



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

BULLETIN DU GROUPE CANADIEN DE RECHERCHE EN GEOMORPHOLOGIE
LE PAYSAGE CANADIEN
THE CANADIAN LANDSCAPE
THE NEWSLETTER OF THE CANADIAN GEOMORPHOLOGY RESEARCH GROUP

No. 25, September 2008

Firth River
Canyon, Ivvavik
National Park,
Yukon Territory.
Photograph by
Greg Brooks.



President's Message Mot du Président

Stephen Wolfe, CGRG President

Welcome to the new issue of *The Canadian Landscape*, the newsletter of the Canadian Geomorphology Research Group. After consultation at the Annual General Meeting in Banff, CGRG has revamped its newsletter - with many thanks to our Newsletter Editor - and adopted a name relevant to Canadian geomorphology. We hope you like the new format, and ask that you send any comments (positive or otherwise) to Scott St. George.

This year is the 15th anniversary of the CGRG's birth at the Third International Geomorphology Conference at McMaster University. The latest count places our membership at 238, with nearly 80 new members since 2005. A major factor for this recent increase was the adoption of free student membership in 2006. This policy is an excellent way to encourage young researchers from any of our supporting associations towards the field of geomorphology. The Group has

Bienvenue à la toute nouvelle édition du bulletin intitulé « Le paysage canadien » du Groupe canadien de recherche en géomorphologie. Après consultation lors de l'assemblée générale annuelle à Banff (en mai 2008), le GCRG a décidé de réorganiser son bulletin d'information – un grand merci d'ailleurs au rédacteur - et a adopté un nouveau nom relié à la géomorphologie. Nous espérons que vous aimerez ce nouveau format et que vous soumettrez vos commentaires (positifs ou autres) à l'attention de Scott St. George.

Cette année marque le quinzième anniversaire du GCRG qui a été fondé lors de la 3^e Conférence Internationale en Géomorphologie à l'Université McMaster. Au dernier décompte, nous avons 238 membres avec presque 80 nouveaux membres depuis 2005. L'un des facteurs majeurs de cette récente augmentation a été l'adoption d'un nouveau règlement qui permet aux étudiants de

about 85 student members that joined through our supporting associations. Last year's membership drive also helped to boost the number of paying members to over 150 (from about 100 in 2007). In short, CGRG has more members than at any other time in its history.

Because of the high number of student members, CGRG has become younger with age. In response, the Executive undertook an initiative last year to increase its focus and relevancy towards young geomorphologists. In addition to the annual Mackay Award to a young geomorphologist, and the Olav Slaymaker Awards for best talk and best poster at the AGM, CGRG created the Jean-Claude Dionne Award and the Alan Trenhaile Award. These new awards replace the regional student awards for best talk and best poster at regional CGRG-sponsored sessions. These awards are valued at \$50 each (cash is now given in lieu of CGRG t-shirts), with up to six awards presented annually. Individuals should contact the Executive to arrange CGRG sponsorship of regional sessions on geomorphology.

Most of the dues paid to CGRG go to support students and young geomorphologists in Canada. By supporting CGRG, you are helping to recognize and encourage students and young scientists within the discipline of geomorphology.

Financially, CGRG remains healthy, although the recent policy of free student membership affected our bottom line. For example, with an estimated income from membership of \$2250 (based on 150 paying members), our main expenses include awards (\$1500), dues to the International Association of Geomorphologists (\$828) and session sponsorship (\$100). These expenses result in a slight budget shortfall, as membership dues do not cover annual expenses. The small projected shortfall for 2008 will be offset by interest (~\$300) and donation revenues (~\$270). In 2007, CGRG cashed \$5k of its \$15k GIC investments to purchase a new computer for its server in Victoria (\$1500), and retains about \$4500 in cash. In short, CGRG presently operates close to the margin of balance, neither gaining nor losing funds. If CGRG wants to do more to recognize achievements of students, young researchers and other geomorphologists, then it is probably time to revisit its membership fee, which has remained unchanged at \$15 for the last 15 years.

This year, we are pleased to welcome Duane Froese (Vice-President), Scott St George (Newsletter Editor), Ian Walker (Member-at-Large) and Genevieve Marquis (Graduate Student Observer) to the CGRG Executive. We also thank Yves Michaud (now Past-President), Scott Lamoureux, John Gosse and Dan Shugar for their contributions to the Executive over the last several years. The Executive has also retained John Gosse as the GAC Representative Officer to assist with issues pertaining to the Geological Association of Canada. Since its formation in 1993, CGRG has been recognized as a Division of GAC. In recent years, however, issues with GAC's insurance supplier have arisen due to the fact that not all CGRG members are members of GAC. CGRG Executive have indicated to GAC that it cannot expect all members of CGRG to be GAC members, as many register their membership through other associations (CAG, AQQUA, CANQUA and more recently

s'inscrire gratuitement. Cette politique est un moyen d'encourager les jeunes chercheurs des autres associations de soutien à s'intéresser à la géomorphologie. Le GCRG compte environ 85 membres étudiants provenant des associations de soutien. L'an dernier, la campagne d'adhésion a aussi contribué à augmenter le nombre de membres payants à plus de 150 (au lieu de 100 en 2007). Bref, le GCRG a maintenant plus de membres que jamais.

