The Canadian Geomorphology Research Group
Le Groupe Canadien de Recherche en Géomorphologie

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Glacier forefield exposed by rapid retreat of Bridge Glacier, Lilloet Icefield, BC.
Photograph by Michele Koppes.

President's Message
Mot du Président

Chris Hugenholtz, CGRG President

The CGRG-GCRG has been in transition since 2014 and we are excited to share with you some of the milestones and new directions the organization is taking into 2016 and thereafter. I would like to thank the executive for their input, patience, and collaboration over the past 2 years. I've been both impressed and humbled by the creativity and work ethic of these individuals.

Website

The most significant change in the organization has been our website. We've been fortunate that UVic has hosted our website since its inception, but that also placed some limitations on transitioning to a website that would enhance our outreach. To address this issue, we overhauled the website to enable dynamic content. We now have our own domain (www.cgrg-gcrg.com and own the .ca version), private website hosting, a new look, a mobile friendly layout, and new functionality that sets the stage for enhancing our organization's primary objective: "to foster and promote the research, teaching and application of geomorphology in Canada". In the past, CGRG-GCRG outreach and communication have been largely accomplished through participation at national meetings, the newsletter, and the website. We will continue these activities, but will now place additional focus on outreach by pairing the dynamic content of the website with social media.

The website has several new elements compared to the old website, but the biggest difference is the CGRG-GCRG Blogs. There are two types: CanGEOmorphX (Canadian Geomorphology Examples) and Field Notes. CanGEOmorphX showcases how geomorphology has contributed to the understanding of Earth surface processes and landscape dynamics, including but not restricted to examples with a Canadian focus. It is similar to the *Canadian Landform Examples* section of the *Canadian Geographer*, but has a broader scope that recognizes the international scale of research and professional activities contributed by Canadian geomorphologists. The second (Field Notes) provides a forum for sharing field experiences and for highlighting the challenges and rewards of geomorphological research. Some of the best opportunities for learning and discovery manifest as a result of field work. There is an open call for students, professionals, and researchers to submit blog posts. Please contact us via the website if you would like to bounce an idea.

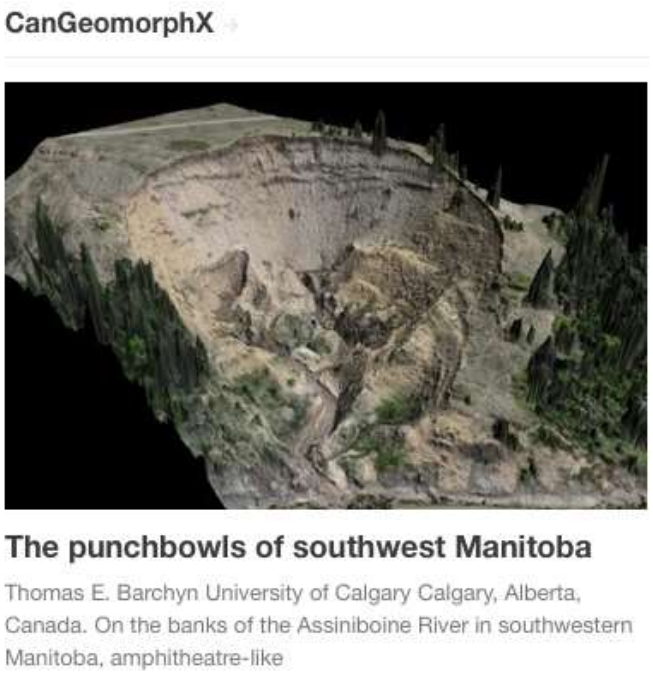
Please visit our new website at:

