



IASC INTERNATIONAL ARCTIC
SCIENCE COMMITTEE

Fall 2014

IASC PROGRESS

Integrating Arctic Research - A Roadmap for the Future

With this special issue of its newsletter, IASC is providing another update on the development of the 3rd International Conference on Arctic Research Planning (ICARP III). The initial ICARP III plans had been presented at the Arctic Science Summit Week (ASSW) 2014 Common Day in Helsinki (Finland) last April. Since then, a number of ICARP III activities have already taken place and this newsletter includes:

- short summaries of ICARP III events that occurred during the last few months,
- an outlook on upcoming activities,
- the perspectives of new ICARP III partner organizations and
- an introduction to the forward-looking Horizon Scan conducted by the Scientific Committee on Antarctic Research (SCAR).

The outcome of ICARP III will be an inventory of reports and recommendations of the various ICARP III activities, with the key messages feeding into a consensus statement identifying the most important Arctic research needs for the next decade and a roadmap for research priorities and partnerships. This overarching ICARP III statement will be presented at the main ICARP III conference held during the ASSW 2015.



4th European Marine Board Forum

Brussels (Belgium), 12 March 2014

http://www.marineboard.eu/images/4thEMBForumMessage_Arctic2050_March2014.pdf

Representatives of 64 organizations gathered at the 4th European Marine Board (EBM) Forum to discuss how to best manage the consequences of a changing Arctic Ocean. The forum delegates represented a wide range of stakeholders, spanning industry, policy, and academia as well as NGOs and consultancies. The forum included sessions on "Living with a Changing Arctic Ocean", "Arctic Ocean Observation" and "Utilizing and Managing Arctic Ocean Resources". Forum participants stressed the need for industry and science to work together, with the main priorities requiring collaboration identified as concerted data collection and analysis, which would contribute to sustainable management of the Arctic Ocean by providing data for mitigating the impacts and addressing the opportunities posed by current environmental changes in the region.

Key Messages of the 4th EMB Forum:

- A strategic plan for data collection in the Arctic

Ocean is urgently needed, along with new observation technologies.

- Developing a marine spatial plan for the Arctic is necessary for managing marine and maritime activities, e.g. shipping and resource extraction, as well as protecting biodiversity hotspots.
- More effective use must be made of local and traditional knowledge by engaging Indigenous communities in citizen science for data collection and ecological management.

- Arctic Ocean research investment requires multidisciplinary and cross-sector partnership for securing long-term strategic funding.
- With the Arctic being perceived as a new market by the shipping industry, associated activities like maritime trade, tourism and transport are likely to emerge faster than the necessary infrastructures for safe, secure and reliable shipping in the Arctic Ocean. Therefore, it is critical to anticipate infrastructure changes in the Arctic rather than respond to them.

Participants of the 4th EMB Forum Panel Discussion



Permafrost Dynamics and Indigenous Land Use Workshop

Helsinki (Finland), 6-7 April 2014

Otto Habeck

The idea for this workshop on „Permafrost Dynamics and Indigenous Land Use“ was owed to a conspicuous gap between different disciplines’ research agendas: there is substantial expertise on permafrost (and related hydrological and soil processes) on the one hand, and on indigenous forms of land use that utilize thermokarst, on the other hand; but the two have thus far rarely been



„Cryosphere and Culture“ in Yakutia (Photo: H. Takakura)

integrated. The workshop, organized as a fringe event of the Arctic Science Summit Week 2014 in Helsinki, attracted remarkably strong attention and interest among the Arctic research community as it was felt that a new level of integration was being achieved.

On the example of thermokarst regions in the central Yakutian lowlands, social and natural scientists explored the preconditions and dynamics of indigenous resource use - notably, cattle breeding - in a permafrost landscape. The indigenous Sakha population has actively put to use the diversity of ecological conditions in this highly dynamic setting. Over a period of 800 years they have developed a livelihood based on thermokarst grass lands in an otherwise densely

forested area. Sometimes, they sought to modify landscape features in order to increase productivity. Temperature shifts since the 1980s, hydrological and other conditions indicate that the ecological basis of this land-use system is now under threat. Social and economic processes are likely to aggravate the environmental changes, probably leading to a short- and mid-term spatial contraction of the system.