En raison du nombre élevé de membres étudiants, le GCRG a rajeuni avec le temps. À cet effet, les membres de l'exécutif ont pris l'initiative de se concentrer davantage sur les jeunes géomorphologues. En plus du prix annuel John Ross Mackay remis à un jeune géomorphologue et des prix Olav Slaymaker pour la meilleure présentation orale et la meilleure affiche lors de l'AGA, le GCRG a créé le prix Jean-Claude Dionne et le prix Alan S. Trenhaile. Ces deux nouveaux prix remplacent les « Regional student Awards » attribués à la meilleure présentation orale et la meilleure affiche lors de sessions commanditées par le GCRG. Ces prix ont une valeur de 50\$ chacun (une valeur monétaire remplace maintenant l'ancien prix, soit un t-shirt) ayant une limite de six par année. Les individus intéressés à organiser une session spéciale en géomorphologie lors de conférences régionales doivent contacter les membres de l'exécutif. Ainsi, la plupart des frais d'adhésion sont donc dirigés vers l'appui de jeunes géomorphologues canadiens. En appuyant le GCRG, vous contribuez à reconnaître et encourager les étudiants et les jeunes scientifiques travaillant en géomorphologie.

Financièrement, le GCRG demeure en bonne santé même si la toute récente politique d'adhésion gratuite pour les étudiants a affecté notre rentabilité. Par exemple, en se basant sur un nombre approximatif moyen de membres, soit 150, nous calculons un revenu de 2250\$ par année. Nos dépenses principales incluent les prix (150\$), les frais d'adhésion pour l'Association Internationale des Géomorphologues (828\$) et les subventions de sessions spéciales (100\$). Ces dépenses démontrent un léger déficit budgétaire, les cotisations ne couvrant pas tous les frais annuels. Ce petit déficit projeté pour l'année 2008 sera cependant compensé par les intérêts (CIG; 300\$) et les revenus en don (270\$) que nous avons reçus. En 2007, le GCRG a encaissé 5000\$ de ses 15 000\$ en fonds à intérêt garanti pour acheter un nouveau serveur à l'Université de Victoria (1 500\$) et a conservé 4500\$ dans son compte d'épargnes. Bref, le GCRG se maintient sans perte ni gain financiers. Si le GCRG veut d'avantage reconnaître les réalisations des étudiants et des jeunes géomorphologues, il se doit de réexaminer la politique des frais d'adhésion de 15\$ par individu, qui n'a pas été changée depuis 15 ans déjà.

Cette année, nous sommes heureux de souhaiter la bienvenue aux nouveaux membres de l'exécutif du GCRG, soient Duane Froese (Vice-président), Scott St George (Rédacteur en chef du bulletin), Ian Walker (Représentant des membres) et Geneviève Marquis (Représentante des étudiants). Nous voulons aussi remercier Yves Michaud (Président-sortant), Scott Lamoureux, John Gosse, Dan Shugar pour leurs efforts et leurs contributions au GCRG

CGU). If unsolved, CGRG could lose its affiliation with GAC as a Division. Discussions with GAC are ongoing.

CGRG continues to make plans for the 2009 Annual General Meeting to be held in conjunction with CANQUA. We hope that this meeting will be highlighted by presentations from several recent winners of the J. Ross Mackay Award, with associated thematic sessions and other events. For various reasons, a Mackay lecture has not been delivered at the AGM for several years. We anticipate that the upcoming meeting in Vancouver will be an opportunity to amend this situation and to present several deserving recipients with awards. In addition, persons planning to nominate a young researcher for the 2009 Mackay Award should be aware that the deadline for nomination is October 15. With an earlier deadline, we hope that future recipients will receive notice of their award with sufficient time to prepare for lectures at the AGM.



Hillary Dugan
tracking water and
sediment flux on
Melville Island,
Nunavut.
Photograph by Scott
Lamoureux.

depuis plusieurs années. Les membres de l'exécutif ont demandé à John Gosse de continuer son mandat de représentant de l'AGC pour faire la liaison et répondre aux questions soulevées par l'Association Géologique du Canada. Depuis sa création en 1993, le GCRG a été reconnu comme une division de l'AGC. Au cours des dernières années, toutefois, des questions relatives aux assurances de l'AGC ont surgi parce que les membres du GCRG ne sont pas nécessairement membres de l'AGC. Les membres de l'exécutif du GCRG ont indiqué à l'AGC qu'il est impossible de s'attendre à ce que tous les membres du GCRG soient membres de l'AGC parce que plusieurs s'inscrivent par l'entremise de d'autres associations, soient l'ACG, l'AQQUA, la CANQUA et tout récemment, l'UCG. Si cette question n'est pas réglée bientôt, le GCRG pourrait perdre son statut de division auprès de l'AGC. Les discussions sont toujours en cours.

Le GCRG continue à planifier sa prochaine réunion générale annuelle qui aura lieu lors de la réunion conjointe avec l'Association Canadienne pour l'étude du Quaternaire (CANQUA) en 2009. Nous espérons que cette réunion mettra en évidence les derniers récipiendaires du prix J. Ross Mackay en leur permettant de faire des présentations orales lors des sessions thématiques spéciales ou d'une autre activité quelconque. Les présentations Mackay n'ont malheureusement pas eu lieu pendant plusieurs années. Nous espérons qu'à notre prochaine rencontre à Vancouver, sera une occasion de modifier cette situation et de présenter les lauréats des dernières années. De plus, si vous planifiez nommer un jeune chercheur pour le prix Mackay 2009, veuillez prendre connaissance que la date limite est le 15 octobre 2008. En devançant la date limite, nous espérons que les prochains récipiendaires seront avisés suffisamment d'avance pour préparer leur présentation à la réunion annuelle du GCRG.

