

# International Permafrost Association

#1-5

No. 1, May 1986

This is the first Newsletter of the International Permafrost Association (IPA). Material for the next Newsletter will be welcomed and should be received by the Secretary-General by 1 November 1986.

## V INTERNATIONAL CONFERENCE ON PERMAFROST

The next International Conference on Permafrost will be held from 2-8 August 1988 at The Norwegian Institute of Technology, Trondheim, Norway. The first circular has been distributed. The Conference address is:

V International Conference on Permafrost (VICOP)  
Norwegian Road Research Laboratory  
P.O. Box 6390 Etterstad  
N-0604, Oslo 6  
Norway

Excursions will be organized to Svalbard and to permafrost areas in Norway and Sweden. The excursions will be run both before and after the conference.

## EXECUTIVE COMMITTEE MEETINGS

1) Executive Committee Meetings were held on 23, 24, and 25 September 1985 at Oslo, Norway. The meeting on 24 September was an open meeting with invited participants from all member countries. Ten countries were able to send participants. The minutes have been sent to all member countries.

2) The next Executive Committee Meeting is scheduled for the period between 27 and 31 October at Boston, Massachusetts, U.S.A. The meeting will be held, by invitation, at the time of the Convention of the American Society of Civil Engineers.

## FIRST COUNCIL MEETING

The first meeting of Council is scheduled for two days at the end of July and early August 1987 to coincide with the XII INQUA (International Quaternary Association) Meetings that will be held in Ottawa, Ontario, Canada. The first Council Meeting has been chosen to coincide with INQUA in the hopes that this will minimize travel costs and encourage attendance, because some Council members will, in any event, be attending INQUA. Please mark the date on your calendar.

## NOMINATING COMMITTEE

At the Executive Committee Meeting on 25 September 1985 held at Oslo, Norway, Professor H.M. French (Department of Geography, University of Ottawa, Ottawa, Ontario, K1N 6N5, Canada) was appointed Chairman, Nominating Committee, for officers of IPA, 1988 to 1993. The two other members are Professor Shi Yafeng (China) and Professor A. Pissart (Belgium).

## CONSTITUTION

The Basic Principles of the Constitution were approved by the four founding countries on 1983-07-22 and circulated at Fairbanks, Alaska. The draft constitution, a much fuller document, has also been sent to all member countries. The draft constitution will be discussed at the Council Meeting, Ottawa, July/August 1987. Any suggested amendments to the constitution should be received by the Secretary-General by 1 January 1987 in order to allow time for notification of the proposed amendments.

A minor amendment to the constitution has been approved, by mail ballot, (eleven member countries voted in favor; there were no negative votes). The amendment reads as follows:

"The International Permafrost Association shall be carried on without purpose of gain for its member countries and any profits or other accretions to the International Permafrost Association shall be used in promoting the objectives of the Association."

## NEWS OF NATIONAL COMMITTEES

### Argentina

The National body representing Argentina is: Consejo Nacional de Investigaciones Cientificas y Tecnicos (CONICET), Ministry of Education, Buenos Aires, Argentina.

### Belgium

The National Adhering Body for IPA is under the scientific patronage of the National Committee of Geography. Professor A. Pissart (University of Liège) is Chairman.

### Canada

The Canadian National Committee for Permafrost of the National Research Council of Canada is Chaired by Professor H.M. French (University of Ottawa).

### China

The Adhering National Body is the Chinese Society of Glaciology and Geocryology with Professor Shi Yafeng as Chairman.

### Federal Republic of Germany

The National Permafrost Committee, under the Chairmanship of Professor H.L. Jessberger (Ruhr-Universitat Bochum) has been established. It is planned to have the committee serve as a subcommittee of the German Polar Society.

Finland

A National Committee for Permafrost Studies in Finland has been organized with Professor M. Seppälä (University of Helsinki) as Chairman.

France

The committee has not yet been formalized.

Italy

A National Adhering Body has been formed within the Glaciological Section of the National Coordinating Group of Physical Geography and Geomorphology with Professor F. Dramis (Università Delgi Studi Di Camerino) as Chairman.

Japan

The Chairman, National Adhering Body, under the auspices of the Japanese Society of Snow and Ice, is Professor S. Kinoshita (Hokkaido University).