Joint publications of the workshop participants are underway. As an outcome of this workshop, the International Permafrost Association (IPA) has established an Action Group on „Permafrost and Culture“, to further pursue this topic with a broader agenda in this and additional parts of the circumpolar North.

Circumpolar Arctic Coastal Communities Observatory Network (CACCON)

Copenhagen (Denmark), 14-16 April 2014

Donald L. Forbes & Joan Nymand Larsen

The State of the Arctic Coast 2010 report (www.arcticcoasts.org), co-sponsored by IASC, highlighted the need for new and coordinated efforts to monitor Arctic coasts and for more integrative and holistic approaches to the challenges of environmental and social change in the North. The Circumpolar Arctic Coastal Communities Observatory Network (CACCON or ‘Catch-On!’) is a response to this recommendation. As a pan-Arctic network of community-engaged, multi-faceted, and integrative coastal community observatories and knowledge hubs, CACCON will address present and anticipated trends in natural and social conditions affecting human settlements and activities along the Arctic coast. The goal is to develop and mobilize co-designed and co-produced knowledge that addresses real-world challenges to community well-being and sustainable development in the face of rapid environmental and social change. The network aims

not only to generate and compile relevant data sets and indices of change, but crucially to understand how scientific and indigenous knowledge can better contribute to informing decisions on critical issues of climate, resources, and well-being in the North. The network will provide training opportunities to build local capacity across a range of disciplines and to facilitate the involvement of early-career and northern researchers in community-engaged research.

With support from IASC and LOICZ (Land-Ocean Interactions in the Coastal Zone), 14 participants representing a broad range of backgrounds, disciplines, constituencies, and countries around the Arctic margin met in Copenhagen in April 2014 to consider the initial design and shape of CACCON (<http://caccon.org>). The team comprised members from nine countries with representatives from the Indigenous Peoples’ Secretariat, IASC, LOICZ, International Arctic So-

cial Sciences Association, Nordregio, ArcticNet, the Arctic Coastal Dynamics Project, and others. Allowing for future co-design of the network, the workshop agreed on a number of key concepts for the future evolution of CACCON: a holistic approach; simplicity; co-design; sharing and co-learning, both at the local level and amongst knowledge hubs forming the network. Extensive consultation will continue over the coming year leading up to the ICARP-III meeting in April 2015.



CACCON Workshop Participants, Copenhagen 2014

Polar Technology and Innovation Seminar

AOS/ASSW 2014, Helsinki (Finland), 10 April 2014

Magnus Tannerfeldt

In April 2014, a session on Current Issues and the Future of Polar Technology and Innovation was organized by the Forum of Arctic Research Operators (FARO) in collaboration with the European Polar Board (EPB) and IASC as a contribution to the Arctic Observing Summit (AOS) and ICARP III. The session addressed the need to promote interaction between the polar science community and innovation and technology

development communities. A series of plenary talks followed by a panel discussion highlighted issues such as remotely operated and unmanned aerial vehicles (drones, robotics), reducing the footprint and environmental impact of field data collection, state-of-the-art in deep field communications, needed technologies, and barriers to technology sharing in polar research. Contributions from industrial and com-

mmercial stakeholders were also achieved. Over 150 persons attended the session.

This was followed by a posters session, with presentations on technologies for performing science in polar regions, or relevant to polar science, including sensors, instruments, power systems, vehicles and drones, buildings, experiment coordination etc., as well as practical aspects of operating in polar regions.

PAST Gateways International Conference and Workshop

Trieste (Italy) 19–23 May 2014

Colm O’Cofaigh

Over 70 delegates from Europe, Russia, Canada and the USA attended the second PAST Gateways International Conference and Workshop. There were 32 oral and 30 poster presentations divided into three major themes:

- Growth and decay of Arctic Ice Sheets
- Arctic sea ice and palaeoceanography
- Non-glaciated Arctic Environments including permafrost change.

The wide range of presentations and discussion across these three themes emphasized the interconnectedness and importance of a multi-disciplinary integrated approach to Arctic

palaeoclimate. The combination of senior Arctic scientists and early career researchers ensured strong interaction between researchers at different stages of their careers. IASC, through ICARP III, supported the participation of 17 early

career researchers and two keynote speakers at the conference. A special issue of Quaternary Science Reviews comprising papers related to the meeting will be published in 2015/16.



