

Final Report
of the
Ninth International Conference on Permafrost



January 2009

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Final Report of the Ninth International Conference on Permafrost

prepared by

Douglas Kane (Conference Chair), Larry Hinzman (Chair, Program Committee), Elizabeth Lilly (Conference Organizer), and Jerry Brown (past IPA President)

1. NICOP Conference Highlights

- ❖ 685 Attendees
- ❖ 31 Countries represented
- ❖ 3 Short courses
- ❖ 5 Workshops and other professional activities
- ❖ 9 Publications
- ❖ 77 Stipends awarded
- ❖ 20 Plenary speakers (all plenary presentations were webcast)
- ❖ 675 Abstracts submitted
- ❖ 467 Papers reviewed, large diversity of papers
- ❖ 358 Papers published in proceedings
- ❖ 187 Extended abstracts published in special volume
- ❖ ~21 Local field trips
- ❖ DVD of all nine previous ICOP conference proceedings
- ❖ \$518,000 raised (large number of contributors) in addition to \$201,000 registration income
- ❖ Expanded use of internet to facilitate meeting (all submissions and reviews were on-line)
- ❖ 40 Oral sessions, 3 large poster sessions
- ❖ Social events well attended
- ❖ 30 Volunteers helped make the conference a success

2. Technical Comments

INTRODUCTION

From 29 June to 3 July, 683 frozen-ground scientists and engineers representing 31 countries came together at the University of Alaska Fairbanks campus for the Ninth International Conference on Permafrost. The theme of this conference was “Permafrost on a Warming Planet: Impacts on Ecosystems, Infrastructure, and Climate.” In the midst of the International Polar Year, this conference drew more than the usual interest by the media in all things pertaining to permafrost. A field trip along the Dalton Highway to Prudhoe Bay preceded the beginning of the conference, along with four workshops and three short courses offered during the week prior to the conference. A mixer held on Saturday evening in the Great Hall coincided with conference registration. Following the Opening Ceremony, the conference commenced with a very intense schedule of plenary sessions, oral presentations, and poster sessions. Much effort had been made to combine science and engineering, to promote contributions from the Permafrost Young Researchers Network (PYRN) as well as the more established researchers, and to ensure that all geographical regions were able to report orally on their work. To encourage participation by young researchers, stipends were available to those who qualified and successfully applied for the grant.

The opening and closing ceremonies along with all of the plenary sessions were webcast and available for viewing over the internet and remain available for viewing through a link on the NICOP website (www.NICOP.org). The plenary sessions were followed by coffee breaks before beginning the five concurrent oral sessions scheduled each morning. In total there were 40 concurrent oral sessions scheduled over the five days of the conference with a wide range of subjects (Appendix A). Eight of the topics had a large number of submissions so they were allocated two sessions. Each oral session contained either four or six 15-minute talks, depending on the length of the session (Appendix K). Oral sessions were complemented by three large poster sessions, each having assigned about 100 posters. Not all posters were presented. Each evening, following the afternoon oral sessions or the local field trips, there was a scheduled social event.

The closing ceremony included the presentation of awards for best oral and poster presentations. Douglas Kane (conference chair) thanked the many associate editors, paper reviewers, sponsors, and staff and volunteers who assisted with the conference. An invitation was delivered by the Russian delegate, Dmitry Drozdov, on behalf of Academician Vladimir Melnikov and Rector Professor N. Karnaukhov, Tyumen State Oil and Gas University, to the 10th International Conference on Permafrost, to be held in summer 2012 in Tyumen, Russia. Finally, the conference was closed by incoming IPA President Hans Hubberten.

The local NICOP Organizing Committees in Fairbanks look forward to meeting everyone again in Tyumen in four years time. We wish the new Organizing Committees all the best for their mammoth task!

OPENING CEREMONY

The opening ceremony on Sunday morning started with a musical medley by the Borealis Brass including a piece composed by UAF music professor, James Bicigo, entitled “Polar Synthesis (for IPY Alaska)”. The welcoming addresses were given by Jerry Brown, President, *International Permafrost Association* (Figure 1) and Douglas Kane, Conference Chair. Master of Ceremonies

was Larry Hinzman, Chair, *Local NICOP Program Committee*. Opening addresses were presented by Mark Hamilton, President, *University of Alaska*, Brian Rogers, Interim Chancellor, *University of Alaska Fairbanks*, Mayor Jim Whitaker, *Fairbanks North Star Borough*, Mead Treadwell, Chair, *U.S. Arctic Research Commission*, and U.S. Senator Lisa Murkowski (video message). The Keynote Address was delivered by Larry Hartig, Commissioner, *State of Alaska Department of Environmental Conservation*. Closing remarks and organization details were given by Larry Hinzman, Chair, *Local NICOP Program Committee* and Hugues Lantuit, Coordinator, *Permafrost Young Researchers' Network*.



Figure 1. Opening ceremony in Davis Hall (photograph provided by Ole Humlum). From left to right: Hugues Lantuit, Hans-W. Hubberten, Brian Rogers, Larry Hartig, Doug Kane, Jerry Brown, Larry Hinzman, Mark Hamilton, and Jim Whitaker.

PLENARY SESSIONS

The plenary sessions, along with the opening and closing ceremonies, were webcast and available for viewing over the internet and remain available for viewing through a link on the NICOP website. The webcasts are stored on a UAF server at the International Arctic Research Center (IARC). The plenary titles, session chairpersons, author(s) and presentation titles are listed in Table 1.

Table 1. Plenary session topics and presentations.

<p>SUNDAY JUNE 29, 2008 Living in Alaska: A Permafrost-dominated Region, Chair: Mead Treadwell</p> <ul style="list-style-type: none"> • J. E. Walsh: Simulations of present Arctic climate and future regional projections • T. E. Osterkamp: Thermal state of permafrost in Alaska during the fourth quarter of the twentieth century • E. R. Johnson and L. A. Hegdal: Design and performance of the Trans Alaska Pipeline System • M. T. Jorgenson, Y.L. Shur and T.E. Osterkamp: Thermokarst in Alaska
<p>MONDAY PLENARY: JUNE 30, 2008 Thermal State and Fate of Permafrost, Chair: Hanne Christiansen</p> <ul style="list-style-type: none"> • V.E. Romanovsky et al.: Thermal state and fate of permafrost in Russia: First results of IPY • C. Harris and K. Isaksen: Recent warming of European permafrost: Evidence from borehole monitoring • F. E. Nelson, N.I. Shiklomanov, K. M. Hinkel, and J. Brown Circumpolar Active Layer Monitoring Investigators: Decadal results from the Circumpolar Active Layer Monitoring (CALM) program • L. Zhao, S.S. Marchenko, N. Sharkhuu, and T. Wu: Regional changes of permafrost in Central Asia
<p>TUESDAY PLENARY: JULY 1, 2008 Engineering Challenges in the 21st Century, Chair: Kaare Flaate</p> <ul style="list-style-type: none"> • D. W. Hayley and B. Horne: Rationalizing climate change for design of structures on permafrost: A Canadian perspective • S. Springman and L. U. Arenson: Recent advances in permafrost geotechnics • G. Perlshtein: Russian approaches to permafrost engineering • C. Guodong, M. Wei, and W. Quinbai: Innovative designs for warm permafrost construction-Exemplified by the Qinghai Tibet Railway (presented by H. Jin)
<p>WEDNESDAY PLENARY: JULY 2, 2008 Hydrology and Terrestrial Processes, Chair: Hans-W. Hubberten</p> <ul style="list-style-type: none"> • M. Woo, D. L. Kane, S. Carey and D. Yang: Progress in permafrost hydrology in the new Millennium • T. R. Christensen, T. Friborg, and M. Johansson: Trace gas budgets of high arctic permafrost regions • J. Boike, B. Hagedorn and K. Roth: Heat and water transfer processes in permafrost-affected soils: A review of field and modeling-based studies for the Arctic and Antarctic • J Murton: Recent advances in ground-ice studies
<p>THURSDAY PLENARY: JULY 3, 2008 Alpine and Polar Periglacial Processes - A tribute to A. Lincoln Washburn (1911-2007), Chair: Eduard Koster</p> <ul style="list-style-type: none"> • B. Hallet, R. S. Sletten, and J. Putkonen: Advances in permafrost and periglacial research in the Dry Valleys, Antarctica • W. Haeberli and S. Gruber: Research challenges for permafrost in steep and cold terrain: An alpine perspective • O. Humlum: Alpine and polar periglacial processes: The current state of knowledge • A. Lewkowicz and C. Harris: Mass movement processes on permafrost slopes

SHORT COURSES AND WORKSHOPS

Two short courses were offered prior to the beginning of the conference for one credit each through the University of Alaska Fairbanks Summer Sessions program. *Introduction to Permafrost and Frozen Ground Engineering* was offered as either a graduate- or undergraduate-level course and taught by Yuri Shur. Ten graduate students and four undergraduate students registered. *Understanding the Role of Permafrost in a Rapidly Warming Climate* for K–12 teachers was taught by Kenji Yoshikawa, Patty Burns, and DeAnne Stevens. This course familiarized teachers with the impact of a warming climate on the Alaskan society, ecology, and hydrology through degradation of permafrost and offered instruction on how to present this material to school children. A total of 15 teachers attended the class.

Four workshops were offered before the conference. Jennifer Harden, U.S. Geological Survey, organized and led a one-day workshop on Field Methods for Describing and Sampling Northern Soils at the Bonanza Creek LTER site. This trip had a 10-person limit and filled quickly. Michael

Lilly organized a workshop on *Foundations in Permafrost and Frost-Susceptible Soils*, taught by Paul Perreault, Jim Loftus, and John Zarling at the Cold Climate Research Housing Center with 19 participants. The Circumpolar Active Layer Monitoring (CALM) workshop was held on campus prior to NICOP, organized by Frederick Nelson and Nikolay Shiklomanov. Forty-five participants from nine countries representing the 165 bipolar active layer measurement sites reviewed data requirements and archiving procedures, new field techniques, the next 5-year program, publication plans, and coordination with other programs. They also visited a local study site. The Arctic Coastal Dynamics (ACD) project convened a workshop organized by Paul Overduin, Nicole Couture, and David Atkinson to explore development of a coastal erosion model specific to permafrost-dominated coasts. The workshop took place on June 28, 2008, at the International Arctic Research Center on the University of Alaska Fairbanks campus, immediately preceding NICOP and was attended by approximately 30 international participants. Model development involved gaining an overview of the status and extent of existing models, identifying data and process gaps, and deciding on the scope of a new overarching model.

The Linc Washburn Memorial Workshop, “A Quaternary Research Center Workshop in Honor of Lincoln Washburn on New Insights into Periglacial Processes, Landforms and Environments” was held on the day following the conference. Bernard Hallet and Ron Sletten co-organized this event held in IARC to honor Linc’s remarkable achievements in polar research. This one-day workshop had presentations of recent work from a diverse group of researchers. Papers are planned for publication in a special issue of *Quaternary Research*; the journal founded by Professor Washburn.

FORUMS AND PROFESSIONAL MEETINGS

Since NICOP occurred during an International Polar Year (IPY), an IPY Forum was organized on the first day of the conference in the Wood Center Ballroom to inform participants of IPY-approved permafrost related research projects underway around the globe. Chaired by Professor Dan White, Director, Institute of Northern Engineering at UAF, the forum included a Welcome from the IPY Office (Dr. Cynan Ellis-Evans); IPY-IPA Program Overview (Jerry Brown); Discussion of IPY-IPA Data Requirements and the Role of Young Researchers: (Sharon Smith); ANTPAS (33): Antarctic and sub-Antarctic Permafrost, Periglacial and Soil Environments (James Bockheim and Mauro Guglielmin); TSP (50): Thermal State of Permafrost (Vladimir Romanovsky and Hanne H. Christiansen); ACCO-Net (90): Arctic Coastal Observatory Network (Paul Overduin and Nicole Couture); CAPP (363): Carbon Pools in Permafrost Regions (Peter Kuhry and Eva-Marie Pfeiffer); University of Alaska IPY post doc presentations by Katey Walter and Guido Grosse (permafrost-related); International University Courses on Permafrost (Hanne Christiansen); and Open Discussion.

A public lecture sponsored by Wiley-Blackwell was held in the Davis Concert Hall on UAF’s campus. The Wiley-Blackwell, Permafrost and Periglacial Processes Public Lecture: *A View from Afar: Mountain Permafrost Hazards and Remote Sensing* was presented by Andreas Käab, University of Oslo.

The Permafrost Young Researchers Network (PYRN) held three events: (1) a Mentor’s Panel to generate conversation among experienced researchers and young researchers/students (moderators were Andrew Balser and Daniel Fortier); (2) an Evening Pizza Social Gathering Wood Center Pub; and (3) a Meeting of National Representatives, held after the closing ceremony. In addition, PYRN

members designed a calendar to sell at the conference along with cancelled stamped envelopes using cancellation marks from PYRN, IPA, and NICOP logos.

Daily theater shows were organized by Billy Connor from the Alaska University Transportation Center. Each film began with a brief slide show from previous Permafrost Conferences. Films were for a general audience exploring the challenges of highway construction in permafrost regions: *The Permafrost Frontier*; *Haul Road: Highway to the Future*; *Rendezvous Road: The ALCAN*; *Building the Alaska Highway*; *Modern Marvels: The ALCAN Highway*.

Ted Vinson organized two Permafrost Engineering Breakout Sessions held during or near lunch breaks during the conference week: Session I – Ice Rich Permafrost and Session II – Climate Change.

Two IPA Council Meetings were held on June 28, prior to the conference, and during lunch on the last day of conference—a new Executive Committee was elected and plans were approved for the next four years. IPA Working Group meetings were held on the first morning of the conference, prior to the opening ceremony. Discussions continued throughout the conference.

The United States Arctic Research Commission and the Canadian National Committee held meetings during the conference and immediately following the closing ceremony, respectively.

ACCOMPANYING PERSONS

A wide variety of daily activities were available every day for the accompanying persons, including a trip to Denali National Park with rafting and hiking, a Native Culture Workshop, a visit with a local dog musher, and a visit to a working gold mine. However, interest in these and all other companion activities was minimal. There was a limit of 8 to 12 people for most activities, but most activities ended up having only three or four participants. Opportunities were also made available so individuals could book special tours or adventures as their schedules permitted. Table 2 is the schedule of events.

Table 2. Accompanying person activity schedule.

SUN June 29	MON June 30	TUE July 1	WED July 2	THUR July 3
10 am -5 pm Chena Hot Springs Fun	10 am - 5 pm Ft. Knox Tour	9 am - 5 pm Highlights of Fairbanks	8am - 9pm Day in Denali	9:30 - 12:30 Mary Shields kennel
9:30 - 12:30 Mary Shields Kennel tour	9am-6pm Geocaching Fun	9am - 5:30pm Chena Lakes kayaking	10:30-Noon Drum Workshop	1 - 2 pm Native Culture presentation
11 am, 1 pm, 3 pm Pioneer Park	8:15 am - 1:00 pm Riverboat Discovery	3 - 4:30 pm Drum Workshop -	9 am - 12:30 pm El Dorado Gold Mine	2-4 pm Native beading workshop
1:30 Calypso Farm & Ecology Center	2pm - 5pm Glass Workshop			

SOCIAL EVENTS

Mixer

After registering on Saturday June 28, registrants joined the mixer where they had a chance to renew old acquaintances and meet new colleagues. The attendance for this initial event was high. A conference beer, Permafrost Ale, was brewed especially for NICOP by the Silver Gulch Brewery in Fox, Alaska. This beer was served in bottles and kegs to conference attendees and guests (of at least 21 years of age) at every social event. The beer was a tasty amber, and a special label was made to commemorate NICOP.

Ice Breaker

The *Ice Breaker* was held on Sunday evening at the Museum of the North on the UAF campus, following the IPY Forum. Since the museum would have been overwhelmed with over 600 people, we organized two identical food serving areas, one in the museum and one outside under a large tent on the lawn. It was a beautiful sunny evening and everyone appeared to enjoy the outside venue, with steel drums providing the background music for the tasty Caribbean food provided by the campus catering service. The conference ale and a variety of wines were available. Each guest was given two coupons to exchange for alcoholic beverages for the event. Inside, background music was provided by a cellist and a keyboardist. The ice breaker was included in the registration fee and was very well attended.

Barbecue

The University catering also provided the food for the barbecue, which was held on the lawn of the Student Recreation Center on the UAF campus. Fortunately, a large tent was set up for this event, as it lightly rained. Again, many conference participants attended in this event and other evening events, the costs of which was included in the registration fee. A Fairbanks touch was provided by a local group playing folk music, and several conference-goers enjoyed some line-dancing. The food included hot dogs, hamburgers, chicken and vegetarian burgers, corn on the cob, cole slaw, and baked beans. Permafrost Ale was available along with lemonade and water.

25th Anniversary Lunch

A special lunch to celebrate the 25th anniversaries of the formation of the International Permafrost Association and the Fourth International Conference on Permafrost, both having taken place here in summer 1983. The event was attended by 200 participants, including some 75 attendees from the Fourth ICOP, IPA past and present committee members, and conference sponsors. A 40-page booklet on the history of the ICOPs and the 25-year history and accomplishments of the IPA was published and distributed with conference materials. A CD containing photographs of more than 200 participants who had attended at least three previous conferences was distributed. During lunch, the newly published American Society of Civil Engineers (ASCE) book by Siemon Muller entitled *Frozen in Time* was introduced by Muller's son (Muller, 2008).

Riverboat Cruise

On a beautiful sunny Tuesday evening there was a catered cruise on the sternwheeler *Riverboat Discovery* along the Chena River to the confluence with the Tanana River (Figure 2). The riverboat event was not included in the registration fee; tickets were sold separately for \$65. Attendance for this event was approximately 185.



Figure 2. Riverboat cruise.

Banquet

The banquet was held at a local indoor sports arena located along the Chena River in Fairbanks on the evening prior to the last day of the conference. Bus service was provided from campus and hotels for this off-campus event. The banquet featured a buffet with three entrees: fish, beef, and a vegetarian option. Approximately 400 people attended the banquet, though separate tickets were required at a price of \$50 each. During the opening social hour, the no-host bar provided drinks, and there was background music played by a local keyboardist. After dinner, gifts were presented to thank key organizers and volunteers for their efforts. Entertainment was provided by a percussionist, who also taught workshops during the conference and invited his students to accompany him. There was also a local comedian who attempted to entertain using permafrost related jokes and a recitation of Robert Service poetry.

LOCAL FIELD TRIPS

Guided tours of the U.S. Army Cold Regions Research and Engineering Laboratory Permafrost Tunnel were held each day of the conference. Daily bus service was provided for transport to the Permafrost Tunnel, and all trips filled rather quickly. Tours lasted approximately two hours, including travel time. It is estimated that at least 400 people visited the Permafrost Tunnel during the week.

The local field trips were scheduled on Wednesday afternoon from 1245 to 1730. During the week people could sign up for the trip of their choice. There was one choice available for individuals who were not comfortable with walking. The bus for this trip was wheelchair compatible. Organizing a group of 17 buses with varied driving schedules proved to be a challenge. A guide joined each bus to help the drivers find the sites. The following trip routes were available:

FT1: Engineering Field Trip: Trip Leaders: Douglas Goering, Jack Hébert, Ed Clarke, Michael Lilly, and Elden Johnson.

Stops included Thompson Drive, the Cold Climate Housing Research Center (CCHRC).

Ballaine Road Subdivision, artesian well on Sunnyside Drive, CCREL's Fairbanks Permafrost Experiment Station, the Trans-Alaska Pipeline.

FT2: Caribou Poker Creeks Research Watershed: Trip Leader: Kenji Yoshikawa

Stop at the Caribou Poker Creeks Research Watershed

FT3: Periglacial Field Trip #1: Trip Leaders: Jim Begét, Torre Jorgenson, DeAnne Stevens, and Atsushi Ikeda

Stops included the Troy L. Péwé Climatic Change Permafrost Reserve. Murphy Dome, Goldstream Pond, and O'Brien Creek Pingo

FT4: Periglacial Field Trip #2: Trip Leaders: Vladimir Romanovsky, Dragos Vas, Ed Clarke, Katey Walters, Patty Burns

Stops included College Peat to observe periglacial features and a “drunken forest” at Creamers Field, Ballaine Subdivision and Sheep Creek Pond, a thermokarst pond that emits methane, then the UAF GeoData Center at the International Arctic Research Center (IARC).

FT5: Quaternary History #1: Trip leader: Jim Begét

Stops included The Troy L. Péwé Climatic Change Permafrost Reserve.

FT6: Quaternary History Field Trip #2: Trip Leaders: Patty Burns, Jim Begét, Tom Douglas, and Elden Johnson (listed in order of stop descriptions).

Stops included the GeoData Center in the International Arctic Research Center on UAF campus, part of the Troy L. Péwé Climatic Change Permafrost Reserve, Permafrost Tunnel and Trans-Alaska Pipeline.

FT7: Permafrost Driving Tour: Trip Leaders: Ed Clarke, Michael Lilly, Elden Johnson, and Patty Burns

Stops included Ballaine Subdivision an artesian well on Sunnyside Drive site, the Trans-Alaska Pipeline. And the GeoData Center at the International Arctic Research Center (IARC).

FINANCIAL MANAGEMENT AND SPONSORSHIP

The planning and management of the conference was a joint effort between the University of Alaska Fairbanks and the U. S. Permafrost Association (USPA). The USPA was certified by the State of Alaska in 2001 as a Non-profit Corporation. As the official representative to the IPA, the USPA and its membership had a major involvement with the planning and implementing of NICOP. A U.S. National Committee was established under the USPA to assist in fund raising and publications. One goal of the USPA was to manage the NICOP budget process so that surplus conference revenues would be available to support future USPA and PYRN education and outreach programs, and the continued U.S. involvement in IPA and ICOP activities.

An early decision was made to supplement the registration costs with a major funding raising campaign and therefore keep non-Alaskan participants costs as low as possible in order to ensure a high level of international attendance. Included in this approach was a plan to support young researchers at the conference and that the ambitious pre- and post- conference field excursion program was to be self-supporting. This strategy created many challenges as there was a continuing concern of not having enough funds to pay on-going expenses prior to the conference.

The initial start-up funds of \$50,000 from the President of the University of Alaska (see letter of invitation in Appendix B) and a subsequent commitment of special UAF IPY funds of \$150,000 provided the initial base from which early commitments could be met. These early stages included establishment of the NICOP web and related web-based abstract and manuscript processing procedures by the local internet contractor and the preparation of the conference brochure and its mailing to thousands of potential attendees.

Although an overall budget was developed in the early planning stages it was very difficult to project the total income or total expenditures until very close to the conference. Main categories for budget planning included:

- Web development and internet maintenance
- Publications and editing including review process
- Technical program arrangements
- Conference materials
- Social events
- Field trips (self supporting)
- Stipends
- Indirect costs, fees, audits

Conference accounts were maintained both at the Institute of Northern Engineering, University of Alaska and USPA. There was strict oversight of the budget by USPA treasurer Michael Lilly and the USPA Board of Directors and by Douglas Kane (INE), with purchases kept to the absolute necessity. Although fund raising began several years in advance of the conference, many sponsors waited until close to the end to contribute. In the case of some Federal grants, final payments await post conference reporting. The total meeting expenses were approximately \$780,000. Some transactions are still being finalized. In hindsight, we could have provided some services that we thought were outside our budget.

Sponsors

Starting several years in advance, silver-colored information packets were prepared and distributed to a large number of potential private and government sponsors. The silver color commemorated the 25th anniversary of the FICOP and IPA. Included in the initial fundraising packet was the conference brochure, a cover letter, a form that listed the contribution levels, [Gold (\$50,000), Silver (\$25,000), Bronze (\$10,000), Brass (\$5,000), Contributor (\$1000), Donor Circle (\$1000), Sustaining (\$500)], the provisional program, and when available a listing of the number of abstracts submitted by each country. Figure 3 shows the number of contributions received in each of the monetary categories. These include grants and contributions from Federal agencies, private sources and the University of Alaska programs.

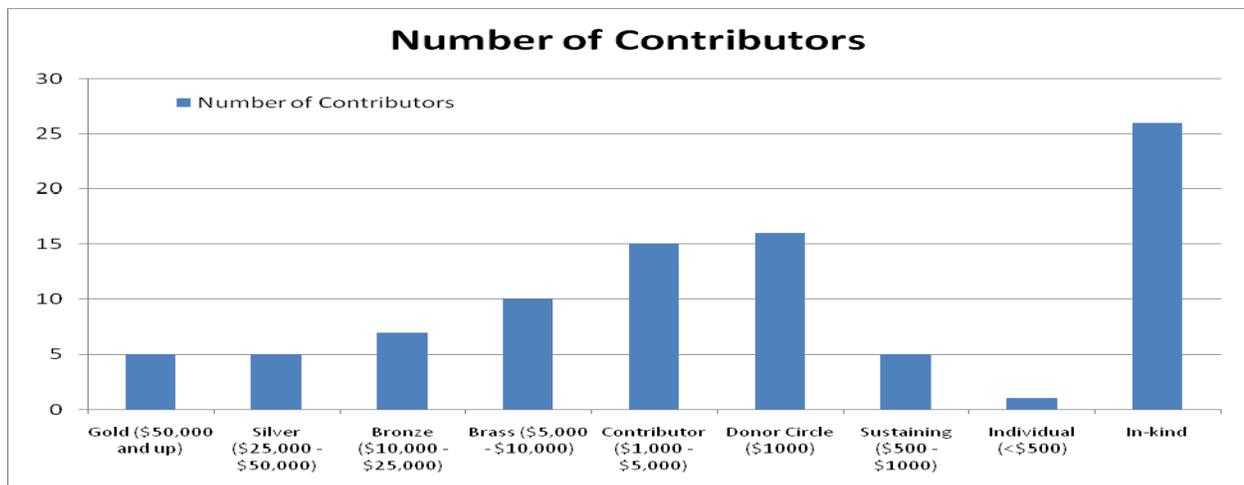


Figure 3. Number of contributors by level of participation.

In addition to many individual contacts, fundraising receptions were held in Anchorage including several lunches and events associated with the Alaska Forum on the Environment Conference and the Arctic Science Conference, and in Fairbanks at the Cold Climate Housing Research Center (February 2008).