Netherlands

A Subcommission Permafrost of INQUA, which is a commission of the Royal Academy of Sciences of The Netherlands has been formed.

Norway

Dr. K. Flaate is Chairman, Norwegian Committee on Permafrost.

Poland

The Committee on Polar Research, Polish Academy of Sciences, is the adhering group with Professor A. Jahn as the Polish representative.

Switzerland

A working group has been formed under the chairmanship of Professor W. Haeberli (ETH, Zurich).

U.S.A.

A U.S. Committee for the International Permafrost Association has been organized with the U.S. National Research Council. The members are:

Jerry Brown, Chairman, National Science Foundation  
 C.W. Lovell, Vice-Chairman, Purdue University  
 David Hopkins, University of Alaska  
 Virgil Lunardini, Cold Regions Research and Engineering  
 Laboratory  
 George Gryc, U.S. Geological Survey  
 Rupert Tart, Consultant, Anchorage, Alaska  
 W.L. Petrie, Staff Officer, NRC

The Committee functions under the Board on Earth Sciences and its U.S. National Committee on Geology. The membership represents the scientific and engineering disciplines and interests involved in permafrost activities. Following its first official meeting in January 1986, the Committee will extend invitations to U.S. professional societies and organizations to join in the activities of the IPA.

### U.S.S.R.

The U.S.S.R. National Committee on Permafrost is under the Academy of Sciences of the U.S.S.R. with the head being Academician P.I. Melnikov. Dr. N.A. Grave and Dr. A.P. Gorbunov are the representatives on Council. The National Committee includes about fifty members from institutions and agencies of different Ministries of the U.S.S.R.. The co-ordination of all investigations in geocryology is the responsibility of the Scientific Council of Earth Cryology of the Academy of Sciences of the U.S.S.R. and the Permafrost Institute of its Siberian Branch at Yakutsk, U.S.S.R.

### LOGO

Each of the four previous International Conferences on Permafrost has had a logo and the Vth Conference has a logo depicting the northern lights or aurora borealis. We would like to have an official logo for the IPA and suggestions, designs, sketches, etc. are solicited. Any ideas? One suggestion, showing a sectioned pingo with ice wedges (which were part of the IInd and IVth Conference Logos) is given below.



VI INTERNATIONAL CONFERENCE ON PERMAFROST

The Chinese Society of Glaciology and Geocryology has made an application to the Science and Technology Association of China for hosting the VI International Conference on Permafrost in 1993 in Lanzhou, China. The Society is waiting for formal approval. The Executive Committee has welcomed the initiative of China and hopes that the application will be approved.

AVAILABLE PUBLICATIONS OF INTERNATIONAL PERMAFROST CONFERENCES

- National Research Council, 1966. Permafrost: International Conference Proceedings. NRC Pub. 1287. Washington, D.C.: National Academy of Sciences. Available on microfilm in The Cold Regions Science and Technology Bibliography #25-3138, U.S. Library of Congress or NTIS.
- National Academy of Sciences, 1973. Permafrost: The North American Contribution to the Second International Conference, Yakutsk. Washington, D.C.: National Academy of Sciences. \$50.00.
- National Academy of Sciences, 1978. Permafrost: USSR Contribution to the Second International Conference. Washington, D.C.: National Academy of Sciences. \$19.50.
- National Research Council of Canada, 1978. Proceedings of the Third International Conference on Permafrost, 2 volumes. Ottawa, Ontario: National Research Council of Canada. \$35.00.
- National Research Council of Canada, 1980. Third International Conference on Permafrost, English Translations of the Soviet Papers, 2 parts. Ottawa, Ontario: National Research Council of Canada. \$35.00.
- University of Alaska, 1983. Permafrost: Fourth International Conference. Abstracts and Program. Fairbanks: University of Alaska. \$10.00.
- National Academy of Sciences, 1983. Permafrost: Fourth International Conference, Proceedings. Washington D.C.: National Academy Press. \$32.50.
- National Academy of Sciences, 1984. Permafrost: Fourth International Conference, Final Proceedings. Washington, D.C.: National Academy Press. \$32.50.
- Permafrost: A Bibliography, 1978-1982. Glaciological Data Report GD-14, Boulder, World Data Center for Glaciology, 1983, 172 p., \$5.00 (University of Colorado, Box 449, Boulder, Colorado 80309).



