, and December 21, 2012. In the proximal part of the spit, the coastline moved 10 m inland during the 2000 storm, and 7 m inland during the 2010 storm.

SS42 W1.6

Large-scale flow intermittence in Canada: A 50-year study

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Understanding large-scale variation in streamflow is important for effective water resource management. While discharge amounts vary seasonally and over longer timespans, the presence of flow intermittence can affect water availability, quality and ecosystem health. Within gauged basins in Canada, there is a prevailing trend toward more intermittence periods over time. This study describes the duration, frequency, timing and spatial distribution of intermittence over a 50-year period between 1960 and 2010 using discharge values from the Environment Canada water data archive. These metrics are compared to climate variables as predictors of increases and decreases in intermittency.

Poster Session B

Les principales variations thermiques récentes (1960-2012) et futures (2021-2050) en milieu de moyenne montagne: comparaison entre le Vercors (Rhônes-Alpes, France) et la péninsule gaspésienne (Québec, Canada)

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Les milieux de moyenne montagne impliquent de nombreux enjeux environnementaux et socio-économiques. Leur sensibilité aux évolutions climatiques récentes et prévues concerne par exemple les changements de conditions thermiques saisonnières moyennes, mais aussi les modifications d'occurrences des événements extrêmes. Afin de mieux préciser cette variabilité observée pour les dernières décennies et modélisée pour le futur, une comparaison est entreprise à l'échelle de deux

espaces de moyenne montagne péri-atlantiques nord-hémisphériques : 1) le massif du Vercors, territoire préalpin français (altitudes moyennes entre 800 et 1200 m, avec un sommet culminant à 2341 m) ; 2) les étages alpins et subalpins de la Gaspésie centrale (au dessus de 900 m d'altitude, avec un sommet à 1268 m). L'étude s'appuie sur l'analyse statistique de longues séries de référence (1960-2012), situées à des altitudes comparables. La discrimination des principaux modes de variabilité interannuelle permet de les comparer à l'échelle intercontinentale, et de juger de leur sensibilité face à la variabilité d'échelle continentale ou supérieure. L'étude du climat futur repose ensuite sur des sorties de modèles régionaux mises à disposition pour le moyen terme (2021-2050) pour le domaine français (données fournies via le portail DRIAS de Météo-France) ou canadien (données issues d'Environnement-Canada).

SS07 M2.4

Exploring Graduate Student Research on Community Based Approaches to Water Monitoring and Management

Jeff Blair, Amy Buckland-Nicks, Chris Garda
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In 2011, a five year, Social Sciences and Humanities Research Council of Canada (SSHRC) funded Community-University Research Alliance (CURA) was established to increase community capacity for integrated water monitoring and management in Canada and abroad. CURA H2O (www.curah2o.com) is a partnership between academic institutions, government agencies, industries, and community organizations, has three main components: designing a standardized training and water quality monitoring program, establishing an integrated online database of water quality monitoring data to facilitate information sharing between stewardship organizations and governments, and researching ongoing issues involving community based monitoring (CBM) of water resources. This presentation examines the motivations, approaches, and challenges of three current Dalhousie University graduate student research studies, and their relationship with the objectives of the CURA H2O project. Jeff Blair is examining community connections in participatory water monitoring programs in Nova Scotia using qualitative Social Network Analysis. Amy Buckland-Nicks is studying the socio-political and economic factors that influence the integration CBM data in watershed management through a case-study analysis. Chris Garda is exploring the connection between CBM activities and ecosystem health using volunteer perceptions elicited through PhotoVoice interviews. All three studies began in 2012, and are currently ongoing.

SS09 W2.2

Understanding Community Connections in Nova Scotia Participatory Water Monitoring Programs

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Community Based Monitoring (CBM) is a local level response to issues of community concern. In Nova Scotia, CBM represents a significant portion of the water quality monitoring conducted in rivers, lakes and streams. However, organizations that conduct CBM activities face two significant challenges in their water quality monitoring programs. First, CBM organizations have insufficient capacity to conduct water quality monitoring activities as a result of a lack of resources, equipment and finances. Second, CBM in

general faces a lack of credibility in comparison to traditional 'expert-led' water monitoring conducted by governments and industries as a result of its inherent reliance on volunteers, who may be perceived as biased. This study aims to generate capacity and credibility of CBM through a qualitative Social Network Analysis (SNA) of water monitoring programs in Nova Scotia. Semi-structured interviews with organization managers and volunteer participants are used to elicit network data and analyzed for themes of linkages, connectivity, collaboration, and community to examine what strategies CBM organizations use to affect change in water management practices. This study is conducted as part of CURA H2O, a five year project that aims to increase community capacity for integrated water monitoring and management.

Poster Session A

From "Lunar-scape" to Landscape: Regreening in Sudbury

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How did you get from "lunar-scape" to landscape? This question is the focus of a recent study examining the regreening efforts in Sudbury, Ontario. With over a century of active nickel extraction and processing, by the 1970's Sudbury suffered from extensive environmental degradation. It was at this time that the community implemented a series of regreening programs that successfully transformed the formerly denuded landscape. This research investigates different roles that various stakeholders took to achieve this change. The analysis utilized a variety of sources, including Landsat imagery, government documentation, direct observation, and semi-structured interviews with key individuals. Findings suggest that this transformation arose from three key influences. Local leadership moved academic research into reality to motivate the community. This was ironically facilitated by lay-offs in the mining industry resulting in the need for redeployment of the workforce. All this was buttressed by increasing environmental awareness and stringent government regulations. Analysis of the Landsat imagery corroborates the findings of the interviews and suggests that the regreening process is still ongoing in many areas. This project shows that research that explores changes in environmental regulation should look not only to government and corporate initiatives, but also consider the role of the community.

SS64 T3.5

Socioeconomic indicators of urban stream water quality in Fredericton, NB, Canada

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Socioeconomic variables describe differences among human populations and their relationship to urban landscapes, yet they are rarely used in the study of urban stream degradation. To improve the modeling of water quality in urban streams, socioeconomic catchment variables were incorporated with traditional land use and land cover variables. Socioeconomic variables can describe both the degree to which critical resources beneficial to water quality are distributed unequally across a city (reflecting social differentiation) and how residents' lifestyle decisions regarding their own property may impact water quality. The dependent water quality data was collected in urban streams in Fredericton, NB, Canada, a city with approximately 56,000 persons. The independent socioeconomic data was obtained

from the 2001 Census of Canada and land use and land cover from property mapping and remote sensing classification. To reduce the complexity of large multivariate datasets, socioeconomic and land use and land cover catchment variables were first summarized by principal component analysis. The resulting principal component scores were used as independent variables in general linear models, with mean water conductivity for each sampling site as the dependent variable. While impervious surface was the best individual indicator of water quality, it was found that socioeconomic variables improved the modeling of conductivity and were correlated to impervious surface. Socioeconomic variables were also found to have a stronger relationship to conductivity than did land use. This research suggests that residential socioeconomic conditions influence water quality, and further investigation is required to determine how socioeconomic variables affect water quality in urban streams.

SS36 M4.1

A Q-method investigation into rationale for household choice and location efficiency in Edmonton

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Housing location-efficiency (total energy efficiency of home location including transportation) may have the greatest impact on total household energy use yet location inefficient homes (traditional suburban development) remain a predominant choice among homebuyers and developers in North America. Suburban developers claim that buyers demand location inefficient homes while municipalities are attempting to attract residents closer to the core by promoting location-efficient housing options. Contemporary research on this subject has primarily focused on industry driven inventories of amenities or hedonic model based research into commute times and has largely discounted household's complex reasoning for location choice. This project investigated Edmonton, Alberta homeowners' motivations and rationale for residing in varying locations. After mapping the participants most frequent destinations and 'ideal' home locations a Q-statement sort was utilized to reveal emergent factors among households and frame the follow-up qualitative interviews regarding home location preference and transportation. Two factors emerged that provided clear delineations between levels of location 'awareness' among participants along with a third factor that relates the reality of the traditional suburban dominated housing market in Edmonton. These factors and the themes derived from the qualitative data on the motivations behind household choice can provide municipalities and inner-urban developers with valuable information in their attempt to attract households to more location-efficient developments.

SS55 W2.5

Conceptualizing energy vulnerability at the scale of home and community

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To date, the notion of 'energy vulnerability' has been mostly perceived as a macro- or meso- level concern, related to the security of energy supply or issues of climate change adaptation. Although such framings have provided a solid basis for investigating the broader relationships between access to resources and socio-environmental stress, they have failed to consider dynamics at the household or community scale in the context of fuel/energy poverty (see Bouzarovski et al. 2012). In this paper, we

suggest that energy vulnerability needs to be considered as a phenomenon that functions at the boundaries of home and community. This understanding includes a range of hitherto neglected dimensions - such as the need for energy, access to energy services and social/built environment relations - in addition to the more 'conventional' issues of affordability, energy efficiency, housing and health.

The paper uses evidence from a range of recently-completed studies aimed at investigating the energy vulnerability of transient urban populations, so as to emphasize the multi-scalar and procedural nature of energy vulnerability. We have found that the households encompassed by our research are experiencing various forms of domestic energy deprivation due to a combination of dynamic factors that cannot be easily accommodated by existing interpretations of fuel poverty; these include notions of self-awareness, recognition and identity in relation to the quality of housing provision, as well as the political ecologies of collective heating practices at the level of home and community.

SS32 M2.7

Museum of Contemporary Rubbish

Alice Bradshaw

University of Huddersfield, Huddersfield, West Yorkshire, UK

The Museum of Contemporary Rubbish was established by Alice Bradshaw in 2010 for an alternative art market the artist co-curated for Barnaby Art Festival in Macclesfield, UK. The museum collects items of everyday rubbish at specific events or locations which form an online archive of the collections from across the world including Europe, the US and also Cuba. The museum also has a research department and a merchandise department, with research into artists' uses of waste materials in their practices forming Alice's MA by Research at the University of Huddersfield, UK. This paper presents an overview of the Museum of Contemporary Rubbish and research to date which looks at defining and categorising artists' use of waste materials.

<http://museumofcontemporaryrubbish.blogspot.com/>

<http://contemporaryrubbish.wordpress.com/>

http://www.a-n.co.uk/artists_talking/projects/single/2334120

SS37 R4.2

Abundant but finicky: An Assessment of the Availability and Usefulness of Standards Compliant Canadian Public Web Map Services

Glenn Brauen

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Canadian federal, provincial and territorial departments currently make some public geographic data freely available. The data published by these institutions covers a broad range of topics and is made available through downloads and online data services. This presentation focuses on the provision of Open Geospatial Consortium (OGC) standards compliant Web Map Services (WMS) from these sources that allow users with adequate knowledge, software toolkits, and catalogues to produce online web maps with these data. The steering committee for GeoBase, one initiative to freely distribute Canadian geographic base data collected by public institutions, argued that making such data available without

cost, licensed to allow unrestricted use, reduces redundant data copies, increases overall value of collected data, and encourages both increased geospatial data use in Canada and the use of common data across different contexts. But the OGC WMS specification can be difficult to understand and use and hosting institutions must consider how to make adequate metadata available along with the service. This presentation summarizes an inventory of public Canadian data available through WMS. It highlights problems and strengths in the use of the OGC standards and in the level of completeness of metadata provided by the inventoried services.

SS51 T3.8

Watershed Planning and Regional Development - Part I

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This component of the Canadian Regional Development special session will outline the role water/watershed management and planning can play in regional development. There is a growing understanding by academics, policy makers, managers, and planners of the complexities and interconnectedness of watershed management. There is ongoing recognition of the connection of water with the health of the environment, public health, economic viability, and social and cultural well-being, suggesting an integration of various policy fields (Peterson, Mcalpine, Ward, & Rayner, 2007). There is some evidence that the pillars of New Regionalism are beginning to guide water and watershed management, as well as guiding emerging governance structures surrounding regional development. Further understanding of New Regionalistic principles, and the opportunities and challenges of this approach, present a chance to improve future policy design for regional water and watershed management efforts, as well as regional development in general. However, future research to understand how New Regionalism can benefit water and watershed management is needed. This presentation will outline current water related policies in Canada, with an emphasis on Newfoundland and Labrador, Quebec, Ontario and British Columbia, providing a sliding scale of examples of regional watershed management efforts from each province, including both successes and challenges and the gaps that currently exist in policy and practice.

SS05 T3.2

Bias reduction in land cover classification: a novel approach applied to support vector classification of Landsat imagery in the Maipo basin, Chile

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Misclassification errors in land cover classification (LCC) as expressed by confusion matrices are often unbalanced, leading to bias in estimated land cover areas. If this bias changes over time in the case of multitemporal LCC, spurious trends in land cover change may arise if it is not accounted for. We propose a novel approach to obtaining unbiased LCC maps based on the iterative minimization of differences between area proportions obtained with classification algorithms and unbiased estimates from statistical area estimation. We assess the proposed method in the context of LCC with support vector machine (SVM) classifiers at four time points between 1975 and 2010 in the Maipo river basin, Central Chile based on Landsat imagery. The optimization reduced the objective function, a measure of overall

bias in area estimation, by 94% on average compared to standard SVM classification without this adjustment. The adjustment also slightly improved the overall classification accuracy quantitatively as well as qualitatively. The proposed method is recommended for studies designed to provide multitemporal comparisons.

SS44 T1.4

Portable and mobile borders: Anglo-Quebecers and Franco-Ontarians and Ottawa-Gatineau border

Marc Brosseau

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The Ontario-Quebec border in the national capital region of Canada (Ottawa and Gatineau), although intra-national, provides an excellent opportunity to examine various significations of the border for different segments of the population. This communication will outline the results of an empirical study of linguistic minority groups on each side of the Ontario-Quebec border: Francophones in Ottawa and Anglophones in Gatineau. It will focus on their everyday life negotiation of the border. More specifically, it will highlight two distinct yet complementary processes through which the apparently stable border is displaced. First, a process of re-bordering occurs when the border is displaced in order to redraw a mental map that is more compatible with the everyday spatial practices and identity affinities of individuals and groups (mobile border). Second, when the border is displaced in order for a minority to continue to, so to speak, “live at home” on a territory dominated by another group (portable border). This second process is a form of symbolic annexation of the other group’s territory. Considering the everyday spatial representations and narratives of different groups allows for a better understanding of their imaginary ability to redraw the official map and resist some of its meanings.

SS66 R3.3

Embedding Arctic Tourism Innovation in ‘Creative Outposts’

Patrick Brouder

Mid Sweden University, Östersund, Sweden

Tourism has emerged as an important part of the economy in the Circumpolar North. Many northern communities grew as outposts of capitalism and prospered through primary sector activities such as agriculture, mining, fishing, and forestry. Recently, entrepreneurial and institutional efforts have resulted in increasing tourism employment in the Arctic. Communities are not only dependent on what happens in the economy in the broader sense but also on endogenous generation of creative and innovative initiatives. This paper examines tourism in three Arctic communities and explores the concept of creative outposts (Brouder, 2012, 2013): resilient communities in peripheral areas which use tourism as one strategy for survival. Three cases from across the Circumpolar North, and at different stages of development, are presented and main themes explored include: the endogenous nature of tourism development and its potential for employment and entrepreneurship, the contribution of tourism to the local leisure space, and the potential of tourism as a diversification strategy. The paper shows how tourism is a catalyst for the development of local social capital. The paper highlights how some northern communities manage not just to survive but to thrive and calls for comparative studies across the Circumpolar North.

SS28 M4.7

Connecting sense of place and climate change adaption: A case study of municipal wharves in the Shelburne and Queens Regions of Nova Scotia

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Municipal wharves in Atlantic Canadian fishing communities are a hub of daily economic, social, and ecological activities. Locations of everyday activity are often essential in developing an individual's sense of place. These locations can represent the setting where individuals develop lived experiences and thus feel economically, socially, and ecologically competent. A strong sense of place has been associated with both adaptive capacity and a greater willingness to participate in adaptation planning. In my research, I explore the importance of wharves in contributing to a sense of place in the Shelburne and Queens regions of Nova Scotia. Specifically, I engage with local residents and other stakeholders to: 1) understand how sense of place contributes to or acts as a barrier to adaptive capacity; and 2) elicit stories of place specific identity and assess the implications for adaptation in the context of coastal change.

SS42 T4.7

Working here and there: Temporary Foreign Labour from the Philippines in Russell, Manitoba

Catherine Bryan

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3.15 kilometres-squared, the Town of Russell, Manitoba is a site of multiple intersecting mobilities. These are historic and contemporary--reflecting histories of settlement, displacement, and relocation; they are permanent and temporary--reflecting global patterns and hierarchies of human movement; and they are felt through presence and absence, arrival and departure. This paper draws on multi-sited ethnographic work conducted in Russell with members of its *temporary* yet growing Filipino community and in various sites across the Philippines: the *places* of the Filipinos who now live and work in Russell.

Focusing on the synchronous transnational double-day that stretches between and incorporates temporary foreign labour migrants in Russell and their non-migrant kin in the Philippines, this paper examines how groups of migrants and non-migrants engage in joint projects of social reproduction, and how migration distributes various kind of labour (reproductive and productive) between different group members in these sites--sites that converge through the connections maintained by migrants and non-migrants, but, by virtue of who goes where, for what, and why remain worlds apart.

SS41 M3.5

'Creative Earners' in the Creative Economy: Examining the Employment Conditions of Graphic Designers in Canada

Taylor Brydges

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Perhaps one of the most contested elements of the creative class thesis is the occupational approach

utilized to categorize and examine the labour force. Indeed, within each of the three - creative, service and working - classes respectively, exists a great deal of variation with respect to income, education, experience and employment conditions. This presentation will present research on one segment of the creative class; graphic designers, using data from the 2012-2013 Canadian Survey of Salaries and Billing Practices in the Communications Design Industry, conducted annually by the Association of Registered Graphic Designers in Ontario. Understanding the employment characteristics of the often mythologized 'free agent' creative worker will be the focus of this presentation, with an emphasis on examining sole proprietors and free-lance graphic designers. Moreover, results from this survey will also be utilized to demonstrate the considerable income variation within the sector. In addition, this presentation will also describe the key challenges facing the industry, with a focus on quality of life issues and concerns for the future development of the field.

SS15 R3.5

The Geography of Music

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The geography of music is a fascinating but understudied field of research in the creative economy. The presence of musicians is a key indicator of a location's thriving creative environment; a signal of openness, diversity, and creativity. These attributes manifest themselves unevenly across geography: some cities are specialists and home to one particular type of music, such as country in Nashville, while others host an increasingly eclectic collection of bands and genres such as New York and Los Angeles. Music is a reflection of the people within a city and their creative expression. Music adds a large amount to a city's creative attributes. Is there a relationship between geography and music? Or, is it a strategically good decision for musicians to move to a city with a strong scene in their genre or a vibrant, diverse music scene? And are more creative cities likely to specialize and succeed within one type of music or more likely to embody many types of genres? These are questions seldom answered.

The goal of this presentation is to test current assumptions and theories about established music clusters using detailed Myspace data from 2007, while also highlighting unexpected or emerging clusters of musical activity in the United States.

SS15 R3.5

Keys to success: Looking at the factors that impact the integration of community-based watershed monitoring in decision-making

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Community-based watershed monitoring (CBWM) involves the collaboration of volunteers with multiple stakeholders to collect water quality data and promote stewardship. CBWM is a growing phenomenon in Canada that is linked to the decline of government-based monitoring. Decision-makers often encounter multiple barriers to using CBWM data, such as financial resources, technical capacity, and data credibility. For example, the Nova Scotia Water Strategy expresses support for CBWM but to date there has been no integration. While the challenges for CBWM are well documented, there is a

need for case study analysis of successful CBWM data integration. The objectives for this research include (1) documenting the trends of government-based monitoring and CBWM in Canada (2) identifying key cases of successful CBWM data integration, (3) adding to the knowledge of socio-political and economic factors such as financial resources and trust that affect the uptake of CBWM, and (4) providing recommendations to the Nova Scotia Water Strategy on some promising practices for integrating CBWM. Semi-structured interviews will be conducted with watershed group leaders and decision-makers to elicit information on the factors. This research will contribute to an SSHRC-funded Community-University Research Alliance project on CBWM and watershed management in Nova Scotia (CURA H2O).

Poster Session A

Working Towards Recovery: Geographies of Mental Health and Employment within the Social Economy

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In recent years, paid work has taken on greater significance for people living with mental illness. This trend has been driven in part by the recognition that employment can be a key factor in recovery from mental ill health. Paid work offers the chance to earn a wage, as well as opportunities for improved self-esteem and greater community participation. Studies also indicate that paid work can enhance quality of life and lessen the chances of re-hospitalization. Although employment can offer many rewards, access to mainstream employment for people with mental illness remains fraught with problems. They often face discrimination and a lack of workplace accommodation. One response to these barriers has been the creation of social enterprises as 'alternative spaces' of employment for people with mental illness. Social enterprises maintain an entrepreneurial orientation, but temper this with a commitment to build social capacity and enhance the lives of members/workers. However, we know relatively little about the kinds of organizations that exist for people with mental illness in Canada. Using data from key-informant interviews with organizations across the country, this study documents the types of social enterprises that exist. The analysis also critically examines the strategies used by organizations to create jobs that are both appropriate for people in varying stages of recovery and conducive to the ongoing success of the social enterprise.

SS19 T3.1

Public-Private Partnerships for Prison Infrastructure Delivery in Ontario: Neoliberalizing governance?

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Over the last decade in Canada's prisons, overcrowding has increased and inmates awaiting trial now outnumber inmates serving sentences. The cost to incarcerate inmates has also risen. Ontario's provincial government identified an infrastructure deficit as one of the main causes of these problems and responded by embarking on a correctional infrastructure renewal program. This paper traces the changing role of the private sector in this process and the use of public-private partnerships (PPPs) to deliver new prisons. PPPs are long-term contracts that allow governments to publicly operate infrastructure while privately financing the construction and contracting out "non-core" services like

food and laundry to private firms. I argue that this change in prison delivery practices is not a transfer of control of public services from the state to the private sector, but rather, part of a broader shift towards the marketization of governance. I show this shift is the result of and is shaped by struggle and contestation between different levels of the state, international financial investors, private firms in Canada, labour and those involved in the prison system.

SS66 R3.3

A Case-based Typology of Aboriginal Participation in Model Forest Governance

Ryan Bullock, Maureen Reed

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Model Forests are federally-funded bridging organizations intended to link diverse public-civic-private groups across local, national and international levels to form collaborative networks that support forest and community sustainability. Aboriginal participation is implemented using a variety of approaches and is valued and considered essential to fulfilling mandated objectives. There is a perceived need to identify opportunities for improving Aboriginal participation in Model Forest governance and for sharing lessons from experience across sites. Accordingly, our research used a comparative case study design to document experiences in the provincial norths of Saskatchewan and Ontario in order to develop a typology of Aboriginal participation approaches used in Model Forests. Twenty specialized informant interviews were conducted from May to October 2011 with current and former Model Forest board members and partners (14 Aboriginal, 6 non-Aboriginal) to examine the range of possible perspectives. Emerging themes focussed on 6 main areas of concern related to governance participation: developing a purpose and vision; levels of formalization; representation and membership; cultural suitability of engagement processes; roles and responsibilities, and; decision-making structure(s). Together, participants elaborated 4 different options for structuring Aboriginal participation as well as associated benefits and limitations: 1) external advisory committee; 2) internal sub-committee of the board; 3) a hybrid internal-external advisory board, and; 4) no unique structure (status quo). The design options and implications of each model are presented in relation to Aboriginal and good governance principles and strategic concerns.

SS04 T1.2

Urban Community Land Trusts in Canada: Building on the U.S. Community Land Trust Model and Movement?

Susannah Bunce

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The protection and conservation of urban land for the provision of affordable housing and green space, in keeping with the urban community land trust model and movement in the United States, offers new possibilities for re-conceptualizing urban land preservation in Canada. This paper examines the role of community land trusts (CLTs) in cities and their emphasis on community-based land stewardship and needs. Through an exploration of the U.S. CLT model and movement, the paper explores the history and contemporary practices of CLTs in cities. It then addresses the contextual, organizational and legislative reasons for the paucity of urban CLTs in Canada. The paper questions the possibilities for the transfer of CLT ideas from the U.S. to the Canadian urban context and the limitations to creating CLTs, with a case

exploration of community efforts to organize a CLT in Toronto's Parkdale neighbourhood.

SS43 M2.1

A critical analysis of bio-cultural conservation in Canadian coastal aboriginal settings

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Many conservation projects worldwide involve aboriginal peoples. Hence, paradigms that respect their worldviews, cultures, institutions and aspirations must be developed for ethical, political and practical reasons; success of these projects often depends on their support. In parallel, concerns have been arising regarding the unprecedented loss affecting simultaneously global biological and cultural diversity. In this context, various conservation and resource management frameworks that combine biological and cultural protection have been proposed. To achieve bio-cultural conservation goals, these emphasize local participation, community-based management and use of local knowledge. We can however ask whether such approaches have actually changed conservation practices and if so to what extent, and whether aboriginal worldviews are really accommodated. The research project presented here aims at critically assessing bio-cultural approaches to conservation in indigenous coastal settings in Canada. We will first present a brief analysis of federal policies for marine protected areas, focusing on whether and how they take into account bio-cultural approaches to conservation. Then, using the case of a proposal put forward by the Cree First Nation of Wemindji (Northern Québec) to establish a network of protected areas in their customary territory, we will explore some of the challenges and opportunities offered by those models for an aboriginal coastal community. The community seeks a framework that will protect natural and cultural resources while preserving Cree traditional usage and also allowing for low-impact economic development that could greatly benefit the community.

SS04 T2.2

The Effects of Landscape, Regional Economies and Institutional Histories on Community Acceptance of Protected Areas: the case of Gaspésie National Park, Québec

Windekind C. Buteau-Duitschaever, Scott Slocombe

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Protected area development in Québec has experienced rapid growth in terms of both number and size of protected areas; yet, Québec's protected area systems has received little attention within the academic literature on the social acceptance of protected area creation and existence. Social acceptance by regional communities for protected areas is examined by focusing on the Gaspésie National Park due to its history, ecological importance and impacts on economies within the Gaspé region of Québec. Data was gathered through document analysis of regional literature, government documents and archives; semi-structured interviews with regional stakeholders; and, participant observation. Results indicate three key social acceptance dynamics. First, the geological landscape has a direct effect on regional communities' acceptance of the park. Second, regional communities perceive the land use restrictions within the park boundaries as a detriment to regional economic development, and, third, institutional histories, such as fishing and hunting restrictions and perceived political neglect from Québec create an atmosphere where communication, cooperation and collaboration between park officials and regional communities is difficult and sometimes impossible. These results provide context and understanding of

the current problems associated with the regional integration and social acceptance of protected areas within the Gaspé region.

SS57 R4.6

Critical Geographies of Arctic Climate Change: Toward Different Locals

Emilie Cameron

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This paper investigates alternative modes of engaging the "local" dimensions of climate change. It outlines the affiliation of the local with colonial structures of knowledge production and policy development, critically interrogates what counts as "local knowledge" in assessments of climatic change (and for whom), and considers what sorts of relations and practices are made (il)legible by scaling climatic change in these ways. Next, the paper outlines three alternative lines of research into the "local" dimensions of climate change that critical scholars might take up: a) tracing the genealogies and spatialities of "local knowledge" production; b) challenging the scaling of climate change as a "global" phenomenon with "localized" impacts; and c) tracing the specific, localized geographies of accumulation and dispossession underpinning climatic change. While the "local" is increasingly held up as a privileged site for understanding, mitigating, and adapting to climatic change, understanding and challenging what, where, how, and for whom the local is apprehended remains, I argue, an important focus of critical climate scholarship.

SS10 M1.3

Bottom-up and Top-Down Regulation Factors Influencing Moose Density in Newfoundland

Stacey Camus, Yolanda Wiersma, Luise Hermanutz

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Overabundant large herbivore populations are becoming more common globally and their dynamics are proving to be a challenge to effectively manage. I examined the influence of landscape scale processes and patterns on a high density moose (*Alces americanus* syn. *Alces alces*) population on Newfoundland, which was introduced in the early 1900s. I used linear regression models to test whether landscape processes and factors (i.e., natural disturbances, cut blocks, hunter success, and hunter access) explained the variance observed in moose density and compared the models using the information theoretic approach. Further, I quantified landscape patterns (composition and configuration) using landscape indices in a GIS in survey blocks where moose were present in low and high densities. Model selection indicated that all landscape scale processes were important in explaining observed moose densities. Higher moose densities were found in high diversity landscapes of young balsam fir and mixedwood as well as older black spruce. This study highlights the complexity of population regulating mechanisms influencing moose density which should be incorporated into hunting quotas to achieve more effective management.

SS14 M4.4

Place attachment and environmental stewardship on the coast

Rosaline Canessa

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Coastal areas are facing increasing environmental threats from both upland and marine activities. Through stewardship, people who live near the coast have a role in minimizing these threats and reversing impacts through restoration. Such environmental behaviour has been associated with place attachment, but this has not been studied in coastal populations. This paper describes place attachment experienced by coastal residents who live on Saanich Peninsula, just outside of Victoria, and explores the role that place attachment plays in influencing coastal stewardship.

A survey was distributed to 1200 randomly selected residents of Saanich Peninsula. To date, 273 completed surveys have been returned. On average, residents have lived 24 years on the peninsula. Respondents indicated a strong attachment to the coast as indicated by missing the coast if they had to leave, feeling at home on the coast, strong memories, and an overall feeling of connection to the coast. Indeed most respondents indicated they live on Saanich Peninsula because of its proximity to the sea. Respondents also have an overall strong interest on a diversity of coastal issues related to ecological decline, public/private access to the shore and economic opportunities. Issues related to ecological decline were rated slightly more important than other issues.

SS29 M1.7

Omar Khadr, Hanna Arendt, and the 'human rights vs. citizenship rights' debate

Valentina Capurri

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This presentation takes its step from the Khadr's ordeal in order to investigate whether citizenship as a legal status remains significant across the world despite claims by several scholars suggesting that citizenship rights have become obsolete and superseded by human rights. By drawing from Hannah Arendt's argument in *The Origins of Totalitarianism* and using the Khadr case and the action/inaction of the government of Canada as a point of reference, I maintain that today as in 1951, the rights conferred upon citizens are the only ones to count when human beings require protection, notwithstanding the rhetoric around the growing significance of a human rights framework as a panacea to most of humanity's problems.

SS66 R1.3

Bio-power and Mobility in the Ableist City

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Neoliberal expectations of individual mobility are an important, but under-scrutinized component of the ableist city. Persons with diagnosed "physical impairments" are inscribed onto the city as "mobility-impaired," ostensibly to improve their access to services and opportunities, but in ways that expose them to disabling and undignified embodiments and experiences. To examine such disabling urban

mobilities, my research applies Foucault's concept of bio-power to identify discursive techniques that have produced normalized "mobility impaired" bodies within urban governance and everyday life in ways that are undignified and unjust. Using a mixed method qualitative approach with persons with acquired spinal cord injury (N=10), I will illustrate how discursive techniques operate at numerous scales and contexts to influence planning, policy and developments in ways that align with neoliberal mobilities in the city. The findings suggest that in order to participate in urban life, persons who acquire "impaired mobility" are coerced into urban spatialities in ways that reinforce their status as "(dis)embodied other" rather than support their altered and alternative abilities. I will argue that tracing the discursive mobilities that contribute to urban ableism can reveal opportunities for shifting towards a more "spatially just" city.

SS23 M2.8

'Greening Work' in Lean Times: The Amalgamated Transit Union and Eco-socialization of Canadian Transportation Systems

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This paper examines the Amalgamated Transit Union's (ATU) discussion of environmental issues since the mid 1980s. We explore the trialectic relationship between capital, labour and nature in the Canada's public transit sector. In a review of union documents and Canadian newspapers we claim two primary, yet contradictory, findings. First, the state often uses the environment as a wedge issue in its 'war or position' with unions, representing workers' actions as harmful to the environment and the community at large. It is argued that taken in the context of recent events, specifically the passage of essential service legislation in Ontario, this finding should produce some caution within the ATU as the environment could be utilized to further discipline workers and further limit collective bargaining rights. Second, the ATU was most successful in articulating its position on the environment during periods of economic 'crisis'. This was done primarily through linking the environment, social justice, and the development (or maintenance) of robust public transportation systems. Positioning ATU members as crucial to both the functioning of communities and environmental sustainability lends itself to strategies which involve alliances with community groups in the short, medium and longer-terms. Lastly, we argue that recent actions by the union, specifically a 2012 advertising campaign in Toronto entitled "Protecting What Matters" questions how developed the local union's community and environmental strategies may be a period of austerity.

SS21 R1.5

Territorial Innovation Systems: Lessons for Rural Spaces

Ken Carter
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The role of innovation has increasingly captured the attention of Canadian regional development practitioners and policy-makers. The innovation literature suggests that knowledge flows and learning are critical to economic development outcomes. Learning and new ideas are also required for adaptation and resilience not only of economies but also broader social-ecological systems in a changing world. These themes have been most frequently studied in urban rather than rural settings. Territorial

innovation models tend to follow this urban focus, including the national/regional innovation systems approach, the innovative milieu framework and industrial districts/cluster models. This paper will present results of a study on the practice of innovation in the Northern Peninsula, a rural remote region of Newfoundland. The study investigates the extent to which territorial innovation models derived from urban contexts can help explain processes of innovation in this setting. Secondary data combined with interviews conducted with entrepreneurs, local development practitioners, government officials, educators and researchers illuminate how new ideas and learning are incorporated into the development of local social and business enterprises, offering lessons for both regional development practice and policy.

SS05 T4.2

Indigenous fisheries in Bolivia's Northern Amazon: Characterization and perspectives towards community-based management of native and introduced species

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Bolivian Amazon fisheries use a significant portion of remarkable fish diversity. Rural, indigenous fisheries focus on a variety of species, depending on traditional knowledge and diet preferences. Commercial fisheries until recently were low-intensity and focused on smaller native species. In the seventies, one of the world's biggest scaled-fish species, *Arapaima gigas* (paiche), was introduced in the Bolivian Amazon from Peru. Since then, paiche has promoted new economic opportunities and conflicts related to fisheries access in lagoons (paiche habitat), often located in relatively recent indigenous territories (TCOs). A characterization of indigenous fisheries was carried out in the TCO TIM (multi-ethnic territory) II in the Northern Bolivian Amazon during high and low-water seasons of 2011 and 2012. Landings were dominated by Characiformes (scaled fishes) and Siluriformes (catfish) species. The most important families were Serrasalminidae and Pimelodidae, highlighting the importance of pirañas and long-whisker catfish species to subsistence and commercial fisheries. Paiche had a significant contribution to commercial catch volumes while also occasionally being used for subsistence, overall, representing more than 50% of total capture volume, followed by pirañas and curimatid (detritivorous) species. The impact of paiche on lagoon ecosystems is not fully understood, local perceptions and priorities vary, some have interest in sustainable commercial exploitation, and others suggest that populations should be reduced so as not to threaten the native fishes more traditionally important for indigenous subsistence use. New research on paiche biology, ecology and participative management is underway to better understand existing populations and build an appropriate framework for resource management.

SS03 T3.3

A Community Perspective of Drinking Water, Wastewater Treatment and Public Health in Coral Harbour, Nunavut

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Providing safe drinking water and sanitary wastewater treatment are basic public health principles worldwide. However, water and wastewater strategies must be regionally tailored to suit the specific locations and populations they aim to serve. They must be operationally designed for the physical environment, but also appropriate for the human environment - the sociocultural and economic circumstances of the community. In Nunavut, the water-health challenges facing Inuit communities relate to an arctic climate, geographic remoteness, and tradition-based lifestyles. The purpose of our research was to gain understanding of how Nunavut's communities perceive their water and wastewater systems and to explore related areas of potential health risk. Taking a qualitative case study approach, we conducted 37 interviews with residents and key health and water informants in Coral Harbour (latitude 64.137° N, longitude 83.167° W). In our findings, we observed how traditional practices and municipal water services from the early settlement-era are influencing contemporary water usage patterns, public health concerns and the level of priority decision-makers place on water and wastewater management. Our findings reflect the importance of place and scale in community water and wastewater strategies, and have practical implications for policy and future research on water management and public health in Nunavut and related regions.

SS19 T2.1

"I Don't Really Think This is About the Mine:" An Ethnographic Analysis of Daily Immediate Encounters in Rankin Inlet, Nunavut

Tara Cater

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This paper seeks to add to ongoing debates surrounding the shifting social relations of resource development in Aboriginal communities in Canada through an ethnographic analysis of the upcoming Agnico-Eagle Mines Ltd.'s Meliadine gold project, located near Rankin Inlet, Nunavut, set to begin operations in 2017. Contemporary debates surrounding Aboriginal peoples and resource development often focus on the impacts of mining on marginal communities. Several scholars have argued that framing mineral development in this context fails to consider the ways in which Aboriginal peoples are engaged (if not politically equal) actors in larger socio-political processes of which the consequences and benefits are largely unknown. This paper examines the "daily immediate encounters" occurring between multiple actors, including community members, government officials, and mine workers and executives in Rankin Inlet, as they come to terms with the emerging Meliadine project. By following the new and shifting relationships that are daily experienced across multiple sites of encounter, including the home, community, and mine site, I argue that resistance to industrial projects in the Canadian north must be theorized in alternative ways. Through a deeper analysis of misunderstandings in terms of environmental monitoring, wildlife encounters, and negotiations of language and epistemological differences between multiple actors, I further argue that community members in Rankin Inlet are practicing "every day risk management" in response to perceived costs and benefits of mining coming

back to town.

SS11 M3.2

Crystallization, Spiked- Suits, and Partial Connections: Exploring the field

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We have gone out and done qualitative research in Rankin Inlet, Nunavut and on the Gander River, Newfoundland. We have done diligence, we have poured over the texts, thoughts and guidance of those who have come before us and developed relationships with those who call “the field” - the communities in which we stayed- their home. We ask: how do we interpret and communicate that which is meaningful from these encounters? How, as young researchers, can we engage in community-based research in a way that acknowledges the diversity of these interactions and moves towards the production of knowledge that is of value to both the academy as well as those we have encountered along the way?

In this paper, we will explore the act of engaging with qualitative methodologies, where methods are treated as a way of telling stories- such that we cannot differentiate theory from methods, as they are all stories produced in the worlds in which they speak (Blaser, 2010). These stories are not produced out of thin air; rather, they are practices that are embodied in institutions and behaviours (Ibid.). Here, the embodiment of practices is crucial; the reliance on representation of worlds into words can lead researchers down the path of wearing a spiked-suit (Aitken, 2010). Instead, we explore the metaphor of crystallization as a mode of knowledge construction whereby our understanding is permeated by partial connections and partial understanding, revealing socio-natural orderings that reveal multiple worlds.

SS43 M1.1

Comparative analysis of coastal processes and natural hazards, Sachs Harbour and Gjoa Haven, Arctic Canada

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Coastal communities in the Canadian Arctic face natural hazards, including sea level change, localized flooding, gelifluction, and coastal erosion, accentuated by climate change and variation. This study compares coastal processes, natural hazards, and vulnerability to petroleum contamination affecting two communities: Sachs Harbour, NWT, and Gjoa Haven, NU. Nearshore marine sediments in both communities are dominated by sands and mud, although gravel is also present at Gjoa Haven. Sachs Harbour, in a submergent setting, experiences varying amounts and episodes of both coastal erosion and accretion along different parts of the shoreline. Erosion in Sachs Harbour is driven by both thermal erosion and longshore sediment transport, while accretion is driven by longshore processes. Hazards in Sachs Harbour include threats to individual structures close to eroding shorelines, breaches of thermokarst lakes, and sediment transport which may necessitate harbour dredging. Gjoa Haven, in a slightly emergent setting and built upon ice-contact glaciomarine sediments and Silurian carbonate bedrock, experiences almost no coastal erosion, but is marked by extensive gullying and some thermokarst activity, both of which potentially threaten structures in the hamlet. Considering all

parameters, Sachs Harbour is far more sensitive to climate-change-related coastal hazards than is Gjoa Haven. However, the recent increase in marine traffic through the Northwest Passage has increased the vulnerability of the Gjoa Haven coastline to petroleum contamination.

SS57 R4.6

Coastal Erosion in Newfoundland: Short-term and Long-term Assessment

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Mapping, analysis, and assessment of the entire coastline of the island of Newfoundland (including adjacent islands) was undertaken through the Atlantic Climate Adaptation Solutions Association initiative of the Governments of Newfoundland and Labrador and Canada. Investigations included ongoing monitoring of sensitive coastal areas, documentation of storm surge activity, and analysis of wave and surge dynamics. Classification of coastal geomorphology and sedimentology was undertaken for points spaced at 50 m intervals, plotted to CanCoast for further analysis. From the more than 65,000 plotted points, 1472 (including all communities, present and former settlements) were selected for more detailed analysis of short-term and long-term coastal erosion, as well as their vulnerability to petroleum contamination. At least one site visit was conducted to each currently-inhabited coastal community.

The Coastal Erosion Index² was designed to assess vulnerability to short-term events, involving consideration of five factors: sediment type, geomorphic shoreline classification, sediment flux, aspect, and extent of seasonal ice and snow cover. A modified version of the Coastal Sensitivity Index initially developed by John Shaw, Don Forbes, and colleagues, was also calculated for the 1472 selected locations, to assess sensitivity as influenced by sea level rise, mean annual significant wave height, tidal regime, and geomorphic and sedimentological parameters. Exposure and sensitivity to petroleum contamination were calculated and combined into the Petroleum Vulnerability Index, incorporating geomorphology, coastal sediment, nearshore wave dynamics, and potential exposure to both marine and terrestrially-based petroleum contamination. The databases, in combination with ongoing study, allow continual assessment of coastal erosional rates and processes.

SS57 R4.6

“Much in Blood and Money”: Environmental Necropolitics on the Margins of the Uganda Protectorate, 1890-1962

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Increasingly, political ecologists invoke the concept of ‘green grabbing’ to refer to the ways in which processes of accumulation by dispossession articulate with various imperatives for environmental protection. This paper offers an anarchist reading of these processes, tracing the ways in which contemporary forms of green grabbing intersect with complex historical geographies of colonial state formation. Drawing upon the case of Mount Elgon in Britain’s Uganda Protectorate, in particular, we reconstruct the ways in which the ‘birth’ of conservation was intimately connected to the violent emergence and normalisation of the colonial state itself. Following Achille Mbembe, such techniques of

colonial governance were not biopolitical, in the Foucauldian sense, but ‘necropolitical’ – they decided upon questions of who could, and who could not, access even the most basic means of subsistence. Far from simply presenting an account of dispossession, however, our analysis reveals weaknesses and insecurities in the implementation of colonial environmental governance, along with insights into the range of resistance strategies that local people deployed in opposition. These struggles enhance our understanding of both enduring opportunities and unique constraints for present forms of resistance to green grabbing, including those which highlight radical notions of non-state ‘land sovereignty.’ As a result, we argue for an approach to the analysis of contemporary ‘green grabs’ that conceptualizes them as partially emergent from colonial forms of environmental appropriation, and which takes seriously Pierre Clastres’ seminal observation that “the history of peoples without a history is a history of their struggle against the state.”

SS25 R1.1

Evidence for a New Urbanism: Revitalization of Downtown Retail and Commercial Activity

Brian Ceh, Tony Hernandez
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The urban core traditionally functioned as the primary hub of retail and commercial activity in Canada until around 1945. Since then, the Canadian urban landscape has transformed due to widespread suburb growth. This growth was facilitated by many factors, but it ultimately coincided with urban populations sprawling into newly formed suburbs and commercial and employment activities diffusing from the core to meet the needs of suburbanites. This urban-suburban shift created significant challenges for downtowns. At the height of suburban flight downtowns experienced a 'hollowing-out' of population and commercial activity. Attempts during the 1970s to reverse or halt the suburban and exurban population shift typically failed. However, a recent resurgence in residential development in some Canadian downtowns has signaled to retail and service firms that the 'downtown' has once again become a viable market for growth. This paper looks at recent evidence between 2006 and 2011 of reinvestment in downtown locations by major Canadian retail chains, based on analysis of 10 downtown markets of varying sizes. A resurgence of retail and service activities in the urban core of many Canadian cities complements the notion of a new urbanism taking place on the Canadian landscape. A case-study of downtown Toronto illustrates changes in the form and function of commercial activities and highlights the challenges faced by retailers and service firms in terms of profitably operating stores in the downtown.

SS43 M1.2

Resource Development, Regional Policy and Quality of Life: Reconstructing the Pilbara, Western Australia

Rachel Chapman, Matthew Tonts, Paul Plummer
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The remote Pilbara region of Western Australia has experienced rapid resource-led growth over recent years, largely on the back of iron ore and natural gas. There is little sign that development will slow, with nearly A\$120 billion committed to new resource projects in the region, of which \$75 billion is in new gas ventures. Serious economic benefits have tended to be concentrated in major cities and larger regional

centres, often to the detriment of those living in the small communities where the economic activity is taking place. In 2008, a significant shift in regional development policy promised to alleviate many of the challenges these communities faced. At the heart of the policy agenda is a scheme known as 'Royalties for Regions', which aims to redirect funding earned from mining royalties into these regional areas. The outcome has been a significant investment in services, infrastructure, land development and the built environment. This paper draws on a Q-sort technique undertaken with residents in two of towns affected by major new resource projects. It explores the ways in which residents believe they are impacted by resource development, and the extent to which regional policy initiatives are successful in responding to local needs.