Geomorphologists honoured at 2008 Canadian Geophysical Union meeting

Hydrology was a hot topic at the recent Canadian Geophysical Union meeting in Banff, and several prizes were awarded for work in geomorphology:

Best student paper (runner-up)

Toby Gardner, University of Western Ontario, for his presentation (co-authored with Peter Ashmore) titled "Confluence evolution and river bed deposit geometry in a braided river model".

Campbell Scientific Award for best student poster in hydrology

Hillary Dugan, Queen's University, for her poster (co-authored with Scott Lamoureux, Mellisa Lafrenière and Ted Lewis) titled "The contribution of unusual active layer thaw in hydrological and sediment yield response to rainfall events in a small High Arctic watershed".

CGU Young Scientist Award

Finally, congratulations to former CGRG Newsletter Editor **Scott Lamoureux** for receiving the 2008 CGU Young Scientist Award!



"I consider Brian the best dendrochronologist that Canada has produced to date. He has raised the bar of the science in both Canada and abroad to a very high level, and has provided an impetus for younger scientists to follow in his footsteps."

John Clague, Simon Fraser University



Canadian geomorphologist wins international award for tree-ring research

Brian Luckman has been awarded the inaugural Harold C. Fritts Award for Lifetime Achievement in Dendrochronology.

The award was presented by the international Tree-Ring Society at the First American Dendrochronology Conference in Vancouver on June 25 2008. The Fritts Award is given to a person who has significantly influenced the field of dendrochronology and has made it more recognizable among its peer sciences. The award is dedicated to Harold (Hal) Fritts, an Emeritus Professor of Dendrochronology at the University of Arizona and founder of the discipline of quantitative dendroclimatology.

Brian joined the Department of Geography at the University of Western Ontario in 1974 after completing his Ph.D. at McMaster University. His early research focused on alpine and glacial geomorphology in the Canadian Rockies, where he established himself as a leading authority on talus processes and Holocene glacial history. In the early 1980s, Brian's interests shifted to dendrogeomorphology and environmental change and he rapidly became a recognized expert in the use of tree rings to track past changes in alpine glaciers. More recently, Brian and his students have advanced our understanding of climate change in western Canada during the last millennium, including major studies on drought, glacial dynamics, and potential causes of the 'divergence' problem.

Brian is a past President of the CGRG (1999 - 2000) and the Ontario Association of Geomorphologists, and former Global Change Coordinator for the Geological Survey of

Canada. He serves on the editorial advisory boards of *The Holocene*, *Arctic, Antarctic & Alpine Research*, *Geomorphology* and *Dendrochronologia*. In 2005, Brian received the Canadian Association of Geographer's Award for Scholarly Distinction in Geography.

Writing in support of his nomination for the Fritts Award, Brian's colleagues noted the broad scope of his research interests and his enormous contribution to tree-ring science in Canada and abroad. Many recognized his work with the Inter-American Institute for Global Change spearheading a major collaborative research program on the hydrology of the American Cordillera. Brian was also described as "probably the single most important person promoting tree-ring research throughout the Americas, and especially in Latin America". His former students characterized Brian as "an extraordinary supervisor" who is both supportive and challenging. They also made special mention of the effort made by Brian and his family to help international students adjust to life in Canada.



Annual General Meeting: CGRG meets with the Canadian Geophysical Union in Banff

Yves Michaud, Past President, and Andrée Blais-Stevens, Secretary-Treasurer

This year, CGRG met with CGU for the first time since a Memorandum Of Understanding was signed between the two organizations in 2005. CGRG convened its Annual General Meeting in conjunction with the 34th annual meeting of the Canadian Geophysical Union at the Banff Park Lodge, which was an excellent venue for this event. The meeting was a three-day conference along with a full day field trip in the mountains around the Columbia Icefield. More than 270 people attended the meeting, presenting about 240 paper in four concurrent sessions. Overall, the joint meeting was very well organized and attended. It also provided excellent networking opportunities with our geophysical and hydrological colleagues. After presenting the Olav Slaymaker awards at the banquet, Yves Michaud took the opportunity to thank the organizing committee and the CGU executive for accommodating CGRG at the meeting. Now that the ice has been broken, the door is wide open to continue our collaboration with CGU.

More than 40 members were present for CGRG Annual General Meeting on May 13, 2008. Outgoing President Michaud chaired the meeting. After the meeting agenda and minutes to last year's meeting were approved, Yves presented the highlights of the past year, including: new student awards for regional joint conferences, a modified web site, the new server for our web master Dan Smith (University of Victoria),

and modifications to the CANQUA registration form (now CANQUA members can register with CGRG when renewing their membership. Moreover, Yves also mentioned the ongoing discussions with GAC about CGRG remaining a division or not (also noted in the President's message). CGRG members were encouraged to start planning for a joint meetings with CANQUA (at Simon Fraser University in 2009) and with Geoscience Canada (Calgary in 2010). Andrée Blais-Stevens (Secretary-Treasurer) provided the annual financial statement and indicated that we are making ends meet. Furthermore, Dirk DeBoer, as Past-president awarded the J. Ross Mackay award to Brian Menounos (UNBC) for his innovative research.