## CUMULATIVE INDEX TO PERMAFROST CONFERENCES

J.A. Heginbottome and M. Sinclair, 1985. A Cumulative Index to Permafrost Conference Proceedings, 1958-1983; Geological Survey of Canada, Open File Report 1135:215 p.

This index covers the published proceedings volumes and field excursion guidebooks produced for the four International Conferences on Permafrost (1963, 1973, 1978 and 1983), for Canadian Permafrost Conferences (1962, 1964, 1969 and 1981) and eight smaller meetings on special aspects of permafrost science and engineering held in Canada between 1971 and 1979. The main subject index is a computer generated, key-word index of titles; separate regional author indexes are included.

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## PLANETARY PERMAFROST

Surfaces composed of ice and having temperatures below freezing prevail on a number of planets and satellites in our solar system. Saturn's moons are largely composed of ice, as are Jupiter's moons Ganymede and Callisto; the moon Europa has a crust of ice, perhaps supported by an underlying ocean of water. Permafrost features, however, would be too small to be detected on the presently available images. Most interesting is the planet Mars. Permafrost 1-3 km thick occurs over its entire surface because the mean temperature is  $-80^{\circ}\text{C}$ . Near the equator, mid-day temperatures may reach  $15^{\circ}\text{C}$ ., but nighttime temperatures remain far below  $0^{\circ}\text{C}$ . Freeze-thaw processes, therefore, are possible, although the formation of a thick active layer is unlikely. Fluvial morphologic features, such as channels, imply that water once flowed at the surface of Mars. Remote-sensing measurements suggest that water presently exists in the atmosphere and the polar caps. At spacecraft landing sites, water in the soil was detected from instrumental readings, and in late winter a thin frost layer was observed by the cameras at one of the sites. Ground ice is in equilibrium with the atmosphere north and south of latitude  $40^{\circ}$ , and, even in the equatorial areas, ice could remain in the ground if blanketed by fine debris. Thus, conditions are conducive to permafrost processes, and many features resembling those found in terrestrial permafrost terrain are indeed seen on the surface of Mars.

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## MEETINGS, WORKSHOPS, CONFERENCES

- June 9-13, 1986: AAAS and Arctic Science Conference, Vancouver, Canada.
- June 10-12, 1986: International Conference on Ice Technology, Cambridge, Massachusetts.
- June 11-13, 1986: Third Canadian Conference on Marine Geotechnical Engineering, St. John's, Newfoundland, Canada.
- June 23-25, 1986: 27th U.S. Symposium on Rock Mechanics, University of Alabama, University, Alabama.
- July 22-25, 1986: American Water Resources Association, Cold Regions Hydrology Symposium, Fairbanks, Alaska.
- August 13-20, 1986: XIII International Society of Soil Science Congress, Hamburg, Germany
- August 17-22, 1986: Circum-Pacific Energy and Mineral Resource Conference, Singapore.
- August 18-22, 1986: IAHR Ice Symposium, Iowa City, Iowa.
- August 25-26, 1986: Advances in Peatland Engineering, Carleton University, Ottawa, Ontario, Canada.
- August 27-29, 1986: 39th Canadian Geotechnical Conference - In situ Testing and Field Behaviour (Soil and Rock), Carleton University, Ottawa, Ontario, Canada.
- September 1-5, 1986: 7th Symposium on the Physics and Chemistry of Ice, Grenoble, France.
- September 7-12, 1986: Symposium on Remote Sensing in Glaciology, International Glaciological Society, Cambridge, England.
- September 8-14, 1986: Comité Arctique International: Restoration and Vegetation Succession in Circumpolar Lands. Reykjavik, Iceland.
- October 5-11, 1986: 13th World Energy Conference, Cannes, France.
- October 27-30, 1986: International Offshore and Navigation Conference and Exhibition, Helsinki, Finland.
- October 27-31, 1986: American Society of Civil Engineers, Boston, Massachusetts.
- November 10-13, 1986: Geological Society of America, San Antonio, Texas.
- December 8-12, 1986: American Geophysical Union, San Francisco, California.
- February, 1987: 6th International Symposium on Offshore Mechanics and Arctic Engineering, Houston, Texas.

April, 1987: American Society of Civil Engineers, Atlantic City, New Jersey.

