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IASC PROGRESS FALL 2009



AT THE FRONTIERS OF POLAR SCIENCE

Celebrating the success of the past International Polar Year, the IPY Oslo Science Conference 2010 aims to become the main international event for the polar community. The organizers have just completed a challenging scientific programme that will attract interested parties from all over the world. In Oslo there will be the opportunity to display and explore the richness of IPY data and to chart the future direction of polar science.

The IPY conference will highlight the global impact of polar science, interdisciplinary and multinational research initiatives in the Arctic and Antarctic, and efforts in communicating science to the public. “The polar regions evoke a sense of discovery as locations of unexplored places and the origin of surprising findings that inspire unconventional thinking”, says Dr. Mahlon Kennicutt, President of the Scientific Committee on Antarctic Research (SCAR) and member of the overarching science committee for the conference.

Kennicutt is chairing one of the six conference themes ‘New frontiers, data practices and directions in polar research’, a theme, that according to its chair, highlights research at the frontiers of science.

Science that challenges current thinking

“Polar research often cross-cuts disciplines catalyzing new scientific directions and challenges current thinking”, says Kennicutt. It is a phrase that appropriately fits this celebration of a year that represents an ambitious international collaboration in globally urgent science. IPY 2007-2008 attracted more than 50,000 participants from different backgrounds and

disciplines, ranging from students to renowned scientists, from artist to politician and from journalist to technician. Through international projects and partnerships, covering nearly every scientific discipline, this IPY set new standards for technical achievement, data access and visualization, recruitment of new polar researchers, and education and outreach.

The IPY Oslo science conference takes place from 8 -12 June, 2010. The six main themes of the Scientific Programme are:

- * Linkages between Polar Regions and global systems
- * Past, present and future changes in Polar Regions
- * Polar ecosystems and biodiversity
- * Human dimensions of change: Health, society and resources
- * New frontiers, data practices and directions in polar research
- * Polar science education, outreach and communication

For more information, the science programme or information on sessions, please visit the official website at www.ipy-osc.no.

ARCTIC VENUE AT COP15

As the world leaders will assemble in Copenhagen in December 2009 to attend the UN COP15, an Arctic Venue will draw special attention to the consequences of climate change in the northern regions. The scientific world will be well represented by polar institutes and through lectures by renowned arctic scientists. In cooperation with the Scientific Committee on Antarctic Research (SCAR), the British Antarctic Survey (BAS) and the Alfred Wegener Institute (AWI), IASC will set up a live connection to the poles opening up the discussion between media, public and scientists in the field. More details on the Arctic Venue and the activities will be announced through the IASC website as soon as they are available.

SWIPA PRESENTS AT COP15

The first Snow, Water, Ice and Permafrost (SWIPA) report on 'The Greenland Ice Sheet in a Changing Climate' will be presented at the 15th Conference of Parties (COP15) under the United Nations Framework Convention on Climate Change (UNFCCC). The COP15 will take place in Copenhagen, Denmark in December this year.

The report together with a film about the Greenland Ice Sheet will be released at the 'Melting Ice and The Greenland Ice Sheet in a Changing Climate' side event at COP15 on December 14. A public presentation will be held at the Arctic Venue located at the North Atlantic House on the following day.

The final SWIPA reports will be handed over to the Arctic Council in Spring 2011 and will serve as an Arctic contribution to the Fifth Assessment Report

of the UN Intergovernmental Panel on Climate Change (IPCC), scheduled for completion in 2013/2014. The SWIPA project was established by the Arctic Council in April 2008 as a follow-up to the 2004 Arctic Climate Impact Assessment (ACIA).

The project is coordinated by the Arctic Monitoring and Assessment Program (AMAP), in cooperation with IASC and the Climate and Cryosphere (CliC) Project. Its goal is to assess current scientific information on changes in the Arctic cryosphere which have potentially far reaching implications for both the Arctic and the Earth as a whole.

The authors and expert groups from all SWIPA Modules will meet in Potsdam (Germany) from 12-15 January 2010. This SWIPA Cross-Fertilization Workshop will be hosted by the IASC Secretariat.