www.cgrg-gcrg.com

Blogging is a new venture for the CGRG-GCRG, and I sincerely hope we can draw on the membership to contribute posts that will be of interest to a wide audience. There are also many benefits for contributors. First, blogs are a way to advertise and clarify our discipline, showcasing what we do and how we have contributed to the understanding and prediction of Canada's landscape and the processes that shape it. How many times have you been given a puzzled look after stating to someone that you are a geomorphologist? Blogs won't suddenly propel us into everyday life, but they can increase our exposure, particularly if done in concert with social media posts that draw in website traffic. Another benefit, more on the individual side, is that the blogs present an opportunity to showcase one's research and interests. Canadian geomorphology researchers have diverse interests, but we often know little about our community or what we are working on. Blogs won't necessarily fix that, but for those who take part, there is a better chance you will make connections, whether with potential graduate students or new collaborators (be they academics, professionals, or the public). In some cases, a blog may serve a completely different purpose, such as to instigate discussion on a new or longstanding issue in geomorphology, and solicit feedback from the community. We designed the website with this in mind by adding a "Post Your Thoughts" section at the bottom of each blog. Comments are vetted by the CGRG-GCRG President before being made public.

As of May 2016 there are two blog entries, which we hope to build on quickly:

CanGEOmorphX: The punchbowls of southwest Manitoba, by Thomas Barchyn, University of Calgary



and

Field Notes: Winter field work in fluvial geomorphology: river confluence dynamics, by Nancy Martel, Université du Québec à Rimouski

Field Notes

Winter field work in fluvial geomorphology: river confluence dynamics

Nancy Martel Université du Québec à Rimouski Rimouski, QC. Studies on river confluences have highlighted the complex relationships between flow

Publishing several new blogs each month will support our outreach goal and build traffic on the website. Please send us your ideas via the "Contact" page on the website.

Other dynamic elements of the new website include a bi-monthly list of recent publications by Canadian geomorphologists or about Canadian geomorphology. The list is by no means exhaustive, but is meant to highlight recent research findings. We've linked the publication titles to the page on the publisher's website for convenience. In the past, publications were shared via listserv (compiled and communicated by Dan Smith, UVic), but will now be done through the website and related social media posts.

Through the Membership page we continue to support direct mail membership registration/renewal, and provide a link for online membership registration/renewal through our affiliate – the Canadian Geophysical Union. We've also made the website more user-friendly for Q&A through our "Contact" page and form.

Social Media

We are ramping up our social media efforts in parallel with the website and blogs. To take part, please follow us on Twitter, Facebook, and Linkedin (coming soon).

@cgrg-gcrg

www.facebook.com/CGRG.GCRG

Membership

If you are reading this newsletter and have not registered or renewed, please visit the Membership page on the website and take a few minutes to fill out the form or follow the link to the online system via CGU-UGC. The small membership fee for regular (non-student) members supports our awards, website, and sponsorship. In the future we hope to add additional membership incentives.

As many of you know, the membership registration/renewal process has been possible online through our affiliate – the Canadian Geophysical Union (CGU). An MOU between CGRG-GCRG and CGU-UGC was established in 2005 and is in the process of being revised to streamline the transfer of funds and membership data.

2016 CGRG Annual General Meeting

The 2016 Annual General Meeting of the CGRG-GCRG will be held online on 23 June 2016 at 12 pm MST via Adobe Connect web conferencing. In the past, the AGM was held at a meeting coinciding with one of our affiliate organizations (CANQUA, CAG, CGU, GAC-MAC). Sometimes this has resulted in strong attendance, while at other times it has posed a challenge for quorum. Online AGMs are not designed to replace this tradition; however, in situations such as 2016, when geomorphology is not prominently featured at a national meeting, the online venue is the only choice. Depending on feedback, the online framework may become more regular because, theoretically, it allows more members to attend and participate.

Riparian development in the braided outwash plain of a glacial lake outburst flood, southern Coast Mountains, BC. Photo by Michele Koppes

Awards in 2015

Olav Slaymaker Awards

The Olav Slaymaker Awards are presented for the best student oral paper and best student poster presented at the CGRG Annual Meeting. The CGRG-GCRG Executive Committee selected three winner of the Olav Slaymaker award in 2015. Two winners were selected from students who gave oral presentations at the Joint Assembly in Montreal, and a third winner was selected at the Canadian Quaternary Association (CANQUA) biennial meeting in St. John's.