SS62 R1.4

Building capacity for improved community monitoring of private wells in Nova Scotia

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A multi-barrier approach, encompassing the need for monitoring and treatment to collectively remediate contamination of drinking water from source to tap, is an integral part of municipal safe drinking water programs across Canada. Source water monitoring and protection for Canada's four million private well users is largely uncoordinated with individual homeowners responsible for practicing safe well water stewardship. In Nova Scotia 45% of households are supplied from a private well and naturally occurring arsenic, a known carcinogen, is widespread in groundwater. Analysis of >3000 well water samples from across the province show 9% to be above Health Canada's arsenic guideline level (10ug/L). This paper discusses the challenges in empowering well users to regularly test and treat their drinking water. Results from our well water survey (420 households) and interviews show that even in areas of known high probability of arsenic exposure many people do not test water regularly, and those that do experience difficulties in interpreting results and accessing reliable treatment advice. Support networks for citizens are also found to be limited, with few participants aware of programs to assist them in safe water stewardship activities. The potential role of key community 'knowledge brokers' in building local capacity for well water monitoring is discussed.

SS09 W2.2

Does mountain pine beetle respond to clearcut edges during the current outbreak at the landscape scale in British Columbia, Canada?

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In British Columbia, large-scale salvage harvesting has been underway to recover timber value from the forest stands infested by mountain pine beetle during the current outbreak. The rapid fragmentation in the habitats of mountain pine beetle due to salvage harvesting increases landscape heterogeneity. How mountain pine beetle populations interact with the fragmentation in their habitats and how these interactions affect the spread of mountain pine beetles themselves largely depend upon how mountain pine beetles respond to abrupt and distinct edges between the intact forests and the cutblocks. This study suggests that mountain pine beetles show strong boundary responses to the clearcut edges by displaying clear edge density effects at the landscape scale when the beetle populations are at lower

levels. However, the responses of mountain pine beetles to the edges appear to disappear when beetle populations reach much higher epidemic levels. These results imply that salvage harvesting should focus on forests with a higher proportion of pine and it may be effective in reducing the spread of mountain pine beetle infestations only at the early stage of the outbreak when the infestations are at incipient-epidemic levels. Smaller and squarer cutblocks seem to be preferred in salvage harvesting.

SS14 M3.4

'Our home, our way of life': spiritual homelessness and the socio-cultural dimensions of Indigenous homelessness in the Northwest Territories (NWT), Canada

Julia Christensen

University of British Columbia, Vancouver, BC, Canada; Institute for Circumpolar Health Research, Yellowknife, NWT, Canada

In this presentation, I examine the socio-cultural dimensions of home and homelessness in a northern Indigenous context in order to understand the significance and scale of increasing visible homelessness in two northern communities. Grounded in five years of ethnographic research in Yellowknife and Inuvik, two regional centres in the Northwest Territories (NWT), Canada, I suggest that Indigenous experiences of homelessness are at once collective and immediate, an argument informed by the notion that home itself is multi-scalar (Blunt and Dowling 2006). In particular, I draw on the concept of “spiritual homelessness” (Keys Young 1998) to examine the multiple scales of homeless experience among northern Indigenous people. Research participants highlight several key elements of rapid socio-cultural change that have an enduring impact on a collective sense of home and belonging, and play integral roles in shaping the experiences of homeless Indigenous people. Social and material exclusion, detachment from cultural identity, intergenerational trauma, and institutionalization are all woven throughout the personal narratives provided by homeless research participants. Thus, I argue that the alleviation of Indigenous homelessness in the NWT requires approaches that specifically address contemporary colonial geographies and in particular their expressions in the key institutions in Indigenous homeless peoples’ lives.

SS32 M3.7

Urban outcasts in the Canadian North: understanding northern homelessness through a critical geography of institutionalization

Julia Christensen

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Institutions have played a profound role in northern colonial geographies (Tester and Kulchyski 1994). The early 20th century brought the introduction of many newcomers to the Canadian North, including Hudson’s Bay Company employees, RCMP officers, missionaries, nurses, and teachers. Each represented a different institutional arm—the wage economy, the criminal justice system, the church, the health and social welfare systems, and the education system. The expansion of these institutions, and their involvement in northern peoples’ lives, reflects what Wacquant terms “the historical sequence of ‘peculiar’ institutions” (2001: 95). In this paper, based on six years of ethnographic research in Northwest Territories communities, I argue that the criminal justice and social welfare systems shape

northern homeless geographies by 1) (re)producing vulnerability to home-loss through social policy and program interventions; 2) driving rural-urban migration of northerners most vulnerable to homelessness; and 3) generating highly racialized, gendered, and generational forms of institutional regulation. In so doing, I develop a critical geography of institutionalization in the Canadian North to explain the emergence of northern homelessness, its overrepresentation among Indigenous northerners, and the diverging, yet intimately tied, experiences of homeless men, women, and children.

SS10 M2.3

Unpacking Material and Social Determinants of Health and their Effect on Early Childhood Development in Kingston, Ontario Neighbourhoods

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Life course literature states that early childhood development (ECD) can influence most aspects of health throughout the life-cycle. Canada ranked last among 25 wealthy nations in meeting ECD objectives. Less than 5% of children born have clinically detectable shortcomings in developmental health, increasing to 26% by school age with emerging socioeconomic associations. Understanding how social determinants of health (SDH) influence ECD at the household and neighbourhood scales would help identify conditions for optimal developmental outcomes.

The effects of SDH on ECD in the Kingston, Ontario area were studied. SDH were classified via marginalization (ONMarg) and deprivation (Pampalon) indices. ECD was measured via 2006 Early Development Instrument (EDI) scores for children most at risk. The basic spatial unit of analysis was 2006 Census Canada Dissemination Areas, subdivided into quintiles of deprivation. EDI results from each of the quintiles within the two indices were compared, then combined.

The socioeconomic health gradient assumes that EDI scores will directly correlate to material and social deprivation. Social deprivation had a slightly greater impact than material deprivation on children's developmental vulnerability, with Q5 being the most vulnerable in all competencies. Surprisingly, emotional health and social competence were significant areas of vulnerability for children in Q1 and Q2.

Policy should focus on mitigating avoidable risks within this critical time to avoid future deleterious health effects and costs. Mapping the effects of SDH at the neighbourhood level generates knowledge that informs intersectoral action by policy makers and public health to provide the supports needed to foster healthy children.

SS43 M1.2

Social Inclusion through Educational Interpreters: A Geographical Perspective

Michael Chrobok
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In order for hearing-impaired children to enjoy academic success, develop language skills, and be socially included, the assistance of an effective educational interpreter is critical. With the power to

devise education policies resting primarily with state/provincial and local governments, the question of whether strong standards have been developed to guide the hiring of educational interpreters is an important one. Using the United States as an example, this paper investigates the timing, substance, and geography of the introduction and imposition of qualification standards for classroom interpreters. Based on an analysis of state laws and policies, it advances a two-fold argument. First, significant discrepancies exist between states in terms of their approach to the standards issue. Some jurisdictions have not set formal requirements; most others have, but with much variation to be found concerning mandated test scores, the procurement of national certification, and the expected completion of training programs. Second, though requirements have been adopted by most states, these standards oftentimes function as window-dressings, creating an illusion that only highly-qualified persons are permitted to act as interpreters. State policies often contain exemption clauses permitting individuals who do not meet stated requirements to interpret in classrooms without penalty. By drawing attention to the uneven geography and problematic substance of educational interpreter qualification standards in the United States, this paper reveals that the conditions needed to foster social inclusion for hearing-impaired children have not yet been fully established in America. Whether the situation is similar in Canada is a topic worthy of future investigation.

SS66 R1.3

The impact of land use on sleep duration

Antony Chum, Patricia O'Campo

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Urban densification and mixed-use development may have unintended consequences and should be accompanied by research that anticipates its varied outcomes and possibly ameliorates its negative impacts. The purpose of this study is to investigate the impact of land use intensity on adult sleep duration, because short sleep duration is associated with multiple adverse health outcomes. We examined the association between commercial/population density and adult sleep duration through a cross-sectional survey of 2411 participants from across 443 dissemination areas in Toronto, Canada. Main research questions: 1) is there an association between intensity of land use and sleep duration after adjusting for confounders? 2) Is this association mediated by self-rated noise and/or depressive symptoms?

We found that only commercial land use intensity is significantly associated with sleep duration after multivariate adjustments. Noise and depressive symptoms appear to mediate the association between commercial density and shortened sleep duration. Finally, the elevated risk of shortened sleep associated with noise can be attributable to both traffic and non-traffic commercial noise. Given the importance of noise as a mediator between land use and sleep duration, site-planning and architectural solutions to reduce exterior noise and soundproofing may be scaled up as part of urban densification strategies.

SS19 T3.1

Navigating the estuary of Fraser River

Michael Church

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Throughout the 20th century, the Main Arm of Fraser River in the Fraser delta has been trained and dredged to permit deep-water navigation. These activities continue. The result is a channel that is deeper than the river would normally form. An inescapable consequence is sediment deposition in the over-deepened channel as the river attempts to re-establish its former morphology. Follow-on consequences include a continuing dredging requirement, lowering of the channel bed upstream as far as Mission (85 km inland); reduction of water levels within the upstream channel for any particular discharge; possible slumping of channel edges and bank erosion; reduced sediment delivery to the river mouth; and increased salt wedge penetration at all flows.

Management risks consequent upon these changes include direct risks to economic activity along the river; direct risks to the sedimentary environment, in particular, reduction in sand delivery to the delta front; and risks to the delta/estuarine ecology. Risks to the sedimentary environment may give rise to further, indirect risks to human activity. Risks to the ecosystem are mainly 'indirect' insofar as they operate through changes to the sedimentary environment.

SS42 T1.7

A multi-linear regression model of paleoclimate ice conditions off the coast of Labrador, Canada

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We demonstrate that tree-rings in Labrador, Canada, can be used as a proxy record of ice flows through the Labrador strait. The region is dominated by a forest which is defined by its intense spring fog cover, identified as a hyper-maritime biogeoclimatic environment in other publications. We statistically isolate common signals of this maritime region through a cluster analysis of a gridded network of twenty-two study sites across eight degrees longitude and six degrees latitude spanning the entire forested region of Labrador. By isolating those distinct sites and running a Principal Component Analysis on the cores from those sites, and using a multi-linear regression on the principal components, we can extrapolate past ice conditions prior to Environment Canada records. This record enhances our understanding of sea ice changes over the past century.

SS12 T3.4

Selling Difference: A comprehensive examination of place branding in Ontario communities

Evan Cleave, Godwin Arku

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Although place branding has a long history, there has been a significant increase in numbers of communities that are adopting it as a policy tool to promote economic development. This is a direct response to the growing integration and interdependence of world communities, compelling local urban governments to adopt strategies to differentiate themselves from their competition in an effort to

attract and retain increasingly mobile labour, industry, tourism, and investment. An important element of place branding is the visual identity - slogans, mottos, logos, and liveries - and the ability to communicate this message to target audiences through modern communication channels, like the internet. Branding efforts by communities of all levels has fostered academic research, though this has primarily focused on Europe and investigations into city branding through case studies. Consequently, there are significant knowledge gaps that exist in a place like Ontario where there is widespread branding activities. To address this knowledge gap, this study examines the extent of branding in Ontario communities - cities, towns, townships, and municipalities - through a comprehensive inventory of visual imagery displayed on community websites. The results show that while place branding occurs in all forms of community, there is a relationship between community types and whether branding is occurring. Similarly, there is a relationship between community type and the visual elements being utilized. The results of the study provide insight into the areas in which these communities are attempting to foster economic development.

SS15 R3.5

When Ecology is Political: Variegated Authority in Canada's Community Based Watershed Groups

Alice Cohen
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Community based water monitoring and management - typically carried out at the watershed scale - is seen as a cornerstone of effective environmental governance, and the role of watershed-scale monitoring and management organizations can vary greatly. From data collection to consultation to recommendations to decision-making, the range of activities undertaken at the watershed scale is broad. In Canada, this range varies from province to province, since each is responsible for its own water governance policies. This paper explores the degree to which watershed-based organizations are afforded decision-making authority in different Canadian provinces that have taken up watershed-based planning and management. More broadly, the paper explores the effects and implications of this wide range of authorities, particularly as it relates to the provincial environmental decision-making landscapes within which these groups are situated. Drawing on recent work on political ecologies of scale, this work is especially concerned with the ways in which community based watershed governance can have the effect of retrenching existing structures of power and decision-making despite its putative grounding in grassroots participation and community empowerment.

SS09 W2.2

The Potential Implications of Climate Change for the Achievement of the Millennium Development Goal 5, in the Gambia, West Africa

Cathy Conrad, Amanda Bartel
Saint Mary's University, Halifax, NS, Canada

The purpose of this presentation is to explore the potential relationship between climate change and the achievement of the MDG 5 (to reduce maternal mortality by three-quarters and provide universal reproductive health care by 2015). Data was obtained through on-site interviews with Gambians and analyzed by looking for patterns and trends between interviewees. This presentation includes a discussion of the current information regarding climate change and human health, a description of The

Gambia as the study area, and an examination of a cross-section of Gambians' perceptions of the linkages between climate and maternal health. The results of this study concluded that there is a connection between weather patterns and maternal health as it can directly decrease the access that women have to health care in rural 'up country' regions. This has the potential to link to future changes in weather patterns as the region confronts a changing climate. Although this is an important aspect of health care and needs to be addressed in order to reach MDG goals, there are other factors that are also contributing to The Gambia's inability to reduce maternal mortality and provide universal reproductive care. These factors include: transport and movement, diet, poverty, seasonal job restraints, and gender issues.

SS38 M4.2

Community-based water monitoring and management: experiences from CURA H20

Cathy Conrad, Sarah Weston, Oliver Woods, CURA H20 Team
Saint Mary's University, Halifax, NS, Canada

This presentation describes a five-year Community-University Research Alliance (CURA) project funded by the Social Sciences and Humanities Research Council of Canada which was established to increase community capacity for integrated water monitoring and management in Canada and abroad. The project team is composed of an alliance of partners representing academia, community stewardship organizations, non-governmental environmental organizations (NGOs), government agencies, First Nations communities, public schools, the agricultural community, and the private sector. The research component of CURA H20 will be presented, which has engaged citizens and community organizations in community-based water monitoring and which aims to provide resource managers with a broader set of reliable data upon which to base more informed decisions. In addition, CURA H20 aims to generate new knowledge around issues of effective community-based resource management, improved accuracy of data collection, and the successful integration of volunteer monitoring into resource management. Water is a resource of common community concern, and given the participatory nature of this CURA, the wider social benefits of this research include: (a) the empowerment of communities to successfully assess the health and needs of their watershed, and (b) the development of a grassroots capacity to create solutions to help prevent environmental degradation concerns that negatively affect local water quality.

SS09 W2.2

Historical Aerial Photography Guides the Development of Restoration Protocols for Quarried Coastal Limestone Barrens

Corrina Copp, Luise Hermanutz, Trevor Bell
Memorial University, St. John's, NL, Canada

Restoration ecology is defined by the Society for Ecological Restoration as "the assisted rehabilitation...of an ecosystem that has been damaged, degraded or destroyed". Quarrying is known to cause such degradation, altering local geomorphology, hydrology and disturbance regimes, and causing habitat loss, thereby facilitating the need for restoration. Legacy effects of quarrying also become evident over time. On the globally at-risk Northern Peninsula Limestone Barrens habitat, home of the endangered endemic plant Long's braya (*Braya longii*), abandoned quarries remain highly disturbed,

non-rehabilitated, and void of native habitat characteristics. To understand how quarrying has altered the landscape within Long's braya's habitat range, a time series (1948, 1968, 1979, 1989 and 1995) of aerial photographs was assessed through stereoscopic analysis of geomorphology and land use history. Open areas of vegetation-free barrens were identified as potentially suitable habitat for Long's braya and tracked through the aerial photograph sequence to establish locations that survived anthropogenic disturbance. Geomorphic features such as raised beaches were mapped as an aid to understand the nature and composition of pre-disturbed landscapes. Finally, the chronology, nature and extent of anthropogenically-disturbed landscape were recorded to identify the potential types of alteration and changes in substrate composition. Ground truthing was used to confirm aerial photograph observations. Additionally, topographic data were collected to help develop a 3D reconstruction of the landscape. This digital elevation model will assist in: 1) visualizing the pre-quarried landscape; 2) estimating the volume and nature of material removed; and 3) informing restoration activities for rehabilitation of site-specific landscape features.

Poster Session B

Dendroclimatological insights from a multispecies tree-ring width and density network spanning the British Columbia Coast Mountains

Bethany Coulthard, Dan Smith
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Tree-ring width and density chronologies from mountain hemlock, subalpine fir, and white spruce trees have been collected over the past two decades from montane forest sites throughout the British Columbia Coast Mountains. This network of data provides multi-century perspectives on temperature, precipitation, and other environmental fluctuations at various temporal and spatial scales.

SS12 T3.4

Geoscience Information for Environmental Assessment along the Beaufort Sea Coast

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The shoreline of the Beaufort Sea is extremely dynamic and subject to rapid morphological change. The thaw of ice-rich sediment, coastal erosion, and sediment mobilization mean that foresight is required for the wise development of existing and planned infrastructure. A better understanding of this coastline is important for community and industrial stakeholders with interests in harbours, ports, and other coastal infrastructure projects. In response to potential development in the region, the Geological Survey of Canada has been funded by the Beaufort Regional Environmental Assessment (BREA) to compile and synthesize information on coastal and nearshore conditions critical to planning, site selection, regulation and management of coastal facilities.

This project provides an inventory, synthesis and analysis of existing knowledge on coastal geology, stability, and hazards relevant to the planning and management of coastal infrastructure, affording insight into almost seven decades of coastal change. In addition, it has highlighted knowledge gaps,

enabling the targeted collection of new data to help support the informed assessment of the environmental impacts of shoreline development. Data products include: (1) an inventory of existing data and research results; (2) a regional synthesis and assessment of coastal knowledge in a georeferenced format; and (3) in consultation with various levels of regional and local government and other partners, acquisition of new data to fill critical gaps and strengthen the regional synthesis. The resulting report and GIS data products provide a regional framework to enable interested parties to contribute to the safe and sustainable development of the Beaufort Sea coastal zone.

SS42 T2.7

Evidence for the submerged postglacial sea-level lowstand off eastern Baffin Island, Nunavut

Beth Cowan, Trevor Bell, Donald Forbes
Memorial University, St. John's, NL, Canada

Multibeam and subbottom sounders were used to map and interpret lowstand sea-level indicators within coastal inlets of Cumberland Peninsula, Baffin Island, Nunavut. Few such features have previously been recorded, though extensive research has been conducted on raised shorelines in this region. To reconstruct the regional submerged postglacial sea-level history, the ideal lowstand indicators are those formed by deposition along the coastal interface (e.g. beach terrace, boulder barricade, submerged delta). These mark the depth of former sea levels and act as index points for modeling of glacial-isostatic adjustment (GIA) and relative sea-level trends. Shallow marine surveys aboard the *MV Nuliajuk* in 2012 mapped submerged boulder barricades and deltas at depths of ~15 to 43 m in fjords and inlets between Qikiqtarjuaq and Cape Dyer. Multibeam data provide shaded-relief images of seabed features and backscatter intensity. Subbottom profiles add a third dimension to the interpretation of the seabed geomorphology by recording the internal structure and stratigraphy of the seabed. The results from this study will help to extend and validate geophysical models of GIA for eastern Baffin Island, contributing to more robust future sea-level projections. These projections provide guidance for the management of coastal hazards and development for coastal communities.

SS42 W2.6

'Colony of Unrequited Dreams'

Declan Cullen
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In 1933, Newfoundland and Labrador, a British Dominion theoretically equal in status to Canada, surrendered its independence and agreed to rule by a British appointed Commission of Government. The Commission was tasked with the reconstruction and rehabilitation of the island. In 1949, Newfoundland, somewhat reluctantly, joined the Canadian confederation. In the intervening years the Commission of Government attempted various reconstruction plans in Newfoundland, plans that were chosen from the wider British colonial context. In this paper, I examine the process through which the Commission was chosen and the lens through which they viewed Newfoundland. The Commission's understanding of Newfoundland and its inhabitants was, I argue, deeply imbued with colonial prejudices learned from careers in the colonial office and from experience in colonial holdings elsewhere. Their experiences seemed to hinder their ability to address the problem of Newfoundland and to frequently lead them to implement unsuitable policies. How did particular policies become to be seen as

appropriate for Newfoundland? What contexts did they emerge from, and why were they seen as suitable? Such questions are important and critical historical geographies help us to answer them by focusing on the networks through which places such as Newfoundland are constituted and tracing the processes which have set the limits, historical and spatial, material and ideological, of what has been considered possible for the province.

SS24 W1.1

Tree rings as pollution archives: historical lead levels in St. John's

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Soil and indoor dust Pb levels associated with older housing stock in St. John's represent a potential exposure risk for young children living in these houses. A recent biomonitoring study demonstrated that housing age is a statistically significant predictor of mean blood lead levels (BLLs) in young children and that children living in houses older than 1970 have a predictably elevated BLL compared to the reference population. Little is known about the history of lead deposition in St. John's; lead particulate measurements only span the period 1972-1998. The Pb levels in annual growth rings from trees can identify the temporal patterns of environmental Pb concentration in the city. We present the results of our initial study preparation for using tree-ring as pollution archives in St. John's including selection of suitable species, development of sampling protocols and assessment of laser ablation analysis for available species. Good signal stability (low intra-ring variation) was recorded for trees with relatively uniform wood structure (spruce, horse chestnut); line scanning as opposed to spot ablation, however, can limit the influence of intra-ring noise even in trees with more complex wood structure. For future analysis, the combination of laser line ablation and cut wood sample preparation appears to be best options in comparison with other tested alternatives.

SS12 W1.4

Rubber plantation and the production of "new" land governance in the Northwest of Vietnam

Nga Dao
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Alongside with its economic reform and development, in recent years, Vietnam has experienced rapid changes in land and resource use and tenure. Even though land is still property of the state with farmers having land use rights, the issue of land appropriation for rubber plantation has become critical in many parts of the country. Large-scale investment in monoculture rubber plantations has been encouraged by both the central and local governments and rubber investors. This issue has become especially acute in the northwest uplands, where a large number of local people were displaced to make way for the Son La dam -- the largest dam project in contemporary Vietnam. The Prime Minister and provincial governments in the Northwest consider rubber production as a strategic development in order to boost the region's socio- economic conditions and people's livelihoods. Based on extensive fieldwork in the northwest since 2009 through 2013, this paper seeks to understand how institutional control over land and political subjects produce dominion and a "new" way of land governance in the upland areas? This paper also examines how the government in conjunction with rubber investors used its sovereign power

to "persuade" these resettled people to contribute small plots of land they received from compensation for resettlement to rubber plantation. It also aims to explore how rubber production has affected people livelihoods and transformed the local agrarian landscape.

SS25 R1.1

Using Field Measured Parameters with the SWAT Hydrological Model to Quantify Runoff at the Sub-Watershed Level

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The Soil and Water Assessment Tool (SWAT) is a physically based semi-distributed hydrological model that has been used internationally, particularly to quantify the impact of land use/cover change on runoff quantity and/or quality. The runoff quantity is characterized as the excess of initial abstractions of precipitation (interception and infiltration). SWAT models these two processes based largely on leaf area index (LAI) and the hydraulic conductivity and bulk density of the soil respectively. SWAT uses LAI values within its database corresponding to the mapped vegetation species on a land cover map. Similarly, soil texture from a soil map is used to look up hydraulic conductivities/bulk densities from the SWAT database. These values are subject to generalizations in order to accommodate a wide variety of vegetation and soil types, which may in turn affect the precision of modelled runoff. In this study, database values for hydraulic conductivity, bulk density, and LAI are compared to in situ field measurements, and we observe the differences they impose on model outputs when used to parameterize SWAT. Furthermore, a sampling methodology is tested based on unique combinations of land, soil, and slope to practically integrate field measurements into the SWAT model and to examine the necessary density of point measurements.

SS44 T1.4

White spruce now and then: Determining the growth response of shelterbelt trees to climate change in the Canadian Prairies

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Exercises in modelling the future growth of tree species have to date been limited to naturally established forest systems. This research examines the predicted growth responses of white spruce trees (*Picea glauca*) planted in prairie shelterbelts systems in Saskatchewan, Canada under projected scenarios of climate change to the year 2100. Below the boreal tree line, white spruce is found almost exclusively in planted shelterbelts within the Canadian Prairie landscape. Here it is examined along a north-south and east-west transect to identify differential species responses based on location.

Historical relationships between monthly climate variables and tree ring growth were identified using a multilinear regression model of best fit. Predicted future growth was then forecasted using these relationships in conjunction with projected climate data from CGCM3. White spruce is expected to respond negatively to the anticipated trend warming temperatures. This is likely due to their location beyond the southern limit of their species range. These results have significant implications for

landowners who depend on shelterbelt trees to provide ecosystem services on their properties.

SS12 T4.4

Cod Recovery and the Changing Politics of Crisis in Newfoundland and Labrador

Reade Davis

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The collapse of cod stocks off the coast of Newfoundland and Labrador in the early 1990s was widely understood as an ecological disaster and the death of a rural way of life that had endured for centuries. Many areas have remained closed to commercial cod fishing for two full decades, though growing numbers of commercial fishers and some fisheries scientists now agree that stocks in several areas are finally showing signs of rebuilding. While the biological recovery of cod populations was once widely viewed as being essential to the future well-being of coastal communities, some commercial fishers now publicly express concerns about a return to a cod-dominated marine environment. This paper explores the roots of these changing constructions of cod. I argue that making sense of the anxieties and uncertainties that presently surround the question of cod recovery requires that we pay close attention to the ways in which changes in the world's oceans and changes in the global political economy of "whitefish" production have converged in ways that are fundamentally challenging many previously held notions of the ecological good.

SS26 T1.3

Modelling sandy, braided channels using CEASAR-Lisflood

Dirk de Boer

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There is a continuum of channel patterns from braided to meandering. Through time, changes in the factors that control channel pattern, including sediment load, gradient, and discharge, cause changes in channel pattern, which may have significant impacts on the aquatic ecosystem, water resource use, and flood characteristics. Models play an important role in predicting the direction and magnitude of changes in channel pattern. One particular class of models is the cellular automata, in which local rules lead to large scale patterns that emerge from those local rules. The CAESAR model was developed as a cellular model, but also incorporates elements that are evident over scales larger than one cell. For this study, CAESAR-Lisflood, which incorporates the Lisflood flood routing program, was applied to the South Saskatchewan River, a braided sand bed river with meandering sections. The objective of the study was to investigate the ability of CAESAR-Lisflood to model the key features of the system and to evaluate the changes in channel pattern caused by the changes in flow regime associated with the operation of the Gardiner Dam. Using the discharge time series for the South Saskatchewan River at Saskatoon (05HG001), the model reproduces the channel pattern with a single, meandering channel at high discharges and emerging point, lateral and medial bars at low discharges. Further testing is underway to evaluate whether the model results quantitatively match the prototype.

SS52 R1.6

Aboriginal Homes in a 'State of Care': Colonial Geographies and Child Welfare in Northern British Columbia

Sarah de Leeuw

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In this paper I consider child welfare regulations, policies, and practices as they impact Indigenous families and communities, especially in Northern British Columbia. I argue that concepts of civility, goodness, and the domestic have always legitimized settler-colonial declarations and impositions of themselves within Indigenous geographies. The home – conceptually and materially – has been central to these processes. I track historical logics of state intervention into Indigenous families through to the present day and review the empirics of child removals and state interventions into contemporary Indigenous families. I also present voices of those living or administering policies that so often unfold within homes of Indigenous families. Curtailing the state's ongoing disruption of Aboriginal families and communities, I conclude, requires understanding child welfare both as historically contiguous with other colonial projects and as premised in great part on ungrounded logics of 'common sense' that (re)produce Indigenous families, homes, and communities as rarified and othered geographies in constant need of protection and intervention.

SS32 M3.7

Gardening as a platform for social learning and community building

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The Kenora Association for Community Living (KACL) is a non-profit organization creating opportunities for people with special needs to live meaningful and satisfying lives as equals in their communities. The association has, for years, operated a community garden in south central Kenora. In 2012, it expanded the size of the garden, made it more accessible for people facing mobility challenges, and enhanced garden outreach and education activities. New activities included a series of workshops (e.g., traditional medicines, seed saving) and community events (e.g., a harvest potluck supper). This poster presents the preliminary results of an ongoing study of the implications of the garden for social learning and community building. Our methods were participant observation, a written survey of garden and workshop participants, semi-structured interviews with key informants, and qualitative coding and thematic sorting. Preliminary results reveal that, among garden and workshop participants, there were diverse instrumental, communicative, and potentially transformative learning outcomes (e.g., Anishinaabe understandings of local foods) and an enhanced understanding of, and appreciation for, people from different cultures, or with different abilities. The results also show a strong sense of ownership of the garden among KACL consumers and neighbours. Lastly, the results identify ways for improving the garden project, such as developing better connections with other community gardens in Kenora.

Poster Session A

A Feminist Environmental History of Forestry Sector Shifts in Eastern Ontario

Dawn Dietrich

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For decades, feminist scholars working in a developing world context have demonstrated the gendered consequences of environmental change in resource-dependent communities. In a North American context, however, few scholars have explored environmental transformations, such as those associated with forestry sector shifts, and the impacts on rural constructions of gender and nature over time.

This ongoing feminist environmental history project demonstrates how forestry sector shifts in Ontario, particularly those associated with sustainable forest management, not only alter everyday human-nature relationships in rural communities, but how these past and present environmental changes have real, gendered consequences.

Through the analysis of archival material, forest management documents, oral history interviews, and ethnographic observations of forest-dependent communities in Eastern Ontario, this research shows how forestry sector shifts are challenging long established constructions of masculinity and femininity (roles, relations and ideologies) in rural areas, while also altering hierarchies of power and, thus, the constructed forest landscape. Contemporary manifestations of these changes have created opportunities, but also problematic conditions for the forests and rural people; hence, this case study serves as an illustration of the need for research that both deconstructs sustainability measures in forest management, and considers the temporal and gendered aspects of forestry sector change.

SS24 W1.1

Understanding Urban Food Security in Southern Africa: Insights from a Gender Analysis of African Food Security Urban Network (AFSUN) Survey Data

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The African Food Security Urban Network (AFSUN) conducted household surveys in eleven cities in nine Southern African countries in 2008-9 to gather information on the nature and extent of urban food insecurity in the region. Based on a detailed gender analysis of the AFSUN data, this paper sheds further light on the explanation and experience of urban food insecurity. Particular attention is paid to female-centred households, which revealed higher levels of poverty, more precarious livelihoods and, by a number of different measures, deeper food insecurity than nuclear or extended-family households. Links between household type and food security status were strong, yet far from straightforward, and with considerable geographical variation amongst the various cities. Two findings are especially striking. First, even cities that appeared relatively food secure in aggregate revealed considerably higher food insecurity amongst female-centred households. Second, some female-centred households attain food security despite lower incomes, suggesting that female household headship can, in some circumstances, act to mitigate income poverty. These findings have implications for urban, national and regional policy interventions aimed at reducing food insecurity among the urban poor.

SS62 R1.4

Problem or Possibility? The Legacies of 20th Century Socialist Urbanism in Asia and Europe

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Do the socialist urbanisms of the previous century have anything to offer cities of 21st century experiencing a crisis of the neoliberal model of city building? With case studies involving a range of iconic spaces of 20th century socialist urbanism in Hanoi, former East Berlin, and Stockholm, we consider the extent to which present-day debates are confrontations with the 20th century urbanism embodied in those spaces and in their human occupants. As collective housing blocks are demolished in Hanoi and plans for Berlin's Alexanderplatz include multiple high-rises, Stockholm's model suburb of Vällingby is protected with national heritage status. We consider the contexts of these sites, the decisions, and the debates which have and have not taken place to analyze the fates of these (formerly?) showcase spaces. We conclude with preliminary thoughts on policy implications that other cities might draw from these case study scenarios.

SS22 R3.1

Intercomparaison, entre les Alpes du nord (France) et la péninsule gaspésienne (Canada), des tendances nivologiques récentes en milieu de montagne.

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La connaissance précise du manteau neigeux en milieu de montagne n'est pas simple car des effets locaux, liés à la topographie et l'exposition, perturbent l'accumulation, la répartition et la fusion de l'enneigement. Localement, même sur des lieux très proches, ces effets peuvent accentuer ou atténuer l'épaisseur du manteau. Le suivi sur plusieurs décennies de sa dynamique temporelle, de ses fluctuations inter-saisonniers, demeure cependant envisageable à partir d'un nombre réduit de stations de mesure. Pour définir d'une part, et mieux comprendre d'autre part, les tendances observées sur l'épaisseur du manteau neigeux, cette étude propose une simulation des hauteurs de neige observées. Le modèle utilisé repose sur une approche à degré-jour classique, qui permet de reconstituer les processus d'accumulation, puis de fonte du manteau neigeux. Dans un premier temps, les séries de hauteurs de neige, souvent courtes ou incomplètes, peuvent être étendues, voire reconstituées sur plusieurs décennies, afin d'obtenir des tendances robustes et significatives. Dans un second temps, en discriminant les processus d'accumulation et de fusion, la simulation permet d'évaluer respectivement l'importance de ces deux processus dans les tendances observées. Les résultats issus de la comparaison entre les deux milieux de montagne étudiés indiquent des résultats forts différents.

SS07 M1.4

Hamilton: Brutal Beauty | Hidden Heritage

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Sustainable development initiatives, arts and culture, heritage, natural and environmental features are now actively promoted in many cities to both their local residents and tourists alike, thereby fostering sustainable business opportunities as well. Hamilton, Ontario is in a unique position to take advantage of this trend. Hamilton is transforming into a post-industrial city with a rich built heritage, infrastructure, strategic economic location, and ecological diversity. But, Hamilton still needs to come to terms with its previous existence as an industrial city, and the 2001 amalgamation with its distinctly suburban and rural communities. Through a review of this tourism trend and the concepts relating to economic development, resilience, place branding and marketing, and place-making, the need for a publication to aid in establishing Hamilton's sense of place and identity emerges. The book "**Hamilton: Brutal Beauty | Hidden Heritage**" is the end result of this research project. The book is a unique guide to Hamilton; encouraging residents and visitors alike to explore and learn about how its location, history and environment are influencing its path to renewal as a post-industrial city.

SS33 M3.1

Towards the establishment of a Green Belt in the region of Montreal, Quebec: a look at the area, its actors and tools of implementation

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Greater Montreal (Quebec) and its metropolitan area are currently experiencing a period of profound questioning towards the future of their planning and development. To create a dynamic network of protected natural areas and agriculture and to enhance ecological functionality, sustainability and accessibility, this study proposes the creation of a Green Belt. The realization of this regional network should be based on a common territorial strategy, deployed as a mobilizing vision shared between institutions and people whose skills in development planning and land management are necessary and complementary. To do this, the study proposes an environmentally optimal perimeter, describes their ecological functions and the economic value of ecosystem services. It then offers an inventory of existing tools to ensure its implementation and offers a roadmap for its creation within a five years perspective.

SS55 W1.5

Fracking for Oil in Saskatchewan: Explaining social and regulatory absences in North American Context

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Across North America over the last decade, hydraulic fracturing or “fracking” has opened new hydrocarbon reserves for industrial development and, in the process, transformed and threatened ecosystems and communities. As the use of fracking has intensified and spread, environmental organizations, landowners, and citizen’s groups across North America and internationally have organized to prevent or slow these developments citing impacts associated with water quantity and quality,

environmental contamination, health concerns, and much more. In response, governments at all levels, have begun to implement new regulations or moratoria to manage or restrict fracking. This paper considers the specific case of Saskatchewan, one of Canada's leading "petro-provinces" with a long history of fracking: over 35,000 wells have been fracked since the 1950s. Yet, in contrast to recent national and international cases, there has been limited public commentary and research and a marked lack of social contention and regulatory development around fracking in Saskatchewan. To address this gap, we note the unique mix of environmental and human impacts associated with fracking for oil in Saskatchewan including the loss of native prairie grasses and habitat and of large amounts of water from the hydrological cycle. We present our analysis of public commentary and social contention on this extraction process as well as the underdeveloped regulatory regime. We then explain the lack of social contention and regulatory response with reference to the dispersed nature of production, the inability and indeed refusal to measure cumulative impacts, and the province's new found status as a 'have' petro-province.

SS11 M3.2

The Transformation of a Tourist Space: Puerto Vallarta's Malecon

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In 2011, Puerto Vallarta, Mexico undertook a major renovation of its principal oceanfront public space - the Malecon. Not only was it renovated, but its layout and relationship to the adjacent tourist oriented commercial strip were altered. Among other things, the street that formerly divided the Malecon from the commercial strip was filled in and made to be a continuous part of the Malecon, open to pedestrians only. This project was planned and executed with virtually no consultation with the affected business owners and the taxi drivers who worked the street. The positive and negative impacts of the changes are uncertain. This paper reports on an initial survey of a variety of groups to ascertain their perceptions of the changes to this public tourist space.

SS53 T4.6

The 'In-situ' Dynamics of Japanese Electronic Subsidiaries in ASEAN Countries: Reflections from a Development Perspective

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This paper reflects on the changing role of Southeast Asian countries in the overseas networks of Japanese electronics firms from a 'backyard of production' to a 'high-growth consumer and industrial market'. It contributes to the theory of subsidiary evolution in multinational corporations (MNCs) through utilizing a value chain approach. Our study assesses the changing activities of the branches of Japanese electronics firms located in Southeast Asia (the ASEAN region) since the 1997-8 financial crisis, and we argue that a modest development of Japanese subsidiaries has occurred in this region during the past ten years or so. We connect the changed role of the region in the strategy of Japanese firms through the results of a set of interviews with 37 managers in factories, sales offices and regional headquarters located in Singapore, Malaysia and Thailand. We show that decentralization and

upgrading of local management functions from Japan occurred in both primary and support activities of the value chain. However, our results reveal that corporate long-term research and development did not disperse to Southeast Asia, and is unlikely to in the near future. The article interprets these findings and highlights the need for further research relating to the evolving geography of Japanese electronics MNCs and their subsidiaries in Southeast Asia.

SS17 M3.3

A sovereign history of crisis: Protecting nature to fund the state

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In 1969, the Supertanker Manhattan's trip through the Northwest Passage sparked fears over Canada's sovereign claims in the arctic. A year later, hoping to protect those waters from international speculation and boundary claims, the Trudeau government passed the Arctic Waters Pollution Prevention Act. Pollution prevention was the tool to assert national sovereignty over waters that were on the cusp of being economically productive. Similarly, Stephen Harper's Northern Strategy emphasises conservation, industrial development, divestment of governance and sovereignty, and military practice operations in Hudson's Bay board ships in the hunt for potentially hazardous material. The legacy of vague and contested agreements on territorial waters, the pairing of sovereign strong-arming and environmental protection has a contradictory relationship to environmental crisis: ostensible there to reduce further environmental destruction, the environmental protections also help to assert national claims to the economic riches of the north, thereby furthering the potential for increased ecological impact.

In light of this contradiction, this paper looks at the relationship between crisis and sovereignty. How has the crisis of climate change, arctic pollution and territorial limits been folded into an emerging regime of neoliberal governance in the North? Specifically, the paper argues these crises have been mobilized to increase the potential for private profit within the north, a continuation of the colonial dreams of the south over the resources and bounty of the North.

SS25 R1.1

Tehran's cultural landscape: Globalization, ethnical diversity and urban planning

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Tehran, as the exclusive national metropolitan city of Iran, plays a key role in all main events in the national and international levels of the country. Tehran's unique cultural landscape and ethnical diversity makes it an excellent laboratory to investigate globalization, national policies, and ethnical diversity. Unlike other global cities, Tehran's cultural diversity has not resulted in plurality of global identities nor transnational economic activities. Tehran's ethnical diversity is among the significant consequences of national policies that helps attract national capital, tourists, and business. Moreover, the presence of ethnic groups has neither affected the forming neighborhoods and business enclaves nor urban spaces. Thus, this paper examines overall cultural landscape in Tehran to better understand the impacts of cultural diversity in the creation of new urban shapes as well as regulations and

citizenship laws. Cultural landscape takes a specific shape in Tehran due to Tehran's uniqueness from other large cities of the world in two basic ways: 1) low transnational relationships and immigration as a result of national economical policies, and 2) low developed citizenship policies and urban laws. Overall cultural landscape and diversity in Tehran is mostly national, resulting from urbanization and migration within Iran for socioeconomic reasons. This trend has had no major effect on urban programs, planning, or laws.

SS66 R4.3

Slow Violence and the Making of the Military North

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The recent, costly clean-up of Cold War-era radar sites in the Canadian Arctic has shed additional light on the relationship between military activity and contaminated environments. Scholarship in the environmental sciences has been tracking such remediation efforts for over a decade, while oral history projects have begun to document the tangled and troubling relationships between these military projects and proximate indigenous communities. But little attention, even in detailed military history sources, has been paid to the specific routes by which contaminants have been historically transmitted to the Arctic – namely a lengthy list of exercises, experiments and construction initiatives frequently conducted across or over vast swaths of territory. This absence is particularly important because Canada's Department of National Defence has contributed significantly to the representation of the north as an empty or untouched space. To understand the military's participation in the production of contaminated northern environments, then, we must also consider its central role in the consolidation of an "official" northern landscape. In this paper I will pose and attempt to answer two related questions: How did scientists working for or alongside the Canadian military approach northern environments during the early Cold War, and what were the consequences of these approaches, when put into practice in the north? As Rob Nixon notes in his ground-breaking study of slow violence, because military agencies have often contributed to "disguising toxicity, both physically and rhetorically," these are pressing queries.

SS24 W1.1

The Evolution of South Asian Slum Development in a Governance Void

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The Government of India created a scheme to be slum-free by 2015 and delegated the implementation of development strategies to the states and Union Territories. However, there are some informal settlements, which find themselves caught between two levels of government with neither willing to take responsibility for their development. The 14, 000 people of Janta Colony, are pushed up against the walls of Chandigarh (UT) and are highly engaged in the economy of the city. However, the land that they have settled on is situated on rural land of Punjab State. Although the City of Chandigarh reaps significant economic benefits from the population that resides in the settlement, the city boundary limits the reach of government schemes to develop the settlement, whereas the state is paralysed from taking action since the colony is not formally classified as a city, town or village. This paper discusses the

governance issues of informal settlements trapped in the urban fringe and investigates the influence of civil society and informal networks that substitute for state-led development schemes.

SS17 M4.3

The Home: A psycho-spatial tool to empower, validate, and express the identities of aging men and women living alone

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The home is the place that most significantly represents and relates to an individual's identity. Twigger-Ross and Uzzell (1996) found that the environment in which one lives significantly influences identity development and maintenance. For older men and women, who are stigmatized by their age, the home becomes a more critical tool to fortify and validate an aging identity.

The research presented here is the result of a qualitative, phenomenological study with thirty five men and women, aged 55 to 96, who live alone in the New York City area. I explored how the elderly, as active agents in their own continued identity development, employ psycho-spatial tactics to fortify their autonomy and validate a changing self in an ageist society. Four trends emerged: 1) older men and women experienced and used their homes differently, 2) living independently in and having control over one's own home helped to preserve autonomy and facilitate a sense of empowerment; 3) the home was used to express and validate the participant's various identities; and 4) particular rooms within the home played very specific roles in the lives of these older men and women.

As the number of seniors rapidly swells, many are choosing to age at home. However, most research on "aging in place" focuses on residential design accommodations or service needs of the elderly. Social scientists have neglected to appreciate the significance of the home on the aging identity. This study hopes to expand existing research and redirect future study in this area.

SS32 M2.7

A Validation Against Observations of 24 Global Climate Models over Canada: Which GCMs Model Best and Where?

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There is a wide selection of climate models available to provide projections of future climate change. All are mathematical models that simulate the functioning of the global climate system varying in size, scope, scale and complexity. The fourth, and most recently published, assessment of the Intergovernmental Panel on Climate Change (IPCC) provides projections of future climate change using twenty-four global climate models under three major greenhouse gas emission scenarios. These provide for a wide range of possible outcomes when trying to inform managers about possible future climate changes. In order to narrow the projections to a handful of models that could be used in a climate change impact study in Canada, all twenty-four global climate models were validated against observations in Canada using the National Center for Environmental Prediction (NCEP) climate re-

analysis. This paper will present the methodology for this validation, the results of the validation, and an understanding of which GCMs model the climate best in Canada, and where.