PAST Gateways International Conference Venue (Trieste, Italy)

ICARP III Town Hall at ICASS VIII

Prince George (Canada), 23 May 2014

Gail Fondahl

An ICARP III Town Hall was held at the Eighth International Congress of Arctic Social Sciences (ICASS VIII) on 23 May 2014. The purpose of the event was to provide an opportunity to solicit input from social scientists, humanities scholars and other participants at the Congress. ICASS, convened triennially, is the premier gathering of Arctic and Sub-arctic social science and humanities scholars, attracting academics from a wide range of disciplines, as well as a significant number of indigenous northerners, government and NGO representatives and other participants. ICASS VIII attracted 468 delegates from 26 coun-

tries and at least 15 northern indigenous groups. Over 350 delegates attended the ICARP III town hall, hosted by the IASC SHWG. The event was also live-streamed, to ensure its availability to those IASSA members not able to attend ICASS VIII. After a short welcome by Gail Fondahl (IASSA President and IASC SHWG Co-Vice Chair), ICARP III Chair David Hik presented an overview of the aims and goals of ICARP-III. Peter Schweitzer, Chair of the IASC SHWG, described the Working Group’s ICARP III initiatives, recent and planned. Chris Southcott provided a short summary of UCCARP activities on behalf of UArctic, and

Gerlis Fugmann, Executive Director of APECS, described APECS involvement in ICARP III. Peter Sköld (IASC SHWG Co-Vice Chair) then moderated a 45-minute discussion period. Participants highlighted a number of areas that they felt were important and/or potentially lacking from the outlined activities, addressing both particular focus areas of importance to social sciences and humanities, and the outlined process for ICARP III. The input from this town hall, along with the input from similar events over the next months, will inform a White Paper to be delivered for ICARP III at ASSW 2015.

PYRN Workshop and EUCOP Townhall

Evora (Portugal), 18 June 2014

Michael Fritz & Hugues Lantuit

A large workshop involving over 100 young researchers and lecturers was organized aside from the Fourth European Conference on Permafrost (EUCOP4) held in Evora, Portugal in June 2014. The major focus of the workshop was to determine future avenues of permafrost research from a young researchers’ perspective. This activity was mentored by IASC, which is leading the ICARPIII and the International Permafrost Association (IPA) which is coordinating permafrost activities within ICARP III. Several members of the IASC working groups (Cryosphere and Terrestrial) acted as mentors in this effort. An online questionnaire was set up prior to the workshop and was made available to all Permafrost Young Researchers Network (PYRN) and APECS members (ca. 5,000) including the young researchers from PAGE21 and ADAPT. All answers were compiled and grouped according to research topics that had been distributed before the on-site activity, which was conducted in the format of a World

Café. More than a dozen small moving groups worked on the predefined research questions in an iterative process of discussing, reformulating and narrowing these questions. In the end, a voting system with a predefined hierarchy allowed all participants to synthesize the most important future issues in permafrost research. The outcome will be a young researcher contribution to IASC and to the IPA activities for ICARP III (in particular to PRP, which is explained below) termed the “Permafrost Priority Sheet” that will summarize discussions from the forum. This Priority Sheet will be a short document, which will also contribute to an assessment of research priorities from an early career researcher perspective piloted by the Association of Polar Early Career Scientists (APECS). It will feed into the final ICARP III meeting in Toyama, Japan in April 2015, together with contributions from other initiatives (e.g. Arctic in Rapid Transition). The workshop was supported financially by IASC, CliC, the IPA

and the Bolin Centre for Climate Research. Parallel to the workshop, the IPA organized a series of events related to its flagship activity for ICARPIII, the Permafrost Research Priorities project (PRP), which is organized together with the Climate and Cryosphere project. The aim of the PRP process is to establish a concise set of research priorities as agreed on by researchers (primarily permafrost researchers) for the next ten years. A well-attended townhall meeting was organized during the conference, during which preliminary results from the young researcher workshop were presented. The PRP effort is ongoing and will present its first results at the ICARP III Toyama Conference in April 2015.