For more information visit: www.amap.no/swipa

Sustaining Arctic Observing Networks

A contribution by David Hik, Co-Chair of the SAON Steering Group and IASC Vice-President

At the beginning of IPY, both the Arctic Council and the World Meteorological Organization (WMO) urged member nations to maintain and extend long-term monitoring of change in the Arctic, with a view to building a lasting legacy of the International Polar Year. Over the next two years, a group of thirteen Arctic science organizations led a consultative process known as Sustaining Arctic Observing Networks (SAON).

The SAON vision was that there should be unencumbered access to free, open and high quality data that contribute to pan-Arctic and global value-added services and societal benefits. The SAON sponsoring organizations hosted a series of workshops in Stockholm, Edmonton and Helsinki (with side-meetings in Russia and South Korea) to identify mechanisms for enhancing Arctic-wide observing activities.

Recommendations from these workshops were published in January 2009 and presented to the meeting of Arctic Council Ministers in April 2009. The Arctic Council recognized the contribution of the SAON process to securing an IPY legacy, and agreed to take the lead in the continuation of the SAON process, in cooperation with IASC and other relevant partners. Formed in June 2009, the new SAON Steering Group consists of representatives from each of the eight Arctic Council member states, the six indigenous peoples

organizations that are Permanent Participants of Arctic Council, the Working Groups of Arctic Council, IASC and the WMO. AMAP and IASC agreed to provide a co-chair and secretarial support.



Photo: Witold Kaszkin

The SAON Steering Group has met twice by teleconference and initiated work on several priority activities including:

Identification of existing observing networks and opportunities for improving data access and data sharing. SAON is developing an inventory of established networks and data archives, and working with the IPY Data Management subcommittee to convene a meeting of observing networks and key data management experts.

Improving the linkage between community-based monitoring and science-based monitoring. A subgroup of SAON-SG members, supported by the Arctic Council working group on the Conservation of Arctic Flora and Fauna (CAFF), are compiling a list of organizations, programs, and networks implementing or making use of traditional and local knowledge.

Facilitating coordination and integration among activities supported by national agencies.

These issues will be addressed during a SAON sponsored meeting of national funding agencies tentatively scheduled for 18-19 March 2010 during the State of the Arctic Conference in Miami.

More information can be found on: www.arcticobserving.org

Exchanging knowledge and sharing experience

Kristin Poinar took part in this years Ice Sheet Models for the 21st Century Summer School organized on the campus of Portland State University. The Scientific Committee on Antarctic Research (SCAR) and IASC were two of the organizations that co-sponsored the event.

Why is a full-stress model important? Which area should I focus on in the next step of my career? What is with having to declare everything in Fortran? I learned the answers to all of these questions this summer at Portland State University in the excellent summer school that Christina Hulbe, Jesse Johnson, and Kees van der Veen convened.

Summer schools are important to the glaciology community because, well, there just are not enough of us to offer a satisfyingly diverse array of ice classes at each institution.

This summer school taught us those basics, from force balance and finite differences on up, but it quickly accelerated into specialized topics like basal processes, uncertainty in models, and using models - like COMSOL, GLIMMER, and even a clunky finite differences script we wrote ourselves - to solve problems.

'From clunky to elegant'

Actually, not nearly every group's model was as clunky as mine, and some were



A visit to the Eliot Glacier on Mount Hood (Oregon, USA) was part of the summer school program. Photograph: Patrick Aplegate

downright elegant. This was another strength of the modeling school - the nineteen students and nineteen instructor-students came from a broad splay of math, engineering, geology, physics, and computer science backgrounds. Some people could code in eight languages but encountered the term 'grounding line' for the first time at the school, while others were just the opposite. Since everyone had a different area of expertise, we were able to teach each other. I learned at least as

much from my five-person group as I did from the lectures and derivations. I tend to think of 'networking as a stressful, prim-and-proper activity, but it turns out that the whole time I was installing GLIMMER, turning model knobs, brow-scratching, and laughing with my group partners, I was building professional relationships.