Poster Session B

Assessment of the Risk to PEI's Coastal Residences, Infrastructure and Heritage from a Changing Climate: A Collaborative Project

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One in four residential properties on Prince Edward Island is located on the coast with an economic value of \$6.4 billion. The main challenge that climate change presents to Prince Edward Island is the impact of coastal erosion through storm surges and high water levels. The sensitive sandstone shorelines across Prince Edward Island often experience erosion, and it is anticipated that climate change will bring more intense storms, rising seas and reduced sea ice coverage (which normally protects the shore from wind and waves). At the same time, crustal movement of the Earth's surface at PEI is lowering at 10-20 centimeters per century. Recent studies have shown that the average rate of coastal erosion on Prince Edward Island has risen to 40 centimeters per year from 2000 to 2010 for the province. In some instances, recent individual storms have eroded several metres of coastline or destroyed roads and causeways. While there is an understanding that coastal erosion presents a risk to Prince Edward Island, there remains no quantitative understanding as to "where" the higher risks are specifically, and as to "how much" the risk represents (high, medium or low). This paper will provide an overview of a collaborative project being conducted to provide a quantitative risk assessment (estimation of likelihood and consequence) of Prince Edward Island's coastal residences (homes, cottages), safety and security infrastructure (roads, bridges, water treatment plants, hospitals, fire departments, etc.) and heritage (churches, graveyards, lighthouses, archaeological sites, parks, etc.) from coastal erosion.

SS42 T4.7

Contribution of anomalous winter storm activity to extreme winter warming in Labrador

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Recent years have seen a number of unusually warm winters in Labrador, have negatively impacted transportation and food/resource accessibility for many rural residents, raising concerns over regional climate change and variability. Previous efforts to explain these events have typically focused on large-scale, well-established modes of climate variability, with the North Atlantic Oscillation (NAO) emerging as dominant contributor. However, this explanation remains unsatisfying from either a meteorological or climatological perspective, as the structure and variation of the NAO does not adequately capture the atmospheric circulation anomalies associated with recent winter extremes. In order to better understand these events, the regional circulation around Labrador and the Labrador Sea must be examined. The current work frames recent warmings within the context of an extratropical cyclone

(winter storm) climatology. Results stress that the frequency and intensity of these weather systems are less important than their point of origin, with warm years associated with an unusual number of cyclones approaching Labrador from the east coast of the U.S. and Canada. Consequently, projected shifts in the climatological storm track under a warming climate may present a greater concern to the region than the direct effect of higher temperature.

SS52 R1.6

Employment-Related Geographical Mobility, Policies and Consequences for Newfoundland Home Care Workers

Kathleen Fitzpatrick

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The literature on home care work describes how government policies impact working conditions. This paper explores the ways in which policies (provincial, home care agency, and union) affect the working conditions of Newfoundland home care workers engaged in employment-related geographical mobility.

I have conducted a documentary analysis of relevant Newfoundland and Labrador policies and programs, and collective agreements between the Newfoundland and Labrador Union of Public and Private Employees (NAPE) and home care agencies. This information is supplemented by interviews with representatives from NAPE, home care agencies, and government agencies. Most home care services are provincially subsidized, and the Regional Health Authority (RHA) provides funding to home care agencies and for self-managed care. All home care workers in the formal sector are covered under the Labour Standards Act, but unionized home care workers receive better wages and fringe benefits. Provincial policies do not recognize the mobile nature of home care work and do not pay for travel time nor mileage. Workers may not be eligible for compensation if injured while traveling between workplaces. Collective agreements tend to recognize the mobile nature of home care work, and some unionized workers receive work-related mileage, compensation for cancelled shifts and are scheduled for a minimum three hour shift.

SS41 M3.5

On the Commute and in the Workplace: Safety and Newfoundland Home Care Workers

Kathleen Fitzpatrick

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Home care is an essential part of Newfoundland and Labrador's health care system. Predominantly performed by women, paraprofessional home care work (cooking, cleaning and personal care) enables the elderly, those with chronic or acute illnesses, and the disabled to live within their homes. While there is limited research on Newfoundland home care workers, there is no study that explores safety issues facing this vulnerable group of workers. Based on preliminary findings from semi-structured interviews with Newfoundland home care workers, this paper explores safety concerns associated with commuting to and from and between multiple workplaces, and working within a client's home. During the commute, home care workers may experience severe weather and some spend hours waiting for public transportation. Home care workers have no control over their workplaces and may work in

unsafe and unclean environments and some experience violence, sexual harassment, and stress.

SS61 T1.1

Fisheries policy and regional development: Insights from the Newfoundland and Labrador shrimp fishery

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The sustainability of coastal regions in Canada has long been tied to changes in fisheries policies. Yet little research has examined how specific fisheries policies impact regional development opportunities and outcomes. This project examines the impacts of the northern shrimp fishery on regional development in three areas: Southeast Labrador, the Northern Peninsula of Newfoundland, and Fogo Island. Drawing on a literature review and 54 interviews, we found that shrimp allocation policy guided by the principles of adjacency and regional economic development goals resulted in the establishment of two innovative regionally based fishing organizations in Southeast Labrador and the Northern Peninsula, and the consolidation of a third existing fishing organization on Fogo Island. Relatively small shrimp quotas were used productively by the three organizations for regional development outcomes. Our research has important implications for resource allocation policies in fisheries. Fisheries policies that clearly allocate resources to community and regionally based organizations can significantly enhance regional economic development and social sustainability. Outcomes in these cases measure up relatively well against objectives of social sustainability contained in various fisheries management frameworks in Canada and around the world. By contrast, the Individual Transferable Quota (ITQ) variant of rights-based allocation often results in resource transfers away from small, remote communities and can run contrary to principles of equity and social justice.

SS03 T2.3

The Arctic Human Development Report II: A Tool for Students, Policy Makers, Arctic Residents

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The first Arctic Human Development Report was issued in 2004, providing the first baseline report on the state of human development in the Arctic. The second report (AHDR-II), to be issued in 2014, will proffer an instrument that can be used in assessing trends in human development in the Arctic over the past decade, and progress toward sustainable human development. It will allow comparisons and contrasts over an era of rapid social, political, economic, cultural and environmental change in the Arctic, and across a varied geography. Endorsed by the Sustainable Development Working Group of the Arctic Council, AHDR-II has an intended audience of Arctic policy makers, post-secondary students and northern residents. This paper provides an overview of the report's content, as well as its context as part of a number of recent efforts to develop better mechanisms for tracking human development in the Arctic. It reviews the process for developing a team of authors, putting in place a review process that involves various types of expertise (including that of indigenous and other northerners), and touches on some of the challenges experienced to date and anticipated. Through presenting this and other papers in this session we seek input from colleagues, to strengthen the report.

SS18 T2.4

Lessons from the landwash: 40 years of trying to get it right

Donald Forbes

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A family history of seafaring and a childhood gift of Rachel Carson's *The Sea Around Us* (Oxford, 1951) made indelible impressions and eventually deflected my early career from rivers to the places where they emptied into the sea. While generally going downhill (the low point being 140 m bsl in Emerald Basin), the resulting career has provided a lifetime of opportunities for fascinating science rolled up with some remarkable adventure. The kaleidoscope of coastal landscapes I've had the good fortune to investigate ranged from ice-rich permafrost to tropical reefs, drumlin cliffs to raised atolls, gravel beaches to deltas, lake shores to estuaries, involving a wide range of biophysical processes, yet the challenges faced by coastal residents are remarkably similar. It is evident that a few key strategies are fundamental to effective science support of hazard mitigation and climate-change adaptation in the coastal zone. Core elements include: a holistic view of the coastal system and sediment budget, an open-minded analysis of past changes and extremes invoking local knowledge and objective evidence, application of physical insight to the projection of future change, a precautionary approach recognizing the chaotic nature of the coast, and embracing collaborative transdisciplinary approaches to knowledge sharing and capacity development.

SS42 T1.7

Alternatives for the Representation of National Groups in Parliament

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The Fair Representation Act, passed in December 2011 adds 30 seats to the House of Commons: six each to Alberta and British Columbia, fifteen to Ontario, and three to Quebec. These additional seats provide a better inter-provincial balance of representation with respect to population, but it reduces Quebec's relative parliamentary weight. Consequently it has led to a debate over Francophone representation because the shift in relative seat-share from Quebec to Alberta, British Columbia, and Ontario creates a perceived reduction in Francophone influence. This perception rests on the assumption that Francophone plurality ridings can only be created in Quebec. This paper will show the potential for additional Francophone plurality ridings outside Quebec. Manipulating population variation, and/or using alternative electoral systems - such as non-contiguous ridings, proportional representation, mixed systems, and ethnically based voter lists - could increase Francophone-controlled seats. The same analysis is also applied to Aboriginal groups to show how the same techniques might raise the number of seats representing First Nations. Aboriginals are the fastest growing segment of the population in Canada and are beset with a host of social problems, but they are rarely concentrated enough to form an effective voting block. The goal of this study is not to advocate any particular option for representation, but to show where the current system fits into the range of options.

SS24 W2.1

Local climate and alpine plants distribution on four summits in the McGerrigle mountains

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Alpine and montane environments are particularly sensitive to changes in climate. Climatic trends underway since the early 20th century may be exerting strong influence on these sensitive systems in eastern North America. Although monitoring climate variables such as precipitation, temperature, and snow persistence is underway in the region, it is also possible to use alpine vegetation as a reliable indicator to evaluate ongoing changes in climate. In the summer of 2012, we initiated a long-term alpine vegetation monitoring program (in coordination with the international network, GLORIA) in Gaspésie National Park in Québec. We selected four summits for standardized, long-term monitoring. We will present our initial monitoring results from 2012, including alpine plant species abundance, richness, and diversity. We will also discuss the results of a principal components analysis and correspondence analysis that allow us to partly explain the distribution and species richness and abundance of alpine vegetation based on several environmental variables (geographical and meteorological factors). The study of alpine vegetation at a fine scale reveals the complexity of the relationships in this environment and the prevailing heterogeneity in the distribution of alpine habitats. This complexity is mainly due to geographical factors and the local climate. The continued monitoring of alpine plant species is a promising method for evaluating long-term climate change in these sensitive ecosystems.

SS07 M1.4

Toward UNESCO World Heritage Site status: engaging visitors and local communities in Mistaken Point Ecological Reserve

Beatrice Frank, Alistair J. Bath

Memorial University, St. John's, NL, Canada For the presence of a unique fossil assemblage, Mistaken Point Ecological Reserve (MPER) has been included in the Canadian Tentative list of potential UNESCO World Heritage Sites (WHS). Documenting public support through effective engagement processes is seen as essential for a successful application. To start this participatory process of listening to community residents,, data were collected through face-to-face interviews administered to 49 individuals from Portugal Cove South (PCS) and 49 from Trepassey. Specifically, residents were asked about their attitudes, beliefs, and support for or opposition to MPER and the WHS application. In both communities, most respondents were aware of and supported the MPER UNESCO WHS designation. Participants believed that such an event would positively change their community by increasing employment opportunities, providing economic benefits, improving the road system and protecting the unique features of Mistaken Point. If these expectations are not met in the long term, unhappiness and disappointment might rise in the communities living around MPER about the UNESCO WHS designation. Creating realistic expectations in local communities through educational and communication is therefore a fundamental step toward the long-term commitment of residents toward MPER as UNESCO WHS.

SS27 T1.6

Too Big to Ignore - Global Partnership for Small-Scale Fisheries Research

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Too Big to Ignore (TBTI) is a global research network and knowledge mobilization partnership established to elevate the profile of small-scale fisheries (SSF), to argue against their marginalization in national and international policies, and to develop research and governance capacity to address global fisheries challenges. TBTI comprises 15 partners, 62 researchers from 27 countries, conducting activities in five regions of the world. TBTI is structured as three related components explored by seven thematic working groups. The component Global Analysis focuses on developing an information system for SSF. The component Big Questions is concerned with economic viability and resilience to large-scale processes of change, social and cultural values and wellbeing of SSF, environmental impacts and stewardship, beaches and mechanisms to secure livelihoods, physical space and rights for people, and governing the governance. The component Knowledge Integration will spread the word by exploring avenues to enhance effective communication and mobilization of knowledge. In this poster, we will present key activities and the conceptual frameworks for research on SSF to generate interests and discussion.

Poster Session B

Kinder cuts and passionate modesties: the complex ecology of “creative methods” and participatory research

Aaron Franks
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Drawing on applied theatre and popular education workshops on environmental and social justice held in Glasgow (2009-2011), this paper contributes to the growing thought and practice on participatory geographical research in four distinct ways. First, applied theatre and embodied popular education methods are presented as especially mediated forms of co-research, with attendant tension between research participants' expressive performances and the potential interpretation of these performances by researching observers. Second, rather than a limitation particular to applied theatre, this productive tension between being and reflection exists across a range of participatory research processes. Engaging with the performativities of this space might further a "passionate modesty", understood to be a shared reckoning of limitations (and frustrations) which might actually enrich participatory research.

Working from feminist materialist theory (see Barad, Bell and Grosz), this space is further explored as one of complex ecological consequence, both for our disciplines and communities beyond our centres of production. Karen Barad's work on making epistemological and ontological "cuts" is employed to argue that creative, participatory methods orient our attention to social-nature relations in distinct and powerful ways. Finally, these insights on "kinder cuts" and a "passionate modesty" are applied to the sub-field of participation in "activist" research, where it is argued that a practiced acknowledgement of messy materiality (see Askins and Pain, 2011) and the ontologies of identity as co-performed (see Chatterton, 2006) might "cut" such research more modestly - "but more provocatively or perhaps 'generatively', inviting the concern of others" (Bell, 2012).

SS43 M1.1

Finding time and making space: trialing Equity-focused Knowledge Translation in front-line Children's Environmental Health

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In August 2012, a diverse group of twenty children's environmental health (CEH) practitioners, advocates and researchers embarked on a shared journey under the auspices of the Knowledge Leader's in Children's Environmental Health pilot project (see <http://www.cehe.ca/postprogram>). The collective goal was to provoke a systemic shift toward equitable approaches in CEH policy, research and practice in Canada, a field that arguably has been characterized by expert-driven approaches and a disciplinary focus on toxicology and epidemiology.

Drawing on a developmental evaluation inquiry frame (Patton, 2011), we used pre- and post-EqKT 'training' interviews, participant observation and self-evaluation journals to follow the practice of five 'Knowledge Leader Teams'. This paper explores the participants' reflexive journey and examines the potential for Equity-focused Knowledge Translation (EqKT) for the equitable production and implementation of knowledge and practice in CEH. In evaluating EqKT's potential to catalyze systemic change, specific attention is given to the interrelationship between ceding personal authority and status through inclusive relations marked by transparency and humility, while at the same time negotiating disciplinary silos and intransigent institutional power. Both processes are marked by distinct temporalities and struggles to "make space" - among peers, within institutions and crucially, with a variety of vulnerable and marginalized communities.

SS19 T4.1

Different world views, common future? The potential for cooperation between traditional healers and biomedical health care workers in Botswana

Jana Fried¹, Kerstin Andrae-Marobela², Barbara N. Ngwenya², Harriet Okatch², Keitseng N. Monyatsi³, Audrey Masizana², Mbaki Muzila², Melvine M. Leteane², Esther Kip⁴

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Despite increased availability of biomedical health care services, visits to traditional medical practitioners remain an important part of pluralistic health care seeking behaviour in Botswana. This highlights the continuing co-existence of traditional and western medicine, despite a long history of systematic marginalisation of traditional medicine and indigenous knowledge systems in Africa. Since the colonial era, unequal power relationships and the lack of legislation to protect and regulate traditional medicine have led to secrecy and problematic paucity of communication between the different health care worlds. In Botswana, this marginalises traditional practitioners and indigenous knowledge while risking patients' health and well-being. Recent international and national moves to increase cooperation between traditional healers and biomedical practitioners are promising but require sufficient resource commitments and policy guidelines based on a greater understanding of the

lived experiences of health care practitioners and users. We present results based on a thematic analysis of in-depth interviews with 87 traditional healers, 45 community members and 22 public health care workers from five districts in Botswana. Results reveal nuanced health-seeking preferences of patients and indicate practitioners' mutual awareness of patients' pluralistic health care behaviour which defines their roles in a globalized world. However, lack of open discussion of specific practices and lack of mutual referral can create avoidable risks.

SS19 T3.1

Spaces for Change: Oil Development vs. Protection in Lancaster Sound

Leah Fusco

University of Toronto, Toronto, ON, Canada

This paper will critically examine the ongoing contention regarding the use and control of Lancaster Sound (located at the entrance of the Northwest Passage), specifically the tension between oil exploration/development and environmental protection. It will include an examination of the opposition and community engagement that resulted from Norlands Petroleum's proposal to drill for oil in the 1970s, as well as recent (2010) contention over Natural Resources Canada's plans to conduct seismic testing. It will also explore the community and government effort to establish a marine protected area in the region, which is seemingly at odds with the government's support for oil exploration. In investigating these ongoing tensions and contradictions, I will assess the changing relationships among the actors involved, including federal and territorial governments, Inuit organizations, communities, etc., as well as outcomes of contention. In one sense, this examination reveals ongoing colonial relationships and the federal and territorial governments' continued privileging of western/southern knowledge, despite changes in relevant policies (such as the requirement to conduct consultations); however, at the same time, it also reveals the changing opportunities and spaces for resistance and change.

SS10 M1.3

Relevance Reviews: A new tool for health geographers?

Theresa Garvin

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Across Canada and around the world funding agencies are increasingly asking researchers to demonstrate how research meets information needs outside of academic circles. As a result there are growing demands that investigators identify how their research results are being communicated to diverse audiences, including how findings are used by policymakers and practitioners. This presentation discusses the role of relevance reviews in health geography. Using the example of a Scoping Review on Suburbs and Aging, this work raises questions about the role of practitioners and policymakers in evaluating evidence, judging potential data use, and recognizing potentially useful information. The resulting discussion is neither straightforward nor simple, but raises important questions about how to engage non-researchers in evaluating research quality and applicability.

SS19 T4.1

Who is Ready for New Governance in Rural Development in Canada?

Ryan Gibson

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Regional development in Canada plays host to numerous attempts and experiments of governance. Rural communities and regions encounter unique challenges related to distance, space, and capacity that influence the development and implementation of new governance and development initiatives. Despite these challenges, communities in the Canadian periphery are deliberately seeking localized means of decision making and planning, often leading towards inter-municipal collaboration. Rural communities are witnessing a shift from government to governance in the midst of economic uncertainty and fiscal restraints. This shift, whereby collaborative local stakeholders are empowered to contribute to and shape policy and strategies, creates new demands on human and social capacity, partnerships, and communications. Although new governance mechanisms have been created in part as a response to fiscal and other pressures, fiscal restraints along with a number of factors, including struggles of power, identity and legitimacy have limited their potential outcomes. This presentation examines the application of this new governance in regional development in Canada and the challenges this new governance presents.

SS05 W1.2

Les mots pour dire la Basse-Ville d'Ottawa: Chronique journalistique d'une mort annoncée

Anne Gilbert

Université d'Ottawa, Ottawa, Canada

Le 21 mars 1966, la ville d'Ottawa approuvait le projet de rénovation du quartier de la Basse-Ville Est. Jugé insalubre et surpeuplé par ses urbanistes, le quartier, s'affichant comme « le cœur de l'Ottawa français », connut expropriations, démolitions et reconstructions jusqu'au milieu des années 1970. Par sa couverture des événements, le quotidien *Le Droit* s'est avéré un acteur important dans le dossier. La position militante et défensive qu'il adoptera en écho à celle des leaders de la communauté, n'y fera cependant rien : la rénovation fut un échec, incapable de donner au quartier le second souffle espéré.

L'analyse du vocabulaire géographique utilisé par *Le Droit* entre l'annonce et la fin du projet de rénovation du quartier illustrera, dans toute sa complexité, le rôle joué par les médias en matière urbaine. La thèse que nous soutiendrons est que les mots choisis pour caractériser le quartier et discuter des enjeux de ses transformations, s'ils ont réveillé les identités, n'en ont pas moins sonné le glas d'une image positive des lieux et d'une volonté individuelle et collective de les préserver.

SS63 T1.5

Evolution of the Coastline at Pointe de l'Est, Iles de la Madeleine, Québec

Philip Giles

Saint Mary's University, Halifax, NS, Canada

Using a combination of historical maps, aerial photographs, and high-resolution satellite images, coastline evolution at Pointe de l'Est, Iles de la Madeleine, Québec, was investigated. Pointe de l'Est is a

complex terminal spit at the eastern end of the Iles de la Madeleine archipelago in the central Gulf of St. Lawrence. Total shoreline length of the spit is 20 km, with beach orientations ranging clockwise from north-northwest- to south-facing. The Digital Shoreline Analysis System (DSAS) was used to measure changes in shoreline position using a series of georegistered images between 1953 and 2012, and this work was complemented by analysis of maps dating back to mid-18th century. In recent decades there has been significant erosion of the northeastern and eastern coastlines of Pointe de l'Est (recession rate about 5 m per annum since 1953), causing oblique truncation of dune ridges. On the southern coast, new dune ridges have become established on a former sandflat and the shoreline has prograded (maximum rate greater than 3 m per annum). Changes in coastline configuration around Pointe de l'Est have occurred during a period of rising relative sea level controlled by post-glacial eustatic and isostatic adjustments, and more recently also by global climatic change.

SS42 W1.6

A Novel, Effective Approach to Teaching Science Literacy and Critical Thinking Using Case Studies

Marcus Gillespie

Sam Houston State University, Huntsville, TX, USA

Numerous studies have shown that scientific illiteracy is a problem in many countries, including the United States where 78% of college graduates are considered to be scientifically illiterate. Other research shows that a large percentage of American students are graduating from universities without having significantly developed their critical thinking skills. Because scientific literacy is directly related to critical thinking, such data indicate that the standard approach to teaching science, which typically emphasizes only the vocabulary and facts of a scientific discipline, are failing to develop citizens capable of making informed decisions using scientific knowledge and reason. This inability to make informed, rational decisions can threaten the democratic process.

To address this problem, and to fulfil a reaccreditation requirement, Sam Houston State University in Texas developed a new multi-disciplinary course called *Foundations of Science*. This innovative, integrated science course uses scientific information and scientific reasoning to examine scientific and pseudoscientific claims to enhance students' critical thinking skills and understanding of science. Specific aspects of critical thinking are taught, and a Case Study approach is used to engage students. Emphasis is placed on the need for evidence and skepticism when evaluating information; i.e., the need for the scientific method. Assessments of the course using the Critical Thinking Achievement Test, developed in association with the National Science Foundation, and an in-house assessment, show that the method works very well. The students in this single course improve their critical thinking skills as much as students normally do over a 4-year period in college.

SS54 T4.8

The Geography of Class and Education

Shawn Gilligan

Martin Prosperity Institution, University of Toronto, Toronto, ON, Canada

In analyzing the economic potential of regions, often Creative Class and human capital theory are cited.

Examining human capital alone though is an incomplete measure, as there are many members within regions that add to economic potential that are members of the Creative Class, yet do not have a BA or above. It is important that the relationships between the occupational classes and education are examined in order to better understand the potential of regions. This presentation will utilize U.S. census tract data in order to display the geographic relationships between Creative, Service, Working and Farming, Fishing and Forestry occupations and the working age population with a Bachelor's degree or above. The presentation will present the results throughout the U.S. as a whole, along with comparing particular regions and cities throughout the country. Through comparative analysis, the presentation will display the economic potential of these regions according to their occupational and educational breakdowns.

The goal of this presentation is to examine the assumptions and theories about the geographic relationships between education and occupational class across different U.S. regions.

SS15 R3.5

Understanding human dimensions components to enhance coexistence with large carnivores: wolves and brown bear in Abruzzo, Italy

Jenny Anne Glikman, Alistair Bath
Memorial University, St. John's, NL, Canada

Wolves (*Canis lupus italicus*) and brown bears (*Ursus arctos marsicanus*) always existed in Abruzzo, Lazio and Molise national park (PNALM) (Italy) with a level of coexistence with the inhabitants of the protected area. By understanding which are the most important human dimensions (HD) components and how they relate to each other can help to renew support for conservation of these large carnivores in the PNALM. Data were obtained from stratified random face-to-face interviews (n=1,611) in the PNALM and in its buffer zone. Multiple correspondence analyses were used with different variables for wolves and brown bears to evaluate how they related to each other and assess which ones were more closely linked together. In addition, saturated log-linear models were carried out to understand which HD component played a main role in influencing attitudes toward wolves and brown bears in this national park.

SS40 W1.3

North America and Italy: shared concepts and challenging differences

Jenny Anne Glikman, Beatrice Frank
Memorial University, St. John's, NL, Canada

In comparison to North America, human dimensions of wildlife (HDW) remain a relatively new field in Italy. This poster provides an Italian overview of HDW. A bibliometric analysis was used to investigate the trends, the main themes and actors playing a role in the Italian HDW up to 2009. The majority of Italian documents were gray literature, about general public attitudes toward large carnivores. Whereas in North America the interest in doing HDW research was driven by wildlife agencies, in Italy universities were advocating for the importance of involving people in wildlife conservation. In North America studies were carried out in urban settings, whereas in Italy most researches were performed in and around protected areas (72%). In contrast to the traditional North American mail delivery and telephone

surveys, in Italy face-to-face interviews was the preferred data collection method (77%). Even though, there are differences, North America and Italy share the basic concepts of HDW. Indeed, both strive to involve people in decision making processes through the best practices learned through HDW. Despite Italy has still a lot to learn from their more experienced North American counterparts, understanding the differences in value system and their cultures drive HDW toward new achievements.

Poster Session B

Structural signatures of wave and current processes in a lacustrine, barred shoreface: an analogue model for Holocene sedimentation, Georgian Bay, Ontario, Canada

Brian Greenwood

University of Toronto Scarborough, Toronto, ON, Canada

A facies model for a multi-barred, lacustrine shoreface has been constructed using multiple box cores. Structures reflect wave oscillation-water depth relationships, combined oscillatory and quasi-steady currents and grain size. The inner shelf-lakeward slope of the outermost bar is composed of either: (i) composite bedsets of planar-to-small scale trough cross-lamination produced by storm cycles of near symmetric oscillatory flow in deeper water, or (ii) assemblages of planar and small-to-medium scale trough cross-lamination, produced by asymmetric oscillatory flow in shallower water. Bimodal dips in the medium-scale units reflect the on-offshore migration of megaripples under wave-induced mean currents. Reversing currents in the shallow flow on the beach-face restrict structures to planar lamination; at the beach step, lakeward-dipping, high-angle cross-lamination in coarser sediments is the norm. Combined flows (oscillatory, steady) on the upper shoreface are identified by "streaky" planar lamination with "pinch-outs" and "hummocky" cross-lamination. Major differences between these bars and their marine equivalents are: (i) greater preservation of small-scale ripple structures; (b) presence of "streaky" planar lamination and hummocky cross-lamination; (c) lack of extensive shell lags; (d) lack of medium-scale tabular cross-lamination associated with the onshore bar migration.

SS42 T1.7

Different family dynamics associated with commuting excess distances to work for wives and husbands: An Empirical Analysis under the Canadian Family Context

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In this paper we use the 2006 Canadian census data to investigate the family dynamics associated with the probability of going to work by travelling more than 200 kilometers in a one way trip respectively for the husband/male partner and the wife/female partner. A bivariate probit model, which jointly captures the work commuting decisions of husband/male partner and wife/female partner, is estimated. Based on the regression results, there are two main findings: 1) The significant role of the wife/female partner in a family by doing unpaid housework and taking care of kids is generally not affected by whether or not she has to commute excess distance to work. However, the propensity of the husband/male partner being an excess commuter to work increases with more hours spent by his wife/female partner taking care of kids and the family; and 2) the higher income, education level, and occupation-related skill level of the husband/male partner are found to be positively associated with the higher likelihood of the wife/female partner to travel more than 200 kilometers to work, which is opposite for the husband's

excess commuting pattern. This could be explained by the different incentives driving the husband and wife's decision to commute excess distance to work. It could be the case that the economic benefits are the main contributors to the husband's excess commuting, while the wife's excess commuting decision could be influenced by factors beyond the economic causes.

SS41 M2.5

Negotiating sustainable development in the heart of the Alberta Oil Sands: Integrated Community Sustainability Plans and the Regional Municipality of Wood Buffalo

Andrea Haley, Doug Lionais
Cape Breton University, Sydney, NS, Canada

With the impacts of the anthropocene tangibly upon us, sustainable development is increasingly becoming recognized as an important component of local planning. In Canada, the federal government has mandated that municipalities develop integrated community sustainability plans (ICSPs). At the same time, the government of Canada has placed the growth of extractive industries, with a special focus on the Alberta oil sands, as a central component of its economic development policy. In this context perhaps no municipality faces greater tensions in dealing with sustainability than the Regional Municipality of Wood Buffalo (RMWB). Sustainable development has been characterized as a balance between social, economic and environmental concerns. Development of the oil sands has raised a number of social and environmental issues. This paper will explore how the concept of sustainability is negotiated within the ICSP of the RMWB. In particular, the paper will examine how the social and environmental factors of sustainable planning are in tension with the economic factor within RMWB.

SS11 M2.2

Pacifiers, "Piñatas", and the Politics of Regional Development in Northern Ontario

Heather Hall
Memorial University, St. John's, NL, Canada

Regional development is a messy and complex process where solutions to regional economic challenges are often deeply political. Using a 'politics of regional development' approach, this paper explores the paradox of the grants-based approach to regional development in Northern Ontario. On the one hand, these grants are seen as leveling the playing field in terms of access to capital. However, they also often reflect provincial and federal political priorities and stifle critical discussion on government policies. This paper will first provide a brief history of regional development initiatives in Northern Ontario. This region has had a long history of federal and provincial regional development initiatives, from region specific policies, reports, and studies to regional development institutions. It then describes the paradox of the grants-based approach to regional development using 55 key informant interviews with people involved in regional development in Northern Ontario, Ontario and Canada. This paper raises questions about the politics behind regional development. It also concludes with a discussion on how we can reposition our thinking and approach to regional development. This is especially important given the recent shifts in federal and provincial approaches to regional development across the country.

SS05 T3.2

The State of Regional Development in Canada

Heather Hall, Rob Greenwood
Memorial University, St. John's, NL, Canada

Regional development is at a crossroads in Canada sparked by recent federal and provincial austerity measures, politics, and economic circumstances. In this paper we briefly trace the history of regional development in Canada and then turn to a discussion of the new federal approach, which is focussed on innovation, competitiveness, and productivity. This shift in thinking has raised important questions about regional development and whether resources should be focused on the more dynamic and growing regions of the country or dedicated to managing spatial disparities and the needs of less favoured regions. This shift in priorities combined with austerity measures has also introduced deep cuts to regional development funding across this country. We further highlight how there has been a simultaneous provincial withdrawal from regional development including the demise of REDOs across the country. This paper concludes with a discussion of what these changes mean for regional development in Canada and questions whether regional development is needed in a staples economy and whether we are prepared to accept that.

SS05 W1.2

Voluntary Sector Leadership to Support Healthy Aging in British Columbia's Interior: The Role of Place Integration

Neil Hanlon¹, Mark Skinner², Laura Ryser¹, Alun Joseph³, Greg Halseth¹
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Resource dependent communities are amongst the most rapidly aging communities in Canada, yet many features that distinguish such communities (e.g., geographic remoteness, small population base, infrastructure built with younger and able-bodied persons in mind) also pose significant challenges for healthy aging. These challenges more often than not lead to substantial gaps in access to formal health and social services. In this paper, we explore the efforts of voluntary sector leaders to transform resource communities into more livable and supportive places for older adults. We offer two case studies from British Columbia's central and northern interior: Quesnel (population 10,000), a forest-dependent community characterized by aging-in-place; and Tumber Ridge (population 3,000), a coal mining community characterized by both in-migrations of retirees and aging-in-place. Our case studies are informed by analyses of secondary data (e.g., Census, print media, local government documents) and primary data collected from key informant interviews with municipal officials and voluntary sector representatives at both sites. We found that voluntary sector leaders in both communities possess many of the attributes of place integration, a concept first introduced by Malcolm Cutchin to explain physician retention in rural practice. We suggest that greater attention to place integration is needed to account for the transformative capacity of the voluntary sector, and we conclude with some thoughts on the implications of our findings for research and policy.

SS19 T2.1

The importance of place in mobility decision-making: Findings from Miramichi, New Brunswick

Natasha Hanson

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This paper explores how ties to place can be an important consideration within mobility decision-making processes. Ethnographic data collected from Miramichi, New Brunswick in 2009/2010, including interviews with 24 people living in the city and 24 who had moved from the area, are used to explore attachment to and perceptions of place. The small city of Miramichi has experienced historical trends of out-migration, which recently have been due, in large part, to downturns in the forestry sector. Despite, and also, as argued in this paper, due to, this historical mobility in the area there is a strong attachment to place in Miramichi. Through interviews about mobility decision-making processes with those living in Miramichi and people who had moved from the city it is clear that attachment to place was an important factor considered by many interviewees. This attachment to place was intricately bound with conceptions of community.

SS41 M3.5

“Here it is serious, it is a big issue”: Developing a population health intervention to improve newcomers’ understanding of food allergies

Dan Harrington, Kathi Wilson, Jennifer Asanin Dean

University of Toronto Mississauga, Mississauga, ON, Canada

Food allergies are emerging as important public health risks in Canada, affecting 3-4% of adults, and 6-7% of children. Despite much lower prevalence rates among recent immigrants (i.e., less than 10 years), evidence has shown this population to be more concerned about the risks of food allergies than the general population, and have unique experiences around purchasing foods for allergen-safe environments. As a substantial and growing segment of the Canadian population, it is important to understand newcomers’ perceptions and knowledge of food allergies and food labeling and what can be done to address these from a population health intervention perspective. This paper draws upon the results of focus groups conducted with newcomers from food allergic households (i.e., directly affected), as well as those with school-aged children who have to prepare or buy foods for allergen-controlled classrooms or schools (i.e., indirectly affected) living in Mississauga, Ontario. As part of the focus group sessions, we pilot a dual-component intervention developed in consultation with community partners designed to increase awareness of food allergies and assist with safe food purchasing. Results provide insight into newcomers’ understandings of food allergies, and how adapted iterations of the intervention could benefit the larger community of newcomers to Canada.

SS23 M1.8

Is the Greenbelt Plan inducing leapfrog development in Southern Ontario?

S. M. Rafael Harun

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Urbanization over years has gained importance being a core determining factor of sustainable development because of its close encounter with the social, economic and environmental dimensions of urban ecosystem. The Greater Horseshoe area in southern Ontario is one of the fast growing urban areas in North America. The rapid urbanization in this zone has caused conversion of forest and agricultural lands to urban land use. This conversion of land use has disrupted the ecological balance and affected social wellbeing. In order to protect environment and human by controlling urban growth, Greenbelt Plan was established under Section 3 of the Greenbelt Act 2005 for the Greater Horseshoe region. The Greenbelt plan has potential impact on controlling urban sprawl which is associated with concerns of environmental pollution and climatic changes. But the probability of other types of urban expansion such as leapfrog development of urban areas induced as a consequence of the Greenbelt plan cannot be ignored. The leapfrog development has equivalent impact on urban sustainability to urban sprawl as studies suggest. Thus it is imperative to assess the impact of Greenbelt plan on urban expansion for sustainable urban planning. This study performs a temporal analysis of changes in urban patterns between 2000 and 2010 using Landsat imageries to assess the impact of Greenbelt plan in the Greater Horseshoe Area. It also evaluates the implications of the growth patterns on urban sustainability and recommends potential planning approaches.

SS55 W2.5

Water Cooperation: Mother Earth has rights

Annamarie Hatcher

Cape Breton University, Sydney, NS, Canada

UN-Water has declared 2013 as the year of "Water Cooperation". Despite this recognition at the international level, in Canada the relationship between water and our Aboriginal peoples is fraught with ethical and legal issues. Because of our culture of colonization, water has been commodified and issues regarding Native water rights have been underlain by the resulting property-centred legal perspective. This perspective contradicts the ecocentric ethic which is at the centre of the Aboriginal worldview where water is life and the rivers are the veins of Mother Earth (LittleBear, L., 1986. The Aboriginal conception of water rights; Aboriginal Water Rights Workshop, Native Law Centre, Saskatoon, 2 Oct., 1986) Aboriginal languages are verb-based, outlining the intimate relationship between the speaker and the other parts of nature, an 'ontological continuity with the rest of the world' (Battiste, M., 1996, quoted in RCAP 1996; v.1, c.15,s.3) which underlies an ecocentric ethic. What Canadians have to work toward is a new water ethic that incorporates Aboriginal rights and responsibilities. In any sustainable development process, there must be an equal legal footing between humans and nature. Mother Earth has rights.

SS04 T1.2

Ties That Bind: Anthropogenic Influences on Land-Ocean Interactions in the Coastal Zone during the Climate Change

Bruce Hatcher

Cape Breton University, Sydney, NS, Canada

Coevolution of marine and terrestrial ecosystems proceeds through topographic control of hydrodynamics, accretion-erosion, and organic fluxes. Humans' activities in their preferred habitat increasingly alter all three of these processes at multiple scales of space and time. At global scales, anthropogenic climate change accelerates Milankovitch-type effects, destabilizing the slow dynamics. At coastal scales, devegetation, leveling and armoring of the shoreline distorts the balance of sediment deposition and erosion. At watershed scales, patterns of land and water use alter the fluxes of materials and patterns of ecological connectivity. Submergence loss of littoral real estate, dangerously energized near shore waters, and nutrification of the coastal ocean are three of the more pernicious outcomes of our meddling at the land-sea interface. Differentiating coastal change into anthropogenic and "natural" components is fraught with problems of scale and causality. As such, it stimulates scientific inquiry; but is it essential to the management of response and adaptation? Case studies from North and South suggest that social, economic factors are as, or more important than latitudinal gradients in physical forcing and ecosystem vulnerability in determining the roles humanity will play in reaching the next equilibrium state of our coasts.

SS42 T1.7

Coastal Evolution of a Subarctic Macrotidal Embayment

Scott Hatcher¹, Don Forbes¹, Gavin Manson²

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Expansive boulder-strewn tidal flats are present in Koojesse Inlet, forming the waterfront of Iqaluit, on southeastern Baffin Island. Coastal conditions are macrotidal and sea ice is present for at least nine months of the year. This study combines intertidal and shallow marine surveys to develop a better picture of the morphology and evolution of this coastal system. Results support the earlier interpretation of an erosional origin of the flats, but short-term sedimentary processes are more difficult to interpret. The large tidal range keeps ice mobile over the tidal flats throughout winter and ice mobility increases at breakup, when most boulder transport occurs. A veneer of sand and gravel, mobilized by tidal currents and waves, may promote erosion of the glaciomarine substrate by abrasion. The role of open-water storm events is poorly documented but waves may increase in importance as sea-ice cover diminishes in a warming climate. The flats have evolved under falling but decelerating relative sea level, the pace of erosion presumably increasing as sea level fell. Morphometric analysis of the embayment shows close correlation between sea level markers and breaks in slope, suggesting an approach to equilibrium and little recent change in relative sea level.

SS42 W2.6

The Rural Geographies of Masculinity

Blake Hawkins

University of Northern British Columbia, Prince George, BC, Canada

The time when one is a youth can be very trying and challenging for boys and girls in any place worldwide. However, I argue there are some distinct predicaments faced by the young male population in Northern and rural geographies of British Columbia. Within my autoethnographic study, I critically reflect upon the connections between Northern geography and constructions of masculinity. In the region, there are a variety of masculine ideals which a young male is expected to conform to. From childhood to young adulthood, males are pressured to follow the boys-code. In the classroom as an adolescent, boys are influenced by social status to either achieve or disregard schoolwork. Outside of the classroom, peer-pressure pushes these boys to act reckless in regard to sexual behavior and health choices. However, if a male does not follow these socially constructed ideals, there are common presumptions that he is “less of a man” or face gender policing (Naugler, 2010). After completing my critical analysis and usage of personal narratives, I found that there are some unique and distinct expectations influenced by the space and place these young males live in. From this paper, I hope to create needed dialogue about the prevalent challenges facing young men who living in the Northern and rural geographies of British Columbia.

SS10 M2.3

Discursive Spaces of Spanish Influenza in Prince George, BC

Blake Hawkins, Neil Hanlon

University of Northern British Columbia, Prince George, BC, Canada

Through the use of content analysis, it is possible to re-examine media accounts of the Spanish Influenza outbreak of 1918-1919 as it affected the people of Prince George, British Columbia, Canada. In this presentation, we will examine coverage of the outbreak as reported in the Prince George Citizen. Media sources at the time were drastically different compared to today. Furthermore, The Citizen was the main source of information about events occurring on a global scale. When the Spanish Influenza arrived in Prince George, accounts in The Citizen contained many examples of fear and panic. On the other hand, there were also examples of alternative and competing discourses that framed the outbreak in the language of rationality, manageability and control. From these contrasting discourses, it is possible to theorize about the political and social implications of the pandemic for Prince George as a place. The purpose of the paper is not to make judgments about the people of this time. Instead, our ambition is to shed light on the media coverage of this phenomenon as a glimpse into the contested nature of modern institutions (e.g., public health, professional medicine, mass media, municipal government) at a critical juncture in the history of a place.

SS24 W2.1

The invasive shrub - soil moisture feedbacks revealed by remote sensing and wavelet analysis

Yuhong He

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Encroachment of woody shrubs into grasslands has been recognized as a global phenomenon with considerable effects on soil moisture in time and space. Using field and remote sensing data, this study revealed the relations between one common invasive shrub (*Tartarian Honeysuckle*) and soil moisture in a native tall grassland habitat during the growing season. Results indicate that soil moisture was affected by the invasive shrub in different ways, depending on the seasonality and the rainfall amount. Specifically, a negative shrub-soil moisture feedback (i.e., drier soils at shrub sites) existed during the early growing period, while in summer a positive feedback (i.e., wetter soils under shrubs) was evident. The summer positive feedback was weakened when long rainless periods occurred. Spatially, soil moisture and leaf area index were covarying with significant spatial oscillations at an invariant scale, which was governed by the shrub spatial pattern. The findings are important for establishing a more complete picture of how shrub invasion affects soil moisture.

SS14 M4.4

A Spatial and Temporal Assessment of Water Quality in The Gambia River, and an Evaluation of the Capacity for Community-Based Monitoring in The Gambia, West Africa

Melissa Healey, Cathy Conrad

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As human populations continue to grow and land uses expand, the capacity to negatively impact our surface waters and watersheds throughout the world through contamination and human disturbances likewise increases. This potential for adverse effects on our world's water often results in reduced water quality, defined as the physical, chemical and biological characteristics of water. For this reason water quality monitoring has become an important aspect of environmental science over the past several decades and is continuing to be an issue of community concern. In developing countries, such as many of those on the African continent, 80% of all diseases are related to poor quality water and unsanitary conditions. Throughout the country of The Gambia, located in West Africa, there is very little information pertaining to the status of the country's surface water quality. In an attempt to fill this information gap, this presentation will demonstrate a water quality monitoring assessment on The Gambia River. This will aid in the identification of "hot spots" of poor water quality along The Gambia River, using a developed water quality monitoring tool-kit called Wet-Pro. The presentation will also evaluate the capacity for community-based monitoring in The Gambia by determining if local community members can engage themselves as citizen scientists.

Poster Session A

Arctic Populations and Migration

Timothy Heleniak

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This paper presents trends in population change and migration in the Arctic based on a forthcoming chapter in the Arctic Human Development Report (AHDR). It analyzes total population change at the global level, for the entire Arctic, for the Arctic countries, and Arctic regions. According to the definition of the Arctic used in the AHDR, the total population of the Arctic is slightly more than 4 million and has stayed the same in the first decade of the 21st century, with considerable regional variation. The paper disaggregates population change into natural increase and net migration. Fertility trends in the Arctic are discussed including crude birth rates, and the proximate determinants of fertility in the Arctic. Mortality trends in the Arctic are analyzed including crude death rates, life expectancy, and the infant mortality rate. Changes in the gender, age, and ethnic composition of the Arctic populations are examined. Migration in the Arctic is an important component of population change impacting settlements and regions at various geographic scales. Migration trends which are presented include mobility and immobility, place of birth and length of residence of Arctic populations, the role of climate change on Arctic migrations, the changing urban-rural composition, population concentration and diffusion, the impact of migration on origins and destinations, the impact of migration on movers and stayers, international migration into the Arctic, indigenous migrations out of the Arctic, and migration policy and the role of the state. A final section analyzes Arctic populations in the future.

SS18 T2.4

Nurse 'Shortages' and the Social Reproduction of American Health Care

Caitlin Henry

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This paper interrogates the idea of a care labor shortage. Developed countries have suffered from nursing shortages for decades, but the 2008 economic crisis offered a temporary 'alleviation' to that shortage. But, as I argue in this paper, the care shortage did not disappear. The American health care system relies significantly on foreign-trained nurses to fill their vacant posts. This paper, through oral work histories of migrant African nurses in the New York-New Jersey region, interrogates this construction of a care work labour shortage to question the valuation of health care, care work, and social reproduction in the US and beyond. The nurse shortage necessitates a feminist analysis, and here I employ that analysis to show the ways in which the political economics that underpin the nursing shortage in the US reveal a constant process of devaluation of care work – and nursing in particular – that reinvents itself through feminized, racialized, and migrant bodies.