Finally, a call for new executive members took place starting with the nomination of Stephen Wolfe (Geological Survey of Canada) as our new President. Other nominations were: Duane Froese (University of Alberta) as Vice-President, Scott St. George (GSC) as Newsletter Editor, Ian Walker (University of Victoria) as Member-at-Large, and Geneviève Marquis (Université de Montréal) as Graduate Student observer. Yves concluded by thanking everyone for attending and for their ongoing enthusiasm towards the association and geomorphology in general.



Tree rings track pollution in Cape Breton. Hannah MacDonald (Mount Allison University) collects tree-ring samples close to the Sydney Steel Plant.

CGRG supports tree-ring sessions at 2008 CAG in Québec City

The CGRG sponsored four sessions on dendrochronology and physical geography at the Canadian Association of Geographers meeting held in Québec City between May 20 and 24, 2008. The sessions included 19 presentations on topics related to glacial geomorphology, paleoclimatology, archeology, forestry and environmental quality.

Best oral presentation

Hannah MacDonald, Mount Allison University, for her presentation (co-authored with Colin Laroque and David Fleming) titled "Dendrochemical analysis of the Sydney Steel Plant site".

Best poster presentation

Andrew Trant, Memorial University, for his poster (co-authored with Luise Hermanutz) titled "Reconstructing treeline forests: exploring patterns of disturbance in the Mealy Mountains, Labrador".

Reproducing a steep mountain channel in a flume experiment. Photograph by André Zimmermann.



Slaymaker awards go to UBC and Alaska Fairbanks students

Here are the winners of the 2008 Olav Slaymaker Awards that were announced at the Joint CGU/CGRG meeting in Banff. Congratulations to André and Eva!

Best oral presentation

André E. Zimmermann, University of British Columbia, for his presentation (co-authored by Michael Church and Marwan A. Hassan) "Step-pool stability experiments".

In mountains, steep streams with step-pool and cascade morphologies are abundant. As development continues humans are living closer to such channels and as a result, engineers are increasingly asked to assess the stability of mountain streams. Due to the episodic delivery of sediment and the structured nature of headwater streams, knowledge from lowland streams cannot be transferred to headwater streams. Thus there is a need for experimental studies examining the stability of such channels. To conduct such a study, new experimental techniques were developed and a flume was designed and built. Channel width, bed grain size and channel gradient were varied and step-pool bedforms were created and subsequently destroyed. Video records confirm that keystone jam across the channel causing steps to form which most frequently fail when the downstream scour pool undermines the step forming stones. The stability of the bed as a function of shear stress was assessed for a wide range of width/bed grain size ratios (the 'jamming ratio') and a stability field was developed. Points falling well above the best-fit line are predicted to be unstable, while points falling well below the best-fit line are likely stable. A note of caution is, however, warranted before applying the results in the field; the data were derived from flume experiments and have not been calibrated in the field.

Best poster presentation

Eva Stephani, University of Alaska Fairbanks, for her poster (co-authored by Daniel Fortier, R. Walsh and Y. Shur) "Preservation of the Alaska Highway".

The Yukon Government is establishing an experimental road test section along the Alaska Highway where a number of mitigation techniques to control the degradation of the permafrost will be tested. Six techniques will be implemented: 1) Air convection embankment (ACE); 2) heat drain; 3) air duct cooling system; 4) thermo-reflective snow shed; 5) grass covered embankment; and 6) light-colored aggregate bituminous surface treatment (BST). The study site has been selected on the basis of its ice-rich nature, which was determined by coring during the summer of 2007. Thermistor cables installed in the side slope of the embankment and drilling and coring of the berms revealed the presence of deep and extensive unfrozen zones undergoing periodical freezing and thawing associated with interannual air temperature fluctuations. Our study indicates that a detailed spatial geotechnical characterization of the permafrost (e.g. volumetric ice content, grain-size distribution, thaw-settlement potential, thaw consolidation potential, ground thermal regime) is needed to assess the effectiveness of mitigation measures aimed at controlling the degradation of the permafrost under transport infrastructures.

Researcher Profile

Dr. Jeremy Venditti Simon Fraser University

Jeremy grew up in Thorold, Ontario. He has a B.Sc. degree from the University of Guelph and a Masters degree from the University of Southern California. While at USC, Jeremy studied turbulence generated by bedforms in the Green River, Colorado with Bernie Bauer. He also examined flow over bedforms in a laboratory channel at the USDA National Sedimentation Laboratory (NSL) in Oxford, Mississippi with Sean Bennett. Jeremy returned to Canada to study for a Ph.D. with Michael Church at the University of British Columbia. His doctoral work continued to investigate bed roughness in river channels and focused on the transitional states that occur as bedforms develop from a flat bed to three-dimensional dunes. This involved a series of laboratory experiments at the NSL, again in collaboration with Sean Bennett. The work examined the mechanisms responsible for bedform initiation from a flat sand bed, the growth of 2D straight crested bedforms, and the transition from 2D to 3D dunes.

Jeremy returned to California in 2004 to work on stream restoration with Bill Dietrich's research group at the University of California Berkeley. He oversaw the design and installation of a 30m flume for modeling sediment transport in gravel-bedded rivers. Using both this flume as well as the main



The gravel-bedded Quill River, Yukon. Photograph by Jeremy Venditti.



