



# Cold Trail

**Newsletter of the Cryosphere Specialty Group**

**Association of American Geographers**

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**New Series**  
**Issue 3, March 2006**

**Allan Frei, Editor**

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Frederick E. Nelson (2003-2005)  
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University of Delaware  
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## Current Officers

Chair: Allan Frei, Hunter College  
Term ends March 2007  
[afrei@hunter.cuny.edu](mailto:afrei@hunter.cuny.edu)

Secretary-Treasurer: Kenneth M. Hinkel,  
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## Board of Directors

Del Levia, University of Delaware  
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## Message from the Chair

It is a pleasure to greet you for the first time from my new post as editor of *Cold Trail*. These are extraordinary times for cryospheric studies, and the next few years promise to be even more interesting. Environmental changes in the Arctic have been in the public eye during the last few years more than ever, as some of these changes significantly affect local human populations, and are widely believed to constitute the first large scale evidence of anthropogenic climate change. Controversy about this issue continues to dominate political debates in the national as well as

international arenas, as evidenced by the recently circulated AAG Climate Change Petition ([http://www.petitionspot.com/petitions/AAG\\_Climate\\_Change](http://www.petitionspot.com/petitions/AAG_Climate_Change)). The upcoming International Polar Year (IPY) (2007-2009) will constitute a major global scientific effort to increase our understanding of Arctic environmental changes. In this issue of *Cold Trail*, our esteemed board member and president of the International Permafrost Association **Jerry Brown** has generously agreed to contribute a guest editorial and to give us a broad perspective on the IPY. Other items of general interest mentioned in this issue are the upcoming Asian Conference on Permafrost, the newly formed Permafrost Young Researcher's Network (PYRN), and a new **CrSG Focus** section.

With regards to issues more specific to CrSG, there remain a number of unanswered and partially answered questions posed by the former CrSG chair **Fritz Nelson** in the last issue. One area in which we have made progress this year is outreach. Thanks to efforts by **Del Levia** and **Andrew Klein**, we will be holding our first joint meeting between the CrSG and the Eastern Snow Conference (see news item below). Some other outstanding questions include the following:

- CrSG represents itself and is perceived as concerned primarily with physical geography. Should we try to expand our audience by actively recruiting those engaged in the study of human occupation and utilization of the world's cold regions?
- Should the group try to establish additional formal ties with other

“outside” organizations? In addition to the Eastern Snow conference (see news item below), examples are the Climate and Cryosphere (CliC) program, the Arctic Research Consortium of the United States (ARCUS), and the International Permafrost Association (IPA).

- How should we spend our limited funds? Two possibilities: an awards program for outstanding papers or careers; a funding mechanism for student attendance at the annual meeting.
- Should we hold excursions (possibly with another group) at national meetings?
- Should we make an effort to represent CrSG at AAG regional meetings?
- How can we increase CrSG membership?

I hope that we can discuss these and other issues arising from the membership at our business meeting at 8PM on Wednesday, March 8, in Parlor A of the Hilton.

Last, but not at all least, I would like to express my thanks to the previous chair, **Fritz Nelson**, for tremendous leadership during his tenure and to his continuing support. His advice and guidance has been invaluable to me personally, and to the group as a whole, and is greatly appreciated.

Allan Frei  
Chair, CrSG  
Hunter College & Graduate Program in  
Earth and Environmental Sciences  
City University of New York

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## Guest Editorial by Jerry Brown: CrSG and the International Polar Year

The 125<sup>th</sup> anniversary of the First International Polar Year (IPY) will be commemorated during 2007-2008. Many opportunities exist for members of the CrSG and other AAG specialty groups to participate in the IPY.