SS16 W2.4

Light Rail, Land Use Change, and Image-Led Planning: A Comparative Review and Critical Assessment of Hamilton, Ontario

Christopher Higgins, Mark Ferguson, Pavlos Kanaroglou
McMaster University, Hamilton, ON, Canada

How has light rail transit [LRT] performed with respect to the objectives of land use change and image-led planning? This paper reviews and synthesizes the previous literature on LRT and other rail rapid transit systems in North America, demonstrating that light rail alone is not a primary driver of image change and that a series of prerequisites must be in place for light rail to reshape, rebrand, and revitalize host cities. An illustrative application of this analysis to the case of LRT in Hamilton, Ontario reveals a project that faces several challenges to achieving its stated goals.

SS34 M4.6

Tracking a message from Nunavut: Working together to build evaluative capacity for local knowledge translation on the topic of Arctic country food security

Rachel Hirsch¹, Sharon Edmunds-Potvin², Gwen Healey³, Rebecca Porlier¹, Jamal Shirley⁴, Mary Ellen Thomas⁴
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In the spirit of continued engagement, collaboration, and transparency in partnerships with Northern communities it is imperative to think critically about what ‘success’ means in knowledge translation on issues that are relevant locally to both Inuit and non-Inuit residents. The main goal of this collaborative project has been to work with local stakeholders in Iqaluit to develop a tool for evaluating how local research messages are exchanged and used by policy actors in Iqaluit and Ottawa. To do this we have developed a two-step approach: 1. we have created a network map, informed by social network analysis, illustrating the policy actors who have received a country food security message disseminated by the Qaujigiartiit Health Research Centre (QHRC) in Iqaluit; and 2. we interviewed some of these decision makers to learn more about how they use this message in their jobs. We found that this two-step approach is necessary to be able to first identify ‘message users’ and then to understand how these policy actors are using a local research message to address the issue of country food security. This presentation will provide background rationale for our project including the colonization of local and indigenous knowledge(s) in Canada, outline our action-orientated approach to building evaluative capacity, and present select findings from our pilot case study assessing the exchange and use of a local research message about country food security by policy actors in Iqaluit and Ottawa.

SS10 M2.3

Resource Extraction, Landscape Transformation and Environmental Conflict: Oil and Gas Expansion in Kitimat British Columbia

Victoria Hodson

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The region of Kitimat, BC, offers an important case study in the interactions among resource extraction, landscape transformation and conflict. Alcan's aluminium project was formative in the material and symbolic changes in this landscape over the last 60 years. Located in the unceded territory of the Haisla First Nation, Kitimat is currently the terminus of the proposed Enbridge Northern Gateway Project, as well as the site for a number of proposed Liquefied Natural Gas (LNG) projects. The future of this territory will continue to be conditioned by complex global political economic forces that converge with diverse local interests on the ground. By employing a political ecology approach, this paper explores the historical legacy of industrial projects, providing an important context for current responses in opposition to and in support of oil and gas expansion. Multiple local interests inform these responses, including those of workers and proponents of industry, community activists and indigenous peoples. Specifically, conflicting responses by members of the Haisla First Nation illuminate concerns about the material impacts of these industries in their territory and grounds current struggles over extractive economies within the ongoing colonial context in Canada. Based on extensive field research conducted throughout 2012, this paper seeks to contribute to growing conversation in political ecology on the interaction between landscape transformation and resource extraction.

SS11 M3.2

hiSTORY in the Revitalization of a Manufacturing Hub: A Case Study of Kitchener, Ontario

Amanda Hooykaas

University of Waterloo, Waterloo, ON, Canada

The City of Kitchener, Ontario, is grounded with roots in manufacturing; today it is blossoming into a vibrant creative scene and a hub of digital media. Bordered by former textile giant Cambridge to the south and Waterloo – it's more recognized technological sibling – to the north, Kitchener is coming into it's own once more. Today the city is being faced with unparalleled expansion, tremendous growth of the downtown core, and the construction of a light rail transit system connecting through the Region – from Cambridge through Kitchener to Waterloo. Parallel – or perhaps in conjunction with the development – Kitchener is also in the midst of a renaissance of preservation as it continues to embrace it's historic past in reimagined ways. This dichotomy leads us to a consideration of what it means to live in a city, how we make decisions on growth, what legacies we chose to acknowledge, and what stories we ourselves are offering to the world.

This presentation emphasizes the "story" in history and seeks to reveal where and how new stories are being created in contemporary Kitchener. Through the use of archival footage, and present-day interviews and photographs, a nod to the city's collective history and visions for tomorrow are imagined by Kitchener's every day people.

SS33 M3.1

Home as a State of Being in a Public Garden

Amanda Hooykaas

University of Waterloo, Waterloo, ON, Canada

Home, while often considered as a physical space, is also “a state of being” (Heidegger 1962; Kunstler, 1996; May, et al., 1958; Tuan, 1997; Tuan, 2005). This experience of being at home is not a static entity with clear boundaries but rather involves dynamic connections between inside and outside and private and public (Bhatti & Church, 2001). The role of the garden in home is an interesting one worthy of further consideration. The essential characteristics/attributes of home include the act of dwelling and engaging within a space, feeling a sense of belonging and empowerment, and a space of residence – whether physically, emotionally, or otherwise.

In interviewing dozens of public garden volunteers across Canada, I have found that even if volunteers do not directly name the garden they work in as a home, they often give it the same descriptors as they do their homes or, alternatively, the places at which they feel most at ease. Gardens place individuals within their own stories: from reminding them of childhoods long since passed, to the selfless act of volunteering as a contribution to make the world a more beautiful place for everyone, there is an intrinsic connection between people and “their” garden. Of added significance to this presentation is the finding that public gardens offer some re-creation of volunteers’ homelands, whether physical or emotional, and familiar sights, smells, actions, and experiences often link volunteers to other times, which comfort them and ground them in this “home” (Bhatti & Church, 2001; Brook, 2003).

SS32 M2.7

From Risky Business to Common Sense: Sustainability and Urban Policy in Calgary

Tom Howard

The University of British Columbia, Vancouver, BC, Canada

In recent years, the term 'sustainability' has become ubiquitous within urban development discourses, and in many cases, sine qua non for urban policy. Although the general principles of the concept - generally conceived as a "win-win-win" balance of environmental stewardship, social responsibility, and economic growth - appear largely uncontroversial in an abstract sense, sustainability-oriented policies and developments often articulate a comprised version of these principles, as geographically-particular interest groups struggle over how they should be balanced in response to local conditions (Tretter, 2013). The concept of sustainability nevertheless remains a hot commodity in contemporary circuits of policy transfer, showing remarkable adaptability and obduracy in the face of mediocre performance and contested meaning (Davidson, 2010; cf. Peck, 2011). To grapple with this paradox, this analysis surveys the emergence and evolution of sustainability-oriented development policies in Calgary, tracking their emergence as uneasy innovation in the 1990s and subsequent consolidation as feel-good common sense in the 2000s. By relating the shifting role of sustainability in public policy to scalar reorganization in the multilevel governance of Calgary and other shifts within the political economy of its development, this paper seeks to contribute to a more nuanced, geographical reading of sustainability that highlights the stakes of its uncertain meaning.

SS63 T2.5

Coastal Monitoring in Newfoundland and Labrador

Melanie Irvine

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Ninety percent of people in Newfoundland and Labrador live in coastal environments, and the history of coastal erosion, flooding and slope movement in these locations exemplifies that coastal areas are vulnerable to environmental change. In order to assess rates of shoreline erosion, to determine changes in beach profiles and to delineate areas at risk to coastal hazards, the Geological Survey of Newfoundland and Labrador initiated a multi-year coastal monitoring program in 2011. There are 88 beach and/or bluff sites being monitored. This program extends upon and incorporates data from a network of coastal monitoring sites initiated by the Geological Survey of Canada, which allows for a longer period of data collection.

Preliminary data analysis shows that coastal retreat is variable and can be rapid, such as at Point Verde, where cliff erosion ranged from 7 to 96cm/a between 1991 and 2012. Coastal erosion in the Province is likely to continue (or increase) due to projected climate-changes, infrastructure development and rising sea levels.

Ongoing work will include regular site monitoring, and site-specific estimations of rates of coastal change will be made publicly available. This information can be used in decision making in coastal environments and to better understand the variations in coastal response.

SS42 W1.6

The Influence of Atlantic Hurricanes on Southern Ontario's Precipitation Extremes

Jerry Jien, William Gough

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Little is known about the influence of hurricanes on the occurrence of precipitation extremes (PEs) in southern Ontario, Canada. We examine PEs and their spatial-temporal linkage with the occurrences of hurricanes in southern Ontario from 1950-2000. On average, 5.4 PEs or 11% of the fifty wettest days in the selected five locations were observed to occur under the influence of hurricanes within the fifty-one year period. Our results indicate hurricane-induced PEs are most frequent in September and derive from storms which had reached major hurricane status (>50 m/s) at some point in their lifetime. An absence of landfall hurricanes in southern Ontario during the 1960s-1980s suggests either that the direct impact of hurricanes occurs on a multi-decadal time scale or that recent years are experiencing unprecedented change.

Poster Session A

Green Governance or Green Grab? The biopolitics of the Roundtable on Sustainable Palm Oil (RSPO) and its processes in Ecuador

Adrienne Johnson
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This paper analyzes a new collaborative 'green' governance arrangement known as the Roundtable on Sustainable Palm Oil (RSPO) in Ecuador and how this space can be a new site of institutionalizing environmental policies that sanction cases of land dispossession and facilitate incentives for new forms of land enclosures. In Ecuador, the RSPO has emerged as a collaborative governance institution that aims to negotiate the adverse social and environmental effects accompanying legal and illegal land acquisitions for palm cultivation. The initiative involves major palm oil companies and buyers, the World Wildlife Foundation and smaller domestic nongovernmental organizations and calls for actors to prioritize 'sustainability' as a non-negotiable condition for palm oil development across the region. Increasing evidence, however, suggests that instead of ameliorating inequalities, the RSPO is a market-based mechanism that merely 'greens' an already 'shady' business by establishing terrain for 'green grabbing'. This paper engages with Michel Foucault's notion of biopolitics to argue that many of the RSPO's functions make a distinction between virtuous citizens and disposable life that is obscured by the RSPO's 'life-giving' certification criteria. Further, it argues that certain RSPO processes such as land-titling schemes, exclusionary participation, and capitalist meeting culture can further exacerbate social and environmental conflicts. This paper relies on discourse analysis, participant observation during RSPO meetings, and fieldsite visits to analyze the extent to which this 'power-sharing' institution is an 'alternative' mechanism in palm oil governance or rather, a vehicle for circulating capitalist perspectives that ultimately encourage and legitimize the practice of land acquisitions.

SS65 T4.5

Measuring "stable variability" in soil moisture within vineyards in the Niagara Region of Ontario

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Our research vineyard-Stratus vineyards in Niagara-on-the-Lake, Ontario-exhibited unique spatial and temporal patterns within vineyard sub-blocks for leaf water potential, soil moisture, and vine vigour. This reaffirms the notion of sub-block terroir, the combination of physical (microclimate, geology, topography, and soil), and socio-economic (grape variety and vineyard management practices) conditions that contribute to the unique geography of vineyard sub-blocks.

To further study the spatial and temporal sub-block terroir, we acquired datasets from vineyard research projects conducted in Niagara with similar research methods and overlapping timeframes. Taking our most predominant finding-the stability of soil moisture-we apply the same spatial interpolation techniques to determine if similar spatially and temporally stable patterns exist in these other vineyards.

If they are stable, these findings can have substantial implications on how vineyard decision-makers currently design and manage their vineyards. For example, identifying vineyard sub-blocks with perpetually higher than average soil moisture informs precision or differential treatment; in drought conditions, it could require less irrigation, but in wet conditions, it could require targeted disease

management. Overall, the more vineyard managers know about the unique characteristics present in their vineyards, the better equipped they are to respond with precision vineyard management strategies.

SS56 T3.6

Recent Climate Change Effects in the Montérégie Wine Region, Quebec, Canada

Norman Jones

Bishop's University, Sherbrooke, QC, Canada

Intensely cold winters and a relatively short growing season limit the types of wine grapes grown in the southern Quebec cool climate wine region. The wine producers in the Montérégie region have historically been limited to growing cold-resistant hybrid varieties. Recently, numerous studies have documented the existence of climate change, especially global warming. This study uses graphical and statistical methods to examine the climate of the Montérégie region over a 31 year period in order to determine if recent climate change is having an effect on the regional wine industry. Four principal climatic factors are analyzed: annual number of intensely cold days, mean minimum growing season temperature, number of growing season frost-free days and number of growing season days (GDDs). In southern Quebec recent climate change, regional warming, is changing the wine grape growing environment. The amelioration of winter temperatures and lengthening of the growing season is allowing the introduction of the less cold-hardy *Vitis vinifera* varieties. Continued warming will allow more widespread use of these varieties.

SS56 T3.6

The McMaster Institute for Transportation and Logistics: An Overview and Project Highlights

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The McMaster Institute for Transportation and Logistics (MITL) was formed in late 2007 at the request of industry stakeholders with a focus on Research, Education and Outreach. Over the last six years, there is an increasing influence of the Institute in shaping the research agenda for Transport Geography in Ontario and Canada. This presentation will describe the recent history of MITL with an emphasis on some key research projects. Of the several projects that have been completed, we will focus on work carried out for the Liquor Control Board of Ontario (LCBO), the Federal Bridge Corporation and the Credit Valley Conservation Authority. The LCBO work details efforts to optimize their distribution network with a view to decreasing greenhouse gas emissions and reducing costs. The Federal Bridge work was premised on the fragile state of the critical Champlain Bridge link in Montreal. Traffic simulations and economic impact analysis were carried out to consider what would happen in Montreal if that bridge had to be partially or completely closed. Finally, the work for the Credit Valley was initiated on the basis of emergency preparedness and sought to determine the quantities and range of dangerous goods that cross the Credit Valley Watershed on a daily basis by road and by rail. In each case, overviews of the projects will be presented, as opposed to in-depth methodological procedures, and attention will be paid to some of the challenges and obstacles that were overcome in progressing these efforts to their conclusion.

SS34 M4.6

From livelihoods to wellbeing: Exploring sustainable tourism development in Bhutan

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Conservation projects involving community participation, such as ecotourism, are frequently hailed as highly promising endeavours toward nature preservation and protected area management. Governments and donor organizations are increasingly supportive of ecotourism projects in developing countries in Asia. Ecotourism literature largely examines the importance of what people do and the norms and networks that individuals require to act collectively to meet their livelihood needs. However, there has been little examination of whether ecotourism has made a difference in the socio-economic and environmental wellbeing of rural communities. Development scholars contend that human wellbeing is a positive and inclusive lense for exploring people's 'strengths' over 'needs', and emphasises both subjective and objective dimensions of progress. Guided by the concept of Gross National Happiness (GNH), Bhutan's tourism, forestry, and development policies strive to maintain national commitment to sustainable growth. Nonetheless, tourism development is presently expanding at a rapid pace and will impact the kingdom's rich natural resources, biodiversity, and cultural legacy, particularly in remote highland regions. This paper explores current changes in Bhutan, examines the suitability of the wellbeing approach to the GNH development paradigm, and considers future impacts of ecotourism policy, planning, and implementation in rural areas.

SS17 M4.3

Adaptation, Work, and the Work of Adaptation: Remaking Inuit workers at Rankin Inlet in the 1950s and 1960s

Arn Keeling

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This paper seeks to contextualize contemporary debates around Inuit participation in Arctic resource development through a historical-geographical analysis of the Rankin Inlet (Kangiqliq) nickel mine, Canada's first Arctic mine, which operated from 1957-1962. Like contemporary developments, the mine at Rankin Inlet was regarded as central to efforts to lead Inuit into the modern wage economy, away from dependency on the state, and toward full cultural and economic "citizenship." The ability of Inuit to "adapt" to industrial wage labour and settlement life was a central concern of government agents and mine managers seeking to deploy Inuit workers in the mine. Yet the problems posed by Inuit adaptation to wage employment were manifested almost immediately in debates around the short life of the mine and the response to widespread economic displacement following mine closure. This critical historical-geographical analysis examines the ideological "work" of "adaptation" in embedding a normative discourse around change that evaluated Inuit practices and capacities for their roles in adaptation, but left unquestioned the externally imposed norms and values of industrialism-that which was being adapted to. In doing so, the paper seeks to highlight important absences in contemporary discussions of resource development and Inuit adaptation and resilience in the Arctic.

SS10 M2.3

A 'New' Newfoundland and Labrador Sustainable Tourism Vision: Uncommon Potential

Darrell Kennedy

Memorial University, St. John's, NL, Canada

In 2006, a committee of Newfoundland and Labrador tourism industry and provincial government representatives began an effort to develop a strategic plan and articulate tourism as a provincial economic priority. Following a series of meetings, industry consultations and workshops, a ten-year vision plan document entitled Uncommon Potential was released in February 2009. Also known as Vision 2020, its goal is to double annual tourism revenue in the province within the next decade. Drawing from an interactive governance perspective, my research examines Uncommon Potential's development stage, also known as a 'step-zero' analysis, as well as the values, images and principles that were deliberated by stakeholders and included in the document. A primary focus of the examination is to determine whether any changes occurred from 2006 to 2012 and if Uncommon Potential and the processes involved may have influenced these changes. My research aims to offer insights about the importance of analysing the interactive processes and deliberations between stakeholders which may be useful for recognizing new opportunities, addressing existing and persistent challenges, and determining whether certain elements of the province's tourism industry might be reconsidered.

SS53 T4.6

Multiple dimensions of hunting in the region of Gorski kotar, Croatia

Vesna Kerezi, Alistair Bath

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This study investigated the role of hunting in the region of Gorski kotar (Croatia) by exploring the meanings and perceptions of hunting by local residents. Specifically, this research examined the motivations to hunt, functions of hunting, and the feelings toward hunting. Participants were also asked to discuss their views surrounding hunting as a wildlife management tool. Semi-structured in-depth interviews (n=9) and focus groups (n=5) were conducted with hunters and non-hunters. Data were analyzed using thematic analysis. Although similar motivations for hunting were identified by both groups (e.g., socializing, experiencing nature, etc.) their opinions regarding the relative importance of each motive varied. Three levels of function of hunting were recognized (i.e., personal benefits, services to local community and services to game populations). Hunting was perceived as an inseparable part of wildlife management and in this context received a great level of support. This study showed the importance of sociocultural context in studies on attitudes toward hunting and depicted the complexity of processes through which people in Gorski kotar legitimize hunting. It also helped in identifying challenges that the hunting in Gorski kotar is currently facing and indicated the potential strategies needed to ensure the support for hunting in the future.

SS40 W2.3

How are moose affecting Newfoundland forests at an ecosystem level?

Emilie Kissler, Luise Hermanutz, Yolanda Wiersma
Memorial University, St. John's, NL, Canada

Moose (*Alces americana*) were introduced to the island of Newfoundland in 1878 and 1904. In 2011, the population was estimated at 110,000 moose across the island. In most regions plants typically share a common co-evolution with their primary browser. Plants in Newfoundland have evolved in the absence of moose, the current primary mammalian browser on the island. Hence they do not share a common co-evolution. The absence of any natural predator has resulted in moose being found in densities that are higher on the island of Newfoundland, than elsewhere in North America. As a result, regeneration trajectories of balsam fir (*Abies balsamea*) are being altered by browsing in some areas. The impacts of moose on the boreal forest ecosystem in Newfoundland is resulting in changes in forest stand composition and are being compounded by other confounding ecological and anthropogenic factors such as forestry practices, insect outbreaks, forest stand blow-downs from wind, and fires. My research makes use of a range of techniques and examines moose impacts across spatial scales through the evaluation of: (1) cumulative “legacy” effects of historical forestry practices, historical moose densities, and historical environmental disturbances; (2) succession and regeneration rates of native species; and (3) the role of plant secondary chemistry in native dominant conifer, balsam fir (*Abies balsamea*). The overall goal of this project will be to determine a scientifically-defensible estimate of an ecologically sustainable moose density based on habitat quantity and quality in Newfoundland.

SS57 R4.6

A History of E-RGM in Seafood Processing in NB: an “era of mobilities”

Christine Knott
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This paper focuses on the constant, yet ever changing employment-related geographical mobility (E-RGM) of seafood processing workers in three rural communities in NB. It provides a historical overview of the changing composition of this workforce beginning with the creation of a company town, and with it a ‘local’ workforce, to interregional, interprovincial, and now a largely international workforce. Drawing on data collected through semi-structured interviews with New Brunswick seafood processing plant managers, workers, and local business owners in the summer/fall of 2012, this paper argues that while E-RGM is not new to this workforce, the current “era of mobilities” (Halfacree 2012), and highly competitive globalized markets has redefined working conditions, pay, and organization of this sector in this region.

SS41 M2.5

Modelling risk, modifying behaviour: The introduction of novel weather insurance in St. Lucia

Chris Knudson
Clark University, Worcester, MA, USA

The creation of weather index insurance (WII) as a low-cost commodity has the potential to change the way that over a billion, hitherto uninsured, farmers in the developing world take risks. WII is an

affordable risk-management tool because of a key simplifying assumption: that all farmers within the contract's bounded area will experience identical losses to extreme weather events. After a storm, weather data is used to indemnify all policyholders equally regardless of actual damage. I hypothesize that this standardization will change farmer behaviour so that it more closely resembles the form modelled by the contract. Through the use of interviews conducted in St. Lucia - where WII has just been introduced - my work attempts to uncover both the motivations behind how this commodity is created, including how desired behaviour is modelled, and the commodity's unfolding impact on how farmers interact with the natural environment. My preliminary results lead me to argue that in the context of WII, farmer behaviour has become a global resource shaped by the existence of the derivatives market to bring about particular ends, including more farmers in the cash economy, increased agricultural exports, and more food grown despite climate change.

SS65 T4.5

Tourism as a regional development strategy: The realities for resource-based communities

Rhonda Koster, R. Harvey Lemelin
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Tourism development within rural areas is based on a complex governance system comprised of a provincially defined regional organizational structure, federal economic development regions that may provide funding, protected areas at both the provincial and federal levels that provide attractions, along with the municipal level of government and economic development organizations; the product and services are provided by local businesses and community members that may or may not be able to contribute to or buy into the larger governance structures' decision making or direction. This complexity is further challenged within the context of a resource-based economy. The new regionalism literature goes some way to addressing these complexities, but it does not appear to answer the challenges that resource-based communities in northern and peripheral areas face. This presentation addresses critical questions regarding the role and purpose of tourism in such communities. Importantly, what role does tourism have in supporting economic and regional development in resource-based regional economies? Can tourism really offer the diversity necessary to soften the boom-bust cycle of resource dependent communities? Is it possible to have tourism development in resource dependent communities that are generally not entrepreneurial due to their staples history? If the various government agencies approach the idea of "region" differently than local community perspectives, how does this impact regional initiatives, including tourism?

SS05 T4.2

Moving Waste Around: The Impacts of Waste Transportation from an Environmental Sociology Perspective

Cassandra Kuyvenhoven
Queen's University, Kingston, ON, Canada

Waste management is an important topic for environmental sociological analysis. Waste transportation is an essential component of waste management systems. Waste is moved from its point of generation (households, industry, institutions and so on) to its point of disposal (processing centers, landfills, waste-

to-energy facilities, incinerators, dumps and so on). This movement of waste has significant impacts.

Canada is the world's highest per capita municipal solid waste producer. Between 2005 and 2006, Canada's municipal waste rose from 791 kg of waste per person to over 1000 kg of waste per person. In 2002, Canada transported over one million tonnes of waste within and between provinces, and exported waste to other countries such as the United States, Mexico, China, and Korea. Waste transportation poses more significant health and safety risks than landfilling.

Despite the tremendous powers and benefits of science and technology, there are many unpredictable consequences of issues that are beyond individuals' control. These issues are 'translated' by engineers and scientists into a complex set of risks, including risks to the environment, human and animal health, economics, and politics. Members of the public are wary of scientifically described risks and want to focus on the unpredictable effects which scientists are unable to define. Using the literature on risk and uncertainty, this paper will examine the determinable and indeterminable risks involved in the transportation of waste.

SS37 R1.2

Mothers' perceptions and behavioural responses to environmental health risks to their children

Kathryn Laferriere, Eric Crighton
niversity of Ottawa, Ottawa, ON, Canada

Children and infants are more highly exposed and vulnerable to environmental health hazards due to a variety of physiological and behavioural factors. Despite the significant responsibility mothers typically bear in managing the overall health of their children, little is known about how they perceive and negotiate environmental health risks in their day-to-day lives. This presentation will focus on the quantitative phase of a mixed-method parallel case study – a telephone questionnaire administered to 606 new mothers in Peel and Ottawa, Ontario. Findings indicate that 49.4% of participants (n=295) expressed moderate or high levels of concern that environmental hazards may be harming their baby's health, while 43.2% (n=261) reported taking multiple actions to protect their baby (e.g. switching to safer cleaning products or changing eating habits). Preliminary results from multivariate regression analysis suggest that income, place of residence, and sense of control were significant predictors of concern. Income and concern were found to be among the important determinants of taking protective action. These results contribute to our understanding of mothers' risk perception and can be expected to inform the development of more effective, population-specific public health programs and policies, especially in the context of low socioeconomic status individuals.

SS19 T3.1

Understanding the Human Dimension of an Indigenous Fishery: Potential and Limits of Some Participatory Methods

Annie Lalancette
Concordia University, Montreal, QC, Canada

Understanding the human dimension of a fishery can be challenging, especially when dealing with complex culturally-sensitive and politically-charged issues. However, this step is crucial for management

decisions to avoid unintended social impacts, maintain legitimacy and be effective. In this presentation I describe the combination of methods used to investigate motivations, values, interests, concerns and constraints as well as aspirations pertaining to resource use and economic development from the perspectives of indigenous Torres Strait Islanders engaged in the tropical rock lobster fishery in northern Australia. This fishery is about to undergo major changes as the Australian Commonwealth government prepares to transition its management from input control to an output controlled quota system for the first time. Methods include in-depth semi-structured interviews, participant observation, mind maps, preference interviews (adapted from the ParFish package developed by Walmsley et al. 2005) and scenarios. Advantages and disadvantages of these methods - on their own and in conjunction - are discussed in terms of eliciting and capturing various perspectives of Torres Strait Islanders, and of communicating these to local communities, managers, fisheries scientists and other fisheries stakeholders. While participatory tools used in this study proved to be very useful in understanding indigenous fishers' perspectives, it is argued that their effectiveness is directly linked to time spent in communities conducting interviews and building relationships and trust.

SS43 M1.1

Indigenous Management Perspectives and Social Sustainability: The Case of the Tropical Rock Lobster Fishery in Torres Strait, Australia

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The tropical rock lobster (TRL) fishery in Torres Strait (TS), Australia is the most economically important in the region and is particularly complex due to (among other factors) a diversity of fisher groups (indigenous TS Islanders, fishers from Papua New Guinea and non-indigenous fishers from mainland Australia). This fishery will soon undergo major changes as the Australian government prepares to shift its management from input controls to a quota management system. Indigenous Islanders' views as to what constitutes "good fisheries management" do not concord with the dominant discourse of conventional management held by the Australian Fisheries Management Authority. The perspective of many Islanders on management is informed by a holistic knowledge of the marine environment, customary institutions of marine tenure including rights of ownership and responsibilities of stewardship to certain areas, and economic values at odds with those of mainstream society. In this presentation we outline the various economic, social and cultural motivations for Islander TRL fishing and explore how local institutions contribute to social and ecological sustainability reflecting Islander values and aspirations. We then discuss how new output controls and added pressures to increase the economic profitability of the TRL fishery have the potential to erode local knowledge, fishing practices and institutions, as well as threaten the equity of access to resources and benefit distribution. The importance of meaningful engagement with local indigenous fishers is highlighted in terms of its potential to improve the social sustainability of fisheries management.

SS03 T4.3

Notes Towards a Political Ecology of Sovereignty

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In this paper we aim to explore how sovereignty is remade within the context of resource development. Sovereignty has traditionally been understood as state autonomy over domestic affairs and territory, including the ability to exploit natural resources. In this paper, we examine how the territorial sovereign can be understood as the outcome of networked environmental governance practices. Particularly we want to explore and expand Christian Lund's argument that environmental governance is not simply a product of a pre-existing sovereignty but a process through which territorial sovereignty is actively produced. This inversion of conventional approaches to sovereignty allows us to understand the constellation of people and things involved in the production of the territorial sovereign. We aim to examine how the external boundaries and internal consistency of the territorial sovereign are produced through environmental governance practices. First, using the case of the Hatgyi hydropower project located on the Salween River, we examine how transboundary development projects contribute to rearticulating the territorial boundaries of the sovereign. Second, using the example of the Northern Gateway pipeline project in Canada that would cut across indigenous peoples' traditional territories, we explore how state sovereignty is constructed within the nation-state through the domestication of various polities and ecologies.

SS25 R1.1

Downwind of Big Bitumen: A Dendrochronological Assessment of Atmospheric Pollution Effects from Athabasca Bitumen Mining

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Bituminous (oil) sands mining in northern Alberta is a multi-billion dollar industry directly disturbing hundreds of square kilometres of boreal forest and potentially affecting the surrounding area as well via atmospheric pollution. As this industry continues to expand, it is crucial that a more thorough regional assessment of environmental impacts be performed. In this study, dendrochronological analyses resolve the range of downwind bitumen mining impacts expressed as growth suppression of trees. Six white spruce (*Picea glauca*) chronologies with average ages of 72-152 years were assessed along a 120 km transect following the prevailing winds in the region. Principal component and regression analyses illuminated both the severity and extent of growth suppression associated with mining activity between 1967-2010. Dominant trends in growth identified as principal component one (PC1) steadily declined with time for western sites. Eastern sites distant from the source of pollution displayed PC1s without relationship to mining activity, while lesser PCs retained significant associations with production. The amount of variance accounted for by oil sands processed ranged from 42.9% directly beside mining activities to 10.7% in neighboring Saskatchewan. The annual resolution and long term nature of this data provides an appreciation for pre-mining baseline conditions of growth. While it was expected that the most eastern sites would be outside the range of influence, the evidence to the contrary suggests a more detailed reassessment of bitumen mining pollution's areal extent and impacts should occur immediately, and long-term monitoring should be established for the health and wellbeing of the social-ecological landscape.

SS12 T4.4

Increasing Aboriginal Participation in Environmental Assessment by Adapting Public Mapping Tool

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According to internationally recognized principles and other Environmental Assessment Processes in Northern Aboriginal Communities, it appears that the creation of an electronic public registry is a necessary tool in keeping the public informed. The department of Environment of the Cree Regional Authority identified the need to develop such a tool in order to furnish the ten Cree First Nations of Quebec open access to information on development projects that are proposed on their traditional lands, especially within the context of the *Développement du Nord*, to address the lack of transparency and to protect the rights and guarantees of the Cree people.

The presentation will first look at the current state of industrial development projects in Eeyou Istchee in light of the Environmental and Social Assessment and Review Process established in Section 22 of the James Bay and Northern Quebec Agreement in 1975. Secondly, the main focus will be on the presentation of a pilot project for an electronic public registry following the recommendations from research projects, as a tool to provide consistency in the manner in which information on the review process and projects being reviewed be disseminated to the Crees. The pilot-registry entirely adapted to the Cree aboriginal cultural context will be presented, which underscores the importance of the adapted mapping tool, Google map, and the choices of the functionalities.

SS60 T2.6

From Cutlines to Traplines: Post-Industrial Land Use at the Pine Point Mine

Emma LeClerc

Memorial University, St. John's, NL, Canada

Industrial mineral extraction in Northern Canada has had lasting, transformative effects on landscapes and land-based economies. In this paper, I examine post-industrial hunting and trapping at the former Pine Point mine, Northwest Territories, to clarify the effects of environmental and socioeconomic change on traditional land use in the predominantly Aboriginal community of Fort Resolution. Pine Point was an extensive open pit mine where attempts at remediation failed to restore the environment to its former condition. The landscape remains drastically altered 25 years after the mine closed. Although the mine employed few individuals from Fort Resolution, the introduction of industrial mineral extraction in the region coincided with a transition from a predominantly traditional economy to a mixed economy heavily reliant on wage labor. I argue that the ongoing, contemporary interactions between land users and the abandoned Pine Point mine demonstrate that some of the physical and socioeconomic transformations associated with industrial development continue to shape land use in the Pine Point region. By comparing the effects of inadequate reclamation on traditional land use with the ways that land users have appropriated the disrupted environment, this paper traces the long-term legacy of industrial development in the post-industrial era.

SS11 M2.2

Tracking Land Cover at the Abandoned Pine Point Mine: A Remote Sensing Approach

Emma LeClerc

Memorial University, St. John's, NL, Canada

In northern Canada, industrial development during the 20th century transformed arctic and subarctic environments. On the southern shore of Great Slave Lake in the Northwest Territories, the abandoned Pine Point mine and adjacent town site remain imprinted on the boreal landscape more than 20 years after closure. The Pine Point mine was an extensive open pit operation that underwent minimal reclamation when it closed in 1988. Vegetation recovery can take decades in the subarctic and is affected by anthropogenic factors like land use. Thus, while some cutlines cleared during exploration may have begun the process of vegetation succession, others continue to criss-cross the boreal forest. To estimate the amount of vegetation change at the former Pine Point mine, I tracked land cover in the 20 years following the mine's closure. I performed an unsupervised classification on satellite images to identify land cover types. I then used raster algebra and landscape metrics to quantify changes in the composition and configuration of land cover types. The use of time series remotely sensed images to identify and track land cover patterns in the Pine Point region will facilitate a better understanding of the potential long-term effects of industrial development on landscape patterns in a boreal environment.

Poster Session A

Using Underwater Acoustic Remote Sensing to Investigate Spatial and Temporal Scales in Habitat Mapping

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Developments in geographic information systems and remote sensing techniques have provided new methods for studying terrestrial environments, improving scientific understanding of ecological processes at various spatial and temporal scales. While these approaches are now routinely used in terrestrial contexts, their extension into the marine realm is nascent. Environmental variables affect the spatial distribution and ecology of benthic organisms and habitat structures. However, the appropriate spatial and temporal scales at which these variables should be studied are not fully understood. This paper reports preliminary results from the use of multibeam echosounders for studying marine habitats at multiple spatial and temporal scales. First, bathymetric and in situ data of cold-water coral and sponge habitats were collected at multiple spatial scales in Canada. Geomorphometric analyses were performed to characterize the fundamental niche of these organisms in order to identify the most appropriate scales for predicting species distribution. Second, bathymetric and backscatter data were collected in a dynamic benthic environment (Bay of Fundy) at multiple times in order to build a multi-temporal dataset. Pixel and object-based classifications are used to determine which changes can be detected and quantified using remotely sensed data. The use of multibeam data allows different perspectives in the observation and representation of benthic habitats at multiple scales.

SS14 M4.4

Façade Programs on Cape Breton Island: A Panacea for Revitalization of the Tourism Industry?

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The recession in both Canada and the USA has had considerable impact on the tourism industry in Cape Breton Island, Nova Scotia, Canada. There has also been a diminishment of other economic sectors on Cape Breton Island further impacting tourism in smaller communities. Economic development agencies have focused on initiatives from festival development to façade programs to revitalize the tourism industry. This research examines the real and expected economic impacts of façade programs on three different geographical areas on Cape Breton Island, Nova Scotia, these locations vary from urban (Sydney), to a small community (Cheticamp) and rural (The Cabot Trail). The three locations contrast in their degree of isolation, reliance on the tourism industry, the year in which the façade work was completed and the number of businesses involved. Research and evaluation is ongoing, with the author examining the changes in visitor numbers over the last decade to the region, as well as interviewing the groups responsible for the coordination of these programs and individual business owners to assess the impact of these programs. Although the change in the three areas is clearly discernible from an esthetic point of view, the regions tourism numbers are continuing to decline.

SS28 M4.7

Fair trade e-waste? Exploring the possibilities and limits of an experiment in ethical economy

Josh Lepawsky

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Using the conceptual and material indeterminacy of waste as an opening, this paper explores a concrete but still fledgling community economy devoted to experimenting with fair trade electronics recycling. The paper draws together lessons from the advocates and the critics of fair trade with insights from the literature on community economies. It seeks to understand how such an experiment in building a community economy might be related to the four coordinates of ethical economic action elaborated by J.K. Gibson-Graham and their collaborators: commons, consumption, necessity, and surplus. These coordinates sketch the outlines of an economic theory of mutual interdependence and they offer a way to orient attempts to encourage such concrete experiments like fair trade electronics recycling to take root and flourish. The paper develops its theoretical aspects via a discussion of ongoing original research on such trade between sites in the US and Mexico. The research is being undertaken by a hybrid research collective comprised of academics (faculty and graduate students), members of private recycling firms (their owners and workers), and members of an NGO devoted to promoting fair trade electronics recycling.

SS37 R3.2

Transforming our Food System: Opportunities and Challenges for Network Mobilization

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In recent years there has been a rapid increase of alternative food initiatives (AFIs) in both number and scope. While much has been written about these efforts, most studies consider AFIs as operating independently on specific projects; even scholars that make reference to an elusive “food movement” rarely explain what it is, what unites it, and its significance as part of broader food system change. My paper fills this gap by exploring the way that local food initiatives in Canada are increasingly becoming connected through networks that espouse a broader commitment to transforming the food system. I argue that viewing AFIs as working independently on isolated projects provides an incomplete picture and may unintentionally overlook important political struggles and limit the possibilities for action.

SS02 M3.8

Promoting Sexual Health Among Immigrant Men who are Gay/MSM: An Exploratory Study of the Greater Toronto Area

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Research on immigrant men who identify as gay or MSM suggests that this population may have riskier sexual health practices and poorer outcomes due to (1) marginalization and lack of sexual health education in their home networks, (2) racism, stigma and a lack of culturally sensitive services in new homes, (3) informal prejudices from family, religious, or ethnic groups, and (4) transitions and stressors surrounding migration in general. Studies in this area typically focus on quantitative measures of behavioural and outcome differences across categories such as race, immigrant status, and sexual orientation, and indices of acculturation. Such approaches provide only partial insight into (1) how multiple signifiers of difference (e.g., immigrant status, race and sexual non-normativity) interact to affect sexual health and (2) how experiential processes of integration, or alternately, marginalization and isolation, might create risk or resilience against, for example, sexually transmitted infections (STI) or intimate partner violence. This paper employs a series of 10-12 key stakeholder interviews with Toronto area executive directors and frontline workers at agencies providing sexual health services to immigrant men, gay men, or specifically to immigrant men who identify as gay or MSM. This study thus seeks to inject an appreciation of how ostensibly 'gay-friendly' destination cities can become risky places for immigrant men who are gay-identified, MSM, or questioning, and are going through first encounters with 'gay communities,' sex with men, substance use, or stigma within their own ethnic or religious communities. It also highlights key gaps in sexual health promotion within this population.

SS23 M1.8

Home feelings of the chronically mobile

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In an era characterized by heightened flows and movement (of people, goods and information) across space, the traditional notions of home as rooted in particular places and the belief that feelings of home are only attained through fixity and stability, are being challenged and there is a notable interest in the home-making strategies of more mobile populations.

In the literature, it is often suggested that mobile people, like their non-mobile counterparts, look for particular places to connect with.

The findings of our extensive field-work amongst privileged movers such as students, IT professionals, journalists, and CEO's point towards the opposite direction: for the very mobile and the recently arrived particular places matter little (Duyvendak, 2011; Ley-Cervantes, 2012). Instead they rely on (the familiarity of) generic places, such as airports, chain restaurants or hotels to feel at home.

Thus, the paper explores the role of generic places in the home-making process, without claiming that these are de-territorialized homes (Blunt & Dowling, 2006:199). Clearly, however, the more privileged, chronically mobile occupy a different position in what Massey (1994) calls the power geometry, controlling more their own mobility.

SS32 M1.7

Why Do Students Enrol in First Year Geography Courses? A case study of students at the University of Toronto Mississauga

Joseph Leydon, Christina Mclaughlin

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Geography is marginalized in the Ontario High School curriculum with the subject required only in Grade 9, no courses offered in Grade 10 and only optional courses in Grades 11 and 12. Researchers have argued that the absence of a geography option in Grade 10 limits the appeal of the discipline and adversely influences enrollments in subsequent grades and the selection of geography courses at university. The researchers also point to variations in the teaching of geography in high schools, suggesting that in well-developed programs with a range of course offerings and with highly involved teachers, student enthusiasm is engendered and university study becomes an option.

Through an on-line survey administered to students in a large introductory human geography course at the University of Toronto Mississauga; this research investigates if a student's high school experience influenced their decision to enrol in the course. Survey questions probe the importance of high school course options, teaching methods and teacher involvement, to a student's decision to select a university geography course. Results reveal significant diversity in high school experiences but point to interest in the subject as the most important reason in students selecting to enrol in geography courses at university.

SS54 T4.8

Investigating the Geographic Literacy Skills of Undergraduate Geography Students at the University of Toronto

Joseph Leydon, Sally Turner
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The lack of geographic literacy skills of university students has been a topic of much discussion in the media and the subject of much academic debate. Despite exposure to mapping technologies, increasing global integration and the proliferation of geographic imagery in the media, it appears that student knowledge of locations and geospatial connections has deteriorated.

Our research reports on a multi-year study of geographic literacy levels of students at the University of Toronto enrolled in a large introduction geography course at a suburban campus and an upper level regional geography course at an urban campus. The research compares variations in geographic literacy skills between the courses, between students enrolled at the suburban and urban campus and investigates reasons for these variations. We discuss attempts to improve geographic literacy levels through targeted on-line quizzes and investigate variations in improvements across courses and campus locations.

SS54 T4.8

The Role of Fieldwork in Canadian Undergraduate Geography Programs

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There is a rich literature on the importance of fieldwork to geography with most authors arguing that it is a core component of the discipline and fundamental to an undergraduate education. Despite such positive opinions, there is little discussion in the literature of program requirements or the level of integration of fieldwork into curriculum. Furthermore, some research suggests that geography departments are engaging in less fieldwork at the undergraduate level and that more students are graduating from geography programs with little to no field experience.

Through a survey of selected department web sites at Canadian universities and follow up questionnaires with faculty members, this project gathered information on fieldwork requirements in both human and physical undergraduate geography programs. It investigated where fieldwork occurs within a program, if fieldwork is restricted to specialised field courses or integrated into many program courses, if field requirements have changed over time, the reasons for such changes and the implications for an undergraduate education in geography. The results indicate considerable variation among geography departments in program requirements and how fieldwork is integrated into their degree programs and suggests a decline in the relevance of fieldwork to an undergraduate education in geography.

SS51 T3.8

China's Agricultural Geographic Agglomeration Pattern and Evolution Path : A Political Economic Perspective

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There has been little scholarly research on the pattern of Chinese agricultural geographic concentration and its evolutionary mechanisms. The "political economy turn" of agricultural geography research provides a valuable means of exploring the macroscopic evolutionary mechanisms and the processes of agricultural agglomeration by looking at the behavioral decision-making of the economic and political actors. The paper constructs an analytical framework that examines the interest objectives, decision-making behavior, path dependency (positive feedback) and the geographic effects involved in agricultural decision-making. By calculating the barycenter coordinates, the Gini coefficient, spatial autocorrelation and specialization index of 12 crops in 1981-2008, this paper analyses the evolutionary pattern and the mechanisms of agricultural agglomeration. The paper argues that the spatial concentration degree of Chinese planting is gradually increasing and that regional specialization and diversification have progressively strengthened. As agricultural production is subdivided, agricultural concentration increases. Furthermore, Chinese planting is moving spatially from the eastern provinces to the central and western province. In Northeast China, for example, the Sanjiang and Songnen plains have become important clustering locations, and the earlier advantages of fish and rice production have gradually decreased. Finally, the presentation provides a political economy framework for understanding the regionalization of Chinese agriculture, focusing on the interaction between political and economic actors.

SS62 R3.4

Response of the prairie grasslands under disturbances of fire and grazing – a literature review

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Grassland ecosystems are constantly subjected to the influence of biophysical environment, fire, grazing and human activities, with fire and grazing being the most significant ones and hence, being extensively studied in the literature. But still we do not have a clear understanding of the compound impact of the two on the grasslands ecosystem on the prairie. This is a review on the short-term and long term response of the prairie grasslands under different fire or/and grazing regimes, trying to identify the underlying mechanisms of change in the structure of grass communities.

Fire and grazing are introduced with their brief history in the prairie grassland and their connections, similarities and differences are discussed as two evolutionary forces actively shaping the productivity and heterogeneity of the grasslands ecosystem.

Specifically, the mechanism of fire's impact is discussed regarding to (1) its regime, referring mainly to the different timing (growing season and dormant season) and various levels of severity etc. and (2) the performance of grasses after the fire event in short-term and long-term period. Coupling effect of fire and grazing is discussed. As the two major disturbances present in the prairie ecosystem, their connections, similarities and their own unique features, together with climate factors and how these factors influence the grassland ecosystem, is discussed, in order to understand processes in the

ecosystem in a holistic and comprehensive way.