This event was jointly organized by PYRN, PAGE21, ADAPT, APECS

As part of the ICARP III process, the International Permafrost Association (IPA) and the Climate and Cryosphere project (CliC) have launched the Permafrost Research Priorities (PRP) activity. 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 Arctic, Mountain, Antarctic and Sub-sea permafrost) would be published based on the engagement of the permafrost research community.

The aim of the PRP process, which follows the Sutherland method as did the SCAR Horizon Scan and other efforts, is to establish a concise set of ~15 - 20 key research priorities for the next ten years, as agreed upon by permafrost researchers, and with input from researchers in cognate scientific disciplines. The target audience of the exercise is three-fold:

- The research community
- Funding agencies
- Policy-makers

The PRP products will include a high level, but short benchmark publication that lists and puts into context research priorities for 2015 to 2025.



Arctic Freshwater Synthesis

Arvid Bring & Johanna Mård Karlsson

There is increasing scientific recognition that changes to the Arctic freshwater systems has produced, and could produce even greater, changes to bio-geophysical and socio-economic systems of special importance to northern residents and also produce some extra-arctic effects that will have global consequences. To address such concerns, a scientific assessment is being conducted that focuses on assessing the various Arctic freshwater sources, fluxes, storage and effects.

The AFS is structured around five major components: atmosphere, ocean, terrestrial hydrology, terrestrial ecology and resources, with modeling as a sixth cross-cutting component. The AFS is currently being developed with scientific and financial support from the World Climate Research Program's Climate and Cryosphere Project (CliC), the International Arctic Science Committee

(IASC), the Arctic Council's Arctic Monitoring and Assessment Program (AMAP), the Norwegian Ministry of Foreign Affairs and the Norwegian Ministry of Climate and Environment.

Publication plans for the AFS include a number of reports tailored to the scientific foci of the individual participating organizations, and to a suite of scientific-journal review papers. Research needs identified by the AFS are also to act as benchmarks for the upcoming International Conference on Arctic Research Planning III, planned for 2015.

During spring and summer 2013, planning of the structure of the synthesis was carried out. Subsequently, lead writing and coordinating authors were identified for all six components. During fall 2013, a session focused on the AFS was held at the AGU Fall Meeting in San Francisco, and a

first meeting of co-lead authors was held November 10-11 in Stockholm, Sweden.

The Stockholm meeting was followed by remote writing work, where all components prepared zero-order drafts of their respective component review papers. These were reviewed at a second meeting of co-leads in Stockholm on May 4-6, at which breakout meetings were held between all co-leads to ensure component integration and a common synthesis approach.

First order drafts have now been finished, and planning includes a series of smaller meetings during the fall, component by component, to finish second order drafts of the papers. In the process leading up to these meetings, complete writing teams have now also been formed. Final versions of all papers are to be ready and submitted by early 2015.

IASC History Publication : "IASC After 25 Years"

Emerging Questions in Arctic Geoscience

In the context of its 25th anniversary in 2015, IASC will present a comprehensive publication on its history from the planning process in the last 1980s until today. Printed as a special issue of the IASC yearbook, the publication will compile and analyze the history and development of IASC and its initiatives and achievements. The publication will be complemented by a short film, a collection of historical documents and a brochure presenting a timeline of the most important events in the development of IASC in the last quarter of a century.

For more information: <http://iasc25.iasc.info/>

As a contribution to ICARP III, the IASC Action Group on Geosciences is compiling a Special Publication of the Geological Society of London. The volume is intended to be a compilation of 'review/state-of-the-art', broad perspective, papers that cover the range of geoscience topics in the Arctic arena from tectonics, climate change, and humans and Earth resources. As such, it will be a valuable introduction for students and researchers new to working in the Arctic, as well as an important resource for policy makers in providing an up-to-date summary of emerging topics in Arctic research.

The Special Publication will include a collection of papers organized in three main parts:

- Part I: Arctic Tectonics,
- Part II: Impact of Arctic climate change and
- Part III: A Long-Term Perspective on Human Uses of Arctic Mineral Resources and it will be edited by:
 - Victoria Pease, Stockholm University,
 - Bernard Coakley, University of Alaska Fairbanks,
 - Julie Brigham-Grette, University of Massachusetts Amherst,
 - Carlo Barbante, University of Venice Ca'Foscari and
 - Peter Jordan, University of Groningen.