On three occasions over the past 125 years researchers from around the world organized scientific and exploration programs in the polar regions. Geographers and their professional organizations made important contributions to each. The first International Polar Year (IPY) in 1882-1883 involved 12 countries, and 15 expeditions to the polar regions (13 to the Arctic, and 2 to the Antarctic). An excellent summary of the geographical aspects was reported in the 1983 *Annals of AAG* (vol. 73, pp. 463-484). The Second International Polar Year (1932-1933) resulted in the investigation of the global implications of the newly discovered “Jet Stream.” The International Geophysical Year (IGY) during 1957-58 greatly expanded upon the exploration of the polar regions. Recovery of deep ice cores in Greenland and the Antarctic, research on Russian and U.S Arctic ice islands, and operations of the many stations in the Antarctic opened the way for major future advances in the cryospheric sciences. Several IGY glaciological programs were coordinated by William O. Field of the American Geographical Society’s New York headquarters, and the World Data Center for Glaciology was housed at and managed by AGS during that period. Many results from these programs were published in the

*Annals* and the *Geographical Review*. A special issue of the *Annals* (Vol. 73, no. 4, 1983) commemorates the role of physical geography in the three IPYs.

The International Polar Year (2007-2009) will expand upon the legacy of scientific achievements and societal benefits that took place in previous polar years. Planning for the current IPY program has resulted in over 1500 national and coordinated international projects, many of which include research and observations on snow, sea ice, glaciers, ice sheets, and permafrost. High priority has been given to problems requiring concurrent synoptic observations at many sites, to facilities, and to systems in support of ongoing polar research and monitoring. The IPY is intended to attract and develop a new generation of polar researchers, engineers and logistics experts, and to engage the awareness, interest and understanding of schoolchildren, the general public and decision-makers in the purpose and value of polar research and monitoring.

Several reports provide details of the international planning and organization of IPY (ICSU 2004; [www.ipy.org](http://www.ipy.org)) and the U.S vision (PRB <http://us-ipy.org>). The NSF has launched a portal website to provide the general public and members of the news media with easy access to news releases, classroom resources, listings of museum and gallery exhibits, and catalogs of video and still images and other materials produced or supported by the federal government as part of the U.S. contribution to the International Polar Year (IPY) 2007-2008 ([www.us-ipy.gov](http://www.us-ipy.gov)). NOAA and others agencies also have websites.

At the international level our cryospheric interests in the IPY are embedded in many international unions (e.g. IGU, IUGG, IUGS, IUSS, INQUA, IASC) and in programs such as the WMO Climate and Cryosphere (CliC) and the IGBP Past Global Changes (PAGES).

The recently announced NSF solicitation for the International Polar Year (NSF 06-534) has a Target Date of May 1, 2006, and lists the participating programs within Behavioral and Cognitive Sciences. The Office of Polar Programs (OPP) and the Directorate for Education and Human Resources (EHR) have identified special emphasis areas with research emphasis areas on: ice sheet history and dynamics; biological adaptations at the cellular and genomic level to life in extreme cold and prolonged darkness; and the arctic observing network.

The educational emphasis areas for the NSF solicitation are: formal science education experiences for K-12 teachers and undergraduate or graduate students; informal science education for the broader public; and coordination and communication for IPY education projects.

To learn more about past and future IPY activities come join us on the morning of March 9 for the two sessions on “The International Polar Years and Geography: A Legacy for the Future”. The sessions are co-sponsored with the Geomorphology Specialty Group and Climate Specialty Group.

Jerry Brown  
Member, CrSG Board of Directors  
President, International Permafrost Association

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### Treasurer's Report

Our treasurer Ken Hinkel obtained the current CrSG financial statement from the AAG Central Office. All finances appear to be in order. Currently, we have a balance of about \$1700. Since the Denver AAG meeting, we have received two (2) anonymous donations totaling \$800 and collected \$420 in dues, while dispersing \$750 to develop the CrSG web site. However, this does not include 2006 conference-related expenses and commitments (\$300) for the CrSG reception.

