



Action Group:

‘Permafrost Research Priorities: A Roadmap for the Future’

Date:

May, 2014 – April 30, 2015

Action Group Contact:

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Objectives and scope of the Action Group:

The International Permafrost Association (IPA) and the Climate and Cryosphere project (CliC) were invited to participate in the Third International Conference on Arctic Research Planning (ICARPIII) process, led by the International Arctic Science Committee (IASC) in 2013. The ICARP III process aims at integrating priorities for forward-looking, collaborative, interdisciplinary Arctic research and observing. The IPA And CliC, acknowledging that no consensus document exists at the international level to identify forward-looking priorities in permafrost research, decided to initiate a process by which such a document, focusing on permafrost research at large (i.e. including mountain and Antarctic permafrost) would be published based on the engagement of the permafrost research community. The product stemming from the effort should consist of a high level, but short publication listing and putting into context research priorities. The document shall become the benchmark against which permafrost research should be gauged starting in 2015. This effort should run parallel to the Horizon Scanning initiated by SCAR, which applies the same methodological framework.

Vision

The aim of the Permafrost Research Priorities (PRP) process is to establish a set of 10 research priorities as agreed on by researchers (primarily permafrost researchers) and policy makers. The target audience of the exercise is three-fold: 1. The research community; 2. Funding agencies and 3. Policy-makers.

Scope of research questions

The following criteria are required for the questions to be submitted through the process. These criteria are directly inspired by the criteria put forward by Sutherland et al. (2011):

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- The questions need to be answerable through a realistic research design
- The questions need to have a factual answer that does not depend on value judgments
- The questions need to address important gaps in knowledge
- The questions need to have a spatial and temporal scope that could reasonably be addressed by a research team or a consolidated research program.
- The questions should not be formulated as a general topic area
- The questions should not be answerable with “it all depends”

Except if questioning a precise statement (“does the Earth go round the sun?”), the questions should not be answerable by yes or no (i.e. not “is X better for permafrost than Y”)

Number of target questions

Based on prior exercises conducted in the fields of ecology, conservation, or biodiversity, the number of priority questions or issues should be related to the breadth of the topic. While a field as broad as biodiversity can justify as much as 100 questions (e.g. Sutherland et al. 2009), other fields (e.g. conservation) can be covered with 15 to 40 questions (Sutherland et al., 2010b; Rudd et al., 2010). The consolidation of the questions is the essence of the exercise and should guide the core group during the prioritization phase of the process. For permafrost, we recommend focusing on 10 research priorities stemming from the research questions formulated during the process.

Selection of participants and engagement

Participation to the online questionnaire will be open to all. The audiences targeted in the process will be engaged through existing communication platforms and tools devised specifically for the exercise.

The announcement will be circulated through partner organizations and through mailing lists relevant to the permafrost community. Additionally, target groups relevant to the policy arena and/or belonging to funding agencies will be engaged in the process through targeted mailing. In order to reach out to the whole spectrum of permafrost research, a targeted search will be conducted in Scopus to identify authors having published on permafrost over the past five years. In total, over 9000 stakeholders are expected to be contacted in this effort.

Timeline:

Announcement

The first announcement will be released end of April (provisional date: 25th of April), prior to the opening of the online questionnaire. The announcement will be circulated widely to encourage input into the process. The core group members will be asked to publicize the efforts in their networks. The announcement will also be sent to all major mailing lists relevant to permafrost research. The chair, together with the IPA and CliC secretariat, will compile a list of individuals external to permafrost research but potentially interested in the output of the PRP process. Last, a list of authors having published about permafrost over the

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past five years will be created from Web of Science and used to engage these authors in the process.

Research priorities input

A questionnaire will be setup jointly on the IPA and CliC websites for the input of scientific questions. The questionnaire will be opened from the end of April until mid-June 2014. The goal of this questionnaire is to collect research questions following the requirements outlined above. The input of questions will be allowed for six weeks, after which the online questionnaire will be closed. During the six weeks period, a series of reminders will be sent to individuals to be engaged in the process. The anticipated date for the closing of the online questionnaire is the 20th of June, 2014.