The 2015 winners were:

Thomas Dowling,
Department of Geography
Lund University
for his presentation entitled:
Streamlined Landforms in Sweden: Core Types, Log-Normal Distributions and the Geomorphological Continuum

Fabien Hugue
Department of Geography
McGill University
for his presentation entitled:
Structural comparisions of multiple rivers across Canada: the importance of scale for characterizing the river complexity

Jonathan Cripps.
Department of Geography
Simon Fraser University
for his presentation entitled:
Reinterpreting the style and pattern of Cordilleran Ice Sheet retreat from glacial lake reconstructions: southern interior, British Columbia

The 2016 CGRG Annual General Meeting will be held online on 23 June 2016 at 12 pm MST via Adobe Connect. Details on how to join the online forum to follow via the CGRG listserve!

Recent activity on the debris flow retention structure, Sea to Sky highway, Lions Bay, BC.
Photo by Michele Koppes

Dr. Alberto Reyes

2016 J. Ross Mackay Award winner

Ian Walker, CGRG Past President

The J. Ross MacKay award is presented each year by the CGRG in recognition of a significant achievement by a young geomorphologist within Canada. The purpose of the award is to foster the development of geomorphology in Canada and to provide recognition of young scientists in this field. This year, the Selection Committee recommended that Dr. Alberto Reyes be chosen as the 2016 J. Ross Mackay awardee. Dr. Reyes has published 21 papers (18 since his PhD in 2010) in leading venues for geomorphology research, including first-authored papers in *Nature*, *Proceedings of the National Academy of Sciences*, *Quaternary Science Reviews*, and *Journal of Quaternary Science*. His nomination was based on the following 3 publications:

Reyes, A.V., Wiles, G.C., Smith, D.J., Barclay, D.J., Allen, S., Jackson, S., Larocque, S., Laxton, S., Lewis, D., Calkin, P.E., Clague, J.J. (2006). Expansion of alpine glaciers in Pacific North America in the first millennium A.D. *Geology* 34: 57-60.

Reyes, A.V., Froese, D.G., Jensen, B.J.L. (2010). Permafrost response to last interglacial warming: field evidence from non-glaciated Yukon and Alaska. *Quaternary Science Reviews* 29:3256-3274.

Reyes, A.V., Carlson, A.E., Beard, B.L., Hatfield, R.G., Stoner, J.S., Winsor, K., Welke, B., Ullman, D.J. (2014). South Greenland ice sheet collapse during Marine Isotope Stage 11. *Nature* 510: 525-528.

The committee noted the impressive productivity of Dr. Reyes' research and very high quality and impact publications. His work also demonstrates careful observation coupled with model and field evidence, and address broad-scale paleo-environmental issues of interest across research disciplines. They also agreed that his research engages in truly "big-picture" questions that cause readers to re-think assumptions about past climates and effects on cold landscapes with notable implications for improving understanding of the foreseeable impacts of contemporary climate warming, such as with the potential collapse of Greenland's ice sheet and the resilience of permafrost during warming phases. Indeed, Dr. Reyes' contributions truly exemplify the spirit of Dr. Mackay's legacy and CGRG's vision for this award.

The J. Ross Mackay Award is a plaque and a bottle of single malt scotch. Dr. Reyes will receive his award at an upcoming CGRG-GCRG meeting in 2017.

Alberto Reyes is currently working on a variety of projects, with a general focus on past environments and landscape change in Canada's northern regions. A current major interest is to develop records of early Cenozoic paleoclimate and greenhouse gas forcing in Canada's North, with particular emphasis on a unique Eocene lacustrine mud and peat sequence in kimberlite crater infill sediments. Reyes is also interested in applying geochemical provenance tools to problems in Quaternary geoscience. Other projects in early exploratory stages include tracking changes in sediment supply to Kluane Lake (Yukon) due to Holocene drainage reorganization, and prospecting for ancient early Archean rock localities using glacial sediments. Closer to Edmonton, Reyes is developing new interests in deglacial ice-sheet history of the western Laurentide ice sheet, particularly as it relates to the northwest outlet of Glacial Lake Agassiz. In Yukon and Alaska, Reyes has ongoing projects to develop new records of interglacial landscape change, and to refine regional geochronological frameworks by correlating tephra in terrestrial and marine sedimentary records.