Challenges and key questions are put forward and suggestions for better management strategy of grassland ecosystems are provided.

SS52 R1.6

Monitoring habitat change of threatened raptors in Saskatchewan Canada

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The Ferruginous Hawk (*Buteo regalis*) and the Burrowing Owl (*Athene cunicularia*) are listed as threatened raptors in the Canadian Prairie region under the Species at Risk Act (SARA) and have been paid much attention by wildlife conservation professionals. Their populations decreased over the past three decades due to alteration of habitats caused by anthropogenic disturbance, grassland degradation and climate change, etc. To quantitatively measure the habitat change, we first used a machine learning based presence-data-only approach - Maximum Entropy (MaxEnt), to model habitat distribution suitability of the two species for two different time periods, i.e., from 1981 through 1990 and from 2001 through 2010. Fifty three environmental variables were used in the modeling that represented spatial variations in bioclimate, vegetation, phenology, topography and land use/cover conditions, etc. The bioclimate data were derived from the North America Climate Grids 10-year Normals, and the vegetation conditions for the two time periods were reflected by normalized difference of vegetation index (NDVI) derived from AVHRR and MODIS sensors respectively. With the modeled distribution suitability maps, we integrated land cover data from the two study periods to conduct habitat assessment and gap analysis. Results showed that in the past three decades landscape fragmentation increased and a significant amount of primary habitats of the two species converted to less suitable secondary habitats and some former primary and secondary habitats became unsuitable lands.

SS14 M4.4

Defining Pollution by Defining Harm: The Rise and Fall of Assimilative Capacity from Sewage to Plastics

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In the early twentieth century, as most American municipal governments created sewage systems that terminated in rivers where they also drew their drinking water, how to determine if a waterway was polluted, and to what extent, became a pressing concern. Different definitions of pollution proliferated. A common solution was found by calculating assimilative capacity; the amount of pollutant a waterway, body, or ecosystem could handle before harm occurred. Microorganisms in rivers, human bodies, and even entire landscapes seemed to be able to absorb, metabolize, or withstand a certain amount of abuse and stay healthy. This “natural threshold” of harm was identified, calculated, standardized, and codified in pollution regulation. This presentation covers the rise of assimilative capacity as a hallmark of pollution definition and thus of pollution control, and how it is now being defied by twenty-first century waste like plastic pollution and endocrine disruptors. These new materials are challenging the determinacy of pollution and metrics of harm that have been the focus of regulations for the past

century that are still in use today.

SS37 R3.2

Greening the Ivory Tower: A Discourse Analysis of Sustainability Policy in Post-Secondary Education

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As the United Nations Decade of Education for Sustainable Development (2005-2014) comes to a close, it is a good time to take stock of the state of sustainability education in Canada. While case studies abound, there is a lack of comparative literature on sustainability in post-secondary education institutions (PSEs). The purpose of this research is to understand and compare the discourses of sustainability policy found in Canadian PSEs. A sample of PSEs that have completed the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking And Rating System (STARS) have been chosen for this study (n=22). Environmental and sustainability-related policies and broad institutional policies (such as strategic plans) were collected and a text analysis was performed drawing from the theoretical perspective of discourse analysis. The analysis involved coding for emergent themes in order to identify the underlying discourses embedded in the policy texts. The preliminary results are expected to include the contrasting tensions of discourses at the PSEs and different conceptualizations of sustainability. The overall aim of this research is to provide a broad, comparative understanding of education and sustainability policy in Canada, contributing to the field of education for sustainability research.

SS54 T4.8

Mobile workers of carboniferous capitalism: Cape Breton coal workers in the Alberta Tar Sands

Doug Lionais
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The Alberta oil sands, a global node of carboniferous capitalism, are an important, perhaps even central, component of the Canadian economy. The growth of the Alberta oil sands is reshaping the geography of the Canadian economy, creating new patterns of uneven development and new relationships between Canadian regions. Cape Breton, like many other regions of Canada that suffer from chronic economic depletion and high unemployment, is connected to the oil sands through movements of labour. This paper will outline some initial findings in a research project looking at the experience of Cape Breton labour in the migrations to and from the Oil Sands from a global production network approach. The paper will highlight the ways in which industry in Alberta and labourers in Cape Breton make employment connections. The paper will comment on how such connections alter the nature of the local socio-economic environment, particularly examining the role of labour unions in creating and maintaining connections in the oil sand production network.

SS41 M1.5

The mobility of new physicians across Canada

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Purpose: To understand the mobility of new physicians across Canada.

Method: Data from CIHI's Scott's Medical Database were used to identify new physicians and track their mobility across time. New physicians were tracked over a ten year time period, and retention rates between Canadian-Educated Medical graduates (CEMGs) and International Medical Graduates (IMGs) were compared. Additionally, among CEMGs, retention rates were compared between those who started working in the same jurisdiction they received their MD and those who started working in a jurisdiction different from where they received their MD.

Results: Overall, 58% of physicians are still working in the same jurisdiction they started in ten years later. Retention rates vary considerably by place of graduation with CEMGs who obtained their MD from the jurisdiction they first registered being most likely to stay in that jurisdiction (72%). In comparison, CEMGs who received their MD from another jurisdiction showed modestly higher rates of staying in their first jurisdiction of registration after ten years than IMGs (45% vs. 35%). Among IMGs, retention rates varied considerably across jurisdictions, ranging from 8% in Newfoundland and Labrador to more than 45% in Ontario and Alberta.

Conclusion: Physicians are the most mobile in the first five years of their career, and where they are trained is a key factor in understanding retention rates. Physicians who obtained their MD from the same jurisdiction they start working in are much less mobile than other CEMGs and IMGs.

SS23 M1.8

The Reproducible City in the Age of Automobility: The Case of South City, Prague

Steven Logan

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On display in the Czechoslovak pavilion at Expo '67 was a model of Etarea, an experimental city that would be situated in the green landscape 10 km south from Prague. It was a city for 130,000 people in a future defined by and through the rapid mobility of people, information, and goods. Etarea was never built, but it became the model for South City, an urban development just outside of Prague. Conceived in the late 60s, South City connected post-war Western Modern planning that sought to create entirely new cities with the utopian visions of the artists and architects of the Modernism of the Czechoslovak avant-garde. It was premised on the paradoxical rejection and embracing of the automobile.

Following the Russian occupation of 1968, the main architect of South City was forced to leave the project, and little of the original plans were realized. One architectural theorist called South City, with its row upon row of mass-produced prefabricated concrete apartment buildings, the ugliest housing settlement on the planet. Still lacking a city centre, South City is an unfinished "city," neither city nor suburb in the traditional sense, stuck between Prague's medieval historical core and the new post-communist suburbs.

This paper catches a glimpse of the past planning and design of future dwellings and

mobilities (automobile and otherwise), asking how this particular history of the dreams of mobility and dwelling resonates with and informs the present urban and ecological concerns around automobility.

SS22 R3.1

Grown, harvested, and hunted: The role of self-provisioning in the food acquisition strategies of households on Newfoundland's west coast

Kristen Lowitt

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This paper examines the role of self-provisioning in the food acquisition strategies of households in the Bonne Bay region on Newfoundland's west coast. This region has a long history in food self-sufficiency in which fishing, gardening, and hunting were combined in a seasonal round of activities. Many households today continue to engage in these activities to some extent. And yet, research understanding the role that self-provisioning and wild foods play in food security is very limited. Drawing on qualitative interviews and a survey undertaken with households in the Bonne Bay region, this paper examines why households participate in these activities today, what enables and constrains their participation, and the role of informal economic networks in facilitating the distribution of self-provisioned and other locally-harvested and grown foods. This paper argues for a greater consideration of the role of self-provisioning and informal economic activities in contributing to community food security and household livelihood strategies in rural and coastal regions.

SS02 M3.8

Historical Population Health: Spatiotemporal Mortality Patterns of Hamilton, Ontario, 1881 & 1911

Natalie Ludlow

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This research examines how the economic constructs of a society impact socioeconomic organization and urban development in an historical Canadian context, and how these factors relate to the variations of spatiotemporal health patterns. Hamilton, Ontario became a key industrial centre after 1898. With heightened stressors in relation to population and urban development, industrialization likely brought a new dynamic to living and working in Hamilton. The spatial distribution of an urban population is often characterized by urban morphology (patterns and process of urban development) and in turn, can aid in the generation of spatial urban health inequality. Inequalities in health are often associated with various social determinants of health, such as wealth, occupation, gender, education, and the social and physical environments. Using two temporal reference points (1881 & 1911) and a multi-level analysis (macro-, meso-, micro-level), an assessment of an economic transition on spatial urban development, and population demographic and epidemiologic patterns can be evaluated. This health ecology evaluation incorporates a mixed methods approach utilizing statistical, Historical GIS, and qualitative research methods.

Poster Session B

Thermochemical Waste Conversion: Uncertainty in Material and Energy Transformations

Samantha MacBride

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In 2013, interest among financial, petrochemical and waste sectors is growing globally around thermochemical technologies that accept and transform wastes. Such technologies take discards containing carbon - including municipal solid waste (MSW), industrial residues, and other substances - and convert them into fuels and chemicals. Using methods of gasification, pyrolysis, and thermal depolymerization, such technologies are today being advanced by multi-sector transnational firms as profitable, safe, and climate-friendly alternatives to landfilling or conventional incineration. This discursive and practical work has begun to take hold since the mid-2000's, with governments considering plans to transform carbon-rich garbage into commodities.

Despite claims of safety and high return on investment, the practical application of such technologies is marked by profound uncertainty. Of concern are threats from toxic releases; fiscal and operational risks stemming from scalar and temporal qualities of facility construction and operation; and more diffuse uncertainties attending the routing of carbon-bearing waste materials through circuits of valorization and exchange that are bound up in the global petrochemical economy. Uncertainty in this regard is complex, knitting together multiple aspects that involve chemical reactions and the distinction between matter and energy; and manifesting in aborted start-ups, crises of project finance, and opposition by social movements focused on environmental justice and zero waste.

This paper explores the specifically 21st century quality of the indeterminacy of waste, as new forms of sophistication *and* naiveté attend discourses of support for and opposition to conversion, and as the practice struggles to gain infrastructural and economic foothold in cities throughout the world.

SS37 R4.2

Unreliable Amazonia: Acknowledging Regional Geopolitics

Katherine MacDonald

York University, Toronto, ON, Canada

Recent Brazilian migration through the Amazon region and across the Guyanese border may be part of a larger geopolitical program emerging from Brazil, one that sees the Brazilian Government implementing a program of development and protection of their northern territory. This migration threatens to increase pressures on Makushi and Wapishana territories within Guyana, resulting in the annexation of traditional ancestral lands and potential losses of subsistence and livelihood practices, as well as disturbances to traditional cultures and ways of life. I believe these migration trends may be part of a larger intraregional geopolitics emerging out of Brazil, wherein development of the northern Amazon frontier is being encouraged primarily through regional colonization. I suggest that Guyana is unknowingly enmeshed within the larger geopolitical concerns of the region, and that the migration of Brazilian miners, businesspeople, and rice producers from across the border may in part be traced directly to evolving legislature, political action, and program and project implementation within the Brazilian Amazon.

SS62 R3.4

Modelling the Physical Coastal Vulnerability to Climate Change for the North Shore of Prince Edward Island

Katelyn MacDonald¹, Danika van Proosdij², Daniel Scott¹

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In May 2013 global atmospheric carbon dioxide levels exceeded 400 parts per million for the first time in human history. The effects of the continually rising greenhouse gas levels and resulting increased sea levels have profound and unrealized consequences on coastal regions worldwide. The IPCC has identified small islands and coastal zones among the locations most vulnerable to climate change. The geomorphological characteristics of Prince Edward Island, including highly erodible sandstone bedrock and a persistent low elevation, contribute to its vulnerability to climate change. The province is highly susceptible to the physical, socioeconomic, and cultural impacts of coastal change (erosion/accretion) from sea-level rise and altered patterns of extreme events. In order to assess the physical coastal vulnerability of the study area, a model employing Geographic Information Systems (GIS), Multicriteria Evaluation (MCE), and time step analysis was utilized. The physical vulnerability of the North Shore was evaluated for the year 2010 and the results were used to predict the vulnerability to coastal change and sea-level rise for 2050 and 2100. This physical vulnerability analysis coupled with community-based and socioeconomic vulnerability analyses will portray the complete vulnerability of the study area to the current and future effects of climate change and establish the areas of highest vulnerability, so that suitability of adaptation strategies can be evaluated.

Poster Session B

The Columbia Basin Rural Development Institute: Using Applied Research & Geospatial Technologies to Support Regional Development

Terri MacDonald

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This presentation explores the role that knowledge and innovation play in the regional development process as framed by lessons learned from an emerging rural development institute. The Columbia Basin Rural Development Institute (RDI) has the mandate to support informed decision-making through the provision of applied research focused on rural development, innovation and knowledge mobilization. The Columbia Basin RDI is the only rural development institute located at a college and mandated to serve a defined rural region. This presentation will specifically highlight how applied research and geospatial digital technologies can serve as an effective tool to build capacity and support regional rural development in a region with a fracturing geographic landscape.

SS05 T4.2

Food Waste: On the Horizon for Extended Producer Responsibility

Virginia Maclaren

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Extended producer responsibility programs (EPR) in Canada for ewaste, municipal hazardous waste, packaging waste and tires have grown significantly in the last five years. EPR programs are meant to transfer the costs and overall responsibility of end of life management of a product from the

municipalities and the general taxpayer to producers and consumers. In theory at least, they also have the goal of incentivizing producers to redesign their products so that they produce less waste. In its 2009 discussion paper on the future of EPR programs in the province, the Ontario Ministry of Environment identified branded food items as a material to be designated for EPR within five years. Although this recommendation has not yet been confirmed, there will be enormous challenges to overcome before such a program could come into effect. In this paper, I address a number of questions that arise about how and whether to implement EPR for household food waste. For example, what are the multiple meanings of food waste? What percentage of food has identifiable producers? Will EPR promote design of food that is less wasteful, less harmful to the environment or easier to reuse? Can design changes that create less wasteful food occur only with increases of other types of waste? Are there social justice concerns about visible or hidden EPR fees added to the cost of food? Are there alternatives to EPR of food waste that accomplish the same goals as EPR?

SS37 R1.2

Indigenous Fisheries in Bolivia's Northern Amazon: Socio-ecologic aspects and management challenges

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Bolivian Amazon fisheries are in remarkable transition, driven by land reform, increased access, increasing demand, and expanding commercial fisheries, largely focused on an introduced species (paiche *Arapaima gigas*). Indigenous groups in the region have a relatively high level of organization, traditional access rights to natural resources, and a vested interest in their sustainable use, but face challenges in establishing management plans and development priorities.

The region upstream of Riberalta (including several large indigenous territories - TCOs), in the northern Bolivian Amazon, is a hub for fisheries and aquatic biodiversity. The relatively well-conserved resource base is facing a variety of threats: development, climate variability, introduced species (e.g. paiche fish), and user conflicts. Existing indigenous territories and parklands present opportunities for model conservation systems. Research to characterize rural indigenous fisheries in the region is underway, including fisheries data collection, studies on access and use rights and climate vulnerability, and local perspectives on fisheries management. Findings to date demonstrate that while understanding of the complex biodiversity and resource use dynamics in the region is improving, traditional knowledge and new adaptation strategies are not easily translated into policy on biodiversity conservation and socio-economic development. Recommendations include social technology to improve value-chains and strengthen participative governance frameworks.

SS03 T3.3

Youth livelihood strategies and environmental decision-making in the Humid Forest Zone of Cameroon

Catherine MacNeil, H. Carolyn Peach Brown
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Youth are an important group within forest communities of Central Africa but are often underrepresented within decision-making structures. Youth will be affected by the long term impacts of forest management and therefore have a stake in the successful management of resources. This is particularly important given the context of climate change and climate change mitigation policies. Given that youth are underrepresented in research studies, this research aimed to understand whether youth (aged 19-30) are dependant on forests to gain their livelihoods and if they are currently represented in local decision-making institutions. This research also aimed to understand what barriers may exist for youth gaining access to such institutions.

Surveys, interviews, and focus groups were conducted in six villages in the Eastern province of Cameroon. Despite changes in educational opportunities, youth continue to derive a large proportion of their livelihoods from forest resources. However, changes have been noted in the gender division of work. While youth remain underrepresented in formal village authorities and forest management committees, they play a large role in the development and functioning of other institutions. Barriers to involvement were identified as youth attitudes, adult perceptions of youth, and tradition.

SS62 R1.4

Dendroclimatological Study of Shelterbelt Trees in a Moisture Limited Environment

Jason Maillet, Cecilia Jennings, Colin P. Laroque, Ken Van Rees
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Agroforestry has been a familiar practice in the prairies since 1901, when the Prairie Farm Rehabilitation Administration (PFRA) began providing free seedlings to landowners in the Prairie Provinces. While the numerous practical benefits of shelterbelts have long been understood, there remains an increasing need to explore the potential for carbon sequestration in terms of greenhouse gas mitigation. The goal of this project is to use dendroclimatological methods to study two commonly planted shelterbelt tree species, one coniferous, *Picea glauca* (white spruce), and one deciduous, *Fraxinus gennsylvanica* (green ash), to find out how their growth is currently being affected by a changing climate in the moisture limited region of Southeastern Saskatchewan.

A latitudinal transect was drawn at 103.5 degrees west longitude and chronologies were developed for 15 sets of trees taken at regular latitudinal intervals starting at the US border and moving north to the prairie-boreal forest boundary. The radial-growth patterns were then compared to instrumental climate data taken from the nearest available climate stations along with gridded Standardized Precipitation-Evapotranspiration Index data. Correlation matrices reveal a latitudinally-driven spatial growth pattern. Spring precipitation and more importantly drought susceptibility were found to be the most important factors limiting green ash and white spruce growth in Southeastern Saskatchewan. Clear boundaries delineating zones of optimal growth could be drawn based on these findings.

SS12 T4.4

Boundaries and Public Housing Redevelopment in Toronto's Don Mount Court/Rivertowne: From Isolation to an Integrated Fabric?

David Mair
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Many of the large public housing projects from the 20th century are frequently labelled as bordered sites of “isolation”, “failure” and social “dysfunction” (Purdy, 537, 2005; Lipman, 2008, 123). These characterizations establish boundaries that are tied to the physical space but their productions also often connect to social processes involving race, culture, class, and collective and personal histories and experiences. One of the City of Toronto's goals in redeveloping a number of its inner-city public housing projects is to soften or outright dismantle these stigmatized boundaries by razing the old buildings, incorporating new design principles, and mixing public housing stock with privately owned units – all of which are positioned as challenges to the apparent mistakes of Post-War architects and planners. Yet it is unclear in both urban studies literature and in public discourse surrounding Toronto's public housing, how these types of boundaries exist in post-redevelopment neighbourhoods. By focusing on Toronto's only finished redevelopment – Don Mount Court/Rivertowne – this paper aims to show that boundaries can be reinvented and continue to affect everyday life. Residents in and around the area continuously construct divisions within the neighbourhood between public housing, condominiums and the rest of the neighbourhood. These divisions subsequently influence neighbourhood politics and services, sense of community, and daily activities, such as where one walks and whom one talks to.

SS22 R4.1

Connectivity as a measure of ecological integrity in northern pike populations in Riding Mountain National Park, Manitoba

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Parks Canada's official mandate is to manage for ecological integrity in its parks, which is defined as the ability of an ecological system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those natural habitats within a region (Parish et al. 2003). An important indicator of ecological integrity is the demographic integrity of the parks' constituent wildlife populations. In Riding Mountain National Park, we have monitored northern pike populations with respect to connectivity between habitats where anthropogenic activities may have created disjunct populations. We used VHF telemetry to examine movements of northern pike at three locations in the park to determine the level of connectivity between rivers and lakes where weirs have been built, as well as to establish whether northern pike move through a seasonally temporary corridor to access spawning habitat. This presentation provides a summary of these projects and their associated management recommendations for sustainable northern pike populations in the park.

SS40 W1.3

Variability in extreme weather events in the Northeast of New Brunswick since the 1950's

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The increase of sea level with the high frequency of storm surges and weather extremes events in the last decades have threatened the coasts of New Brunswick. To better understand and document these weather-related hazards, we have undertaken to analyze some time series from different meteorological stations in the Acadian Peninsula, northeastern New Brunswick. The main objective of this research consists to determine the number of extreme events in a historical context and to assess whether there is a tendency for this type of events since 1950's. Our analysis mainly focused on two types of weather extremes: winter storms and summer droughts. We have used meteorological data (precipitation and temperature) from four weather stations (Bas-Caraquet, Miscou, Miramichi, and Bathurst) and documentary sources from the newspapers L'Évangéline (1950-1982) and L'Acadie Nouvelle (1984-2012). Different thresholds were used on weather data to calculate the frequency and intensity of extreme weather events. Documentary sources were scanned carefully based on the keyword search.

SS07 M1.4

Nearshore Sediment Transport by Waves and Currents Under Sea Ice, North Shore of Prince Edward Island

Gavin Manson¹, Robin Davidson-Arnott², Jeff Ollerhead³

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In winter, the energy of waves approaching the north shore of Prince Edward Island may be attenuated by sea ice resulting in lower bottom currents and reduced nearshore sediment transport. Trends and projections of future sea ice suggest decreasing wave energy attenuation and increasing nearshore sediment transport with the possible result of accelerated rates of shoreline change. The Prince Edward Island Waves Under Ice Experiment (PEIWUIE) was conducted from December 2010 to April 2011 at Brackley Beach. Two RBR pressure transducer wave gauges were deployed in a cross-shore transect in 6 m and 10 m water depth. Data from the deeper gauge show variable attenuation of wave height from early February to late March. Ice-free waves, currents and sediment transport were modelled using Delft3D, and verified against ice-free measurements from the PEIWUIE, a similar ice-free experiment in 1999 in the same location, and results from hydrodynamic modelling using Mike21. Measurements during the PEIWUIE and information from daily ice charts were used to calculate wave energy attenuation in sea ice and determine rates of nearshore sediment transport under different conditions. Results show that sediment transport may increase with reduced sea ice concentration, thickness, and floe size.

SS42 T3.7

Climate-change impacts on an emergent Arctic shoreline, Hall Beach, NU

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Hall Beach, Nunavut, is located on an emergent coast in northwestern Foxe Basin. The area is low-lying, with raised gravel beach ridges interspersed with thin bouldery ground moraine containing local ground ice over flat-lying limestone. A 1 km wide irregular nearshore bench extends seaward to 6 m water depth in front of the community. Shoals adjacent to headlands to the north and south are covered with shore-migrating sheets of pebble gravel. Sea ice appears to be forming later, suggesting that storm wave activity and associated sediment transport may be increasing. Winds are predominantly offshore from the northwest, but sediment transport determined from analysis of historical aerial photography suggests north and south bi-directional alongshore transport. Despite falling relative sea level, an erosional hot spot occurs directly in front of the community placing several homes and other infrastructure at risk. The hamlet council has placed a moratorium on further development at the shoreline. Changing refraction patterns under rapid emergence and shore-zone morphodynamic feedback may combine to determine the location of the hotspot. Understanding the coastal response to storms and other environmental forcing under present and future climate conditions contributes to development of appropriate adaptation plans.

SS42 W2.6

CanCoast: Mapping the characteristics of Canada's marine coasts towards understanding vulnerability to climate change

Gavin Manson¹, Chelsea Smith¹, Nicole Couture¹, Dustin Whalen¹, Paul Fraser¹, Barbara Szlavko¹, Donald Forbes¹, Thomas James², Donald Lemmen³

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Canada's coastline is known to be the longest of any nation. With glaciated fjords, temperate estuarine marshes, barrier beaches and lagoons, ice shelves, lithified and unconsolidated cliffs, variable presence of permafrost, and highly developed areas separated by long stretches of undeveloped coast, it may also be the most diverse. The coastal impacts of climate change are expected to include changing relative sea level regimes, storminess, sea ice, and nearshore waves. These are not expected to be equal in Canada's coastal regions, and the sensitivity of the coast and adaptive capacity of communities also vary.

CanCoast is a nationally consistent geospatial database characterising Canada's marine coasts and is intended to contribute to climate change adaptation planning. It builds on a previous study of sensitivity to sea-level rise which used 1:50,000 scale map sheets to segment the shoreline and assigned one value for each of the seven attributes. Based on the attributes, scores of sensitivity were interpreted and used to develop an index of physical sensitivity. This analysis has been updated with an improved shoreline, segmentation based on physical characteristics, revised coastal bedrock and surficial geology, and the inclusion of census data. These updates transform the previous index of sensitivity to sea-level rise, to a geospatial database useful in assessing vulnerability to climate change.

Poster Session B

Planning for the future: Preparing young professionals for coastal planning and climate change.

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In 2010 Canadian Institute of Planners partnered with NRCAN to prepare communities for climate change through adaptation planning. Educating planning professionals was also a goal. Since 2004, students in the School of Planning at Dalhousie University have been learning about climate change as part of coastal planning education. Learning opportunities expanded with the NRCAN-CIP and NRCAN-RAC programs. Municipal climate change adaptation planning needs continue to provide opportunities to educate students in what is arguably one of the most pressing coastal planning issues today.

We rarely take stock of the range and legacy of student work. However, this focus - climate change and coastal planning - is worth contemplating. This diverse collection of hands-on physical and social-themed projects contributes directly to coastal community and climate change adaptation planning. Many of the students involved in the projects are continuing their education in climate change or are now working in community planning on the ground.

Our presentation reviews the range and legacy of our climate change and coastal planning education experience, considers the importance of these practical projects for communities and for students and reflects on the significance of government climate change adaptation strategic funding for innovative education for our future coastal community planners.

SS42 T2.7

Sense of Place...Now What? Place-based Development in an Era of New Regionalism

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The purpose of this paper is to investigate the link between how sense of place may be both conceptualized and mobilized for development purposes at the regional scale. Place-based development, in contrast to conventional sectoral, programmatic or issue-defined perspectives, is a holistic and targeted intervention that seeks to reveal, utilize and enhance the unique natural, physical, and/or human capacity endowments present within a particular location for the development of the in-situ community and/or its biophysical environment. Drawing from case study research from across Canada, the paper defines a series of place-based development characteristics, identifies their presence or absence in case contexts, and draws connections to development initiatives at the regional scale to inform and advance our understanding of place-based development. The paper is part of the broader project, Canadian Regional Development: A Critical Review of Theory, Practice and Potentials, which is a multi-year research initiative funded by the Social Sciences and Humanities Research Council of Canada. The project is investigating how Canadian regional development has evolved over the past two decades and the degree to which Canadian regional development systems have incorporated New Regionalism into their policy and practice.

SS05 W1.2

Preparing for the next boom: The implications of mine construction and expansion in BC's Interior

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The process of economic restructuring within the forestry sector has had dramatic impacts on British Columbia's resource towns. In the Interior, the impacts of restructuring have been differentiated in part by the efficiency of local mill operations, access to large volumes of cheap timber associated with the mountain pine beetle epidemic, and structure of local economies. Decline of the forestry sector has prompted the provincial government to promote expansion of the mining sector as driver of regional development. High mineral prices have also contributed to a resurgence of the sector as companies have invested in the expansion of existing operations and planning and development of new mines. This paper will examine the local impacts of mine development and expansion in Mackenzie and Williams Lake. This paper also will explore the impacts to the local economies and communities by outlining the nature of resource town labour migration and the planning considerations necessitated by mine expansion and development.

SS41 M2.5

Refining a Decision-Support Model for Siting Palliative Care Services in Rural Canadian Communities

Michael Martin, Nadine Schuurman, Valorie Crooks

Simon Fraser University, BC, Canada

The health GIS informatics group at Simon Fraser University in British Columbia has been building, refining and pushing forward a decision-support model for siting rural palliative care. This work is particularly important as Canada's population continues to age and pressure to rationalize health costs continue to grow. Past iterations of this model have sought to locate the communities across British Columbia best suited for the instantiation of new palliative care centres. In previous research (Cinnamon, Schuurman et al. 2009) the rural palliative care model has incorporated numerous variables including travel time to existing palliative care infrastructure and vulnerability of populations (number of inhabitants and senior citizens). This model was improved upon in 2011, incorporating the ability of potential communities to mobilize around new services using qualitative research methods alongside the spatial analysis (Crooks, Schuurman et al. 2011). In this presentation, I will elucidate the recent innovations to the model, including incorporation of socioeconomic variables and an application of the model to rural Canada.

SS50 T1.8

Representing the *Creative* in Creative Industries in China

Andrew Marton

University of Victoria, Victoria, BC, Canada

This paper traces the genesis and definitions of creative industries in China through an analysis of the formal planning literature and statistical publications, and in relation to the wider academic debates about culture and creativity as the new mantra in urban spatial economic restructuring. The analysis draws on international perspectives to illustrate how the concepts of culture and creativity in China are

often conflated or used interchangeably to underpin the rhetoric of economic upgrading and the repositioning of urban spaces upwards in the value added chain. Findings reveal that municipal level jurisdictions in China often distort international interpretations of the creative industries to inflate the contribution of such activity to local GDP. Unpacking the local discourse on creative industries and their statistical representations in the city of Ningbo in East China's coastal Zhejiang Province reveals much about how local authorities have been able to leverage significant investment in large scale urban restructuring. Field investigations into what's actually happening on the ground in Ningbo suggest there is very little new activity underway that is genuinely creative. The paper concludes by highlighting possible strategies to enhance the development of truly creative activities, particularly in the visual arts, to underpin and interact with industries which purport to aspire to high levels of creativity and innovation.

SS15 R3.5

Equity-Focused Knowledge Translation: A framework for “reasonable action” on health inequities

Jeff Masuda

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Despite three decades of concerted public health action, health inequities are on the rise in many places around the world. While much research has identified numerous health inequity outcomes (Second Wave research), there has been less work explaining the mechanisms through which they come about (Third Wave research). Concerted efforts, globally, to address the root causes of health inequities require not just the pushing of “evidence” to inform better policies, programs, and actions (e.g. Second Wave knowledge translation); but also a commitment to reasonable action among decision-makers to resolve the sources, rationalizations, and impacts of the underlying social injustices that are responsible for health inequities (Third Wave knowledge translation). Building on recent insights into Third Wave research, I will propose in this presentation a Third Wave approach, called Equity-Focused Knowledge Translation, as a means to shift knowledge practices in health equity research and advocacy. I will argue that knowledge translation practice can contribute to more reasonable action by combining critical inquiry of knowledge and the systems through which knowledge is produced and communicated with an adherence to reflexive practice among knowledge subjects to create opportunities for inclusive and transparent collective action.

SS19 T4.1

Branding place and placing rights: Theoretical explorations of the right to the city in Vancouver’s Nihonmachi/Downtown Eastside

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For over a century Vancouver’s Downtown Eastside (DTES) has been home to a “permanent underclass” of marginalized communities, which in recent decades has prompted a succession of revitalization schemes aimed at rehabilitating residents and the spaces they occupy. Subsequent confrontations between residents and capital-driven interests echo the struggles of a similarly vibrant but ghettoized Japanese-Canadian community, whose own 50-year inhabitation of the neighbourhood, then known as Nihonmachi (Japantown), ended abruptly with their forced removal and internment

during World War II. Ironically, revitalization proponents have drawn from this history to mount a campaign of “inclusionary” redevelopment, embodied in the City’s Local Area Planning Process and the positive re-identification of a “Japantown” brand. Yet this brand has also been deployed to market a culinary spectacle by private sector developers. In this paper we use the interdisciplinary analytics of human rights, as well as critical studies of place-naming and urban branding to juxtapose these present-day prejudices and renovations with the 50 year legacy of racist policies imposed on Japanese Canadians in pursuit of a “white man’s province” (Roy, 1989). We argue that making such linkages can counter the historical manipulations and erasures that have repeatedly undermined DTES residents’ “right to the city”.

SS24 W2.1

From cod to shellfish and back again? The new resource geography and Newfoundland’s fish economy

Charles Mather

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This paper traces three key phases in Newfoundland’s resource economy: the collapse of cod, the rise of shellfish and recent efforts to re-establish cod. I argue that these changes in the province’s fish economy may be productively understood through the ‘new resource geography’. In the case of cod, the key concern is the role of science in stock assessment. Although the shellfish sector appeared to successfully replace cod, the resource under pressure and cuts in quotas are currently hotly contested between different sectors of the province’s fishing fleet. There have been ongoing efforts to re-establish cod on farms and in the ocean and the paper examines several specific cases. These three phases of development and change in Newfoundland’s resource economy provide rich material for the new resource geography.

SS26 T1.3

Climate Change and Transportation in Prince George, BC

Lindsay Matthews, Jean Andrey

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Winter weather creates mobility challenges for most Canadian jurisdictions, leading to significant expenditures on winter road maintenance (WRM) programs. The science and practice of snow and ice control is evolving quickly but climate variability and change are particularly challenging for strategic planning of WRM. This research explores how changes in winter weather may translate into changes in WRM activities by 2041-2070 in Prince George, British Columbia relative to ‘normal’ conditions. The linkage between weather and WRM are analysed, using winter maintenance data made available by the City of Prince George and meteorological observations from Environment Canada. The approach taken to document the association between winter weather and both materials use and snow dumping is a winter severity index applied to simulated weather data based on NARCCAP (SRES A2 scenario) simulations of future change. Findings show that, notwithstanding changes in maintenance strategies, much of the variability in WRM can be attributed to weather. Climate models indicate that Prince George Region is expected to be at least two degrees warmer and with more precipitation overall but fewer snowfall days. The net effects for winter maintenance are expected to be beneficial as winter road

maintenance activities are expected to be reduced by approximately 10 percent.

SS38 M 4.2

Exploring Aboriginal and Non-Aboriginal Understandings of Environmental Change and its Impact on Resources and Economic Development - Perspectives from NW British Columbia

Ralph Matthews

The University of British Columbia, Vancouver, BC, Canada

The data presented here are from a large multidisciplinary study integrating scientific and local knowledge in environmental planning around the impact of climate change. This paper focuses on the social research undertaken in the First Nation community of Lax Kw'Alaams. It begins by presenting our tools developed to identify 'what is valued' by local residents. Using them, it will examine how residents assess changes in both the environment and other aspects of community when compared with twenty years previously. In addition, it examines what Lax Kw'Alaams' residents see as the 'Future Drivers of Change' in their community in the context of environmental and other issues. In doing so it will demonstrate the tools we developed to present local data back to the community, its leaders, and outside planners in a manner that identifies which issues are seen as most important and most in need of attention. The paper concludes with a comparison between Lax Kw'Alaams and the non-aboriginal communities of Prince Rupert and Terrace particularly in terms of environmental values and the drivers of future change in the region.

SS03 T4.3

In-situ and out of place: EI, oil, and the making of a migrant workforce

Katie Mazer

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For decades, seasonal and unemployed workers from Atlantic Canada and Eastern Quebec have migrated west in search of work in the Alberta tar sands. Today, this region has the highest unemployment rates in the country, and workers continue to flock west. Reflecting on the recent reforms to the Canadian Employment Insurance (EI) program, this paper approaches the Alberta tar sands industry from the perspective of the making and remaking of east coast communities and labour markets. In the wake of these EI reforms, communities across the Atlantic region have been drawing connections between the devastating local impacts of the reforms and the tar sands labour market; that is, workers and communities are questioning the degree to which these reforms might be understood as relocation strategies for Atlantic Canadian workers. This paper broadly examines the relationship between state restructuring, regional labour migration, and Canadian resource extraction by asking: how has the historical production of uneven development played a key role in supplying a flexible and mobile labour force to remote extraction sites facing chronic labour shortages? Looking specifically at the case of Atlantic Canada and EI reform in relation to Canadian extractive industries, I want to argue against naturalized narratives of regional decline and to highlight the importance of considering the question of uneven development at the national scale.

SS11 1.2

Broadening horizons: The Geography of Nova Scotia International Trade

Bob McCalla

Saint Mary's University, Halifax, NS, Canada

Globalization means that, for trade purposes, markets are not next door or around the corner - they are around the world. Where once markets were secure because of proximity or protectionist policies, now markets are subject to competition from distant suppliers. Alternatively, distant markets are now seen as possible outlets for exports or origins for imports. Nova Scotia belongs to this new global trade world. This paper explores changes in Nova Scotia trade since 1991 as seen, for example, in the following:

- In 1991 Nova Scotia trade, both exports and imports, was valued at \$5.4 billion; in 2011 it stood at \$12.8 Billion in current dollars (\$8.8B in 1991 dollars).
- In 1991 Nova Scotia sent exports to 102 countries; in 2011 exports went to 164 countries.
- o In 1991 exports to China were less than \$1 million; in 2011 exports to China were valued at \$112.4 million
- In 1991 Nova Scotia imported goods from 90 countries; in 2011 imports came from 118 countries.
- o In 1991 imports from the US made up 19.2% by value of Nova Scotia imports; in 2011 the proportion was 4.6% by value.

What has caused these and other changes? Explanations can be couched in the terminology introduced by Edward Ullman in 1956: complementarity, transferability and (lack of) intervening opportunity. The paper explores the usefulness of these terms in explaining Nova Scotia trade dynamics over the last 30 years.

SS34 M3.6

Vulnerability to Climate Change in the Context of Multiple Stressors: The Case of Funafuti, Tuvalu

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It is widely accepted that small island states, including those in the Pacific, are highly vulnerable to the impacts of climate change. Most research on climate change in Pacific Islands focuses on scenarios of sea-level rise, with little attention given to how people in communities experience changing climatic conditions in the context of multiple stressors. This article employs a community-centred analysis that considers vulnerability to climate change in the context of biophysical, social, political, economic, and cultural stressors. Findings indicate that vulnerability of the Funafuti community arises from the complex interaction of changing environmental and social conditions. This research suggests that community oriented empirical studies that incorporate local knowledge and examine climate change in the context of multiple stressors, can provide guidance for locally relevant adaptation initiatives.

SS38 M4.2

Can slimy sculpin (*Cottus cognatus*) be used as an ecological indicator for Clear Lake, Riding Mountain National Park, Manitoba?

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In 2000 the Canada National Park Act was rewritten to stress a mandate to conserve ecological integrity. In Riding Mountain National Park (RMNP) this mandate has been focused on Clear Lake, the largest lake and most popular tourist destination in the park. A 2005 Parks Canada commissioned report recommended use of the slimy sculpin (*Cottus cognatus*), a small-bodied benthic fish species, as an ecological indicator to aid in health assessment of Clear Lake. There is some support for this species as an ecological indicator, but mostly in river habitats. Currently, there is not a sufficient understanding of the ecology of slimy sculpin in Clear Lake to undertake a management program using it as an ecological indicator. Therefore, in the summer of 2010 and 2011 spatial and temporal distribution of slimy sculpin were examined with respect to depth, temperature and dissolved oxygen (DO). Habitat selection differed between the two years, likely due to low DO concentrations in the deepest strata in early August, 2010. Sculpins may have moved out of their preferred habitat due to low DO levels, suggesting that DO may be an appropriate indicator, in association with sculpin presence/absence to use to assess ecological health of the deepest portions of Clear Lake.

SS40 W1.3

The C-Change Project: Science assisted adaptation to climate change in Canadian and Caribbean coastal communities

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Coastal communities throughout the world face unique challenges in assessing and adapting to the challenges posed by a changing climate. In Canada and the Caribbean, scientists from government, private sector, and academia engaged in the ICURA C-Change Project are working with partner communities to identify and prioritize risks due to sea level rise, severe weather and changing environments. Planning for and managing risk has demanded an interdisciplinary and collaborative approach to research and to decision-making that crosses traditional and functional barriers among the natural, social, and applied sciences, local governments, and planning and design professionals. C-Change scientists have worked to rationalize international projections for global sea level rise to local conditions, relying on spatial modelling to project the impacts of rising water levels on coastal environments, infrastructure and community cultures. Working with these projected scenarios, management and social scientists have developed tools to improve understanding of the hazards faced, to identify best practices for current and future adaptation, and to aid decision-making. C-Change demonstrates the benefits of science-community interaction in improving understanding of impending threats, and the practical application of international and national science in resolving challenges faced at the local level.

SS42 T2.7

Work in the neo-staples political economy: IBAs and Aboriginal governance in Canada's Nickel Mining industry

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The organization of work in contemporary resource industries differs markedly from the Fordist-style work arrangements that characterized the mature staples phase of resource development. These changes include the increasing influence of Aboriginal governments over employment, the prevalence of long distance commuting, increased capital intensity, and the diminished influence of unions. In this paper, we theorize the key features and implications of what we term the neo-staples political economy drawing on a case study of the Voisey's Bay nickel mine and concentrator in Labrador, Canada, which is currently owned by the Brazil-based Companhia Vale do Rio Doce. Two influences distinguish the governance of employment at Voisey's Bay from that which would be predicted by a mature staples model. Impact Benefit Agreements have re-localized employment, while industry concentration and the global convergence of mining labour practices have exerted an internationalizing influence. Our results suggest that while Aboriginal institutions have helped re-localize the governance of employment in the neo-staples political economy, the empowerment of northern workers and the unions representing them is constrained by the internationalization of labour practices in the mining sector.

SS21 R1.5

Watershed Planning and Regional Development - Part II

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As discussed in Part I, water and watershed management are intricately linked to regional development. This relationship includes aspects of the environment, health, recreation, and the economy. Part II will further examine water and watershed planning in the context of regional development by focusing in on two different case studies.

Infrastructure plays a critical role in the past and future of regional development and water-related infrastructure is no exception. The first case study will discuss drinking water infrastructure within the Kootenay Region of British Columbia, examining the infrastructure legacy of past regional development approaches and discussing the potential for a New Regionalist approach to regional water infrastructure in the future.

The second case study will examine the role source protection planning committees can play in a regional watershed management approach. This research used New Regionalism and other theoretical perspectives related to regional collaboration to evaluate source protection planning under the Clean Water Act (2006) in Ontario, adding to the literature and understanding of the feasibility of a regional watershed governance approach for watershed management. This case study illustrates the challenges related to inter-jurisdictional regional planning in relation to watershed management and source water protection, and will outline recommended next steps in source protection planning policy and research in Ontario.

SS05 T3.2

The Morphogenesis of an Amenity Landscape: The Okanagan Valley, British Columbia

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The forces that have transformed traditional productive spaces into idealised landscapes of leisure and consumption are examined in the Okanagan Valley, a Canadian region renowned for its rural character, stunning scenery and warm climate. The rapid population growth in the Okanagan Valley over the last 20 years, mostly fueled by amenity-migrants, has altered the original character of the landscape resulting in two apparent distinct narratives that oppose landscapes of production and consumption. The first narrative relates to long-term residents and those who migrated to the Valley for its amenities, who now complain that the Okanagan landscape does not resemble the “authentic” landscape that attracted them, and the second, relates to the migrants who complain that agricultural activities in peri-urban areas conflict with the residential activities of adjoining new neighbourhoods. The aim of this research project was threefold: firstly examine the nature of the two narratives identified above; secondly, clarify the character of the existing land use conflicts and perceived incompatibilities between new residential areas and existing agricultural activities; and thirdly, building on traditional theoretical concepts of landscape analysis, examine how complexity theory and polyrationality can be used to better understand the morphogenesis of a contested landscape.

SS66 R4.3

Determining Physiological Stress and Growth Thresholds of White Spruce in Southern Saskatchewan

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Climate change has resulted in the northward migration of many tree species in Canada and is likely to continue as greenhouse gas emissions continue to alter weather patterns. The northern range limit and expansion of trees has been frequently studied but there has been little research concerning the effects of climate change on the fluctuations that will occur at the southern range margins of some of the same species. White spruce shelterbelts, an agroforestry product in southern Saskatchewan, represent a unique opportunity that offers significant insight into the future physiological stresses on the boreal forest in central and northern Saskatchewan. A regional pattern of radial growth for white spruce in both shelterbelts and natural forests throughout Saskatchewan was constructed using dendrochronological techniques. Thirty chronologies were established ranging from 36 to 188 years old and it was found that mean sensitivity had a significant relationship with latitude and longitude ($p < 0.0001$). Using eigenvector analysis it was found that white spruce growth variance is associated with June temperature, spring precipitation, and changes in soil characteristics.

Using mean sensitivity as a measure of physiological stress on white spruce, two implications can be interpreted. First, results of past growth taken in combination with future climate predictions of increasing surface temperature and changes in precipitation patterns suggest a higher frequency of white spruce mortality events in southern Saskatchewan. And second, a future contraction of the optimum climate-envelope of white spruce in the southern boreal forest range margins will likely occur.

SS12 T4.4

Evaluating the impact of a wolf conservation project on attitudes toward wolves in Slovenia

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In European Union, the LIFE programme aims to support projects that implement the Birds and Habitats Directives, EU's cornerstone policies of nature conservation. At the same time, the signatory countries of the Aarhus convention are obliged to include the public in the decision making process regarding the environment. Apart from this normative perspective of public involvement as a democratic right in environmental matters, the pragmatic view focuses on the effectiveness of involvement in the shift to a more environmentally responsible society.

