



NEWSLETTER OF THE CANADIAN GEOMORPHOLOGY RESEARCH GROUP

BULLETIN DU GROUPE CANADIEN DE RECHERCHE EN GEOMORPHOLOGIE

Number 13

July 2000

PRESIDENT'S MESSAGE - MOT DU PRÉSIDENT

I want to take this opportunity to report on ongoing issues that mainly arise from discussions at the GeoCanada 2000 meeting at the end of May.

I attended the GeoCanada 2000 meeting to observe and make input to the discussion sessions on the NSERC Reallocation exercise. These were held in a 2-day special session on Earth Science Research (ESR) organised by Jeremy Hall, Steve Calvert and Andrew Miall in conjunction with the Earth Science Liaison Committee (ESCL) established by NSERC last year. In December ESCL canvassed 650 Earth Science grant holders about their priorities for research, their vision for the future of earth sciences and how the next reallocation exercise should be structured. Over 330 (about 50%) grant holders replied and the summary results were made available on the web about May 20th.

<http://www.nserc.ca/programs/real2000/web-earth-e.htm>

All CGRG members are encouraged to read this report and react to it.

79% of the respondents were academics, 53% were from NSERC GSC09; 37% were from GSC08 and 10% from "other" Grant Selection Committees. The ESR session was arranged as a series of review papers updating progress in various fields of the earth sciences with discussion sessions spread over three days. In hindsight, had we known the format, it would have been useful for CGRG to have made presentations in this series, particularly on recent environmental history, geomorphic process studies and some climate or soils related topics. The physical geography/geomorphology viewpoint was very poorly represented in these presentations (only John England on Arctic science) and anything at less than 1000-year timescale seemed irrelevant to most presentations on climate change. Liz Boston (Director Earth and Life Sciences Research grants) and several NSERC officials were in attendance

and received, as expected, a "solid earth science view" of the community to be served by Committees 08 and 09. The four discussions were on "visioning"(40 minutes) "one report or two" (40), "Young Turks or old Lags" (20) and "Pure vs. applied research"(40). I could not attend the "Visioning" discussion but gather it was dominated by the solid earth sciences and megaprojects. However, the ESCL survey results place climate change/environmental change and surface earth processes as the major avenues for future research (see ESCL web page).

Dick Peltier chaired the discussion session on whether the Earth Sciences should submit one (as in the 1997 exercise) or two separate reallocation report documents. In his introduction he basically summarised his position paper (posted on the ESCL web site prior to the meeting). This argued in favour of a single report in which both committees produce reallocation reports but organise them within a "single new, cross-cutting national program for Canadian Earth Science" that required the combined strength of both Committees. The theme suggested was "Earth Evolution and Global Change" and the combined committee report would be of equivalent length to two separate reports. Peltier asked the Vice President of CMOS (Peter Taylor) to talk on behalf of Atmospheric and Ocean Sciences, but there was no attempt to cover any of the other constituencies involved in Committee 09. Taylor presented CMOS's point of view and essentially came down on the side of the two committees submitting separate reports. I commented briefly on behalf of CGRG (and CAG, seeing no other CAG Members present!) and strongly supported the separate report scenario and Taylor's remarks. Most of the remaining comments came from ESCL Committee members. The discussion was rather short and unsatisfactory from CGRG's perspective.

With regard to the one or two submissions issue, the results of the ESCL poll (reported on the web site)- show a 50-50 split (22.8% neutral; 38.4% favour a single report and 38.8% favouring two reports. However- and this is not reported on the web site- my recollection of Peltier's comments is that 08 respondents strongly supported a single report whereas 09 respondents were running ca 4:1 in terms of submitting separate committee reports. In addition most of the ideas on "vision" were coming from Committee 09 (see the tables of topics in the report) rather than from Committee 08. During the discussion there was some indication that retaining two committees might be damaging to the earth sciences. My sense of the discussion was that ESCL would probably recommend a single "double length" report but with a very 09-ish agenda. If you have views on this you should send them to ESCL committee via their web site or to individual ESCL Committee members (Garry Clarke, current chair of 09, Brian Greenwood and Les Cwynar are closest in interests to CGRG Members) as soon as possible. ESCL will report to NSERC in July with recommendations about the scope content and format of the earth sciences submission. NSERC will then appoint one or two committees to draft the reallocation documents. These committees will be separate from ESCL though they may include some ESCL members.