In addition to the above-stated University of Alaska funds, other institutes on the campus of UAF provided funding and considerable in-kind support. The Alaska University Transportation Center contributed \$50,000, the Experimental Program to Stimulate Competitive Research (EPSCoR) program provided \$10,000 for support of the stipend program, and the International Arctic Research Center (IARC) with direct support for the DVD compilation of permafrost proceedings (\$7500), and administrative support for international invitees, web casts, and local facilitation. Several on-going projects provided travel support particularly for Russians research participants including the Geophysical Institute's permafrost projects and off campus support for the CALM workshop (University of Delaware).

Raising private funds for the conference was a huge task, and results were slow initially and involved both private and government sources. These funds were critical to insure a cash flow to pay for pre-registration income and to cover cost of some social events and activities. Major private fund raising was focused on Anchorage-based oil companies, consulting companies and businesses and in Fairbanks. These efforts were entirely voluntary and were spearheaded by David Norton, and assisted by Jim Rooney in Anchorage, and Jerry Brown, Doug Kane, and Larry Hinzman, Michael Lilly, and others. Frequent follow ups were needed. There were contributions by 27 corporations. A very early commitment of \$50,000 was from Arctic Foundations, Inc. in Anchorage, one for \$25,000 from Alyeska Pipeline Service Company; and \$15,000 from Arctic Slope Regional Corporation the remaining donations were \$10,000 or less. For a complete list of sponsors, see Appendix C.

A special ICOP Donor Circle program was instituted, whereby individuals contributing \$1000 received full registration, publications and a banquet ticket. Of this contribution, \$250 was used to support the young investigator stipend program, and an equal amount was for unrestricted use. There were 16 ICOP Donor Circle contributors. In addition to being listed as sponsors, these individuals had access along with others to a separate meeting room at the conference that was provided with a beverage service.

Sponsors were appropriately acknowledged and thanked and were provided a copy of all conference publications. Following the conference and in compliance with the IPA ruling that the host country reimburse the IPA on a prorated fee per registrants, the USPA reimbursed IPA at a fee of \$10 per person; a total of \$6750.

Young Investigator Stipend Awards

Financial support was offered by the conference organizers to members of the Permafrost Young Researchers Network (PYRN). In order to be eligible for a stipend, the individual was required to be a first author of either a paper or extended abstract in addition to being a member of PYRN. Oliver Frauenfeld, Secretary of the USPA and a U.S. PYRN representative, supervised the stipend process and the communications with recipients. The majority of the 76 stipend recipients were from Canada (19), USA (17), Germany (12), and Russia (9). Several countries provided their own support to young researchers. For a complete list of stipend recipients, see Appendix D.

The international judges for the awards were: Jennifer Harden (chair), Julie Brigham-Grette, Chris Burn, Richard Fortier, Ken Hinkel, Kolia Shiklomanov, Sharon Smith, Sarah Springman, Jef Vandenberghe, and Joey Yang.

In addition to registration, stipend recipients were housed in a shared dorm room on campus and provided meal cards to be used at campus dining facilities for a period of up to seven days. The IPA reserve fund committed \$15,000 to the support of the young researchers. Other funding was provided from the ICOP Donor Circle, Experimental Program to Stimulate Competitive Research (EPSCoR), Alaska University Transportation Center (AUTC), and the National Science Foundation (NSF).

EDITING

Six-hundred-seventy-five abstracts were originally submitted to the 9th ICOP Technical Program Committee by August 2007. This resulted in submission of 467 manuscripts for review. The final proceedings contained 358 peer-reviewed papers, including 19 plenary papers. Papers came from 23 countries and covered a wide range of permafrost-related topics. It is interesting to note that a high percentage of abstracts that were submitted late in the process resulted in no paper being submitted or in an extended abstract submitted instead of a full paper.

An online paper submission and reviewing system was used in order to speed up the process and limit personnel and postage costs. The logistics associated with abstract and paper submission and review was a critical task for the NICOP organizing committee to address. A partnership was developed with the American Water Resources Association to use their existing on-line system for processing abstract and paper submittals and reviews. For this privilege NICOP paid a user fee of \$7,500 to AWRA. Some enhancements of the online-processing system were required to meet NICOP requirements. AWRA retains ownership of the software and all modifications to the software developed during preparations for NICOP. The successful application of this online processing system allowed efficient handling of a record number of NICOP abstracts and papers, while still meeting publication deadlines and reducing processing time and potential loss of submissions and reviews, and subsequently increasing the quality of the resulting publications.

The proceedings were printed by Sheridan Press, located in Michigan, USA, and were delivered in time to be distributed to all conference participants upon their arrival in Fairbanks in June 2008. A CD of the 9th ICOP proceedings was included in each set of proceedings. Upon registration, people could opt to pay \$50 extra to receive the printed proceedings or select to receive only a CD version at no extra cost.

Editing a proceedings volume of this size is a major undertaking and could not have been done without the cooperation and support provided of many people, including authors, reviewers, associate editors, production editors, and general helpers. The editors are very grateful for all constructive support they received between the first call for abstracts in 2006 and the printing of the two Proceedings volumes in 2008.

The total working time contributed by two editors, two production editors, and five readers was approximately two man years (NOT including the reviewers and associate editors). However, most

of the two years of work was undertaken in a short period of three to five months preceding the conference.

Online submission

All abstract, manuscript and final paper submissions, reviewing, and editing were done via the internet. The main advantage of this procedure was that much less time was required to send papers between the authors, reviewers, associate editors, and editors. This saved money (postage costs), time, and administrative organization, and ensured that papers were not “lost in the mail.” On the other hand, there were expenses for the construction of the online paper submission site.

A Fairbanks company that had previous experience in this particular field, EEInternet, was hired. Through a link on the NICOP website, authors were presented with a form to complete and a space to type or paste their abstract. Automatically generated messages were prepared and sent in order to inform the authors, reviewers, and associate-editors of the status of their papers. If their abstract was accepted, then they were provided with a set of instructions in their acceptance e-mail. These instructions included a link to the paper submission site. Some authors however did not read these instructions (see Appendix G for abstract and manuscript instructions).

Review procedure

The most important part of any review process relates to the people involved in it. As in recent previous conferences, NICOP used associate editors who were responsible for a group of papers. In addition there were two international reviewers per paper. The job of organizing two competent reviewers and an associate editor for every paper took several weeks of intense work. The editors are grateful to all those who provided lists of appropriate reviewers for the wide range of subjects covered.

Papers were electronically distributed to reviewers according to their speciality and the number they agreed to review. Associate editors were responsible for as few as 4 papers and as many as 20 papers. See Appendix E for a list of the 38 associate editors responsible for the 9th ICOP papers. An attempt was made to find for each paper one reviewer whose native language was English. If this was not possible, then the associate editor also served as a reviewer. See Appendix F for a list of the 401 reviewers enlisted for the task of reviewing the 467 papers submitted to NICOP (most reviewed more than one paper). The editors did a significant amount of polishing of the English in the final versions of the papers. Production editors, Tom Alton and Fran Pedersen, were locally hired to edit and do layout in the final phases.

A five-day meeting was held in December 2007, in Menlo Park, California, the week prior to the AGU Fall Conference. The purpose of this meeting was to assemble the editors, and as many U.S. and international associate editors and reviewers together as possible (25 attended) to finish reviewing papers. It was an intense and very productive meeting.

Deadlines

The deadlines in the abstract and paper submission and reviewing process are listed below:

Abstract submission	1 September 2007
Early Editor review meeting	4-8 December 2007
Acceptance/rejection abstracts	shortly after September 1, 2007
Paper submission	1 October 2007

Papers accepted/rejected/second review	31 December 2007
Submission camera-ready papers by authors	15 February 2008
Submission of extended poster abstracts	1 March 2008
Early registration ends	31 March 2008
Delivery of camera-ready papers to Sheridan Press	15 April 2008
Delivery of printed proceedings in Fairbanks	25 June 2008
9 th ICOP proceedings distribution to participants	29 June–3 July 2008

Abstracts

675 abstracts were submitted. The abstracts were sorted into main categories (science/engineering) and into the following specialty topics, most of which corresponded to the original call for abstracts and papers:

- contemporary climate change and paleoclimatic reconstruction in permafrost regions
- cold-regions infrastructures and transportation
- natural and technological hazards in mountainous and high-latitude permafrost regions
- remote sensing and geophysics in terrestrial and planetary sciences
- modeling and scaling of permafrost distribution and changes
- long-term monitoring program to assess changes, thermal state of permafrost, active layer
- permafrost and the global carbon balance, including greenhouse gases and gas hydrates
- impacts of permafrost degradation on terrestrial and aquatic ecosystems
- vegetation and responses to natural and human-induced disturbances
- permafrost controls on surface waters, groundwater and heat flux processes
- subsea permafrost, sea level changes, and dynamics of coastal permafrost
- advances in exobiology and life in extreme terrestrial environments
- frost-affected soils and soil carbon storage
- advances in artificial ground freezing and waste disposal
- periglacial geomorphology, permafrost mapping, and cryostratigraphy
- differentiating between paleoseismic and cryogenic structures
- cryospheric interactions and global connections
- community development, risk assessment, and planning in permafrost regions
- initial results from the IPY: toward a systems understanding of permafrost changes
- history of permafrost research and IPY
- engineered structures: design, evaluation and economics
- human response to permafrost change
- paleoecology, archaeology and indigenous knowledge of permafrost regions
- economics, subsistence and land use change
- subglacial permafrost

There was a strong peak of abstract submissions around the deadline, but an additional several hundred submissions arrived over the following six weeks. In some cases these coincided with the deadline for manuscript submissions.

Submissions by country

The majority of the abstracts were submitted from the USA, followed by Russia, Canada, China, Germany, Switzerland, Japan, Norway, and then the countries with a smaller permafrost research community (Figure 4).

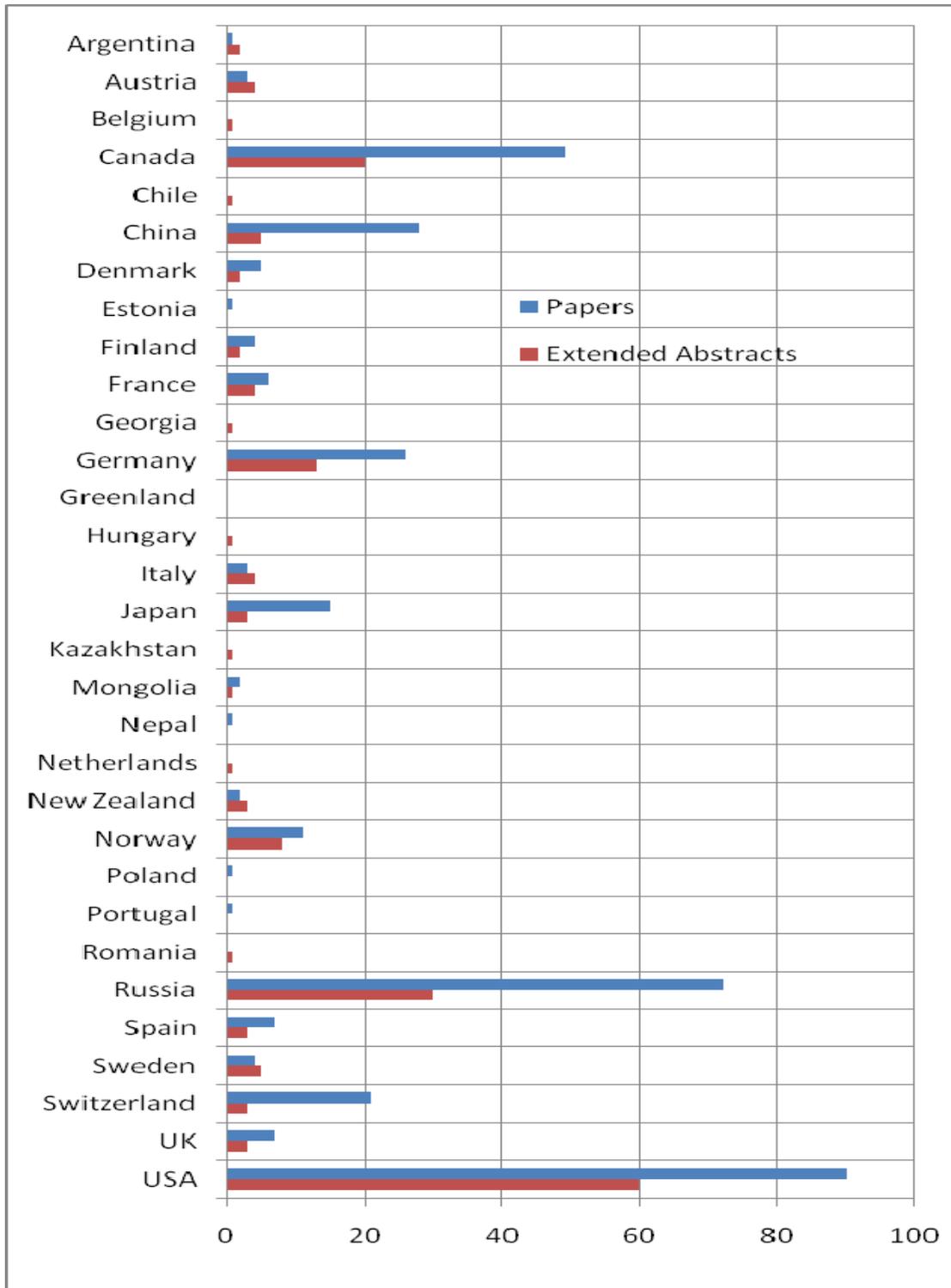


Figure 4. Abstracts and papers submitted, classified by country of origin.

Papers

The paper submission and reviewing process was organized using an online system with the aim of accelerating the reviewing process and limiting postage costs and administrative work. An internet company in Fairbanks was hired for this purpose. Automatically generated messages were written in order to inform the authors, reviewers, and associate editors of the status of their papers. Clear instructions were written to inform the users on how to use the system and on how to remain anonymous (in the case of the reviewers) if they wished to. The resulting program worked very well. The only problem encountered was by those who failed to read all the instructions and did not submit final papers. Forms and instructions are provided in Appendix G.

A few authors circumvented the system and e-mailed their abstracts/papers to an individual or colleague as an attachment. This made the editorial job even more difficult, as they then had to be entered into the system. It also made it difficult to track submissions. Authors' guidelines were often not adhered to.

467 papers were submitted. Each paper was assigned two reviewers and one associate editor. If possible, at least one of the reviewers was a native English speaker or a person with a good command of the English language. Finally, 358 papers were published in the conference proceedings.

Extended Abstracts

The production of a volume with extended abstracts that focused primarily on current research enabled many additional colleagues to participate in the conference and this option was obviously greatly appreciated. Reviewing of the extended abstracts was primarily carried out by Ken Hinkel and Doug Kane. Despite the fact that clear format descriptions had been made, editing and rewriting took extensive time; a few submissions were determined to be unacceptable and were rejected. Some reports that were not acceptable as full length papers were modified and accepted as extended abstracts. One hundred eighty-two extended abstracts were published from first authors of 26 countries with submissions from the USA (60), Russia (30), Canada (20), Germany (13), and Norway (8); the remaining countries had five or fewer each.

Publications

Conference publications include the two Proceedings volumes with hardback covers and on CD (edited by Doug Kane and Ken Hinkel), a special volume containing extended abstracts reporting current research and new information (edited by Doug Kane and Ken Hinkel), a volume containing the abstracts and IPA reports, a final program booklet, a guide to the local field excursions, and guidebooks for three of the extended field excursions. In addition, a compendium of proceedings from all nine ICOPs was placed on a DVD and distributed at the conference. Jerry Brown, along with Jess Walker, compiled a booklet to commemorate the 25th anniversary of the last ICOP held in Fairbanks (1983) and the formation of the International Permafrost Association (also 1983). One other publication was a color map, *Permafrost Characteristics of Alaska*, a collaboration between nine permafrost scientists.

The proceedings contain a total of 358 papers (including 19 plenary papers) with the major number of contributions from the USA (90), Russia (72), Canada (49), China (28), Germany (26), Switzerland (21), Japan (15) and Norway (11); the remaining countries had 10 or fewer each. The total number of extended abstracts was 182 with submissions from USA (60), Russia (30), Canada

(20), Germany (13), Norway (8); the remaining countries had five or fewer each. A CD of the Proceedings was prepared and included with the proceedings and is available separately for purchase. The subject index was prepared by Doug Kane and is presented in Appendix G.

The following publications were produced by NICOP:

Kane, D.L., Hinzman, L.D., and Hinkel, K.M. 2008. Ninth International Conference on Permafrost Summary Program, Abstracts, IPA Reports, 154 pp.

Kane, D.L. and Hinkel, K.M. (eds.). 2008. Ninth International Conference on Permafrost Extended Abstracts, 372 pp.

Kane, D.L. and Hinkel, K.M. (eds.). 2008. Ninth International Conference on Permafrost. Institute of Northern Engineering, University of Alaska Fairbanks (2 Vols.), 2100 pp. and CD

Compendium of the Proceedings of the First Nine International Conferences on Permafrost 1963-2008, Version 1, June 2008, International Arctic Research Center, University of Alaska, DVD.

Other publications

Several additional publications were produced, including a color map of permafrost features and distribution in Alaska. The production and printing of the guidebooks for the local and extended field trips was generously donated by the State of Alaska, Department of Natural Resources, Division of Geological and Geophysical Surveys. The Compendium of the Proceedings of the First Nine International Conferences on Permafrost 1963–2008 DVD was sponsored by the UAF International Arctic Research Center.

Following is a list of additional publications:

Published Guidebooks

Brease, P. (comp.). 2008. The Geology and Glacial History of Denali National Park and Vicinity, Central Alaska. Preliminary Guidebook, Published by State of Alaska, Department of Natural Resources, Division of Geological and Geophysical Surveys, 66 pp.

Jorgenson, T. (ed.). 2008. Coastal Region of Northern Alaska: Guidebook to Permafrost and Related Features. Guidebook 10, Published by State of Alaska, Department of Natural Resources, Division of Geological and Geophysical Surveys.

Stevens, D.S.P. (ed.). 2008. Guidebook to Permafrost and Quaternary Geology of the Fairbanks Area, Alaska. Preliminary Guidebook 11, Published by State of Alaska, Department of Natural Resources, Division of Geological and Geophysical Surveys, 115 pp.

Walker, D.A., Hamilton, T.D., Ping, C.L., Daanen, R.P. and Streever, W.W. 2008. Dalton Highway Field Trip Guide for the Ninth International Conference on Permafrost. Guidebook 9, Published by State of Alaska, Department of Natural Resources, Division of Geological and Geophysical Surveys.

NICOP Special Publications and Reports

- Balser, A. 2008. Permafrost on a Changing Planet NICOP 2008 Permafrost Calendar, USPA-PYRN-NICOP.
- Brown, J., Walker, H.J, and French, H.M., 2008. Celebrating 25 Years, 1983-2008, Anniversaries of the Fairbanks Permafrost Conferences and the International Permafrost Association, 36 pp.
- Brown, J., Christiansen, H.H., and Hubberten. H-W., 2008. Report from the International Permafrost Association: Ninth International Conference on Permafrost and IPA Council Meetings. *Permafrost and Periglacial Processes*, v. 19, no 4, pp. 393-397.
- Brown, J., Hubberten. H-W., and V. Romanovsky, 2008. Ninth International Conference on Permafrost. *PAGES News*, vol. 16. pp. 37-38.
- Jorgenson, T., Yoshikawa, K., Kanevskiy, M., Shur, Y., Romanovsky, V., Marchenko, S., Grosse, G., Brown, J., and Jones, B. 2008. Permafrost Characteristics of Alaska. *Ninth International Conference on Permafrost Extended Abstracts*. Fairbanks: Institute of Northern Engineering, UAF, inside cover and pp. 121–122.
- Lewkowicz, A.G. (ed.). 2008. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 107–260. (For a complete listing of papers see Appendix I).

REGISTRATION

The conference organizers were responsible for maintaining contact with the participants and the organizing committee. It involved looking after the registration, field trips, accommodations, financial support, and exhibitor requests. An unbelievable number of e-mails (many thousands) had to be read and responded to in association with various topics. Toward the start of the conference, the work had built up to such an extent that it required extremely long work days, seven days a week for the organizers. The vast majority of the communications and on-site activities was organized and performed by Elizabeth Lilly as the conference facilitator. Gary Whitton and staff of EEInternet provided the support for abstract and paper submission and registration processes.

A database was established in 2006 when the first circular was sent out. The database was obtained from past ICOPs, Frozen Ground, and other related organizations. The majority of the abstracts of the papers destined to be published in the Proceedings were received at the end of August 2007. Participants who missed the opportunity to submit a paper were given the possibility of submitting a two-page extended abstract, which was published in a special volume. These early number provided an estimate of actual technical participants.

Pre-registration began in 2006 to gauge interest and help build a database. Registration started in August, 2007; with early registration before March 1, 2008 of \$US400 or \$450 after that date. Student registration was set at \$200 before and \$250 after March 1. One-day registration at any time was \$150. A senior/retirees discount was also offered.

Participants could register online or by mailing or faxing the registration form to the organizer. The registration fee could be paid online with a credit card, by bank transfer, by U.S. check, or by faxing the details of a credit card to the organizer (participants in future conferences should be informed that sending credit card details by e-mail is not recommended). The online registration

and the charging of the credit accounts was handled by a firm called Click and Pledge. There were some problems, especially with the international credit accounts; in many cases the charges were not accepted and it sometimes required additional correspondence to complete the transaction. Another problem developed with the faxed registrations; some people provided incomplete credit card numbers and transactions could not be processed without follow-up correspondence. Some problems remained to be cleared up even after the conclusion of the conference.

Many e-mails were received from people who requested a letter of invitation. One should be aware that many potential asylum seekers (mainly from Africa) pretend to be academics in the hope of receiving an invitation and, consequently, easy entry into the country. This misuse of trust could easily get conference organizers into difficulties with the authorities. Invitations were offered only to those who submitted legitimate abstracts or were guests of conference participants. Special efforts were made to deliver original letters of invitation by Federal Express, particularly to Russia and China. The only major problem with visas arose with the Chinese delegation partly because of the overload caused by the Olympic Games in Beijing. Last minute arrangements facilitated the issuing of all requested visas.

PRESENTATIONS

Oral presentation logistics

Three auditoriums and three lecture rooms were utilized for the plenary talks and concurrent sessions. These rooms were equipped with computers, an overhead projector, podium, screen, microphone, laser pointer, and an audio/visual assistant. Presenters were asked to upload their presentation at the upload station and were able to preview their presentations in a dedicated presenters' room. Authors were asked to transfer their files to a specific directory based on the session number. The presentations were then transferred by conference staff to the correct lecture hall. We had two extra computers and projectors in reserve in case of computer crashes or projector malfunction. Plenary presentations were scheduled for 20 minutes each. Concurrent oral sessions were 12 minute duration with three minutes for questions and discussion.

Poster Presentations

The NICOP poster sessions included about 306 posters, 119 from full papers and 187 from extended abstracts. Special time slots were reserved for poster presentation only, i.e. with no overlapping oral lectures or other competing activities, and each poster was on display for the entire day. Some of the poster display boards were rented and others were borrowed from UAF. All poster display boards were 8 ft. x 4 ft. in size. Additional poster boards were available for ad-hoc posters, which were brought by registered participants.

INTERNET

Internet and email communications

In the Great Hall area, ten computers were available for internet browsing and e-mail. Because these computers were only capable of internet browsing and e-mail, there was a need for additional computers. The computer used for uploading presentations was also used by conference participants to work on their talks as it was the only computer functioning in a non-web environment. The computers were set up in a public-access area and were bolted to the tables for security purposes. Open wireless access was available in all the conference venues, courtesy of the UAF Office of Information Technology.

Conference Website (www.nicop.org)

As indicated the conference web site was set up by internet firm hired by the conference for online abstract and paper submission and registration. A dedicated server contained electronic versions of all circulars, extended field trip descriptions, calendar of events, workshop and short course information, and the conference program. The post-conference website provided the conference program, order information for proceedings and other items, and webcast links of the presentations from the plenary sessions as well as the opening and closing ceremonies.

The NICOP website received a lot of traffic in the three-year period. During 2006 there were 9,618 views, in 2007 there 113,774 views and in 2008 there were 117,285 views on the main site and an additional 4,416 visits to the proceedings site, both hosted by EEInternet. The webcasts are located on a different server hosted by IARC and have received 3,344 views. These statistics are for the time period through December 8, 2008.

EXHIBITORS

Although space was available for 16 exhibitors, only a handful of vendors and two exhibitors paid for the prime space directly adjacent to conference registration and coffee services. Most of the booth exhibitors received space as a result of their sponsorship of NICOP. Exhibitors included the Alaska Division of Geological and Geophysical Survey with its large variety of publications, Campbell Scientific, IPY, PYRN, Houston Area Research Center, UA Press, the National Academy Press, and AGI. The fee for a booth was \$1200. Exhibitors were supplied an 8 ft. x 10 ft. booth with table, chairs, electricity, and wireless internet access.

CONFERENCE ASSISTANTS

There were up to 22 conference assistants on duty to help with registration, companion activities, sales of t-shirts and other items, and visitor information. Some of these were volunteers from the Fairbanks Convention and Visitor Bureau, volunteers from the community, and seven paid staff members in charge of financial transactions, problem solving, and registration. Conference staff wore bright blue t-shirts with the NICOP logo; similar shirts were also available for purchase. We needed one person for a table with items for sale, one person for the companion activity table, two people working on monetary transactions, one person printing nametags and signage as needed, three or four people assisting with registration, and four people distributing proceedings and information packets. In addition, we had several young volunteers hauling items from storage to the front tables as conference materials were distributed. It would have been helpful to have more assistants available on the first evening of registration, as we underestimated the large turnout on Friday evening, June 27.

AUDIO-VISUAL ASSISTANTS

In addition to the conference assistants, there were nine audio-visual assistants. Four of these were staff members and five were student interns of the Arctic Region Super Computer Center (ARSC) on campus. One student was assigned to each of the five lecture halls, and an additional staff member coordinated their activities and did trouble-shooting. They all wore black t-shirts with the NICOP logo. We also hired three A/V specialists; two were in charge of the Davis Concert Hall where the Opening Ceremony, Plenary Sessions, and Closing Ceremonies were held, and another was in charge of the Wood Center Ballroom. The student interns also assisted with local field trips

on Wednesday afternoon. Webcasting was conducted by staff from the Arctic University Research Consortium (ARCUS) and the UAF International Arctic Research Center.