May, 1987: 1987 Offshore Technology Conference, Houston, Texas.

May 18-22, 1987: American Geophysical Union, Baltimore, Maryland.

June 8-12, 1987: 7th International Congress on Circumpolar Health, Umea, Sweden.

August 1-9, 1987: 12th INQUA Congress, Joint Session with IAGLR Periglacial Commission, Comparative Studies of Present-day and Fossil Periglacial Phenomena, Ottawa, Canada.

August 9-25, 1987: International Union of Geodesy and Geophysics, Vancouver, Canada.

August 17-21, 1987: POAC 1987, Fairbanks, Alaska.

August 30 - September 4, 1987: International Society for Rock Mechanics, Montreal, Canada.

September 7-12, 1987: Antarctic Glaciology, 4th International SCAR Symposium, Bremerhaven, FRG.

October 11-15, 1987: Society of Exploration Geophysicists, New Orleans, Louisiana.

October 26-29, 1987: Geological Society of America, Phoenix, Arizona.

October 26-30, 1987: American Society of Civil Engineers, Anaheim, California.

May 9-13, 1988: American Society of Civil Engineers, Nashville, Tennessee.

May 16-20, 1988: American Geophysical Union, Baltimore, Maryland.

May 29 - June 3, 1988: 11th World Water Congress on Water Resources, Ottawa, Canada.

Late July, 1988: Fifth Symposium on Ground Freezing, England.

August 2-5, 1988: FIFTH INTERNATIONAL CONFERENCE ON PERMAFROST, Trondheim, Norway.

October 24-28, 1988: American Society of Civil Engineers, St. Louis, Missouri.

October 30 - November 3, 1988: Society of Exploration Geophysicists, Anaheim, California.

October 31 - November 3, 1988: Geological Society of America, Denver, Colorado.



First Announcement and Call for Papers

International Symposium on Cold Regions Heat Transfer

June 4-6, 1987

University of Alberta, Edmonton, Alberta, Canada

Objectives and Topics

During the past twenty-five years, considerable progress has been made in cold regions (Arctic) engineering due mainly to natural resources development in the Arctic regions. The subject of heat and mass transfer is of basic importance to cold regions engineering and is characterized by multiple-disciplinary approach.

The purpose of this conference is to provide a forum for the review and dissemination of recent scientific and technical information related to all aspects of heat transfer in cold climates. A general review of progress during the past quarter century should be of considerable value as furnishing a point of departure from which progress during coming decades may be measured.

The symposium is co-sponsored by:

- American Society of Mechanical Engineers (Heat Transfer Division)
- Japan Society of Mechanical Engineers
- Division of Building Research, National Research Council Canada
- Centre for Frontier Engineering Research (University of Alberta)
- Centre for Cold Ocean Resources Engineering (Memorial University)
- Scott Polar Research Institute
- Boreal Institute for Northern Studies
- Canadian Society for Mechanical Engineering

Invited lectures on historical review and state of the art reviews in cold regions heat transfer will precede each technical session. The conference will be organized in conjunction with the Canadian Congress of Applied Mechanics, May 31-June 4, 1987.

The topics include:

1. Numerical and analytical methods for freezing and thawing.
2. Heat transfer problems relating to permafrost and soils.
3. Thermal engineering of structures in cold regions.
4. Natural and artificial heat transfer phenomena for ice in water, air, earth and life.

5. Heat transfer problems in engineering construction.
6. Human response to extreme conditions.
7. Energy utilization and conservation in cold regions.
8. Other heat transfer phenomena in cold regions.

Time Schedule and Publication

Three copies of a 500-word abstract due -	October 15, 1986
Notification of abstract acceptance	October 25, 1986
Five copies of complete manuscript	December 5, 1986
Reviews returned to author(s)	January 10, 1987
Final manuscript, typed on mats, due -	February 10, 1987

The papers will be reviewed in accordance with ASME policies and published in a bound volume by ASME. Inquiries, abstracts, and manuscripts should be sent to either:

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SUGGESTIONS FOR IPA ACTIVITIES 1988-1993

What should the IPA attempt to accomplish between 1988-1993? Should there be commissions? Working groups? Plans for the future will be discussed at the 1987 Council Meeting.

OFFICERS OF THE IPA**President:**

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