



Canadian National Committee
for the International Permafrost Association
CNC-IPA - NEWSLETTER

Spring 2001

Let's get together before the 2003 International Permafrost Conference.

The CNC-IPA is currently considering organizing a workshop early in 2002. The workshop would serve as a venue to draw the Canadian permafrost community together prior to the 8th International Permafrost Conference in Switzerland in July 2003. Researchers, including students, would have the opportunity to make a preliminary presentation of their work, prior to finalizing and submitting their ICOP manuscripts later in 2002. Round table discussions would also be held on selected permafrost topics of relevance and interest to Canada. Send us any feedback, or suggestions. Stay tuned.

Frozen Ground - The Newsletter of the IPA

Frozen Ground is published annually. The enclosed volume 24, December 2000, is also available electronically 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 25, scheduled for December 2001, please send these along to Margo Burgess (mburgess@nrcan.gc.ca), by Sept. 15, 2001.

Northern Federal S&T Framework Report

In 2000, the federal government released its *Northern Science and Technology in Canada - Federal Framework and Research Plan April 2000-March 2002*. The report describes the key programs and activities of federal departments and agencies that support Northern science and technology. For further information, or to obtain a copy of the report, visit the Department of Indian Affairs and Northern Development web site: <http://www.inac.gc.ca>.

The Canadian National Committee for the International Permafrost Association (CNC-IPA),

Canada's official adhering body to the International Permafrost Association (IPA), is jointly sponsored by the Geological Survey of Canada of Natural Resources Canada and the National Research Council of Canada. CNC-IPA committee members are appointed for a four year term. Current members, whose term expires in Dec. 2003, 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@vgl.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. The CNC-IPA distributes its newsletter to over 350 recipients on its mailing list. This year we ensured that members of the Canadian Geotechnical Society (CGS) Cold Regions Geotechnology Division (CRGD) were included on this list. Please remember, if your address has changed, to take a moment to fill out the address form at the end of this newsletter.

NSERC Report on Northern Research

In September 2000, a task force organized by the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) issued a report on the state of research in the North. The report, *From Crisis to Opportunity: Rebuilding Canada's Role in Northern Research*, proposed a five-point program: establish university research chairs, create scholarships and fellowships, support strategic research projects, build new partnerships between universities and northern communities, and provide funding for equipment and infrastructure. The text of the report, including policy recommendations, is available by following this link: ftp://ftp.nserc.ca/pub/nserc_pdf/nor/crisis.pdf. In February NSERC announced that Northern Research would get a \$1 Million boost and that it was taking steps to begin rebuilding Canadian university-based northern research. Up to six Northern Research Chairs will be launched and additional support will be made available for postgraduate and postdoctoral study. The new NSERC program will begin immediately and over two years ramp up to approximately \$1.25 million per year.

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

The Geological Survey of Canada (GSC) convened a National Permafrost/Glaciers/Ice Caps Monitoring Networks Workshop in Ottawa, January 28-29, 2000. The workshop was noted in last year's CNC-IPA Newsletter and further information is also included in the latest *Frozen Ground*. The workshop, organized by the GSC and sponsored by the Government of Canada's Climate Change Action Fund, was part of Canada's efforts to define the necessary cryosphere observation networks for contribution to the World Meteorological Organization's (WMO) Global Climate Observing System (GCOS). A report on the permafrost component of the workshop is available on the web under "Canadian Permafrost Monitoring Workshop" on the GSC's permafrost web page <http://sts.gsc.nrcan.gc.ca/permafrost/>.

The Permafrost/Glaciers workshop, and a companion workshop on sea ice/snow/lake ice, held in Toronto October 2000 and also supported by the Climate Change Action Fund, are providing critical input to the development of a Canadian GCOS Plan for the Cryosphere. The draft CanGCOS-Cryosphere Plan is scheduled for completion and submission to the UNFCCC (United Nations Framework Convention on Climate Change) in the fall of 2001. For further information on the overall Can GCOS - Cryosphere plan contact Ross Brown, Environment Canada, ross.brown@ec.gc.ca.

The IPA's Global Terrestrial Network for Permafrost (GTN-P)

The GTN-P is a new program, approved under GCOS in 1999, and being developed by the IPA. Canada is active on GTN-P development and implementation committees, and the GSC hosts the GTN-P web site. The GTN-P includes a borehole thermal monitoring and an active layer monitoring component (the latter consists of the CALM program). Further discussion on the GTN-P can be found in *Frozen Ground*. A GTN-P status report was recently submitted to the IPA Executive Committee meeting held in Rome prior to the 1st European Permafrost Conference, March 2001. If you are interested in obtaining a copy of the report, contact: Margo Burgess (mburgess@nrcan.gc.ca) or Sharon Smith (ssmith@nrcan.gc.ca).

There are now over 350 candidate boreholes that have been identified globally for the borehole thermal monitoring component of the GTN-P; some 75 are Canadian sites. Before final selection of boreholes for inclusion in the network, site metadata information is required. ***If you have submitted candidate Canadian site(s), but have not yet forwarded your metadata form(s),; or if you have new sites to propose, please do so asap.*** If you need a form go to: <http://sts.gsc.nrcan.gc.ca/gtnp/>.