Thus the SloWolf project, with the main goal of ensuring the long term conservation of wolves, represents an opportunity to test the effectiveness of public involvement for improved wolf conservation in Slovenia, where the social acceptance represents the main limiting factor. The effectiveness was tested through quantitatively measuring attitude change toward wolves and wolf management during the time of the project. In-depth interviews with participants and document analysis of the main documents, e.g. the wolf population management plan, suggest that focusing on the quality, rather than only on outcomes of the participation process is essential for a good perception of participation and thus improved wolf conservation.

SS40 W2.3

The Changing Geographies of Playgrounds in Toronto, 1913 and 2012

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Playgrounds are **the** dedicated public spaces for children in contemporary Western cities, and this paper explores two moments in their history in Toronto. Comparing a series of playground photographs from the early twentieth century with their current configurations, the author discusses how children are present and absent from public space in cities and what this means for their role in public life. The research examines the relationship between children and the city from the early days of the Playground Movement to the contemporary moment nearly a hundred years later. The shift from playgrounds opening with great fanfare and positive media coverage to the current crisis of playgrounds as dangerous places highlights broader anxieties about children and society. Considering these sites as places allows us to begin to understand how layers of meaning are formed, and gauge the spatial impacts of one of the most influential aspects of the Child Saving Movement on the city.

SS63 T1.5

A Dendrochronological Investigation of Historic Spruce Budworm Cycles in Balsam Fir (*Abies balsamea* (L.) Mill) in Newfoundland

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Knowledge pertaining to the cyclic outbreak patterns of spruce budworm (*Choristoneura fumiferana* (Clem.) (Lepidoptera: Tortricidae)) in the boreal forest of Newfoundland is limited to direct observations since 1945. The recognition of radial-tree growth suppression during insect infestations facilitates the use of tree-ring analysis to reconstruct outbreak history over the past century and a half. This study will analyze the ring-width patterns of tree cores from 24 sites located in a grid pattern of intersection points of latitude and longitude across the island. Preliminary analysis will focus on balsam fir (*Abies balsamea* (L.) Mill) but the two main host species will eventually be included black spruce (*Picea mariana* (Mill) B.S.P.) and white spruce (*Picea glauca* (Moench) Voss). Typically, a non-host species is used to filter out other factors that may contribute to radial-growth suppression (e.g. climate). Unfortunately, there is no non-host species in Newfoundland's boreal forest and hence a modified method developed by Nishimura and Laroque will be employed that uses a 25-year running mean of the host tree-ring record in lieu of a non-host.

Poster Session B

Tourism as a complication and driver for waste management: interacting panarchies

Rhianna Nagel, Jutta Gutberlet

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Rural communities that depend on tourism for their economic well being, such as Valizas, Uruguay, rely on their social and ecological integrity to attract tourists to their communities. Peak tourist seasons and associated excessive consumption patterns can saturate the waste management systems of these tourist destinations. Ineffective waste management in these communities can lead to the degradation of ecological and social integrity, thereby reducing tourist visitation rates. In response to this, tourism can be a driver to increase waste management effectiveness. This paper overviews a study that analyzed the waste management system in Valizas, Uruguay within a social-ecological resilience framework to understand system effectiveness, to determine feasible improvements and to identify research approaches that are most appropriate in this social-ecological context. Resilience and its associated adaptive cycles were used to identify waste and tourism system components, dynamics and interconnectedness. A case study was implemented in Valizas, Uruguay through Participatory Action Research and Grounded Theory to clarify these system attributes by way of iterative processes of research and action. Interviews, surveys, focus groups and community maps were applied with diverse stakeholders to collaboratively develop and implement two waste management improvement strategies. Peak periods of waste production were found to saturate the local waste management system and weaken local social and ecological integrity. However, the economic benefit of the tourist season was a key driver for both grassroots and institutional waste management system improvement efforts. While these efforts focused on the tourist season, the benefits remain with the community throughout the year.

SS28 M4.7

Untangling complexity: analyzing waste management in tourism dependent communities

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Management of peak periods of waste production in tourist destinations that experience peak visitation periods, such as Valizas, Uruguay, is a complex social-ecological problem. This paper overviews a study that analyzed the waste management system in Valizas, Uruguay within a social-ecological resilience framework to understand the system's effectiveness, to determine feasible improvements and to identify research approaches that are most appropriate in this socio-ecological context. Resilience and its associated adaptive cycles were used to identify waste and tourism system components, dynamics and interconnectedness. A case study was implemented through Participatory Action Research (PAR) and Grounded Theory (GT) to clarify these system attributes by way of iterative processes of research and action. Interviews, surveys, focus groups and community maps were applied with diverse stakeholders to collaboratively develop and implement two waste management improvement strategies. Transparency, organization, waste diversion, infrastructure, and education were considered key determinants of waste system effectiveness. The inclusion of multiple factors in the analysis of this waste system and the generation of understanding through close contact and interaction were complicated and time-consuming. However, this approach allowed the researcher to develop trust; tease out complex components, processes, structures, and feedbacks; couple theory with practice; prioritize genuine understanding and community values; and contribute to waste system resilience. PAR methods, in particular, contributed to the resilience of the waste management system in Valizas, Uruguay by enhancing the potential and connectedness of the system - via improved social capital and mobilization.

SS37 R3.2

Experimenting with Place-Based Teaching across Disciplines

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The Curriculum of Place group at Thompson Rivers University is exploring the effectiveness of place-based teaching by applying a common assignment across multiple disciplines and reviewing its effectiveness. Our theme of "place" reflects our observation that exploring course concepts through place-based assignments can increase student engagement, giving meaning to the places where we teach and learn, grounding the abstract content of the curriculum in everyday experience, and allowing personal experience to contribute original observations and insights. In the 2012 - 2013 academic year, group members collaborated on the development of "postcard of place" assignments adapted for several courses. Assignments were designed to investigate how a place-based explanation of a core concept could meet course learning objectives while connecting international and domestic students with localised specifics of place. This spring, we began interview students as part of the assessment of the process. This presentation examines this research in progress, exploring the complexities of 1) risking a new teaching and evaluation method, 2) collaborating in a cross-disciplinary environment on the theme of place-based teaching, and 3) formally evaluating the assignment's effectiveness while navigating the ethics of privacy, ownership, and the student-instructor-researcher relationship.

SS54 T4.8

Irish pubs and dream cafes: Tourism, tradition and modernity in Nepal's Khumbu (Everest) region

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It is common practice in the tourism literature to treat “tradition” and “modernity” as binary opposites, which hides the complex discourses people use in constructing their identities (Sutton 1994). Many scholars have argued that tradition and modernity are negotiated concepts rather than fixed points for cultural references (Appadurai 1996). In the Khumbu region, the Sherpa host community navigates through a complex mosaic of imageries and tourist symbols represented in the media and travellers’ accounts to form their own perspectives of desirable tourist services, trade symbols, representation of self and group identities, and mutually beneficial relationship with the guests. Host engagement in tourist services and interactions with tourists simultaneously represent inherent conflicts and compromises in the daily routine of the host. Tourism space in Everest increasingly looks cosmopolitan, with its share of pubs, cafes, and specialized shops. However, the bar and café owners are also engaged in activities, daily rituals and routines that are best characterized as representing traditions. On any given day during tourist seasons, Sherpa hosts negotiate transitions from tradition to modernity and back again. The notion that tourism is, or, can be, a greater force for cultural change in traditional territories is thus questionable when access to modern means of communication, world media, and postmodern vernacular and images are omnipresent. A Khumbu Sherpa’s successful negotiation between tradition and modernity may be best conceptualized as their attempt to gain a higher level of cultural competence rather than as fixed points of reference of impacts on local culture.

SS62 R3.4

Renewing “That Which Was Almost Forgotten or Lost”: The Implications of Old Ethnologies for Modern TEK Among Canada’s Pacific Coast “Salmon Peoples”

Dianne Newell

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The concept of Traditional Ecological Knowledge has attracted attention globally since coming into widespread use in the 1980s. In a nutshell, “TEK” is “a knowledge-practice-belief complex.” TEK is transmitted orally; is environment-specific, so about local observational knowledge; and is found typically among populations that are non-industrial (or less technologically advanced), and usually indigenous.

A sense of the unrealized societal and commercial potential of TEK is what fuels global interest in the subject today. Collecting and accessing TEK could contribute positively to everything from policy development around climate change to the achievement of sustainable resource development practices. Concern with the ethos of sustainability and interest in accessing the environmental data residing in traditional communities permeate discussions amongst researchers about the value of TEK to the modern world. This paper turns to a critical issue for Northwest Coast fisheries: that of the value of the TEK that NWC First Nations are able to bring to the table to promote sustainable fisheries, given that most indigenous communities worldwide have experienced the effects of industrialization for a century or more. Thus, in reality, most such communities have suffered ruptures in their abilities to participate

not only in the intergenerational, oral transmission of TEK, but also in its practice. The litany of possible major “ruptures” is all too familiar. This consideration of the means by which such knowledge of fisheries ecology on the Northwest Coast could possibly have survived down through the generations during recent centuries is the core issue of the present paper.

SS03 T3.3

Changing Places; Changing Homes: Comparative study on the perceptions of home from the South Asian and African in-migrants and the Hong Kong Chinese out-migrants in a Hong Kong Village

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In an indigenous village which used to be exclusive and a community so tightly-knitted, there exists a mixed group of ethnic minorities who have settled in the village. While this group moved into this culturally distinct community and trying to adjust to this new environment, the original inhabitants have already had a long history of moving out to other countries for better job opportunities and hopefully, a better life.

The study explores how the South Asians and African in-migrants as well as the Hong Kong indigenous out-migrants are looking at the idea of home. Through reference to 30 months fieldwork in a village and interviews with the villagers as well as the South Asians and the Africans, I attempt to understand their “definition” of the word “home”. Is it strictly “physical” or “emotional”? I would like to explore what constitutes their definition of home in the process of establishing their concept of “home” and how this is related to the [re]definition of their identity. I argue that in the case of both the walled villagers and the ethnic groups, the construction of home is a subjective, emotional attachment and a sense of belongings intersected with their identity. The definition of home to the migrants could go beyond the definition citizenship and physical territorialization. Identity, as an important element in the construction of “home” for these migrants, is more a subjective emotional feeling of attachment, of belongings rather than a physical, explicable, rational, man-made definition of nation-state, citizenship or ethnicity.

SS32 M1.7

The Big Fix: Can Ontario's transit boom create good green jobs for all in an era of austerity?

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The current Ontario government's record investment in public transportation amidst a renewed climate of austerity raises important opportunities and challenges for organized labour, community groups and environmentalists. The Ontario government has already committed \$11.5 billion towards implementing “The Big Move”—a plan to build over 1,200km of rapid transit throughout the Greater Toronto and Hamilton Areas over the next 25 years. Although sold to the public through promises of reduced commute times, reduced vehicle emissions and job creation, The Big Move is just as much about improving the circulation of capital in light of the recent global recession and Toronto's mounting infrastructure deficit that is fettering business. Questions of who, in an era of austerity, will pay for the final \$50 billion price tag of The Big Move and who will benefit the most from new routes and transit-

related jobs loom heavy. This paper examines The Big Move as an attempt by capital and the state to find a “socio-ecological fix” that can reconcile the deepening contradictions of unemployment, worsening environmental degradation and social costs associated with transportation, public debt and profits. The author draws on action-based fieldwork conducted with labour, community and environmental groups to understand how these contradictions are shaping, and being shaped through, social movement alliance-forming in Toronto. The paper focuses on the struggle by labour-community alliances to try to turn “green jobs” associated with new transit projects into good-paying union jobs that can lift youth, women and racialized workers out of poverty.

SS21 R1.5

Learning through failure: Ambition and reality in emancipatory community-based research

James Nugent

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This paper examines the uncomfortable disjuncture between laudable theories and actual practices of community-based action research. I draw on my PhD fieldwork, carried out in one of Toronto's poorest neighbourhoods, to examine how my positionality and various logistical and political challenges frustrated the fulfilment of an explicitly emancipatory research agenda. One goal of the research was to try to create good-paying, equitable green job opportunities in the community through building a broad-based social movement alliance across divergent actors including organized labour, environmentalists, largely white homeowner associations, racialized and impoverished residents, single mothers and ex-convicts. I argue that the frustrations and failures associated with bringing about this alliance-forming nevertheless offers valuable insights into the complexities of class, race, gender and ecology. The paper also calls into focus several other dilemmas often faced by community-based researchers but not always discussed explicitly: What should a social justice-minded action-based researcher do when confronted with sexism and racism during interviews and early stages of ethnographic research? What should take priority when professional or academic concerns of the researcher clash with progressive politics and goals of emancipatory research? When might it be strategically important for a community-based researcher to “bite their tongue”? Finally, the paper ends with some reflections on employing paid community researchers to carry out research activities in the community.

SS43 M1.1

Un-Natural Categories: Re-conceptualizing environmental migration

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In the academic study of the environment-migration nexus, much of the literature takes legal or theoretical approaches to investigating the phenomenon of environmental migration generally, and defining and categorizing the figure of the “environmental refugee” more specifically. While such work has assisted in conceptualizing legal frameworks for protection, predicting future scenarios, and attempting to differentiate forced from voluntary migration, very little empirical research has contributed to these debates. The aim of this paper is to examine issues of categorization through an empirical lens by drawing from preliminary findings from field research in Toronto. Specifically, this presentation will address connections between economic, political and environmental drivers of

migration as they are perceived by Canadian newcomers. Furthermore, it will link migrant demographics and migratory strategies to existing Canadian immigration categories in order to investigate the connections between class, gender, age, and country of origin, and different migratory drivers and pathways. This work aims to expand current academic, political and societal conceptualizations of environmental migration in a way that is more attentive to issues of intersectionality and personal perception.

SS13 R3.6

A Salt Marsh Restoration on the Bay of Fundy, NB: an Adaptation to Sea Level Rise and Climate Change

Jeff Ollerhead

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With rising relative sea level and climate change, restoring salt marsh as part of a dyke abandonment plan may be desirable. A restoration project to protect a new dyke on the Bay of Fundy was started in 2010. Three openings were cut in an old dyke to flood agricultural land between the old dyke and a new dyke. The site has now been mapped using LiDAR, sediment deposition measured, water levels over multiple tide cycles measured, and flows through 2 of the openings recorded.

The project is largely proceeding as planned. Spring tides are filling the area with sediment (mean ~ 9 cm/a/m²) and the cells are draining slowly. Salt marsh vegetation is propagating across the area. However, LiDAR analysis shows that erosion continues along the seaward edge of both the old dyke and nearby marshes. At 2 of 3 openings, the dyke beside the openings has eroded, compromising them, but there is no evidence that flow through the openings is the cause. The project is now in a race against time - in order to protect the new dyke, a healthy marsh needs to develop in front of it but the old dyke may fail before this happens.

SS42 T3.7

Current resource-development trends and local employment and economic impacts: contrasting trends in policies and strategies?

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Resource-based industries, and particularly projects situated in remote regions of Canada, typically rely on workers from diverse regions of the country and abroad to satisfy their labour requirements. This is especially the case during the construction phase of large projects. In the absence of qualified local workers, resource-sector employers often recruit workers from economically disadvantaged regions of Canada and from abroad - with immigration provisions for temporary foreign workers facilitating the recruitment of foreign workers in cases where sufficient numbers of local workers are not available. Resource development projects in western Canada have reportedly been recruiting increasing numbers of workers from other jurisdictions within Canada and internationally. Elsewhere, efforts are being made to maximize benefits from resource-development projects for local communities or provincial economies. Aboriginal communities and some jurisdictions in Canada have taken steps which aim to maximize local economic benefits and employment generated by resource-development projects -

typically through the use of benefits agreements with project developers. This paper will discuss major current resource-development trends with respect to local employment and economic impacts, with particular consideration given to the use of impact-benefit agreements (IBAs) in Aboriginal communities and benefits agreements for projects in Newfoundland and Labrador - and contrast with jurisdictions typically experiencing labour shortages. It will be argued that the contrasting labour market conditions in different regions of Canada are resulting in considerably different policies and strategies vis-à-vis resource-development projects and their effects on local and provincial labour markets.

SS11 M1.2

Decadal scale morphological response on a supply-limited mixed sediment beach, Point White, Bainbridge Island

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Direct measurements and observations of beach morphological response have been obtained from 2000 to present on a mixed sand and gravel (MSG) beach at Bainbridge Island, Puget Sound, WA. The beach is backed by bulkheads and seawall structures along its entire length in the study area (approximately 1 km) and has been exposed to tidal currents, wind waves, and vessel-generated waves from both passenger-only fast ferries (POFF) and conventional vessels. Integrated process modeling and direct measurements of sediment transport and beach response have been undertaken to quantify the relative role of forcing mechanisms and determine the corresponding time scales of sediment transport, morphological response, and scour. The observations of beach response over 14 years reveal distinct differences in transport regime and morphological response between episodes of storm and calm conditions and between POFF and non-POFF vessel operations. A downdrift fining and updrift thinning of sediment cover is consistent with the observation that the MSG beach at Point White is supply limited and undergoing long term passive erosion as a result of bulkhead construction. Sediment transport is predominately alongshore with wavelike movements of gravel movement forced by intervals of wind wave action. Episodes of offshore transport and beach re-shaping have occurred during previous POFF operations and storms.

SS42 W1.6

Coastal Climate Change in Canada's North: A Systematic Review

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Over the last two decades, climate change impacts have been pronounced in the Arctic and have received intensive, international scholarly attention. Close on the heels of *The State of the Arctic Coast 2010*, an international assessment edited by D.L. Forbes, the **Canadian Coastal Climate Change Assessment** (C4A) was launched by the Climate Change Impacts and Adaptation Division of Natural Resources Canada. The main goal of C4A is to conduct a national-scale scientific assessment of climate change sensitivity, risks and adaptation along Canada's marine coasts. In addition to summarizing how the changing climate impacts coastal communities, infrastructure, and ecosystems, C4A aims to consolidate and synthesize information and data relevant to adaptation decision-making for Canada's

coastal areas.

Recent Canadian Arctic assessments (e.g. Ford and Pearce 2010, Bolton et al. 2011) have adopted a semi-automated method of parsing large numbers of references to support gap analyses and inform future research planning. This presentation reports preliminary findings of a similar systematic review of the literature that will serve as background for the Northern Coasts chapter in C4A. Diverse climate change peer-reviewed and grey literature will be examined, including traditional and practitioner knowledge along with physical, social and life science content.

SS42 T4.7

Healthy suburbs then and now: health, health consumption and the idea of “Great Places”

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Metro Toronto was formed through a series of annexations and amalgamations spanning from the late 19th to the late 20th centuries. Yet not all of the “villages” that exist within the city today necessarily have a history that predates annexation or incorporation of their lands into the city. For example, the environs now popularly referred to as “Roncesvalles village,” are comprised of sections of the historic villages of Brockton and Parkdale. Whereas the Village of Parkdale was once branded as a “healthy” place for middle class home ownership, the neighbourhood of South Parkdale has more recently been portrayed as a “social services ghetto”. By contrast, Roncesvalles village is enjoying a less ambiguous 21st century reputation as one of “Canada’s Great Places”. The objective this paper is twofold: first, drawing upon Goonewardena’s (2005) assertion that space is ideological, the paper traces the emergence of the idea of Roncesvalles as an “urban village”; second, the research documents and analyzes the various forms of health related enterprises found in these environs. These findings are situated in the context of broader and interconnected trends towards a) income polarization in Toronto and b) the self-enterprise ethos associated with the dispersion of neoliberal values. Methodologically, the paper brings together different sites of analysis, from academic texts, media portrayals and ethnographic observation. Particular attention is paid to the tensions between “health” as both a basic human need and as tool for understanding the ideology of “great places” – which also means that there must be “not-so-great” places.

SS22 R3.1

Legal geographies of waste in Canadian cities

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Are fregans thieves? Are the police allowed to sort through residential trash bins stored on private property? As the guardians of public health in cities, what rights do municipal authorities have to access and manage waste products? In this presentation, we investigate these and other questions through an analysis of waste-related by-laws and legal case studies from four Canadian cities (St. John's, Guelph, Toronto, and Vancouver). Jurisdiction (the spatially contingent authority of law) is a mutable construct, especially with respect to waste. Whether the land that temporarily harbours residential waste is considered public or private property has been contested in Canadian courts, as has the public or private

nature of the contents of the waste stream. It can therefore be surmised that the regulation of waste and wasting behaviours is meant to discipline the relationship between citizens and government (e.g. mitigating nuisance, facilitating service provision, making individuals more visible and legible in the eyes of the law, and controlling and capturing material flows). Space is used as a flexible and malleable legal medium in these interactions, and the material treatment of waste may invoke notions of constraint, freedom, citizenship, governance, etc. The physical manifestation of waste in cities is therefore both a potential economic resource (and thereby subject to contestable property rights) and a source of symbolic meaning (e.g. as anti-social behaviour, as evidence, as material link between citizen and service provider, etc.). By what means and to what ends are waste and its symbolic meanings regulated in city spaces?

SS37 R3.2

Initial findings from a climate change vulnerability assessment of Nova Scotia's coastal tourism industry on water resources

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Nova Scotia's South Shore is exposed to multiple economic and environmental stressors such as recent mill closures and low lobster prices, highlighting the need for enhancements in other economic sectors. Tourism is one area that has significant potential but has yet to be fully realized, particularly as tourism communities currently face a number of challenges including short summers. Climate change may present new opportunities such as extending the summer season, but also introduces new vulnerabilities such as sea level rise, greater frequency and severity of storms, attendant erosion and flooding, as well as various issues surrounding freshwater. This paper presents preliminary results from a community-based vulnerability assessment of the tourism industry in Queens, Shelburne and Lockeport, Nova Scotia with a particular emphasis on water resources. The research presented contributes to the first phase of the larger Partnership for Canada-Caribbean Climate Change Adaptation (ParCA) project, where future analysis will draw comparisons between Nova Scotia's South Shore region and other tourism-dependent sites in Canada and the Caribbean.

SS53 T4.6

Experiences of Northern Medical Program Graduates and Strategies for their Retention in Rural Communities

Joanna Paterson, Neil Hanlon

University of Northern British Columbia, Prince George, BC, Canada

Canada's persistent nationwide physician shortage is further complicated in remote, rural and northern areas because a large majority of Canadian physicians practice in densely populated urban centres, leaving many sparsely populated communities with inadequate access to doctors. This imbalance, termed "physician maldistribution", has been addressed in the medical education literature, with a focus on the recruitment of rural physicians and the development of predictors of retention. However, largely absent from the discussion is the impact of students' medical school experiences which may have an effect on their place-based decisions and the long-term sustainability of physicians in the North. Building on previous studies of physicians' preferences and practice locations, this research brings together the personal experiences of new rural physicians who may differ based on the location of their

upbringing and their level of experience, but share the underlying trait of having graduated from the University of British Columbia's Northern Medical Program (NMP). This research aims to provide a deeper and more thorough understanding of NMP graduates' experiences throughout their training and early careers in order to foster a connection to northern communities. Keeping in mind the overall goal of improving physician retention in underserved northern communities, the results of this research will support program administrators in making informed, meaningful decisions about how the NMP engages and teaches current and future medical students. This presentation will highlight the research methodology and associated data collection and analysis methods, as well as preliminary findings and connections links to the existing literature.

SS19 T2.1

Labour Geography and the post-colonial world: A study of autoworkers' strikes in India

Charvaak Pati

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The central premise of labour geography is the emphasis on labour's agency in the making of the economic geography of capitalism. Asserted here is the argument that labour is not simply a factor of production or a part of capital but active agent in the making and sometimes unmaking of the geography of capital. However, most of the analysis in this field has focussed its attention the experience of labour in the Anglo-Saxon world. If spatial politics and geography is to be taken seriously then it should include the politics of labour in post-colonial societies as well. The argument of my paper would be not just empirical inclusion of the experience of labour from post-colonial societies but also to raise questions that will emerge from such spatial inclusion. In this regard, I would focus my attention on the autoworkers' strikes of the last decade in the Gurgaon industrial region in India. I would specifically look at the self-activity of workers' movements, and also the role state plays in dealing with strikes to ensure the continued reproduction of capital outside of the point of production. At the end I will raise questions about the implications of labour strikes and the coercive role of the state in a post-colonial society for some of the theoretical premises of labour geography.

SS62 R1.4

Remote Sensing of Mountain Pine Beetle Forest Disturbance: Results from British Columbia and Perspectives for the Canadian Boreal Forest

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One of the most significant forest disturbances in recent years is the mountain pine beetle (MPB) outbreak in western Canada that has killed over half of the mature pine forest in British Columbia (BC) and is now damaging forests in Alberta. There is considerable concern regarding its spread through the vast boreal forest that extends across Canada to Newfoundland. Remote sensing provides important information on damage at these scales. Canopy reflectance modeling (CRM) provides an explicit physical-structural basis for obtaining biophysical structural information from remote sensing imagery. Using the BIOPHYS-MFM CRM, forest structure was derived from pre-outbreak and post-outbreak imagery at a study site in central BC. MPB structural change results were validated for post-outbreak

Landsat imagery against field measurements as ± 45 stems/pixel for stand density, $\pm 0.65\text{m}$ for crown radius, and $\pm 0.80\text{m}$ for tree height, from which change assessment estimates were derived against pre-outbreak image structural outputs. These methods and results will be presented together with perspectives on forest disturbance work in Alberta regarding MPB and other key disturbance metrics, with implications for broader use in other parts of Canada.

SS14 M3.4

Natural Capital and Productivity - Lessons from Canadian Industry

Laurel Pentelow Besco

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Economic measures such as GDP, GNP and productivity are widely used to report on national economic status and standard of living. There is, though, increasing recognition that these traditional economic measures are flawed. Specifically they generally fail to account both for the full value of natural capital, and for the costs of environmental damage. As a result, these economic measures are sending flawed signals to policy makers and therefore the assumptions being made about the quantity and quality of natural capital are inaccurate. This is particularly important in Canada, since Canadian industries are major users of natural capital, both on the input and output sides of production. This presentation provides several examples from Canadian industries of the differences in productivity estimates which could be reported when comparing a traditional calculation versus one adjusted to include the use of natural capital. Recommendations will be provided on how these results could be used at the industry, national and international level to help better understand the overall state of natural capital.

SS66 R3.3

The Influence of Natural Amenities on Suburban Growth in the Chicago Region, 2000 to 2010

Benjamin Peterson

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The purpose of this study is to develop a better understanding of the role of natural amenities in suburban growth. Using metropolitan Chicago from 2000 to 2010 as the study area, the impact of various natural amenities on patterns in population density, in relation to distance from the city center and transportation access, is examined using a stepwise regression procedure. The natural amenities used in this study include water features, scenic vistas, preserved natural areas, and enhanced natural areas, such as developed parks and golf courses. This study also compares changes in natural amenity influence from 2000 to 2010 in an effort to identify amenities gaining or declining in popularity. Finally, the study examines how the role of natural amenities in suburban growth varies across the metropolitan area by analyzing their impact separately on each side of the region.

Poster Session A

Measuring Arctic Human Development: Human Capital and Education

Andrey Petrov

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This paper presents preliminary results of the evaluation of the human development in the Arctic in respect to human capital and educational characteristics of Arctic populations. Education and, more broadly, human capital are the key components of human development. The report analyzes data from all Arctic jurisdictions and identifies current status, trends and geographic patterns of educational attainment, attendance and human capital. We pay particular attention to the gender, Aboriginal/non-Aboriginal and regional gaps and their dynamics since the last assessment (AHDR in 2004). Some the gaps appear to close, as for example, substantial gains in post-secondary education made by women. Others still persist. The report provides a comparative analysis of human capital and education characteristics among Arctic jurisdictions.

SS18 T2.4

The Abstraction of Red Chris Mine and the Diminishing Returns of Environmental Assessment

Jonathan Peyton

University of Manitoba, Winnipeg, MB, Canada

In January 2010, in the midst of heated debate around the Northwest Transmission Line, the Supreme Court ruled that the Department of Fisheries and Oceans had breached its assessment responsibilities by not conducting a 'comprehensive study' of Red Chris, a copper/gold tenure in northern BC. The Canadian Environmental Assessment Act requires that any metal mine producing over 3000 tonnes of ore per day undergo a comprehensive study including public consultation. Red Chris, with daily production estimates at 30,000 tonnes over 25 years, met the threshold. Yet because the DFO (and subsequently Red Chris) had defined the 'project' to exclude the actual mine and focused on singular elements of mine infrastructure, no comprehensive study was undertaken. The Canadian Environmental Assessment Agency accepted the redefinition and Red Chris was approved on those grounds in 2005. The Supreme Court decision closed the loophole and future assessment would adhere to the Canadian Environmental Assessment Act. However, the Supreme Court's ruling was not retroactive, so Red Chris' Environmental Assessment Certificate, along with the impoundment of Black Lake, remains valid. This conflict presaged the ongoing legislative debasement of the environmental assessment apparatus in Canada through the 'Omnibus' Bills of 2012. I consider the new articulations of environmental assessment in northern BC alongside the work of ENGOs, the lifeways of local Indigenous peoples, new 'development' infrastructures, and new itinerant labour geographies to argue that dispossession and abstraction are marching in lockstep within contemporary state-mediated human-environment interactions in Canada.

SS11 M3.2

Dome Petroleum, Ambitious LNG Economies and the Afterlives of "Aggressive" Pipeline Development

Jonathan Peyton

University of Manitoba, Winnipeg, MB, Canada

In September 2011, BC Premier Christy Clark pledged an “aggressive approach” to liquid natural gas (LNG) plant and pipeline development on the province’s central coast. Cloaked by the fractious politics around Enbridge’s proposed Northern Gateway pipeline to Kitimat, the Clark government has quietly promoted five LNG pipelines and terminals between Kitimat and Prince Rupert. In February 2013, Clark announced a plan to auction land intended for another LNG cluster at Grassy Point, north of Prince Rupert adjacent to the community of Port Simpson, or Lax Kw’alaams to the Coastal Tsimshian Nation. Prospective LNG exports to China are at the centre of the government’s claims that the rapid escalation of the gas industry could transform the provincial economy. Others express ambivalence around increased emissions, the skittish nature of natural gas markets, problems of overproduction and the uneasy relations between gas companies and Indigenous peoples and the cozy relations between energy companies and the state. I aim to place the current movements of LNG, its infrastructures and its constituents alongside a failed attempt to move LNG through the same location 30 years ago. Dome Petroleum sought to built an LNG facility in the early 1980s at Grassy Point to export gas harvested in the Beaufort Sea under contract to Japan. I underwrite the current narrative around the inevitability of LNG plant and pipeline construction with the more complex lineage of negotiation, contestation and compromise around environmental impact assessment and infrastructure megaproject development.

SS10 M1.3

Food, Culture and Transport: An unlikely comparison of southern Ontario and Newfoundland

Lynne Phillips

Memorial University, St. John’s, NL, Canada

While undertaking research in Windsor, ON, I became interested in the discursive role of the automobile in how people think about their food, particularly “local” food, and how this has impacted the dynamics of food activism. In this paper I begin a preliminary comparison with Newfoundland, looking more broadly at how modes of transportation shape access to and ideas about “good food.” I explore how notions of modernity (versus customary practices and place) as well as class, ethnicity and gender figure in this question.

SS02 M3.8

On Their Own: Why Youth Risk Homelessness in the North

Jackie Plant

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Focused in Northern British Columbia, this research explores the intimate connection between youth homelessness in the north and child welfare policies. Half of the young people who are homeless have come from government care. There is also a large number of youth who are homeless due to the need to flee from an abusive home. This suggests that the very system meant to protect children and youth from harm is, instead, being implemented in such a way that youth are not being protected from

harmful situations. Using a blend of photovoice and photo-elicited interviews and focus groups, this research retrospectively explores the path to homelessness of eight young adults aged 19 - 24 living in Prince George. Participants produce photographs, find common themes amongst their experiences and create a set of recommendations to service providers and policy makers in Northern British Columbia. This research uses Community Based Participatory Research Methodology to engage the participants both in the process of the research but also in sharing their experiences in a public exhibit displaying their photographs.

SS66 R1.3

Sedimentation and Hydrodynamics in a Bay of Fundy Tidal Creek and Salt Marsh System

Emma Poirier¹, Danika van Proosdij¹, Tim Milligan²

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Hydrodynamics and sedimentation were measured in a macrotidal creek and salt marsh system in the Bay of Fundy over different seasonal conditions. The initiative of this research is to characterize the far field effects of energy extraction on intertidal zones. Sediment deposition, suspended sediment concentration and velocity were measured and collected in a transect from the thalweg to the marsh surface. On the marsh, velocities were lowest on the marsh bank and were highest on the marsh edge although there were substantial differences between tides at the marsh edge. While velocities showed tidal symmetry on the marsh surface and edge, flood dominance existed on the bank. There was a significant difference in both deposition and suspended sediment concentration between the creek and the marsh, with decreasing sediment away from the creek. Deposition and concentration varied seasonally, with the most sediment present in both forms during November. Sediment deposition in the creek increased during heavy rain events while deposition on the marsh surface and marsh edge was not as affected but was higher during the two colder deployments. Along with feeding a sediment transport model in a companion project, this data strengthens relationships between sediment deposition and the factors influencing it.

SS42 T3.7

Public Pumping: The Lactation Support Program at Virginia Tech

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The Lactation Support Program at Virginia Tech can be read as a unique success in a long struggle to expand the possibilities for women as workers. This research involves a historical reflection on how the program emerged in 1999 and a contemporary analysis of use through in-depth interviews with women pumping on campus. These spaces, designed to support breastfeeding, working mothers generally, and demonstrate the university's progressive goals, contribute to a broader conversation about gendered understandings of space and what it means to be a worker. While the spaces may meet the specific needs of some women, strategies across campus are disparate, often due to conversational and informational gaps between the university, individual mothers, coworkers, and supervisors. Further, the porous nature of pumping (i.e. entering spaces, sanitation, milk storage, etc.) increases its visibility and opportunity for interaction. Without an attempt to structure a conversation about the rationale for

lactation spaces, it is possible for women to become more exposed, not as a private group with public interests, but as individual women. This research does not deny the symbolic value that lactation spaces have for breastfeeding mothers, rather it aims to demonstrate how the construction of spaces alone cannot replace the power of advocacy and the value of a continued conversation about what it means to be an embodied worker. The political process that led to the production of lactation spaces does not end with their construction and to assume this, robs these spaces of their true progressive potential.

SS66 R4.3

Restructuration métropolitaine à Montréal entre 1996 et 2006: l'évolution des liens entre le lieu de résidence et le lieu d'emploi

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L'objectif est de comprendre comment la région métropolitaine de Montréal qui a connu un déclin de son économie, puis une reprise de celle-ci s'est restructurée. Pour ce faire, le navettage, déplacement entre le domicile et le travail, est analysé pour la décennie 1996-2006, période de reprise économique à Montréal. La géographie sociale étant plus volatile que la géographie économique dans une période de 10 ans, on veut tenter de comprendre si les attributs socio-résidentiels de l'environnement des travailleurs affectent les comportements de navettage de ceux-ci.

Des statistiques univariées sont d'abord utilisées pour décrire l'évolution des comportements des travailleurs entre 1998 et 2008 à partir des milieux résidentiels et vers les pôles d'emploi de la région métropolitaine. Les distances de déplacements et les choix de mode de transport sont ensuite modélisés pour identifier si les milieux résidentiels jouent un rôle dans les distances de déplacement et les choix de mode de transport.

Les résultats démontrent que les milieux résidentiels jouent un rôle explicatif dans les comportements de navettage a priori, mais qu'une fois certaines variables de contrôle ajoutées, l'apport de l'environnement socio-résidentiel ne joue que très peu dans l'explication des distances de déplacement et des choix de mode transport.

SS63 T1.5

The impact of long-term fisheries closures on youth in Newfoundland coastal communities

Nicole Power

Memorial University, St. John's, NL, Canada

Fisheries closures, industry downsizing and outmigration, especially of youth present major challenges to the survival of fisheries communities in Newfoundland. This presentation examines the impacts of long-term fishery closures on young people's engagement in and understandings of fisheries work and considers some of the implications for community and fisheries sustainability. This research was part of the Community-University Research for Recovery Alliance that aimed to develop strategies to foster the sustainability of fisheries and fisheries communities. Drawing on findings from focus groups and a photovoice project carried out with young people living in communities on the west coast of Newfoundland, the author argues that fisheries restructuring has severely limited the opportunities for

young people to engage in fisheries-related work and has shaped how young people view fisheries, their communities and their options. The author concludes that it is important to consider youth in discussions of fisheries sustainability not only because they are potentially the next generation of fisheries workers but because they are integral in ongoing intergenerational relations that are necessary for community continuity.

SS03 T2.3

Employment-related geographical mobility (E-RGM) in the Atlantic Canadian crab and shrimp fisheries

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This paper explores the relationship between social-ecological restructuring and employment-related geographical mobility (E-RGM) in Atlantic Canadian fisheries since the early 1990s. E-RGM includes commutes to and from work which can vary across the spectrum from working at home to working internationally as well as, mobility within work including between transient workplaces and in mobile workplaces. Fisheries take place in mobile workplaces and are increasingly carried out by workers who commute extended distances to join their vessel. The researchers draw on findings from surveys, interviews, focus groups and boat tours carried out with harvesters in two separate research projects in the Newfoundland and Labrador snow crab and northern shrimp fisheries. The researchers found that in response to social-ecological restructuring associated with the collapse of groundfish stocks in the 1990s and related fisheries closures, fishing effort shifted towards crab and shrimp in the small and larger scale fisheries. Related changes in the location of fisheries, fishery dynamics, technologies and management contributed to the development of new E-RGM patterns in these fisheries. A comparison of these two fisheries suggests that while there are important similarities in E-RGM between them, there are also important differences that reflect the dynamic intersection of regulatory, technological, industrial, economic, and environmental contexts.

SS41 M1.5

At home abroad? Student mobilities between Canada and the Global South

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The concepts of home and mobility are argued to be mutually constitutive. Mobility constitutes people's ideas of home, and home influences people's experience of mobility. People's identity and sense of self are also intimately tied to notions of 'home'. Ralph and Staeheli (2011) have noted that experiences of 'home' will invariably differ among different types of migrants. There is a need for research on home and mobility to consider the different contexts of mobility. Much of the literature on home and mobility has focused on the experience of tourist, refugees, labour migrants, and global nomads. However, the experience of international students has been largely neglected within geographies of home. How then does international mobility influence international students' sense of home and identity? This paper will discuss preliminary findings from my research project on the experience of Canadian students in the Global South. My study considers how mobility and place influence student's sense of home and identity. Empirical preliminary findings from my research project reflect the current view of home within

the literature as a complex and multi-definitional notion. The findings also suggest that food and social networks are associated with feelings of 'home'. This paper will also suggest ways forward for research on student mobility and geographies of home.

SS32 M1.7

Segmented Assimilation of the Second Generation: The Role of Local Social Capital

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The socio-economic status of the second generation in Canada is highly segmented with some enjoying economic success and others experiencing high unemployment and underemployment and low wages. Recognizing that many people learn about job opportunities and are referred to job openings through their social networks, we relate the employment outcomes for young adults to the composition of their social networks and the information sources consulted in their job searches. Drawing on two cycles of the General Social Survey (17 and 22), the analysis describes the degree to which young second-generation adults rely on family members, co-ethnics, and neighbours to find employment and their job characteristics. Analysis of variance compares the social networks and information sources among ethno-racial groups for immigrants, the children of immigrants, and third generation Canadian-born. All generations rely on friends and relatives, many of whom live nearby, to get their first jobs, but the second generation is more likely to use social ties beyond their ethnic groups and neighbourhoods as they acquire more experience. The first and second generation rely on neighbours for information about jobs no more than Canadian-born young adults who are third or more generation. Our findings suggest that neighbourhood effects operate mainly through reliance on co-ethnics and they may or may not live nearby. Gender differences in job characteristics also highlight the need for more research about the interactions between generational status and gender in the labour market.

SS63 T2.5

The Boundaries of Indigeneity: Labrador Inuit and Innu examples

Andrea Procter, Carolina Tytelman

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The recent negotiation of Aboriginal land claim agreements in Labrador has highlighted the connections between territory and indigeneity that are at the root of modern attempts at restitution and reconciliation. Land claims are, after all, framed as claims for land. But does the recognition of indigeneity through the acknowledgement of Aboriginal lands really resolve historical injustices in the current neoliberal environment? Is the connection so straightforward? The relationship between territory and indigeneity is often taken for granted, but, as this paper argues, it is actually a historically situated dynamic that has developed within specific historical and colonial contexts. Using Inuit and Innu experiences as examples, we illustrate how ideas about territory, boundaries, and indigeneity have developed in Labrador, and how they have come to play a central role in both the recognition of Aboriginal rights and the continued marginalization and dispossession of Aboriginal people in the region.

SS60 T2.6

Investigating the influence of climate on intra-annual *Pinus banksiana* radial growth in Yellowknife, Northwest Territories, Canada

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Dendroclimatic analyses of climate-growth relations are valuable in understanding the responses of boreal forest tree species to climate variability. Jack pine (*Pinus banksiana* Lamb.) is a widely distributed conifer species in the northern boreal forest, making it ideal for research involving regional climate analysis. Jack pine samples were collected from 12 sites near Yellowknife, Northwest Territories and were used to develop earlywood, latewood and total ring-width chronologies spanning the period from 1900-2005. Analyses of annual ring width are often used to evaluate the relationship between climate and tree growth, however, separating the annual ring into its component earlywood and latewood widths allows for detailed intra-annual analysis of this relationship. Each chronology was statistically compared to local temperature, precipitation, and the Palmer Drought Severity Index (PDSI) to determine the most significant climate parameters associated with the formation of each growth component. Total annual ring-width correlated most significantly with June and cumulative June-July precipitation. Similarly, all earlywood chronologies were positively correlated with June precipitation, though 75% exhibited negative correlations with previous August temperatures. Latewood chronologies were most strongly correlated with combined June-July precipitation, followed by July precipitation. Results of the correlation analysis indicate that precipitation, and thus moisture, may be the limiting factor for tree growth on similar sites in this region as temperature and PDSI were more weakly correlated with growth than precipitation for all chronologies at all sites. These results demonstrate that analysis of the earlywood and latewood components of annual tree rings allows for detailed inferences concerning climate trends.

SS12 T3.4

Cross-Border Issues in Geography Jobs: Proving worth in a tough economy

Richard Quodomine

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Over the past 5 years, GIS has been growing, but many students have been struggling to join the market. Over the past two years, the author has been engaged in the EDGE Project with the Association of American Geographers. Additionally, he has had the opportunity to work with members of the Young Researchers Forum at the International Geographic Congress. The paper's premise is an academic and economic basis for competition for GIS jobs in the US and Canada, how competition will continue to shape GIS and how the GIS job market is now truly global.

SS01 R4.4

Lung Cancer and Exposure to Traffic-Related Air Pollution in Halifax, Canada: A Case-Control Study

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Lung cancer incidence rates in Nova Scotia are amongst the highest in Canada. Smoking is a major cause of lung cancer, and occupational exposures, radon, environmental tobacco smoke and lower socioeconomic status are established risk factors. We sought to evaluate whether the incidence of lung cancer in Nova Scotia was associated with exposure to urban air pollution.

Lung cancer cases (n=1,048) were abstracted from the NS Provincial Cancer Registry for the period from 2005-2009 and matched on age and sex with 3,810 controls. Postal codes were converted to geographic coordinates to facilitate linkage with air pollution exposures. Concentrations of air pollution (NO₂, PM_{2.5}, Toluene and Benzene) were measured at 48 sites in two seasons across urban Halifax in 2010-2011. Land use regression models were developed to predict pollution concentrations across Halifax, and predicted values were averaged across seasons. Unconditional logistic regression was used to evaluate lung cancer risk in relationship to air pollution, adjusting for a measure of community socioeconomic status.

An increased risk of lung cancer was found for volatile organic compounds (Benzene: 2.85, 95% CI 1.54–5.29; Toluene: 1.82, 95% CI 1.36–2.44) but not for NO₂ (0.98, 95%CI 0.95–1.01) or PM_{2.5} (0.84, 95%CI 0.68–1.04). Effect estimates for benzene and toluene remained statistically significant after controlling for socioeconomic status.

Evidence for an association was found between the incidence of lung cancer and exposure to ambient concentrations of benzene and toluene. Further research is needed to explore the sources of aromatic compounds found in concentrations hazardous to lung health.

SS50 T1.8

Social-Ecological Systems and Governance Insights for Enhancing Marine Protected Areas Effectiveness

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Increasing marine protected areas (MPAs) coverage has received special attention in the last decade as a solution to ameliorate marine degradation and protect biodiversity. This attention has been mainly driven by international agendas, such as through the Aichi Targets which pursue increasing the protection of the world's seas from 2% to 10% by 2020. But the urgency of scaling up MPAs brings concerns related to the effectiveness of MPAs for achieving conservation and sustainability goals, particularly in coastal areas. Links between social and ecological components in MPAs are recognized as critical for the performance of MPAs. In dealing with the concerns of scaling up MPAs, several authors have highlighted the importance of including social dimensions in MPA planning and management, and shared-governance has been suggested as a solution to conciliate social and ecological goals. However, shared-governance is not always an effective and viable solution due to context characteristics and lack of meaningful participation in decision-making and sharing responsibilities. This presentation explores the value of bringing together social-ecological system (SES) and environmental governance insights in

an analytical framework for understanding formal and informal governance interactions, linkages and feedbacks among SESs, and their role for pursuing MPA effectiveness.

