

# **CGRG NEWSLETTER NO. 7**

## **(July 1997)**

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### **PRESIDENT'S MESSAGE**

The AGM was as well attended as usual, attracting about 15% of the membership. The financial situation of the Group is good, the enthusiasm of the committee is excellent, and there are several initiatives in the works. Dan Smith retired as President, having got our listserver up and running effectively. We welcomed John Clague as incoming Vice-President. Tracy Brennand (SFU) joined the committee as member-at-large; her appointment is distinct, because she is the first person to have been elected to the committee! The method of committee appointment is one of the bureaucratic items to be sorted out this year. We also welcome Yvonne Martin (soon to be at the University of Calgary) on to the committee.

The AGM also endorsed the two workshops proposed for 1997/98 on the use of Geophysical Techniques in Geomorphic Research. The first is to be held at Queen's, September 20-21st, and is being organized by Bob Gilbert. The second will be held in the spring at SFU. In the tradition of CGRG, the Queen's workshop is at modest cost, but promises to be of excellent value. Bob will be assisted in electromagnetic methods by Larry Dyke and Christophe Hyde (GSC), and for GPR by Yves Michaud (GSC) and Steve Robinson (McGill). The workshop will have theory, field work and data analysis sessions, and the requisite social side.

At the AGM, CGRG set itself four principal goals for 1997/98:

- to make the workshops a success;
- to examine possibilities for generating publications;
- to increase membership to 200 from the present 128; and,
- to sort out the election of officers.

I would encourage you to attend the workshops and help goal number 1.

C.R. Burn  
CGRG/GCRG President 1997-98

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## OPEN LETTER FROM CGRG TO THE JOINT PEO/AGO TASK GROUP ON GEOSCIENTISTS

27 May 1997  
Mr. John Currie, P.Eng.  
Admissions Subcommittee  
Joint PEO/AGO Task Group on Geoscientists  
25 Sheppard Ave. West, Suite 1000  
North York ON M2N 6S9

Dear Mr. Currie:

**Re:** Proposed Syllabi and degree requirements for admission as a Professional Geoscientist, under Geoenvironmental rubrics.

The Canadian Geomorphology Research Group is a national organization of 200 scientists, and is affiliated with the Geological Association of Canada (GAC), the Canadian Quaternary Association (CANQUA), l'Association qu, b, coise pour l', tude du Quaternaire (AQQUA), and the Canadian Association of Geographers (CAG). Our members are drawn from Canadian Universities, Governments, and Private Sector, and are all practicing geomorphologists. About one-third of the membership is from Ontario. Since our community is to be directly affected by the deliberations of your committee, I am responding on behalf of the Group to your draft syllabi for professional licensure.

The Group welcomes the path that is proposed for the Ontario geoscience community in recognizing explicitly the category of environmental geoscientist. However, we note one general point and two specific items. First, the title "Environmental Geoscientist" may well mislead students who graduate from a program in Environmental Science. We prefer a more specific title, that recognizes this category to be concerned with processes at or near the surface of the Earth. Second, the construction of the core specialization courses in the draft of January 9th implies that Hydrogeology is the subdiscipline recognized as Environmental Geoscience. We endorse Hydrogeology as a subdiscipline within this category, but we consider several other professional activities to be equally appropriate. In particular, we suggest Quaternary geoscience and its role

in Ontario for terrain mapping, and Geomorphology, as represented, for example, by the investigation of landslides in the quick clays of Eastern Ontario. Therefore, we suggest you consider some broadening of core specialist curriculum.

Third, we note the inclusion of "Physical Geology" in the core requirements for all categories of geoscientist. The contents of "Physical Geology" courses represent introductory geomorphology, being concerned almost exclusively with earth surface processes. The Canadian Journal of Earth Sciences lists "Geomorphology" as a category of paper in its table of contents, but does not cite "Physical Geology". We suggest that the term "Physical Geology" be replaced by "Introduction to Geomorphology" in the core curriculum. This symbolic act would not only represent the status of Canadian Geoscience more accurately, but would also recognize the contribution of earth surface science in the essential education of today's geoscientists. Simultaneously, your committee would capture the participation of geomorphologists in a central endorsement of the syllabus.

I would be happy to discuss any of these points further at your convenience.

