BULLETIN DU GROUPE CANADIEN DE RECHERCHE EN GEOMORPHOLOGIE
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The Canadian Geomorphology Research Group
Le Groupe Canadien de Recherche en Géomorphologie
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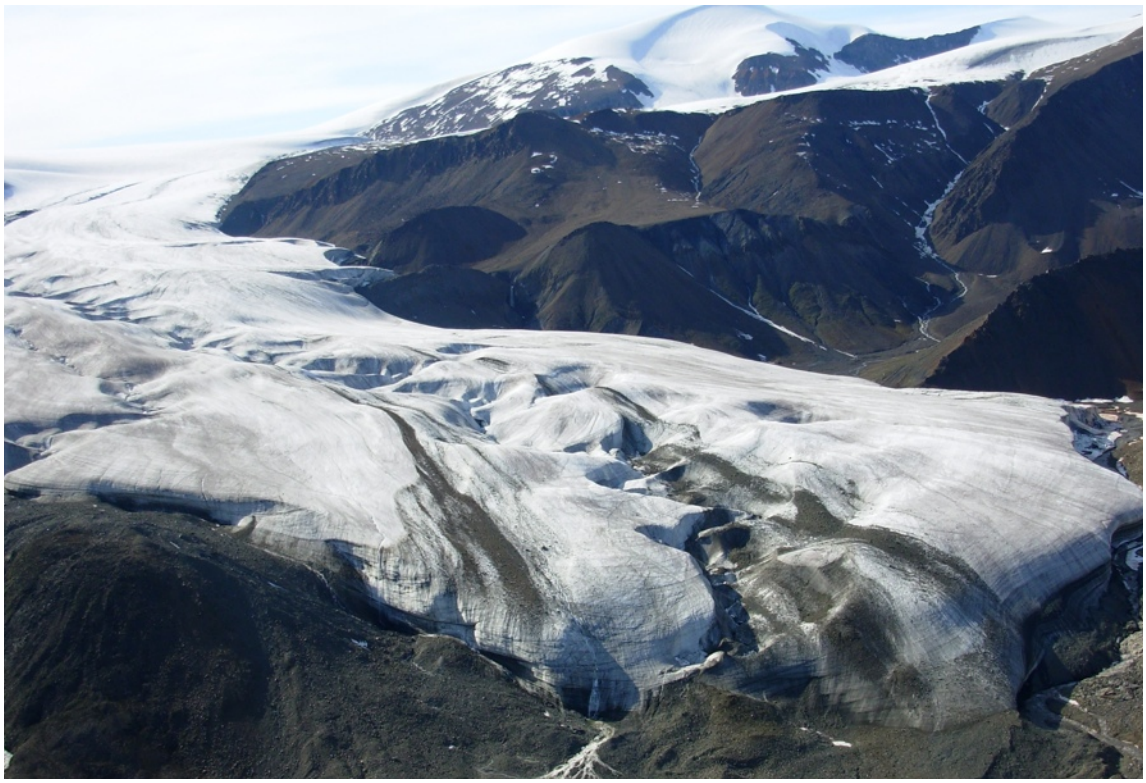

A stream-carved glacier on west central Axel Heiberg Island. Photograph by Tim Haltigin.

President's Message
Mot du Président

Stephen Wolfe, CGRG President

Welcome to 2009, and once again, welcome to *The Canadian Landscape*. At the outset of this message, I would like to thank Scott St. George for helping to provide us with a new format for presenting our Newsletter. I also include other words of thanks in this message, as many people have helped to make 2008 a productive year for CGRG.

Our membership grew to nearly 280 in 2008, an increase of about 40 new members over the previous year. This increase came almost exclusively from professional (dues-paying) members, which now number 142. In addition, we retained about 85 student members joining through our affiliated associations. Many thanks are due to Andrée-Blais Stevens, our outgoing Secretary Treasurer, for processing your annual dues and keeping our books and records in good shape.

As reported in the last newsletter, the finances of CGRG remain healthy, although the recent

Bonne année 2009 et, une fois encore, bienvenue dans *Le paysage canadien*. Pour débuter, je tiens à remercier Scott St. George pour sa collaboration dans l'élaboration du nouveau format de présentation de notre bulletin. D'autres remerciements s'ajouteront plus loin dans ce message, auprès des nombreuses personnes qui ont contribué à faire de 2008 une année fructueuse pour le GCRG.