CLOSING CEREMONY

Larry Hinzman chaired the ceremony. The names of recently deceased permafrost and periglacial specialists were read aloud by Antoni Lewkowicz, Canada. Jerry Brown introduced the newly elected officers of the IPA Executive Committee. The invitation for the 10th International Conference on Permafrost was formally delivered by Dmitry Drozdov on behalf of Academician Vladimir Melnikov and Rector Professor N. Karnaukhov, Tyumen State Oil and Gas University, to be held in 2012 in Tyumen, Russia. Hanne Christian announced the the Third European Conference on Permafrost for June 2010 and Brian Moorman announce the Canadian Permafrost for September 2010. Rudolph Zhang, Director, Melnikov Permafrost Institute in Yakutsk, assisted by Yuri Shur, UAF, presented an illustrated commemoration of the 100th anniversary of the birth of Academician P. I. Melnikov, and a founding member and the first president of the IPA.

Awards were presented to the best young investigator oral and poster presentations. The following individuals served as judges: Jennifer Harden (Chair), Julie Brigham-Grette, Chris Burn, Richard Fortier, Ken Hinkel, Kolia Shiklomanov, Sharon Smith, Sarah Springman, Jef Vandenberghe and Joey Yang. Jennifer Harden chaired the awards ceremony with Hans Hubberten and Ken Hinkel presenting the awards as follows:

The **2008 IPA Troy L. Péwé Award** for Outstanding Oral Presentation (Science): Gregory De Pascale (William Lettis & Associates, Inc.) for “Geophysical Mapping of Ground Ice in the Western Canadian Arctic”

The **2008 IPA Pavel I. Melnikov Award** for Outstanding Oral Presentation (Engineering): Kevin Bjella (CRREL) for “The Effect of Near-Freezing Temperatures on the Stability of an Underground Excavation in Permafrost”

The **2008 PYRN-IPA Award** for Outstanding Poster Presentation: Gustaf Hugelius (Stockholm University), for “Patterns in Soil Carbon Distribution in the Usa Basin (Russia): Linking Soil Properties to Environmental Variables in Constrained Gradient Analysis”

The **2008 PYRN-IPA Award** for Outstanding Poster Presentation: Tezera Firew Azmatch (University of Alberta) for “Measuring Ice Lens Growth and Development of Soil Strains during Frost Penetration Using Particle Image Velocimetry (GeoPIV)”

The **2008 PYRN-IPA Honorable Mention** Award for Outstanding Poster Presentation: Alexandra Zemsikova (Moscow State University), for “Study of Western Taymyr Permafrost in the Framework of the IPY Education Program”

The award presentations were followed by a PowerPoint slide show and gift presentations by Douglas Kane, thanking the many staff and volunteers who assisted with the conference.

The conference was closed by incoming IPA President Hans-W. Hubberten.

ACCOMMODATIONS

Blocks of hotel rooms were booked well in advance, some up to two years prior to the conference, as Fairbanks often has a shortage of accommodations during the peak of tourist season. A total of 195 (double) hotel rooms were blocked at special conference rates. In addition, 56 single dorm rooms, 179 double dorm rooms, and 30 apartments were held on campus for conference participants. In order to gauge interest in lodging preference, we requested information in the pre-registration form that allowed people to show their preference for either less expensive dorm accommodations or hotel accommodations. Results showed a stronger preference (almost 2 to 1) for dorm accommodation. We released the reservations on 100 hotel rooms, as there was less interest than anticipated for hotel lodging. Our arrangements with the hotels and campus housing included the release of the rooms 30 to 45 days in advance of the conference in order to avoid paying for them whether they were used or not. The most popular accommodations proved to be the single dorm rooms and apartments. They were all reserved, as were the nicer hotel rooms in the downtown and more tourist oriented area of Fairbanks.

A travel agent enlisted to assist participants with flight and hotel bookings received very few requests. However, the travel agent proved very helpful with booking flights and some of the lodging for the extended field excursions.

Participants who received stipends were booked in shared dorm rooms for a period of up to one week. However, they were given the option to pay for the other half of their room or select a roommate of their choice who was not a stipend recipient.

EXTENDED FIELD TRIPS

Originally twelve field trips were offered to conference participants, six pre-conference (A1-A6) and six post-conference (B1-B6). These trips were offered in order to provide participants with opportunities to observe permafrost landforms and the engineering methods adopted to cope with permafrost conditions and terrains.

Trip A-1: Yukon Territory - this trip was cancelled due to low interest.

Trip A-2: Central Alaska - this trip was cancelled early on due to leader schedule conflict.

Trip A-3: Red Dog Mine - this trip was cancelled due to renovations at the mine.

Trip A-4: Dalton Highway from Fairbanks to Prudhoe Bay (*cost: \$1200*) June 23–27. Began in Fairbanks and traveled north along the Dalton Highway with overnight stops in Coldfoot, Toolik, and Prudhoe Bay. Highlights included the Trans-Alaska Pipeline, Toolik Lake research sites, permafrost distribution, Quaternary and periglacial geology, frost-affected soils, and Prudhoe Bay industrial developments. Leader: Skip Walker. The trip had 36 participants and 10 leaders.

Trip A-5: Engineering Solutions on the Trans-Alaska Pipeline: Prudhoe Bay to Fairbanks (*cost: \$600*) June 27–28. This trip began with a flight to Prudhoe Bay and returned by motor coach along the Dalton Highway, with an overnight in Coldfoot. The trip focused on engineering problems and solutions related to construction of the Trans-Alaska Pipeline. Leader: Ed Clarke. This trip was added later in the planning stages, and took advantage of the bus from the A-4 trip that would be heading back to Fairbanks empty. This trip had 13 participants and 3 leaders.

Trip A-6: Pogo Mine Tour (*cost: \$100*) June 27. This was a one-day trip by van from Fairbanks to the Pogo mine, about 130 km south of Fairbanks. Leader: John Zarling. This trip was added later in the planning stages and was slow to fill. There were only four participants.

Trip B-1: Canadian Arctic – Logistics proved too daunting, and this trip was cancelled early.

Trip B-2: Arctic Coastal Plain from Prudhoe Bay to Barrow (*cost: \$2250*) July 4–9. On- and offshore oil and gas developments and construction, coastal permafrost, thaw lakes and thermokarst development, and a concluding two-day visit to the native community of Barrow and the research sites. Leader: Torre Jorgenson. This trip was full with 18 participants and several different leaders at each over night stops.

Trip B-3: Northwest Alaska (Beringia) including Nome and Seward Peninsula (*cost: \$1300*) July 4–8. View Quaternary geology, thermokarst and periglacial features, placer mining, and mineral and hot springs. Leader: Jim Begét. This trip was full with 10 participants and two leaders.

Trip B-4: Central Alaska from Fairbanks to Denali National Park (*cost: \$425*) July 4–6. View Quaternary geology, rock glaciers, geomorphic evidence of paleoseismic and cryogenic structures and periglacial environments. Leader: Phil Brease. This trip was full with a waiting list. Last minute arrangements were made to accommodate three extra participants.

Trip B-5 Red Dog Mine trip was cancelled due to renovations at the mine.

Trip B-6: Front Range and San Juan Mountains (Colorado) (*cost: \$900*) July 4–10. Visits to the Rocky Mountain National Park, Niwot Ridge research site, including rock glaciers, and to the Mountain Studies Institute, Silverton, to observe avalanche and other mountain hazard research. Leader: Nel Caine. This trip was slow to fill but was very much enjoyed by four participants.

Field Excursion A-4: Dalton Highway from Fairbanks to Prudhoe Bay

Leader/Assistants: Skip Walker, Edie Barbour, Chien-Lu Ping, Bill Streever, Tom Hamilton, Ronnie Daanen, Gary Michaelson, Rob Gieck, Theresa Hollingsworth, Nicholas Bonzey

Participants: Rosa Affleck, Satoshi Akagawa, Jonas Akerman, Tim aus der Beek, Errol Balks, Megan Balks, Hanne Christiansen, Reynald Delaloye, Bernd Etzelmuller, Richard Fortier, Wilfried Haeberli, Pamela Harris, Stuart Harris, Gustaf Hugelius, Ole Humlum, Hiroki Iwata, Havard Juliussen, Christof Kneisel, Takehiko Kobayashi, Aart Kroon, Peter Kuhry, Jan Otto Larsen, Antoni Lewkowicz, Donna Lind, Chris Martin, Rune Odegard, Rossana Raffi, Britta Sannel, Severin Schwab, Sally Shoop, Charlotte Sisgaard, Scott Smith, Bob Winfree, Caroline Woo, Wanli Wu, Qin Yu.

Description: This 5-day field trip provided an in-depth view of the landscapes and research along one of the most remote and scenic highways in North America. The trip started in Fairbanks, and on the first day moved quickly by bus through the interior forests to Coldfoot with stops at the Yukon River, Finger Mountain (site of large fires in 2004), and Sukakpak Mountain (large ice mounds and fens). On the second day, the group headed north past the Chandalar Shelf (low alpine landscapes) to Toolik Lake. Dr. Thomas Hamilton led a tour of the glaciated landscapes of the Brooks Range. On the third day, scientists at the Toolik Lake Field Station and Imnavait Creek provided an overview of the Arctic Long-Term Ecology Research (LTER) site and several other ongoing projects. During the fourth day, participants visited the northern foothills and the interior part of the Arctic Coastal Plain with stops at research sites at Happy Valley (central foothills of the Brooks Range), Sagwon (northern edge of the foothills), and Franklin Bluffs (central Arctic Coastal Plain) with in-depth presentations of permafrost and soil research by Dr. Chien-Lu Ping and other arctic scientists. The tour overnights at Prudhoe Bay and spent the fifth day on a tour of the Prudhoe Bay oil field conducted by Dr. Bill Streever and industry personnel. The field trip ended with a charter flight back to Fairbanks with an overflight of the oil field and low-level views of the thaw lakes, pingos, and patterned ground features near the arctic coast. The major themes of the tour included

permafrost and ecosystem variation along the arctic climate gradient, biocomplexity of patterned ground, and Pleistocene glaciations of Northern Alaska. This trip was full with 36 participants and 10 guides.

In-Kind Sponsors:



[University of Alaska](http://www.alaska.edu)

Supplemental Materials: 1983 DGGs Guidebook

Field Trip Itinerary:

Day 1, 23 June: Dalton Highway and Trans-Alaska Pipeline by bus; construction and maintenance issues; overview of the terrain, glacial geology, climate, permafrost conditions, and ecology on the south side of the Brooks Range including 2004-2005 wildfires.

Day 2, 24 June: Brooks Range: Glacial history, ecology, permafrost conditions.

Day 3, 25 June: Arctic Foothills: Glacial history, ecology, hydrology, permafrost conditions; LTER Research at Toolik Lake; research at Innavait Creek watershed.

Day 4, 26 June: Arctic Foothills and Arctic Coastal Plain: Glacial history, ecology, hydrology, permafrost conditions; bioclimate transect (Subzones C, D, and E).

Day 5, 27 June: Prudhoe Bay Oil Field: production facilities, engineering, impacts, mitigation, ecological monitoring; aerial overview of Prudhoe Bay oilfield, Howe Island, and the bioclimate transect, industry infrastructure, landforms (braided streams, beaded streams, patterned ground features); return by plane to Fairbanks.



Figure 5. Group photograph of A-4 participants.

Field Excursion A-5: Engineering Solutions on the Trans-Alaska Pipeline: Fairbanks to Prudhoe Bay.

Leader/Guides: Ed Clarke, Soils Alaska P.C., O.D. Odsather, Consultant, Lee Schoen, Consultant

Participants: Christian Bommer, William Cole, Tara Coultish, Ron Coutts, Ruth Fearon, Donna Gardino, Andrey Iospa, Go Iwahana, Shunji Kanie, Jane Letteney, Bruce Molnia, Sebastien Morard, Felix Rivkin, Anastasia Tseeva.

Description: Three engineers involved in the construction of the Trans-Alaska Pipeline System presented the detailed story of how engineering problems were solved during and after construction of the pipeline.

In-Kind Sponsors:



Supplemental Materials:

1983 DGGS Guidebook

Field Trip Itinerary:

Day 1, 27 June: Fly to Prudhoe Bay. Pump Station 1, Fuel Gas Line, Happy Valley water well, roadway through cut in permafrost, construction of elevated pipe across a talik, avoidance of rock glaciers in Atigun Pass, observations on a pipeline reroute required by massive ice under the Dietrich River; overnight at Coldfoot Motel.

Day 2, 28 June: 1969 winter haul road erosion features, limits of glacial advance, above ground and below ground construction challenges, non-glaciated terrain, tors, mainline valve replacement, Yukon River bridge, forest fire impacts, Pump Station 7 soils investigations.

Field Excursion A-6: Pogo Mine Tour

Leader: John Zarling

Participants: Marcia Phillips, Don Hayley, Diane Hayley, and Isabelle Lévesque.

Description: This is a one-day field trip by van to an active gold mine. Pogo gold mine, located southeast of Fairbanks, Alaska, is an underground mine with annual gold production of 350,000 to 450,000 ounces over its projected 10-year life. The mine area is located in a zone of discontinuous permafrost, and the 50-mile road constructed to the mine site crosses a large aeolian sand dune formation. Teck Cominco has a 40% interest in the mine and is the operator. The other partners are Sumitomo Metal Mining Co. Ltd. (51%) and Sumitomo Corporation of Japan (9%).

At the site there is a permanent camp for 300 people, gold processing facilities, water treatment plant, and paste backfill plant/dry-stack tailings facility. Mining methods are cut and fill and drift and fill. The mill utilizes conventional milling and gravity and carbon-in-pulp technology. Gold from both the gravity and carbon-in-pulp circuits is produced as dore bullion, which is refined in the USA and sold to third parties.



Figure 6. Field trip A-6 participants.

Field Excursion B-2: Arctic Coastal Plain

Leader: Torre Jorgenson

Participants: Henry Baltes, Yury Berestyanny, Beth Campbell, Iain Campbell, Gunther Ghysels, Elena Goncharova, Gisle Haaland, Irene Heyse, Sergey Kudryavtsev, Leanne Lestak, Chris Martin, Molly McGraw, David Moser, Jeffrey Munroe, Kazuo Takeda, Mark Waldrop, Jess Walker, Richard Waller, Colin Whiteman.

Field Trip Itinerary:

Day 1, 4 July: Fly Fairbanks to Prudhoe Bay; visits to processing facility, drill site, and pipelines; discuss environmental management, effects of road dust on ice wedges, oil spill restoration.

Day 2, 5 July: Prudhoe Bay land rehabilitation techniques, permafrost and ecosystems in drained-lake basins (non-thaw lakes) in sandy terrain. Evening travel to Nuiqsut, Kuukpik Hotel.

Day 3, 6 July: Colville River Delta; boat trip, permafrost and ecosystems associated with floodplain evolution and coastal fringe, thaw lakes and tapped-lake basins.

Day 4, 7 July: Helicopter west to the Fish Creek area; large exposure of coastal plain deposits, recent degradation of ice wedges in upland terrain. Evening travel to Barrow.

Day 5, 8 July: Barrow; tour research facilities, examine buried, pre-Holocene ice-wedges, permafrost terrain evolution associated with drained lakes, impacts of snow fences, visit the city of Barrow, Chukchi Sea bluff erosion. Evening lecture and visit in the local museum.

Day 6, 9 July: Climate-change and ecosystem related projects and facilities, permafrost exposures and coastal processes along Elson Lagoon, long-term active layer and permafrost monitoring sites. Fly to Fairbanks.

Description: The six-day post-conference field trip of the Arctic Coastal Plain in northern Alaska focused on oil and gas development, environmental management related to oil development, coastal permafrost and erosion, thaw lake development, floodplain evolution, and thermokarst. The tour spent two days each in Prudhoe Bay, the Colville Delta, and Barrow. The trip reached the 20-person limit. The cost was \$2,200.

At Prudhoe Bay the focus was on arctic engineering and environmental management at the largest oilfield in the Arctic. Bill Streever, Environmental Manager for BP, helped lead the local tour. Two days were spent operating out of the native village of Nuiqsut near the mouth of the Colville River Delta to assess oil development on the delta, evolution of permafrost on deltaic floodplains, and ice wedge degradation on coastal plain deposits. Jess Walker, Louisiana State University, helped lead the local tour and shared his knowledge gained from working on the delta for more than 40 years. Jerry Brown, Ken Hinkel and Anne Jensen assisted with the Barrow field trips and preparation of the guidebook section. The Barrow Arctic Science Consortium and the Arctic Slope Regional Corporation facilitated support at Barrow.



Figure 7. Field Excursion B2 at Point Barrow.

Field Excursion B-3: Seward Peninsula

Leaders: Jim Beget, DeAnne Stevens

Participants: Annett Bartsch, Frank Baumann, James Croll, Pamela Harris, Stuart Harris, Takehiko Kobayashi, Christian Opp, Philippe Schoenich, Caroline Woo, Ming-ko Woo.

Description: View Quaternary geology, gold dredging, thermokarst development and permafrost research sites. This trip reached its capacity of 10 participants and 2 leaders.

In-Kind Sponsorship:



Field Trip Itinerary:

July 3 Fly to Nome; overnight Nome

July 5 Travel along Council Road, periglacial landscapes, gold-bearing beaches; overnight Nome

July 6 Travel along Kougarok Road; placer mine, thermokarst, hot springs, overnight Nome

July 7 Travel Teller Road, village of Teller, overnight Nome

July 8 Return to Fairbanks/Anchorage (accommodations not included)



Figure 8. Seward Peninsula B-3 field trip participants.

Field Excursion B4: Central Alaska

Leader: Phil Brease, Assistant: Larissa Yocum

Participants: Michael Avian, Reynald Delaloye, Eric Leonard, Jonas Kovacs, Brigitte Lanoe, Alaine Lanoe, Marc Oliva, Miguel Ramos, Carlos Ramos, Sally Shoop, Rosa Affleck, Anders Stuhr Jorgenson, Goncalo Vieira, Wanli Wu, Jeffrey Vandenberghe, Andreas Kellerer-Pirklbauer, Friederike Gunzel, Christophe Grenier, Christophe Lambiel, Lorenz King, Paolo Pogliotto, Joshua Bandfield, Matteo Dall'Amico, Umberto Morra di Cella, Edoardo Cremonese, Karianne Staalesen-Lilleoren, Martin Holter, Thomas Ingeman-Nielson, Niels Foged, Petru Urdea, Rosalba Bonnacorsi

In-Kind Sponsors:



Description:

View Quaternary geology, rock glaciers, geomorphic evidence of paleoseismic and cryogenic structures, periglacial environments. This trip proved to be the most popular, probably in part due to

its significantly lower cost than the other extended trips. There were several people on the waiting list. The original capacity for this trip was 14. It was increased to 28 people to accommodate people on the lengthy waiting list. At the last minute, 3 additional people were allowed to be included for a total of 31 people and 2 guides.

Field Trip Itinerary:

Day 1, July 4 Fairbanks to Denali National Park by vans (120 miles); observe ice wedge casts, loess deposits and tephra marker beds, glacial terraces, morainal deposits, visit to the Denali National Park Visitors Center and Hines Creek Fault.

Day 2, July 5 Denali National Park by bus; Eielson Bluffs with stops at Hines Creek - Savage River, glacial landforms, mass movements, aufeis, wetlands, hike to view Muldrow glacier terminus and surge evidence, ice cored moraines, and ice-waste topography; close views of moose, grizzly bears, Dall sheep.

Day 3, July 6 Vans from Healy and north to Stampede Road, push moraine feature (ice wedge casts and paleosols), thermokarst, permafrost monitoring, carbon cycling plots; return to Fairbanks.



Figure 9. Field trip B4 participants.

Field Excursion B6: Front Range and San Juan Mountains (Colorado)

Leaders: Nel Caine (University of Colorado) and Koren Nydick (Mountain Studies Institute)

Participants: Wojciech Dobinski, Andrey Iospa, Go Iwahana, Galina Mazhitova

In-Kind Sponsors:



Description:

Visits to the Rocky Mountain National Park, Niwot Ridge research, including rock glaciers, and to the Mountain Studies Institute, Silverton, to observe avalanche and other mountain hazard research.

Field Trip Itinerary:

July 4: Travel day Fairbanks to Boulder (overnight in Boulder or meeting point; participants responsible for air transportation to Denver)

July 5: Day trip to Rocky Mountain National Park (INQUA field guide available online)

July 6: Niwot Ridge LTER research, patterned ground etc.

July 7: Green Lakes Valley hydrology and rock glacier

July 8: Travel day by van to Silverton

July 9: Visit Mountain Studies Institute and San Juan Mountains

July 10: Travel day by van to Denver International Airport (accommodations not included)



Figure 10. B-6 participants and leader.

3. Summary and recommendations

The following table contains statistics on the conference participation as discussed in the main body of the text (from Brown et al 2008).

Country	Registered	Papers	Extended abstracts	PYRN attendees	PYRN stipends	Field trip attendees	Accompanying persons	Short courses and workshops
Argentina	1	1	2					
Austria	3	3	4	2	2	3		
Belgium	2		1	1		2		
Canada	91	49	20	27	19	12	7	9
Chile			1					
China	18	28	5	10	6			1
Denmark	10	5	2	4	1	5	1	
Estonia	1	1						
Finland	12	4	2	1	1		3	
France	7	6	4	2	1	4	1	
Georgia			1					
Germany	31	26	13	17	12	5		
Greenland	2						1	
Hungary	1		1	1	1	1		
Italy	11	3	4	3	1	5		2
Japan	17	15	3	5	1	5		
Kazakhstan			1					
Mongolia	1	2	1		1			
Nepal		1						
Netherlands	4		1			2	1	1
New Zealand	7	2	3	2	1	4	2	1
Norway	18	11	8	6		9		1
Poland	1	1				1		
Portugal	1	1		1		1		
Romania	1		1			1		
Russia	58	72	30	14	9	7	2	1
Spain	6	7	3	1	1	3	1	1
Sweden	9	4	5	3		4	1	
Switzerland	20	21	3	9	2	9	1	1
UK	12	7	3	3	1	5	2	1
USA	337	90	60	46	17	17	11	33
Unknown	1							
Total	683	360	182	158	77	105	34	52

The initial budget of the conference was prepared by estimating the fixed and variable costs. These included such items as rent of conference rooms and infrastructure, postage, online administration and registration, conference operation and parallel programs (assistants, guides), the printing and editing of proceedings, programs and extended abstracts, field guides, CDs, NICOP website maintenance, public relations, advertising, catering, and the conference planner.

The major expenses were related to publications (publishing, reviewing and editing, \$168,120), on-line processing and web-hosting of abstracts, papers, reviews, and registrations (\$97,740), social events (\$67,060), conference planning (\$40,060), bus transportation (\$21,300), meeting materials (\$16,430), and coffee breaks (\$12,550). Some of these expenses, such as the social events and catering could be paid for after the event, though some required payment years prior to the event. The extended field trips were self-supporting (field trip costs were covered by field trip registration payments), and field registration fees were collected in advance to cover the payments required prior to the departure of the field trips.

The working time of the editorial staff was close to two person-years, not including the reviewers or associate editors. The extended abstracts were primarily reviewed by Ken Hinkel and Doug Kane and constituted an additional workload. The scientific community is shifting more and more to electronic publications of books, journals and conference proceedings. We expect sometime in the future, ICOP proceedings may only be distributed as electronic media. We encourage all future conveners to prepare electronic files that are fully searchable and archivable.

As the conference approached, the work of the conference organizer increased very dramatically. Credit card payments were sometimes problematic and took several attempts to be processed. Greater efficiencies would have been possible if all purchases, reservations, and tour registrations were centralized with the online conference registration. This became very labor intensive in the month before the conference.

Enlisting several different people, each with specific responsibilities and one person to coordinate them may be more effective. Having one person heading up each of the following categories may prove more efficient: editorial/review, program, local field trips, extended field trips, registration, social events, travel/lodging, and stipends. However, since this is a one-time event for most organizers, knowledge and experiences developed are difficult to pass along to the next conference.

The organizers should be aware that once the conference begins, their job will be solving a host of problems that arise, and there will not be time to assist with registration. During conference registration, it would be beneficial to keep a list of those who have registered and a checklist of the conference materials they have received.

The conference program and schedule was published on-line several weeks before it was sent to the printer. This enabled conference attendees to review all details with very intense scrutiny and identify mistakes before it was published and possible scheduling conflicts.

Many e-mails were received from participants requesting a letter of invitation. One should be aware that many potential asylum seekers (mainly from Africa) pretend to be academics in the hope of receiving an invitation. One individual served as the sole point of contact for people requesting letters of invitation and assistance with visas. This seemed to work very well.

The reaction to the stipend program for young scientists providing registration, free accommodations and meals was very positive and its continuation at future conferences is strongly encouraged.

Papers were judged using guidelines similar to the American Water Resources Association (Appendix G). Since submission and reviewing was done online, abstracts only need to be submitted about 10-12 months before the conference to allow enough time for the whole procedure. Additional advantages of an online system is that no paper/review can get lost or held up in the mail system, which can be a significant problem in some countries and much time can be saved if the reviewers and editors do a timely job. The costs of the online system are, to some extent, offset by the not insignificant postal and administrative costs.

To organize two competent reviewers and an associate editor for 467 papers takes several weeks of intense work. Most reviewers and associate editors did adhere to timelines. However, the total load

on the editors was enormous and it will be a challenge whether or not the high quality sought in the final version of the proceedings will be achievable in the future. It is recommended that the IPA and organizers consider carefully whether it is essential to attempt to undergo such a rigorous review process in the future or whether to even attempt to publish a full printed proceedings.

If it is decided to publish a printed proceedings, we highly recommend the use of a publishing company well versed in the production of conference proceedings. This is necessary in order to ensure that the price per volume is low to the organizers and the quality of the final product is very high. Professional support must be provided during the entire process. The only disadvantages to publishing the printed proceedings are the external price and the need to adhere to the very strict deadlines that are required to ensure that the proceedings are ready on time.