Yours sincerely,  
[signed] C.R. Burn  
President 1997-98  
Department of Geography  
Carleton University  
1125 Colonel By Drive  
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## **NSERC EARTH SCIENCE ALLOCATION**

The earth science community in Canada is presently undertaking the important task of preparing a report for the Natural Sciences and Engineering Research Council (NSERC). The objective is to secure a larger portion of the funds allocated to the NSERC Research Grants Program. Every four years, NSERC imposes a tax of up to 10% on the research grants budget of each of its grant selection committees. The taxed funds are then reallocated among the different disciplinary committees (e.g. 08, Solid Earth Sciences; and 09, Environmental Earth Sciences) based on arguments made in submissions from research communities. The last time this was done, earth sciences fared poorly -- the research grant budget of committee 08 decreased by 3.8% and the budget of committee 09 decreased by 4.8%. One likely reason for this result is that the two committees submitted separate reports, creating some unnecessary competition within the earth science community. This time, the community is submitting a combined (08 and 09) report, allowing us to make a more unified, and therefore stronger, argument for reallocation of funds to earth science.

Mike Church and I are members of a 12-member steering committee that was created last fall to collect information and opinions on the direction of earth science in Canada, to write a report, and submit the report to NSERC by January 2, 1998. Mike and I want to ensure that the important contributions of physical geography and geomorphology to earth science and society are recognized; we submitted a brief to Fred Cook, Chairman of the committee, supporting this point of view. Our brief was based on submissions made by many physical geographers, Quaternary geologists, and others in related fields.

The steering committee has now prepared a draft document that will be distributed to the community for comments and revision. This document will be available in July on the committee's WWW site (<http://earth.geo.ucalgary.ca/nserc.wwwboard/wwwboard.html>). I urge CGRG members to read the document and provide either Mike or myself with any comments that you might have, especially relating to geomorphology. In the fall, after comments and suggestions from the community have been digested, the steering committee prepare the final report.

John J. Clague  
([jclague@gsc.nrcan.gc.ca](mailto:jclague@gsc.nrcan.gc.ca))

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## **CGRG-SPONSORED SYMPOSIUM AT GAC/MAC OTTAWA '97: THE ENGINEERING GEOMORPHOLOGY OF LANDSLIDES IN EASTERN NORTH AMERICA**

Organized by Steve Evans, Jan Aylsworth, and Ted Lawrence (Geological Survey of Canada, Ottawa), the Symposium covered a wide range of topics related to landslides in eastern North America with an emphasis on instability in Pleistocene materials. The keynote speaker (Jacques Locat, Universit, Laval) was unable to attend to give his paper on the mobility of subaerial and submarine debris flows. However, armed with a sheaf of overheads the presentation was given by his graduate student, R,jean Couture (Universite Laval) who did an excellent job of dealing with some complex subject matter. Didier Perret (GSC, Quebec) followed and highlighted several features of a GIS-linked database on landslides in Quebec. The last speaker of the first session was taken ill the day before the meeting, and thanks to some adept backroom negotiations by Ted Lawrence in the same building as the Meech Lake accord was finalized all those years ago, Robert Larson, a landslide specialist from Los Angeles County, filled in the vacant slot with some interesting case histories of landslides in Los Angeles, California.

Back to eastern North America for the second session, Ted Lawrence (GSC, Ottawa) kicked off with an overview of the 1996 St-Boniface-de-Shawinigan sensitive clay landslide, the largest Leda Clay landslide to have occurred in this century. Jan Aylsworth (GSC, Ottawa) followed with a summary of Leda Clay landslides and related land-use issues along the South Nation River, Ontario. A third Leda Clay presentation was an excellent exposition by Chris Hyde (GSC, Ottawa) on correlating geophysical and geotechnical parameters in landslide-prone sediments in the Ottawa valley; a very fertile field obviously remains to be explored. R,jean Couture (Universit, Laval) returned to the podium to give a description of the 1908 Notre-Dame-de-la-

Salette catastrophe, illustrated with dramatic contemporary photographs of the damage caused by the landslide-generated wave responsible for many of the casualties. Completing the session and the set of papers on earthflows in fine-grained Pleistocene sediments, Dawit Negussy (Syracuse University) gave a very interesting account of the landslide in Tully Valley, New York.