Digging into the Matsqui Bar, Fraser River

channel at St. Anthony Falls Laboratory in Minneapolis, Minnesota, Jeremy undertook a series of experiments examining gravel augmentation practices in rivers downstream of dams. These experiments addressed fundamental questions of sediment supply effects in rivers and sediment pulse dynamics.

In 2006, Jeremy joined the Geography Department at Simon Fraser University where he has established the Environmental Sediment and Fluid Dynamics Laboratory. The laboratory includes a flume (15m long, 1m wide, and 0.6m deep) designed for studying sediment transport and bedforms in sand-bedded rivers. The flume includes capabilities for swath mapping subaqueous topography of actively deforming sand beds and the water surface during experiments using an array of echo-sounders and water surface elevation probes. Jeremy has also acquired a number of hydrographic instruments for investigations of sand transport, bedforms, and fluid flow in the Fraser River, BC.

Research Interests

Jeremy's primary interests are in the geomorphic and sedimentary processes that shape the Earth's surface. He works at a range of temporal and spatial scales from detailed examinations of sediment dynamics occurring over fractions of a

second in laboratory channels to monitoring annual river and watershed responses to human impacts. Throughout his career, the theme of his research has been erosion and sedimentation processes, particularly in river channels. He uses a spectrum of research approaches, including field observation and experimentation, physical modeling in laboratories, development of theoretical models, and numerical simulation.

Currently, Jeremy's research focuses on sediment delivery to Fraser River Delta. This is a new initiative designed to advance knowledge of the mechanics of sand-bedded river channels and, in particular, to develop physically-based predictive tools for how sediments move between their source and ultimate sink in the ocean. The program is designed to use the sand-bedded reach of the lower Fraser River as a natural laboratory to investigate and quantify processes. The Fraser also serves as a prototype for more detailed observations of the dynamics of bedforms in sand-bedded rivers in the Environmental Sediment and Fluid Dynamics Laboratory. Jeremy is also currently engaged in multi-dimensional flow modeling of various sand-bedded river systems, including the Fraser River, BC. The combination of these activities is designed to ultimately lead to a physically-based predictive model for the

morphodynamics of sand-bedded river channels, and the Fraser River in particular. This research is supported by an NSERC Discovery Grant and an NSERC Research Tools and Instrumentation Grant.

Jeremy maintains an interest in the development of scientifically-based stream restoration techniques. Jeremy has worked with a number of research groups to provide the stream management/restoration community with methods, techniques, and tools that consider renaturalization of river system processes using state-of-the-art understanding of sediment transport processes. Jeremy has also been actively

investigating fundamental questions surrounding sediment transport dynamics, channel stability, and human impacts in gravel-bedded streams.

Future plans include expanding the flow measurement capabilities in the Environmental Sediment and Fluid Dynamics Laboratory to understand the dynamic interaction of turbulent fluids and sediments and to determine how these processes operate in natural river systems. Jeremy's ultimate goal is to understand the aggregate physics of river systems, and to describe those physics in the simplest way possible.

CGRG dedicates Regional Student Awards to Trenhaile and Dionne

The Canadian Geomorphology Research Group has dedicated its regional student awards to honour two of Canada's most prominent geomorphologists.

The Jean-Claude Dionne Award will be presented to the best student oral presentation at a CGRG-sponsored session at a national or regional meeting. Dr. Jean-Claude Dionne is an Emeritus Professor of Geography at the Université Laval and is a member of Centre d'étude nordiques. Dr. Dionne has made an enormous contribution to geomorphology, particularly in the field of periglacial environments and on "le glacier". He has published more than 300 papers, notes and reports and has received "la médaille André-Cailleux" and the Canadian Association of Geographers Award. In 1998, he was named a Fellow of the Geological Society of America.

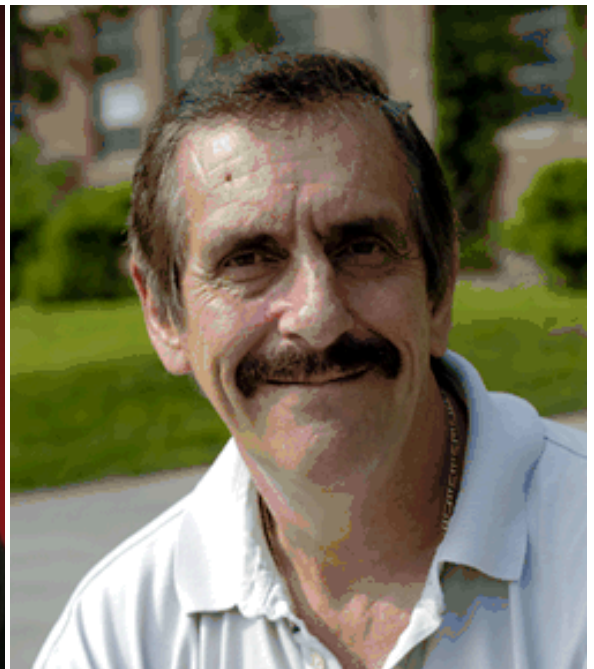
The Alan S. Trenhaile Award will be presented to the best student poster at a CGRG-sponsored session at a national or regional meeting. Dr. Alan Trenhaile is a Professor of Earth Sciences at the University of Windsor and is the author of *Geomorphology: a Canadian Perspective*, published by Oxford University Press. Dr. Trenhaile has won several faculty teaching awards, including Windsor's Alumni Award for Distinguished Contributions to University Teaching, and has received the Richard J. Russell Award for research in coastal geomorphology from the Association of American Geographers.

