



Canadian National Committee  
for the International Permafrost Association  
**NEWSLETTER**

Spring 2000

***Greetings from the Canadian National  
Committee for the International Permafrost  
Association (CNC-IPA)***

The CNC-IPA is Canada's official adhering body to the International Permafrost Association (IPA), and is jointly sponsored by the Geological Survey of Canada of Natural Resources Canada and the National Research Council of Canada. Last fall, a new CNC-IPA committee was appointed to serve a four year term until December 2003. The previous committee had served a long term, and devoted itself largely to the successful organization of the 7<sup>th</sup> International Permafrost Conference in Yellowknife, June 1998. Your new CNC-IPA members are:

Michel Allard (President), Université Laval,  
michel.allard@cen.ulaval.ca  
Margo Burgess (Secretary), Geological Survey of  
Canada, mburgess@nrcan.gc.ca  
Don Hayley (Past President), EBA Engineering  
Consultants Ltd., hayley@eba.ca  
Richard Fortier, Université Laval,  
richard.fortier@ggl.ulaval.ca  
Al Hanna, AGRA Earth and Environmental Ltd.,  
ahanna@agraee.com  
Brian Moorman, University of Calgary,  
moorman@acs.ucalgary.ca  
Steve Solomon, Geological Survey of Canada-Atlantic,  
ssolomon@nrcan.gc.ca  
Peter Vician, GNWT Transportation,  
peter\_vician@gov.nt.ca

Please feel free to contact any one of the members. We look forward to representing the Canadian permafrost community and to keeping you abreast of national and international activities.

Please take a moment to fill out the address form at the end of this newsletter, to ensure we have your correct address and most importantly to provide your email address.

***Good bye and thank you - Alan Heginbottom  
retires as Secretary of the CNC-IPA***

As most of you probably know the past secretary of the CNC-IPA was Alan Heginbottom, emeritus scientist, Geological Survey of Canada. You may not know that Alan had served in that capacity since the inception of the IPA and CNC-IPA, and was in fact involved the establishment of both organizations in the 1980s. We want to take this opportunity to thank Alan, on behalf of the Canadian permafrost community, for his long and outstanding service. He has been a thread of continuity for the CNC-IPA. We wish him well in his retirement, in both his permafrost and non-permafrost activities.

***Frozen Ground - The Newsletter of the IPA***

Frozen Ground is now published annually. The enclosed volume 23, December 1999, issue was received in Canada late this winter. The delay in its distribution was entirely due to the tardiness in the compilation of this accompanying CNC-IPA Newsletter. We will endeavour to be more prompt in the delivery of the next issue. Frozen Ground is now also available on the IPA web site (<http://www.geodata.soton.ac.uk/ipa/>). If you have any items that you would like to forward to the CNC-IPA for inclusion in the Canadian report in the next Frozen Ground issue, volume 24, scheduled for December 2000, please send these along to the CNC-IPA secretary, Margo Burgess (mburgess@nrca.gc.ca), by August 31, 2000.

***Proceedings of the 7<sup>th</sup> International Conference  
available on CD!***

The Proceedings of the 7<sup>th</sup> International Conference on Permafrost, June 1998, Yellowknife have just been released on compact disk. The CD also contains the abstracts of the posters presented at the Conference. The price is 15\$ CAN or 12\$ US. To order, by mail or by fax, just fill and send the attached form to the address shown.

## ***Permafrost Research Needs and Priorities in Canada***

At its January 2000 meeting, the CNC-IPA committed itself to prepare in the next year, a statement on permafrost research needs and priorities in Canada. There has been a general perception that permafrost research in Canada is presently at a low level of activity and that expertise/knowledge is not being maintained or transferred as education/training declines and governments downsize. There is a particular concern that cold regions geotechnology is not being given enough, or sometimes any, emphasis in undergraduate civil engineering and science programs. Yet there is a real and increasing need for permafrost research and expertise related to northern infrastructure design, construction and maintenance, growing resource development (oil, gas, and mineral), and assessing and adapting to the impacts of climate change in permafrost regions. As a community, will we be prepared for it. The development of collaborative research projects linking together permafrost scientists and engineers across Canada and from government, academia and the private sector, is also becoming a necessity to meet the new requirements of funding agencies and to participate in international science programs. New geophysical, geotechnical and information technologies also offer unprecedented opportunities for the development of permafrost science and engineering in Canada.