After the lunch break, Peter Barnett (Ontario Geological Survey) kicked off the third session with a very stimulating talk on massive piping failures in stratified sandy till in southwestern Ontario. Denis St-Onge took some serious issue with Peter's terminology - piping he thought was not a correct term to describe these features. We all look forward to the rematch. Toni Lewkowicz (University of Ottawa) followed with a crisp talk showing many spectacular examples of active-layer detachments on Ellesmere Island and the symposium was wound up with the broad brush strokes of Steve Evans (GSC, Ottawa) who gave a compressed overview of subaerial landslides in eastern Canada including landslides in rock and soil and a sample of his work on landslide risk analysis.

The symposium was very well attended (some of CGRG's illuminati were spotted in the audience) and the organizers would like to thank all who contributed to the very successful CGRG-sponsored event. Obviously, major work remains to be done on the documentation and analysis of landslides involving some very interesting Pleistocene materials in eastern North America.

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### **CGRG-SPONSORED FIELD TRIP AT GAC/MAC OTTAWA '97: LANDSLIDE AND SETTLEMENT PROBLEMS IN SENSITIVE MARINE CLAY, OTTAWA VALLEY**

At this year's GAC/MAC Ottawa'97 meeting, the CGRG-sponsored field trip was "Landslide and settlement problems in sensitive marine clay, Ottawa Valley" co-led by Jan Aylsworth, Ted Lawrence and Steve Evans (all of the Geological Survey of Canada). This was a one day field trip that visited a number of pre-historic and historic landslides in the Ottawa area, Ontario. The propensity of these landslides here, of course, relates to the presence of sensitive Champlain Sea marine sediments a.k.a. Leda Clay. Failures in sensitive clay landslides can produce large-scale, retrogressive earthflows that develop along river valleys or the margins of river terraces and which can rapidly consume relatively flat land behind the site of the initial failure.

The first stop was at the site of the Beacon Hill landslide in the City of Gloucester (a suburb of Ottawa). This is prehistoric landslide was recognized as such only after buried organic material was uncovered during excavations at a shopping centre construction site. The shopping centre and an associated housing complex were eventually completed at the site.

The entourage then proceeded to the South Nation River valley, about 35 minutes outside Ottawa, where five landslides since 1850 and a large number of prehistoric landslides occurred along a 20 km reach of river valley. Brief stops were made at a prehistoric scar near Casselman and a view point overlooking the Seguinbourg berm built to protect a section of the valley side from river erosion and load the toe of the slope preventing its failure. The next stop was the 1993

Lemieux landslide where the field trip leaders summarized recent borehole and geophysical data. The participants then promptly dispersed to explore the still relatively fresh-looking 17 ha scar and view the ca. 10 m of river incision which has occurred along the South Nation River valley since the landslide.

After rounding up the somewhat scattered group and ensuring that no one was involuntarily examining the bottom of any of the deep, steep-sided gullies along the river, the trip proceeded to the Hammond landslide, crossing several large prehistoric landslide deposits which had run-out onto the bottom of a proto-Ottawa River palaeochannel. Lunch was at a local private wildlife sanctuary, where a hearty meal and warm room were well-appreciated on what was a rather cool day.

Crossing the Ottawa River by ferry, we drove up the Lišvre River valley. Formal stops were at the Poupore and Notre-Dame-de-la-Salette landslide sites. The latter stop was particularly notable because 33 people were killed at the village of Notre-Dame-de-la-Salette in 1908 by a wave of water and ice generated by a landslide along the opposite valleyside. This incident represents the largest number of people killed by a sensitive clay landslide in eastern Canada. The final stop was the site of the 1973 Chelsea landslide along the Gatineau River.

The field trip was enjoyed by all of the participants. As an indication of the superb organization by the leaders, we arrived back in downtown Ottawa 5 minutes prior to the scheduled arrival time! The excellent field trip guidebook is available from the Geological Association of Canada at the bargain price of \$6 (field trip B1 Guidebook) and is a must for anyone interested in Ottawa Valley Leda Clay landslides. It includes descriptions and instructions to field trip stops, but also other landslide sites not visited on the field trip.