|                            |           |
|----------------------------|-----------|
| Current Balance            | \$1700    |
| 2006 Expected Expenditures |           |
| Physical Geography         | \$ 300    |
| Reception                  | or \$ 400 |
| 2006 Expected Revenue      |           |
| Dues                       | \$ 500    |

Our current dues structure and membership should generate about \$500 annually. This amount is insufficient to support speaker fees, field trips, or student travel. **Our group must rely, to some degree, on voluntary contributions. You can make a donation by sending a check to AAG (note that it is for the Cryosphere Specialty Group) and sending it to:**

Ken Hinkel  
Department of Geography  
University of Cincinnati  
Cincinnati, OH 45221-0131  
(513) 556-3430  
Kenneth.Hinkel@uc.edu

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### CrSG Activities at the Chicago Meeting, March 2006

**1. Business Meeting:** at 8PM on Wednesday, March 8, in Parlor A of the Hilton. **Please plan to attend!** A number of important issues will be discussed or decided, including the nomination of two board members (see below). **Participation by the membership is important to the health of the Specialty Group!**

- [Cryosphere Specialty Group Business Meeting](#) WEDNESDAY 8PM, Parlor A

**2. CrSG Sponsored and Cosponsored Sessions: Thanks to session organizers!**

#### CrSG Sponsored Sessions:

- [Cryosphere I: Snowcover and Climate](#) WEDNESDAY 8AM, Clark 3, *organizer* Hillary Hamann: [hhamann@uccs.edu](mailto:hhamann@uccs.edu)
- [Cryosphere II: Frozen Soils and Snow Chemistry](#) WEDNESDAY 10AM, Clark 3, *organizer* Hillary Hamann: [hhamann@uccs.edu](mailto:hhamann@uccs.edu)
- [Remote Sensing of the Cryosphere](#) WEDNESDAY 3PM, Clark 3, *organizer* Rick Forster [rick.forster@geog.utah.edu](mailto:rick.forster@geog.utah.edu)
- [Studies in the Cryosphere and the R.S. Tarr Student Illustrated Paper Competition](#) WEDNESDAY 1PM, Salon 3, *organizer* Susan Millar ([SWMillar@maxwell.syr.edu](mailto:SWMillar@maxwell.syr.edu)); Andrew Klein ([klein@geog.tamu.edu](mailto:klein@geog.tamu.edu))
- [The International Polar Years and Geography: A Legacy for the Future I](#) THURSDAY 8AM, Salon 9, *organizer* Frederick E. Nelson, [fnelson@udel.edu](mailto:fnelson@udel.edu), Jerry Brown, [jerrybrown@igc.org](mailto:jerrybrown@igc.org)
- [The International Polar Years and Geography: A Legacy for the Future II](#) THURSDAY 10AM, Salon 9, *organizer* Frederick E. Nelson, [fnelson@udel.edu](mailto:fnelson@udel.edu), Jerry Brown, [jerrybrown@igc.org](mailto:jerrybrown@igc.org)

## CrSG Cosponsored Sessions

Land Cover/Land Use: *organizers* Oliver W. Frauenfeld, [oliverf@colorado.edu](mailto:oliverf@colorado.edu), Rezaul, Mahmood, [rezaul.mahmood@wku.edu](mailto:rezaul.mahmood@wku.edu)  
Climate Specialty Group

- [Land Cover/Land Use Change I](#)  
THURSDAY 3PM, Salon 9
- [Land Cover/Land Use Change II](#)  
THURSDAY 5PM, Salon 9
- [Critical Coasts, Sustainable Seas: A Session to Honor Dr. Raymond C. Smith](#)  
THURSDAY 1PM, Salon 9, *organizer* Dawn Wright, Oregon State University [dawn@dusk.geo.orst.edu](mailto:dawn@dusk.geo.orst.edu), Coastal and Marine (CoMa), Remote Sensing, GI Systems and Science