As the CNC-IPA embarks upon articulating a collective national vision for permafrost research needs and priorities, we wish to solicit input from the Canadian permafrost community. We welcome your ideas and suggestions prior to the next committee meeting scheduled for this October in Montréal. Please e-mail your thoughts on the matter to the CNC-IPA Chair, Michel Allard (michel.allard@cen.ulaval.ca).

## ***Illisarvik Bibliography***

An Internet bibliography of the nearly 50 reports and papers that have been published covering research at Illisarvik Lake is available at: <http://www.nwtresearch.com/illisarvik>. Illisarvik is the experimental drained lake on Richards Island in Canada's western Arctic. The experiment was conceived by Ross Mackay and began in collaboration with the Geological Survey of Canada and the (then) Earth Physics Branch in 1978. Research at Illisarvik is continuing. The bibliography lists the full citation and

abstract of all these articles. The bibliography was compiled by Margo Burgess (GSC), Ross Mackay (UBC) and Chris Burn (Carleton), and is hosted by the Aurora Research Institute, Aurora College, N.W.T.

*Chris Burn, Carleton University*

## ***Report on Coastal Permafrost Workshop, Woods Hole, Fall 1999***

The IPA's Coastal and Offshore Permafrost Working Group was formed at the 7<sup>th</sup> International Permafrost Conference at Yellowknife in 1998. The subgroup on coastal permafrost, chaired by Steve Solomon (Geological Survey of Canada - Atlantic) held a workshop this past November at Woods Hole Massachusetts to discuss ways of developing co-operative international efforts for addressing compilation of data about Arctic coastal dynamics. The workshop was organized by Jerry Brown (US) and Steve Solomon and was sponsored by the NSF's Office of Polar Program under the Russian-American Initiative on Shelf-Land Environments (RAISE) program. The forty five participants included representatives from the U.S., Canada, Russia, and Germany and involved several representatives from Alaskan communities. The program developed during the course of the workshop was presented to the International Arctic Science Committee this past April and has been accepted as an official project with funding for a workshop to develop a science plan. This invited workshop will be held sometime this fall. More information about the program is available on the ACD web site at <http://www.awi-potsdam.de/www-pot/geo/acd.html>.

## ***Canadian Membership on IPA Committees and Working Groups***

The CNC-IPA welcomes news from Canadians involved in any of the IPA Committees, Task Forces and Working Groups.

*CNC-IPA members are part of the following IPA committees:*

GTNet-P Organization Committee: M. Burgess, Global Change and Permafrost: Margo Burgess

Standing Committee on Data, Information and Communication: Margo Burgess

Coastal and Offshore Permafrost, Coastal Erosion Subgroup: Steve Solomon, chair

Working Group on Permafrost Foundations: Al Hanna

*Other Canadian chairs or co-chairs:*

Permafrost Engineering: Branko Ladanyi, École Polytechnique

Southern Hemisphere Permafrost and Periglacial Environments: Kevin Hall, University of Northern B.C.

Cryosols: Charles Tarnocai, Agriculture and Agri-Food Canada

### ***Report on Canadian Permafrost Monitoring Network Workshop, Ottawa, January 2000***

The Geological Survey of Canada convened a National Permafrost/Glaciers/Ice Caps Monitoring Networks Workshop in Ottawa, January 28-29, 2000. Over 50 participants attended, representing the research and monitoring communities in the federal government, academia and private sector. The workshop was organized by the Terrain Sciences Division and sponsored by the Climate Change Action Fund, to develop the requirements for coordinated national networks to observe the climate change signal and its regional variability, and evaluate its impacts, in these critical components of the cryosphere.

The Canadian Permafrost Monitoring Network workshop provide input for the development of Canada's Global Climate Observations System (GCOS) Plan, as well as for the development of the IPA's new Global Terrestrial Network for Permafrost (GTNet-P; for further info see Frozen Ground, p.11, "Long Term Permafrost Observatories"). Canada's capacity and "duty" to contribute to a global permafrost monitoring network was highlighted with respect to our stewardship of 1/3 of the Northern Hemisphere's permafrost regions and the eco-climatic, geologic, geographic and geothermal diversity that exists within the Canadian permafrost regions. There has been no formal national Permafrost Monitoring Network to date – rather an ad-hoc grouping of monitoring activities in various regions of the country conducted by numerous organizations, and operating largely on long- term personal commitment.