I also attended the discussions on training and pure/applied science. The main themes were the need to recruit and support younger scientists to fill the huge gap created by funding cutbacks over the last decade (e.g. the trivial numbers of government scientists under 40!) and the need for stronger leadership from GSC. I also made the point that tying new funding sources to industrial and other partners was not particularly useful to CGRG members. John Clague and Steve Evans ran an excellent CGRG sponsored special session on "Natural Hazards: Progress towards Characterization and Mitigation". John Clague gave a keynote on the geological evidence for large earthquakes and Steve Evans reviewed "Catastrophic Landslides in Canada" in the Earth Science and Society Session. Two of the introductory keynotes also focussed on Earth System Science (Chris Barnes) and Earth sciences and Society (Susan Kieffer)

Prior to the Calgary meeting I had written a brief position paper on whether the earth sciences should submit one or two reallocation reports. I submitted this to ESCL as my personal contribution to this discussion and an abbreviated version follows.

One Reallocation Report or two? (A statement sent to ESCL by B.H Luckman, June 2000)

To a traditionally trained geologist or earth scientist "Earth System Science" is obviously viewed as Earth Science or possibly environmental earth science and clearly within their purview. But Earth System Science is not Earth Science in any traditional sense. It is the Science of the Earth System- which is an integrated blend of the Atmospheric, Ocean, Life and Earth sciences together with an appreciation and understanding of the role which the human race plays in this global system. The argument being made in the reallocation discussion is that we should submit a single "Earth Science" document to show the inherent unity of the discipline. I disagree. With a jaundiced eye one could describe this as a powerplay by the solid earth sciences to claim the environmental field as their own and absorb these other disciplines into their remodeled view of the new "geology" The expertise needed to do Earth System Science is not that of the traditional geologist but is spread across several diverse fields that demand close interdisciplinary cooperation. Some elements of earth science are a significant component but earth science remains only a part of the system, not the overarching theme.

If one is to adopt a theme of Earth System Science then it has to be clearly divorced from Geology and/or the solid Earth Sciences and be treated as a new, independent, interdisciplinary field that is quite separate. Submitting a single proposal perpetrates the myth that Earth System Science is really an expanded Earth Science. To make the strongest case the two submissions have to be seen as being fundamentally different. No one disputes the fact that Geology and Geophysics have made, and will continue to make outstanding contributions to science and the economic well being of Canada. They are well defined disciplines that should be retained as a solid earth sciences committee- or, if one would prefer a Geology and Geophysics Committee that is strongly focussed on the more traditional fields. One of the major problems with NSERC GSC 09 is that it was calved from 08 (when it became too large) and therefore has often been viewed as a melange of minor disciplines with no clear focus. It contains climatology, geomorphology, hydrology, pedology, physical geography, remote sensing, oceanography, quaternary studies etc. These are precisely the elements that go towards building an integrated Earth System Science or, if one prefers it, Global Change science. This is the committee within which most geomorphology and other Canadian Science which is relevant to global change has been funded. And yet because this is seen as "soft

science” and a poor relation of Committee 8, it is seen as being weak. However, in an environment where interdisciplinary studies are being welcomed and emphasised I would argue that this diversity is its strength. Where else within the NSERC Committees could find the appropriate expertise to study climate change, basic terrestrial, atmospheric, aquatic or marine processes and their natural and increasingly human driven controls. My solution would be to do what, in some respects NSF, did 10-15 years ago. Set up committee 9 to fund those studies that deal with Global Change and surface Earth processes, stressing interdisciplinary approaches and completely remove the shackles that bind it to Committee 8. Committee 9 should be viewed as an interdisciplinary committee to which many different disciplines and projects may apply. However one reorganises these committees it must surely be recognised that one of the fundamental themes that must be addressed is global change and the number of applications in this field will continue to grow. The only solution that I can see would be to keep the two committees separate and to give them quite different mandates- in my terminology Geology and Geophysics and Global Change studies.