Le nombre de membres est passé à près de 280 en 2008, soit une augmentation d'environ 40 nouveaux membres par rapport à l'année précédente. Cette augmentation est due presqu'exclusivement par l'adhésion de membres professionnels (payant), qui sont maintenant au nombre de 142. En outre, nous avons conservé près de 85 étudiants par le biais de notre adhésion à des associations affiliées. Merci infiniment à Andrée Blais-Stevens, secrétaire-trésorière sortante, pour le

policy of free student membership does affect our bottom line. CGRG brought in revenues of $3,590.76 in 2008, and spent $3,959.07, for a shortfall of $368.31. In the coming year, CGRG will likely have fewer expenses, and we anticipate a return to our usual modest surplus. For this reason, the Executive chose not to increase membership fees for 2009, and the fees remain at the original amount set in 1993.

The CGRG Executive has also been busy behind the scenes working to resolve issues around its status as a Division of the Geological Association of Canada. We thank John Gosse for his continuing liaison with GAC over this last year, as well as Executive Members of GAC who have worked with us to solve a number of outstanding questions. As a consequence of these discussions, CGRG has begun the process to change our Constitution. These modifications are presently being reviewed by CGRG Executive, as well as Executive of GAC and the Canadian Association of Geographers. The revisions will then be circulated to the Executive of our other affiliated associations. In the coming weeks, CGRG membership will be asked to vote on the changes to our Constitution. The most significant proposed modifications include requirements that (1) members of CGRG must be members of at least one affiliated association, and that (2) certain members of the Executive must be members of GAC.

CGRG President Steve Wolfe setting fire to sand dunes at CFB Suffield.

With regards to planned meetings for 2009, organization is continuing for CGRG's 2009 Annual General Meeting to be held in conjunction with CANQUA, May 3-8 at Simon Fraser University. Thanks go out especially to Brent Ward for his efforts in organizing the event. The meeting is shaping up as having a broad venue of interest to Quaternarists and geomorphologists alike. CGRG is sponsoring three special sessions at the meeting, and students presenting in these sessions will be eligible for the Olav Slaymaker Awards. In addition, CGRG will present special lectures by three recent winners of the J. Ross Mackay Award: Ian Walker, Brian Menounos and Thomas Buffin-Belanger.

We are also pleased to have Dr. Jeffrey Ollerhead, of Mount Allison University, representing Canada and the CGRG at the 7th International Conference on

traitement de vos cotisations annuelles et pour l'excellente tenue de livres et des dossiers.

Comme indiqué dans le dernier bulletin d'information, les finances du GCRG se portent très bien, même si la récente politique d'adhésion gratuite pour les étudiants affecte notre rentabilité. Le GCRG a généré des revenus de 3 590,76 $ en 2008, et dépensé 3 959,07$, créant un déficit de 368,31 $. Au cours de l'année en cours, le GCRG aura moins de dépenses, et nous prévoyons revenir à notre habitude d'un surplus modeste. Pour cette raison, l'exécutif a décidé de ne pas augmenter les frais d'adhésion pour 2009, et les frais demeurent à ceux fixés initialement en 1993.

L'exécutif du GCRG a également été très occupé dans les coulisses du travail afin de résoudre les problèmes reliés à son statut en tant que division de l'Association géologique du Canada. Nous remercions John Gosse pour sa liaison avec le GAC au cours de cette dernière année, ainsi que les membres de l'exécutif du GAC qui ont travaillé avec nous afin de résoudre un certain nombre de questions en suspens. En conséquence de ces discussions, le GCRG a débuté le processus pour modifier notre constitution. Ces modifications sont actuellement à l'étude par l'exécutif du GCRG, ainsi que par l'exécutif de GAC et l'Association canadienne des géographes. Les révisions seront ensuite distribuées à l'exécutif de nos associations affiliées. Dans les prochaines semaines, les membres du GCRG seront invités à voter sur les modifications de notre constitution. Parmi les modifications proposées, les plus importantes comprennent des exigences telles que (1) les membres du GCRG doivent être membres d'au moins une association affiliée, et (2) que certains membres de l'exécutif doivent être membres du GAC.