Workshop presentations addressed 1) the monitoring activities that are in place (by who, where, how); what have we learned from these activities, 2) the identification of critical gaps and weaknesses in the current "ad-hoc" network and 3) the examination of the specific requirements of a national network, e.g. membership criteria, site selection, measurement protocols, data quality control, data reporting/submission/access

/exchange /archiving, expertise and capacity, priorities and needs - both thematic and geographic, funding requirements, implementation and operation, co-ordination/management, federal government role/mandate. Partnerships amongst universities, governments, communities, and the private sector were seen as critical to maintaining existing sites and filling gaps.

A workshop report will be posted on the GSC's web site in summer 2000 (<http://sts.gsc.nrcan.gc.ca/permafrost/>). This report and action items resulting from the workshop will form the basis for refining the scope, priorities, development and implementation plan for Canada's permafrost monitoring network, to be completed in fiscal year 2000-01 as a contribution to the Canadian Cryosphere GCOS plan.

For further information on the workshop contact: Margo Burgess ([mrburgess@nrcan.gc.ca](mailto:mrburgess@nrcan.gc.ca)), re Permafrost; Mike Demuth, GSC, [mdemuth@nrcan.gc.ca](mailto:mdemuth@nrcan.gc.ca), re the Glaciers/Ice Caps component of the workshop ; and Ross Brown, Environment Canada, [ross.brown@ec.gc.ca](mailto:ross.brown@ec.gc.ca), re the overall Canadian GCOS Cryosphere Plan.

For info on the GTNet-P, or to obtain the form for submission of candidate sites and metadata contact: Margo Burgess or Sharon Smith ([ssmith@nrca.gc.ca](mailto:ssmith@nrca.gc.ca)), or visit the GTNet-P web page: <http://sts.gsc.nrcan.gc.ca/permafrost/gtn-p.htm>

### ***Permafrost Research Projects Supported by Canada's Climate Change Action Fund***

The Government of Canada established the Climate Change Action Fund (CCAF) in 1998, in order to engage Canadians in partnerships that will lead to a deeper understanding of the climate change issue, as well as to take early and meaningful actions to reduce greenhouse gas emissions and adapt to the impacts of climate change. One component of this fund is directed towards Science, Impacts and Adaptation projects. This component of CCAF has funded several projects where permafrost is a central or integral to the study. The majority of these projects are listed below; along with the lead organizations. Most projects also involve numerous partners either from academia, government or the private sector. For further information contact either Pamela Kertlan, CCAF Impacts and Adaptation Liaison Office ([pkertlan@nrcan.gc.ca](mailto:pkertlan@nrcan.gc.ca)) or John Anderson, CCAF Science Liaison Office - [john.c.anderson@ec.gc.ca](mailto:john.c.anderson@ec.gc.ca), or the lead organization. Further information on the CCAF program can be found on the web at

<http://www.climatechange.gc.ca/english/html/fund/index.html>.

### **CCAF Science projects**

High Arctic Permafrost Observatories for the Detection of Climate Change: Assessment of Existing Knowledge and Monitoring of Future Trends; Lead Organizations: ASL Environmental Sciences and Natural Resources Canada-Geological Survey of Canada (NRCan-GSC)

National Arctic Geosciences Databases Supporting Climate Change Research; includes summary permafrost temperature and thickness databases; Lead organization: NRCan-GSC

The State of the Arctic Cryosphere during the Extreme Warm Summer of 1998: documenting cryospheric variability in the Canadian Arctic for assessing the significance of recent warming. Lead organizations: Environment Canada-Meteorological Service of Canada (EC-MS), NRCan-GSC, Balanced Environments Associates

Tendance et variabilité thermique à la limite méridionale de la zone arctique de l'est canadien à l'échelle des dernières décennies et des derniers siècles; Lead organization: Université Laval

Definition of a Core Canadian Cryospheric Network of in-situ and remotely sensed data for monitoring the Canadian Cryosphere in Support of GCOS; Lead organizations: EC- MSC, NRCan-GSC