SS29 M2.6

Measuring land use diversity in residential neighbourhoods: a case study from Les Minimes 'quartier', Toulouse, France

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The term "land use diversity" was described in previous research as representative of many physical attributes of neighbourhood form opposite to typical sprawl patterns. A diverse neighbourhood is one with a mixture of compatible land uses and housing types, containing an array of amenities in reasonable proximity to where people live. Using a GIS-based index model, traditional neighbourhoods were shown to be more diverse than their suburban counterparts for a pair of Canadian case studies. This presentation explores an application of this model to a neighbourhood ('quartier') in central Toulouse to serve as further calibration of what constitutes a desired end (i.e., more sustainable) condition with regards to neighbourhood diversity. The Les Minimes quartier outperforms a comparably-situated North American urban neighbourhood, with its having a higher residential density, greater integration of housing types, and a broader array of amenities within reasonable walking distances. Despite what some may consider negative characteristics, Les Minimes is a highly desired urban quartier (to live) juxtaposed against metropolitan Toulouse as an example of a suburbanizing European city. Some effort will be made to reconcile some of the cultural and economic forces supporting more diverse forms in this and similar neighbourhoods of Toulouse.

SS36 M4.1

Implications of climate change impacts in rural coastal communities with aging populations: Case studies from Nova Scotia

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Rural communities in Atlantic Canada are aging. The trend is often viewed negatively, but a realistic assessment suggests it is important to secure communities for aging populations. Nova Scotia communities are pursuing strategies (positive aging, aging in place, age-friendly communities) to be more appealing to and accommodating of senior residents. These strategies have challenges, however, that must be addressed. One emergent challenge is climate change impacts. These impacts may be especially problematic in rural coastal areas with their increasingly larger numbers of elderly citizens, long distances between populations and services, aging infrastructure, and infrastructure in vulnerable, flood prone locations. Our work investigates the relationship between coastal climate change impacts, aging rural populations, and the infrastructure and services of importance to the health and well-being of these populations. Using a case study approach, we combine population projections to 2026 and data on infrastructure and services distribution with sea level rise and storm surge flood extent scenarios in 2025 to reveal the emerging vulnerability to climate change impacts of seniors populations in coastal rural communities. We consider the community planning context and the aspirations of age-friendly community design. Our work illustrates the extent of impacts and the need to understand and address

climate change challenges in the context of the safety and security of aging rural populations.

SS19 T2.1

Trends of growing degree days in Gaspé Peninsula (Quebec) since 1970

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Growing degree days (GDD), calculated from mean air temperature, are a useful proxy of the productivity and reproductive potential of various plant species. Elevation and distance to large water bodies appear as the main geographic factors associated to the distribution of vegetation on the Gaspé Peninsula. The main objective of this study is to determine if statistically significant trends exist for the GDD in the Gaspésie between 1970 and 2010. Using a generic threshold 5°C, we calculate the number of GDD for ten meteorological stations distributed at different altitudes in the Gaspé Peninsula. The analysis of trends over a period of forty years (1970-2010) allowed us to identify different patterns depending on the stations. A more detailed analysis of the GDD, this time based on nearly 50 temperature sensors distributed throughout the Gaspé Peninsula, has identified more detailed patterns about the spatial changes in GDD but on a shorter period (2008-2010). The results give a picture of the spatial and temporal variations of GDD for the Gaspé Peninsula.

SS07 M1.4

Beyond Privatization: Negotiating water democracy in Cochabamba, Bolivia, after the Water War

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Over a decade has passed since the citizens of Cochabamba mobilized against the privatization of the municipal water company and ousted the private foreign enterprise from Bolivia. Commonly known as the Water War, these events sparked the struggle for the democratization of water, a movement that continues to face obstacles in reclaiming public water today. To tackle these challenges, social movements invoke at once the legal framework of the state-sanctioned “right to water” and a defence of communitarian traditions “usos y costumbres” to varying degrees of success. Further, the demands for social control of water in rural and urban contexts reflect the processes of either primitive accumulation or advanced capitalist development, concepts that are often conflated in debates on commodification. This paper seeks to clarify the distinction between these processes through an analysis of the Bolivian water sector since the Water War.

SS65 T4.5

Can indigenous perspectives and knowledge be included in UNESCO Biosphere Reserves in Canada?

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UNESCO biosphere reserves (BRs) are geographic areas and organizations dedicated to learning about and testing models of biodiversity conservation and sustainability. BRs support people to live in them; in

Canada, BRs are located where human populations are significant. When 'sustainable development' was introduced in 1995 as a key function, BRs were required to address explicitly objectives such as maintaining local livelihoods, including local people in decisions, and maintaining respect for the rights and responsibilities of local and indigenous peoples. Indeed, the international strategic plan instructs BRs to assure participatory management, especially for local and indigenous communities. UNESCO suggests that BRs understand and reconsider traditional culture, knowledge and knowhow to help identify sustainable lifestyles and take measures to strengthen cultural identity, values and practices. Yet, engagement of indigenous peoples and their knowledge in Canadian BRs has been limited. In this paper, I explore three strategies of BRs over the past 20 years: a) creating an indigenous-led BR; b) co-managing a BR; and c) collaborating with indigenous peoples. My exploration reveals fundamental dissonance between current BR practitioners and indigenous people requiring more strategic oversight, learning and initiative if Canadian BRs are to "assure participatory management" of both indigenous and non-indigenous peoples.

SS04 T2.2

Remote sensing of nearshore marine habitats using single beam echo sounders - 50 kHz or 200 kHz?

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The QTC VIEW 5 acoustic seabed classification system was used in the Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site to map benthic habitats. With 1700 km of coastline and a mandate to produce a zoning management plan for its coastal waters, nearshore mapping of marine habitat is currently a top science priority to inform park policy makers. In light of this need remote sensing has been identified as a potential mapping tool for efficient data collection. Acoustic data were obtained through two successive surveys, each conducted with one of the of the following echo sounder frequencies: 50 kHz or 200 kHz. Ground truth data consisted of towed underwater video recordings. The performance of each survey frequency for the identification of marine vegetated habitats was analyzed. The surveys were conducted in depths from 1-20m. The acoustic data obtained at two different were, individually, submitted to manual clustering and 6 and 10 classes were obtained for the 50 kHz and 200 kHz, respectively. Acoustic classes were then assigned to a habitat class using a subset of ground truth data. Accuracy assessment of the habitat maps was performed using a confusion matrix. Overall, the 200 kHz dataset was better at discerning vegetated habitat (eelgrass and red algae) with an overall accuracy of 60% compared to 40% for 50 kHz data. Neither dataset was able to discern intertidal vegetated habitats (*Ulva* sp. and *Fucus* sp.).

Poster Session B

Best Practices for Landscape Hazard Mapping in Nunatsiavut

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Landscape hazards and their changing incidence or severity under climate change are a ubiquitous feature of northern communities. Hazards include permafrost degradation, flooding, landslides, coastal erosion, and snow drifting, among others. Failure to recognize and account for these hazards can result in direct impacts on life and property, damage to buildings and critical infrastructure, and a host of other

effects with indirect impacts on municipal services and economic and social resilience. The first part of our presentation reviews climate sensitive environmental constraints on the subarctic built environment, and outlines current approaches to mapping and assessment of landscape hazards. Key challenges such as resource constraints, data gaps, relationship building with communities, collaboration of research teams, and communication of hazard mapping results are discussed. Special focus is placed on the transferability of hazard mapping approaches to Nunatsiavut. Nunatsiavut communities have recognized that landscape hazards constrain available building land. The second part of the presentation focuses on best practices for landscape hazard mapping in Nunatsiavut communities. This information directly informs the *SakKijânginnatuk Nunalik* (Sustainable Communities) initiative that has as its primary goal to identify best practices and provide guidance for community sustainability in Nunatsiavut under changing climatic and environmental conditions.

SS51 T3.8

Retrospective and prospective study of the heat waves in West Africa

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Les vagues de chaleur affectant les milieux tempérés ont beaucoup été étudiées surtout depuis les épisodes entraînant une surmortalité à Chicago en 1995 ou en Europe de l'Ouest en août 2003 (Bessemoulin et al., 2004 ; Black et al., 2004). Elles sont bien moins étudiées en domaine tropical, zone pourtant affectée par ces aléas surtout en saison sèche. Ce travail se propose de déterminer les conditions associées à l'occurrence des vagues de chaleur en Afrique de l'Ouest, en focalisant l'étude sur l'année 2010 à Niamey (Niger). Les données utilisées proviennent des réanalyses NCEP, couvrant l'ensemble de l'Afrique de l'Ouest ; il s'agit des données quotidiennes de différents paramètres atmosphériques (températures moyennes, maximales, minimales, vent, humidité, géopotentiels) mais aussi des données mensuelles sur la période 1948 à 2013. La méthode consiste à détecter des vagues de chaleur à partir de valeurs seuils par la méthode des percentiles adaptée de Huth et al. (2000) et de Météo-France (valeurs $\geq 5^{\circ}\text{C}$ aux normales quotidiennes). Ces vagues de chaleur seront associées aux conditions climatiques de surfaces continentales aux échelles locale et régionale et à la dynamique atmosphérique d'échelle synoptique, afin de mieux comprendre l'établissement de ces extrêmes chauds affectant la santé des populations.

Poster Session B

Coastal Archaeological Resource Risk Assessment and Management in Atlantic Canada

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Coastal archaeological heritage is potentially vulnerable to increased erosion resulting from future sea-level rise and increased storminess. As all sites cannot be protected, it is essential that heritage managers know which sites and landscapes are most at risk so they can prioritize resources and decision-making most effectively. Desk-based modeling of coastal vulnerability is one type of assessment tool that can provide the necessary information to inform management decisions about coastal heritage resources. A recent application of this tool in three study regions in Newfoundland revealed that 20% of archaeological sites are at risk over the next 15–50 years. With funding from

Natural Resources Canada's Enhancing Competitiveness in Changing Climate program, a Memorial University – Newfoundland and Labrador Government collaboration recently launched a project to refine the existing coastal archaeological risk assessment modeling approach by incorporating a range of data resolutions (including LiDAR) and revised methods to generate site-specific recommendations. One of the challenges for cultural resource managers faced with tough decisions to protect, rescue excavate or abandon at-risk archaeological sites is how to rank the importance of individual sites and select appropriate management options. A second project goal is to compare current approaches and make recommendations on both archaeological resource prioritization in the face of potential future loss or damage and specific adaptation actions with respect to at-risk archaeological resources due to sea-level rise and increased storminess. Our presentation will outline current practices and potential case studies that inform coastal archaeological resource risk assessment and management in Atlantic Canada.

SS42 T4.7

Informal Sector Business Tourism in the Global South: Evidence from Maseru, Lesotho

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Domestic tourism is a neglected theme in tourism scholarship about the global South. This paper examines informal sector domestic tourism, the nature of which challenges conventional Northern definitions of business tourism. The study reports findings from 52 interviews conducted with informal business tourists and accommodation providers in Maseru, Lesotho's capital city. It is revealed the nature of low income informal sector business tourism in the global South is radically different to that of conventional business tourism in terms of organisation, characteristics of business tourists and impacts. Arguably, this form of business tourism is inherently pro-poor in its local impacts.

SS62 R3.4

A Preliminary Investigation of Waste to Energy Uptake by Ontario Municipalities

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We present preliminary findings from an investigation of low and uneven uptake of waste-to-energy (WTE) technologies by municipalities in Ontario. WTE technologies (such as incineration and anaerobic digestion) divert residential waste from landfill by processing it as an energy resource. Thus the presence of WTE mediates between waste being managed either as a valuable commodity or a negative externality. We will explore how WTE affects attitudes and behaviours of actors involved in waste management policy and practice. Industrial ecology literature suggests that reciprocity between actors is required in order to minimise indeterminacy and optimise value associated with waste material exchanges. Actors' attitudes towards waste are also affected by environmental justice issues related to the spatial distribution of its associated burdens and benefits.

This paper explores the impact of WTE upon waste management systems at municipal (macro) and household (micro) scales via policy and media discourse analyses and interviews with policy actors. Using these qualitative methods we assess the significance of socio-cultural contexts and place-specific policy frameworks within which scientific information related to human health and environmental

impacts of WTE are interpreted by, and negotiated among, policy actors. Uniquely, we offer insights into policy actors' roles as household waste actors, since Actor Network Theory (ANT) suggests such phenomena are connected.

SS37 R1.2

Implications of Policy Devolution for Social Housing Regeneration in Ontario

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We present research findings from an investigation of Ontario's social housing sector, based on qualitative evidence from in depth interviews with social housing practitioners. Across the Province challenges associated with social housing regeneration are increasing, whereas funding from federal, provincial and municipal sources is waning. From a legacy of mono-tenure public housing estates the sector is transitioning towards market oriented housing developments. These different manifestations of development processes and patterns represent shifts in ideological underpinning, which are occurring within a context of: devolution of responsibility for social housing policy from provincial to municipal government; diminishing and /or variable public funding commitments; aging housing stock; and increasing proportions of tenants with high and multiple support needs.

The interaction of these factors with local socio-economic characteristics creates differences in how regeneration challenges manifest themselves across the Province. Market oriented housing developments may provide a long term solution to meeting social housing need, but will require a more socially entrepreneurial culture within the sector, supported by a flexible, outcome based policy framework. The social housing practitioners interviewed recognised the need to broaden skill levels within their organisations, either by working more closely with partner organisations or increasing the scale of operations. We offer policy recommendations to support social housing providers to implement these strategies and address regeneration challenges.

SS22 R4.1

Comparison between current thermal extremes (on 1970s) and future (on 2030s and 2080s) in the Northern French Prealps

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Les changements climatiques sont déjà perceptibles en montagne (GIEC, 2007), avec notamment un réchauffement dans les Alpes et les Préalpes double de celui enregistré à l'échelle de l'hémisphère nord (Durand et al., 2008). Afin de proposer aux décideurs de la Région Rhône-Alpes des solutions d'adaptation des sociétés aux phénomènes météorologiques extrêmes (vagues de chaleur et vagues de froid), cette étude, menée dans le cadre du programme GICC-DECLIC, examine la variabilité des occurrences et de l'intensité des extrêmes thermiques actuels et futurs dans une région de moyenne montagne très peuplée (Préalpes françaises du Nord, englobant notamment les agglomérations de Genève, Annecy, Chambéry, Grenoble, Valence et Montélimar). Les données météorologiques utilisées sont issues de sorties des trois modèles numériques de climat (ALADIN, LMDz, MAR) utilisés par le projet ANR-SCAMPEI, calibrées par rapport aux observations à maille fine de 8 km (réanalyses de type SAFRAN

de Météo-France). L'étude porte sur l'analyse des températures minimales et maximales, pour la période de référence (1961-1990), le futur proche (années 2030) et le futur lointain (années 2080). Les résultats montrent notamment l'évolution spatio-temporelles des vagues de chaleur et des grands froids entre les années actuelles et le futur.

SS07 M2.4

Without Reservation: The Chatham-Kent Community Network and Caldwell First Nation Land Dispute

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In 1998 an agreement-in-principle (AIP) was negotiated between the Department of Indian Affairs and Caldwell First Nation to settle a land dispute in south-western Ontario. In response to the AIP a non-Aboriginal organization called the Chatham-Kent Community Network (CKCN) was established. The CKCN was a self-described group of concerned citizens with an initial expressed purpose of investigating the AIP and distributing information to the non-Aboriginal community. This presentation examines the motives, claims and actions of the CKCN, and argues that it was an organization founded on principles of settler colonialism. It was designed to thwart the AIP and reinforce historical processes that deprived Caldwell First Nation of land for over 200 years. This presentation seeks to understand settler colonialism by viewing it through a contemporary lens, and connecting it to ideas and processes that affect perceptions of the land and the places we live in.

SS64 T3.5

No Sir, She Was Not a Fool in the Field: Power, Gender and Sexual Violence in Cross-Cultural Fieldwork

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In geography, we do not often hear about the messy experiences of fieldwork and even more rarely do we hear about gendered risks and specifically the threat and perpetration of sexual violence as it disproportionately affects women. This paper confronts this silence, and argues that the patriarchal structures which define these gendered risks in the field are effectively deepened by the lack of discussion about them in academia, which can be seen to rest on latent masculinist assumptions about objectivity and neutrality, and in turn the assumed subjectivity of the idealized male researcher. I start from past conversations in anthropology about sex and violence in the field before going on to discuss my immersed cross-cultural fieldwork. I employ feminist concepts of power, distance and control to explore the ways that risks of sexual violence limited my movement, affected my positioning and identity, and shaped power relationships in contradictory ways. The paper culminates with a case that scholars should be committed to disclosing the gendered risks they encounter in the field, so that others might learn from our varied experiences and responses, and so that we can ultimately break free of the confines of masculine norms about what constitutes rigorous research.

SS66 R3.3

Dictating the Terms of Their Own Development: Biocultural Conservation in Aboriginal Communities

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Conventional protected area management encourages the spatial separation of nature and culture thus fails to recognize any potential for complementarities between the simultaneous conservation of nature and culture. Such a model has come under sustained attack by civil society groups, aboriginal communities and resident peoples leading to a new paradigm of protected areas that recognizes the rights of resident communities to stay in place and earn a livelihood within areas zoned for conservation. Within this context, a number of market-based models have surfaced that attempt to meet the dual goals of cultural preservation and nature conservation in landscapes home to indigenous communities. Through an investigation into the history and present of community-based ecotourism in Doi Inthanon National Park in Northern Thailand and a reflection on emerging models in two Canadian Aboriginal communities, we argue that these market-oriented models of conservation rarely, despite first appearances, overcome the separation of nature and culture, but rather reproduce it with new restrictions for the ways in which aboriginal communities are permitted to interact with 'nature'. These restrictions can circumscribe their ability to dictate the terms of their own development. Persistent notions of an idealized 'nature' and 'culture' severely limit these new models from delivering on their goals of biocultural conservation. Exceptions to this are in rare instances where the model is developed and implemented by the aboriginal community in question, and they have the cultural and legal strength to assert a version of culture, nature and conservation on their own terms.

SS04 T2.2

Use of Weather and Climate Information for Winter Tourism Decision Making

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Winter sports tourism, in particular the ski industry, is repeatedly identified as being highly climate-dependent in that climate is the principal resource upon which tourism is predicated (i.e., cold temperatures and snow). Weather forecast information can be the most influential factor behind whether or not a person opts to participate in skiing and snowboarding, thereby influencing the level of visitation and resulting expenditures at snow resorts. Despite the economic stake in the quality of the climate information being relayed to the public, to date there has been limited evaluation of the sources and use of climate information by tourists broadly, with no evaluation of skiers and snowboarders specifically. Survey responses from domestic skiers and snowboarders in Ontario (n=1010) address many of these important knowledge gaps. Results reveal the importance of forecast information in the trip planning and decision-making process, with specific weather thresholds that elicit behavioural responses (i.e., deter participation) identified. Results also highlight existing forecast needs, which can aid snow resorts in understanding what weather information tourists want, and how climate aspects of tourism marketing can be made most informative.

SS38 M4.2

Long Distance Labour Commuting from a Northern Canadian small town: The Workers' Perspective

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The town of Mackenzie is one of BC's 'instant towns', built in the late 1960s to house the workforce for a new regional forest industry. A significant economic downturn in Mackenzie beginning in early 2008 resulted in the closure of all major forest industry operations (sawmills and pulp and paper mills) in the community. As a result, many forest sector workers had to engage in long distance labour commuting (LDLC). For many, this was their first experience with LDLC practices. This paper explores the positive and negative implications of LDLC for one group of commuting workers, their families, and their community. Following a brief introduction to LDLC and the study, the paper reviews the scope of LDLC in Mackenzie during the mill closures. It then turns attention to some of the benefits that workers felt they derived from LDLC. These include financial support, education and training, new employment networks, new work experiences, and access to new services or amenities. The paper then explores some of the areas of concern that workers had with LDLC. These include costs, safety concerns, emotional and health impacts, as well as impacts on the family and household.

SS41 M1.5

The Writings on the Stall: Women's Latrinalia at the University of Winnipeg and Simon Fraser University

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Washroom graffiti, known as "latrinalia", is an indicator of public opinion, reflective of gender differences and repressed sexual desires. It is geographically ubiquitous. This study of the geography of women's washroom latrinalia at the University of Winnipeg and Simon Fraser University examines latrinalia at both the macro and micro scales. Examples of latrinalia photographed and recorded at both locations during the summer of 2012 were analyzed using descriptive analytic techniques. The underlying causes of latrinalia and the determinants of their location are suggested. The spatial and micro-territorial factors that have a major influence on the location of latrinalia are identified.

SS66 R1.3

Troubling the U.S./Canada Border: Relations between the 1817 International Boundary Commission and Indigenous people

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The focus of this paper is on the border between Canada and the United States from St. Regis to Lake of the Woods, which bisects traditional and present-day Indigenous territories. This border was surveyed and established by the International Boundary Commission (1817-27) soon after the war of 1812 between the United States and British North America. David Thompson, the celebrated "Canadian" explorer and cartographer (1770-1857), a remarkable figure whose knowledge of Indigenous languages

allowed close relationships with Indigenous groups that controlled the territory, was a key figure on this Commission. Relatively little has been written about the work of this Commission and what exists has been written largely in a nationalist vein: concern with the national history of mapping and with the border as a national border between two countries, with little recognition of other sovereignties involved or of the complex relationships that developed between Indigenous groups and American and British surveyors over the course of the Commission's travels. This paper draws on preliminary archival findings to suggest the nature of these relationships and reflect on how a richer history of the border might be written.

SS51 T2.8

Northern Food Networks: Building Collaborative Efforts for Food Security in Remote Canadian Aboriginal Communities

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Canada's northern and remote regions experience high rates of food insecurity, exceptionally high food costs, environmental concerns related to contamination and climate change, and a diversity of other uniquely northern challenges related to food production, acquisition, and consumption. As such, there is a need to understand and develop strategies to address food-related concerns in the North. The diversity of communities across the North demands the tailoring of specific, local-level responses to meet diverse needs. Over the past decade, local networks have emerged as a powerful method for developing localised responses, promoting food security and the development of more sustainable food systems across Canada and North America. Despite this, there is a paucity of research examining challenges and effective approaches utilised by these local networks or the potential for their applicability to building food security in rural, remote, and northern communities. This research examines the experiences of a Northern Canadian food security network. The experience of this network points to strategies which can lead to successful collaborative approaches aimed at implementation of programs to address food security in northern and remote communities.

SS02 M3.8

A multi-attribute approach to mapping Boreal Woodland caribou habitat in Labrador

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Identifying landscape attributes is pivotal for the management of caribou habitat and ranges. Baseline information in Labrador, Canada was limited in spatial extent and omitted transitional classes. Our goal was to undertake an ecological land classification which reflected cover types important to caribou over a region of 250 000 km² below the treeline. Eleven LANDSAT 5 TM (Bands 2, 4, 5) scenes were acquired. Field sampling, consisting of ~ 700 aerially-based rapid assessment points and 45 ground plots distributed throughout 12 main cover types was undertaken. Field data targeted representative habitats and focussed on overlapping areas between images. A supervised classification was completed using 400 field stations to 'train' the classifier; the remaining field data was withheld for validation purposes. The final classification had an overall accuracy of 84.1% and a Kappa of 0.81. Ancillary data on

burns, a digital elevation model, and anthropogenic disturbances were added to the classified raster. The final raster was smoothed and subjected to a pixel-by-pixel cross-correlation with EOSD imagery for the same region. Results indicate that the final classification better captured cover types previously partitioned among several EOSD classes and had a higher capacity to explain observed patterns of caribou use.

SS14 M4.4

Fine-scale habitat use and activity patterns of age 1 cod as revealed by acoustic telemetry

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The availability of suitable habitat can increase the survivorship of organisms such as young fish by providing enhanced foraging opportunities and refuge from predation. In my study, I used detailed seabed habitat mapping and the latest technology in acoustic telemetry to examine the fine-scale activity and habitat usage patterns of age 1 Greenland cod (*Gadus ogac*) in Newman Sound, a coastal fjord in Newfoundland, Canada. Acoustic transmitters were surgically implanted into 82 juvenile cod and provided fine-scale positions (< 10 m) over the course of a year. Forty-one tags were released in each of October 2010 and November 2011. I developed seabed habitat maps (± 5 m) for two coves within Newman Sound. Patch boundaries were delineated from aerial photographs and ground-truthed using a tethered camera. Positions were then overlaid onto my seabed habitat maps to investigate patterns of activity and habitat association over temporal scales (hours to seasons). Age 1 *G. ogac* show preference for eelgrass habitats, and avoidance of kelp. Habitat use and activity also vary over the diel period. Knowledge of the habitat utilization patterns of juvenile cod are essential for the development of effective conservation and management strategies, such as the delineation of MPA's and other spatially sensitive management initiatives.

SS14 M4.4

Does the Built Environment Influence Auto Travel? Evidence from Halifax, Canada

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This study tests whether built environment influences total distance traveled by auto for non-work trips on a weekday. Using cross-sectional data from Halifax, Canada, we identify a strong causal relation between built environment and auto distance traveled by worker and non-worker for a selection of non-work travel. We apply linear regression and the spatial lag model to control for spatial autocorrelation and find that the presence of built environment variables in linear regression handles the autocorrelation problem. We use attitude variables to control for residential self-selection. The importance of measuring the built environment near home and workplace is demonstrated. Also, we find that an empirically derived geographical scale of measuring the built environment outperforms the commonly used quarter-mile scale. The study identifies the importance of selecting the suitable set of trips for travel behavior-built environment analysis and suggests that future studies should classify travel based on trip-purpose and examine what types of trips are influenced by built environment.

SS34 M3.6

Bringing protected areas into town

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The Cree Nation of Wemindji in northwestern Quebec, the setting for my doctoral research, is in the process of creating protected areas. The protection of important land and seascapes is one facet of strategies developed to resolve the many contradictions arising as economic aspirations, the challenges of maintaining bio-cultural heritage, and the incursions of resource extractive industry intersect on Wemindji territory. In local plans for environmental protection, cultural landscape components are as important as physical and ecological aspects. The protected areas are seen as extensions of Wemindji's developing cultural center, places where a traditional Cree way of life can be experienced and sustained. But can the protected areas also be integrated into contemporary village life and thus promote the transmission of bio-cultural knowledge, heritage and values for those who do not live on the land? How can these outdoor exhibition halls play a role within the community? In this paper I look at cultural center plans designed to address these questions: an exhibit focused on geologies of the coast (a proposed marine conservation area) and a watershed (a biodiversity reserve) being developed in partnership with those involved in protected area creation and a local mineral exploration company.

SS04 T2.2

Urban Policy Circulation and the Politics of Revitalization: The Calgary Municipal Lands Corporation and the "East Village Experience"

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Cities in Canada – burdened as they are with an array of additional responsibilities downloaded from higher levels of government – face acute challenges in seeking out new revenue streams to pay for any number of badly-needed investments that were once covered, wholly or partially, by provincial or federal interests.

In this context, the case of the Calgary Municipal Lands Corporation proves especially pertinent. Created as a wholly owned subsidiary of the City of Calgary in 2007, the CMLC is a quasi-autonomous urban redevelopment agency charged with a mandate to realize an ambitious revitalization project in Calgary's Downtown East Village: an historically marginalized inner-city neighborhood that currently houses Canada's largest homeless shelter. To accomplish this task, the CMLC has relied upon a newly created "community revitalization levy" that represents the first major attempt at utilizing *tax increment financing* in a Canadian municipality in order to "implement public infrastructure improvements that will be the catalyst for private and public sector development" (CMLC, 2007).

This paper will offer a preliminary look at how this particular ensemble of urban renewal policies has taken hold after both migrating *and* mutating across the US border to a city well known for its decidedly *laissez faire* approach to planning and development. It will also dwell on the potential repercussions that Calgary's "regulatory experiment" (Brenner et al., 2010) might have across the Canadian urban system.

SS22 R4.1

Watch or warning? Weather saliency and forecast preferences among Ontario residents

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Environment Canada is responsible for monitoring weather conditions and developing associated forecast products for millions of Canadians. The products created by Environment Canada, such as weather watches and warnings, are disseminated across a wide variety of mediums (e.g., Internet; television; newspaper; cellular telephone "apps"; and radio). While it is clear that these forecasts are reaching various publics, it is less certain how these products are perceived, understood, and utilized by end-users. This research investigated the way(s) in which individual end-users in southern Ontario obtained, interpreted, and utilized weather forecasts in their every-day decision making. Semi-structured interviews (n=35) and close-ended questionnaires (n=268) were conducted in Huron County in Ontario, Canada between September 2011 and March 2012 as a part of a larger research project. It was found that most respondents utilized weather products for pragmatic reasons (e.g., deciding appropriate clothing or planning a trip). These individuals typically did not pay attention to ambient weather conditions unless they were inconvenient or threatening. While most participants had a general understanding of the difference between a weather watch and a weather warning, a significant portion of the sample was unable to differentiate between the two products. Despite this, most respondents indicated that they trusted and valued Environment Canada weather forecasts, and that they actively sought this information to help in their decision making.

SS38 M4.2

The problem of unconceived alternatives in geographical reasoning

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In this paper I aim to stage an encounter between two rather disconnected streams of philosophical debate in order to explore how their intersection enables a finer-grained understanding of the likely pitfalls we face whenever we try to think geographically. The first stream revolves around explanationism, that is, about an attempt to solve the long-standing and elusive problem of induction by thinking of it in terms of inference to the best explanation. The second stream pertains to the pessimistic meta-induction in the philosophy of science cast in terms of the problem of unconceived alternatives in a given explanatory set. I show how these debates provide a more refined way of comprehending what is actually meant when we say that our reasoning as geographers is always already situated.

SS65 T4.5

The Mining Industry and Urban Development in the North: The Case of Fermont in Quebec

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The map of Quebec show a vast peninsula of more than 1,6 million km². However, the northern part of Quebec, successively called Ungava, New Quebec and North-of-Quebec, belongs to the province since only 1912. From a Québécois point of view, the process of integration of these vast spaces sparsely

inhabited by Inuit and First nation people was carried out late in history. Moreover, the economic cycles related to the mining industry seem to affect deeply the development of these northern regions. Thus, stagnation and decline succeed to periods of massive investments, which bring the installation of large facilities, megastructures and some human settlements. Fermont is one of these towns affected by economic cycles. That unique town was designed by the architect-planner Norbert Schoenauer, in 1972. It expresses a desire to adapt northern settlements to the cold climates. The objective of this text is thus to portray this frontier town, forty years after its creation. Beyond historical and technical information, we will address the issue of long-term development of isolated mining communities in the context of the Quebec government Northern Development Plan's implementation.

SS11 M1.2

Delineating and classifying functional economic regions for regional development and planning: A case study of Atlantic Canada

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Generally, functional region aggregation algorithms use the intensity of journey-to-work flows for the delineation of regional boundaries while ignoring travel distance. Excluding travel distance can result in the formation of large regions where peripheral destinations for commuting reflect weak economic linkages and large commuting distances that are not a part of the daily journey-to-work patterns. This paper presents a methodology that addresses two issues related to functional region delineation for regional planning and development and they are: [1] the integration of both the intensity of journey-to-work flows and distance travelled in a functional region delineation algorithm and [2] the classification of functional regions into manageable socio-economic sub-groups for regional economic development and planning. The first task involves delineating functional regions using a modified hierarchical aggregation and fuzzy distance decay algorithm. The second task classifies functional regions into sub-groups using the business registry database. This classification procedure also identifies what level of NAICs (2 to 6) is best suited for differentiating the regional sub-groups.

The modified hierarchical aggregation algorithm produced 110 distinct regions and 149 single CSD entities. Classification based on NAICs suggests that these 259 units can be reduced to 5 functional economic region types. Statistical analysis of socio-economic data indicates that inter regional variability is maximized as the regional hierarchy type decreases from urban, city/regional town to first, second and third order rural. The rural classes exhibit the highest degree of intra regional variability and this variability is related to urban proximity and economic opportunities.

SS61 T1.1

Learning sustainable water practices through participatory irrigation management in Thailand

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Participatory irrigation management (PIM) was adopted in Thailand in 2004 to encourage the sustainable use of water in the agricultural sector. The research presented in this paper sought to understand the relationships between public participation, learning, and the implementation of more sustainable water practices through PIM in Thailand. Data was collected through document reviews,

observation, informal meetings, and a total of fifty-five semi-structured face-to-face interviews of local irrigators from two case study regions around the Krasiew Reservoir. Results showed that participating in PIM activities facilitated both instrumental (e.g., water supply and demand data, benefits of on-time water delivery) and communicative (e.g., reasons for past PIM failure, expectations of fellow farmers) learning among PIM participants. Findings also revealed that social action is fostered through the recognition of human dignity and compassionate communication that instils a sense of ownership and solidarity among irrigators. Sustainable water practices among local farmers were spurred further through learning that the reservoir is a finite water source.

SS27 T1.6

Effect of grain size on morphological pattern elements within boreal wildfire residuals patches

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Wildfires burn about 1% of boreal forests in Ontario each year and the annual frequency and extent of these disturbances are increasing due to warmer and drier climatic conditions. Post-fire conditions comprise a matrix of burned land cover classes that contained unburned (residual) patches, where the residual patches are important ecologically, as they provide habitat, food resources, and other ecological services to the surviving flora and fauna. We study a 55,000 ha fire that burned in north-western Ontario during the 2011 fire season; specifically, we characterize the residual patches based on land cover composition and their internal morphological characteristics. Our goal is to understand the scaling relationships of pattern measurement across multiple grain sizes, beginning with 3.2 m spatial resolution Ikonos imagery, to identify optimal scales of mapping. We measure and test whether grain size coarsening will statistically alter the frequency distributions of morphological elements and land cover classes. Furthermore, assessments of spatial clustering are explored to understand the relationships among morphological elements, grain size, and configuration.

SS44 T1.4

Perspectives on the Maa-nulth Treaty: An Exploration of Local Indigenous-Settler Relations in Port Alberni, British Columbia

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On April 1, 2011, the Maa-nulth Treaty went into effect for five Nuu-chah-nulth signatories on the west coast of Vancouver Island. Encompassing territories never before ceded, Maa-nulth First Nations gained a level of relative self-determination and provision for land-use planning. Modern treaties, however, remain complex, vaguely understood processes. Many First Nations view treaties as certificates of conquest where rights are taken rather than granted. Many non-Indigenous settlers are unaware of the historical conditions that have resulted in often highly publicized land-use confrontations and negotiations, contributing to ignorant and even prejudice perceptions of First Nations. Using the Maa-nulth Treaty as a platform for analysis, this exploratory study sought to examine local Indigenous-settler relations within a modern treaty context. During the week of implementation, 90 face-to-face, random, semi-structured surveys were employed that asked local residents their perspectives on the Maa-nulth Treaty. Findings show that non-Indigenous residents remain unaware of their own implication within treaty negotiations and associated historical complexities. Indigenous-settler relations remaining

steeped in ill-informed stereotypes and with a culture of colonialism underpinning these relations, it is suggested that settlers engage in their own process of conceptual decolonization to encourage critical engagement of an ongoing, Canadian colonial amnesia.

SS24 W2.1

Reframing Aboriginal Mobility as a Space to Create Transnational Networks of Connection & Support

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The Aboriginal population in Canada has become increasingly urbanized in recent decades, and experiences high rates of mobility between reserve and urban areas, as well as within cities. Despite the fact that most Canadian cities have been established on traditional Aboriginal territories, assimilationist practices, such as the allocation of reserve lands, created a racialized juxtaposition between urban and reserve spaces, oftentimes resulting in discriminatory perceptions of urban Aboriginal migrants. While recent scholarship has documented urban Aboriginal peoples' mobility rates and patterns, this juxtaposition has been largely overlooked, and the nuanced experiences of movers themselves remain underrepresented in the literature. Furthermore, research has yet to consider the relationship between mobility and health. To address these gaps, this research employs a transnational migration lens, coupled with the Indigenous concept of the hub, to produce a more comprehensive understanding of Aboriginal peoples' mobility experiences and to how this may come to impact holistic health across boundaries. As a means to explore these issues, in-depth interviews were conducted with 24 urban Aboriginal movers and 22 service providers in Winnipeg, Manitoba. This research reveals that urban Aboriginal migrants are maintaining dynamic, multi-stranded kin networks between reserve and urban geographies and re-territorializing urban spaces. Despite the barriers that urban Aboriginal migrants face, the networks that they are creating have the potential to positively impact aspects of individual and community health.

SS23 M2.8

Mobilizing Low-Income Aboriginal Women's Right to Food in the City

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Low-income Aboriginal mothers in Winnipeg encounter numerous public challenges when it comes to food acquisition. Our research has documented how an inadequate transportation system, experiences of racism during grocery shopping journeys, and challenges in securing affordable healthy foods represent three forms of injustice faced by these women. Invoking recent conceptual progress on the "right to the city", we will argue that these women's geographies are laden with gendered and racialized processes and effects that place their families in a persistent state of food crisis, which in turn, compounds other oppressions they face in their encounters with the state. We will present key findings from a case study conducted in partnership with Ka Ni Kanichihk, a non-profit, wellness focused community agency that supports low-income Aboriginal mothers in Winnipeg. Our study employed a mixed-method qualitative research approach to examine a group of Ka Ni students' food related mobilities in the city. Our findings challenge conventional notions of food insecurity by highlighting multiple and circular oppressions that result from discriminatory structures embedded within social assistance, child welfare, Manitoba housing, employment, and charitable food policies and practices.

Moreover, our participatory approach has helped us to document how young mothers have developed creative strategies to navigate these unjust systems and become motivated to share their stories and survival strategies with others. Finally, our research results contribute to an anti-colonial agenda that shifts the preoccupation with food security toward a movement that demands the right to food in the city for all urban inhabitants.

SS16 W2.4

Up in the air: Employment-related geographical mobility and Hurricane Igor

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Mobility contributes to climate change and climate change disrupts mobility. The emission of greenhouse gases during the course of fossil-fuel based transport exacerbates climate change resulting in more frequent severe weather events. The Atlantic hurricane track, for example, is projected to become more active as ocean waters warm. Such events, in turn, disrupt the movement of people and goods, including employment-related geographical mobility. In 2010, Hurricane Igor, the largest recorded storm in Newfoundland's history, washed out roads and bridges linking 150 communities, resulted in the suspension of ferry and airport services, and damaged vehicles. Combining political ecology and a sociology of flows approach, I will discuss areas of social-ecological resilience and vulnerability with respect to employment mobility that emerged during the course of Hurricane Igor. I will address issues such as transport services, community infrastructure, and industry responses, illustrating how a social-ecological flow perspective contributes to a more holistic understanding of employment-related geographical mobility.

SS41 M2.5

Green Dreams: A critical literature review on the barriers to implementing community-based composting initiatives in developing countries

Tammara Soma

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The primary objective of this literature review is to identify the barriers that are affecting the sustainability and feasibility of community-based composting initiatives in developing countries. Community-based composting initiatives often arise due to a government's inability or lack of capacity to manage or collect organic waste effectively. Unfortunately, community-based composting initiatives often fail. Based on a review of the literature, this paper provides background information on issues regarding solid waste management in developing countries, examines the concept of scale in composting programs, identifies the barriers affecting the viability of community-based composting initiatives and reviews several successful examples of community-based waste management projects. This paper identifies the aforementioned barriers within five categories: framework/scale, community, economics, governance, and planning.

SS52 R1.6

Stakeholders' images of coastal fisheries: elucidating their contents and characteristics through a South Korean example

Andrew Song

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Images that stakeholders have about fisheries can fundamentally influence how fisheries are to be governed, as recent literature has begun to elucidate. They represent underlying perspectives about the issues in question and the world at large such that they may help explain why certain governance decisions and actions come about and how policy ideas become carried forward. While it is crucial to properly understand and discuss them, how they appear and function in an empirical setting is still less apparent posing hurdles in assessing their meanings and generating practical lessons. Using a case of coastal fisheries in South Korea and its governance initiative in progress called 'Jayul', this study captures the images of various stakeholders as they are expressed through an exploratory survey design and inductively formulated themes and categories. Subsequently, the results identified a broad range of thematic content and four general dimensions with which images are manifested. This reveals the diversity associated with stakeholders' images, but it also suggests how one can go about conducting an image inquiry and what can be expected from its results, paving ways for future studies. Implications to the governance situation in Korean fisheries are drawn to demonstrate their significant bearing on the workings of governance processes.

SS29 M1.6

The community-based EIA was a success but the project is failing

Harry Spaling

The King's University College, Edmonton, AB, Canada

This presentation postulates that conditions or factors for sustainability promoted in community approaches to EIA may change over time and threaten on-going viability of a project. Using a case study from Kenya, it shows how changing factors affected the sustainability of a community water supply project a decade after the EIA. The focus is on three factors considered critical for a sustainable water project: 1) sustained water supply (supply sustainability), 2) water-sector policies and institutions that are community-focused (sector sustainability) and 3) supportive internal and external interrelationships for local water resources management (management sustainability). Findings show that a) changing rainfall patterns and additional withdrawals from new projects will likely threaten supply sustainability, b) water sector reforms that are market-driven and use a compliance approach are resisted by community projects, challenging the advance of sustainability in the sector, and c) project management deficiencies, including strained community relations and a lack of supportive external relationships, impede sustainable local water management. The project is now at the tipping point of sustainability - it may yet fail - and recommendations are presented to tip it in a more sustainable direction.

SS56 T3.6

The role of emotions in human-wildlife interactions: A case study of human-coyote relationship in Cape Breton Highlands National Park

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Human dimensions of wildlife studies that are based on the cognitive hierarchy typically hypothesize that value orientations influence higher order attitudes which in turn are predicted to influence behavioral intentions and/or behaviors. Typically not included in such models are emotional dispositions (e.g., fear, surprise) toward a specific species. Given that human-wildlife interactions often are emotion based, incorporating the concept into traditional cognitive models may increase the predictive power. We hypothesized that general attitudes would mediate the relationship between coyote existence value and scenario based emotions, and support / opposition for a management action (i.e., killing a coyote). Data were obtained from surveys conducted around Cape Breton Highlands National Park of Canada (CBHNPC), where a coyote caused the first adult human fatality in 2008. Local residents were mailed a questionnaire (n = 578; 72% return rate) in 2011. Structural equation models were analyzed for each scenario. The results supported our hypothesized relationships. For example, for all three scenarios, general attitudes toward coyotes were predicted by existence values and emotional disposition, and the management option of killing the coyote. Understanding these relationships across situations can help managers gauge public support for lethal control of wildlife.

SS40 W2.3

Enclosing life? Radiation, wastage, and the value of differentiated lives

Anna Stanley

NUI Galway, Galway, Ireland

In the context of historical uranium mining in the Port Radium area and subsequent federal attempts to manage Dene and ecological exposure to radiation, this article examines the role played by contamination and contaminated life in the constitution of value and quickening of accumulation. I ask how Dene (and along-side them non- human) lives are connected to value creation, and through what specific mechanisms. Based on careful examination of the ways in which Dene lives link up with value both during the mining process and in the context of a 2005 risk assessment meant to evaluate the extent of alleged contamination, I make the following intertwined arguments. First, drawing on recent explorations of bodily wastage and degradation I propose that "wastage" describes both a material process of dispossession through which life is separated from living beings and produced as economic terrain, and the process through which value is extracted from this life. Second, I argue that the technology of risk management through which industry and government control over this life and the value it represents was in 2005 secured, constitutes a practice of enclosure.

SS11 M2.2

Residential or FIFO? Canadian and Australian experiences with attracting workers to regional towns

Keith Storey

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Use of Fly-in/Fly-out (FIFO) work arrangements at Canadian and Australian mining operations dates back to the 1970s. Where once these arrangements were primarily used for remote/isolated operations at locations distant from existing communities, they have become increasingly common where resources are being developed adjacent to established communities. Perceived direct costs of FIFO workers to adjacent communities in terms of their demands on local infrastructure and services and indirect costs in terms of their lack of contribution to community development are increasingly seen as problematic.

The Regional Municipality of Wood Buffalo, and particularly the town of Fort McMurray, Alberta, provides the most dramatic Canadian example of this FIFO/adjacency phenomenon, one that is addressed in its recent (2011) Municipal Development Plan. In Australia, the Royalties for Regions program and the Pilbara Cities Vision in Western Australia, and a somewhat similar program adopted by the Queensland Government, are comparable insofar as they are attempting to attract permanent rather than temporary residents to 'remote' communities.

This presentation considers the issue of planned resource-based community growth from the perspectives of the key players – communities, governments, companies and workers; perspectives which are often in conflict and which, at least in the current economic climate, make ultimate outcomes highly uncertain.