Written by Kristin Poinar (University of Washington)

Arctic System Modeling

The workshop on International Collaboration in Arctic System Modeling, developed a framework for limited-area earth-system modelers to pool their expertise and identify common problems in simulating the Arctic using high-fidelity regional models. The meeting which was co-sponsored by IASC and held at the University of Quebec at Montreal in July, attracted seventy-four scientists from seven nations. The focus was on emerging model components, including sophisticated biogeochemistry, marine and terrestrial ecosystems, atmospheric chemistry and aerosols, ice sheets, and human systems modules. Participants heard of initiatives in several countries to incorporate these up-and-coming components into high-fidelity regional Arctic climate models. A consensus was reached on a framework for collaboration, with a grass-roots committee to be formed to convene regular, focused workshops and help steer the establishment of a hub to facilitate

collaboration among researchers working the Arctic environment. The meeting was further co-sponsored by the International Arctic Research Center, Centre pour l'étude et la simulation du climat à l'échelle régionale, University of Quebec at Montreal, and SEARCH for DAMOCLES.

Workshop proceedings are available at:
www.iarc.uaf.edu/workshops/2009/arctic_system_model_09

Drilling in the deep Arctic Basin

The International Ocean Drilling (IODP) meeting was held on September 23-25. Over 600 scientists from 21 countries met in Bremen, Germany to outline major scientific targets for a new ocean drilling program to succeed the current program which will end in 2013. IASC supported two scientists to attend the meeting and advocate drilling in the deep Arctic basin. The meeting resulted in recognizing the importance of the Arctic, but whether or not this results in a drilling there remains to be seen.

Polar Literature Platform

The Association of Polar Early Career Scientists (APECS) has launched a new virtual platform on polar literature. The platform will be a place where researchers, educators, and the general public can share literature, scientific publications and popular science articles on the Arctic and Antarctic. The aim is to improve methods as well as discover new ways to approach polar research questions, find potential collaborators, and stimulate multidisciplinary knowledge exchange around the globe.

To learn more visit:

<http://www.apecs.is/literature>





ARCTIC SCIENCE SUMMIT WEEK

The Arctic Science Summit Week (ASSW) 2010 will take place in Nuuk, Greenland from the 15th until the 19th of April 2010. The ASSW is a collaborative effort of the International Arctic Science Committee (IASC), the Arctic Ocean Sciences Board (AOSB), the European Polar Board (EPB), the Pacific Arctic Group (PAG) and the Forum of Arctic Research Operators (FARO). These international arctic science and research support organizations will

hold their business meetings, exchange expertise and explore new opportunities of cooperation. The organization of the ASSW 2010 is supported by the Commission for Scientific Research in Greenland and hosted by the Government of Greenland.

For more information on the program, travel arrangements and accommodation please visit the website at www.assw2010.org.

Upcoming IASC Workshops

- **Arctic in Rapid Transition Workshop.** International Arctic Research Centre (IARC) Fairbanks, Alaska, 7-9 November 2009. www.aosb.org/art.html
Formal start of the ART program. ART is a proposed integrative, multi-disciplinary, long-term pan-Arctic program to study changes and feedbacks with respect to physical characteristics and biogeochemical cycles of the Arctic Ocean and its biological productive capacity.
- **Network on Arctic Glaciology Workshop.** Obergurgl Austria, 7-10 March 2010. www.iasc-nag.org
The IASC Network NAG will host a workshop to further discuss the results emerging from the IPY project Glaciodyn and to plan future activities.
- **Circum-Boreal Vegetation Mapping Workshop** Toronto, Canada, 10 May 2010. www.cbvm.org
The workshop, organized by the Arctic Council working group on the Conservation of Arctic Flora and Fauna (CAFF), will bring key participants together to discuss legends, methods, and progress in the making of a Circum-Boreal Vegetation Map.

Upcoming conferences

ArcticNet 6th Annual Scientific Meeting
8-11 December 2009
Victoria Conference Centre, Victoria, Canada
www.arcticnetmeetings.ca

Arctic Frontiers - Living in the High North
24-29 January 2010
Tromsø, Norway
www.arctic-frontiers.com

State of The Arctic Conference
16-19 March 2010
Miami, USA
www.soa.arcus.org

Secretariat news

Sara Bowden, has joined the IASC secretariat staff. Her contact information is:

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