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## **CANADIAN GEOMORPHOLOGICAL RESEARCH GROUP WORKSHOP ON GEOPHYSICAL TECHNIQUES IN GEOMORPHIC RESEARCH**

### **SECOND AND FINAL CIRCULAR**

The CGRG is sponsoring a two-day workshop to be held at Queen's University, Kingston Ontario on September 20 and 21, 1997. Emphasis will be on hands-on experience with electromagnetic induction equipment and ground-penetrating radar as applied to terrestrial survey, and acoustic and seismic equipment as applied to survey of aquatic environments. The program will be lead by L. Dyke, C. Hyde, and Y. Michaud (Geological Survey of Canada), S. Robinson (McGill University) and R. Gilbert (Queen's University). Representatives of several equipment manufacturers, including Datasonics Inc. will be on site to demonstrate their equipment.

It is anticipated that a similar workshop will be hosted at Simon Fraser University in spring 1998, except that the emphasis will be on terrestrial techniques.

#### **Itinerary:**

**Friday September 19:** Arrival in Kingston. A block of rooms has been reserved at the Rest Inn, 686 Princess St. (613 546-6616) at the conference rate of \$45.00 single, \$55.00 double. Participants should book their own rooms, mentioning the CGRG workshop. This is a "budget" motel; for those wishing more elegant accommodation there are a number of first-class hotels in Kingston (see the web pages listed below). An icebreaker is planned for Friday evening.

Participants are urged to arrive Friday evening as the workshop will begin at 08:00 on Saturday.

**Saturday September 20:** Classroom sessions in the morning will deal with the application of geophysical equipment to geomorphic research. In the afternoon, in-field sessions on glacial landforms and on the near-shore waters of Lake Ontario will give participants an opportunity to use the equipment. A barbecue is planned for the evening.

**Sunday September 21:** Morning: in-field sessions continue. Afternoon: Data processing laboratory and wrap-up by 16:00.

**Registration: before August 15, 1997**

- \$60.00 for CGRG members, \$75.00 for non-members\*
- Students \$35.00 for CGRG members, \$50.00 for non-members\*
- \* includes one-year membership in CGRG
- after August 15, 1997, add \$10.00

Registration includes instructional material, coffee breaks, and barbecue.

To register for the workshop, please send a cheque made payable to the Canadian Geomorphological Research Group along with your name, postal and email addresses, telephone and FAX numbers to:

Robert Gilbert  
Department of Geography  
Queen's University  
Kingston ON K7L 3N6

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## UPCOMING CONFERENCES

- **GAC/MAC'98, Quebec City, 18-20 May 1998**

Abstract deadline January 15, 1998

Contact: Departement de geologie et de genie geologique, Universit, Laval, Sainte-Foy, Qc, G1K 7P4. phone : (418)656-2193 fax: (418)656-7339

URL: [www.ggl.ulaval.ca/quebec1998.html](http://www.ggl.ulaval.ca/quebec1998.html)

e-mail: [quebec1998@ggl.ulaval.ca](mailto:quebec1998@ggl.ulaval.ca)

- a special session on Relative sea-level variations and isostatic recovery across Canada, from Late Wisconsin to Present day being organized by J.-C. Dionne (U. Laval) and Y. Michaud (GSC-Quebec) and sponsored by AQQUA, CGRG and CANQUA.

- a symposium on Aquifer management and remediation being organized by R. Martel (INRS-G,resources) and sponsored by IAH.

- a field-trip on Relative sea-level variations during the Holocene, St. Lawrence Estuary being organized by J.-C. Dionne (U. Laval) and M. Garneau (GSC-TSD)

- a short-course on Land use planning and geosciences being organized by Y. Michaud (GSC-Quebec) and sponsored by APGGQ and AQQUA.

• **7th International Conference on Permafrost, Yellowknife, N.W.T., Canada, 23-27 June 1998**

Contact Alan Heginbottom, Terrain Sciences Division, Geological Survey of Canada, 601 Booth Street, Ottawa, On, K1A 0E8

URL:[http://www.nrcan.gc.ca/gsc/permaf\\_e.html](http://www.nrcan.gc.ca/gsc/permaf_e.html) (English)

URL:[http://www.nrcan.gc.ca/gsc/permaf\\_f.html](http://www.nrcan.gc.ca/gsc/permaf_f.html)(Français)

• **GPR '98**

Abstract deadline October 1, 1997, full length papers due by March 2, 1998.

Contact GPR '98 Technical Committee Radar Systems & Remote Sensing Laboratory, The University of Kansas, 2291 Irving Hill Rd., Lawrence, KS 66045, USA phone : (913) 864 4835  
Fax : (913) 864 7789