Other Business

CGRG is formally a Division of GAC and therefore I attended the President’s breakfast where the newly elected GAC President (H. Scott Swinden) introduces the Incoming Vice-President (Steve Morison) to representatives of the GAC sections and affiliated societies. The Vice President is the contact between these groups (i.e.CGRG) and GAC during his term of office. I would like to report on a couple of items that were discussed at that meeting.

The first of these was the proposed **GAC Field Trip Safety Policy** which was circulated with a commentary via the listserve on June 22nd. A copy is posted on the CGRG website at

<http://cgrg.geog.uvic.ca/bulletin.htm>.

Please respond to that document if you have concerns about its implications. A number of **Communication Issues** also arose from this meeting. GAC is developing an aggressive education program, publications, etc in earth system science that, if we participated, could give CGRG a much bigger audience and platform than we would ever get as an independent group or through (my opinion) CAG, CANQUA or AQQUA because of the greater resources and number of volunteers at GAC’s disposal. If the “Geological Community” is trying progressively to take over our science as part of their “Earth system science” initiatives, then perhaps the best

way to counter this is for CGRG to promote itself more aggressively from within GAC. i.e. by showing them what geomorphologists do. Possibly we need to put together something like a series for Geoscience Canada on the Role of Geomorphology /Paleoclimate/ Hydrology, etc within Earth System Science, demonstrating what earth system science really is! GAC has a very active education programme focused on earth sciences and whether we like it or not, they address the issues of climate change, glaciation, natural hazards, landscape development, etc. Given the public attention to these issues and the strong geomorphic component we, as geomorphologists, should be involved in promoting our field. As a long time CAG member it pains me to have to say this but, if we wish to protect and promote geomorphology, we will reach a larger audience, more effectively via GAC, CGU and CANQUA. GAC also runs short courses that could be used by CGRG and has a significant National Awards programme. Swinden encouraged GAC sections (and that includes CGRG) to nominate members for the **National GAC awards** pointing out that there are awards for a large variety of roles including academic, professional service and volunteer awards (See GAC website).

Upcoming Meetings

I encourage CGRG members to try to attend the first joint CGRG/AQQUA meeting at l’Université du Québec à Montréal in August (22-27th). The special CGRG-AQQUA session on “Recent Geomorphic Processes and Global Change” will take place on August 24th, followed by the CGRG AGM. Dr Stephen Wolfe of the Geological Survey of Canada, J. Ross Mackay Award winner for 2000, will deliver his Mackay lecture “The Winds of Change: exploring sand dunes on the Canadian Prairies” as a keynote to the special session. Cheryl McKenna-Neuman and Bill Nickling will host a workshop on “Measurement and Simulation of Sediment Transport by Wind” at Trent University on September 16-17th where they will demonstrate and discuss a wide range of field and laboratory equipment. Between May 29th and June 2nd, 2001 CGRG will meet with CAG during their 50th Anniversary meeting at McGill University. We are planning to organize a substantial geomorphology program that involves perhaps 4 or 5 keynote addresses on different themes. Further details of these meetings will be found elsewhere in this Newsletter. I encourage members to become actively involved in planning future meetings workshops and special sessions for CGRG as they are some of the most productive things we do as an organisation. Finally, in

closing I wish you all a productive summer and look forward to seeing many of you at Montreal in August.