Upcoming ICARP III Activities

Workshops

Quantifying Albedo Feedbacks and Their Role in the Mass Balance of the Arctic Terrestrial Cryosphere: Bristol (UK) - September 2014

Workshop organized by IASC Cryosphere WG

Partners: IASC Atmosphere WG, Contact: Martin.Sharp@ualberta.ca

Linkage between Arctic Climate Change and Mid-latitude Weather Extremes: Seattle (USA) - 3-5 September 2014

Workshop organized by IASC Atmosphere WG

Partners: IASC Marine, Cryosphere and Terrestrial WGs, Climate and Cryosphere (CliC), Association of Polar Early Career Scientists (APECS),
Contact: James.E.Overland@noaa.gov

Arctic snow cover changes and their consequences: Denmark, Copenhagen - October 2014

Workshop organized by INTERACT and IASC Terrestrial WG

Partners: All IASC WGs, Climate and Cryosphere (CliC), Association of Polar Early Career Scientists (APECS), Contact: terry_callaghan@btinternet.com

Integrating spatial and temporal scales in the changing Arctic System: towards future research priorities (ISTAS): Plouzané (France) - 21-24 October 2014

Workshop organized by IASC Network Arctic in Rapid Transition (ART)

Partners: All IASC WGs, Association of Polar Early Career Scientists (APECS), Permafrost Young Researchers Network (PYRN)
Contact: nathalie.morata@gmail.com

Seasonal Ice Cover in the Arctic Ocean: changes and consequences: Woods Hole (USA) - 22-24 October 2014

Workshop organized by IASC Marine WG, Partners: IASC Cryosphere and Atmosphere WGs

Contact: Bert.Rudels@fmi.fi

Culture and Arctic Climate Change - Integrating Long-Term Perspectives from Archaeology and the Environmental Sciences: San Francisco (USA) - December 2014

AGU Conference Session organized by IASC Social and Human WG, Partners:

All IASC WGs, IASC Polar Archeology Network, Association of Polar Early Career Scientists (APECS)

Contact: p.d.jordan@rug.nl

Rapid Arctic Transitions due to Infrastructure and Climate Change (RATIC): Ottawa (Canada) - December 2014

Workshop organized by IASC Terrestrial WG

Partners: IASC Cryosphere and Social & Human WGs, Contact: dawalker@alaska.edu

Greenland Ice Sheet / Ocean Interaction: location TBD - February 2015

Workshop organized by IASC Marine WG

Partners: IASC Cryosphere and Atmosphere WGs, Ice Sheet Mass Balance and Sea Level (ISMSS), Contact: Ursula.Schauer@awi.de

Understanding Sustainability in the Arctic: location TBD - February 2015

Transdisciplinary workshop organized by International Arctic Social Sciences Association (IASSA)

Contact: peter.schweitzer@univie.ac.at

Goals of ICARP III – the future of Arctic research from the early career researchers' point of view: Toyama (Japan) - April 2015

Workshop organized by Association of Polar Early Career Scientists (APECS)

Partners: All IASC WGs, IASC Network Arctic in Rapid Transition (ART), Permafrost Young Researchers Network (PYRN)

Contact: sanna.majaneva@gmail.com

Consultation and Planning Processes

Planning for MOSAiC – the Multidisciplinary drifting Observatory for the Study of Arctic Climate: various locations - 2014/2015

Planning meetings organized by IASC Atmosphere WG

Partners: IASC Cryosphere and Marine WGs and various partner organizations

Contact: matthew.shupe@noaa.gov

Community Consultation on Arctic Research Priorities: 2014/2015

Consultation Process organized by the University of the Arctic

Partners: Arctic Council Indigenous Peoples Secretariat (IPS)

Contact: chris.southcott@lakeheadu.ca

Outreach Activities

ICARP III FrostBytes - Soundbytes of Cool Research: 2014/2015

Communication Activity organized by Association of Polar Early Career Scientists (APECS) and Climate and Cryosphere (CliC) supported by IASC

Contact: gerlis.fugmann@apecs.is

APECS - CliC – Where are they now?: 2014/2015

Writing Team Workshop organized by Association of Polar Early Career Scientists (APECS) and Climate and Cryosphere (CliC) supported by IASC