Appendices

Appendix A. Topics of Oral Sessions and Co-chairs

Session Title	Session Chairs
Change Detection	Hannele Zubeck and Oliver Frauenfeld
Permafrost and Periglacial Landscapes on Mars	Wendy Ehnert and Francois Costard
Initial Results from the IPY	Sharon Tahirkheli and Mark Parsons
Community Development, Risk Assessment, and Planning in Permafrost Regions	Don Hayley and Lawson Brigham
Ground Ice	Julian Murton and Yuri Shur
Contemporary Climate Change and Paleoclimatic Reconstruction in Permafrost Regions (co-organizers PAGES, CLiC)	Julie Brigham-Grette, Valeri Grebenets, Hans Hubberten and Panya Lipovsky
Geophysical Methods in Frozen Ground	Christian Hauck, Daniel VonderMuehll, Brian Moorman and Kenji Yoshikawa
Permafrost Engineering: Design, Evaluation and Economics	Lukas Arenson, Ed Hoeve, Arne Instanes and Tom Krzewinski
Gas Hydrates and Permafrost	Tim Collett and Scott Dallimore
Thermal State of Permafrost	Sharon Smith and Bernd Etzelmüller
Subsea Permafrost, Sea Level Changes, and Dynamics of Coastal Permafrost	Paul Overduin, Steve Solomon, Md Azharul Hoque and Nicole Couture
Regional Near-Surface Studies	Ken Hinkel, Galina Mazhitova, Hanne H. Christiansen and Frederick Nelson
Permafrost Controls on Surface Waters, Groundwater and Heat Flux Processes	Philip Marsh, Julia Boike, Ming-ko Woo and Atsushi Ikeda
Responses to Natural and Human-Induced Disturbances	Bill Streever and Skip Walker
Natural and Technological Hazards in Mountainous (and High-Latitude) Permafrost	Marcia Phillips and Andi Käab
Soil Mechanics	Ted Vinson and Charles Harris
History of Permafrost Research	Rupert "Bucky" Tart
Spatial Variability in Periglacial Processes and Landscapes	Bernard Hallet, Ole Humlum, Antoni Lewkowicz and Wojciech Dobinski
Cold-Regions Infrastructures and Transportation	Billy Connor, Niels Foged, Guy Doré and Seppo Saarelainen
Remote Sensing in Permafrost Regions	Guido Grosse and Claude Duguay
Modeling and Scaling of Permafrost Distribution and Changes	Vladimir Romanovsky and Dmitry Drozdov
Impacts of Permafrost Degradation on Terrestrial and Aquatic Ecosystems	Torre Jorgenson and Steven Kokelj
Advances in Exobiology and Life in Extreme Terrestrial Environments	Ron Sletten and David Gilichinsky
Global Interactions	Jens Christiansen and Kazuyuki Saito
Permafrost Distribution	Chris Burn and John Clague
Permafrost Controls on Subsurface Water and Heat Flux Processes	Michael Lilly and Bob Bolton
Rock Glaciers	Rick Giardino and Norikazu Matsuoka

Peatlands, Permafrost and the Global Carbon Balance, Including Greenhouse Gases	Jennifer Harden and Peter Kuhry
Soils and Periglacial Processes	Jim Bockheim and Mauro Guglielmin
Mountain Permafrost	Stephan Gruber and Sergei Marchenko
Design, Construction and Performance of Oil and Gas Pipelines	Elden Johnson and Dave Norton
Frost-Affected Soils and Soil Carbon Storage	Charles Tarnocai and Eva Marie Pfeiffer

Appendix B. UAF Letter of Invitation to Host Conference



Mark R. Hamilton
President

UNIVERSITY OF ALASKA STATEWIDE SYSTEM

202 BUTROVICH BLDG
P.O. BOX 755000
FAIRBANKS, ALASKA 99775-5000
PHONE: (907) 474-7311
FAX: (907) 474-6342
EMAIL: sypres@alaska.edu

July 17, 2001

Professor Hugh M. French
President, International Permafrost Association
Departments of Geography and Earth Sciences
University of Ottawa
P.O. Box 450, Station A
Ottawa, Ontario K1N 6N5 CANADA

Dear Professor French:

The administration, faculty, and staff of the University of Alaska would like to extend an invitation to the International Permafrost Association (IPA) to convene the IX International Permafrost Conference during the summer of 2008 on the campus of the University of Alaska Fairbanks (UAF). We feel that UAF is a particularly apt location for the IX meeting, as 2008 will be the 25th anniversary of the IV IPA conference, which was also held here in Fairbanks. Permafrost is a very important research and engineering topic in Alaska; it impacts most aspects of our daily life from biological and hydrological processes to engineering and construction. UAF is a leader in permafrost-related research and is home to dozens of active permafrost scientists. Attendees to this conference will find excellent meeting facilities surrounded by a natural laboratory of permafrost and periglacial features.

Drs. Douglas L. Kane and Larry D. Hinzman have expressed a willingness to serve as co-chairs of this meeting and will recruit other permafrost scientists and engineers to serve on committees tentatively defined as Steering, Technical, Finance, Field Trips and Local Organizing. As an indication of our enthusiasm for and commitment to hosting this conference at UAF, we pledge \$50,000 to cover the expenses of initiating this meeting. This money will be provided to the local steering committee to facilitate announcements and organizational efforts (primarily for hiring support staff).

The International Permafrost Association has made many substantial contributions to the advancement of cold region science and engineering through its international meetings every five years. It is with pleasure that we look forward to potentially helping IPA host the 2008 International Permafrost Conference.

Sincerely,



Mark R. Hamilton, President
University of Alaska

Appendix C. List of Sponsors

Universities

University of Alaska International Polar Year (Gold plus)
University of Alaska President's Fund (Gold)
Alaska University Transportation Center (Gold)
University of Alaska Fairbanks Institute of Northern Engineering (Silver)
University of Alaska Fairbanks International Arctic Research Center (Silver)
University of Alaska Fairbanks Experimental Program to Stimulate Competitive Research (EPSCoR) (Bronze)
University of Alaska Young Researchers' Network/UA IPY Outreach (Contributor plus)
University of Colorado-National Snow and Ice Data Center (Contributor)

Government Agencies

Alaska Division of Geological and Geophysical Surveys,
Fairbanks (Gold)
U.S. National Science Foundation (Silver)
U.S. Geological Survey (Silver)
U.S. Army Cold Regions Research and Engineering
Laboratory (Bronze)
U.S. Department of Energy (Bronze)
North Slope Science Initiative (Brass plus)
U.S. Arctic Research Commission (Brass)
U.S. Bureau of Land Management (Brass)
Denali Commission (Brass)
U.S. Fish and Wildlife Service (Contributor plus)
U.S. Minerals Management Service (Contributor plus)
Norwegian Thermal State of Permafrost IPY Project
(Sustaining)

Corporate and Non-Governmental Organizations

Arctic Foundations, Inc., Anchorage (Gold)
Alyeska Pipeline Company, Anchorage (Silver)
Arctic Slope Regional Corp. (Bronze plus)
International Permafrost Association (Bronze plus)
BP Foundation (Bronze)
ConocoPhillips Alaska (Bronze)
Duane Miller & Associates, Anchorage (Bronze)
Geo-Watersheds Scientific, Fairbanks (Bronze)
CH2MHILL Energy & Power, Anchorage (Brass)
EBA Engineering Consultants Ltd., Canada (Brass)
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Individuals

Joe Malen

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Mountain Studies Institute, Colorado
Permafrost Young Researchers Network
Pogo Mine
Rite in the Rain
UAF Institute of Northern Engineering
UAF Toolik Lake Field Research Station
UAF International Arctic Research Center
University of Alaska IPY Office
University of Cincinnati
University of Colorado at Boulder
U.S. Army CRREL
U.S. Geological Survey
U.S. National Park Service
Wiley-Blackwell

Appendix D. Stipend award recipients

Last	First	Country	Academic Level
Lupachev	Alexey	Russia	Doctoral Student
Belova	Nataliya	Russia	Doctoral Student
Veremeeva	Alexandra	Russia	Doctoral Student
Khomutov	Artem	Russia	Doctoral Student
Abramenko	Oleg	Russia	Masters Student
Zemskova	Alexandra	Russia	Undergraduate Student
Kaverin	Dmitry	Russia	Young Researcher
Mergelov	Nikita	Russia	Young Researcher
Ukhova	Julia	Russia	Young Researcher
Wu	Tonghua	China	Young Researcher
Jin	Rui	China	Young Researcher
Li	Guoyu	China	Young Researcher
Ji	Chen	China	Young Researcher
Wang	Dayan	China	Young Researcher
Zhang	Mingyi	China	Young Researcher
Zhao	Yonghua	China	Young Researcher
Jambaljav	Yamkhin	Mongolia	Undergraduate Student
Regmi	Dhananjay	Nepal	Young Researcher
Avian	Michael	Austria	Doctoral Student
Kellerer-Pirklbauer	Andreas	Austria	Doctoral Student
Stevens	Christopher W.	Canada	Doctoral Student
Thompson	Megan	Canada	Doctoral Student
Haltigin	Tim	Canada	Doctoral Student
Wainstein	Pablo	Canada	Doctoral Student
Bonnaventure	Philip	Canada	Doctoral Student
Couture	Nicole	Canada	Doctoral Student
LeBlanc	Anne-Marie	Canada	Doctoral Student
Myers-Smith	Isla	Canada	Doctoral Student
Mesquita	Patricia	Canada	Masters Student
Grom	Jackie	Canada	Masters Student
Bode	Jenifer	Canada	Masters Student
Coates	Jim	Canada	Masters Student
James	Megan	Canada	Masters Student
Kremer	Marian	Canada	Masters Student
Page	Amaris	Canada	Masters Student
Schultz	Emily A.	Canada	Masters Student
St-Jean	Melanie	Canada	Masters Student
Throop	Jennifer	Canada	Masters Student
Hoque	Md. Azharul	Canada	Young Researcher

Vittinghus	Helle	Denmark	Young Researcher
Lopez	Jessica	Finland	Doctoral Student
Bodin	Xavier	France	Young Researcher
Kirschke	Stefanie	Germany	Doctoral Student
Sachs	Torsten	Germany	Doctoral Student
Hilbich	Christin	Germany	Doctoral Student
Morgenstern	Anne	Germany	Doctoral Student
Baumann	Frank	Germany	Doctoral Student
Westermann	Sebastian	Germany	Doctoral Student
Zubrzycki	Sebastian	Germany	Masters Student
Maag	Clemens Constantin	Germany	Masters Student
Wild	Oliver	Germany	Masters Student
Overduin	Pier	Germany	Young Researcher
Wetterich	Sebastian	Germany	Young Researcher
Bolton	W. Robert	Germany	Young Researcher
Kovács	János	Hungary	Young Researcher
DallAmico	Matteo	Italy	Doctoral Student
Endrizzi	Stefano	Italy	Young Researcher
Watanabe	Tatsuya	Japan	Doctoral Student
O'Neill	Tanya	New Zealand	Doctoral Student
Oliva	Marc	Spain	Doctoral Student
Fischer	Luzia	Switzerland	Doctoral Student
Morard	Sebastien	Switzerland	Doctoral Student
Coppell	Richard	UK	Doctoral Student
Kim	Koui	USA	Doctoral Student
Levy	Joseph	USA	Doctoral Student
Streletskiy	Dmitry	USA	Doctoral Student
Lee	Hanna	USA	Doctoral Student
Chiu	Chun-Mei	USA	Doctoral Student
Demitroff	Mark	USA	Doctoral Student
Kopczynski	Sarah	USA	Doctoral Student
Bjella	Kevin	USA	Masters Student
Aguirre	Adrian	USA	Masters Student
Lynn	Lorene	USA	Masters Student
Sharkhuu	Anarmaa	USA	Masters Student
Wallace	Jesse	USA	Masters Student
Winston	Barry	USA	Masters Student
De Pascale	Gregory	USA	Young Researcher
Mazeas	Olivier	USA	Young Researcher
Bryant	Christina	USA	Young Researcher
Omelon	Christopher	USA	Young Researcher
Salzmann	Nadine	USA/Switzerland	Young Researcher

Appendix E. Associate Editors

Lukas Arenson, BGC Engineering, Canada
James Bockheim, University of Wisconsin, US
Julie Brigham-Grette, University of Massachusetts, US
Sherry Cady, Portland State University, US
Billy Connor, University of Alaska Fairbanks, US
Scott Dallimore, Geological Survey of Canada, CA
Claude Duguay, University of Waterloo, CA
Oliver Frauenfeld, University of Colorado, US
Hugh French, University of Ottawa, CA
Guido Grosse, University of Alaska Fairbanks, US
Stephan Gruber, University of Zurich, CH
Jennifer Harden, U.S. Geological Survey, US
Charles Harris, Cardiff University, UK
Christian Hauck, University of Karlsruhe, DE
Don Hayley, EBA Engineering Consultants, Ltd., CA
David Hik, University of Alberta, CA
Kenneth Hinkel, University of Cincinnati, US
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Ninth International Conference on Permafrost
University of Alaska Fairbanks
June 29 – July 3, 2008

Manuscript Review Form

NICOP Paper ID#: (same as abstract #)

NICOP Paper Title:

First Author's Complete Name:

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Dear Reviewer:

Thank you for taking the time to comment on this paper. Your review is critical to the process of publishing the NICOP proceedings and advancing permafrost science and engineering. Please address all questions that apply to the paper you are reviewing. Enter your comments in the space after each question. You may add space to provide as much detail as you feel is appropriate. Please keep in mind that you are reviewing for content, substance, and technical aspects of the paper, not for length, format, style, or other such issues.

Overall Recommendation

Enter your recommendation by placing and (X) in the appropriate space provided. Your recommendation will be supported by your answers to the detailed questions.

1. ___ Accept the paper as it is.
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Is the paper technically sound?

Are assumptions reasonable and clearly stated?

If computations are used, are they correct?
Are conclusions supported by the data?

Methods and Data

Are methods appropriate and adequately explained?
Are all sources of data cited?

Title, Abstract, Key Words

Does the title accurately represent the paper?
Does the abstract adequately summarize the paper?
Are key words appropriate?

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Does the author present ideas in an organized and logical sequence?
Are results and conclusions expressed clearly and accurately?
Is the written language satisfactory?

References

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Are the references complete?.

Illustrations, Tables, Figures, Equations

Are all illustrations, tables, and figures relevant to the text?
Should any be deleted?
Are they readily comprehensible?
Are all equations clear, understandable, and appropriate?

Additional Comments

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Appendix H. Subject Index

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APPENDIX I: Papers Published in Special Issue of Permafrost and Periglacial Processes

- Kääb, A. 2008. Remote Sensing of Permafrost-related Problems and Hazards. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 107–136.
- Riseborough, D., Shiklomanov, N., Etzelmüller, B., Gruber, S., and Marchenko, S. 2008. Recent Advances in Permafrost Modelling. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 137–156.
- Kneisel, C., Hauck, C., Fortier, R., and Moorman, B. 2008. Advances in Geophysical Methods for Permafrost Investigations. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 157–178.
- French, H. 2008. Recent Contributions to the Study of Past Permafrost. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 179–194.
- Matsuoka, N. and Murton, J. 2008. Frost Weathering: Recent Advances and Future Directions. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 195–210.
- Humlum, O. and Christiansen, H.H. 2008. Lowland Periglacial Research: A Review of Published Advances 2003–2007. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 211–236.
- Woo, M.-K., Kane, D.L., Carey, S.K., and Yang, D. 2008. Progress in Permafrost Hydrology in the New Millennium. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 237–254.
- Brown, J. and Romanovsky, V.E. 2008. Report from the International Permafrost Association: State of Permafrost in the First Decade of the 21st Century. *Permafrost and Periglacial Processes*. Special Issue: Recent Advances in Permafrost and Periglacial Research, Vol. 19:2, pp. 255–260.

Appendix J: NICOP Final Program

June 23 - 27	Sat. Jun 28	Sun. Jun 29	Mon. Jun 30	Tues. Jul 1	Wed. Jul 2	Thur. Jul 3	Fri. Jul 4
June 27 Registration 4:00 - 7:00 pm Great Hall	Registration opens 10:00 am Great Hall	Registration opens 7:30 am Great Hall	Registration opens 7:30 am Great Hall	Registration opens 7:30 am Great Hall	Registration opens 7:30 am Great Hall	Registration opens 7:30 am Great Hall	Field Trip Departures
Teacher's Permafrost / Environment Short Course (June24-27) IARC 417	ASCE Meetings All Day Duckering Bldg.	8:00 - 10:30 Working Group Meetings Duckering 252	8:30 -10:00am Plenary Thermal (Davis Hall)	8:30 -10:00am Plenary Engineering (Davis Hall)	8:30 -10:00am Plenary Hydrology (Davis Hall)	8:30 - 10:00am Plenary Mountain (Davis Hall)	Linc Washburn Memorial Workshop IARC Room 401 8:00 am - 5:00 pm
	Coastal Workshop All Day (GlobeRm)		10:00 - 10:20 Break	10:00 - 10:20 Break	10:00 - 10:20 Break	10:00 - 10:20 Break	
Permafrost Graduate Course (June 23 - 26) Duckering 344	Permafrost Foundations Course - All day (CCHRC)	11:00 - 12:30 Opening Ceremony (Davis Hall)	10:20 - 12:00 Concurrent Paper Sessions	10:20 - 12:00 Concurrent Paper Sessions	10:20 - 12:00 Concurrent Paper Sessions	10:20 - 12:00 Concurrent Paper Sessions	Arctic Coastal Plain Trip B-2 (July 4-9) depart Fairbanks Airport
CALM Workshop (June 25 - 27) Duckering 341	Field Workshop Sampling and Describing Soils - All day						
	9:30 -12:00 IPA Council (IARC 501)				11:00 - 12:15 PF Engr. Breakout II Gruening 208		Colorado Trip B-6 (July 4- 10)
	Noon - 1:15 IPA Council Lunch (Noon - 1:15) IARC 501	12:30 - 2:15 Lunch	12:00 - 1:15 Lunch	12:00 - 1:15 25th Lunch (Pub) (by invitation)	12:00 - 12:30 Sack Lunch - pick up at Lola Tilly Commons	12:00 - 1:15 Lunch	
		12:30-1:45 Duckering 347 ISSMGE Frost Comm. meeting	12:15-1:30 PF Engineering Breakout Session I Gruening 208	12:00 - 1:15 Lunch		IPA Council Noon - 2:00 pm	
Dalton Hwy Trip A-4 (June 23 - 27) depart 6 am Nenana Parking Lot	1:15 - 4:30 IPA Council (IARC 501)	2:15 - 3:40 Opening Plenary (Davis Hall)	1:15 - 2:45 Posters (Wood Center)	1:15 - 2:45 Posters (Wood Center)	12:45 Load buses in Nenana Parking Lot (across from Lola Tilly Commons) for Local Field Trips. Themes: *Construction *Stratigraphy *Thermokarst	1:15-2:45 Posters (Wood Center)	
Dalton Hwy Engineering Trip A-5 (June 27 -28) depart from Fairbanks Int'l Airport		3:40 - 4:00 Break (Great Hall)	2:45 - 3:00 Break (Great Hall)	2:45 - 3:00 Break (Great Hall)		2:45 - 3:00 Break (Great Hall)	2:45 - 3:00 Break (Great Hall)
Pogo Mine Trip A-6 (June 27)		4:00 - 5:00 Concurrent Paper Sessions	3:00 - 4:30 Concurrent Paper Sessions	3:00 - 4:30 Concurrent Paper Sessions	Return from field trips 5:30	3:00 - 4:15 Closing Ceremony (Davis Hall)	
	5:10-6:15 IPY Forum (Wood Center Ballroom)	4:45 - 5:45 Wiley Public Lecture: <i>Mountain Hazards</i> (Davis Hall)	4:45 - 5:45 Concurrent Paper Sessions	4:30-5:30 PYRN Mentor's Panel (Salisbury)		PYRN Meeting Music 301	Canadian Nat'l Comm. Duck. 531
	5:00 - 7:00pm Evening Mixer (Great Hall)	6:30-10:00 pm Ice Breaker (Museum)	6:00-9:00pm Evening BBQ (Beluga Field)	6:00-10:00 pm PYRN Social Wood Center Pub 6:30 - 9:30 Riverboat	7:00-10:00pm Banquet (Carlson Ctr)	Seward Peninsula Trip B-3 (July 4-8) departs 5:30 pm Bus stop	

Appendix K: Detailed Program

Technical Program

The conference included 358 papers and 180 extended abstracts from 26 countries. Papers were presented orally in five concurrent sessions (Table 3) and posters were presented in sessions over three days.

Each speaker in the concurrent sessions was allotted 15 minutes for their presentation. Presenters were encouraged to reserve the final three minutes for questions. Presenters were to upload their presentation file at the “Speaker Up-load Area” in the Great Hall, preferably the day before their presentation.

Day	Time	Session	Session Name	Location
Sunday	1600-1700	1	Change Detection	Davis Concert Hall
Sunday	1600-1700	2	Permafrost & Periglacial Landscapes on Mars	Salisbury Theater
Sunday	1600-1700	3	Initial Results from IPY	Wood Center
Sunday	1600-1700	4	Community Development in Permafrost Regions	Gruening 206
Sunday	1600-1700	5	Ground Ice	Schaible Auditorium
Monday	1020-1200	6	Contemporary & Paleoclimatic Reconstruction	Davis Concert Hall
Monday	1020-1200	7	Geophysical Methods in Frozen Ground	Salisbury Theater
Monday	1020-1200	8	Permafrost Engineering	Wood Center
Monday	1020-1200	9	Gas Hydrates	Gruening 206
Monday	1020-1200	10	Thermal State of Permafrost	Schaible Auditorium
Monday	1500-1630	11	Contemporary & Paleoclimatic Reconstruction	Davis Concert Hall
Monday	1500-1630	12	Geophysical Methods in Frozen Ground	Salisbury Theater
Monday	1500-1630	13	Permafrost Engineering	Wood Center
Monday	1500-1630	14	Subsea and Coastal Permafrost	Gruening 206
Monday	1500-1630	15	Regional Near-Surface Studies	Schaible Auditorium
Tuesday	1020-1200	16	Surface Hydrology	Davis Concert Hall
Tuesday	1020-1200	17	Responses to Disturbances	Salisbury Theater
Tuesday	1020-1200	18	Hazards in Mountains in Permafrost Regions	Schaible Auditorium
Tuesday	1020-1200	19	Soil Mechanics	Wood Center
Tuesday	1020-1200	20	History of Permafrost	Gruening 206
Tuesday	1500-1630	21	Surface Hydrology	Davis Concert Hall
Tuesday	1500-1630	22	Spatial Variability in Periglacial Landscapes	Salisbury Theater
Tuesday	1500-1630	23	Cold-Regions Infrastructures and Transportation	Wood Center
Tuesday	1500-1630	24	Global Interactions	Gruening 206
Tuesday	1500-1630	25	Permafrost Distribution	Schaible Auditorium
Tuesday	1645-1745	26	Impacts of Permafrost Degradation	Davis Concert Hall
Tuesday	1645-1745	27	Advances in Exobiology	Gruening 205
Tuesday	1645-1745	28	Cold-Regions Infrastructures and Transportation	Wood Center
Tuesday	1645-1745	29	Global Interactions	Gruening 206
Tuesday	1645-1745	30	Permafrost Distribution	Schaible Auditorium
Wednesday	1020-1200	31	Subsurface Hydrology	Davis Concert Hall
Wednesday	1020-1200	32	Rock Glaciers	Salisbury Theater
Wednesday	1020-1200	33	Peatlands, Permafrost and Global Carbon Balance	Wood Center
Wednesday	1020-1200	34	Antarctic Soils and Periglacial Processes	Gruening 206
Wednesday	1020-1200	35	Subsea and Coastal Permafrost	Schaible Auditorium
Thursday	1020-1200	36	Mountain Permafrost	Davis Concert Hall
Thursday	1020-1200	37	Spatial Variability in Periglacial Landscapes	Salisbury Theater
Thursday	1020-1200	38	Pipelines	Wood Center
Thursday	1020-1200	39	Frost-Affected Soils	Gruening 206
Thursday	1020-1200	40	Regional Near-Surface Studies	Schaible Auditorium

Table 3. Oral session schedule.

Oral Presentations

Session 1 1600–1700 Sunday, June 29, 2008 Davis Hall

Change Detection

Session Chairs: Hannele Zubeck and Oliver Frauenfeld

- **1600–1615** Monitoring Permafrost Changes on the Qinghai-Tibet Plateau. L. Zhao, T. Wu, Y. Ding, and C. Xie
- **1615–1630** Permafrost Dynamics at the Fairbanks Permafrost Experimental Station Near Fairbanks, Alaska. T.A. Douglas, M.T. Jorgenson, M.Z. Kanevskiy, V.E. Romanovsky, Y. Shur, and K. Yoshikawa
- **1630–1645** Fast Permafrost Degradation Near Umiujaq in Nunavik (Canada) Since 1957 Assessed from Time-Lapse Aerial and Satellite Photographs. R. Fortier and B. Aubé-Maurice
- **1645–1700** Contemporary Permafrost Degradation of Northern European Russia. N. Oberman

Session 2 1600–1700 Sunday, June 29, 2008 Salisbury Theater

Permafrost and Periglacial Landscapes on Mars

Session Chairs: Wendy Ehnert and Francois Costard

- **1600–1615** Laboratory Simulations of Martian Debris Flows. F. Costard, E. Védie, M
- **1615–1630** Periglacial Landscape Evolution at Lower Mid-Latitudes on Mars: The Thaumasia Highlands. A.P. Rossi, S. Gasselt, M. Pondrelli, T. Zegers, E. Hauber, and G. Neukum
- **1630–1645** Cryolithosphere on Mars and the Thickness of Frozen Rock. I. Komarov, V. Isaev, and O. Abramenko

Session 3 1600–1700 Sunday, June 29, 2008 Wood Center

Initial Results from the IPY

Session Chairs: Sharon Tahirkheli and Mark Parsons

- **1600–1615** Recent Advances in Russian Geocryological Research: A Contribution to the International Polar Year. D.S. Drozdov, G.V. Malkova, and V.P. Melnikov
- **1615–1630** Soil and Permafrost Temperature Data Obtained During the First International Polar Year, 1882–1883. K.R. Wood and D.A. Streletskiy
- **1630–1645** The Circumpolar Active Layer Monitoring (CALM) Program: Data Collection, Management, and Dissemination Strategies. N.I. Shiklomanov, F.E. Nelson, D.A. Streletskiy, K.M. Hinkel, and J. Brown
- **1645–1700** Managing Permafrost Data: Past Approaches and Future Directions. M.A. Parsons, S.L. Smith, V.E. Romanovsky, N.I. Shiklomanov, H.H. Christiansen, P.P. Overduin, T. Zhang, M.R. Balks, and J. Brown.