The winner of each award will receive a certificate, a monetary prize and the right to list the honour in their curriculum vitae.

CGRG

honorees

Regional Student Awards now honor the contributions to Canadian geomorphology made by Jean-Claude Dionne (left) and Alan Trenhaile (right).



Rapport sur XI^{ème} congrès quadriennuel de l'AQQUA Baie-Comeau, 19 au 23 août 2008

Yves Michaud, Président-sortant

J'ai assisté dernièrement au XI^{ème} congrès quadriennuel de l'AQQUA qui s'est déroulé pour la première fois de son histoire sur la Côte-Nord. Le comité organisateur, composé de Pascal Bernatchez, Thomas Buffin-Bélanger et Bernard Héту de l'UQAR, a profité de l'occasion pour monter un programme de conférences sur « Les changements environnementaux et la dynamique des hydrosystèmes anciens et actuels ». Plus d'une cinquantaine de communications orales et affiches, dont 25 réalisées par des étudiants, ont été présentées devant plus de 70 scientifiques en provenance du Québec, de l'Ontario, du Nouveau-Brunswick, de la Nouvelle-Écosse, de la Colombie-Britannique et de l'Europe. Les communications ont été d'une qualité exceptionnelle et elles ont fait état du dynamisme des processus géomorphologiques et de l'extrême sensibilité des hydrosystèmes montagnards, fluviaux, lacustres, côtiers et marins aux changements environnementaux passés et présents. Les organisateurs ont, de plus, fait appel à trois conférenciers invités, soient les Professeurs Bernard Francou, directeur de recherche de l'IRD, Pierre J. H. Richard, Département de géographie de l'Université de Montréal et Paolo Antonio Pirazzoli, Laboratoire de géographie physique du CNRS, pour approfondir nos connaissances sur les glaciers, la palynologie et les environnements côtiers. Finalement, le tout a été couronné par 2 excursions de terrain, l'une sur terre et l'autre sur mer, qui ont permis aux participants de se familiariser avec le contexte géomorphologique et quaternaire de la région de Baie-Comeau et sur les techniques géophysiques utilisées lors des levés hydrographiques au large des côtes.

Ainsi, à titre de représentant du GCRG, j'aimerais féliciter les conférenciers pour la qualité des présentations ainsi que la pertinence des travaux en cours. Je tiens aussi à remercier les gens du comité organisateur qui n'ont pas ménagé les efforts pour faire de ce congrès une très grande réussite.

Comme à l'habitude, l'AQQUA et le GCRG ont profité de l'occasion pour honorer la contribution des étudiants en attribuant quelques prix afin de les récompenser pour l'excellence de leur présentation. Les récipiendaires du prix de l'AQQUA pour la meilleure présentation orale ont été, sur un pied d'égalité, Chantal Quintin (UQAR) et Ursule Boyer-Villemare (ISMER). Remis pour la première fois de son histoire, le prix Jean-Claude Dionne offert par le GCRG pour la meilleure présentation orale a été attribué à Benoit Vigneault (UQAR), alors que le prix Alan S. Trenhaile offert par le GCRG pour la meilleure affiche a été attribué à Étienne Bachand (UQAR). Grâce à la générosité du professeur Francou, Madame Geneviève Cauchon-Voyer (U. Laval) s'est méritée une copie du livre du professeur Francou intitulé « Glaciers : forces et fragilités ».

Finalement, Jean Veillette, chercheur émérite de la CGC, s'est vu décerné la médaille André-Cailleux remise par l'AQQUA afin de souligner l'ensemble de la carrière de Jean dans le domaine du Quaternaire et plus particulièrement pour sa contribution à la cartographie du Quaternaire en Abitibi.

Félicitations à tous et à bientôt pour le prochain congrès!

AQQUA winners

Left - Trenhaile award winner, Étienne Bachand and Yves Michaud.
Right - Dionne award winner, Benoit Vigneault and Jean-Claude Dionne himself





"I think it is the challenges of working in harsh Arctic coastal conditions and in such a dynamic deltaic environment that drives me to continue research that is definitely high risk in terms of data acquisition."

Christopher Stevens



Student Profile

Christopher Stevens, University of Calgary

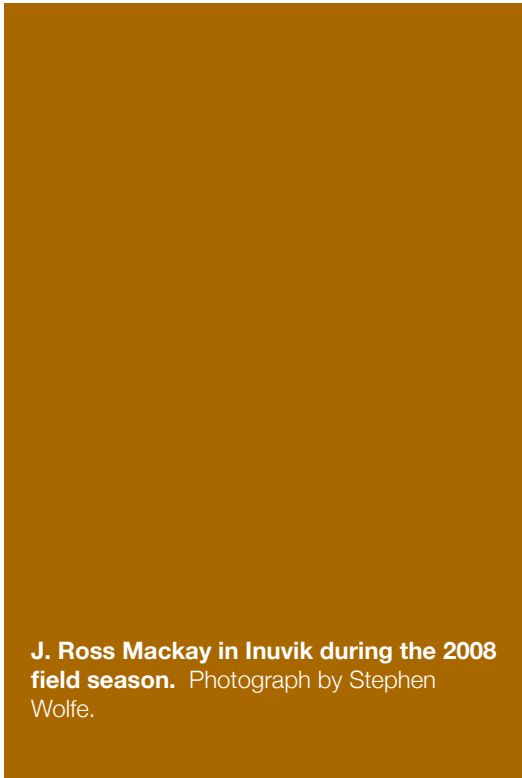
Chris is a Ph.D. student studying with Dr. Brian Moorman at the University of Calgary. Chris came to Canada in 2005 after completing a B.Sc. in Geology at St. Lawrence University, USA. At Calgary, Chris began work on a collaborative research project with the Geological Survey of Canada to further understand Arctic coastal process within the Mackenzie Delta.