Categorizing

The submitted questions and the rest of the information will be input into a central database. The personal information input into the database will not be disclosed to the general public and will only be used to provide statistics on the origin of the participation to the PRP process.

The questions will then be categorized in main “themes”. To do, the core group will use the themes provided by the individuals having submitted the questions, but will also be free to define new themes based on the nature of the input. Each question will be reviewed at least twice by a core group members to identify potential overlap and review the validity of the question against the criteria outlined in the scope. Research questions with the same focus will be merged by the core group members, under the supervision of the chair. The merging process will be duly documented in the database. At the end of this process, envisioned to be completed in the summer of 2014, a consolidated list of questions will be input into a new version of the database and made ready for the voting phase

Townhall Meeting

A townhall meeting as well as a dedicated “world café” session in the young researchers workshop will be held during the Fourth European Conference on Permafrost and will be used as the venue for the presentation of the process and the input of additional questions

Voting

The voting phase is one of the most important part of the PRP process as it will lead to the ranking of the top 10 permafrost research priorities. The voting will take place over the months of September and October and will close on the 30th of October. It will be processed through an online form similar to the form requesting input on research questions and will require participants to give a grade to each question selected during the categorizing phase to rank its relevance. The questions will be organized by themes and graded from 1 to 5 by the participants. The results will be input into a master database

Prioritizing

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The prioritizing will be directly based on the outputs of the voting process. The research questions will be ranked in the database and the first fifteen questions will be selected by the core group.

Core group meeting

A core group meeting will be organized in January 2015 to review the rankings and distribute the tasks for the writing of the manuscript stemming from the effort.

Manuscript

The core group will work on a manuscript to be published as draft in April 2015 for the ICARP III conference in Toyama (Japan). A decision on the journal to be hosting the results of the effort will be made in the fall of 2014.

Deliverables:

The core group of the PRP has discussed releasing two main outputs. The first one should be a short, concise and colourful publication listing and explaining the top 10 research priorities. The second one should be an academic paper describing the full process and explaining the detail the outputs, as well as providing all the annex material in the supplement.

One immaterial output of the process will be the revived involvement of the permafrost community at large in the IPA activities, through the extended reach of the effort

Support of Interest groups:

This activity is not proposed by an IPA Interest Group. By nature, it transcends the foci of the interest groups to elaborate a consolidated list of research questions that are relevant to most of them. By its scope and the extended number of participants it will involve, it does fit the objectives of the Education and Outreach committee of the IPA. The Chair of PRP is a member of the IPA E&O committee and will ensure close collaboration with it and with the Permafrost Young Researchers Network (PYRN).

Other Action Group Members:

A core group (CG) was appointed in January 2014 and consists of the following individuals:

Hugues Lantuit (AWI, Germany, Chair; hugues.lantuit@awi.de)

Michel Allard (Université Laval, Canada; Michel.Allard@cen.ulaval.ca)

Margareta Johansson (Lund University, Sweden; Margareta.Johansson@nateko.lu.se)

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Michael Krautblatter (Technical University of Munich, Germany; m.krautblatter@tum.de)

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Edward A. G. Schuur (University of Florida, USA; tschuur@ufl.edu)

Jenny Baeseman (CliC, Ex-Officio; jbaeseman@gmail.com)

Karina Schollän (IPA, Ex-Officio; Karina.Schollaen@awi.de)

The members stem from six different countries that are all IPA country members.

In addition, a CliC fellow will be nominated towards the end of April 2014. The CliC fellow will support the effort of the CG in leading some of the secretarial tasks associated with the project and will be part of the final writing team. The CliC fellow will be chosen in cooperation with the Permafrost Young Researchers Network.

All core group members will be asked to provide personal funding to attend the writing team meeting in January 2015. A preference will be given to young researchers when allocating funding.

International dimension:

The PRP activity is endorsed by the International Arctic Science Committee (IASC), the Climate and Cryosphere project (CliC), the Scientific Committee on Antarctic Research (SCAR) and the Permafrost Young Researchers Network (PYRN). It has been officially endorsed by the ICARP III Steering group as an official ICARP III activity. The Climate and Cryosphere project has allocated 2000 CHF for the writing team meeting in 2015, through the World Climate Research Project (WCRP).

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