Session 4 1600–1700 Sunday, June 29, 2008 Gruening 206

Community Development, Risk Assessment, and Planning in Permafrost Regions

Session Chairs: Don Hayley and Lawson Brigham

- **1600–1615** Technocryogenesis Controls on the Permafrost Environment and Geotechnical Factors in Towns of the Permafrost Zone. V.I. Grebenets
- **1615–1630** Cost Impact of Climate Change-Induced Permafrost Degradation on Building Foundations in Inuvik, Northwest Territories. F. Zhou, A. Zhang, and E. Hoeve
- **1630–1645** Managing Ice-Rich Permafrost Exposed During Construction. R.L. McHattie and T.S. Vinson
- **1645–1700** Using Indigenous Knowledge to Assess Environmental Impacts of Overland Travel Routes, Arctic Coastal Plain of Alaska. W.R. Eisner, K.M. Hinkel, B.M. Jones, and C.J. Cuomo

Session 5 1600–1700 Sunday, June 29, 2008 Schaible Auditorium

Ground Ice

Session Chairs: Julian Murton and Yuri Shur

- 1600–1615 Genesis of Reticulate-Chaotic Cryostructure in Permafrost. D. Fortier, M. Kanevskiy, and Y. Shur
- 1615–1630 Massive Ground Ice on the Ural Coast of Baydaratskaya Bay, Kara Sea, Russia. N.G. Belova, V.I. Solomatin, and F.A. Romanenko
- 1630–1645 Geophysical Mapping of Ground Ice in the Western Canadian Arctic. G.P. De Pascale and W.H. Pollard
- 1645–1700 Origin and Age of Perennial Ice Within a Block Slope in the Shikaribestu Mountains, Hokkaido, Japan. Y. Sawada

Session 6 1020–1200 Monday, June 30, 2008 Davis Hall

Contemporary Climate Change and Paleoclimatic Reconstruction in Permafrost Regions: Co-organized by the IGBP Past Global Changes (PAGES), the WCRP Climate and Cryosphere (CLiC) programmes

Session Chairs: Julie Brigham-Grette and Valeri Grebenets

- **1020–1035** Submarginal Glaciotectonic Deformation of Pleistocene Permafrost. R. Waller, J. Murton, and C. Whiteman
- **1035–1050** Thermokarst Lakes in Central Yakutia (Siberia) as Habitats of Freshwater Ostracods and Archives of Palaeoclimate. S. Wetterich, L. Schirrmeister, H. Meyer, and C. Siegert
- **1050–1105** The Yedoma Suite of the Northeastern Siberian Shelf Region: Characteristics and Concept of Formation. L. Schirrmeister, H. Meyer, S. Wetterich, C. Siegert, V.V. Kunitsky, G. Grosse, T.V. Kuznetsova, and A.Y. Derevyagin.
- **1105–1120** Permafrost Response to Climate Warming South of Treeline, Mackenzie Delta, Northwest Territories, Canada. J.C.N. Kanigan, C.R. Burn, and S.V. Kokelj
- **1120–1135** Severity of Climate Conditions in the Russian Federation. S.I. Zabolotnik
- **1135–1150** Solifluction Lobes in Sierra Nevada (Southern Spain): Morphometry and Palaeoenvironmental Changes. M. Oliva, L. Schulte, and A. Gómez Ortiz

Session 7 1020–1200 Monday, June 30, 2008 Salisbury Theater

Geophysical Methods in Frozen Ground

Session Chairs: Christian Hauck and Daniel VonderMuehll

- **1020–1035** Effect of Adsorbed Cations on Unfrozen Water in Silty Soil as Determined Using the NMR Method. M.M. Darrow, S.L. Huang, S. Akagawa, and G. Iwahana
- **1035–1050** Electrical Freezing Potentials During Permafrost Aggradation at the Illisarvik Drained-Lake Experiment, Western Arctic Coast, Canada. V.R. Parameswaran and C.R. Burn
- **1050–1105** Contribution of Self-Potential (SP) Measurements in the Study of Alpine Periglacial Landforms: Examples from the Southern Swiss Alps. C. Scapozza, P. Gex, C. Lambiel, and E. Reynard
- **1105–1120** The Impact of Light-Colored Pavements on Active Layer Dynamics Revealed by Ground-Penetrating Radar Monitoring. A.S. Jørgensen and T. Ingeman-Nielsen
- **1120–1135** Geophysical Mapping of Isolated Permafrost Lenses at a Sporadic Permafrost Site at Low Altitude in the Swiss Alps. C. Kneisel and D. Schwindt
- **1135–1150** Geophysical Study of Talik Zones, Western Yakutia. S. Milanovskiy, S. Velikin, and V. Istratov

Session 8 1020–1200 Monday, June 30, 2008 Wood Center

Permafrost Engineering: Design, Evaluation and Economics

Session Chairs: Lukas Arenson and Ed Hoeve

- **1020–1035** Numerical Analysis of a Thermosyphon Foundation of High-Voltage Transmission Towers in Permafrost Regions. X. Xu, L. Yu, and L. Wang
- **1035–1050** Investigation of the Permafrost Environment for Pile Installation at Fort Wainwright, Alaska. T.S. Vinson
- **1050–1105** Geotechnical Considerations for Cut-Off Wall in Warm Permafrost . S.L. Anderson, T.G. Krzewinski, and J. Swendseid
- **1105–1120** Engineering Solutions for Foundations and Anchors in Mountain Permafrost. C. Bommer, H.R. Keusen, and M. Phillips
- **1120–1135** The Effect of Snow Cover on Permafrost Thermal Stability. E.L. Long and E. Yarmak, Jr.
- **1135–1150** Channel Realignment Using Natural Channel Design Principles. A. Lai and M.N. Gaboury

Session 9 1020–1200 Monday, June 30, 2008 Gruening 206

Gas Hydrates and Permafrost

Session Chairs: Tim Collett and Scott Dallimore

- **1020–1035** Geomorphology and Gas Release from Pockmark Features in the Mackenzie Delta, Northwest Territories, Canada. R.G. Bowen, S.R. Dallimore, M.M. Côté, J.F. Wright, and T.D. Lorenson
- **1035–1050** Thermal Impact of Holocene Lakes on a Permafrost Landscape, Mackenzie Delta, Canada. A.E. Taylor, S.R. Dallimore, and J.F. Wright
- **1050–1105** Modeling Temperature Profiles Considering the Latent Heat of Physical-Chemical Reactions in Permafrost and Gas Hydrates: The Mackenzie Delta Terrestrial Case. J.A. Majorowicz, K. Osadetz, and J. Safanda
- **1105–1120** Geologic Controls on the Occurrence of Permafrost-Associated Natural Gas Hydrates. T.S. Collett
- **1120–1135** Experimental Study of the Thermal Conductivity of Frozen Sediments Containing Gas Hydrates. B.A. Buharov, E.M. Chuvilin, O.M. Guryeva, and P.I. Kotov
- **1135–1150** Experimental Study of the Self-Preservation Effect of Gas Hydrates in Frozen Sediments. E.M. Chuvilin and O.M. Guryeva

Session 10 1020–1200 Monday, June 30, 2008 Schaible Auditorium

Thermal State of Permafrost

Session Chairs: Sharon Smith and Bernd Etzelmüller

- **1020–1035** Permafrost in Iceland: Thermal State and Climate Change Impact. B. Etzelmüller, T.V. Schuler, H. Farbrot, and Á. Guðmundsson
- **1035–1050** Thermal State of Permafrost in the Eastern Arctic. G. Kraev, A. Abramov, S. Bykhovets, D. Fyodorov-Davydov, A. Kholodov, A. Lupachev, V. Mamykin, V. Ostroumov, V. Sorokovikov, D. Gilichinsky, G. Zimova, and N. Zimov
- **1050–1105** Thermal State of Permafrost in Mongolia. N. Sharkhuu, A. Sharkhuu, V.E. Romanovsky, K. Yoshikawa, F.E. Nelson, and N.I. Shiklomanov
- **1105–1120** Thermal State of Permafrost in Northern Transbaykalia, Eastern Siberia. J. Stanilovskaya, J. Ukhova, D. Sergeev, and I. Utkina
- **1120–1135** Increasing Permafrost Temperatures in Subarctic Sweden. M. Johansson, H.J. Åkerman, C. Jonasson, T.R. Christensen, and T.V. Callaghan
- **1135–1150** PERMOS – A Comprehensive Monitoring Network of Mountain Permafrost in the Swiss Alps. D.S. Vonder Mühl, J. Noetzli, and I. Roer

Session 11 1500–1630 Monday, June 30, 2008 Davis Hall

Contemporary Climate Change and Paleoclimatic Reconstruction in Permafrost Regions: Co-organized by the IGBP Past Global Changes (PAGES) the WCRP Climate and Cryosphere (CLiC) programmes

Session Chairs: Hans Hubberten and Panya Lipovsky

- **1500–1515** The Vault Creek Tunnel (Fairbanks Region, Alaska): A Late Quaternary Palaeoenvironmental Permafrost Record. H. Meyer, K. Yoshikawa, L. Schirrmeister, and A. Andreev
- **1515–1530** Mid to Late Quaternary Cryogenic Weathering Conditions at Elgygytgyn Crater, Northeastern Russia: Inference from Mineralogical and Microtextural Properties of the Sediment Record. G. Schwamborn, A. Förster, B. Diekmann, L. Schirrmeister, and G. Fedorov
- **1530–1545** Evidence of Permafrost Formation Two Million Years Ago in Central Alaska. J.E. Begét, P. Layer, D. Stone, J. Benowitz, and J. Addison
- **1545–1600** Wedge Structures in Southernmost Argentina (Rio Grande, Tierra del Fuego). A. Perez-Alberti, A. Coronato, M.C. Casais, M. Valcarcel-Diaz, and J. Rabassa.
- **1615–1630** Appearance of Heinrich Events on Pollen Plots of Late Pleistocene Ice Wedges. A.C. Vasil'chuk and Y.K. Vasil'chuk
- **1600–1615** Dansgaard-Oeschger Events on Isotope Plots of Siberian Ice Wedges. Y.K. Vasil'chuk and A.C. Vasil'chuk

Session 12 1500–1630 Monday, June 30, 2008 Salisbury Theater

Geophysical Methods in Frozen Ground

Session Chairs: Brian Moorman and Kenji Yoshikawa

- **1500–1515** An Integrative Observation of Kinematics and Geophysical Parameters of Gianda Grischia Rock Glacier, Upper Engadine, Swiss Alps. R. Frauenfelder, C. Hauck, C. Hilbich, C. Kneisel, and M. Hoelzle
- **1515–1530** Comparison of Simulated 2D Temperature Profiles with Time-Lapse Electrical Resistivity Data at the Schilthorn Crest, Switzerland. J. Noetzli, C. Hilbich, C. Hauck, M. Hoelzle, and S. Gruber
- **1530–1545** A Four-Phase Model to Quantify Subsurface Ice and Water Content in Permafrost Regions Based on Geophysical Datasets. C. Hauck, M. Bach, and C. Hilbich
- **1545–1600** Geophysical Investigation of Saline Permafrost at Ilulissat, Greenland. T. Ingeman-Nielsen, N. Foged, R. Butzbach, and A S. Jørgensen
- **1600–1615** A Geoelectric Monitoring Network and Resistivity-Temperature Relationships of Different Mountain Permafrost Sites in the Swiss Alps. C. Hilbich, C. Hauck, R. Delaloye, and M. Hoelzle
- **1615–1630** Rock Permafrost Geophysics and Its Explanatory Power for Permafrost-Induced Rockfalls and Rock Creep: A Perspective. M. Krautblatter

Session 13 1500–1630 Monday, June 30, 2008 Wood Center

Permafrost Engineering: Design, Evaluation and Economics

Session Chairs: Arne Instanes and Tom Krzewinski

- **1500–1515** Frost-Protected Shallow Foundation Design Issues: A Case Study C.H. Riddle, J.W. Rooney, and G.W. Carpenter
- **1515–1530** Influence of Temperature and Groundwater Fluctuation on LNAPL Migration at Colomac Mine Site O. Iwakun, K.W. Biggar, and D.C. Segó
- **1530–1545** The Effect of Near-Freezing Temperatures on the Stability of an Underground Excavation in Permafrost K.L. Bjella
- **1545–1600** Permafrost Temperatures and Erosion Protection at Shishmaref, Alaska M.T. Azelton and J.E. Zufelt
- **1600–1615** Increasing the Bearing Capacity of Pile Foundations by Using Thermostabilizers of Small Diameter in Cryolithozone of Russia A.N. Tseeva, R.M. Bayasan, G.P. Pustovoi, and A.P. Okoemova
- **1615–1630** Seasonally Frozen Ground Effects on the Dynamic Response of High-Rise Buildings R. Miranda, Z. Yang, and U. Dutta

Session 14 1500–1630 Monday, June 30 2008 Gruening 206

Subsea Permafrost, Sea Level Changes, and Dynamics of Coastal Permafrost

Session Chairs: Paul Overduin and Steve Solomon

- **1500–1515** Freezing of Marine Sediments and Formation of Continental Permafrost at the Coasts of Yenisey Gulf I.D. Streletskaia, A.A. Vasiliev, and M.Z. Kanevskiy
- **1515–1530** Nearshore Ground Temperatures, Seasonal Ice Bonding, and Permafrost Formation Within the Bottom-Fast Ice Zone, Mackenzie Delta, NWT S.M. Solomon, A.E. Taylor, and C.W. Stevens
- **1530–1545** Coastal Processes at the Tabular-Ground-Ice-Bearing Area, Yugorsky Peninsula, Russia M. Leibman, A. Gubarkov, A. Khomutov, A. Kizyakov, and B. Vanshtein
- **1545–1600** Detection of Frozen and Unfrozen Interfaces with Ground Penetrating Radar in the Nearshore Zone of the Mackenzie Delta, Canada C.W. Stevens, B.J. Moorman, and S.M. Solomon
- **1600–1615** “Pingo-Like” Deformation, Vilaine Estuary, Brittany B. Hallégouët, B. Van Vliet-Lanoë, and C. Hibschi
- **1615–1630** Effects of Changing Climate and Sea Ice Extent on Pechora and Kara Seas Coastal Dynamics S.A. Ogorodov

Session 15 1500–1630 Monday, June 30 2008 Schaible Auditorium Regional Near-Surface Studies

Session Chairs: Ken Hinkel and Galina Mazhitova

- **1500–1515** Active Layer Monitoring in West Siberia under the CALM II Program A.A. Vasiliev, M.O. Leibman, and N.G. Moskalenko
- **1515–1530** Soil Climate and Frost Heave Along the Permafrost/Ecological North American Arctic Transect V.E. Romanovsky, S.S. Marchenko, R. Daanen, D.O. Sergeev, and D.A. Walker
- **1530–1545** A Permafrost Observatory at Barrow, Alaska: Long-Term Observations of Active-Layer Thickness and Permafrost Temperature F. Nelson, N.I. Shiklomanov, D.A. Streletskiy, V.E. Romanovsky, K. Yoshikawa, K.M. Hinkel, and J. Brown
- **1545–1600** Seasonal Thaw of Soils in the North Yakutian Ecosystems D.G. Fyodorov-Davydov, A.L. Kholodov, V.E. Ostroumov, G.N. Kraev, V.A. Sorokovikov, S.P. Davydov, and A.A. Merekalova
- **1600–1615** Interannual Variations in Active Layer Thickness in Svalbard H.H. Christiansen and O. Humlum
- **1615–1630** Recent Climate and Active Layer Changes in Northeast Russia: Regional Output of Circumpolar Active Layer Monitoring (CALM) D. Zamolodchikov, A. Kotov, D. Karelin, and V. Razzhivin

Session 16 1020–1200 Tuesday, July 1, 2008 Davis Hall

Permafrost Controls on Surface Waters, Groundwater, and Heat Flux Processes

Session Chairs: Phillip Marsh and Julia Boike

- **1020–1035** The Impact of Sediments Derived from Thawing Permafrost on Tundra Lake Water Chemistry: An Experimental Approach M.S. Thompson, S.V. Kokelj, T.D. Prowse, and F.J. Wrona
- **1035–1050** Lake Modification in a Permafrost Region, the Colville River Delta, Alaska H.J. Walker
- **1050–1105** Interrelation of Cryogenic and Hydrologic Processes on Small Streams and Catchments of Central Yamal A.A. Gubarkov and M.O. Leibman
- **1105–1120** Recent and Projected River Runoff Changes in Permafrost Regions of Eastern Siberia (Lena River Basin) A.G. Georgiadi, I.P. Milyukova, and E.A. Kashutina
- **1120–1135** Permafrost Dynamics Within an Upper Lena River Tributary: Modeled Impact of Infiltration on the Temperature Field Under a Plateau S. Buldovich, N. Romanovskiy, G. Tipenko, D. Sergeev, and V. Romanovsky
- **1135–1150** Rainfall-Runoff Hydrograph Characteristics in A Discontinuous Permafrost Watershed and Their Relation to Ground Thaw S.K. Carey and C.M. DeBeer

Session 17 1020–1200 Tuesday, July 1, 2008 Salisbury Theater

Responses to Natural and Human-Induced Disturbances

Session Chairs: Bill Streever and Skip Walker

- **1020–1035** Freezeback of an Anthropogenic Talik Within Tailings at Nanisivik Mine, Canada G. Claypool, J.W. Cassie, and R. Carreau
- **1035–1050** Changes in Surface Topography and Active Layer Following Partial Gravel Removal in the Prudhoe Bay Oilfield, Alaska J.G. Kidd
- **1050–1105** Soil Temperature and Thaw Response to Manipulated Air Temperature and Plant Cover at Barrow and Atkasuk, Alaska R.D. Hollister, P.J. Webber, R.T. Slider, F.E. Nelson, and C.E. Tweedie
- **1105–1120** Vegetation and Permafrost Changes in the Northern Taiga of West Siberia N. Moskalenko
- **1120–1135** Vegetation Response to Landslide Spreading and Climate Change in the West Siberian Tundra N.G. Ukraintseva
- **1135–1150** Spatial Analysis of Glacial Geology, Surficial Geomorphology, and Vegetation in the Toolik Lake Region: Relevance to Past and Future Land-Cover Changes C.A. Munger, D.A. Walker, H.A. Maier, and T.D. Hamilton

Session 18 1020–1200 Tuesday, July 1, 2008 Schaible Auditorium

Natural and Technological Hazards in Mountainous (and High-Latitude) Permafrost Regions

Session Chairs: Marcia Phillips and Andi Kääh

- **1020–1035** Engineering-Induced Environmental Hazards in Permafrost Regions of the Qinghai-Tibet Plateau F. Niu, J. Xu, Z. Lin, and P. Wang
- **1035–1050** Effects of Ground Temperature and Slope Deformation on the Service Life of Snow-Supporting Structures in Mountain Permafrost: Wisse Schijen, Randa, Swiss Alps M. Phillips and S. Margreth
- **1050–1105** Methodical Design for Stability Assessments of Permafrost-Affected High-Mountain Rock Walls L. Fischer and C. Huggel
- **1105–1120** Observations and Considerations on Destabilizing Active Rock Glaciers in the European Alps I. Roer, W. Haeberli, M. Avian, V. Kaufmann, R. Delaloye, C. Lambiel, and A. Kääh
- **1120–1135** The 2005 Mt. Steller, Alaska, Rock-Ice Avalanche: A Large Slope Failure in Cold Permafrost C. Huggel, S. Gruber, J. Caplan-Auerbach, R.L. Wessels, and B.F. Molnia
- **1135–1150** Ground-Based LIDAR Data on Permafrost-Related Rockfall Activity in the Mont Blanc Massif P. Deline, S. Jailliet, A. Rabatel, and L. Ravelin

Session 19 1020–1200 Tuesday, July 1, 2008 Wood Center

Soil Mechanics

Session Chairs: Ted Vinson and Charles Harris

- **1020–1035** Definition of Warm Permafrost Based on Mechanical Properties of Frozen Soil J. Qi and J. Zhang
- **1035–1050** Scaled Centrifuge Modeling of Solifluction in Permafrost and Seasonally Frozen Soils. M. Kern-Luetschg, C. Harris, P. Cleall, Y. Li, and H. Thomas
- **1050–1105** Development and Initial Evaluation of a Daily DEM-Based Active Layer Heave and Subsidence Model. D. Gugolj, B.J. Moorman, and M.P. Tait
- **1105–1120** Impact of Freezing on Water Migration in Silty Clay Samples. S. Zhao, J. Zheng, W. Ma, and Y. Pu
- **1120–1135** Choosing Geotechnical Parameters for Slope Stability Assessments in Alpine Permafrost Soils. P. Nater, L.U. Arenson, and S.M. Springman
- **1135–1150** A New Hypothesis on Ice Lens Formation in Frost Susceptible Soils. L.U. Arenson, T.F. Azmatch, and D.C. Segó

Session 20 1020–1200 Tuesday, July 1, 2008 Gruening 206

History of Permafrost Research

Session Chairs: Rupert “Bucky” Tart

- **1020–1035** The International Permafrost Association: 1983–2008. J. Brown, H. French, and C. Guodong
- **1035–1050** The Permafrost Legacy of Siemon. W. Muller H.M French and F.E. Nelson
- **1050–1105** Legacy and Accomplishments of Frozen Ground Engineering Studies in Alaska 60 Years Ago. M. Cysewski and Y. Shur
- **1105–1120** The Davidson Ditch – An Historical Review J.W.. Rooney and C.H. Riddle
- **1120–1135** Siberian Woolly Mammoths and Studies into Permafrost in the Russian Empire in the 19th Century. E. Tammiksaar and K. Kalling
- **1135–1150** The Rich Contributions of A.L. Washburn to Permafrost and Periglacial Studies. B. Hallet

Session 21 1500–1630 Tuesday, July 1, 2008 Davis Hall

Permafrost Controls on Surface Waters, Groundwater, and Heat Flux Processes

Session Chairs: Ming-ko Woo and Atsushi Ikeda

- **1500–1515** Climatic Change and Fluvial Dynamics of the Lena River (Siberia). E. Gautier, F. Costard, D. Brunstein, J. Hammadi, A. Fedorov, and D. Yang
- **1515–1530** Thawing Permafrost and Temporal Variation in the Electrical Conductivity of Water in Small Tundra Lakes, Mackenzie Delta Region, N.W.T., Canada. S.V. Kokelj, B. Zajdlik, M.S. Thompson, and R.E.L. Jenkins
- **1530–1545** Hydrologic Status of High Arctic Ponds in a Continuous Permafrost Environment, Somerset Island, Nunavut, Canada. K.L. Young and A. Abnizova
- **1545–1600** Recent Changes in Hydrologic Response Observed in Permafrost Regions of Northwest Canada. J.R. Janowicz
- **1600–1615** Coastal Processes and Their Influence Upon Discharge Characteristics of the Strokdammene Plain, West Spitsbergen, Svalbard. H.J. Akerman
- **1615–1630** Modeling Discharge During the Rapid Drainage of Thaw Lakes in the Western Canadian Arctic P. Marsh. M. Russell, C. Onclin, and H. Haywood

Session 22 1500–1630 Tuesday, July 1, 2008 Salisbury Theater

Spatial Variability in Periglacial Processes and Landscapes

Session Chairs: Bernard Hallet will co-chair with Ole Humlum

- **1500–1515** Stone Frost Mounds in Shallow Bedrock Depressions at Lady Franklin Point, Victoria Island, Nunavut, Canada. V.E. Roujanski
- **1515–1530** Dynamics of Patterned Ground Evolution. J.G.A. Croll
- **1530–1545** A Study of High Arctic Retrogressive Thaw Slump Dynamics, Eureka Sound Lowlands, Ellesmere Island. J.D. Grom and W.H. Pollard
- **1545–1600** Comparison of Exposure Ages and Spectral Properties of Rock Surfaces in Steep, High Alpine Rock Walls of Aiguille du Midi, France. R. Böhlert, S. Gruber, M. Egli, M. Maisch, D. Brandová, W. Haeberli, S. Ivy-Ochs, M. Christl, P.W. Kubik, and P. Deline
- **1600–1615** Stone Polygons in Southern Colorado, USA: Observations of Surficial Activity 1975–2004. J.D. Vitek, N.R. Regmi, D. Humbolt, and J.R. Giardino
- **1615–1630** Factors Controlling Periglacial Geodiversity in Subarctic Finland. J. Hjort and M. Luoto

Session 23 1500–1630 Tuesday, July 1, 2008 Wood Center

Cold-Regions Infrastructures and Transportation

Session Chairs: Billy Connor and Niels Foged

- **1500–1515** Arctic Road-Research Program, Experiences and Implementation. S.M.I. Saarelainen

- **1515–1530** Flat Loop Evaporator Thermosyphon Foundations: Design, Construction, and Performance in the Canadian Permafrost Regions. I. Holubec, J. Jardine, and B. Watt
- **1530–1545** Control of Asymmetrical Subgrade Temperature with Crushed-Rock Embankments Along the Permafrost Region of the Qinghai-Tibet Railway. W. Ma, L. Zhang, and Q. Wu
- **1545–1600** Experimental Study on Mechanisms of Subgrade Deformation in Permafrost Regions Along the Qinghai-Tibetan Railway. J. Zhang, X. Ma, and B. Zheng
- **1600–1615** Climate Change and Arctic Infrastructure. A. Instanes and O. Anisimov
- **1615–1630** Foundation Design Using a Heat Pump Cooling System. B. Instanes and A. Instanes

Session 24 1500–1630 Tuesday, July 1, 2008 Gruening 206

Remote Sensing in Permafrost Regions

Session Chairs: Guido Grosse and Claude Duguay

- **1500–1515** Distribution of Thermokarst Lakes and Ponds at Three Yedoma Sites in Siberia. G. Grosse, V. Romanovsky, K. Walter, A. Morgenstern, H. Lantuit, and S. Zimov
- **1515–1530** A New Permafrost Map of Quebec-Labrador Derived from Near-Surface Temperature Data of the Moderate Resolution Imaging Spectroradiometer (MODIS). S. Hachem, M. Allard, and C. Duguay
- **1530–1545** ERS InSAR for Assessing Rock Glacier Activity. C. Lambiel, R. Delaloye, T. Strozzi, R. Lugon, and H. Raetzo
- **1545–1600** Genetic, Morphological, and Statistical Characterization of Lakes in the Permafrost-Dominated Lena Delta. A. Morgenstern, G. Grosse, and L. Schirmer
- **1600–1615** Digital Elevation Model of Polygonal Patterned Ground on Samoylov Island, Siberia, Using Small-Format Aerial Photography. M. Scheritz, R. Dietrich, S. Scheller, W. Schneider, and J. Boike
- **1615–1630** High Resolution DEM Extraction from Terrestrial LIDAR Topometry and Surface Kinematics of the Creeping Alpine Permafrost: the Laurichard Rock Glacier Case Study (Southern French Alps) X. Bodin, P. Schoeneich, and S. Jaillot

Session 25 1500–1630 Tuesday, July 1, 2008 Schaible Auditorium

Modeling and Scaling of Permafrost Distribution and Changes

Session Chairs: Vladimir Romanovsky and Dmitry Drozdov

- **1500–1515** What Dictates the Occurrence of Zero Curtain Effect? J. Putkonen
- **1515–1530** Numerical Modeling of Spatial Permafrost Dynamics in Alaska. S. Marchenko, V. Romanovsky, and G. Tivenko
- **1530–1545** The Fate of Greenland's Permafrost: Results from High-Resolution Transient Climate Simulations. M. Stendel, J.H. Christensen, G. Aðalgeirsdóttir, R. Daanen, S. Marchenko, and V. Romanovsky
- **1545–1600** Climate, Glaciers, and Permafrost in the Swiss Alps 2050: Scenarios, Consequences, and Recommendations. W. Haeblerli and R. Hohmann
- **1600–1615** Estimation of Hydraulic Properties in Permafrost-Affected Soils Using a Two-Directional Freeze-Thaw Algorithm. W.R. Bolton, J. Boike, and P.P. Overduin
- **1615–1630** High-Resolution Numerical Modeling of Climate Change Impacts to Permafrost in the Vicinities of Inuvik, Norman Wells, and Fort Simpson, NT, Canada. C. Duchesne, J.F. Wright, and M. Ednie

Session 26 1645–1745 Tuesday, July 1, 2008 Davis Hall

Impacts of Permafrost Degradation on Terrestrial and Aquatic Ecosystems

Session Chairs: Torre Jorgenson and Steven Kokelj

- **1645–1700** The Degradation of Ice Wedges in the Colville River Delta and Their Role in Pond Drainage. M. McGraw
- **1700–1715** Approaches to Allocation of Terrain Complexes (Landscapes) in the Areas of Thermokarst Development. A. Veremeeva and S. Gubin
- **1715–1730** A Multi-Disciplinary Approach to Assess the Impact of Global Climate Change on Infrastructure in Cold Regions. J. Clarke, C. Fenton, A. Gens, R. Jardine, C. Martin, D. Nethercot, S. Nishimura, S. Olivella, C.