Dr. Nicole Couture

2015 J. Ross Mackay Award winner

Dr. Nicole Couture is a Coastal Permafrost Scientist at the Geological Survey of Canada. She received her MSc and PhD in the Department of Geography, McGill University, in 2000 and 2010, respectively. Her research has positioned her as a prominent Canadian expert on coastal exposure and sensitivity mapping in support of sustainable development in the north. She is also recognized for her capacity to bring together international collaborators in order to address broad scale research challenges.

Dr. Couture's nomination for the 2015 Mackay Awards is based on her leading role in a large team-based research publication:

Lantuit, H., Overduin, P.P., **Couture, N.**, Wetterich, S., Aré, F., Atkinson, D., Brown, J., Cherkashov, G., Drozdov, D., Forbes, D.L., Graves-Gaylord, A., Grigoriev, M., Hubberten, H.W., Jordan, J., Jorgenson, T., Ødegård, R., Ogorodov, S., Pollard, W., Rachold, V., Sedenko, S., Solomon, S., Steenhuisen, F., Streletskaya, I. and Vasiliev, A. 2012. The Arctic Coastal Dynamics database: a new classification scheme and statistics on Arctic permafrost coastlines. *Estuaries and Coasts* 35: 383-400, doi: 10.1007/s12237-010-9362-6.

This publication integrates Dr. Couture's extensive experience in arctic coastal dynamics, including her leadership role in assembling, organizing and synthesizing an unprecedented dataset describing the geomorphology and stability of the pan-Arctic coast. This dataset enabled a truly 'global' perspective, including the fact that 34% of the world's coasts are affected by permafrost and subject to a distinctive set of littoral processes, and that some areas around the Arctic basin are experiencing high rates (> 3 m/yr) of coastal erosion.

In addition to the above publication, the award committee was impressed by Dr. Couture's outstanding effort to develop monitoring programs and datasets that serve the needs of international scientific programs: Arctic Coastal Dynamics, Circumpolar Arctic Coastal Communities Observatory Network, and CanCoast.

Dr. Couture received her award and presented the Mackay Lecture at the Joint Assembly (AGU-GAC-MAC-CGU) in Montreal on May 5, 2015. Her lecture was entitled: "The impact of climate change on Arctic coastal erosion".

Dr. Couture is a coastal permafrost scientist with the Geological Survey of Canada. Her research interests include assessing how ground ice governs the response of permafrost landscapes to development activities and changing environmental conditions. A particular focus of her work is the influence of coastal processes on nearshore and onshore permafrost where it is impacted by changes on three fronts: the terrestrial, the marine and the atmospheric. Some recent activities include modeling coastal erosion in the Arctic and mapping the sensitivity of Canada's marine coasts to inundation, coastal flooding and erosion arising from climate-related changes in sea level, sea ice and storminess. Dr. Couture received her Ph.D. from McGill University in 2010 where her research focused on erosion of permafrost along the Yukon Coast Plain, one of the most ice-rich areas in the world, and the consequent flux of organic carbon to the Arctic Ocean. She has been involved in coastal science activities since 1999, and is leader of the Arctic Coastal Dynamics (ACD) project, an international group that examines coastal processes and their impacts throughout the circum-Arctic region. Prior to joining the GSC, she was a lecturer in physical geography and geology at Bishop's University.