En ce qui concerne les réunions prévues pour 2009, l'organisation du GCRG tiendra son Assemblée générale annuelle 2009 en association avec le CANQUA, du 3 au 8 mai prochain, à l'Université Simon Fraser. Merci en particulier à Brent Ward pour ses efforts dans l'organisation de l'événement. La réunion se définit comme un lieu d'intérêt pour les quaternaristes et géomorphologues. Le GCRG parraine trois sessions extraordinaires au cours de cette réunion, et les étudiants présents à ces séances seront éligibles pour le Olav Slaymaker Awards. De plus, le GCRG participera à des conférences données par trois récents lauréats du Prix J. Ross Mackay: Ian Walker, Brian Menounos et Thomas Buffin-Bélanger.

Nous sommes également très heureux d'annoncer que le Dr Jeffrey Ollerhead, de l'Université Mount Allison, représentera le Canada et le GCRG à la 7è Conférence internationale sur la géomorphologie, de Melbourne en Australie cet été. Nous prévoyons que le GCRG parrainera d'autres sessions lors de plusieurs réunions au Canada durant l'année. Pour ce faire, les personnes doivent contacter l'exécutif du GCRG afin d'organiser le parrainage et la présentation du Prix Jean-Claude Dionne et le Prix Alan Trenhaile lors des sessions régionales en Géomorphologie.

En 2010, le GCRG tiendra son assemblée générale annuelle en collaboration avec l'Association canadienne des géographes, à Regina du 1er au 5 Juin. Cette réunion sera

Geomorphology in Melbourne Australia this summer. We anticipate that CGRG will also sponsor sessions at several other meetings in Canada this year. Individuals should contact the Executive to arrange CGRG sponsorship and presentation of the Jean-Claude Dionne Award and the Alan Trenhaile Award to regional sessions in Geomorphology.

In 2010, CGRG will hold its AGM in conjunction with the Canadian Association of Geographers meeting, June 1-5, in Regina. This meeting will also be co-convened by the Canadian Remote Sensing Society (CRSS), and the Atlas Division of Natural Resources Canada. CGRG also hopes to have a presence at GeoCanada 2010, May 10-13, in Calgary.

Finally, I am pleased to announce that Dr. Dan Smith, former Chair of Geography at the University of Victoria and President of the Canadian Association of Geographer, is CGRG's first recipient of a Distinguished Service Award. I sincerely hope that you will be able to join us at the CGRG-AGM in May to help us thank Dan for his contributions to our community.

également co-organisée par la Société canadienne de télédétection (SIR), et la division de l'Atlas de Ressources naturelles du Canada. Le GCRG espère également être présent à GeoCanada 2010, les 10-13 Mai, à Calgary.

En terminant, je suis heureux d'annoncer que le Dr Dan Smith, l'ancien Directeur du Département de géographie à l'Université de Victoria et président de l'Association canadienne des Géographes, est le premier récipiendaire du Prix pour Loyaux Services du GCRG. J'espère sincèrement que vous serez en mesure de vous joindre à nous lors de l'AGA du GCRG en mai prochain alors que nous soulignerons la grande contribution de Dan à notre communauté.

Traduction réalisée par Marie-Josée Tremblay, CGC-Q

'Member For Life'.
Cartoon by
Ole Heggen.

UVic's Smith honoured by CGRG with Distinguished Service Award

It is with great pleasure that the Canadian Geomorphology Research Group presents its first Distinguished Service Award to Dr. Dan Smith, Professor of Geography, University of Victoria. As a holder of the Distinguished Service Award, Dan will be considered a member of CGRG *in perpetuity* and will be absolved from paying annual membership dues.

Dan hosts the online component of the CGRG at a server in the University of Victoria Tree-Ring Laboratory. His many contributions include acting as CGRG webmaster, moderating the CGRG listserv, and overseeing the Group's Bibliography of Geomorphology. Dan also served as CGRG President in 1996.

Thank you Dan for your dedicated service to CGRG and Canadian geomorphology!

Above: Frazil ice floating in a bay, Parc du Bic.
Photograph by Thomas Buffin-Bélanger.

Thomas Buffin-Bélanger wins 2009 J. Ross Mackay Award

Yves Michaud, Past President

Dr. Thomas Buffin-Bélanger (PhD 2001, Université de Montréal) is the recipient of the Canadian Geomorphology Research Group J. Ross Mackay Award for 2009. Dr. Buffin-Bélanger's research is mostly in the field of fluvial geomorphology and fluvial hydraulics. His work relating river dynamics and fluvial geomorphology to stream ecology is among the first in Canada and he is at the forefront of the rapidly-growing field of eco-hydraulics and eco-geomorphology. This award was given to Dr Buffin-Bélanger in recognition of the work he did in measurement of turbulent flow structures in gravelly-bed rivers. He has been one of the pioneers in applying new instrumentation and field-based flow visualization techniques to produce tridimensional space–time matrices of velocity fluctuations which are extremely efficient tools to detect the passage of a "turbulent front". This quantification of the flow field was accompanied by novel visualization tools, which greatly enhanced our understanding of high-speed and low-speed wedges in gravel-bed rivers.