Contact: gerlis.fugmann@apecs.is

Arctic Research Consortium of the United States (ARCUS) staff member Sarah Bartholow was recently added to the ICARP Steering Committee in order to coordinate the outreach opportunities available through the organization. ARCUS envisions strong and productive linkages among international Arctic researchers, educators, communities, and other stakeholders that promote discovery and understanding of the Arctic and inform sound decisions related to the Arctic. A summary of four ARCUS-managed outreach opportunities is provided here with relevant contact information. For further information about ARCUS, please go to: <http://www.arcus.org/>.

Arctic Calendar

The Arctic Calendar is an online searchable calendar of conferences, lectures, webinars, and field trainings relevant to the Arctic science, education, and policy communities. It is a community resource for tracking and publicizing major Arctic events and conferences and to help avoid conflicting meeting dates. The calendar is maintained and hosted by the Arctic Research Consortium of the U.S. (ARCUS) in collaboration with the International Arctic Science Committee (IASC).

We encourage anyone organizing a meeting to submit the event for inclusion on the calendar to maintain the calendar's usefulness as a

communication and planning tool. We also welcome other Arctic organizations to link to the Arctic Calendar.

To view the Arctic Calendar, please go to:

<http://www.arcus.org/events/arctic-calendar>

To submit events via the online form, please go to: <http://www.arcus.org/events/arctic-calendar/submit>.

Witness the Arctic

Witness the Arctic provides information on current Arctic research efforts, findings, and initiatives; national policy affecting Arctic research; international activities; and profiles of institutions with major Arctic research efforts. It serves to enhance information exchange across the range of Arctic science disciplines. Witness is published online three times annually, depending on newsworthy events, and is widely read by the international Arctic science and climate change research community including scientists, educators, agency personnel, and policy makers. Witness the Arctic is funded by the National Science Foundation through Cooperative Agreement ARC-0618885 with ARCUS.

To view current and past issues, please go to:

<http://www.arcus.org/witness-the-arctic>

For Witness the Arctic inquires, contact Betsy Turner-Bogren

besty@arcus.org

Arctic Info

ArcticInfo is a moderated mailing list maintained by ARCUS. The list provides Arctic researchers with timely information about funding opportunities, important events and meetings, publications, announcements of available positions, and other news relevant to the research community. This service is funded by the National Science Foundation through Cooperative Agreement ARC-0618885 with ARCUS.

For Arctic Info Inquiries, contact list@arcus.org.

PolarTREC

PolarTREC (Teachers and Researchers Exploring and Collaborating) is a professional development opportunities for teachers and researcher to work collaboratively in field research experiences. Audiences can access journals, photos, and events related to various arctic and Antarctic expeditions. Teachers work directly with research teams in the field to translate science in this unique outreach platform. PolarTREC is funded through National Science Foundation #1345146.

To view expeditions and additional resources, please go to:

<http://www.polartrec.com/>

For PolarTREC inquires, contact Sarah Bartholow and Janet Warburton at info@polartrec.com



Polar Educators International (PEI) is a vibrant network promoting polar education and research to a global community by fostering dialogue and collaboration between educators and researchers.

PEI was founded in 2012, in Montréal after the educators workshop of the IPY conference. It can be seen as outcome of the education and outreach activities of IPY with the aim to continue the momentum, and follow-up on these activities. Nowadays, two years later, it has a solid governance structure, with an executive committee formed by five elected persons from an elected council, over 300 members from all over the world, and more than 600 followers on facebook. The members are educators belonging to formal as well as informal science education institutions, committed in using polar topics in their daily science education activities, but also individual stakeholders in polar education and outreach. The official website can be found at:

<http://polareducator.org/>

Official partnerships and memorandums of understanding have been signed with the International Arctic Science Committee (IASC), the Scientific Committee on Antarctic Research (SCAR), Ice Drilling Program Office (IDPO), New

Zealand IceFest, and the Association of Polar Early Career Scientists (APECS). It is sponsored by the Arctic Research Consortium of the United States (ARCUS) and the Climate and Cryosphere (Clic) program.

