

# Northern Notes

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The IASSA secretariat is located at the Stefansson Arctic Institute in the Borgir Research Building – the white building to the right

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## In this Issue

FROM THE COUNCIL AND THE SECRETARIAT.....	2	▪ An Update on the Arctic Social Indicators Projcet (2006-2011) .....	11
FEATURES		▪ The Circumpolar Biodiversity Monitoring Programme .....	14
▪ IPY 2007-2008 and Social/Human Sciences: Mission Accomplished? .....	4	▪ Update on Social Sciences Initiatives within APECS .....	14
▪ Summary of International IPY Data Management Meeting, September 29-October 1, 2009, Ottawa, Ontario.....	7	CONFERENCES .....	16
▪ International Arctic Science Committee (IASC) Research Priorities in Human and Social Sciences .....	8	ANNOUNCEMENTS .....	17
▪ CAVIAR – Community Adaptation and Vulnerability in the Arctic Regions.....	9	NEW PUBLICATIONS .....	20
		ON THE WEB.....	24
		FUNDING .....	27

## FROM THE COUNCIL AND THE SECRETARIAT



### From the President

The year is quickly coming to an end, and this is a good time to look back at some of our accomplishments and activities over the past six months or so. It has been a busy year for the Arctic social sciences and IASSA. With IPY having officially ended many of us are still working on our IPY projects, and as an association we are looking back to assess what we achieved during IPY. Social science participation in the IPY certainly helped make the IPY more inclusive and cross-disciplinary. In this issue of Northern Notes, Igor Krupnik and Grete Hovelsrud look back at the accomplishments of the Arctic social sciences in the IPY, and offer a preliminary assessment of the impact created by the participation of social/human scientists, polar residents, and indigenous people. Igor and Grete emphasize that the IPY created the momentum to advance collaborative international research in social/human sciences to a new level. It also advanced the participation of Arctic residents, and particularly indigenous people – in science, research planning, data collection, management etc. The contribution made by indigenous knowledge represents a major IPY legacy (see article by Igor and Grete in this issue). Advances in the inclusion of indigenous people and local communities in research has also meant that many of the IPY projects are relevant to indigenous people and local communities and that they address issues of importance to them. The CAVIAR project is an example of an IPY project that involves locally based research, and embraces local involvement in research design, and local and traditional knowledge. For more on one of several IPY projects that has emphasized the relevance of research to local communities, and the close collaboration with local stakeholders, see the contribution on the CAVIAR project in this newsletter.

On the topic of IPY legacy, let me also briefly mention the IPY Data Management meeting I attended on behalf of IASSA on September 29 - October 1 in Ottawa, Canada. The meeting, hosted by the Canadian IPY Federal Program, was attended by participants from 10 countries as well as representatives from international Arctic and Antarctic science programs. The main discussions surrounded issues of polar data management, and analysis and preservation of data. The meeting also included a panel discussion on social sciences and traditional knowledge (see contribution by Scott Tomlinson for more on this). One of the

many issues raised during the three day meeting/workshop was the relatively weak structure, if any, of a coordinated strategy for social science data management, including IPY data. Further to this, I would propose that IASSA initiate a discussion of social science IPY data management. This is something we will discuss further within the IASSA Council. But exactly where are we at when it comes to IPY data management in social sciences? As a science we appear to have a relatively smaller tradition and a shorter history of data management than what we see in the natural sciences. Arctic social scientists who conduct research in the North generally have to abide by certain ethical research codes and principles for data management - including storing and disseminating data. Still, we seem to lack a broader discussion on this. Availability of meta data and data sharing, and storage of IPY data continue to be areas that need to be addressed, encouraged and further developed to help facilitate an IPY legacy.

I would like to remind you of our official observer status with the Arctic Council. I attended the November meeting of the Sustainable Development Working Group (SDWG), November 10-11, 2009 and part of the first day of the Senior Arctic Official (SAO) meeting held November 12-13, 2009 in Copenhagen. The SDWG meeting included a number of activity reports and updates, e.g. Arctic Human Health Experts Group; and Report on the Nuuk Seminar on Hope and Resilience in Suicide Prevention. Several project reports and updates were also presented: Arctic Social Indicators (ASI) (see my update later in this issue); Arctic Energy Summit (AES); Economy of the North (ECONOR II); Reindeer herding, traditional knowledge and adaptation to climate change and grazing of land, EALAT; Action Arctic ICT; and ArcticStat. Among new project proposals were: Arctic Indigenous Languages; and the Aleut International Association Languages proposal. There was also some discussion of the SDWG work program and cross-cutting activities, and in relation to this the Arctic Council working group CAFF (Conservation of Arctic Flora and Fauna) made a presentation with discussion on possible cooperation with the SDWG. One area mentioned in the CAFF presentation was the Arctic indigenous languages and their relationship to biodiversity. CAFF has looked briefly at language diversity and change over 75 languages. ArcticStat, SLiCA and ASI all commented on possibilities for collaboration with CAFF on the issue of language diversity and retention, and community monitoring. In particular, ASI, which is now in phase two where data will be collected on “language retention”, may present a good

opportunity for collaboration. Let me just mention here also that the first report of the Arctic Social Indicators (ASI) project - IPY 462 - was launched at the SDWG meeting on November 10<sup>th</sup>. Several of the lead authors and project team coordinators, all of whom are members of IASSA, were part of this launch in Copenhagen.