Reifen, P. Rutter, F. Strasser, and R. Toumi

- **1730–1745** Identification of Permafrost Landscape Changes Caused by Climate Variability in Central Siberia
M. Tishkova and S. Gorshkov

Session 27 1645–1745 Tuesday, July 1, 2008 Gruening 205

Advances in Exobiology and Life in Extreme Terrestrial Environments

Session Chairs: Ron Sletten and David Gilichinsky

- **1645–1700** Isolation and Identification of Cold-Adapted Fungi in the Fox Permafrost Tunnel, Alaska. M.P. Waldrop, R. White III, and T.A. Douglas
- **1700–1715** Permafrost Analogues of Martian Habitats. D.A. Gilichinsky
- **1715–1730** Microbial Diversity in a Permafrost Environment of a Volcanic-Sedimentary Mars Analog: Imuruk Lake, Alaska. F. Gómez, O. Prieto-Ballesteros, D. Fernández-Remolar, J.A. Rodríguez-Manfredi, M. Fernández-Sampedro, M. Postigo Cacho, J. Torres Redondo, J. Gómez-Elvira, and R. Amils
- **1730–1745** Spatial Analysis of Small-Scale Polygonal Terrain in Utopia Planitia, Mars: A Comparison with Terrestrial Analogues. T.W. Haltigin, W.H. Pollard, G.R. Osinski, P. Dutilleul, and J.W. Seaquist

Session 28 1645–1745 Tuesday, July 1, 2008 Wood Center

Cold-Regions Infrastructures and Transportation

Session Chairs: Guy Doré and Seppo Saarelainen

- **1645–1700** Permafrost in Marine Deposits at Ilulissat Airport in Greenland, Revisited. N. Foged and T. Ingeman-Nielsen
- **1700–1715** Geocryological Problems Associated with Railroads and Highways . V.G. Kondratiev
- **1715–1730** Tundra Soil-Water Content and Temperature Data in Support of Winter Tundra Travel. M.R. Lilly, R.F. Paetzold, and D.L. Kane
- **1730–1745** The Effect of Fines Content and Quality on Frost Heave Susceptibility of Crushed Rock Aggregates Used in Railway Track Structure A. Nurmikolu and P. Kolisoja

Session 29 1645–1745 Tuesday, July 1, 2008 Gruening 206

Global Interactions

Session Chairs: Jens Christensen and Kazuyuki Saito

- **1645–1700** Does Permafrost Deserve Attention in Comprehensive Climate Models? J.H. Christensen, M. Stendel, P. Kuhry, V. Romanovsky, and J. Walsh
- **1700–1715** Refinement of Physical Land Scheme for Cold-Region Subsurface Hydrothermal Processes and Its Impact on High-Latitude Hydroclimate. K. Saito
- **1715–1730** Interseasonal Connection of Hydrothermal Components in a Permafrost Region in Eastern Siberia. Y. Iijima, H. Park, T. Yamazaki, H. Yabuki, T.C. Maximov, and T. Ohata
- **1730–1745** Impact of the August 2000 Storm on the Soil Thermal Regime, Alaska North Slope. D.E. Atkinson and L. Hinzman

Session 30 1645–1745 Tuesday, July 1, 2008 Schaible Auditorium

Permafrost Distribution

Session Chairs: Chris Burn and John Clague

- **1645–1700** Comparable Energy Balance Measurements on the Permafrost and Immediately Adjacent Permafrost-Free Slopes at the Southern Boundary of Eurasian Permafrost, Mongolia. M. Ishikawa, Y. Iijima, Y. Zhang, T. Kadota, H. Yabuki, T. Ohata, B. Dorjgotov, and N. Sharkhuu
- **1700–1715** Five-Year Ground Surface Temperature Measurements in Finnmark, Northern Norway. K. Isaksen, H. Farbrot, L.H. Blikra, B. Johansen, J.L. Sollid, and T. Eiken
- **1715–1730** Present and Past Distribution of Mountain Permafrost in the Gaissane Mountains, Northern Norway. H. Farbrot, K. Isaksen, and B. Etzelmüller
- **1730–1745** “Permafrost is No Excuse”: Geoarchaeology and Zooarchaeology of the Little John Paleoindian Site, Alaska/Yukon Borderlands. D.R. Yesner, K.J. Crossen, and N.A. Easton

Session 31 1020–1200 Wednesday, July 2, 2008 Davis Hall

Permafrost Controls on Subsurface Water and Heat Flux Processes

Session Chairs: Michael Lilly and Bob Bolton

- 1020–1035 The Perennial Springs of Axel Heiberg Island as an Analogue for Groundwater Discharge on Mars. D.T. Andersen, W.H. Pollard, and C.P. McKay
- 1035–1050 Carbon, Nitrogen, and Phosphorus Interactions in the Hyporheic Zones of Arctic Streams that Drain Areas of Continuous Permafrost. W.B. Bowden, M.J. Greenwald, M.N. Gooseff, J.P. Zarnetske, J.P. McNamara, J. Bradford, and T. Brosten
- 1050–1105 Numerical Studies of Permafrost Effects on Groundwater Flow. P. Vidstrand, J.O. Näslund, and J. Hartikainen
- 1105–1120 Landscape Geochemical Features and Peculiarities of ¹³⁷Cs Distribution in Tundra Landscapes of the Lower Pechora Reaches. E.M. Korobova, N.G. Ukraintseva, and V.V. Surkov
- 1120–1135 Hydrological Dynamics of the Active Layer in the Permafrost Region, Qinghai-Tibetan Plateau. C. Xie, L. Zhao, Y. Ding, and T. Wu
- 1135–1150 Permafrost and Cryopegs of the Anabar Shield. S.V. Alexeev, L.P. Alexeeva, and A.M. Kononov

Session 32 1020–1200 Wednesday, July 2, 2008 Salisbury Theater

Rock Glaciers

Session Chairs: Rick Giardino and Norikazu Matsuoka

- **1020–1035** Seasonal Thermal Regime of a Mid-Latitude Ventilated Debris Accumulation. S. Morard, R. Delaloye, and J. Dorthe
- **1035–1050** The Cooling Effect of Coarse Blocks Revisited: A Modeling Study of a Purely Conductive Mechanism. S. Gruber and M. Hoelzle
- **1050–1105** Glacial Ice as a Cryogenic Factor in the Periglaciation Zone of the Composed Rock Glacier Morenas Coloradas, Central Andes of Mendoza, Argentina. Trombotto Liaudat, L. Arena, and G. Caranti
- **1105–1120** Twenty Years of Permafrost Research on the Furggental Rock Glaciers, Western Alps, Switzerland. D. Mihajlovic, B. Staub, A. Nussbaum, B. Krummenacher, and H. Kienholz
- **1120–1135** Recent Interannual Variations of Rock Glacier Creep in the European Alps. R. Delaloye, E. Perruchoud, M. Avian, V. Kaufmann, X. Bodin, H. Hausmann, A. Ikeda, A. Käab, A. Kellerer-Pirklbauer, K. Krainer, C. Lambiel, D. Mihajlovic, B. Staub, I. Roer, and E. Thibert.
- **1135–1150** Rock Glacier Distribution and the Lower Limit of Discontinuous Mountain Permafrost in the Nepal Himalaya. D. Regmi

Session 33 1020–1200 Wednesday, July 2, 2008 Wood Center

Peatlands, Permafrost and the Global Carbon Balance, Including Greenhouse Gases

Session Chairs: Jennifer Harden and Peter Kuhry

- **1020–1035** Permafrost Degradation and Influx of Biogeogases into the Atmosphere. E. Rivkina and G. Kraev
- **1035–1050** The Fate of Terrestrial Carbon Following Permafrost Degradation: Detecting Changes Over Recent Decades. J.W. Harden, C.C. Fuller, M. Wilmking, I. Myers-Smith, S.E. Trumbore, and J. Bubier
- **1050–1105** Methane Emission from Siberian Wet Polygonal Tundra on Multiple Spatial Scales: Process-Based Modeling of Methane Fluxes on the Regional Scale, Lena Delta. S. Kirschke, K.P. Guenther, K. Wisskirchen, T. Sachs, and S. Dech
- **1105–1120** Methane Emission from Siberian Wet Polygonal Tundra on Multiple Spatial Scales: Vertical Flux Measurements by Closed Chambers and Eddy Covariance, Samoylov Island, Lena River Delta. T. Sachs, M. Giebels, C. Wille, L. Kutzbach, and J. Boike
- **1120–1135** Mesoscale and Detailed Geocryological Mapping as a Basis for Carbon Budget Assessment (East European Russian Arctic, CARBO-North Project) F.M. Rivkin, J.V. Vlasova, A.P. Popova, G. Mazhitova, P. Kuhry, I.S. Parmuzin, and I.V. Chehina
- **1135–1150** Soil Organic Carbon Stocks in the Northern Permafrost Region and Their Role in Climate Change. C. Tarnocai and G. Broll

Session 34 1020–1200 Wednesday, July 2, 2008 Gruening 206

Antarctic Soils and Periglacial Processes

Session Chairs: Jim Bockheim and Mauro Guglielmin

- **1020–1035** Patterned Ground Features and Vegetation: Examples from Continental and Maritime Antarctica. N. Cannone and M. Guglielmin
- **1035–1050** Soil and Permafrost Properties in the Vicinity of Scott Base, Antarctica. I.B. Campbell and G.G.G. Claridge
- **1050–1105** Distribution of Permafrost Types and Buried Ice in Ice-Free Areas of Antarctica. J.G. Bockheim, I.B. Campbell, M. Guglielmin, and J. López-Martínez
- **1105–1120** Active Layer Temperature Monitoring in Two Boreholes in Livingston Island, Maritime Antarctic: First Results for 2000–2006. M. Ramos, G. Vieira, J.J. Blanco, S. Gruber, C. Hauck, M.A. Hidalgo, and D. Tomé
- **1120–1135** Periglacial and Permafrost Map of Signy Island, South Orkney Islands, Maritime Antarctica. M. Guglielmin, D. Boschi, C. D'Agata, C. Ellis-Evans, and M.R. Worland
- **1135–1150** Geomorphological Observations of Permafrost and Ground-Ice Degradation on Deception and Livingston Islands, Maritime Antarctica. G. Vieira, J. López-Martínez, E. Serrano, M. Ramos, S. Gruber, C. Hauck, and J.J. Blanco

Session 35 1020–1200 Wednesday, July 2, 2008 Schaible Auditorium

Subsea Permafrost, Sea Level Changes, and Dynamics of Coastal Permafrost

Session Chairs: Md Azharul Hoque and Nicole Couture

- **1020–1035** The State of Subsea Permafrost in the Western Laptev Nearshore Zone. P.P. Overduin, V. Rachold, and M.N. Grigoriev
- **1035–1050** Sensitivity of Coastal Erosion to Ground Ice Contents: An Arctic-Wide Study Based on the ACD Classification of Arctic Coasts. H. Lantuit, P.P. Overduin, N. Couture, and R.S. Ødegård
- **1050–1105** Temperatures in Coastal Permafrost in the Svea Area, Svalbard. L. Kristensen, H.H. Christiansen, and F. Caline
- **1105–1120** Modeling the Erosion of Ice-Rich Deposits Along the Yukon Coastal Plain. N.J. Couture, M.A. Hoque, and W.H. Pollard
- **1120–1135** Erosion of the Barrow Environmental Observatory Coastline 2003–2007, Northern Alaska. A. Aguirre, C.E. Tweedie, J. Brown, and A. Gaylord
- **1135–1150** Methane Cycle in Terrestrial and Submarine Permafrost Deposits of the Laptev Sea Region D. Wagner, K. Koch, A. Gattinger, and A. Lipski

Session 36 1020–1200 Thursday, July 3, 2008 Davis Hall

Mountain Permafrost

Session Chairs: Stephan Gruber and Sergei Marchenko

- **1020–1035** Effects of Recent Climate Change on High Mountains of Western North America. J.J. Clague
- **1035–1050** New Patterns of Permafrost Occurrence in a Mountain Environment, Based on an Example from the Tatra Mountains, Poland, and Abisko Area, Sweden. W. Dobinski
- **1050–1105** Experimental Study of Thermal Properties for Frozen Pyroclastic Volcanic Deposits (Kamchatka, Kluchevskaya Volcano Group). R.G. Motenko, E.P. Tikhonova, and A.A. Abramov
- **1105–1120** Micrometeorological Measurements on Mountain Permafrost in the Daisetsu Mountains, Hokkaido, Japan. G. Iwahana, Y. Sawada, M. Ishikawa, F. Katamura, T. Sone, T. Sueyoshi, and K. Harada
- **1120–1135** Permafrost Occurrence in Southernmost South America (Sierras de Alvear, Tierra del Fuego, Argentina). M. Valcárcel-Díaz, P. Carrera-Gómez, R. Blanco-Chao, and A. Pérez-Alberti
- **1135–1150** MAGST in Mountain Permafrost, Dovrefjell, Southern Norway, 2001–2006. R.S. Ødegård, K. Isaksen, T. Eiken, and J.L. Sollid

Session 37 1020–1200 Thursday, July 3, 2008 Salisbury Theater

Spatial Variability in Periglacial Processes and Landscapes

Session Chairs: Antoni Lewkowicz and Wojciech Dobinski

- **1020–1035** New Insights into Spatial Uncertainty in Predictive Periglacial Modeling. M. Marmion, M. Luoto, J. Hjort, and M. Parviainen
- **1035–1050** Ice Wedge Polygon Dynamics in Svalbard: High-Resolution Monitoring by Multiple Techniques. N. Matsuoka and H.H. Christiansen
- **1050–1105** Snow and Temperature Relationships on Polygonal Peat Plateaus, Churchill, Manitoba, Canada. G.P. Kershaw
- **1105–1120** Importance of Glacier–Permafrost Interactions in the Preservation of a Proglacial Icing: Fountain Glacier, Bylot Island, Canada. P.A. Wainstein, B.J. Moorman, and K. Whitehead
- **1120–1135** Frost Boil Dynamics Using ²¹⁰Pb as a Tracer for Soil Movement. B. Hagedorn, R. Aalto, R.S. Sletten, and B. Hallet
- **1135–1150** Stable Isotope Composition of Ice in Seasonally and Perennially Frozen Mounds K. Yoshikawa

Session 38 1020–1200 Thursday, July 3, 2008 Wood Center

Design, Construction, and Performance of Oil and Gas Pipelines

Session Chairs: Elden Johnson and Dave Norton

- **1020–1035** Interactive Stress Between Frost Bulb and Chilled Pipe by an Axis-Symmetric Freezing Experiment. S. Kanie, S. Akagawa, M. Sato, and H. Okamoto
- **1035–1050** N-Factors and Soil Temperatures Adjacent to the Vertical Support Members on the Trans Alaska Pipeline System. J.P. Zarling, S. Sorensen, and M. Shangin
- **1050–1105** Numerical Modeling of Differential Frost Heave. R.A. Peterson
- **1105–1120** Pore Water and Effective Pressure in the Frozen Fringe During Soil Freezing. S. Akagawa, S. Hiasa, S. Kanie, and S.L. Huang
- **1120–1135** Identification and Mitigation of Frost Hazards Along the China-Russia Oil Pipeline. H. Jin, J. Zhang, Q. Yu, Y. Sheng, Z. Wei, G. Li, Y. Ji, R. He, L. Lü, J. Hao, Y. Chen, W. Wu, and Y. Zhao
- **1135–1150** Ground Temperature and Thaw Settlement in Frozen Peatlands Along the Norman Wells Pipeline Corridor, NWT Canada – 22 Years of Monitoring. S.L. Smith, M.M. Burgess, and D.W. Riseborough

Session 39 1020–1200 Thursday, July 3, 2008 Gruening 206

Frost-Affected Soils and Soil Carbon Storage

Session Chairs: Charles Tarnocai and Eva Marie Pfeiffer

- **1020–1035** Chronosequence of Forest Fire Effects on the Active Layer, Central Yakutia, Eastern Siberia. L. Lopez, G. Guggenberger, E. Gerasimov, R. Hatano, and A.N. Fedorov
- **1035–1050** Classification of Arctic Tundra Soils Along the Beaufort Sea Coast, Alaska. C.L. Ping, L.A. Lynn, G.J. Michaelson, M.T. Jorgenson, Y.L. Shur, and M. Kanevskiy
- **1050–1105** Global Land Use Change and Its Specificity in Permafrost-Affected Regions: Consequences for Cryosols. D.I. Lyuri and S.V. Goryachkin
- **1105–1120** Iron-Oxides and Pedogenesis of Modern Gelisols and Paleosols of the Southern Lena Delta, Siberia, Russia. S. Zubrzycki, S. Wetterich, L. Schirrmeister, A. Germogenova, and E. Pfeiffer
- **1120–1135** Detection and Enrichment of Ammonia Oxidizers from Permafrost Soils of Siberia. T. Sanders, C. Fiencke, E. Spieck, and E.M. Pfeiffer
- **1135–1150** Characterization and Classification of Topsoils as a Tool to Monitor Carbon Pools in Frost-Affected Soils. G. Broll and C. Tarnocai

Session 40 1020–1200 Thursday, July 3, 2008 Schaible Auditorium

Regional Near-Surface Studies

Session Chairs: Hanne H. Christiansen and Frederick Nelson

- **1020–1035** Recent Decade Thaw-Depth Dynamics in the European Russian Arctic Based on the Circumpolar Active Layer Monitoring (CALM) Data. G. Mazhitova, G. Malkova, O. Chestnykh, and D. Zamolodchikov
- **1035–1050** Interannual Variability of Winter N-Factors in the Kuparuk River Basin, Alaska. A.E. Klene, F.E. Nelson, N.I. Shiklomanov, and D.A. Streletskiy
- **1050–1105** Near-Surface Permafrost Conditions near Yellowknife, Northwest Territories, Canada. K.C. Karunaratne, S.V. Kokelj, and C.R. Burn
- **1105–1120** Freezing/Thawing Index Variations During the Last 40 Years Over the Tibet Plateau. T. Wu, L. Zhao, S. Li, C. Xie, Q. Pang, and W. Zhang
- **1120–1135** Thermal History of Degrading Permafrost in the Source Region of Yellow River, Northeastern Tibet. T. Sueyoshi, A. Ikeda, N. Matsuoka, and T. Ishii
- **1135–1150** Estimating Active Layer and Talik Thickness from Temperature Data: Implications from Modeling Results. D.W. Riseborough

POSTER SESSIONS

Poster sessions were located on the main floor of the Wood Center.

Each presenter was provided with a 4-foot-high by 8-foot-wide poster board. Poster boards had a 2.5-cm (1-inch) frame. Dimensions of the useable work area were ~1.16 meters high by 2.32 meters wide (~46 inches high x 96 inches wide).

Posters were placed on display by 0830 each day and removed each day between 1700 and 1800.

Monday: Session 1P

Session 1P-1 Monday, June 30, 2008

Contemporary Climate Change and Paleoclimatic Reconstruction in Permafrost Regions: Co-organized by the IGBP Past Global Changes (PAGES) the WCRP Climate and Cryosphere (CLiC) programmes

1P-1-1 Mid to Late Quaternary Cryogenic Weathering Conditions at Elgygytyn Crater, Northeastern Russia: Inference from Mineralogical and Microtextural Properties of the Sediment Record . *G. Schwamborn, A. Förster, B. Diekmann, L. Schirrmeister, and G. Fedorov*

1P-1-2 The Application of Tritium in Permafrost Ground-Ice Studies. *F.A. Michel*

1P-1-3 Importance of Changes in Moisture for Geomorphic Responses to Rapid Climatic Warming in the Western Brooks Range and the Arctic Foothills, Northern Alaska: Lessons from the Past . *D. Mann, P. Groves, and M. Kunz*

1P-1-4 Climate Change in Permafrost Regions in North America. *M. K. Gavrilova*

1P-1-5 Recent Climatic Changes in Yakutia. *Y.B. Skachkov*

1P-1-6 Forcing Factors of Permafrost Retreat: A Comparison between LGM and Present-day Permafrost Extent in Eurasia . *J. Vandenberghe, A. Velichko, and A. Gorbunov*

1P-1-7 14C Age of Fossil Wood Remains Buried by an Inactive Rock Glacier, Upper Ticino Area (Southern Swiss Alps) *C. Scapozza, C. Lambiel, E. Reynard, M. Antognini, and P. Schoeneich*

1P-1-8 Modeling Permafrost Evolution and Impact on Hydrogeology at the Meuse/Haute-Marne Sedimentary Site (Northeast France) During the Last 120,000 Years. *V. Teles, E. Mouche, C. Grenier, D. Regnier, J. Brulhet, and H. Benaberrahmane*

1P-1-9 The Effect of Climate and Permafrost on Tree Line Dynamics in Northwest Russia: A Preliminary Analysis. *M. Wilmsking, S. Kenter, and J. Ibendorf*

1P-1-10 Establishing Initial Conditions for Transient Ground Thermal Modeling in the Mackenzie Valley: A Paleoclimatic Reconstruction Approach . *M. Ednie, J.F. Wright, and C. Duchesne*

Session 1P-2 Monday, June 30, 2008

Permafrost and Periglacial Landscapes on Mars

1P-2-11 Gully-Polygon Interactions and Stratigraphy on Earth and Mars: Comparison of Cold-Desert, Near-Surface, Fluvial, and Periglacial Processes. *J. Levy, J.W. Head, and D.R. Marchant*

1P-2-12 Emplacement of Lobate Rock Glacier Landforms and Landscape Modification. *Mareotis Fossae, Mars. S. van Gasselt, E. Hauber, A.P. Rossi, and G. Neukum*

1P-2-13 Soil Thermal and UV Radiation Monitoring on a Maritime Antarctic Permafrost Area by Means of REMS (Rover Environmental Monitoring Station-Mars Science Laboratory) Sensors. *M. Ramos, J. Gómez, E. Sebastian, J. Martín, C. Armiens, J.J. Blanco, M.A de Pablo, and D. Tomé*

1P-2-14 Thermal Conditions in Martian Permafrost: Past and Present. *M.A. Kreslavsky*

1P-2-15 Martian Permafrost Depths from Orbital Neutron and Temperature Measurements. *J.L. Bandfield and W.C. Feldman*

1P-2-16 HiRIS E Observations of Fractured Mounds in the Martian Mid-Latitudes. *C.M. Dundas and A.S. McEwen*

1P-2-17 Pingos on Earth and Mars. *D.M. Burr and K.L. Tanaka, and K. Yoshikawa*

1P-2-18 Extensive Secondary Chaos Formation in Chryse Chaos and Simud Valles, Mars *J.A.P. Rodriguez, K.L. Tanaka, J.S. Kargel, D. Crown, and D.C. Berman*