Nominations are currently being sought for the 2017 J. Ross Mackay Award. Information regarding the nomination process can be found at *http://cgrg-gcrg.com/awards*
Nominations must be received (preferably by e-mail) no later than *November 15, 2016.*

Student Profile
Anne Marie Megens
University of Toronto

Anna Marie Megens is a Ph.D. student in the Department of Geography at University of Toronto. She is currently working under the supervision of Dr. Joseph R. Desloges (University of Toronto) with a focus on the development of meandering rivers and floodplains. Anna Marie's interest in rivers and floodplains was sparked from her parents, whom took their family on annual canoe trips through Algonquin Provincial Park. Her thirst for exploring the great outdoors brought her to Memorial University of Newfoundland, where she achieved a B.Sc. Honours degree in the Department of Geography. Upon returning home to southwestern Ontario, Anna Marie worked for the Ontario Ministry of Agriculture and Rural Affairs and completed a Post-Graduate Certificate in GIS for Environmental Management, from University of Toronto's School for the Environment.

After completing the certificate program, it was clear that Anna Marie wasn't done, she applied to University of Toronto's Department of Geography, completing her M.Sc. in the summer of 2015. Ph.D. work began immediately the following September. During her M.Sc. Anna Marie studied the development of sand-bedded meandering rivers influenced by glaciated boundary conditions in southern Ontario. The objective of this research was to demonstrate the spatial relationships between channel morphologies in the context of glacial legacy effects.

Anna Marie's Ph.D. research focuses on the process and rates of meandering river channel and floodplain morphologies. Although it is widely recognized that floodplains play an important role in the storage of sediments, relatively little is known about the details of lateral transfer of sediment between the channel and the floodplain. Models simulating the long-term development of floodplains with meandering rivers, are widely recognized but also debated, due to a lack of well-documented field examples.

A challenge with Anna Marie's research is finding a fluvial archive with an extensive record. This has circumstantially paired her with researchers from the Archaeology Department at University of Toronto, Zhejiang University, Fudan University, and the Zhejiang Archaeology Institute, China. These researchers are interested in the paleo-geomorphic reconstruction of the Qu Jiang floodplain from which an ancient culture (~10,000 years old) has been observed to reside. For Anna Marie, the human occupation of a floodplain for over 10,000 years, provides a wealth of biological, lithological and archaeological evidence to use in the evaluation of processes and rates of a Holocene meandering floodplain system. China will not be her only stop, meandering rivers in Ontario and Europe are also being considered based on the morphological and chronostratigraphic evidence they offer.

Today, alongside her studies, Anna Marie is volunteering as CGRG's Student Observer and preparing a manuscript from her M.Sc. thesis. She is also excited to share her M.Sc. research at the FLAG Biennial Meeting 2016 in Poland, this September.

Student Profile

Aaron Tamminga University of British Columbia

Aaron Tamminga is a Ph.D. candidate in the Department of Geography at University of British Columbia (UBC). He is studying fluvial geomorphology with Dr. Brett Eaton (UBC). Aaron's research focuses on linking river morphodynamics with hydraulic and aquatic habitat changes, a path that grew out of the national NSERC HydroNet project's aim of understanding the impacts of hydroelectric power dams on aquatic ecosystems. To address these issues, Aaron combines fieldwork, remote sensing, and modeling to characterize rivers in three dimensions and investigate how changes in a river's physical structure alter flow patterns and habitat configurations.

Canadian by birth, Aaron grew up in Pennsylvania, where lazy summer afternoons spent turning over creek stones or following local streams' paths along the Ridge-and-Valley Appalachians by innertube developed into a deep interest in flowing water and the environments it creates. He returned to Canada for his B.Sc in Earth Systems Science at Queen's University, completing an honors thesis in the Geography Department with Dr. Neat Scott studying boreal forest biogeochemistry in northern Ontario.

To reconnect with the fluvial sciences, Aaron then started a Ph.D. at UBC. Aaron's research focuses on gravel-bed streams in the Canadian Rockies, particularly the Elbow and Kananaskis Rivers. In September 2012, Aaron had the opportunity to work with Dr. Chris Hugenholtz (University of Calgary) to test and develop methods of fluvial remote sensing with small unmanned aircraft systems (UASs) as a complement to Aaron's fieldwork on the Elbow River. They found that UASs provide a highly efficient and accurate way of measuring reach-scale channel topography and bathymetry, and demonstrated the utility of combining photogrammetry-derived elevation data and high-resolution air photos with numerical hydrodynamic modeling to extract relevant geomorphic and aquatic habitat information (Tamminga et al., 2015a).