B.H.Luckman

SECRETARY-TREASURER'S REPORT

FUNDS Jun16, 2000	2 740.27
1 mth GIC start Feb/98	5 000.00
1yr GIC start Feb/98	10 000.00
Total GIC investment	15 000.00

EXPENSES

Newsletter	244.45
JRM photocopy	
JRM airfare	
JRM winner's gift	
Plaques	
Dues reimb't (AQQUA)	
Conference calls	13.42
Bank fees	
IAG dues 2000	771.25
Geophys Man purchase	30.36
Advance to AQQUA	
	607.20

Total expenses 1 059.48

Net for Jun 00 2 088.32

Funds Jan1 2000	2 740.27
Expenses -	1 059.48
Revenue	3 147.80
Net assets	4 828.59
Bank book bal. Dec 13	4 828.59
Difference	0.00

REVENUE

GAC (54)	
CAG (37)	
CANQUA	
AQQUA (9)	135.00
CGRG (11)	165.00
Interest (GIC)	444.09
Canqua	2 370.71
Geoph Man sales	21.00
T shirts	12.00
Total Revenue	3 147.80

Membership 111

How to reach us: You are encouraged to contact any of the executive about newsletter items at the addresses shown at the end of the newsletter, or by Email. Newsletter items should ultimately be sent to

Lynda Dredge or Yves Michaud.

Lynda Dredge

PROFESSIONAL REGISTRATION: THE STORY CONTINUES

In past issues of this newsletter there have been reports on the efforts of the Canadian Council of Professional Geoscience (CCPG) to develop course requirements for registration in Environmental Geoscience, and on the surprising vote of PEO in refusing to incorporate geoscientists – all with implications for geomorphologists. Perhaps a few personal observations from the West Coast are in order, because geomorphologists have been able to register in British Columbia (APEGBC) under the Geotechnics rubric for some nine years.

When, in 1991, the BC engineers decided to co-register geoscientists the issue then became which disciplines should be registered, and how should these disciplines be defined in terms of academic content. The Geoscience Committee (the line committee reporting directly to the APEGBC Council) was given the task of defining the different disciplines for registration and, after much discussion, it decided on four: Geology, Geophysics, Geochemistry and Geotechnics. Of most interest to members of the CGRG is the Geotechnics discipline designed to register geoscientists with interests in geomorphology and in the broader field of environmental geoscience. Geotechnics had a relatively difficult birth. As might be expected in BC, the committee had a significant number of geologists from the mining industry many of whom took the view - "*Damn it, I took three courses in metamorphic petrology as an undergraduate at U of X and these should be required of all registrants. For that matter the geology curriculum we had at X should probably be the base for registration.*" It took protracted discussions and debate but a consensus emerged that geoscience registration based on curriculums from the seventies were not necessarily the best frameworks for registration of geoscientists who were working in the wide spectrum of the earth sciences in the nineties. There was also unease, if not opposition, among some of the hardrock geologists, on the committee, over 'environmental geology' or 'environmental geosciences' as a registration category ('Aren't we all environmentalists?'). In the end a suggestion by Wayne Savigny, a jointly registered geotechnical engineer and geoscientist, that the term 'Geotechnics' be used for registering environmental geoscientists and geomorphologists was accepted. (For those interested in the course requirements for the registration disciplines, check out the www.apeg.bc.ca website). Since the initial set of requirements was established, the range of electives (Group B) have

been widened to incorporate more geomorphological courses.

The academic requirements for Geotechnics registration in APEGBC are:

Required of All Geoscientists (7 of 7):

1. Calculus (yr); 2. Physics (yr); 3. Chemistry (yr); 4. Intro. Mineralogy; 5. Intro. Petrology; 6. Intro. Sedimentation & Stratigraphy; 7. Intro. Structure & Tectonics.

(Not listed, but all registrants must have completed Physical Geography or Physical Geology, and Historical Geology).

Required of All Geoscientists (3 of 10):

1. Adv. Calculus; 2. Diff. Equations & Transf.; 3. Linear Algebra; 4. Prob. & Statistics; 5. Intro. Computing; 6. Economics (or Adv. Econ. Geog.); 7. Biology; 8. Intermed. Chem.; 9. Intermed. Physics; and 10. Tech. Writing.

Group A (Required for Geotechnics) (6 of 6):

1. Intro. Geomorphology; 2. Geographic & Spatial Data Analysis; 3. Applied Geophysics; 4. Quaternary Geology; 5. Field Geology; and 6. Physical Hydrology.