Session 1P-3 Monday, June 30, 2008

Thermal State of Permafrost

- 1P-3-19** The Last Twenty-Five Years of Changes in Permafrost Temperature in the European Russian Arctic. *G.V. Malkova*
- 1P-3-20** Evaluation of Recent Changes in the Ground Thermal State, Central Yakutia. *P.N. Skryabin, S.P. Varlamov, and Y.B. Skachkov*
- 1P-3-21** The Temperature Regime in Boreholes at Nalaikh and Terelj Sites, Mongolia. *Y. Jambaljav, A. Dashtseren, D. Solongo, A. Saruulzaya, D. Battogtokh, Y. Iijima, M. Ishikawa, Y. Zhang, H. Yabuki, and T. Kadota*
- 1P-3-22** Deployment of a Deep Borehole Observatory at the High Lake Project Site, Nunavut, Canada. *B.M. Freifeld, E. Chan, T.C. Onstott, L.M. Pratt, A. Johnson, R. Stotler, B. Holden, S. Frappe, S.M. Pfiffner, S. DiFurio, T. Ruskeenemi, and I. Neill*
- 1P-3-23** Warming of Cold Permafrost in Northern Alaska During the Last Half-Century. *M.C. Brewer and H. Jin*
- 1P-3-24** NORPERM : The Norwegian TSP Permafrost Database. *K. Midttømme, G. Strand, H. Juliussen, and H.H. Christiansen*
- 1P-3-25** Current State and Dynamics of Permafrost in the Siberian Platform. *M.N. Zheleznyak, V.T. Balobaev, and V.G. Rusakov*
- 1P-3-26** Thermal State of Permafrost in Canada: A Contribution to the International Polar Year. *S.L. Smith, A.G. Lewkowicz, and C.R. Burn*
- 1P-3-27** First Results of Ground Surface Temperature Modeling in Finnmark, Northern Norway. *H. Farbrod, B. Etzelmüller, K. Isaksen, T.V. Schuler, O.E. Tveito, and H.H. Christiansen*
- 1P-3-28** Continued Permafrost Warming in Northwest Alaska as Detected by the DOI/GTN-P Borehole Array. *G.D. Clow*
- 1P-3-29** Temperatures of Upper Permafrost in Northern West Siberia. *A.N. Kurchatova, A.V. Boytsov, A.B. Osokin, and G.K. Smolov*

Session 1P-4 Monday, June 30, 2008

Instrumentation and Methods of Analysis

- 1P-4-30** A Direct Method for Obtaining Thermal Conductivity of Gravel Using TP02 Probes. *H. Bing, P. He, N.I. Koemle, and W. Feng*
- 1P-4-31** Wireless Sensor Networks in Permafrost Research: Concept, Requirements, Implementation, and Challenges. *A. Hasler, I. Talzi, J. Beutel, C. Tschudin, and S. Gruber*
- 1P-4-32** A Method for the Analysis of the Thermal Permafrost Dynamics. *M.A. Hidalgo, J.J. Blanco, M. Ramos, D. Tomé, and G. Vieira*
- 1P-4-33** The Effect of Soil Moisture and Ice Content on the Thermal Conductivity of Organic Soil Horizons Underlain By Discontinuous Permafrost. *J.A. O'Donnell, V.E. Romanovsky, J.W. Harden, K. Yoshikawa, and A.D. McGuire*

Session 1P-5 Monday, June 30, 2008

Change Detection

- 1P-5-34** The Influence of Snowdrift on the Geothermal Field of Permafrost: Results from Three-Dimensional Numerical Simulations at a Local Scale. *A. LeBlanc, R. Fortier, M. Allard, and R. Therrien*
- 1P-5-35** Permafrost Characteristics and Climate Change Consequences at Stockhorn and Gernergrat (Swiss Alps). *C.C. Maag, O. Wild, L. King, M. Baum, S. Klein, and C. Hilbich*
- 1P-5-36** Historic Change in Permafrost Distribution in Northern British Columbia and Southern Yukon. *M. James, A.G. Lewkowicz, S.L. Smith, and P. Lipovsky*
- 1P-5-37** Climatic Change and Permafrost Stability in the Eastern Canadian Cordillera. *S.A. Harris*
- 1P-5-38** The Omnsbreen Glacier: Possible Aggrading Permafrost, Southern Central Norway. *K.S. Lilleøren and O. Humlum*

Session 1P-6 Monday, June 30, 2008

Impacts of Permafrost Degradation on Terrestrial and Aquatic Ecosystems

- 1P-6-39** Thermal and Water Conditions of the Active Layer after the 2002 Tundra Fire, Seward Peninsula, Alaska. *K. Harada, Y. Sawada, K. Narita, and M. Fukuda*
- 1P-6-40** Impact of Permafrost Degradation on Carbon and Nitrogen Stocks Related to Pedogenesis and Ecosystem Functioning. *F. Baumann, J-S. He, P. Kühn, and T. Scholten*
- 1P-6-41** Vegetation Change and Thermokarst Development: Effects on Ecosystem Carbon Exchange in Upland Tussock Tundra. *J.G. Vogel, H. Lee, C. Trucco, E.A.G. Schuur, and J. Sickman*
- 1P-6-42** Potential Subsidence from Thawing of Near-Surface Ground Ice, Outer Mackenzie Delta Area, Northwest Territories, Canada. *P.D. Morse, C.R. Burn, and S.V. Kokelj*
- 1P-6-43** Effects of Retrogressive Thaw Slumps on Sediment Chemistry, Submerged Macrophyte Biomass, and Invertebrate Abundance of Upland Tundra Lakes. *P.S. Mesquita, F.J. Wrona, and T.D. Prowse*

Session 1P-7 Monday, June 30, 2008

Ground Ice

- 1P-7-44** New Data on the Ice Complex of the Lena-Amga Rivers Plain (Central Yakutia). *V.B. Spektor, V.V. Spektor, and N.T. Bakulina*
- 1P-7-45** Systematization of Underground Ice. *V.I. Solomatin and N.G. Belova*
- 1P-7-46** Massive Ground Ice in the Norilsk Basin: Evidence of Segregation Origin. *O.A. Kazansky and M.Y. Kushchev*
- 1P-7-47** Tides as a Possible Reason for the Massive Ice Beds Formation. *S.A. Sokratov V.N. Golubev, and G.A. Rzhantsyn*
- 1P-7-48** Ice-Wedge Thermal Regime in Northern Victoria Land, Antarctica. *R. Raffi and S. Sega*
- 1P-7-49** Hydrogen and Oxygen Isotope Studies from an Ice-Wedge in Svalbard. *H. Vittinghus, H.H. Christiansen, H. Meyer, and B. Elberling*
- 1P-7-50** The Combined Isotopic Analysis of Late Quaternary Ice Wedges and Texture Ice at the Lena-Anabar Lowland, Northern Siberia. *A. Dereviagin, H. Meyer, A. Chizhov, and D. Mogens*
- 1P-7-51** Understanding the Filling Process in Ice Wedges Using Crystallography, Isotopes and Molar Gas Ratios. *M. St-Jean, I.D. Clark, B. Lauriol, and P. Middlestead*
- 1P-7-52** A Hypothesis: A Condition of Growth of Thick Ice Wedges. *A. Brouchkov*
- 1P-7-53** Massive Ground Ice in the Eureka Sound Lowlands, Canadian High Arctic. *W.H. Pollard and N. Couture*

Session 1P-8 Monday, June 30, 2008

Community Development, Risk Assessment, and Planning in Permafrost Regions

- 1P-8-54** An Analysis of Land Suitability for Urban Construction in Permafrost Regions. *I.E. Guryanov*
- 1P-8-55** Regional Geocryological Dangers Associated with Contemporary Climate Change. *A.V. Pavlov and G.V. Malkova*
- 1P-8-56** Deformation and Maintenance of Basic Types of Building Foundations in the Norilsk Region. *A. Kerimov, V.I. Grebenets, D.I. Ablyazina, and I.A. Khomenko*
- 1P-8-57** Adapting and Managing Nunavik's Transportation Infrastructure. *G. Doré, A. Guimond, and G. Grondin*
- 1P-8-58** Deep Permafrost Studies at the Lupin Mine: Hydrogeological and Geochemical Information for Nuclear Waste Disposal. *L. Ahonen, T. Ruskeeniemi, R. Stotler, S. Frape, K. Lehto, I. Puigdomenech, M. Hobbs, and P. Degnan*
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2P-10-98 Transformations of Cryogenic Structure of Frozen Clay Soils at Shear. *S.S. Volokhov*

2P-10-99 The Mechanism of Ice Formation in Connection with Deformation of the Freezing Layer. *J.B. Gorelik*

2P-10-100 The Freezing Process Deformation of Soil Under Higher Confining Pressure *D. Wang, W. Ma, and Z. Wen*

2P-10-101 Full-Scale Physical Modeling of Solifluction Processes Associated with One-Sided and Two-Sided Active Layer Freezing. *C. Harris, M. Kern-Luetsch, J. Murton, M. Font, M. Davies, and F. Smith*

2P-10-102 Shear Strength of Ice-Filled Rock Joints. *F.K. Günzel*

2P-10-103 Measuring Ice Lens Growth and Development of Soil Strains during Frost Penetration Using Particle Image Velocimetry (GeoPIV). *T.F. Azmatch, L.U. Arenson, D.C. Sego, and K.W. Biggar*

2P-10-104 Effects of Soil Cryostructure on the Long-Term Strength of Ice-Rich Permafrost Near Melting Temperatures. *M.T. Bray*

2P-10-105 Thermal Deformation of Frozen Soils. *G.P. Kuzmin and V.N. Panin*

2P-10-106 Freeze/ Thaw Properties of Tundra Soils, with Applications to Trafficability on the North Slope, Alaska *C.F. Bryant, R.F. Paetzold, and M.R. Lilly*

2P-10-107 Near-Surface Stress and Displacement Measurements from Vehicle Passage Over Frozen Ground. *S. Shoop*

Session 2P-11 Tuesday, July 1, 2008

Remote Sensing in Permafrost Regions

2P-11-108 Remote Sensing-Based Study of Vegetation Distribution and Its Relation to Permafrost in and Around George Lake Area, Central Alaska. *S.K. Panda, A. Prakash, and D.N. Solie*

2P-11-109 Remote Sensing Data for Monitoring Periglacial Processes in Permafrost Areas: Terrestrial Laser Scanning at the Hinteres Langtarkar Rock Glacier, Austria. *M. Avian, A. Kellerer-Pirklbauer, and A. Bauer*

2P-11-110 Circumpolar Relationships Between Permafrost Characteristics, NDVI, and Arctic Vegetation Types. *M.K. Reynolds and D.A. Walker*

2P-11-111 Estimation of the Extent of Near-Surface Permafrost in the Mackenzie Delta, Northwest Territories, Using Remote Sensing. *T-N. Nguyen, C.R. Burn, D.J. King, and S.L. Smith*

- 2P-11-112** Time Series Analyses of Active Microwave Satellite Data for Monitoring of Hydrology at High Latitudes. *A. Bartsch*
- 2P-11-113** Inter-annual Variability of the Near-Surface Soil Freeze-Thaw Cycle Detected from Passive Microwave Remote Sensing Data in the Northern Hemisphere. *T. Zhang and R. Armstrong*
- 2P-11-114** Characterizing Polar Landscapes from Multispectral and Hyperspectral Imagery. *J.L. Rich, B. Csatho, E. Merényi, B. Bue, C-L. Ping, and L. Everett*
- 2P-11-115** Mapping the Permafrost in China Using Remotely Sensed Land Surface Temperature Data. *X. Li, S. Wang, R. Jin, and Y. Ran*

Thursday: Session 3P

Session 3P-1 Thursday, July 3, 2008

Mountain Permafrost

- 3P-1-1** Borehole and Ground Surface Temperatures and Their Relationship to Meteorological Conditions in the Swiss Alps *M. Hoelzle and S. Gruber*
- 3P-1-2** A First Estimate of Mountain Permafrost Distribution in the Mount Cook Region of New Zealand's Southern Alps *S. Allen, I. Owens, and C. Huggel*
- 3P-1-3** Permafrost in Low Mountains of the Western Chukot Peninsula. *S. Titkov, V. Chernyadyev, and M. Tsvetkova*
- 3P-1-4** Temperatures in Alpine Rock Walls During the Warm Winter 2006-2007 in Austria and Its Significance for Mountain Permafrost: Preliminary Results. *A. Kellerer-Pirklbauer, M. Avian, G.K. Lieb, and M. Rieckh*
- 3P-1-5** Modeling Potential Climatic Change Impacts on Mountain Permafrost Distribution, Wolf Creek, Yukon, Canada. *P.P. Bonnaventure and A.G. Lewkowicz*
- 3P-1-6** Potential Inclusion of Vegetation Indices in Mountain Permafrost Modeling. *M. Kremer, A.G. Lewkowicz, M. Sawada, P.P. Bonnaventure, and M. Ednie*
- 3P-1-7** Mountain Permafrost Parameters Simulated by Regional Climate Models. *N. Salzmann, C. Hauck, and L.O. Mearns*
- 3P-1-8** TSP Norway – Thermal Monitoring of Mountain Permafrost in Northern Norway. *K. Isaksen, H. Farbrot, B. Eitzelmüller, H.H. Christiansen, L.H. Blikra, K. Midttømme, and J.S. Rønning*
- 3P-1-9** Idealized Modeling of the Impact of Atmospheric Forcing Variables on Mountain Permafrost Degradation *C. Hauck and N. Salzmann*
- 3P-1-10** Alpine Permafrost Distribution at Massif Scale: Assessment of Mean Surface Temperatures During the Winter Equilibrium Period Thanks to Topoclimatic and Geomorphological Data (Combeynot Massif, French Alps) *X. Bodin, P. Schoeneich, and M. Fort*

Session 3P-2 Thursday, July 3, 2008

Peatlands, Permafrost and the Global Carbon Balance, Including Greenhouse Gases

- 3P-2-11** Simulating the Effects of Wildfire on Permafrost and Soil Carbon Dynamics of Black Spruce Over the Yukon River Basin Using a Terrestrial Ecosystem Model *S. Yi, A.D. McGuire, and J. Harden*
- 3P-2-12** Terrestrial Carbon Dynamics Along a Permafrost-Dominated North–South Transect in the Tibetan Plateau. *J. He, Q. Zhuang, and T. Luo*
- 3P-2-13** Variation of CO₂ Concentrations in Active Layer in Alpine Grasslands Soil on the Qinghai-Tibet Plateau. *Y. Zhao, L. Zhao, and T. Wu*
- 3P-2-14** Spatial Variation in CO₂ Release from Arctic Tundra as a Result of Permafrost Thawing and Thermokarst Development. *H. Lee, E.A.G. Schuur, and J.G. Vogel*
- 3P-2-15** Pyrogenic Dynamics of Cryosols and Carbon Pools in Open Forests of Northeast Eurasia. *N.S. Mergelov*
- 3P-2-16** The Contribution of Old Carbon to Respiration from Alaskan Tundra Following Permafrost Thaw. *E.A.G. Schuur, J.G. Vogel, K.G. Crummer, H. Lee, and K. Dutta*
- 3P-2-17** Variable Peat Accumulation Rates in Stable Subarctic Peat Plateaus, West-Central Canada. *A.B.K. Sannel and P. Kuhry*
- 3P-2-18** Soil Structural Change Effects on Greenhouse Gas Production and Carbon Loss in Thawing Soils. *G.A. Lehrsich and R.S. Dungan*
- 3P-2-19** Effects of Increased Snow Depth on Ecosystem CO₂ Fluxes in Arctic Tundra. *L. Taneva, P.F. Sullivan, B. Sveinbjornsson, and J.M. Welker*
- 3P-2-20** Content and Composition of Organic Matter in Quaternary Deposits on the Laptev Sea Coast *A.L. Kholodov, L. Schirrmeister, H. Meyer, Ch. Knoblauch, and K. Fahl*
- 3P-2-21** Soil Carbon Distribution in Arctic Coastal Plain. *E. Pullman, M.T. Jorgenson, and Y. Shur*

3P-2-22 The Sensitivity of SiBCASA-Simulated Carbon Fluxes and Biomass to North American Interannual Climate Variations. *L. Lu, K. Schaefer, T. Zhang, and I. Baker*

3P-2-23 Differential Estimates of Organic Carbon Pools in Permafrost-Affected Soils of Russia. *D.E. Konyushkov, D.I. Rukhovich, N.V. Kalinina, and E.A. Dolinina*

3P-2-24 The Role of Lakes in Carbon Transfers from Permafrost to the Atmosphere: Eight Mile Lake, Alaska. *J.O. Sickman, G. Von Kiparski, E.A.G. Schuur, J.G. Vogel, and W. Vicars*

Session 3P-2 Thursday, July 3, 2008

Peatlands, Permafrost and the Global Carbon Balance, Including Greenhouse Gases (*cont.*)

3P-2-25 Carbon Gas Fluxes from Contrasting Boreal Lakes During Intensive Rain Events *J. López Bellido and A. Ojala*

3P-2-26 Carbon Dynamics on Permafrost Regime, North Slope of Alaska. *Y. Kim, K. Kushida, M. Shibuya, and H. Enomoto*

3P-2-27 Temporal Variability in Plant Cover and Carbon Balance of Permafrost-Affected Tundra Ecosystems. *P. Kuhry*

3P-2-28 Total Storage and Landscape Distribution of Soil Carbon in the Central Canadian Arctic Using Different Upscaling Tools. *G. Hugelius, P. Kuhry, C. Tarnocai, and T. Virtanen*

3P-2-29 Patterns in Soil Carbon Distribution in the Usa Basin (Russia): Linking Soil Properties to Environmental Variables in Constrained Gradient Analysis. *G. Hugelius and P. Kuhry*

3P-2-30 Interactions Between Permafrost and the Carbon Cycle. *K. Schaefer, T. Zhang, L. Lu, and I. Baker*

3P-2-31 Seasonal Sources of Soil Respiration from High Arctic Landscapes Dominated by Polar Stripes. *C.I. Czimczik, S.E. Trumbore, and J. Welker*

3P-2-32 Methane Ebullition During Field-Simulated Lake Expansion and Permafrost Degradation. *O. Mazéas, J. von Fischer, and R. Rhew*

3P-2-33 Variation of Atmospheric Methane Over the Permafrost Regions from Satellite Observation During 2003 to 2007. *X. Xiong, C. Barnet, E. Maddy, X. Liu, and M. Goldberg*

Session 3P-3 Thursday, July 3, 2008

Permafrost Controls on Subsurface Water and Heat Flux Processes

3P-3-34 Hydraulic Conductivity in Frozen Unsaturated Soil. *K. Watanabe and T. Wake*

3P-3-35 Water Chemistry of Hydrogenous Taliks in the Middle Lena. *N.P. Anisimova and N.A. Pavlova*

3P-3-36 Geochemical Analysis of Groundwater Dynamics in Permafrost Regions. *S.J. Seelen, K. Yoshikawa, T. Trainor, and L. Hinzman*

3P-3-36 Developing a Digital Hydrogeological Map of Central Yakutia (the Lena-Aldan Watershed). *L.D. Ivanova and N.M. Nikitina*

3P-3-37 Monitoring of the Floodplain Talik Downstream from the Ust'-Srednekan Reservoir. *S.A. Guly and V.M. Mikhailov*

3P-3-38 Discontinuous Permafrost Distribution and Groundwater Flow at a Contaminated Site in Fairbanks, Alaska. *A.E. Carlson and D.L. Barnes*

3P-3-39 Satellite Observations of Frozen Ground, Snowmelt (1989–2007) and Hydrological Responses at a Discontinuous Permafrost Aquifer (Fort Wainwright, AK). *S.E. Kocczynski and J.M. Ramage*

Session 3P-4 Thursday, July 3, 2008

Antarctic Soils and Periglacial Processes

3P-4-40 Thermal Dynamics of the Active Layer Along a Hydrologic Gradient Bordering Lakes in the McMurdo Dry Valleys, Antarctica. *M.N. Gooseff, J.E. Barrett, S. Ikard, M. Northcott, C. Vesbach, and L. Zeglin*

3P-4-41 Permafrost in the South Shetland Islands (Maritime Antarctica): Spatial Distribution Pattern. *E. Serrano, J. López-Martínez, J.A. Cuchi, J.J. Durán, S. Mink, and A. Navas*

3P-4-42 The Microtopography of Periglacial Landforms on Mars. *N. Mangold*

3P-4-43 A Provisional 1:50,000 Scale Soil Map of Wright Valley, Antarctica. *M. McLeod, J.G. Bockheim, and M.R. Balks*

3P-4-44 Irreversible Damage? Human Activity, Cumulative Impacts and Recovery Rates of the Antarctic Soil Environment. *T.A. O'Neill and M.R. Balks*

3P-4-45 A Provisional Soil Map of the Transantarctic Mountains, Antarctica. *M.R. Balks, M. McLeod, and J.G. Bockheim*

Session 3P-5 Thursday, July 3, 2008

Frost-Affected Soils and Soil Carbon Storage

- 3P-5-46** Cryogenic Soil Genesis at the Northern Distribution Line of the West Siberian Northern Taiga Ecosystems
G.V. Matyshak, L.G. Bogatyrev, and M.S. Rozanova
- 3P-5-47** Pedogenesis and Its Influence on the Structure of the Upper Layer of Permafrost. *A.V. Lupachev and S.V. Gubin*
- 3P-5-48** Experimental Research on Frost and Salt Heaving of Highway Foundation Soils in Seasonally Frozen Ground Regions in Gansu Province, Northwestern China. *G. Li, W. Yu, H. Jin, Y. Sheng, J. Qi, and L. Lü*
- 3P-5-49** Properties of Eroding Coastline Soils Along Elson Lagoon, Barrow, Alaska. *G.J. Michaelson, C.L. Ping, L.A. Lynn, M.T. Jorgenson, and F. Dou*
- 3P-5-50** Atlas of Northern Circumpolar Soil. *V. Stolbovoy, A. Jones, C. Tarnocai, G. Broll, and L. Montanarella*
- 3P-5-51** Soil Properties of the Eroding Coastline at Barter Island, Alaska. *L.A. Lynn, C.L. Ping, G.J. Michaelson, and M.T. Jorgenson*
- 3P-5-52** Development of Soil Databases on the Territory of Permafrost-Affected Regions in Russia *D.I. Rukhovich, N.I. Belousova, P.V. Koroleva, E.V. Vil'chevskaya, and L.G. Kolesnikova*

Session 3P-6 Thursday, July 3, 2008

Spatial Variability in Periglacial Processes and Landscapes

- 3P-6-53** The Kind and Distribution of Mid-Latitude Periglacial Features and Alpine Permafrost in Eurasia. *F. Lehmkuhl*
- 3P-6-54** Modeling Observed Differential Frost Heave Within Non-Sorted Circles in Alaska. *D.J. Nicolsky, V.E. Romanovsky, G.S. Tipenko, and D.A. Walker*
- 3P-6-55** Development of Frost-Crack Polygonal Relief in the Central Part of Tazovskiy Peninsula. *S. Marchenko, D. Abliazina, and F. Arnold*
- 3P-6-56** Detailed Cryostratigraphic Studies of Syngenetic Permafrost in the Winze of the CRREL Permafrost Tunnel, Fox, Alaska. *M. Kanevskiy, D. Fortier, Y. Shur, M. Bray, and T. Jorgenson*
- 3P-6-57** Micromorphological Analyses of Main Genetic Permafrost Types in West Siberia. *E.A. Slagoda and A.N. Kurchatova*
- 3P-6-58** Thermal Diffusivity Variability in Alpine Permafrost Rock Walls *P. Pogliotti, E. Cremonese, U. Morra Di Cella, S. Gruber, and M. Giardino*
- 3P-6-59** Pleistocene and Holocene Periglacial Forms in the Cantabrian Mountains (Northwest Spain). *D. Trombotto Liaudat and V. Alonso*
- 3P-6-60** Thixotropic Wedges or Frost Cracks: A Review from the Pannonian Basin (Hungary, Europe). *J. Kovács, S.Á. Fábrián, G. Varga, I.P. Kovács, and G. Varga.*
- 3P-6-61** Cryogenic or Periglacial Phenomena are Widespread Within High Mountain Caucasian Region *I.V. Bondyrev*
- 3P-6-62** Mapping and Modeling the Distribution of Permafrost in the Nordic Countries. *B. Etzelmüller, H. Farbrøt, O. Humlum, H. Christiansen, H. Juliussen, K. Isaksen, T.V. Schuler, R.S. Ødegård, and H. Ridfelt*
- 3P-6-63** Mapping the Mountain Permafrost in Areas Surrounding Ulaanbaatar City. *Y. Jambaljav, A. Dashtseren, D. Battogtokh, D. Dorjgotov, Y. Iijima, M. Ishikawa, Y. Zhang, T. Kadota, and T. Ohata*
- 3P-6-64** Block Fields, Block Slopes and Rock Glacier: A Polygenetic Block Accumulation on the Schafstein (Rhoen Mountains, Germany). *C. Opp*
- 3P-6-65** Occurrence of Permafrost and Ground Frost Phenomena in Mongolia. *C. Opp*
- 3P-6-66** Solifluction Phases During the Late Holocene in Sierra Nevada (Southern Spain). *M. Oliva and L. Schulte*
- 3P-6-67** Formation of Frost Boils and Earth Hummocks. *Y. Shur, T. Jorgenson, M. Kanevskiy, and C-L. Ping*
- 3P-6-68** Digitizing Regional Permafrost Maps for Central and Eastern Asian Permafrost Mapping. *L. Wu, X. Li, and J. Brown*
- 3P-6-69** Pleistocene Sand-Wedge, Composite-Wedge and Complex-Wedge Growth in Flanders, Belgium. *G. Ghysels, I. Heyse, J.-P. Buylaert, A.S. Murray, D. Vandenberghe, F. De Corte, and P. Van den haute*
- 3P-6-70** The Role of Permafrost in the 2002 Ten Mile Creek Debris Torrent, Yukon, Canada. *P. Lipovsky, C. Huscroft, A. Lewkowicz, and B. Etzelmüller*
- 3P-6-71** Towards a Permafrost Map of the Central Asia. *S. Marchenko, N. Sharkhuu, X. Li, M. Ishikawa, J. Brown, V. Romanovsky, and D. Drodzov*
- 3P-6-72** Bathymetric Mapping of Lakes in the Western Arctic Coastal Plain, Alaska. *B. Winston, K. Hinkel, and R. Beck*