Paleoclimatology: *organizers*: Kevin Anchukaitis ([kanchuka@ltrr.arizona.edu](mailto:kanchuka@ltrr.arizona.edu)), Andrea Brunelle ([andrea.brunelle@geog.utah.edu](mailto:andrea.brunelle@geog.utah.edu)), Kurt Kipfmüller ([kurt@umn.edu](mailto:kurt@umn.edu)), Bryan Shuman ([bshuman@umn.edu](mailto:bshuman@umn.edu)), Climatology, Biogeography

- [Advances in Paleoclimatology I](#)  
WEDNESDAY 8AM, Dearborn 3
- [Advances in Paleoclimatology II](#)  
WEDNESDAY 10AM, Dearborn 3
- [Advances in Paleoclimatology III](#)  
WEDNESDAY 1PM, Dearborn 3
- [Advances in Paleoclimatology IV](#)  
WEDNESDAY 3PM, Dearborn 3

### 3. Physical Geography Reception:

This year's Physical Geography Reception will be held on Friday, March 10, 8-11 pm, in a room to be announced. The complete information should be in the final program. You are all encouraged to attend!

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## News Items

### JOINT AAG / ESC MEETING

June 7-9, University of Delaware.  
Contact Andrew Klein ([klein@geog.tamu.edu](mailto:klein@geog.tamu.edu)) or see [www.easternsnow.org/](http://www.easternsnow.org/)

This year the CrSG will meet jointly with the 63rd Annual Meeting of the Eastern Snow Conference (ESC) on the campus of the University of Delaware from June 7<sup>th</sup> to 9<sup>th</sup>. The scientific program will include sessions on theoretical, experimental, and operational studies of snow, ice, and winter hydrology including anticipated sessions in "Snow-Climate Interactions", "Snow Processes", "Ground Ice and Periglacial Processes" and "Remote Sensing of Snow."

The Eastern Snow Conference (ESC) is a joint Canadian/U.S. organization founded in the 1940s originally with members coming from eastern North America including scientists, engineers, snow surveyors, technicians, professors, students and professionals involved in snow operations and maintenance. Its current membership is increasingly international.

Papers presented at the conference will appear in this year's *Proceedings of the Eastern Snow Conference* and participants may also submit their papers for consideration in the special ESC annual issue of *Hydrological Processes*.

Special thanks to CrSG members **Del Levia** and **Andrew Klein** for making this possible.

ASIAN CONFERENCE ON PERMAFROST

August 7-9, 2006, and a field excursion along the Qinghai-Tibet Plateau (QTP), August 10-16, 2006. Contact Lai Yuanming ([ymlai@lzb.ac.cn](mailto:ymlai@lzb.ac.cn)) or Jerry Brown ([jerrybrown@igc.org](mailto:jerrybrown@igc.org)) and see [www.casnw.net/permafrost/home.html](http://www.casnw.net/permafrost/home.html)

The conference, organized by the Cold and Arid Regions Environmental and Engineering Research Institute (CAREERI) of the Chinese Academy of Sciences and the International Permafrost Association (IPA), covers topics of permafrost and engineering research from both central Asia and globally. The QTP field trip follows the route of the new railroad built on built on warm permafrost.

PERMAFROST YOUNG RESEARCHERS NETWORK

See <http://www.pyrn.org/> or contact [pyrn@awi-potsdam.de](mailto:pyrn@awi-potsdam.de)

2005 marked the creation of the Permafrost Young Researchers Network (PYRN), a resource exclusively devoted to the support of the young permafrost community. The network, hosted by the Alfred Wegener Institute in Potsdam, Germany, is a student-driven initiative established under the patronage of the International Permafrost Association (IPA) and formally endorsed as an International Polar Year (IPY) activity. The network envisions spreading permafrost science and information among young researchers investigating frozen ground environments around the globe. PYRN primarily builds on the interaction among its members, with diverse backgrounds in engineering,

geosciences, biology, and atmospheric, environmental, and social sciences. The network is therefore closely linked to the interests of the AAG and its CrSG.