Group B (Required for Geotechnics) (9 of 27):

1. Intro. Geochem.; 2. Sedimentology; 3. Applied Geomorphology; 4. Engineering Geol.; 5. Paleoenviron. Methods; 6. Adv. Geomorphology; 7. Adv. Geomorphology; 8. Geophy. Hazards; 9. Aerial Photo. Interp.; 10. Adv. Geophysics; 11. Remote Sensing; 12. Fluid Mechanics; 13. Weather & Climate; 14. Analytical Hydrology; 15. Hydrogeology; 16. Groundwater Contam.; 17. Intro. Soil Mechanics; 18. Adv. Soil Mech.; 19. Pedology; 20. Ident. & Classif. Soils; 21. Industrial Minerals; 22. Clay Min.; 23. Rock Mechanics; 24. Computer Apps in Geosc.; 25. Adv. Course in Geosc.; 26. Adv. Course in Geosc.; and 27. Thesis in Geoscience.

(All courses are of semester length except where otherwise indicated).

In the January 2000 newsletter, Chris Burns raised the issue of a geoscientist practicing in environmental geoscience without having the proper educational credentials. This has already occurred in BC. With the recent introduction of the BC Forest Practices Code, and its mandate to enhance the quality of forest management, there has arisen a demand for P.Geo's in general, and geomorphologists in particular, to carry out such tasks as

terrain mapping, the identification of potential areas of slope failure and delineation of gullies prone to accelerated erosion. Some geoscientists produced terrain maps of such low quality that many were unacceptable to their client, the Ministry of Forests. This situation partly arose because certain P.Geos, without training in geomorphology or surficial geology, were practicing outside of their registration discipline in violation of the APEGBC Code of Ethics; a situation that cannot be easily remedied unless formal complaints are made to the association. Nevertheless, APEGBC does monitor the quality of professional work through its 'Practice Review' policy whereby P.Geos (and P.Eng's) are randomly selected for a review of their practice. This review takes the form of an interview covering the member's understanding of the Code of Ethics and professional responsibilities as well as a review of actual projects carried out by the member. The interviewer is a senior member of the association who can recommend, if necessary, certain changes to the way a P.Geos

practice is conducted and might require, for example, that a person should take additional university courses in areas of practice that need strengthening. The ultimate sanction, if the review uncovers egregious breaches of good practice, is a requirement for the member to appear before a disciplinary committee with the possibility of the suspension from practice.

A final word - there is no better way for geomorphologists to influence registration committees than to volunteer as members. Our thanks then to Mike Bovis (UBC), Mike Church (UBC), Valerie Cameron (Min. of Envir., Lands & Parks), Ted Hickin (SFU) and Ken Rood (consultant) - geomorphologists all - who have done their stint on the Geoscience Committee of APEGBC.

Mike Roberts
Departments of Geography & Earth Sciences
Simon Fraser University

PROFESSIONAL REGISTRATION IN ONTARIO

The Association of Geoscientists of Ontario is pleased to announce that the professional geoscientists act passed first reading in the Ontario legislature on thursday June 8, 2000.

The Honourable Tim Hudak, Minister of Northern Development and Mines rose in the Ontario legislature to introduce a government bill to enact the Association of Professional Geoscientists of Ontario. This legislation is to license geoscientists and govern the practice of the geoscience profession in Ontario in order to increase public and investor confidence in Ontario's mines and minerals and environmental sectors.

The bill passed first reading by unanimous consent of the other parties in the house and therefore did not require a vote.

The following are quotes from the Minister's press release: "*This bill will benefit investors by strengthening the quality and integrity of public disclosure*" said Maureen Jensen, Director of Mining for the Toronto Stock Exchange. "*It will put Ontario in a position to meet national standards that are now being considered by securities regulators across Canada*".

"The legislation will protect public interest by ensuring that geoscientists working in the mineral sector and environmental fields possess a high level of professionalism," said John Bowlby, vice-president of the Association of Geoscientists of Ontario. "*All sectors of the province are affected by the actions of geoscientists, through their contributions to mining exploration and development, as well as mapping groundwater, siting landfills or mapping hazardous land,*" he said. "*This proposed legislation supports economic growth and job creation. It tells the world that Ontario is open for business, that Ontario is ready and able to compete successfully in the global market and that Ontario will continue to be regarded as the mine financing capital of the world,*" said Minister Hudak.