In June 2013 a large flood hit southwestern Alberta, and Aaron's research took a turn to focus on the geomorphic impacts of such an infrequent disturbance event. Taking advantage of the detailed

pre-flood information from the 2012 UAS survey on the Elbow River, they resurveyed the same area to document morphodynamics and detailed modes of adjustment. This work showed the drastic, unpredictable nature of geomorphic turnover at the study reach, characterized by widespread bank erosion and a complete reorganization of channel pattern (Tamminga et al., 2015b).

Aaron is now working on linking the documented physical changes on the Elbow River with aquatic habitat responses. This involves combining reach-scale flow models with statistical clustering techniques to classify unique hydromorphic habitat units at different modeled discharges, allowing for investigation of spatiotemporal habitat dynamics. Aaron is excited by the potential advances in collecting and interpreting multi-scale fluvial data that remote sensing and numerical modeling offer, particularly when such an approach facilitates interdisciplinary aquatic investigation in support of the broader understanding of how rivers respond to environmental change.

Tamminga, A., Eaton, B., and Hugenholtz, C. (2015b). UAS-based remote sensing of fluvial change following an extreme flood event. *Earth Surface Processes and Landforms, 40*(11), 1464-1476.

Tamminga, A., Hugenholtz, C., Eaton, B., and Lapointe, M. (2015a). Hyperspatial remote sensing of channel reach morphology and hydraulic fish habitat using an unmanned aerial vehicle (UAV): A first assessment in the context of river research and management. *River Research and Applications, 31*(3), 379-391.

Upcoming meetings

2016 British Society for Geomorphology

The 2016 Annual Meeting of the British Society for Geomorphology will take place Sept 5-7 2016 at the University of Plymouth, Plymouth, UK.

For more information about the conference, please visit:
http://www.geomorphology.org.uk/meetings/bsg-annual-meeting-2016

The abstract deadline is **6 June 2016**

2016 Geological Society of America Annual Meeting

The 2016 GSA Annual Meeting will be held 25-28 September in Denver, CO, at the Colorado Convention Centre. Please note that the meeting dates are earlier this year.

For more information about the conference, please visit:
http://community.geosociety.org/gsa2016/home/

The abstract deadline is **12 July 2016**
International travel grants are due 17 June 2016.

2016 American Geophysical Union Annual Meeting

The 2016 AGU Fall Meeting will be held December 12-16 in San Francisco at the Moscone Centre.

For more information about the conference, please visit:
https://fallmeeting.agu.org/2016/

The abstract submission site will be open from 15 June to **3 August 2016**

9th International Conference in Geomorphology

The 9th bi-annual IAG International Conference on Geomorphology will take place in New Delhi, India from November 6-11, 2017.

In Memoriam

Ian Brookes (1940-2015)

Ian Brookes died February 13, 2015, after suffering a stroke six days earlier. He was appointed to the Department in 1965 to teach physical geography, the first specialist in that area and the fourth member of the Department. He retired from York in 1996, following a serious stroke. After his retirement he continued to carry on with most of his normal social and research activities, including going out into the field. He found walking difficult, but he let that hold him back as little as possible.

Ian was born in Torquay, Devon, England, and attended King's College, University of London, where he received his B.Sc. in geography in 1962. He went on to McGill University for his M.Sc. (1964) and Ph.D. (1970). His graduate work concerned the upland surfaces and glaciation of western Newfoundland. His first visit to Newfoundland was in 1964, and in January 2015, 51 years later, he was still planning further research in August in the Gros Morne area.