To date, PYRN has been established in 17 countries with close to 150 members. A website has been implemented which reports on conferences, events, employment opportunities, research, and other topics related to permafrost science, and provides a newsletter related to these topics. PYRN relies on feedback from the community and is therefore looking for representatives—students, post-docs, and young professionals—from all countries. Furthermore, PYRN is intended to foster interdisciplinary exchanges, so all researchers, even those not directly involved in permafrost, are encouraged to participate.



CrSG Focus: The University of Delaware’s Permafrost Group

The University of Delaware Permafrost Group reports a busy year. **Anna Klene** defended her dissertation in May 2005 and is now Assistant Professor of Geography at the University of Montana in Missoula. **Michael Walegur** completed his Ph.D. qualifying exams in early 2006 and is working on a dissertation relating temperature data from his Appalachian High Elevation Network to the distribution of permafrost and relict periglacial features in the mountains of the eastern USA. **Mark Demitroff** continues work on fossil periglacial geomorphic features of southern New Jersey. Mark plans to complete his M.S. in summer 2006 and continue in the UD doctoral program. In April, **Jon Little** will defend his M.S.

thesis on the use of differential GPS technology to monitor frost heave and thaw subsidence in northern Alaska. **Silvia Cruzatt** has installed several air and soil temperature monitoring stations at elevations approaching 5000 meters in the Peruvian Andes, and is currently working on her M.S. thesis describing those data sets.

New UDPG students include **Dmitri (Dima) Streletskiy**, who recently defended his master's thesis at Moscow State University in Russia. Dima spent a year with UDPG under the Russian Presidential Traveling Scholars program, and has now returned to Delaware for the Ph.D. Also new this year is **Melanie Schimek**, who comes to us by way of Minnesota State University, spent a summer on the Juneau Icefield, a stint in Svalbard under a Research Experience for Undergraduates program, and continues to work on her M.S. project on the North Slope.

Also new to UDPG is **Professor Hugh French**, who formally joined us in 2005 as a University of Delaware Research Associate. Hugh is a world-renowned periglacial geomorphologist and former President of the International Permafrost Association. He currently works closely with Mark Demitroff on paleoperiglacial problems in New Jersey and the Delmarva Peninsula.

We are pleased to report that **Dr. Meixue Yang**, a senior scientist at the Key Laboratory for Cryosphere and Environment in Lanzhou, China, has joined us for two years as a Research Associate. Meixue is a climatologist and glaciologist with research interests extending to permafrost science. Several UDPG personnel are currently working

on proposals with Meixue to study permafrost on the Tibetan Plateau.

In November and December 2005 we hosted **Anarmaa Sharkhuu**, a permafrost scientist from Mongolia. During her stay with UDPG Anarmaa worked intensively with us on consolidating and analyzing active layer and permafrost data from Mongolia. This work was represented by a joint presentation at the Fall Meeting of the American Geophysical Union in San Francisco.

Research Associate **Nikolay (Kolia) Shiklomanov** has kept busy managing the Permafrost Model Intercomparison project, a collaborative program with Tingjun Zhang (University of Colorado), Oleg Anisimov (State Hydrological Institute, Russia) and Vladimir Romanovsky (University of Alaska). Kolia is also a Co-PI on the Circumpolar Active Layer Monitoring (CALM II) project, funded by NSF's Office of Polar Programs. CALM II currently incorporates more than 125 sites in both hemispheres and several midlatitude mountain ranges.

**Fritz Nelson**, as the current President of the U.S. Permafrost Association (USPA) and co-PI on the CALM II and Intercomparison projects, attends more conferences and meetings than he can remember. He continues collaborative investigations in Alaska with **Ken Hinkel** and **Wendy Eisner**. Nelson and Hinkel began creating a climate observation network in the Huron Mountains. This long-term project was created under the auspices of the Huron Mountain Wildlife Foundation, and incorporates nearly 35 weather and temperature installations.