The Jury composed of John Clague, Don Forbes, Joe Desloges, Jean-Marie Dubois and Yves Michaud, has made an unanimous decision in favour of Thomas Buffin-Bélanger in recognition of its creativity and the importance of fundamental discoveries he made in the field of turbulent flow over rough beds, with significant implications for the understanding of fluvial geomorphology and stream ecology. He is now expanding this research to the study of river ice, including under-ice flow and frazil formation. His work is influencing a large cohort of young researchers at UQAR. His development of innovative techniques to acquire laboratory quality measurements in field environments and reproduce field conditions in the laboratory demonstrates a creativity and scientific commitment to detailed physical understanding in the study of geomorphology. His work thus reflects the career of Ross Mackay, who pioneered the application of experimental techniques in field research on the physics of frozen ground with important applications of larger-scale landscape management.

The following articles were cited as evidence of Dr. Buffin-Bélanger's contribution to geomorphology.

Buffin-Bélanger T, Roy AG (2005). One minute in the life of a river: selecting the optimal record length for the measurement of turbulence in fluvial boundary layers. *Geomorphology*, **68**, 77-94.

Roy AG, Buffin-Bélanger T, Lamarre H, et Kirkbride AD (2004). Size, shape and dynamics of largescale turbulent flow structures in a gravel-bed river. *Journal of Fluid Mechanics*, **500**, 1-27.

Paiement-Paradis G, Buffin-Bélanger T, et Roy AG (2003) Scaling relationships for large-scale turbulent flow structures in gravel-bed rivers. *Geophysical Research Letters*, **30 (14)**, 1773, doi:10.1029/2003GL017553.

Buffin-Bélanger T, Roy AG et Levasseur M (2001) Interactions entre les structures d'échappement et les structures à grande échelle dans l'écoulement turbulent des rivières à lit de gravier. *Revue des Sciences de l'Eau*, **14**, 381-407.

Buffin-Bélanger T, Roy AG, et Kirkbride AD (2000). Vers l'intégration des structures de l'écoulement dans la dynamique d'un cours d'eau à lit de graviers. *Géographie physique et Quaternaire*, **54**, 105- 117.

Buffin-Bélanger T, Roy AG et Kirkbride AD (2000) On large-scale flow structures in a gravel-bed river. *Geomorphology*, **32**, 417-435.

Researcher Profile
Dr. Kyle Hodder
University of Regina

Kyle spent his youth in, and among, the lakes and rivers of Ontario. An inability to stay indoors led to an undergraduate degree in Botany and Environmental Geography at the University of Toronto. Under the direction of Tony Davis and Joe Desloges, Kyle studied floodplain architecture along the Grand River near the town of Cayuga. That work cultivated an early interest in linking processes with the sedimentary record. The vast network of glacilacustrine sediments in the Canadian Cordillera, unknown to him as an undergraduate, provided an ideal environment in which to explore the links between process and sedimentary record. He subsequently spent several weeks hauling samples of varved sediment from the bottom of Mud Lake, British Columbia in pursuit of graduate studies. The unique, and exciting, structure of these deposits captivated his interest and instilled a deeper desire to explore the network of processes that connect a lake with the hydrologic, geomorphic and climatic processes of the associated drainage basin.

In hopes of exploring this further, Kyle embarked on a study of glacilacustrine sediments in the Mérida Andes, and subsequent fieldwork targeting the glacially-derived sediments of West Greenland fjords. By stroke of fate, the ice was late leaving those fjords in 1998, which prevented access via ship to sampling stations on shore – but provided an opportunity for extended exploration of Kangerlussuaq and environs. While marooned in the ice, Kyle met Bob Gilbert and identified several mutual interests; some of which were explored during subsequent graduate work in the Department of Geography at Queen's University. Kyle's Ph.D. dissertation investigated the process of flocculation as one component of the process-network feeding Lillooet Lake, British Columbia. He was pleased to add a new dimension to the growing body of Canadian work on freshwater flocculation, especially the foundational work that H. John Fraser initiated in 1926 at the University of Manitoba. Kyle's dissertation was nominated by the Department of Geography at Queen's University for the CAGS/UMI Distinguished Dissertation Award in 2008.