After completing his M.Sc. in 2007, Chris began a Ph.D. on the controls of permafrost and seasonal ground freezing beneath shallow-water where bottom-fast ice seasonally freezes to the seabed. One component of Chris' research investigates the interannual variability in near-surface heat flow as it pertains to aggrading and degrading permafrost in the near-shore zone of the Mackenzie Delta. Chris has also focused on advancing geophysical mapping techniques to acquire subsurface data within the coastal zone during periods of ice cover. The geophysical monitoring of coastal conditions

throughout the winter has lead to more effective characterization of the subsurface and a better understanding of spatial and temporal changes to seasonally frozen ground and ice-bonded permafrost in coastal environments.

Oil and gas interests within the Mackenzie-Beaufort Basin are beginning to appreciate the importance of understanding the current thermophysical conditions and the thermal evolution of permafrost beneath shallow-water. Chris hopes that his findings will lead to more effective coastal infrastructure and help make development in the Mackenzie Delta responsible and sustainable.

Chris plans to return to the Arctic in 2009 to investigate heat flow and unfrozen talik zones. He is also pursuing several other research interests related to periglacial geomorphology in collaboration with Dr. Chris Hugenholtz at the University of Lethbridge.



J. Ross Mackay in Inuvik during the 2008 field season. Photograph by Stephen Wolfe.



Submissions are open for 2009 J. Ross Mackay Award

The Canadian Geomorphology Research Group gives the J. Ross Mackay Award to a young geomorphologist in Canada in recognition of a significant achievement. The purpose of the award is to foster the development of geomorphology in Canada and to provide recognition of young scientists in this field.

CRITERIA

1. The award is to be given for a significant contribution to geomorphology. It may constitute either a single publication appearing within a five-year period previous to the nomination, or a body of work. The candidate's contribution(s) may include a synthesis or regional study, a new concept, a significant advance in a subfield of geomorphology, or the development of a technique. In the case of contributions with multiple authors, the candidate must have assumed a lead role in the development of the work, and this role must be clearly explained in the nomination letter.
2. Recipients of the award must be:
 - a CGRG member or a member of one of the supporting societies (AQQUA, CAG, CANQUA, GAC, or CGU).
 - a Canadian citizen or resident working in Canada.
 - within 10 years of graduation from a PhD or Masters or undergraduate program, exclusive of periods relating to parental or medical leaves

NOMINATION

Nominations should be made by two CGRG members in a letter to the Chair of the Award Committee and must be accompanied by an up-to-date CV for the nominee and a PDF file (or five (5) hard copies) of a publication or part of a publication presenting the contribution. Letters of support by the Proposer and Seconder should clearly outline the basis for the nomination (see criteria above). The Proposer and Seconder may not have acted as supervisors (or directors) of the nominee's research; however, additional supporting letters may be included with the nomination.

The Awards Committee will maintain a file on each nominee which will remain active for two years or until the nominee is no longer eligible. The file may be updated by the nominators in subsequent years.

Nominations should be sent by **October 15, 2008** to:

Dr. Yves Michaud
ymichaud@nrca-nrcan.gc.ca
 Commission géologique du Canada - Québec
 Secteur des sciences de la Terre
 490 de la Couronne,
 Québec, QC
 G1K 9A9
 418 654 2673

We want to feature YOU in the next edition of the CGRG newsletter

Scott St. George, Newsletter Editor

The Canadian Geomorphological Research Group has published a bi-annual newsletter since 1994 highlighting the study of geomorphology in Canada and celebrating the scientific achievements of our community. The newsletter is distributed electronically to scientists in Canada and around the world, and is the central means of communication between CGRG and its members.

We want to expand the work done by the CGRG newsletter to promote the study of geomorphology in Canada, and need your ideas and contributions.

- Are you a new geomorphologist working in Canada? Tell us about your expertise and plans for the future!

- Do you want to feature the accomplishments of students in your research group? Have them send us a student profile!
- Has one of your colleagues received a major award related to geomorphology? Let us know!
- Want to highlight your latest field work or lab results? Send in a photo (along with a brief caption) and let us feature it on our cover!

The CGRG newsletter is a fast and effective way to inform your colleagues about new developments in geomorphology. If you want your research to be featured in our next issue, send an email to sstgeorg@nrcan.gc.ca.

Meeting announcement CANQUA and CGRG meet at SFU in 2009

The CANQUA 2009 organizing committee would like to invite you all to Simon Fraser University from May 3 to May 8th for the biennial conference. We are planning a number of exciting field trips including a CGRG sponsored pre-conference trip to the interior of British Columbia to explore glacial history and paleo-ice sheet dynamics, a post conference trip to the Channeled Scabland in northwestern United States, and a number of 1-day mid-conference trips. We are also planning a 1-day short course to be given by Dr. John Gosse on the application of terrestrial cosmogenic nuclides to Quaternary research.