Since the last workshop in 2012, one more took place in 2013 in Coimbra, Portugal; the next one is planned for April 2015 in Hannover, Germany.

PEI involvement in ICARP III

Since June 2014, PEI is an official participating organization of ICARP III and represented by Inga Beck (focus advisor PEI) on the Steering Committee. It will hence contribute to establish a framework for the next decades, including the identification of Arctic science priorities, the coordination of various Arctic research agendas, the information of policy makers and the public, as well as bridging the gap between producers and users of knowledge. As a non-scientific institution the main focus hereby will be on finding solution to distribute the scientific knowledge, on developing new partnerships with local and national institutions and on helping to build constructive relationships between producers and users. PEI sees its role mainly as moderator/communicator between research and public, with the task to filter the

Inga Beck

scientific findings and make them available in a transparent and understandable form for laymen.

Besides PEI is also interested in providing their future priorities in terms of polar issues, and to hence broaden the pure scientific inventory of recent and future activities to a more collaborative and interdisciplinary one.

Until the ICARP III conference in late April 2015 the following issues are planned:

- Survey of PEI members about their major future tasks in terms of polar outreach
- Compiling a document of the survey's outcome and provide it to ICARP III
- ICARP III related PEI/ IASC side-meeting at the PEI workshop in early April, 2015
- Participation at ASSW 2015
- Participation at ICARP III conference

PEI thereby hopes to better establish its position in the Arctic research community, to foster the collaboration with IASC, and to be involved in future polar initiatives.



SCAR Horizon Scan:

Antarctic and Southern Ocean Science on the Horizon

The Scientific Committee on Antarctic Research (SCAR) recently completed the 1st Antarctic and Southern Ocean Science Horizon Scan (Comment in Nature 512, 23–25; 2014; <http://www.nature.com/news/polar-research-six-priorities-for-antarctic-science-1.15658>). The full report will appear online in the journal Antarctic Science in August 2014.

In April 2014, 75 scientists and policy-makers from 22 countries gathered to agree on the priorities for Antarctic research for the next two decades and beyond (<http://www.scar.org/horizonscanning/>). This marked the first time the international Antarctic community has formulated a collective vision, through discussions, debate and voting. The Antarctic Science Horizon Scan narrowed a list of hundreds of scientific questions submitted by the community to the 80 most pressing ones. Questions were clustered into seven topics:

- Antarctic Atmosphere and Global Connections - questions that explore Antarctic atmospheric

processes as drivers of global weather and climate and the connections to mid- and low-latitudes;

- Southern Ocean and Sea Ice in a Warming World – research to better understand how the Southern Ocean and sea ice influence global climate, biogeochemical cycles and biological productivity;
- Ice Sheet and Sea Level – knowledge to advance our understanding of ice dynamics and ice sheet responses to atmospheric and oceanic forcing, and improve decadal- to century-scale predictions of ice loss and subsequent sea level rise
- The Dynamic Earth – study of deep-time to improve our understanding of plate tectonics, the evolution of life and the history of ice, and paleo- records to validate climate, ice sheet and sea level models
- Life on the Precipice – exploration of the interplay of evolutionary and ecological drivers to better understand Antarctic diversity, ecosystem structure and function and to predict

- responses to environmental change;
- Near-Earth Space and Beyond – observing space from Antarctica for insights into the origins and structure of the universe, the nature of the Dark Universe, the evolution of galaxies, the birth of stars, and the dynamics of near – Earth space, and to identify planets capable of sustaining life; and
- Human Presence in Antarctica – research to better define the impacts of humans on the Antarctic, and how this challenges Antarctic governance regimes.

The timing is opportune as IASC considers ICARP III and science priorities for the Arctic. Notably the Antarctic Science Horizon Scan report concludes that “...coordination of Antarctic and Arctic research will also be increasingly important, as both poles exert influences and respond to changes in the Earth and climate systems system in ways not seen elsewhere on the planet...” The time for a renewed commitment to bipolar research is at hand!