Our efforts to achieve professional recognition are now well underway. First reading is a public statement of the government's intention to proceed with legislation. Second reading of the bill may be expected within several weeks, subject to availability of time in the legislative calendar.

Please check AGO website at <http://www.geosci.on.ca>
Richard Puntis,
Director, AGO Communications & Member Services

UPCOMING MEETINGS

1. AQQUA-CGRG MONTRÉAL 2000

Congrès conjoint / Joint Meeting du 22 au 27 août 2000 À l'Université du Québec à Montréal



PROGRAMME

Mardi le 22 août Excursion pré-congrès Réception de bienvenue (19h)	Banquet Remise de la médaille André-Cailleux
Mercredi le 23 août I - L'AQQUA: Rétrospective II - Les technologies du nouveau millénaire	Vendredi le 25 août IV - Session générale Séance d'affichage
Assemblée générale de l'AQQUA	Pot de clôture Remise des prix de l'AQQUA
Jeudi le 24 août III - Processus récents de surface et Changements Planétaires Assemblée générale du CGRG Remise du prix John Ross MACKAY	Samedi et dimanche les 26-27 août Excursion post-congrès

Excursions

Mardi le 22 août La géologie et la géomorphologie du Quaternaire des Basses Laurentides (Ouest de Montréal) Dirigée par: Andrée Bolduc et Martin Ross (CGQ/CGC)	Dirigée par: Michel Lamothe, Birgit Rameseder (UQAM) et François Hardy (CGQ) Les frais de participation aux excursions sont de \$60 par jour et incluent le livret-guide, le transport et le repas du midi
Samedi et dimanche les 26-27 août La stratigraphie quaternaire de l'Estrie, haute vallée de la rivière Saint-François	Les frais d'hébergement du samedi 26 août seront annoncés ultérieurement

Pour plus d'information, svp consultez le site web de l'AQQUA

For more information, please visit the AQQUA web site

<http://www.unites.uqam.ca/sct/AQQUA/bulle.htm>

Michel Lamothe
Département des sciences de la Terre et de l'Atmosphère
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2. 2nd CGRG Workshop Measurement and Simulation of Sediment Transport by Wind, September 16-17, Trent

University.
For more information contact Cheryl McKenna Neuman, Department of Geography, Trent University, cmckneuman@trentu.ca and Bill Nickling, Department of Geography, University of Guelph, nickling@uoguelph.ca.
Or visit the web site at:
www.trentu.ca/academic/geography/research/cmn/windsim.html.

3. First Joint IAH-CNC and CGS Groundwater Specialty Conference

Montreal, Quebec, Canada October 15 to 18, 2000

This specialty conference is jointly convened by the Canadian National Chapter of the International Association of Hydrogeologists (IAH-CNC) and the Canadian Geotechnical Society (CGS) as part of the 53rd Canadian Geotechnical Conference. The goal of the specialty conference is to provide an opportunity for hydrogeologists, geotechnical engineers, and other geoscientists to share expertise and perspectives on current and emerging groundwater issues.

The themes of the conference are :

- * The Role of Groundwater in Ecosystems
- * Delineation of Groundwater Resources
- * Use and Protection of Groundwater
- * In-situ and Laboratory Characterization Techniques
- * Strategies for the Remediation of Contaminated Groundwater
- * Impacts of Urban Development
- * Agricultural and Rural Issues

For further information, or to be added to the conference distribution list, please contact Pat Lapcevic, 905-336-4597, pat.lapcevic@cciw.ca. Additional

information on Montreal 2000: The 53rd Canadian Geotechnical Conference can be found at [:www.etsmtl.ca/cgs2000](http://www.etsmtl.ca/cgs2000).