### **CCAF Impacts and Adaptation Projects**

Climate-Induced Impact Mapping for Route Selection Applications in Permafrost Regions; Lead organization: NRCan-GSC

Impacts of Climate Change on Permafrost in Canada; Lead organization: Carleton University

Climate Change and Permafrost on the Western Arctic Coast; Lead Organization: NRCan-GSC

Climate Change, Permafrost Degradation and Infrastructure Adaptation: Community Case Studies in the Mackenzie Valley; Lead Organizations: NRCan-GSC

Climate Change and Sea-level Hazards on the Canadian Beaufort Sea Coast; a study on the impacts of sea level rise on the Beaufort Coast, including the important role of permafrost. Lead Organizations: NRCan-GSC, Department of Fisheries and Oceans, Environment Canada

Northern Peatlands to Monitor Recent and Future

Warming; Lead organization: NRCan-GSC

Mapping Permafrost Degradation and Environmental Impact Response to Climate Change; Lead organizations: McGill University, NRCan-CCRS

### **Canadian Geotechnical Society - Cold Regions Geotechnology Division Membership Appeal**

The number of Canadian Geotechnical Society (CGS) members selecting the Cold Regions Geotechnology Division (CRGD) as their "first choice" division has been only about 30 in recent years. The total membership, including second and third choice members, is in the order of 150. However, the strength and viability of a division is based on the first choice membership, and CRGD has recently been the lowest.

There has been discussion at the CGS Board level about the viability of the CRGD. The division is therefore under pressure to confirm the interest within the CGS membership for the survival of the CRGD. The fact that we could not organize at least one CRGD session at the 1999 Regina conference, also does not speak well for the division.

From a cursory review of the first choice members list, it is surprising to note the absence of many names that would be expected.

This is an appeal to all CGS members with an interest in cold regions geotechnology, and that is certainly not just those interested in permafrost. Cold regions are all those affected by significant frost action, and this includes all Canadian provinces - not just the territories.

If you are not already a "first-chooser", please consider making CRGD your first choice division. Also please try to recruit additional members in your organization or company to join CGS and select CRGD as first choice. There is almost a 50% reduced membership fee for new members!! See details at: [www.cgs.ca/english/member.html](http://www.cgs.ca/english/member.html)

CRGD must become a stronger and more committed community and it is hoped that not only will there be more members, but more interest in writing papers for the annual conference and to holding specialty conferences or workshops, a true sign of a division's strength.

I will be pleased to receive any comment or proposal from you about the CRGD. Accept my very best regards,

*Richard Fortier, Ph. D., ing.  
CRGD Chairman (2000 and 2001)*

**UMA Electronic Cold Regions Journals - CRYOFRONT and PERELETOK**

**CRYOFRONT** is an electronic journal of cold region technology. **PERELETOK** (Russian - meaning "old ice") is an electronic journal of cold region history. Both journals are published by Online Scribe Publications, and distributed by UMA Engineering Ltd. Ken Johnson, MAsc, PEng. is the editor of the journals. Ken Johnson is also the Director of Cold Region Technologies for Communities with UMA Engineering Ltd. in Edmonton, Alberta, Canada.

CRYOFRONT is published bimonthly, and PERELETOK is published occasionally. Both are distributed to an audience of over 700 cold region technology practitioners around the world. CRYOFRONT has been in publication since 1997. To subscribe send an e-mail to [cryofront@umagroup.com](mailto:cryofront@umagroup.com), and make sure the word "subscribe" (no quotes) is in the subject line.

Contributions and feedback are welcome, and the information has no copyright.

<mailto:kjohnson@umagroup.com>  
<http://www.umagroup.com>

***Upcoming Workshops/Conferences of Interest in 2000 (in addition to those listed in Frozen Ground)***

International Workshop on Permafrost Monitoring and Database, 11–14 June, Fairbanks, sponsored by the International Arctic Research Centre (IARC) and the Geophysical Institute of the University of Alaska Fairbanks; organized by Vladimir Romanovsky, email [ftver@aurora.alaska.edu](mailto:ftver@aurora.alaska.edu).