SS11 M1.2

Multiproxy reconstructions of mixed-severity fire dynamics in the Alberta Foothills

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Wildfire is an important disturbance agent in western Canadian forests, and land management and fire exclusion strategies have made the modern record of fires unrepresentative of the natural disturbance regime, resulting in apparent landscape homogenization. This research uses a multiproxy fire history approach to reconstruct wildfire history in the Alberta Foothills, a landscape believed to be characterized by a mixed-severity regime. A pilot study was conducted in the summer of 2012 which involved the establishment of a sampling grid and the collection of fire scar and stand origin data from 16 plots. To date, stand establishment and fire years have been estimated. These records will be supplemented by further sampling and extended using the macroscopic sedimentary charcoal record in hopes of understanding the spatial and temporal controls on changes to the wildfire regime in this area, as well as corroborating wildfire proxy records.

SS12 W1.4

Planning for Urban Biodiversity: An examination of the relationship between Integrated Community Sustainability Planning principles and novel ecosystem formation

John Stuart, Brandon Williams, Patricia Collins, Graham Whitelaw
Queens University, Kingston, ON, Canada

This study examines how the principles of sustainability are incorporated into Integrated Community Sustainability Planning (ICSP) and how implementation within policy affects trends in urban biodiversity. This research makes use of a comparative case study approach which examines policy implementation related to sustainability within four mid-sized municipalities (Kingston, Markham, Burlington, and London). The policy examination will further be used to ascertain how the principles utilized within an ICS plan can be used to preserve urban biodiversity and promote the creation and protection of novel ecosystems. Novel ecosystems are defined as modified systems that contain new combinations of species that are the result of anthropogenic action, environmental change and the deliberate or inadvertent introduction of exotic species. Methods consist of content analysis of relevant municipal documents, examination of peer-reviewed literature from relevant fields, and passive observation of urban habitat units within all four municipalities that will determine levels of habitat fragmentation. Preliminary results suggest these municipalities contain a greenspace structure that is decidedly fragmented, but are actively engaged in policy configuration that aims to restore proper ecosystem function. Further, municipalities implementing ICS plans (Kingston, Markham) are beginning to address this phenomenon by incorporating language within planning policy that is based on the principles of sustainability. This project is on-going and is being completed in tandem with Brandon Williams' research at Queens University. This research is also being utilized within a larger project headed by Dr. Patricia Collins and Dr. Graham Whitelaw.

SS55 W1.5

Attitudes toward Coyotes: Similarities across a Rural and Urban landscape

Maggie Sutherland, Beatrice Frank, Jenny Glikman, Alistair Bath
Memorial University, St. John's, NL, Canada

Since the arrival of coyotes to the island of Newfoundland in 1985, people have been blaming this carnivore as the main cause of the caribou decline. The increasing human-coyote conflict supported the development of a human dimension research project in 2008. A mail out questionnaire (n = 786, with a response rate of 50%) was used to explore people's attitudes toward coyotes in Newfoundland. The objectives were to understand the differences in attitudes toward coyotes (i.e., perception of impacts, fear of coyotes) across the type of residence (i.e., urban or rural). We hypothesized that there were differences in attitudes between the urban and rural residents toward coyotes and that people's attitudes were on average negative. The results indicate that both urban and rural residents held largely negative attitudes toward coyotes. This is unusual because in other regions of North America, urban residents tend to be positive and rural residents negative. The research documents the difficult relationship between the public and wildlife managers when dealing with strongly negative attitudes toward carnivores and provides suggestions toward developing a management strategy that fosters coexistence with coyotes within the province.

SS40 W2.3

Observation of Portuguese Islanders in Toronto: Viewpoint of Directories of Ethnic Associations

Koki Takahashi

Komazawa University, Tokyo, Japan

The purposes of this presentation are to clarify the residential patterns of Azorean and Madeiran immigrants and their descendants in Toronto and to identify their home-towns (home-islands) in those archipelagos.

Directories of both Association of Azores (Casa dos Azores) and Association of Madeira (Casa da Madeira) were contributed for this research. Those are ones of biggest and most organized associations for Portuguese in Toronto. In general Casa dos Azores plays roles which preserve the cultures and reinforce the relationship in immigrants who came from Azores islands in Portugal and their descendants, and also Casa da Madeira works for those are from Madeira Island and their descendants. Casa dos Azores has about 580 members in present. On the other hand, the number of people who have enrolled in Casa da Madeira reaches over a thousand today. I drew up some maps based on the directories. The maps show us many things such as three-fourths of Azoreans in Association of Azores are composed of São Miguel islanders and over a half of Madeirans in Association of Madeira are from Funchal.

Poster Session A

Extractive Industry in the Atlantic Subarctic: Toward a Critical Historical Geography of Contemporary Labrador

John Thistle

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Although it is generally acknowledged that large-scale resource extraction projects drove the 'development' and 'modernization' of Labrador communities and landscapes during the twentieth century, in fact we know very little about the precise effects of these projects in particular contexts, or their cumulative effects over time. How did large-scale mining along the Quebec-Labrador border and the development of hydroelectric power at Menihek and Churchill Falls affect preindustrial (or 'traditional') economies focused on hunting, fishing and other forms of land use and occupation? What were the long-term 'costs' and 'benefits' of mineral and river development in twentieth century Labrador? And how might a fuller historical and geographical accounting of these costs and benefits – one that counts as important such things as cultural diversity, social justice, economic equity, and environmental protection – inform our understanding, not just of large-scale resource development projects in the past, but also those in the present? In seeking answers to these questions, this paper explores the potential for a critical historical geography of contemporary Labrador.

SS10 M1.3

Coastal Change and Community Education: Fogo and Change Islands, NL

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On behalf of the Geology At The Edge, Geologist in Residence program, a coastal geomorphology project was initiated in the spring of 2013. Founded by the Shorefast Organization and based in Fogo and Change Islands, NL, the Geologists in Residence program allows for geological interpretation of the bedrock, glacial history and includes the ongoing changes of the islands coastline.

The first part of the project is an analysis of the islands coastal geomorphology, including consolidated bedrock as well as unconsolidated segments of the coastline. Research will take into account the geologic and tectonic processes that have shaped this coastline, as well as current processes such as sea ice, waves, storms and sea level change that contribute to the evolving coastline. Analysis will provide a better understanding of the changes occurring along this coastline (particularly impacting beaches, trails, points of interest), and the effects that those changes may have on Fogo Island communities.

The second part of the project is the dissemination of scientific knowledge to residents of Fogo Island as well as to visitors. This aspect of the project will unfold in a number of ways including field tours/trips, presentations and workshops.

SS42 T2.7

Evaluating the impact of the OTS on air pollution and the built environment in central Oxford, UK

Mary Thornbush

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The Oxford Transport Strategy (OTS) was implemented in June 1999 in the Oxford city centre in order to reduce traffic congestion and improve urban air quality. This initiative was subsequently monitored through the Environmental Monitoring of Integrated Transport Strategies (EMITS) project around 2001. In this way, pre versus post OTS comparisons could be made. Monitoring stations for air quality were established at various locations in the city centre, comprising of two roadside locations and a background site. An additional station was set up as part of the EMITS project to monitor atmospheric concentrations of particulate matter. This paper focusses on the impact on traffic congestion, air quality, and the built environment. The OTS did successfully reduce overall traffic congestion in the city centre and improved air quality as well as the soiling of Oxford's historical buildings. However, some streets are now more congested than others due to traffic restrictions and redirection. Improved air quality was observed for some pollutants, as for instance sulphur dioxide and carbon monoxide, which were especially reduced since its implementation. Soiling is less pronounced for black carbon residues, but the cleaner environment has promoted the growth of some biological organisms. This has potential to change the predominant type of weathering in this city from chemical-dominated to biological-dominated weathering. The overall success of the OTS is discussed alongside the implications for urban sustainability of Oxford as representative of historical European cities.

SS36 M4.1

Long Term Trends in Hydrologic Response within Three Urban Watersheds in the Great Lakes St. Lawrence Basin

Mary Trudeau

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Changes in physical stream properties, including altered flow patterns, are associated with urbanization. Negative effects on aquatic biodiversity are associated with impervious land cover as low as 2-15%, although the causal mechanisms underlying biotic responses to land cover change are not well understood. This negative biotic response has been identified in very different locations globally, supporting the hypothesis that mechanistic causal factor(s) related to flow regime play a role in aquatic biodiversity decline. Current indices used in predicting impacts of hydrologic regime change on riverine ecosystems include annual coefficient of variation, daily and mean annual flows. However, due to their coarse-resolution time scales, these indices do not capture peak flow conditions occurring at the event-scale (hours to days). As a result, they under-estimates the hydrologic disturbance that occurs repeatedly with rainfall events within urbanized catchments. Using the Great Lakes St. Lawrence Basin sub-watersheds as a case study area, this study examines the cumulative effects of changes in impervious cover on hydrologic response, using 15-minute flow records as the basis for analysis. The Great Lakes St. Lawrence Basin was chosen due to the potential availability of long-term hydrologic and precipitation data and the extensive urbanization within the Basin during the available data record. This paper will provide results of flow-regime analyses for three Ontario sub-watersheds in the Basin and discuss the potential implications for aquatic biota and land development approvals in urbanizing areas.

SS36 M4.1

Labour Geography and the Age of Austerity

Steven Tufts

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The emergence of labour geography in the 1990s was received enthusiastically as an alternative to capital-centric readings of economic landscapes. Over the last decade there have been several challenges to the insertion of labour agency into contemporary accounts of capitalist development. Critiques range from the selective dismissal of class in analysis to the limits of a labour-centric focus on institutional capital-labour relations which neglects other social actors and relations. Several recent commentaries have reflected (both positively and negatively) on the state of labour geography and the 'broadening out' of its conceptual development. This paper explores where labour geography, largely built on the question of agency, might turn given a prolonged period of austerity and a diminished ability of workers to shape economic geographies. I argue that there are openings for a more dynamic discussion of how labour geography can be discussed as a diverse political project with a range of approaches. The paper provides 'remapping' of labour geography that turns away from an evolutionary narrative to an interpretation that focuses on the potential of divergent politicized approaches to questions of work and resistance.

SS21 R1.5

"Overlap": Causes and Implications of Overlapping and Contested Indigenous Claims to Territory in the Context of the British Columbia Treaty Process

R. G. Christopher Turner

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The BC treaty process employs a model of claims negotiation new in the Canadian experience. Contrary to long-standing federal claims policy, Aboriginal treaties are being settled in BC in areas where multiple indigenous groups lay claim to the same territory. Research findings concerning the causes and implications of "overlapping" indigenous territorial claims are presented. Two overarching goals of the BC treaty process are to achieve certainty of jurisdiction and to avoid Aboriginal rights litigation. This research indicates that insufficient Crown and judicial engagement with the issue of overlapping claims undermines both of these goals. Crown policies regarding overlapping claims are fostering the very thing the BC treaty process was intended to avoid: continued jurisdictional ambiguity and the potential for future litigation related to the question of which indigenous groups actually have rights to the land. Potential strategies for addressing the issue are discussed: 1) empowering indigenous institutions; 2) increasing the authority of the BC treaty commission; and 3) employment of a commission of inquiry-style institution to mediate/adjudicate disputes. The research exposes an important realm for scholarly inquiry, one that explicates and so makes possible the incorporation of indigenous customary law within the process of treaty making in BC, and beyond.

SS60 T2.6

Food Banks as Contested Spaces within Canadian Welfare Systems

Sally Turner

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Food banks began to open their doors in the early 1980s to as a response to welfare and employment reforms that left many Canadians without sufficient income. In the three decades that have followed, food banks have grown exponentially both in terms of their numbers and capacity, with Food Banks Canada estimating that close to one million Canadians are helped by food banks each month. The food and additional services that food banks provide aim to complement income supports and services delivered through provincial welfare channels, yet most of their work does not qualify for government support or grants. This places food banks at a relative disadvantage compared to other non-profit organizations that provide social services for their local community through provincial and municipal contracts and grants. Drawing on ethnographic and interview-based research spanning over two years with food banks across Southern Ontario, I argue that despite the lack of formal government support for food banks, they have become enmeshed within provincially- and municipally-funded welfare systems through referrals, and partnerships with contracted non-profit service providers. I explore the resulting contraction that works to both facilitate and complicate the work that food banks engage in.

SS02 M4.8

Planning the Labrador Forest: Nature, Culture and Economy according to the "Forest Plan for Forest Management District 19 Labrador/Nitassinan"

Carolina Tytelman

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Over the last decade, the Innu Nation of Labrador and the province of Newfoundland and Labrador have been sharing responsibilities on the management of Forest District 19A Labrador/Nitassinan. As part of this co-management process, in 2003, the parties developed together a 20-year forest plan, the "Forest Ecosystem Strategy Plan for Forest Management District 19, Labrador/Nitassinan." This forest plan is organized around the concepts of ecological, cultural, and economic landscape. This paper analyzes the conceptual frame that sustain the division into "landscapes" and the meanings of ecology (and by extension nature), culture, and economy according to the forest plan. Although the forest plan was developed by a writing team composed by Innu Nation and provincial representatives, the conceptual frame of the plan is rooted in western-style ontology and conceptions, using a simplified version of Innu worldview to justified the imposition of a particular forestry paradigm. In consequence, this analysis demonstrates that aboriginal involvement in forest planning is insufficient to warranty a balanced representation of aboriginal worldview in the resulting forest plan.

SS04 T1.2

Possibilities and Limits of Material Feminisms to the Feminist Geographies of Health Care

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Under the auspices of neoliberal and neoconservative discourses citizens face various barriers to access temporary and permanent primary health care in Canada. This has been even more challenging for vulnerable groups in relatively smaller cities where resources and services are extremely limited. The microgeographies of outdoor sex workers who struggle with drug addiction as they navigate primary health care raises important questions regarding social citizenship, as well as contested relationship between body and mind in theorizing subjectivity when 'the drugged body is thus understood as abject, already violated, and therefore violable' (Rasmussen 2011).

This paper intends to explore in what ways unfolding tensions with material feminisms can have both limits and possibilities within feminist geographies in order to understand new ways of thinking and conceptualizing political subject and subjectivities that may have an impact on health care policies and practices.

Scholars have recently argued for the need to conceptualize new ways of material feminisms (Alaimo and Hekman 2006, Braun and Whatmore 2010, Hekman 2010, Wilson 2004, Bordo 2010). These new discussions unravel the inherent tensions between various dichotomies (e.g. nature-culture, discourse-materiality) and have as their focus the necessity to rethink political subject and subjectivities without privileging one over the other. Of course the question for critical feminist geographers lies in answering how to navigate these bodies of knowledges that are tied to militarism, capitalism, colonialism and male supremacy (Haraway 1991) in order to explore contested debates of material feminisms.

SS16 W2.4

ONTARIO PLACE: A Place to Stand? A Place to Grow?

Desiree Valadares

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Ontario Place in Toronto has a long legacy of unfulfilled plans, misplaced priorities, conflicting interests and missed opportunities. This cultural landscape, created from landfill in the late 1960s, was envisioned as a "stimulating and permanent symbol" of the work and achievement of Ontario. Landscape biography, an empirical research strategy, is used to capture the diversity, complexity and the transformational character of the site through archival research and oral histories over five phases of development. With origins in cultural geography and social anthropology, this interpretive strategy is the preferred analytic tool for Dutch researchers in decisions to protect and enhance Holland's cultural landscapes. Likewise, this thesis explores the potential of landscape history to generate a powerful untold story of a landmark site spanning over 40 years and to suggest future possibilities for reorganization and development. Findings reveal that cultural identity should be a determining factor in spatial planning and the basis for formulating policy for cultural and historical sustainability.

Poster Session A

Ecomorphodynamics of Coastal Marshes: Opportunities and Constraints for Climate Change Adaptation in the Bay of Fundy

Danika van Proosdij

Saint Mary's University, Halifax, NS, Canada

Coastal marshes are inherently dynamic and represent delicately balanced systems between hydrodynamic forces, ecological, sedimentological and morphological responses. Salt marshes in the Upper Bay of Fundy have been and continue to be subjected to anthropogenic pressures such as the removal of causeways and other tidal barriers, coastal and tidal power development as well as limited accommodation space. These systems will also have to respond to anthropogenic pressures within the context of a changing climate with increased storm activity and an increase in sea level over 1 m over the next century. This presentation will examine the resilience of coastal marshes to natural and anthropogenic disturbance and variables that constrain or enhance their capacity to self-engineer using research conducted over the last 17 years in the Upper Bay. Opportunities and constraints on using salt marshes as ecological engineers to assist society in adapting to climate change will be discussed using case studies covering protection, accommodation and retreat scenarios. The goal of the research is to guide management and engineering solutions for restoration and tidal power activities by contributing an empirical understanding of ecomorphodynamic processes in a changing climate.

SS42 T3.7

From Cultivation to Cul-de-sacs: Conserving and Integrating Our Rural Heritage into New Suburban Developments

Carolyn Van Sligtenhorst
Town of Oakville, Oakville, ON, Canada

As our cities expand at rapid rates across the country, formerly rural landscapes are being dramatically altered. With new suburban development comes the levelling of land and the removal of vegetation and buildings, including many heritage resources such as farmsteads, houses, barns, and associated landscapes. Municipalities and developers are continually exploring options for retaining heritage resources, or at least elements of them, within these new developments. Opportunities range from conserving full farmsteads to integrating existing farmhouses into new subdivisions to salvaging elements of buildings for display and use in new public spaces. Special street naming, signage and interpretive plaques allow for important commemorative opportunities. The retention and integration of historic landscapes and structures allow a direct and real connection to the past, resulting in a unique palimpsest that tells the story of our ever-changing use of land. The conservation and commemoration of these heritage resources also help to create a sense of place for these new communities. This presentation will provide examples and visuals of different conservation methods currently being employed by municipalities. It will also highlight some of the lessons learned from these practices and offer thoughts on the future of suburban development.

SS33 M3.1

Examining Resilience in Toronto's Urban Forest: How Local Actors Influence Pest Vulnerability

Jen Vander Vecht, Tenley Conway
University of Toronto, Toronto, ON, Canada

While a variety of actors exhibit growing interest in protecting urban forests, city trees still face many threats, including an increasing number of pests. Several pests are well documented in the literature and increasingly acknowledge in urban forestry policies. The overall vulnerability of a city's trees to all relevant insects and diseases, however, has been given limited consideration. This presentation examines the overall pest vulnerability of Toronto's urban forest, considering both current and projected future species composition. Current species assemblages for each of the four forestry districts were generated using citywide tree inventory data. To investigate future composition, local public and private actors involved in tree planting, landscaping, and tree sales were surveyed to gain insight into common species planted in the city.

A pest vulnerability matrix (PVM) was then used to determine overall vulnerability based on the composition in each forestry district. Initial results suggest that the current species composition is quite diverse, minimizing many major pest vulnerability concerns. However, the prevalence of trees in the genus *Acer* is concerning given the presence of the Asian Longhorn Beetle in Toronto. Results of the interviews and surveys will also be discussed in light of pest vulnerability based on the PVM.

SS55 W1.5

Modelling spatio-temporal diffusion of carsharing membership in Québec City

Marie-Hélène Vandersmissen, Marius Thériault, Marie-Hélène Coll
Université Laval, QC, Canada

During the last few years, carsharing has undergone significant growth, both in Canada and around the world. In this type of service, users share access to a fleet of vehicles, thereby giving them most of the advantages of an automobile, such as its temporal and spatial flexibility, without many of the constraints of ownership. This article studies the geographical and socio-economic factors that favour the use of a carsharing service in Québec City. We combined Cervero's and Kockelman's 3D model (density, diversity, design) and 5D model (plus distance to transit and destination accessibility) with Hägerstrand's concept of innovation diffusion so as to analyze the evolution of potential carsharing membership. Poisson regressions were used to model the spatial diffusion of the number of carsharing members in Québec City from 1996 to 2008 at the local scale with an annual time step. Results indicated that the carsharing distribution did indeed follow Hägerstrand's innovation diffusion model and that, even though the 5D model significantly influenced membership, it was the socio-economic factors (education, non-motorization, and family structure) that most greatly affected the membership rate in the carsharing zone. The model was used to evaluate and discuss the development potential of carsharing in Québec City.

SS61 T1.1

Regionalism and Regional Development in Canada: A Critical Review of Theory, Practice and Potentials

Kelly Vodden
Grenfell Campus - Memorial University, Corner Brook, NL, Canada

This session will provide highlights of findings from a three and a half year research project undertaken by researchers at four Canadian universities. The team has investigated changes in Canadian regional development over the past two decades as well as the degree to which regional development systems have incorporated 'new regionalism' into their policy and practice. This research assesses five key themes of new regionalism in the Canadian context by answering five key questions: (i) Are policy makers and practitioners re-focusing on place itself as a starting point for development? (ii) To what extent is power and development decision-making is shared among different groups at all levels? (iii) How are rural-urban relationships managed? (iv) Are development approaches integrated - across scales, actors and issues; and (iii) What role do knowledge flows, learning and innovation play in the development process?

The project has involved a multi-level, mixed methods case study approach in the provinces of: British Columbia, Newfoundland, Ontario, and Québec. The project has identified the (re)emergence of integrated and place-based development approaches in Canada as well the rise of innovation as a regional development imperative, albeit an imperative that has been unevenly resourced and narrowly understood. Themes of governance and rural-urban interdependence have entered the theory and discourse but have seen limited application in policy and practice. Regionalism offers potential to help address the significant challenges faced in rural regions; however local development institutions that facilitate regional relationships and development efforts often lack the policy support to fulfill this potential.

SS05 T3.2

Discovering Approaching Interactions in Vehicle Mobility Data

Monica Wachowicz

University of New Brunswick, Fredericton, NB, Canada

Interactions are always presented to drivers as a result of traffic control devices, congestion situations, other drivers and features of the landscape. However, very little is known about how interactions take place, as well as what type of mobility patterns they can generate. In particular, the approaching interaction takes place when two moving vehicles come near or nearer as in space and time. In this paper a conceptual model is presented for representing an approaching interaction using three core elements: mobility (the state of being mobile), proximity (the state of being near) and connectivity (the state of being linked). Scale (also referred to as granularity) is a key determinant in how these three elements can be combined to compute approaching interactions. This paper describes a new approach for mining approaching interactions based on these three elements. The US Highway 101 data set which was one of several datasets collected under the NGSIM (Next Generation SIMulation) program was used to evaluate the proposed approach. The results show the microscopic behaviour of drivers which was useful to classify their driving skills into cautious (careful) and adventurous.

SS34 M3.6

The Spatialisation of Historical Sources

Monica Wachowicz¹, J.B. Owens²

¹*University of New Brunswick, Fredericton, NB, Canada*, ²*Idaho State University, Pocatello, ID, USA*

Space matters, not for the simplistic and overly used reason that everything happens in space, but because where things happen is critical to knowing how and why they happen. Spatialisation refers to the representation of abstract spaces of knowledge, which can aid in visualisation, pattern detection and the accumulation of scientific insight. But, perhaps surprisingly, there has been few, if any, attempts to examine the interconnectedness of historical sources and their abstract spaces of knowledge. This paper describes a spatialisation process developed to generate Knowledge Spaces as visual representations of some logically coherent situation or potential reality. Three spatial concepts have been used to illustrate such a process. An implementation was carried out using the Web Ontology Language (OWL) in order to exploit the formalisation of the mobility, proximity, and connectivity concepts for a spatialisation process of historical sources. We expect that historians will employ it as an artefact to help them find previously unidentified associations between concepts, topics or even hypotheses.

SS51 T2.8

Who's Feeling Hungry? Imaginaries, Exclusions and Possibilities in Food Security Discourse in Canada

Sarah Wakefield¹, Kaylen Frederickson¹, Tim Brown²

¹*University of Toronto, Toronto, ON, Canada*, ²*Queen Mary, University of London, London, UK*

The United Nations' Food and Agriculture Organization indicates that food security exists "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". Despite Canada's

affluence and avowed commitment to achieving food security, approximately one in twelve Canadian households is food insecure, and numbers are much higher for First Nations, new immigrant, and low income households. This paper draws on a number of historical and contemporary sources to explore how food security has been conceptualised over time in Canada, with the underlying premise that differing conceptions of food security can have material consequences for Canadians because of their impact on how resources are distributed and programs designed. The paper also explores how ideas about food security relate to broader cultural discourses about the Canadian experience. Ultimately, the paper asserts that recognition of food security as a "Canadian" problem has been partial and contested, and this in turn reflects persistent geographic imaginaries of Canada (e.g., as a land of agricultural abundance) and unrelenting social and cultural exclusions (e.g., of First Nations people).

SS24 W1.1

Residents' Attitudes Toward Landscape Change in a Konjuka Settlement in the Rural-Urban Fringe of Tokyo in 1993: An Analysis of Change 20 Years Later

Thomas Waldichuk

Thompson Rivers University, Kamloops, BC, Canada

This paper focuses on the urban fringe community of Ushiku, located along the JR Joban train line about 50 km northeast from Tokyo. In 1992-3, I investigated the south-western part of Ushiku, which was populated by both old-time and newcomer residents. At that time the landscape still had narrow winding farm roads, unlike new housing developments where the roads are placed in a grid. This mixture of old and new housing, punctuated by fragmented farm fields, is known in Japanese as konjuka – literally “mixed living change”. I sent out a questionnaire to residents asking them about their attitudes toward landscape change and preservation in the area. I also mapped out the various land uses in the area, which consisted of two old hamlets, newcomer housing, rice paddies, vegetable fields, orchards, and wooded areas. Since then the landscape has gradually become more urbanized, with less green space and more farm fallow. An examination of landscape changes using air photos, real estate maps, Google Earth, and field checks, indicates expanding urbanization in the greater Tokyo area and an aging farm population that no longer has the will to cultivate the remaining farmland. As the landscapes of these two traditional villages gradually erode away, one has to reflect upon the problem of preserving traditional farm landscapes in a local, regional, and national context. Why are some cultural and natural landscapes preserved while others disappear? What are the criteria for preservation?

SS17 M3.3

Driven into Debt? Assessing the Financial Legacy of Automobility and 20th Century Suburbanism

Alan Walks

University of Toronto, Toronto, ON, Canada

Automobile-dependent forms of post-war suburbanization have received significant criticism from urban scholars, in relation to such factors as environmental sustainability, social segregation, spatial mismatch, neighbourhood political effects, and infrastructure and resource efficiency. However, the explicitly financial implications of automobility and post-war suburbanism have received less attention. Some scholars (Dodson and Sipe, 2007, 2008) suggest that automobile-dependent areas not only compel households to take on more debt, but as well that they are more financially vulnerable to

fluctuations in energy costs, particularly to peak oil. This paper examines the linkages between finance and automobility at a number of levels. First, it seeks to ascertain whether more automobile-dependent places reveal higher levels of household indebtedness. This is conducted via a series of multi-level analyses of neighbourhoods within Canadian cities. Second, the paper examines more broadly the relationship between automobility and the production and distribution of finance capital across the developed urban world, presenting an hypothesis linking the rise of automobility to financial crisis. Then paper combines the insights from these two approaches in exploring and commenting on the forms of vulnerability nascent in the automobile suburban landscape.

SS22 R3.1

Migration and Environmental Change in St. Lucia, West Indies

Bradley Walters

Mount Allison University, NB, Canada

Caribbean migration is a ubiquitous and well-studied phenomenon, yet its consequences for the rural landscapes of Caribbean islands are not well understood. My study of post-war land use and environmental change in St. Lucia revealed that migration events were among the important causes of changes to agriculture, contributing at various times to both net expansion and contraction of land under cultivation. This has in turn influenced the extent and character of forests within the landscape. Both out-migration and subsequent return-migration events were significant, albeit different in their consequences. Earlier migrations were mostly to-and-from foreign destinations, but within-country, rural-to-urban movements have been especially significant in recent years. The causal relationships between migration and landscape change are often indirect and need to be understood in relation to other causal influences, including local farmland characteristics and wider changes to labour and agricultural commodity markets. Environmental events, notably hurricanes, have at times been contributing causes of rural out-migration. But for the most part, environmental change in St. Lucia is far more likely to be an effect than a cause of migration.

SS13 R3.6

Determinants of immigration health in Canada: a comparison among multiple ethnic groups

Lu Wang

Ryerson University, Toronto, ON, Canada

The paper addresses the important issue of immigrant health in Canada. It examines the health outcome and patterns of utilizing healthcare services among the foreign-born and Canadian-born populations. Comparison is made between foreign-born and native-born populations and among selected recent immigrant groups (Chinese and South Asian) and long standing groups (Italian, Portuguese). The data analyzed are drawn from the pooled 2005-2010 Canadian Community Health Survey (CCHS). Logistic regression is used to identify key determinants of self-reported health for each group. The study adds to the literature on immigrant health by revealing heterogeneity in health within the broadly-labelled foreign-born population. It offers important insights into the understanding of group differences and commonalities in immigrant integration and resettlement in the domain of health.

SS23 M1.8

Post-Political Populism and Local Sustainable Development under the Climate Change

Wen-Cheng Wang

National Taiwan Normal University, Taipei, Taiwan

Under the global climate change and the context of spatial governance, this study aims to explore two themes. First, the consensual (re-)presentation and mainstreaming of problems of global climate change, and the issues of the emergence and consolidation of post-political and post-democratic conditions in political theory. Second, at different scales of spatial relations, and regional situations, how the social judgment is responded, adapted and resilient to climate change to establish local economic sustainable development in Taitung. Mainly ingredient on interaction management, the methodology attempts to avoid individual value by the collection of social groups as the 'fallacy of composition'; also disagreed with simple dismantling groups value for individual levels as the 'ecological fallacy'. Thus, how post-political populism and post-democratic political configuration, that have been mediated are shaping after a particular choreographing of climate change, are discussed. Finally, the highlight is revisited to the aim of the different spatial scales of 'coupled human-ecosystem' response to climate change adaptation and resilience with one another.

SS17 M3.3

An Application of Audience Response Technology for Stakeholder Engagement and Structured Decision Support in Rural Newfoundland Communities

Jamie Ward, Alvin Simms

Memorial University, St. John's, NL, Canada

This presentation presents a methodology for near real time collection and analysis of decision support data in a community engagement workshop-type setting. The novel approach involves using MS Excel as an interface between audience response and analytic network process software. This methodology enables a group to evaluate decision alternatives in a way that both standardizes procedure and guarantees participant privacy.

Case studies based on a service priority and availability assessment study for six Newfoundland communities are used to demonstrate the effectiveness of the methodology. Participants used response pads to anonymously construct pairwise comparisons of services available to rural communities and these inputs were directly loaded into the decision support tool. Comparative analysis was completed for primary health care, education, and recreation based services, as well as an analysis of the rankings for community volunteers and paid employees.

This process enhances the accuracy of the overall results by allowing participants an opportunity to privately weigh alternatives in the context of a traditional discussion-driven forum, thus reducing the effects of grandstanding. The structured methodology also increases credibility by allowing intra and inter-community comparisons as well as the quantification of decision strength. The participatory nature of the process and the instant rankings provide near-real time feedback to the stakeholders. This information allows an immediate assessment of the concordance and discordance that is present in the stakeholders' vision of what services are important for long-term viability, thus setting the stage for re-evaluation and compromise.

SS61 T1.1

“Great Awakening”: Geographical Writing on Canada After Confederation and the Completion of the Canadian Pacific Railway

John Warkentin

York University, Toronto, ON, Canada

Geographical writing on Canada changed fundamentally after the CPR was completed in 1885: the economy could begin to function more effectively and people could finally travel readily across the country. Before observers’ eyes and in the minds of students of the country a new country was being created. In this stimulating period, works of penetrating geographical insight were written that have been overlooked by geographers. Particularly outstanding spatial interpretations by Goldwin Smith (Canada and the Canadian Question 1891), George Parkin (The Great Dominion 1895) and J. D. Rogers (Historical Geography – Canada 1911) will be analyzed. Are they of significance today? Yes, in different ways and to different audiences.

SS51 T2.8

Experiences of Rural Newfoundland Women: Partners Working Out West

Heather Whalen

University of Northern British Columbia, Prince George, BC, Canada

This qualitative case study explores the implications of long distance commuting (LDC) for the non-commuting female partner living in rural Newfoundland. The purpose of this research is to identify and potentially address any unmet social or emotional needs of this population. Through in-depth qualitative interviews with eight women from five rural Newfoundland communities, data were gathered around women’s use of informal support systems within their communities and how current perceptions of gender roles may influence women’s experiences. The research findings indicate that this population encounters higher workloads, increased stress, and unique challenges when their partners are away; however, the findings also suggest that traditional, socially constructed gender norms are becoming more blurred as male commuters are taking on more ‘female oriented’ responsibilities during their time at home.

SS41 M3.5

The intersection of rural innovation and sustainability: Insights from Newfoundland and Labrador

Kyle White, Kelly Vodden

Memorial University, St. John's, NL, Canada

The recent emphasis on sustainability and ‘green innovation’ provides some important insights for rural and more resource-based regions like Newfoundland and Labrador. The economic development history of the province is deeply connected to the booms and busts of a number of natural resource sectors. This long history of resource development provides an opportunity to embrace green innovations that will address sustainable development and resource management issues.

This paper will explore traditional ideas and models of innovation and connect them to the literature on

sustainability and the green economy. Case studies will be drawn from the Red Ochre, Nordic, and Kittiwake economic development regions in Newfoundland and Labrador. Firms in these regions must contend with the difficulties associated with a rural context as well as ensuring the continuity of their natural resources. Each case study will ultimately contribute to the position that green innovations are necessary for the future of sustainability and economic growth.

SS05 T4.2

Using an Activity Based Cellular Automata Model for Sustainability Assessment

Roger White

Memorial University, St. John's, NL, Canada

An activity based cellular automata model of urban regions provide relatively high-resolution predictions of likely future patterns of population, economic activity, and land use under various policy and planning scenarios. Linked to transportation a model it can also generate estimates of CO₂ emissions under the various scenarios. It is thus useful for assessing proposed policies and plans in terms of their impact on various sustainability criteria such as emissions, habitat preservation or fragmentation, or local quality of life indicators, as well as identifying particular areas that may be at high risk of habitat loss. The model is also useful for revealing qualitatively different future patterns of development that are not anticipated because they are not yet visible, but which will emerge as a consequence of existing processes. These are the phenomena that may be of most significance in planning for sustainability, precisely because they are not anticipated. Examples will be drawn from model applications to the greater Dublin region in Ireland, and the Flanders region in Belgium.

SS36 M4.1

Where the Buffalo Roam: Exploring Aboriginal and Non-Aboriginal Beliefs about Wood Bison Disease and Management in Wood Buffalo National Park

Alice Will, Alistair Bath

Memorial University, St. John's, NL, Canada

As the most genetically diverse population of bison in the world, the wood bison (*Bison bison athabascae*) in Wood Buffalo National Park are considered significant to the recovery of this threatened species. High rates of disease - anthrax, bovine brucellosis, and bovine tuberculosis - have been documented in the park herd. Concern over disease transmission to nearby cattle ranches and disease-free wood bison herds, limits these bison to the park boundary, as a buffer zone exists wherein any bison seen can be shot on site. Several distinct Aboriginal groups reside in the region and little is known about how they, and Non-Aboriginal residents, believe bison should be managed, or whether they consider the issue of disease in bison an important concern or not or. In this study, a mixed methodology approach of focus groups and quantitative questionnaires were used to examine two communities in the park region comprised of six Aboriginal groups. We explored differences in beliefs and attitudes across space (the communities) and cultures (Aboriginal and Non-Aboriginal), finding more common ground than differences. We also found that improved relationships between Aboriginal peoples and Parks Canada need to involve more communication. By engaging residents, particularly Aboriginal peoples, decisions made about bison management will now more accurately reflect the

beliefs of the people who coexist with this large herbivore.

SS40 W1.3

A Comparative Mixed Methods Examination of Perceived Sense of Belonging between Immigrant and Canadian-born Groups in Second and Third-Tier Canadian Cities

Allison Williams, Peter Kitchen, Jim Randall, Nazeem Muhajarine, Bruce Newbold, Kathi Wilson
McMaster University, Hamilton, ON, Canada

Via a SSHRC Metropolis grant, this sequential mixed-methods study explores immigrant experiences in three smaller Canadian reception centres: Charlottetown, Prince Edward Island; Hamilton, Ontario; and, Saskatoon, Saskatchewan. Findings include comparative perceived evaluations of sense of belonging between immigrants and Canadian-born for the whole survey sample (n=1113), as well as across each of the three city sites. Immigrants are found to have a high perceived evaluation of sense of belonging across all three city sites. This is explored further via qualitative focus group data (n=10) collected from various immigrant groups in each of the city sites. These findings are discussed in relation to integration, adaptation, and acculturation of immigrants in second and third-tier Canadian cities

Poster Session B

Immigrants' Perceived Quality of Life: Relationship to Adaptation in Second and Third Tier Canadian Cities

Allison Williams, Peter Kitchen, Jim Randall, Nazeem Muhajarine, Bruce Newbold, Kathi Wilson
McMaster University, Hamilton, ON, Canada

Canada remains a popular immigrant destination, welcoming approximately 250,000 permanent residents each year (CIC, 2011). To date, the majority of research on immigration in Canada has focused on immigrant experiences in Canada's three largest cities: Toronto, Vancouver, and Montreal (Frideres, 2006; Radford, 2007). Approximately 75% of immigrants in Canada reside in one of these first-tier cities; however, a growing number of immigrants are choosing to settle in second and third-tier cities (Frideres, 2006; Radford, 2007). Consequently, further research is needed to understand the integration, adaptation and acculturation of immigrants in these areas (Radford, 2007). Via a SSHRC Metropolis grant, this sequential mixed-methods study explores immigrant experiences in three smaller reception centres: Charlottetown, Prince Edward Island; Hamilton, Ontario; and, Saskatoon, Saskatchewan. Findings include comparative evaluations of quality of life, sense of place, and social capital between immigrants and Canadian-born for the whole survey sample (n=1113), as well as across all three city sites. Qualitative focus group data collected from immigrants (n=10) provide further confirmation and comprehension to the survey results.

SS23 M2.8

Integrated Community Sustainability Planning in Mid-sized Municipalities: A Comparative Case Study

Brandon Williams, John Stuart, Patricia Collins, Graham Whitelaw
Queen's University, Kingston, ON, Canada

This research will be a comparative case study of four mid-sized municipalities (Kingston, Markham,

London, and Burlington) and their techniques for implementing integrated community sustainability planning (ICSP). ICSP involves embedding the grand principles of sustainability into high-level policy documents, called integrated community sustainability plans, in order to achieve inter-departmental coordination. Little is known about how sustainability concepts are diffused and implemented in mid-sized Canadian municipalities. Methods consist of semi-structured in-depth interviews with municipal staff, followed by review of public meeting transcripts from various municipal committees. Three to five interviewees were selected from each municipality and included staff from sustainability offices, departmental directors, and city councillors. From interviews conducted so far, it is apparent that Kingston and Markham are taking two different routes towards ICSP. The City of Markham has used a top-down approach to both creating and implementing their ICS plan. Markham acts as the lead, initiating projects and coordinating partnerships. Alternatively, Kingston has created a not-for-profit organization which has taken over implementation of the ICS plan. The City of Kingston now acts only as one of many supporting community partners. Research is ongoing and will be completed in tandem with John Stuart's research at Queen's University.

SS43 M2.1

Aboriginal Title and the Politics of a Pipeline

Patricia Wood¹, David Rossiter²

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The Northern Gateway Pipeline proposal has become a controversial issue, apparently pitting environmentalists against developers, and British Columbia against Alberta and the rest of Canada. The proposal and surrounding maelstrom are also another chapter in the ongoing story of the politics of Aboriginal title in British Columbia. Recent court decisions have placed natural resource development inextricably in the context of the unresolved legal question of the existence of Aboriginal title in what is now the province of British Columbia. The responses by provincial and federal governments and developers reveal neoliberal strategies aimed at the creation of a post-political resource landscape, variously rendered in the name of the province, nation, and even the world. Just as land management under such a regime quietly reinforces specific territorial claims and property rights, the elaborate and seemingly expansive consultation process that has accompanied Enbridge's pipeline proposal is also strictly contained. By contrast, Native voices, as expressed in individual testimony at the hearings and through the statements and political actions of First Nations governments, organizations and individuals outside the hearings, reveal profoundly different understandings of the issues at hand than has been framed by the media and governments. An analysis of these statements demonstrates these are more than diverging opinions about the pipeline; they represent distinct perspectives of territory, property and place. This essay argues that the discourse concerning the Northern Gateway proposal strategically papers over that diversity of perspective, the essential question of Aboriginal title, and the federal government's obligation to resolve the issue.

SS11 M2.2

A political ecology of home: Attachment to place, political subjectivity and the Northern Gateway Pipeline Joint Review Panel

Patricia Wood, Julie Young
York University, Toronto, ON, Canada

At the Joint Review Panel (JRP) for the proposed Northern Gateway pipeline across northern British Columbia, many participants presenting oral statements situated themselves as decidedly “ordinary” people, with ordinary but deep connections to the land. Without speaking of ownership, they made claims to the area as their home through an articulation of knowledge and experience of its natural features with great specificity: rivers, mountains, islands, ocean currents, and wildlife. This articulation of home, we would argue, is nevertheless a form of territorialisation and forms the basis for the political subjectivity that led to their participation in the JRP hearings. Linking the scholarly literature on “home” with that of political ecology, in this paper we explore the significance of the assertion of experience and knowledge of the physical environment as the basis to claim it as “home” and to assert a political right to defend it from perceived intrusion. In conclusion, we propose a political-ecology based approach to the study of home that links the emotional, ecological and political, and builds on other work which expands the conceptual reach of home beyond the domestic and/or personal space.

SS32 M3.7

Assimilation of remotely sensed soil moisture in the MESH hydrological model

Xiaoyong Xu, Jonathan Li, Bryan Tolson
University of Waterloo, Waterloo, ON, Canada

Soil moisture is a key variable for land surface and hydrologic modelling due to its important controlling on the partitioning of water and energy at the land surface. Microwave remote sensing is able to estimate surface soil moisture because microwave observations are sensitive to changes in the wetness of the land. In this study, the SMOS (Soil Moisture and Ocean Salinity) satellite surface soil moisture observations are assimilated into a coupled land-surface and hydrological modelling system MESH (MEC-Surface & Hydrology) using an ensemble Kalman Filter (EnKF) technique. The assimilation algorithm is tested for the Great Lakes Basin, and its performance is validated against the NLDAS (North American Land Data Assimilation System) data. Preliminary results demonstrate that the assimilation of SMOS soil moisture has the potential of improving the MESH model's predictive capability.

SS14 M3.4

Conservation vs. Development? Entrepreneurial Ecotourism in Northern Thailand

Megan Youdelis
York University, Toronto, ON, Canada

In Asia, and worldwide, there continues to be difficulty in reconciling conservation and development interests within inhabited tropical forests. In many Southeast Asian countries, there is longstanding conflict between conservation policy and ethnic minority livelihoods. Ecotourism is being increasingly adopted as a livelihood strategy by communities living in protected areas in the hopes that conservation and development might be achieved simultaneously. While local inhabitants can gain some income and use ecotourism to dispel negative stereotypes that ethnic minorities are ‘forest destroyers’ (Forsyth and

Walker, 2008), the impacts on local community relations and land use are far more complicated and contentious. The contradiction in encouraging both self-maximizing entrepreneurial ethics and modest conservation-friendly living ironically forces conservation and development interests into opposition. Furthermore, the unequal opportunities to participate in ecotourism can lead to increasing inequality and individualistic behaviour among community members. This article explores the tensions, contradictions and implications for sustainability of local entrepreneurship in ecotourism within conservation zones, using the case study of Ban Mae Klang Luang in the Doi Inthanon National Park in Thailand. I also explore how community members use discourses of local Karen culture to resist and counteract issues of individualism and inequality that they perceive to be associated with entrepreneurship in ecotourism. Overall, the expansion-oriented trajectory of entrepreneurial ecotourism businesses may pose significant challenges to the long-term viability of ecotourism as a sustainable development strategy.

SS53 T4.6

Borderline provocations: Creative interventions in the logic of the border

Julie Young
York University, Toronto, ON, Canada

Border control practices have been described as the "last bastion of sovereignty in a global age" (Dauvergne 2008, p. 47). As states have become increasingly creative in their border control practices, the spaces for asylum globally are shrinking. Mobility is political precisely because state borders are both fixed - materially and discursively - and dynamic - through the shape-shifting ways in which states enforce the boundaries of their territories and in how these boundaries are contested and reimagined by a range of actors. In this sense, it is not just states that carry out the work of the border: community organizers, artists, refugees, and other "ordinary people" are engaged in working out and "performing" the border (Rumford 2008, p. 2). Examples range from the more playful and artistic - such as playing volleyball over the Arizona-Sonora border or projecting the message that "We're in this together" onto a building in downtown Detroit from across the river in Windsor - to the more overtly political - as when border residents participate in annual solidarity marches in communities around the US-Mexico border or collaborate across the Canada-US border to secure asylum for refugees. I argue that all of these examples are both evocative and provocative, and that it can be useful to examine these performances and practices of the border side by side. The key question I address is, what do these provocative uses of the boundary line do - and more importantly, what do they produce?

SS51 T3.8