SCAR Horizon Scan, April 2014

National Contributions to ICARP III National Reports

- Canadian Polar Commission: “The State of Northern Knowledge in Canada”
- Japan Consortium for Arctic Environmental Research: “Future Plan for Arctic Research” (in preparation)

- Budějovice (Czech Republic), 21-24 September 2014
- Arctic Biodiversity Congress, Trondheim (Norway), 2-4 December
- Competitive Potential of the Northern and Arctic Regions, Arkhangelsk (Russia), 8-10 October 2014
- China Symposium on Polar Science (CSPS), Qingdao (China), 14-16 October 2014
- Arctic Change 2014, Ottawa (Canada), 8-12 December 2014
- Arctic Frontiers, Tromsø (Norway), 18-23 January 2015

ICARP III Events and Sessions at National and Thematic Conferences

- Inuit Circumpolar Council – General Assembly, Inuvik (Canada), 21-24 July 2014
- Arctic Circle, Reykjavik (Iceland), 31 October – 2 November 2014
- 11th Conference of Parliamentarians of the Arctic Region, Whitehorse (Canada), 9-11 September
- Czech Polar Ecology Conference, České

ICARP III Symposium at ASSW 2015

The final ICARP III event will be a Science Symposium at the ASSW 2015 in Toyama (Japan), combining ICARP III and the Fourth International Symposium on Arctic Research (ISAR-4). This combined four day Symposium on 27-30 April 2014 will address the overarching themes “Rapid Change of the Arctic Climate System and its Global Influence” (ISAR-4) and “Integrating Arctic Research: a Roadmap for the Future” (ICARP III). Based on session proposals received from the research community, the Conference Organizing Committee compiled a scientific program composed of 25 thematic and cross-cutting sessions. Abstract submission will open shortly at: <http://assw2015.org>. The call for abstracts closes 10 November 2014.

Current List of ICARP III Partners



Arctic Council Indigenous Peoples Secretariat (IPS)



Arctic Monitoring and Assessment Program (AMAP)



Association of Polar Early Career Scientists (APECS)



Arctic Research Consortium of the US (ARCUS)



Climate and Cryosphere (Clic)



Conservation of Arctic Flora and Fauna (CAFF)



European Polar Board (EPB)



Forum of Arctic Research Operators (FARO)



International Association of Cryospheric Sciences (IACS)



International Arctic Science Committee (IASC)



International Arctic Social Sciences Association (IASSA)



International Council for the Exploration of the Sea (ICES)



International Permafrost Association (IPA)



International Study of Arctic Change (ISAC)



Northern Research Forum (NRF)



Ny-Ålesund Science Managers Committee (NySMAC)



Pacific Arctic Group (PAG)



Polar Educators International (PEI)



Scientific Committee on Antarctic Research (SCAR)



University of the Arctic (UArctic)

IASC Council

Country

Organization

Representative

Austria	Austrian Polar Research Institute (APRI)	Wolfgang Schöner
Canada	Canadian Polar Commission	David Hik
China	Chinese Arctic and Antarctic Administration	Huigen Yang, Vice-President
Czech Republic	Centre for Polar Ecology	Josef Elster
Denmark/Greenland	Agency for Science, Technology and Innovation	Naja Mikkelsen, Vice-President
Finland	Delegation of the Finnish Academies of Science and Letters	Kari Laine
France	Institute Polaire Français	Yves Frenot
Germany	Deutsche Forschungsgemeinschaft	Karin Lochte
Iceland	RANNÍS, The Icelandic Centre for Research	Thorsteinn Gunnarsson
India	National Centre for Antarctic and Ocean Research (NCAOR)	Sivaramakrishnan Rajan
Italy	National Research Council of Italy	Carlo Brabante
Japan	Science Council of Japan	Tetsuo Ohata
The Netherlands	The Netherlands Organization for Scientific Research	Louwrens Hacquebord
Norway	The Research Council of Norway	Susan Barr, President
Poland	Polish Academy of Sciences, Committee on Polar Research	Jacek Jania
Russia	The Russian Academy of Sciences	Vladimir Pavlenko, Vice-President
Republic of Korea	Korea National Committee on Polar Research	Byong-Kwon Park
Spain	Comité Polar Español	Manuel Catalan
Sweden	The Swedish Research Council	Mats Andersson
Switzerland	Swiss Committee on Polar Research	Martin Lüthi
United Kingdom	Natural Environment Research Council	Cynan Ellis-Evans
USA	International Arctic Research Center	Larry Hinzman, Vice-President