Exploring ice, water and sediment at Matier Glacier, British Columbia

Sampling suspended sediments at the Lillooet River delta, British Columbia

The University of Regina

Kyle joined the Department of Geography at the University of Regina in 2007. In 2008, he led the creation of the Prairie Environmental Process Laboratory, in collaboration with Joe Piwowar (Canada Research Chair in Geomatics and Sustainability, University of Regina) and Dave Sauchyn (Prairie Adaptation Research Collaborative). This facility will integrate the study of present hydrologic processes (Hodder), the pattern and process of landscape change (Piwowar); and the intensity, frequency and duration of past precipitation and stream flow (Sauchyn). Kyle looks forward to extending his field research on sediment transfers in glacier-fed environments during summer 2009, and is currently collaborating on a Watershed Evaluation of Beneficial Management Practices proposal focusing, in part, on sediment-nutrient interactions in the prairie pothole region.

Kyle eagerly anticipates hosting the Canadian Geomorphology Research Group in 2010 at the University of Regina (June 1 – June 5), in concert with the Annual Meetings of the Canadian Association of Geographers (CAG), The Canadian Remote Sensing Society (CRSS), and the Atlas Division of Natural Resources Canada. Field trips are planned to Grasslands National Park (the first national park of Canada to preserve mixed prairie grassland) and the Cypress Hills (the highest point in Saskatchewan and part of the Continental Divide).

"I feel fortunate that my research has allowed me to work with great people in spectacular settings, while at the same time making discoveries that contribute in a meaningful way to our knowledge of environmental change."

Alberto Reyes

Student Profile
Alberto Reyes, University of Alberta

Alberto is a Ph.D. student in the University of Alberta's Department of Earth and Atmospheric Sciences working with Duane Froese. He started his academic career studying history at the University of Victoria, but soon switched into the Geography program. Since then, Alberto has tackled a broad range of research questions in Quaternary geology and has benefited from the guidance of several excellent mentors.

His first research project was supervised by Dan Smith and used tree-ring dating to estimate pre-historic movement of a rock glacier near the Columbia Icefields. While working in Dan's research group, Alberto also investigated the chronology of Little Ice Age glacier advances and associated ice-dammed lakes in the St. Elias Mountains. This work continued under the supervision of John Clague, and Alberto was awarded an M.Sc. degree from Simon Fraser University for his study of Holocene glacier fluctuations in the southern Coast Mountains.

Alberto's dissertation research has focused on using the last interglaciation (~125,000 years ago) as an analogue for future warming in the North. His work at several sites in Yukon and Alaska shows, for the first time, that permafrost persisted through the last interglaciation despite widespread degradation. He is also working on stable isotope analyses of ancient tree-rings and relict permafrost pore ice as paleoclimatic tools. The long sedimentary records of unglaciated Yukon and Alaska require dating methods beyond the limit of radiocarbon, and Alberto enjoys dabbling in tephrochronology as a means of correlating key horizons over large distances.

Outside of school, Alberto enjoys hockey, the challenging sport of disc golf, classical music, and being in the mountains.

For more information on Alberto's research, visit www.ualberta.ca/~areyes.

CANQUA-CGRG 2009 announces special sessions, field trips

In conjunction with the Canadian Quaternary Association, the Canadian Geomorphology Research Group will hold its Annual General Meeting at Simon Fraser University on May 3 to 8, 2009. The meeting is shaping up as the can't-miss event for Canadian geomorphologists for 2009, and includes a host of CGRG-related activities.

Mackay Award winners

Three recipients of CGRG's J. Ross Mackay Award - Ian Walker, Brian Menounos and Thomas Buffin-Bélanger - will deliver keynote presentations describing their award-winning research.