When he arrived at York, Ian first taught introductory physical geography and lectured in the Division of Natural Science. As the Department grew he developed courses in his specialty, geomorphology and glacial landforms, and in Canadian landscapes and the regional geomorphology of Canada, and taught surveying and field studies. He was co-founder of the undergraduate geography club and for many years was its faculty adviser. He was active in the York

Through his research Ian's heart became rooted in Newfoundland, but he carried out field research in other and more distant parts of the world. In the 1970s he did post-doc fieldwork in New Zealand, near Canterbury. In the 1970s to '90s, in collaboration with scholars from the Royal Ontario Museum, he spent some field seasons in Iran, in Egypt, in the Daklah Oasis area in the Sahara Desert 350 km west of Luxor, and also in Jordan.

Most of Ian's research publications are on Newfoundland, where he made important original contributions to our understanding of the surface geology and glacial history of the western part of the island. The results of his geoarchaeological investigations in Egypt and Iran were published in research articles, and also in more general form as background physical geography chapters in archaeological studies of particular ancient sites by other scholars.

He was founder and editor from 1985 to 1993 of "Canadian Landform Examples," a regular series in the professional quarterly journal, *The Canadian Geographer*.

Following his fieldwork in the Middle East, Ian became interested in T. E. Lawrence (Lawrence of Arabia), and he formed a fine collection of books by and on Lawrence. He wrote a massive manuscript (unpublished) analyzing in detail the topography of the areas traversed by Lawrence in his desert raids. Ian also had a profound interest in the history of Canadian geological exploration. He published articles on particular research contributions of two of Canada's pioneer geologists, Robert Bell and George M. Dawson, and he wrote a biography of Bell that remains unpublished. He also transcribed and annotated pioneer Canadian glacial geologist A. P. Coleman's field journal of journeys in Norway and Labrador. To the despair of possible publishers, Ian was unsparing in technical geological background, and in the need for detailed maps and illustrations in these biographical manuscripts. In recent years he worked hard to make his manuscripts more reader friendly, but at his death only a few general essays on Bell and Lawrence had been published.

Ian moved to Kingston in part to be closer to the archives in Ottawa, and yet still have ready access to both Toronto and Montreal. A lover of jazz, good singing, landscape art and avant garde movies, he returned often to Toronto to attend concerts, go to art galleries and catch up on movies. Ian was friendly, even gregarious, and enjoyed meeting people. Ian read widely, and liked to converse about art, science and particularly the history of geology. He had a combative critical temperament, and he could become quickly heated in conversation, but that would be followed by as quick a return to his usual stimulating genial self. Ian had a thorough knowledge of Canadian landscapes and Canadian landscape art, and was generous in sharing what he knew. His great joy was fieldwork, and quite appropriately his ashes will be scattered in Newfoundland, probably in the Gros Morne area in western Newfoundland.

- Prof John Warkentin, a colleague of Prof Brookes at York University

Join the Canadian Geomorphology Research Group

CGRG was established in 1993 at the International Association of Geomorphology Congress in Hamilton, Ontario. It provides a strong voice for geomorphology in Canada. Its objectives are to advance the science of geomorphology in Canada by 1) organizing and sponsoring technical sessions, workshops, and field trips, 2) publishing a homepage and newsletters, 3) operating a listserve (CANGEORG) which maintains a comprehensive bibliography of Canadian geomorphological, Quaternary, and environmental geoscience publications, 4) supporting publication of technical reports and field guides, 5) presenting the J. Ross Mackay Award in recognition of a significant achievement by a young geomorphologist in Canada, and 6) co-operating with related earth science associations within Canada (GAC, AQQUA, CAG, CANQUA, CGU).

We encourage all earth scientists with an interest in geomorphology to join CGRG. You may register online at our website: http://cgrg-gcrg.com/membership/ or by printing and mailing the registration form below.

Name: _____

Address: _____

_____

_____Postal Code:_____

Phone numbers: (Home)_____ (office)_____

e-mail address:_____

Institution:_____

Annual dues: $25 (free for student members)

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Student supervisor or Department head signature _____

Please make cheque or money order payable to the Canadian Geomorphology Research Group
Send completed form and cheque to: Jaclyn Cockburn, Secretary-Treasurer, Geography Dept., University of Guelph
50 Stone Rd. East, Guelph, ON N1G 2W1