From: secretariat IAH-CNC/CGS. E-mail: andrew.piggott@cciw.ca Fax: 905-336-4400

4. Symposium on the Role of Erosion and Sediment Transport in Nutrient and Contaminant Transfer

International Association of Hydrological Sciences (IAHS) & International Commission on Continental Erosion (ICCE) & UNESCO 10-14 July 2000, University of Waterloo, Waterloo, Ontario, Canada

On a global scale, there is concern for the conveyance of sediment-associated nutrients and contaminants across eroding land surfaces and into receiving waters. The rates and magnitude of nutrient and contaminant transfer vary in space and time according to the nature of the erosion process, sediment sources as well as conveyance and in-stream processes. There is a lack of knowledge regarding spatial and temporal variation of sediment sources, properties and related transport processes. Such information is required to fully understand and model the source, transport and fate of sediment-associated contaminants for management purposes. The Waterloo Symposium will contribute to UNESCO IHP-V Project 2.1 - Vegetation, Land Use and Erosion, which explicitly addresses this theme. The symposium will concentrate on the transfer of sediment associated nutrients and contaminants in terrestrial and aquatic systems. Emphasis is given to studies on basic processes of erosion and sediment transport that will advance our understanding of chemical transport at a range of spatial and temporal scales.

For more information contact: Dr. M. Stone, School of Planning and Department of Geography, University of Waterloo. Email: mstone@fes.uwaterloo.ca

CALENDAR

2000

July

July 16-22, 19th Congress, International Society for Photogrammetry and Remote Sensing: Geo-Information for All, Amsterdam, Netherlands. Information: Prof. K.J. Beek, 4P.O. Box 6,

7500 AA Enschede, The Netherlands, tel. +31-53-4874214, tax +31-53-4874200, e-mail beek@itc.nl.

July 31 – August 4, **Joint World Congress on Groundwater**, Forteleza, Brazil. Information: ABAS, Ceara Chapter, Avienda Santos, Dumont, 7700 Papicu, Tortaleza, CEP 60, 150-163, Brazil, tel. +55-85-2651288, fax. +55-85-2652212

August

August 6-17, **31st International Geological Congress: Geology and Sustainable Development, Challenges for the Third Millennium**, Rio de Janeiro, Brazil. Information: Secretariat Bureau, 31st International Geological Congress, Av. Pasteur, 404, Anexo 31 IGC, Urca, Rio de Janeiro, RJ, CEP 22.290-240, Brazil, tel. +55-21-295-5847, fax +55-21-295-8094, e-mail 3ligc@3ligc.org.br, website www.3ligc.org.

August 14-18, **29th International Geographical Congress**, Seoul, South Korea.

August 20-24, **Paleolimnology Symposium**, Kingston, Ontario. Information: John P. Smol or Brian Cummings, Paleoecological Environmental Assessment and Research Laboratory (PEARL), Department of Biology, Queen's University, Kingston, Ontario K7L 3N6; e-mail SmolJ@Biology.QueensU.Ca, CummingsB@Biology.QueensU.Ca.

August 20-28, **4th International Meeting on Global Continental Palaeohydrology (GLOCOPH 2000)**, Moscow and central part of Russian Plains. Information: A. Georgiadi, e-mail geography@glasnet.ru.

August 22-27, **AQQUA-CGRG 2000**, Montreal, Québec. Information: Michel Lamothe, Département des Sciences de la Terre et de l'Atmosphère, Université de Québec à Montréal, C.P. 8888, Succursale Centre-Ville, Montréal, Québec, H3C 3P8, tel. +1-514-987-300, ext 3361, fax +1-514-987-7865, e-mail lamothe.michel@uqam.ca, website <http://www.unites.uqam.ca/sct/AQQUA/bulle.htm>.

September

September 16-17, **Measurement and Simulation of Sediment Transport by Wind**, 2nd CGRG Workshop at Trent University. Information: Cheryl McKenna Neuman, Department of Geography, Trent University, cmckneuman@trentu.ca and Bill Nickling, Department

of Geography, University of Guelph, nickling@uoguelph.ca.

September 17-27, **Karst 2000**, Marmaris, Turkey.