3P-6-73 Cryological Status of Russian Soils: Cartographic Assessment. *T.V. Ananko, D.E. Konyushkov, and E.M. Naumov*

Session 3P-7 Thursday, July 3, 2008

Rock Glaciers

3P-7-74 Thermal Processes in the Active Layer of the Larsbreen Rock Glaciers, Central Spitsbergen, Svalbard. *H. Juliussen, O. Humlum, L. Kristensen, and H.H. Christiansen*

3P-7-75 Topographical Controls on the Distribution and Size of Rock Glaciers in the Central Brooks Range, Alaska. *A. Ikeda and K. Yoshikawa*

3P-7-76 The Schmidt-Hammer as a Relative Age Dating Tool for Rock Glacier Surfaces: Examples from Northern and Central Europe. *A. Kellerer-Pirklbauer*

3P-7-77 Rockglaciers in the Kåfjord Area, Troms, Northern Norway. *R. Frauenfelder, J. Tolgensbakk, H. Farbrod, and T.R. Lauknes*

3P-7-78 Potential Use of Rock Glaciers as Mountain Permafrost Indicators in Yukon Territory, Canada. *A. Page, A. Lewkowicz, P. Lipovsky, and J. Bond*

3P-7-79 The Importance of Snow Cover Evolution in Rock Glacier Temperature Modeling. *M. DallAmico, S. Endrizzi, R. Rigon, and S. Gruber*

3P-7-80 Surface Ice and Snow Disappearance in Alpine Cirques and Its Possible Significance for Rock Glacier Formation: Some Observations from Central Austria *A. Kellerer-Pirklbauer*

3P-7-81 Liquid Water Destabilizes Frozen Debris Slope at the Melting Point: A Case Study of a Rock Glacier in the Swiss Alps. *A. Ikeda and N. Matsuoka*

3P-7-82 Collapse of the Bérard Rock Glacier (Southern French Alps). *J-M. Krysiecki, X. Bodin, and P. Schoeneich.*

3P-7-83 Internal Structure of Rock Glacier Murtèl Delineated by Electrical Resistivity Tomography and Forward/Inverse Modeling. *C. Hilbich*

3P-7-84 Rock Glacier Response to Post-Little Ice Age Warming: Spruce Creek Rock Glacier, Ten Mile Range, Colorado, USA. *E.M. Leonard, S.G. Weaver, J.A. Bradbury, E.E. Langbecker, and J.A. Wollenberg*

3P-7-85 Rock Glacier Distribution in the Absaroka/Beartooth Wilderness, Montana, USA. *Z.M. Seligman and A.E. Klene*

Session 3P-8 Thursday, July 3, 2008

Design, Construction, and Performance of Oil and Gas Pipelines

3P-8-86 Thaw Settlement Behavior of Permafrost Along an Oil Pipeline to be Constructed in Northeastern China. *Y. Sheng, Z. Wen, G. Li, J. Hao, and W. Wu*

3P-8-87 A Two-Dimensional Numerical Heat Transfer Solution for Frost Heave Prediction Using the Segregation Potential Concept. *K. Kim, W. Zhou, and S.L. Huang*

3P-8-88 Estimation of Frost Heave and the Stress-Strain State of the Buried Chilled Gas Pipeline. *M.A. Magomedgadzhiyeva, N.B. Kutvitskaya, and S.E. Grechishchev*

3P-8-89 Bending Characteristics of Pipe-in-Pipe Systems. *M. Sato, K. Shimazaki, S. Kanie, S. Akagawa, and T. Mikami*

Appendix L: NICOP Attendees

Last	First	Country			
			Berlusconi	Silvia	USA
Abnizova	Anna	Canada	Berman	Justin	USA
Abramenko	Oleg	Russia	Berthling	Ivar	Norway
Abramov	Andrey	Russia	Bigelow	Nancy	USA
Adamczak	Steve	USA	Bigl	Susan	USA
Adams	Phyllis	USA	Birch	Chris	USA
Affleck	Rosa	USA	Bjella	Kevin	USA
Aguirre	Adrian	USA	Bjoerkman	Eva	Sweden
Ahonen	Lasse	Finland	Blanchette	Jean-Philippe	Canada
Akagawa	Satoshi	Japan	Boccanfuso	Angelo	Canada
Akerman	Jonas	Sweden	Bockheim	Jim	USA
Albrecht	Robert	USA	Bode	Jenifer	Canada
Alexander	Brent	USA	Bodin	Xavier	France
Allen	Simon	New Zealand	Boehlert	Ralph	Switzerland
Allushi	Rita	Canada	Boike	Julia	Germany
Altman	Garrett	USA	Boles	Luke	USA
Anderson	Steven	USA	Bolton	Bob	Germany
Aoyama	Chiharu	Japan	Bommer	Christian	Switzerland
Arenson	Lukas	Canada	Bonaccorsi	Rosalba	USA
Arnesen	Britt	USA	Bonnaventure	Philip	Canada
Arslan	Haydar	USA	Bowden	Breck	USA
Astley	Beth	USA	Bowling	Laura	USA
Aus der Beek	Tim	Germany	Boyer	Beth	USA
Austin	Paul	USA	Bray	Matt	USA
Avian	Michael	Austria	Brewer	Max	USA
Azelton	Mary	USA	Brigham	Lawson	USA
Baisheng	Ye	China	Brigham	Lawson	USA
Baker	Jeff	USA	Brigham-Grette	Julie	USA
Balks	Megan	New Zealand	Broll	Gabrielle	Germany
Balks	Errol	New Zealand	Brooks	Ronald	USA
Balser	Andrew	USA	Brown	Kevin	UK
Baltes	Henry	Switzerland	Brown	Jerry	USA
Bandfield	Joshua	USA	Brown	Celia	USA
Barney	Steven	USA	Brown	Michael	USA
Barry	Roger	USA	Bryan	Rena	USA
Bartsch	Annett	Austria	Bryant	Christina	USA
Baumann	Frank	Germany	Bryant	Michael	USA
Beget	James	USA	Bue	Brian	USA
Belova	Natliya	Russia	Buldovich	Sergey	Russia
Benson	Carl	USA	Burgess	Margo	Canada
Berestyanyy	Yury	Russia	Burgess	Robert	USA
Berezovskaya	Sveta	USA	Burkart	Greta	USA

Burn	Christopher	Canada	De Pascale	Gregory	USA
Burr	Devon	USA	De Paulis	Riccardo	Italy
Busey	Bob	USA	Delaloye	Reynald	Switzerland
Cable	Jessica	USA	Demitroff	Mark	USA
Campbell	Iain	New Zealand	Dillon	Matthew	USA
Campbell	Beth	New Zealand	Dobinski	Wojciech	Poland
Cannelos	George	USA	Dolchok	Clifford	USA
Cannone	Nicoletta	Italy	Dore	Guy	Canada
Carlson	Andrea	USA	Doubleday	Nancy	Canada
Chen	Ji	China	Douglas	Tom	USA
Chernyadyev	Vladimir	Russia	Drage	Jeremiah	USA
Cherry	Jessica	USA	Drozdo	Dmitry	Russia
Cheskonova	Irina	Russia	Duchesne	Carolilne	Canada
Christensen	Torben	Sweden	Duguay	Claude	Canada
Christiansen	Jens	Denmark	Dundas	Colin	USA
Christiansen	Conni Daugbjerg	Denmark	Dupeyrat	Laure	France
Christiansen	Hanne	Norway	Durham	Nathan	USA
Chu	Chun-Mei	USA	Dygas	Joe	USA
Chzang	Rudolf	Russia	Eder	Michele	USA
Clague	John	Canada	Edwards	Mary	USA
Clarke	Ed	USA	Egginton	Vanessa	Canada
Clarke	Mark	USA	Eisner	Wendy	USA
Claypool	Geoff	Canada	Ellis-Evans	Cynan	UK
Clow	Gary	USA	Epstein	Howard	USA
Coates	James	Canada	Erikson	Li	USA
Coburn	Bret	USA	Esch	Dave	USA
Cole	William	USA	Eposito	Gennaro	Canada
Collett	Tim	USA	Etzemuller	Bernd	Norway
Connor	Billy	USA	Everett	Lynn	USA
Coppell	Richard	UK	Fan	Zhaosheng	USA
Costard	Francois	France	Farbrot	Herman	Norway
Cote	Michelle	Canada	Farrell	John	USA
Coulthick	Tara	Canada	Farrow	Kathy	USA
Coutts	Ron	Canada	Fearon	Ruth	Netherlands
Couture	Nicole	Canada	Ferriani	Oscar	USA
Cremonese	Edoardo	Italy	Ferriani	Louise	USA
Croll	Jim	UK	Firew	Tezera	Canada
Csatho	Beata	USA	Fischer	Luzia	Switzerland
Curtaz	Michele	Italy	Flaate	Kaare	Norway
Cysewski	Margaret	USA	Foged	Niels	Denmark
Czimczik	Claudia	USA	Fortier	Richard	Canada
Daanen	Ronnie	USA	Fortier	Daniel	USA
Dall'Amico	Matteo	Italy	Fourie	Walter	USA
Dallimore	Scott	Canada	Frauenfeld	Oliver	USA
Darrow	Margaret	USA	Frauenfelder	Regula	Norway

Freifeld	Barry	USA	Hawkins-French	Jill	Canada
French	Hugh	Canada	Hayley	Donald	Canada
Freppaz	Michele	Italy	Hayley	Dianne	Canada
Fuglestad	Cliff	USA	Hazen	Beez	USA
Fyodorov-Davydov	Dmitry	Russia	He	Ruixia	China
Gardino	Donna	USA	Hess	Melanie	USA
Ghysels	Gunther	Belgium	Heuer	Chris	USA
Giardino	Rick	USA	Heuer	Sharon	USA
Gibbs	Ann	USA	Heyse	Irenees	Belgium
Gieck	Rob	USA	Hightower	Harley	USA
Gilichinsky	David	Russia	Hilbich	Christin	Germany
Gill	Jim	USA	Hinkel	Ken	USA
Goering	Doug	USA	Hinzman	Larry	USA
Gomez Gomez	Felipe	Spain	Hjort	Jan	Finland
Goncharova	Elena	Russia	Hoelzle	Martin	Switzerland
Gooseff	Michael	USA	Hoeve	Edward	Canada
Goryachkin	Sergey	Russia	Hoffman	Philip	USA
Grebenets	Valeri	Russia	Hollesen	Joergen	Denmark
Grenier	Christophe	France	Holubec	Igor	Canada
Grom	Jackie	Canada	Holubec	Vera	Canada
Grondin	Gilles	Canada	Homewood	Adam	USA
Grosse	Guido	USA	Hoque	Md. Azharul	Canada
Gruber	Stephan	Switzerland	Huang	Scott	USA
Guay	Bradley	USA	Hubberten	Hans-Wolfgang	Germany
Guglielmin	Mauro	Italy	Hugelius	Gustaf	Sweden
Guimond	Anick	Canada	Huggel	Christian	Switzerland
Gunzel	Friederike	UK	Humlum	Ole	Norway
Gustavsson	Irmeli	Finland	Iijima	Yoshihiro	Japan
Gustavsson	Henry	Finland	Ikeda	Atsushi	Japan
Guthrie	Spencer	USA	Ingeman-Nielson	Thomas	Denmark
Haaland	Gisle	Norway	Instanes	Arne	Norway
Hachem	Sonia	Canada	Iospa	Andrey	Russia
Haeberli	Wilfried	Switzerland	Ip	Morgan	Canada
Hagedorn	Birgit	USA	Irving	Ken	USA
Hallet	Bernard	USA	Isaksen	Ketil	Norway
Haltigin	Timothy	Canada	Ishikawa	Mamoru	Japan
Hander	Ray	USA	Iwahana	Go	Japan
Harada	Koichiro	Japan	Iwata	Hiroki	USA
Harden	Jennifer	USA	Jafarov	Elchin	USA
Harris	Stuart	Canada	James	Megan	Canada
Harris	Pamela	Canada	Janowicz	Richard	Canada
Harris	Charles	UK	Jardine	John	Canada
Hasler	Andreas	Switzerland	Jardine	Richard	UK
Hauck	Christian	Germany	Jenkins	Robert	Canada
Haut	Richard	USA	Jin	Huijun	China

Jin	Rui	China	Koster	Eduard	Netherlands
Johansson	Margareta	Sweden	Koster	Joke	Netherlands
Johnson	Elden	USA	Koui	Kim	USA
Johnson	Katherine	USA	Kovacs	Jonas	Hungary
Johnson	Katie	USA	Kraev	Gleb	Russia
Joines	Drew	USA	Krautblatter	Michael	Germany
Jones	Kevin	Canada	Kreig	Ray	USA
Jones	Jay	USA	Kreig	LeeAnn	USA
Jones	Benjamin	USA	Kremer	Marian	Canada
Jorgenson	Janet	USA	Kristensen	Lene	Norway
Jorgenson	Torre	USA	Kroon	Aart	Denmark
Julius	Dan	USA	Krzewinski	Thomas	USA
Juliusen	Havard	Norway	Kudryavtsev	Sergey	Russia
Kaab	Andreas	Norway	Kuhry	Peter	Sweden
Kampsen	Marian	USA	Kurchatova	Anna	Russia
Kane	Doug	USA	LaDouceur	Michael	USA
Kanevskiy	Mikhail	USA	Lai	Alexandre	USA
Kanie	Shunji	Japan	Lalla	Doug	USA
Karelin	Dmitri	Russia	Lambiel	Christophe	Switzerland
Karunaratne	Kumari	Canada	Lanoe	Brigitte	France
Kaverin	Dmitry	Russia	Lanoe	Alain	France
Kellerer-Pirklbauer	Andreas	Austria	Lantuit	Hugues	Germany
Kelley	Sidney	USA	Larsen	Jan Otto	Norway
Kenzie	Jeff	USA	Larsen	Amy	USA
Kerimov	Aligyushad	Russia	Larsen	Don	USA
Kershaw	Peter	Canada	Lawler	James	USA
Keweno	Keven	USA	Lawrence	David	USA
Khalili	Fari	USA	Leach	Megan	USA
Kholodov	Alexander	USA	LeBlanc	Anne-Marie	Canada
Khomutov	Artem	Russia	Lee	Hanna	USA
Khomutova	Irina	Russia	Lee	Jonah	USA
Kidd	Janet	USA	Lehto	Kimmo	Finland
Kienast	Frank	Germany	Leigh	Mary	USA
King	Lorenz	Germany	Leonard	Eric	USA
Kinney	Donald	USA	Lestak	Leanne	USA
Kirschke	Stefanie	Germany	Letey	Stephanie	Italy
Klene	Anna	USA	Letteney	Jane	USA
Kneisel	Christof	Germany	Lévesque	Isabelle	Canada
Kobayashi	Takehiko	Japan	Levy	Joseph	USA
Koff	Grigori	Russia	Levy	Eugene	USA
Koh	Susan	USA	Lewkowicz	Antoni	Canada
Kokelj	Steven	Canada	Leybman	Marina	Russia
Kondratiev	Valentin	Russia	Li	Guoyu	China
Konyushkov	Dimitry	Russia	Li	DongQing	China
Kopczynski	Sarah	USA	Liljedahl	Anna	USA

Lilly	Michael	USA	Mobley	Keith	USA
Lipovsky	Panya	Canada	Molnia	Bruce	USA
Lisi	Robert	USA	Moore	Dennis	USA
Liu	Shuguang	USA	Moore	Joseph	USA
Long	Irv	USA	Moorman	Brian	Canada
Lopez	Jessica	Finland	Morard	Sebastien	Switzerland
Lowman	Judy Ann	USA	Morgenstern	Anne	Germany
Loya	Wendy	USA	Morra di Cella	Umberto	Italy
Lu	Lixin	USA	Morse	Peter	Canada
Luetschg	Martina	USA	Moser	David	Switzerland
Luoto	Miska	Finland	Moskalenko	Nataliya	Russia
Lynn	Lorene	USA	Muller	Eric	USA
Lyuri	Dmitry	Russia	Munroe	Jeffrey	USA
Maag	Clemens Constantin	Germany	Murdoch	Peter	USA
MacKay	Ross	USA	Murton	Julian	UK
Majhi	Iphshita	USA	Musial	Mark	USA
Malkova	Galina	Russia	Myers-Smith	Isla	Canada
Marchenko	Sergey	Russia	Nace	Eric	USA
Marchenko	Sergei	USA	Nelson	Brett	USA
Markey	Dennis	USA	Nelson	Fritz	USA
Marsh	Philip	Canada	Nesselhauf	Robert	USA
Martin	Chris	UK	Nicolosky	Dimitry	USA
Mathieu	Marmion	Finland	Niu	Fujun	China
Matsuoka	Norikazu	Japan	Noetzli	Jeannette	Switzerland
Matyshak	Georgy	Russia	Norton	Dave	USA
Mazeas	Olivier	USA	Nurmikolu	Antti	Finland
Mazhitova	Galina	Russia	Nurmikolu	Jenni	Finland
McGraw	Molly	USA	Oatley	Jeff	USA
McHattie	Robert	USA	Oberman	Naum	Russia
McKenna	Karen	USA	Odegard	Rune	Norway
McKim	Eileen	USA	O'Donnell	Jon	USA
McLeod	Malcolm	New Zealand	Ogorodov	Stanislav	Russia
Mendez	Johnny	USA	Oiseth	Even	Norway
Merenyi	Erzsebet	USA	Oliva	Marc	Russia
Mergelov	Nikita	Russia	Oliver	Lola	USA
Mernild	Sebastian	USA	Olumide	Iwakan	Canada
Mesquita	Patricia	Canada	Christopher	Omelon	USA
Metcalf	Vera	USA	O'Neill	Tanya	New Zealand
Metz	Michael	USA	Opp	Christian	Germany
Meyer	Hanno	Germany	Orehov	Pavel	Russia
Meyers	Keith	USA	Osterkamp	Tom	USA
Michaelson	Gary	USA	Osterkamp	Joan	USA
Michel	Fred	Canada	Oswell	Jim	Canada
Miller	Duane	USA	Overduin	Pier	Germany
Mitchells	Richard	USA	Page	Amaris	Canada

Panda	Santosh	USA	Rodriguez Manfredi	Jose Antonio	Spain
Parameswaran	Sivan	Canada	Roer	Isabelle	Switzerland
Parker	Walter	USA	Rohner	Aimee	USA
Parsons	Mark	USA	Romanovsky	Vladimir	USA
Pascale	Roy-Leveillee	Canada	Rooney	Jim	USA
Payne	John	USA	Rooney	Flo	USA
Perez-Alberti	Augusto	Spain	Roujanski	Vladislav	Canada
Perreault	Paul	USA	Roujanski	Vlad	Canada
Peterson	Rorik	USA	Royer	Thomas	USA
Peterson	Kim	USA	Saarelainen	Seppo	Finland
Petrone	Richard	Canada	Saboundjian	Stephan	USA
Pfeiffer	Eva-Marie	Germany	Sachs	Torsten	Germany
Pham	Hoang-Nam	Canada	Saito	Kazuyuki	USA
Phillips	Marcia	Switzerland	Sakr	Mohammed	Canada
Phukan	Arvin	USA	Salzmann	Nadine	USA
Ping	Chien-Lu	USA	Sanders	Tina	Germany
Pogliotti	Paolo	Italy	Sannel	Britta	Sweden
Poirier	Annick	Canada	Sanzone	Diane	USA
Pollard	Wayne	Canada	Sato	Motohiro	Japan
Ponomareva	Olga	Russia	Sawada	Yuki	Japan
Proshutinsky	Andrey	USA	Scapozza	Cristian	Switzerland
Puigdomenech-Sitja	Ignasi	Sweden	Schaefer	Kevin	USA
Pullman	Erik	USA	Schirmeister	Lutz	Germany
Qi	Jilin	China	Schnable	Bill	USA
Raffi	Rossana	Italy	Schoen	Lee	USA
Ramos	Miguel	Spain	Schoeneich	Philippe	France
Ramos	Carlos	Spain	Schultz	Emily	Canada
Ravens	Thomas	USA	Schuur	Ted	USA
Rawlins	Michael	USA	Schwab	Severin	Switzerland
Raynolds	Martha	USA	Schwamborn	Georg	Germany
Regmi	Dhananjay	Nepal	Scott	Andrea	USA
Rempel	Alan	USA	Seelen	Sarah	USA
Rhew	Robert	USA	Segna	John	USA
Rhykus	Russell	USA	Sego	Dave	USA
Rich	Justin	USA	Seligman	Zach	USA
Riddle	Charles	USA	Sergeev	Dmitry	Russia
Riehardt	Dan	USA	Serrano	Enrique	Spain
Rinehart	Amanda	USA	Sfraga	Mike	USA
Ringheim	Anders	Norway	Sharkhuu	Natsagdorj	Mongolia
Riseborough	Dan	Canada	Sheets	Brent	USA
Rivkin	Felix	Russia	Shiklomanov	Nikolay	USA
Roadhouse	Ken	Canada	Shoop	Sally	USA
Robinson	Justin	USA	Shumaker	Brian	USA
Robinson	Vincent	USA	Shur	Yuri	USA
Rodriguez	Jose Alexis Palmero	USA	Sickman	James	USA

Sigsaard	Charlotte	Denmark	Tidwell	Amy	USA
Siv	Hakala	Finland	Tieszen	Larry	USA
Slagoda	Elena	Russia	Tillapaugh	Meghan	USA
Slater	Andrew	USA	Titkov	Sergey	Russia
Sletten	Ron	USA	Treadwell	Mead	USA
Slider	Robert	USA	Treat	Clarire	USA
Smith	Scott	Canada	Trochim	Erin	USA
Smith	Sharon	Canada	Trombotto	Dario	Argentina
Smith	Geoffrey	UK	Trucco	Christian	USA
Solomon	Steven	Canada	Trueblood	Ted	USA
Sone	Toshia	Japan	Tseeva	Anastasia	Russia
Springman	Sarah	Switzerland	Tsvetkova	Maria	Russia
Staalesen Lilleoren	Karianne	Norway	Ukhova	Yulia	Russia
Stanilovskaya	Yulia	Russia	Ukraitseva	Natalia	Russia
Stendel	Martin	Denmark	Urdea	Petru	Romania
Stephani	Eva	USA	Utkina	Irina	Russia
Stevens	Christopher	Canada	Valcarcel-Diaz	Marcos	Spain
St-Jean	Melanie	Canada	VanBreukelen	Celine	USA
Strait	Richard	USA	Vandenberghe	Jeffrey	Netherlands
Streever	Bill	USA	Vasiliev	Alexander	Russia
Streletskaya	Irina	Russia	Velikin	Sergey	Russia
Streletsky	Dmitry	USA	Veremeeva	Alexandra	Russia
Striegl	Rob	USA	Vidstrand	Patrik	Sweden
Stuckey	Jason	USA	Vieira	Goncalo	Portugal
Stuhr Jorgenson	Anders	Denmark	Viereck	Leslie	USA
Sueyoshi	Tetsuo	Japan	Vinson	Ted	USA
Sugai	Susan	USA	Vinson	Sue	USA
Svensden	Keld Hornbech	Greenland	Vitek	Jack	USA
Swanson	John	USA	Vittinghus	Helle	Denmark
Sweeney	Jim	USA	Vogel	Jason	USA
Taber	Pam	USA	Vogler	Matthias	Germany
Tahirkheli	Sharon	USA	Von Kiparski	Guntram	USA
Tajirian	Frederick	USA	Vondermuehll	Daniel	Switzerland
Takeda	Kazuo	Japan	Vorosmarty	Charles	USA
Tammiksaar	Ekri	Estonia	Wackler	Ted	USA
Taneva	Lina	USA	Wagner	Dirk	Germany
Tao	Bo	USA	Wagner	Anna	USA
Tarnocai	Charles	Canada	Wainstein	Pablo	Canada
Tart	Bucky	USA	Waldrop	Mark	USA
Taylor	Al	Canada	Walker	Skip	USA
Taylor	Frances	Canada	Walker	Shane	USA
Thomas	Howard	Canada	Walker	Jesse	USA
Thompson	Megan	Canada	Wallace	Jesse	USA
Throop	Jennifer	USA	Waller	Richard	UK
Thursten	Dennis	USA	Walsh	John	USA

Walter	Katey	USA	Yang	Chengsong	China
Walters	James	USA	Yang	Joey	USA
Wang	Baolin	Canada	Yang	Daqing	USA
Wang	Dayan	China	Yarmak	Eddy	USA
Washburn	Land	USA	Yesner	David	USA
Watanabe	Kunio	Japan	Yi	Shuhua	USA
Watanabe	Tatsuya	Japan	Yocum	Larissa	USA
Watkins	Wesley	USA	Yonghua	Zhao	China
Watt	Bill	Canada	Yongwon	Kim	USA
Wayne	William	USA	Yoshikawa	Kenji	USA
Wei	Ma	China	Youcha	Emily	USA
Welker	Jeffrey	USA	Ypsilantis	William	USA
Westermann	Sebastian	Germany	Yu	Qihao	China
Wetterich	Sebastian	Germany	Yu	Qin	USA
Wheat	Julian	USA	Zabolotnik	Stanislav	Russia
White	Dan	USA	Zapol	Warren	USA
Whiteman	Colin	UK	Zarling	John	USA
Wild	Oliver	Germany	Zemskova	Aleksandra	Russia
Willumsen	Ulla Maryanne	Greenland	Zhang	Yu	Canada
Wilmking	Martin	Germany	Zhang	Tingjun	USA
Winfree	Bob	USA	Zhao	Lin	China
Wingerter	Joe	USA	Zhao	Shuping	China
Winston	Barry	USA	Zheleznyak	Mikhail	Russia
Woo	Ming-ko	Canada	Zhi	Wen	China
Woo	Carloline	Canada	Zhou	Wendy	USA
Wu	Wanli	Canada	Zivkovic	Alexsander	USA
Wu	Tonghua	China	Zona	Donatella	USA
Wuttig	Frank	USA	Zubeck	Hannele	USA
Wylie	Bruce	USA	Zubrzycki	Sebastian	Germany
Wyman	Greg	USA	Zufelt	Jon	USA
Xiong	Xiaozhen	USA			