Strategic Plan for Cold Regions Engineering Research in the New Millennium Workshop, June 19-21, Anchorage, University of Alaska Anchorage (UAA) Campus; organizers: Ted S. Vinson, [Ted.Vinson@orst.edu](mailto:Ted.Vinson@orst.edu) and Hannele Zubeck, [afhgz@uaa.Alaska.edu](mailto:afhgz@uaa.Alaska.edu)

Second International CONTAMINANTS IN FREEZING GROUND CONFERENCE July 2-5, 2000, Cambridge, U.K. <http://www.freezingground.org/conf2000>

Periglacial Workshop 6-7<sup>th</sup> September 2000, University of St. Andrews, Scotland; organized by Dr Julian Murton, Centre for Environmental Research, University of Sussex, Brighton, [j.b.murton@sussex.ac.uk](mailto:j.b.murton@sussex.ac.uk)

51<sup>st</sup> AAAS Arctic Science Conference, September 21-24, 2000, Whitehorse; [www.taiga.net/arctic2000](http://www.taiga.net/arctic2000)

53rd Canadian Geotechnical Conference, Montréal (Québec), October 15-18., 2000. A technical session on Cold region geotechnology will be held Wednesday, October 18, 2000, from 15h45 to 17h15.

***List servers of Interest to the Permafrost Community***

**PALS:**

An open, unmoderated and international discussion list supported by University of Alaska staff and a computer on the Fairbanks campus. The purpose of this discussion list is to provide an international forum for discussions of the scientific and technical aspects of permafrost, active layer and frozen ground studies. If you wish to become part of this discussion list (i.e. to SUBSCRIBE to the list), send the following command (and only this command) in the body of an e-mail message: SUBSCRIBE PALS-L or SUB PALS-L to: [listserv@galileo.admin.uaf.edu](mailto:listserv@galileo.admin.uaf.edu)

**ArcticInfo**

ArcticInfo is administered by the Arctic Research Consortium of the United States (ARCUS). Please visit us on the World Wide Web at <http://www.arcus.org>. At anytime you may: Subscribe to ArcticInfo by sending an email to [arcticinfo-sub@arcus.org](mailto:arcticinfo-sub@arcus.org). If you have information you would like to post to the mailing list send the message to [dan@arcus.org](mailto:dan@arcus.org) or [arcus@arcus.org](mailto:arcus@arcus.org).

**Inter-Americas Institute for Global Change Research** list server carries information about the institute's activities and opportunities:

[Listserv Manager <listserv@dir.iai.int>](mailto:listserv@dir.iai.int)

**Northsci** list server moderated by Peter Johnson at University of Ottawa and carries information on northern science and research:

[peterj@aix1.uottawa.ca](mailto:peterj@aix1.uottawa.ca)

**Geomorphology** list server is moderated by William Locke and is based in the US but carries many international messages on issues relating to geomorphology: [geomorph-1@listserv.montana.edu](mailto:geomorph-1@listserv.montana.edu)

### ***CNC-IPA Newsletter***

This Newsletter is distributed with *Frozen Ground*, the News Bulletin of the International Permafrost Association.

**Distribution:** Copies of this issue of *Frozen Ground*; are being distributed to all Canadian permafrost scientists and engineers on the mailing list of the Canadian National Committee for the International Permafrost Association (CNC-IPA), and to various libraries across Canada. Persons or institutions interested in receiving copies are asked to contact the Secretary, CNC-IPA, at the address below. Persons or institutions presently receiving copies but no longer wishing to, should also contact the Secretary.

**Back Issues:** Limited numbers of back issues of *Frozen Ground* No's 8 through 22 are available, on a first come, first served basis. Issues No. 7 and earlier are out of print, but photocopies can be provided. Recent issues are posted on the IPA web site.

**Future issues:** News items, reports of research activities, conference reports and other items of interest

in permafrost science and engineering, for inclusion in future issues of *Frozen Ground* or the CNC-IPA NEWSLETTER, are always welcome. As far as possible, please submit material by e-mail, in WordPerfect, MS-Word or ASCII format.

*The CNC-IPA NEWSLETTER is compiled and edited by:*

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*GSC e-mail: mburgess@nrca.gc.ca*

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### ***CNC-IPA Mailing List***

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Permafrost Conference, Yellowknife, 1998**

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