No official theme has been set for the conference and we are requesting input from members for special sessions; suggestions will be vetted by the organizing committee. Please mark May 3-8, 2009 on your calendar as we plan on having an informative and exciting meeting.

Le comité d'organisation CANQUA 2009 voudrait vous inviter à sa réunion bi-annuelle à l'Université Simon Fraser, les 3 au 8 mai 2009. Nous prévoyons d'intéressantes visites sur le terrain, y compris un voyage pré-conférence parrainé par le GCRG à l'intérieur de la Colombie-Britannique pour étudier l'histoire glaciaire et les dynamiques paléo-glaciaires, un voyage post-conférence au « Channeled Scabland » dans le nord-ouest des États-Unis et plusieurs petits voyages d'une durée d'un jour en mi-conférence. Nous planifions aussi un cours d'une journée enseigné par le professeur John Gosse sur les applications des nucléides cosmogéniques terrestres à la recherche en Quaternaire. Aucun thème officiel n'a été fixé pour la réunion. Or, nous demandons aux membres de suggérer des thèmes pour les sessions spéciales. Les suggestions seront examinées par le comité d'organisation. S'il vous plaît, veuillez noter les 3 au 8 mai 2009 sur votre calendrier, parce que nous prévoyons avoir une réunion informative et passionnante.

Co-chairs

Brent Ward and John Clague

Core organizing committee

Tracy Brennand
Gwenn Flowers
Lionel Jackson
Olav Lian
Dan Shugar
Jeremy Venditti

MSc/PhD Opportunity in Aeolian Geomorphology

Department of Geography, University of Lethbridge

Project Description

This NSERC-funded research project examines relations between aeolian sediment transport and dune mobility in the northern Great Plains. This research has implications for biodiversity and will contribute to habitat restoration projects and land use management strategies. The successful applicant will be given the opportunity to develop an innovative, fully-funded research project in one of the three following areas: (i) flow-form interactions of parabolic dunes and blowouts, (ii) seasonal controls on wind erosion rates, or (iii) vegetation controls on dune mobility.

Why Lethbridge and the UofL?

- Access to the latest tools and sensors for geomorphological research
- Low cost of living and generous financial support
- Proximity to Rocky Mountains and recreation opportunities
- New building and lab facilities
- Strong and diverse research environment
- Proximity to field sites

Qualifications

- High academic standing with independent research and field experience
- Degree in Physical Geography, Earth Sciences, or Geology
- Writing experience (i.e., thesis, publications, reports, etc.)
- Research creativity (i.e., ability to develop research hypotheses/questions)

Funding

Guaranteed funding (up to \$17,000/yr) is available through a combination of research funding and TAships. This amount is available for up to 2 years for a MSc candidate and up to 3 years for a PhD candidate. External scholarship holders (e.g., NSERC) will receive \$10,000/yr* from Graduate Studies in addition to the value of their award (*this amount is available for each year of the award up to a maximum of 2 years for MSc candidates and up to 3 years for PhD candidates).

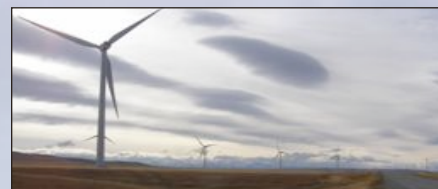
Application procedure

Interested students should contact me (chris.hugenholtz@uleth.ca) and include the following information:

- Statement of experience/qualifications
- Statement of research interests and goals
- Unofficial copy of university transcripts
- The names and contact information of two referees

Geomorphological Research Equipment and Facility at UofL

- Applied Geomorphology Research Lab and office space in the new Alberta Water and Environmental Science Building
- Large array of cup anemometers and direction vanes for airflow studies
- 3D sonic anemometers
- Range of dataloggers & multiplexers (CR1000, CR200, AM16/32A)
- Precision miniature temperature loggers
- New S&S Pulse Ekko ground penetrating radar with SmartCart
- Dusttrak sensors for airborne particulate matter measurement
- Sensit wind eroding mass sensors
- FlowCapt blowing snow sensor
- Large array of BSNE wind erosion traps
- Trimble S6 Robotic Total Station
- Fully equipped soil lab with laser particle size analyser
- Campbell Sci. weather stations and sensors
- Portable TDR soil moisture probe with GPS synchronization
- TDR soil moisture sensors with loggers
- 3D laser scanner
- Trimble RTK dGPS



Contact

Dr. Chris Hugenholtz
Applied Geomorphology Research Lab
Department of Geography
University of Lethbridge
4401 University Drive
Lethbridge AB T1K 3M4,
Email: chris.hugenholtz@uleth.ca
Web: <http://people.uleth.ca/~chris.hugenholtz/web/overview>



Graduate Studies Webpage: <http://www.uleth.ca/sgs/>
Application deadlines: March 1 and October 1

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 listserv (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) cooperating 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

Canadian Geomorphology Research Group 2008 - 2009 Executive

President

Stephen Wolfe

Secretary-Treasurer

Andrée Blais-Stevens

Member-at-Large

Patrick Lajeunesse

Vice-President

Duane Froese

Newsletter Editor

Scott St. George

Graduate Student Observer

Genevieve Marquis

Past-President

Yves Michaud

Member-at-Large

Ian Walker

GAC Representative Officer

John Gosse