Special sessions

CGRG is sponsoring three special sessions on topics related to Canadian geomorphology:

Special Session in Honour of Bob Gilbert's Retirement. Bob Gilbert has had a long and distinguished carrier in Quaternary science. This session will bring together friends and colleagues to celebrate this momentous event. *Scott Lamoureux (Queens), Brian Menounos (UNBC) and Joe Desloges (Toronto)*

Sedimentary Processes and Landscape Evolution. This session explores sedimentation processes in rivers, lakes and aeolian and marine environments and their linkages to the development of the contemporary landscape. *Jeremy Venditti (SFU)*

Natural Hazards and Risk. This session brings together researchers working on hazardous natural processes and the risks they pose. *Dan Shugar and John Clague (SFU)*

Other planned sessions span the breadth of Quaternary studies in Canada and highlight topics such as paleoecology, postglacial landscape adjustment, glacial and subglacial processes, and cosmogenic dating.

Field trips

The conference will also feature several field trips led by CGRG members, including visits to the Sea-to-Sky Highway, the Lower Fraser Delta, the Okanagan Valley and the Channelled Scablands of eastern Washington.

More information

The abstract deadline for CANQUA-CGRG 2009 is **March 13, 2009**. More details are available at the meeting's website (http://www.sfu.ca/earth-sciences/CANQUA/). Please join us at SFU in May!

Spend three days in the world-famous Channelled Scablands of eastern Washington

Dear friends and colleagues,

It gives me great pleasure to invite all of you to attend the Seventh International Conference on Geomorphology in Melbourne.

This will be the first time our international conference has been held in the Southern Hemisphere, and we are working hard to make sure that all delegates have the chance to learn about, and experience first-hand, some of our fascinating antipodean landscapes.

The conference will be held in a brand-new, environmentally-certified Convention Centre, located on the banks of the Yarra River, in the popular Southbank precinct of the city of Melbourne. Fine accommodation, dining, shopping, and entertainment are all available close to the conference venue.

The Organising Committee has been working hard to develop a wide-ranging scientific program, and we are very grateful to those of you who have proposed scientific sessions or who have agreed to be session convenors. Our conference theme 'Ancient Landscapes – Modern Perspectives' reflects our location, but the program will be very wide ranging. Not least this is because our colleagues in New Zealand are very much involved in conference organization, and are offering delegates the opportunity to join fieldtrips to their own very different and tectonically-active landscapes.

I think that this will be a very exciting conference, and an important chance for all of us to meet, discuss research issues in geomorphology, and maintain or initiate international collaborations. The host organization, the Australian and New Zealand Geomorphology Group, and the members of the Organising Committee, very much look forward to welcoming you all to Melbourne in July 2009.

The Geomorphology 2009 Organising Committee would like to remind you to submit your abstract for Geomorphology Conference 2009 to be held at the Melbourne Convention and Exhibition Centre, from 6 - 11 July 2009.

The deadline is approaching fast, with the final call for all abstract submissions on 4 February 2009.

The submission guidelines and abstract themes are available on the Geomorphology Conference website (www.geomorphology2009.com). Don't miss out on your last chance to be involved in the Geomorphology Conference 2009!

Best wishes,

Brian Finlayson,
Chair, Local Organising Committee

Nominations are open for 2009/10
CGRG executive positions

The Canadian Geomorphological Research Group is accepting nominations for positions on the 2009-10 Executive Committee. Responsibilities for the new positions will begin in May 2009, following CGRG's Annual General Meeting with CANQUA at Simon Fraser University.

Executive positions to be filled include:

Vice President (one term, followed by terms as President and Past-President)
Members-at-Large (up to 3 terms)
Secretary-Treasurer (1 position required, no limit on term)

Individuals interested in a position, or their nominees, can contact Andrée Blais-Stevens (ablais@nrcan.gc.ca) or other members of the Executive. Candidates should be put forward by a nominee in writing (email is OK) before May 3, 2009. Nominations made also be made verbally at the AGM. Positions will be decided by vote, or by acclamation, at the AGM. In the event that any positions are not filled following the AGM, they may be filled by Executive decision thereafter.

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 newsletters twice a year, 3) operating a listserver (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.

Name: _____

Address: _____

_____

_____Postal Code:_____

Phone numbers: (Home)_____ (office)_____

e-mail address:_____

Institution:_____

Annual dues: $15 (free for student members)

New member_____; membership renewal_____ Please check one
Student _____ Academic_____ Government_____ Industry_____ Please check one

Student supervisor or Department head signature _____

Please make cheque or money order to the Canadian Geomorphology Research Group

Send completed form and cheque to: Andrée Blais-Stevens, Secretary-Treasurer, Geological Survey of Canada, 601 Booth Street, Ottawa, ON, K1A 0E8

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