Permafrost 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. Further information on the CCAF program can be found on the web at <http://www.climatechange.gc.ca/english/html/fund/index.html>.

The first three years of CCAF funding came to an end in March 2001. Several projects had a permafrost focus or component (as listed in last year's CNC-IPA newsletter). Outputs for these projects are now or will soon be available.

Regional Climate Change Posters

One of the CCAF outputs is a series of seven educational posters on climate change and potential impacts in various regions of Canada. The posters were coordinated by the GSC and prepared in collaboration with numerous partners. Permafrost is featured on the Yukon/NWT poster and the Nunavut poster, as well the Quebec and the Prairie Provinces posters. To obtain a copy of any of the posters, contact the Geological Survey of Canada bookstore: gsc_bookstore@gsc.nrcan.gc.ca. The posters will also be available for viewing on-line at www.nrcan.gc.ca/gsc/education_e/html.

State of the Cryosphere during 1998

1998 was the warmest year on record in Canada. A CCAF funded project entitled "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" examined the response of the cryosphere, including permafrost, to this anomalously warm year. The project was led by Environment Canada-Meteorological Service of Canada (EC-MSC), NRCan-GSC, and Balanced

Environments Associates. Project participants gathered at a Workshop in Edmonton in February 2001 to present and share their findings. For information on the presentations and extended abstracts go to: http://www.crysys.uwaterloo.ca/science/meetings/2001_meeting/Program_Summer98.html. A final synthesis report will also be produced.

CRYSYS

The summer of 1998 workshop was held as part of the 6th annual CRYSYS (CRYosphere SYStem in Canada) meeting, organized by EC-MSC, and held in February 2001 in Edmonton. CRYSYS brings together a network of Canadian Cryospheric researchers focusing on climate change and the cryosphere, often, but not solely, with an emphasis on remote sensing aspects. Extended abstracts of several of the CRYSYS presentations can be accessed at http://www.crysys.uwaterloo.ca/science/meetings/crysys_meetings.cfm

Through the collaborative efforts of the CRYSYS community, a new web site is being developed on the "State of the Cryosphere in Canada"(SOCC): <http://www.socc.uwaterloo.ca>. The web site presents a discussion of past variability, current state and future projected state, for each of the five components of the cryosphere (sea ice, snow, permafrost, glaciers, lake ice). The goal is to ultimately link the SOCC web site with the new national and international permafrost monitoring networks, currently under development, and their associated databases and reports, to provide summary information on "current" permafrost conditions.

Permafrost Engineering Workshops in 2000

In addition to a Permafrost Engineering Workshop held in Svalbard in June 2000 (and reported on in *Frozen Ground*), a workshop to develop a U.S. strategic plan for Cold Regions Engineering Research in the new millennium was held June 19-21, 2000, at the University of Alaska,

Anchorage, Alaska, USA. The Organising Committee of the Workshop consisted of Professors Ted S. Vinson and Hannele Zubeck of Oregon State University and University of Alaska respectively. The National Science Foundation sponsored the Workshop. Over 100 practising engineers, university faculty and government professionals, 6 of them Canadians, participated in the workshop.

The purpose of this workshop was to collectively identify and describe needed research which should be performed at the beginning of the new millennium. The workshop participants worked in small "breakout groups" on the following topics: 1) Inland Transportation, Natural Resource Infrastructure, and Construction; 2) Environment and Public Health; 3) Hydrology, Hydraulics, Snow and Ice Mechanics; 4) Frozen Ground, Foundations, Engineering Geophysics and Seismicity; 5) Energy, Electricity, and Communications; 6) Structures and Materials Science; 6) Marine Transportation and Coastal Infrastructure; and 6) Global Climate Change in Cold Regions. Each group delivered a written summary statement of the significance of engineering activities and a prioritized list of identified research topics. The Organising Committee will soon be producing a report on the recommended new research avenues and needs in Cold Regions Engineering in the new millennium. The report will be distributed in both a "hard copy" and electronic format to Workshop participants, cold regions engineering professionals and scientists, and appropriate federal agencies. The report will hopefully guide research efforts in the cold regions engineering community in the USA and direct USA federal and state funding agencies to fund research proposals which relate to research needs identified in the report. It could also serve as a useful guide for a similar Canadian exercise. For further information on the workshop, contact CNC-IPA member Richard Fortier.

List servers of Interest to the Permafrost Community

Information on several list servers was provided in the Spring 2000 CNC-IPA Newsletter. Please consult

that Newsletter for more details - the newsletter is on the web, if you've misplaced your hard copy or are new to our mailing list - at: <http://iss.gsc.nrcan.gc.ca/cncipa/html/nwsletr.shtml>

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:

GTN-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 Sub-group: 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

Please contact any of the above for further information on their groups' activities - their latest summaries are in *Frozen Ground*.

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 23 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: Reports of research activities conference reports, news 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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