October

October 23-27, **30th Congress, International Association of Hydrologists**, Cape Town, South Africa. Information: website <http://dec01.ngu.no/iah/>

October 23-29, **IGCP 413 Meeting: Relations amongst Aeolian, Fluvial, and Lacustrine Geomorphic and Sedimentary Systems**, Desert Studies Center, Zzyzx, California, U.S.A. Information: Nicholas Lancaster, Desert Research Institute, Reno, NV, e-mail Nick@dri.edu.

November

November 13-16, **Geological Society of America Annual Meeting**, Reno, Nevada, U.S.A. Information: GSA Meetings, Box 9140, Boulder, Colorado 80301-9140, tel. +1-303-447-2020, fax +1-303-447-1133, e-mail meetings@geosociety.org, website <http://www.geosociety.org/meetings/index.htm>.

December

December 15-19, **American Geophysical Union Annual Meeting**, San Francisco, California, U.S.A. Information: AGU Meetings Department, 2000 Florida Avenue NW, Washington, DC 20009, tel. +1-202-462-6900, fax, +1-202-328-0566, e-mail meetinginfo@kosmos.agu.org, website <http://www.agu.org>.

2001

July-August

July 30 – August 2, **IAEG International Symposium "Engineering Geological Problems of Urban Areas"**, Ekaterinburg, Russia. Information: Secretariat, EngGeolCity-2001, UralTISIZ 79, Bazhov str., Ekaterinburg, Russia, 620075, tel. 3432-5599772, fax 3432-550043, e-mail UralTIS@etel.ru.

August 6-10, **Aggregate 2001 – "Aggregate and Economy"**, Helsinki, Finland. Information: Aggregate 20001, Tampere University of Technology, Laboratory of Engineering Geology, PO Box 600, FIN-33101, Tampere, Finland, fax +358-3-3652884, e-mail kuulavai@cc.tut.fi.

August 23-28, **5th International Conference on Geomorphology**, Tokyo, Japan. Information: Prof. K. Kashiwaya, Department of Earth Sciences, Kanazawa University, Kanazawa, 920-1192 Japan, e-mail kashi@kenroku.kanazawa-u.ac.jp.

August 27-31, **3rd International Conference on Cryogenic Soils**, Copenhagen, Denmark. Information: Dr. Bjarne Holm Jakobsen, Institute of Geography, University of Copenhagen, Oster Volgade 10, 1350 Copenhagen K, Denmark, tel. +45-35322500, fax +45-35322501, e-mail bhj@geogr.ku.dk.

2002

September 16-20, **9th International Association of Engineering Geology and the Environment (IAEG), "Engineering Geology for Developing Countries"**, Durban, South Africa. Information: The Technical Committee, 9th IAEG Congress, P.O. Box 1283, Westville 3630 South Africa.

2000-2001 FRIENDS OF THE PLEISTOCENE FIELD TRIPS (see AMQUA website for up-to-date information on Friends trips: <http://vishnu.glg.nau.edu/amqua/>)

Canadian Association of Geographers
McGill University, Concordia University and Université de Montréal
May 29 - June 2, 2000
Joint sessions with CGRG, CGRG AGM
CGRG Contact Andre Roy
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John Claque
Department of Earth Sciences
Simon Fraser University

CONTRIBUTIONS TO FUTURE CGRG NEWSLETTERS

The CGRG newsletter is published twice annually. As with all such newsletters, its success is directly dependent on the contributions that we receive. CGRG welcomes contributions to future newsletters from any of our members. These should be of interest to the Canadian geomorphology community and could include discussions, commentaries, reviews of regional or national meetings and field trips, summaries of issues pertinent to geomorphology, and announcements of future meetings and workshops. Please forward your contributions to either: ldredge@nrcan.gc.ca, or ymichaud@nrcan.gc.ca

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) cooperating with related earth science associations within Canada (GAC, AQQUA, CAG, CANQUA). We encourage all earth scientists with an interest in geomorphology to join CGRG

CGRG EXECUTIVE 1999-2000

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CANADIAN GEOMORPHOLOGY RESEARCH GROUP

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