In connection with the Arctic Council, I also want to bring you a brief update on SWIPA (Climate Change and the Arctic Cryosphere: Snow, Water, Ice, and Permafrost in the Arctic) project. IASSA is member of the SWIPA Initiating Team. The SWIPA project is a follow-up to the Arctic Climate Impact Assessment (ACIA), and is coordinated by AMAP. It is compiling and assessing recent scientific information on changes in the Arctic cryosphere and their impacts on the ecosystem as well as the consequences of these changes on socio-economics and the health and lifestyles of people living in the Arctic. More detailed information is available from the AMAP website (<http://www.amap.no/>). A meeting of lead authors will be held in Potsdam in January 2010. Two IASSA councillors, Grete Hovelsrud and Birger Poppel, are among the lead authors of the SWIPA report and will participate in the Potsdam meeting.

I am sure most of you have followed COP15 closely. COP15 included an Arctic Venue, and IASSA like others, was invited to make a contribution there. While many IASSA members and some of our councillors were present and participated actively in several different activities and presentations, we did not have a separate IASSA booth or presentation. SWIPA was represented at that venue.

UNESCO held a book launch at COP15, launching the book "Climate Change and Arctic Sustainable Development: scientific, social, cultural and educational challenges". In the previous issue of Northern Notes I reported on the UNESCO workshop in March 2009 on Climate Change and Arctic Sustainability, where IASSA was invited - I participated together with a number of other IASSA members in that workshop. The book just launched at COP15 is a collection of articles by participants at the UNESCO workshop. As I reported on earlier, at the UNESCO workshop the Arctic social sciences were participating as equal partners with the natural sciences to address the complex repercussions engendered by global warming on the natural, social and cultural landscapes of the Arctic and sub-Arctic. This was a meeting designed to bring together relevant bodies of scientific expertise, ethical frameworks and specialized educational and cultural perspectives. This meeting was a

success not least because it succeeded in bringing together the various sciences, and indigenous peoples' representatives in one forum to discuss issues of joint interest and importance, while addressing key issues of indigenous peoples, and many social and ethical concerns.

Our association was among the initiating group in the Arctic Council project SAON – Sustaining Arctic Observing Networks. Reports on SAON can be found in earlier issues of Northern Notes. Arctic researchers, representatives of inter-governmental, national and sub-national government agencies, representatives of indigenous peoples organizations, and residents of the Arctic were part of the process of developing the SAON report, including IASSA members. The SAON report calls for better access to data to facilitate the IPY legacy. It is a process to "further multinational engagement in developing sustained and coordinated pan-Arctic observing and data sharing systems that serve societal needs, particularly related to environmental, social, economic and cultural issues" (see final SAON report at [www.arcticobserving.org](http://www.arcticobserving.org)). The brief update on SAON is that the Arctic Council working groups are now coordinating and leading the further process. At the recent meeting of the SDWG in Copenhagen – where IASSA has observer status - I was nominated to represent the SDWG in SAON. A meeting will be held in Miami in March 2010 at the Arctic Futures conference. More on this in the next issue of Northern Notes.

Let me also briefly remind you of a Letter of Agreement between IASSA and the International Arctic Science Committee (IASC), which was signed in Syktyvkar, Russia, at the ASSW 2008. Since then IASSA and IASC continue to explore ways for further collaboration, including looking at possibilities for integrated plans for scientific research, cooperation in arranging scientific conferences etc. IASC is also showing its support for the social sciences for example in co-sponsoring the workshops of two social science projects; a workshop on *The Future of Arctic Humanities and Social Science Research*; and the *Arctic Social Indicators* workshop (please see contribution by Louwrens Hacquebord on IASC research priorities).

IASSA Councillor, Alex King, is the current IASSA representative on the Scientific Steering Committee of Arctic Science Summit week (ASSW).

In this newsletter I also want to reaffirm our commitment to supporting young researchers. Over the past year IASSA has explored ways for

further collaboration with young researchers of the Northern Research Forum (NRF) and the Association of Early Career Scientists (APECS). In this issue, APECS President Gerlis Fugmann brings us an update on APECS, and it is exciting to hear that over the past year this association has grown in size to about 2000 members. APECS now has a Social Science Discipline Coordinator, and the aim is to help stimulate communication and help facilitate a strong voice for early career social science researchers and to facilitate better communication between social and natural scientists (see APECS contribution).

As the year comes to a close and we assess the outcome and achievements of the IPY it is clear that the Arctic social sciences have moved far to gain recognition and equal partner status in international forums and research policy circles. Looking back, it is evident that the collaborative work of IASSA and its membership has been an important contributing factor in facilitating the broader inclusion of the Arctic social sciences, and the improved access to funding and research opportunities. Let's continue to work hard to raise the profile and recognition that IASSA and Arctic social sciences now enjoy.

And now is just left for me to wish you all a very joyful and relaxed holiday season, with greetings from the IASSA secretariat here at the Stefansson Arctic Institute, where we are enjoying a wonderful northern snow blizzard.

Happy Holidays to you all!

Joan Nymand Larsen

### From the Secretary



After having had many suggestions from our graphic designer, and suggestions from IASSA council members, I am happy to say that the IASSA logo has been finalized. It is colourful and reminds us of the people living in the eight Arctic states. The acronym sticks out well and the spelled out name of the association is easy to read.

We really hope you will like it. Feel free to send us your comments!



The new website has also started taking shape. It will be hosted by [Arctic Portal](#) and be ready early in the new year. We have not set the date for its launch, but will send out a message on the list server as well as announcing it on the [old](#)

[website](#) and on the website of the Stefansson Arctic Institute. Once it is launched we trust that IASSA members will be active in sending us material and suggestions, so that this will be an interesting site that attracts many visitors.

As to Northern Notes we appreciate your response to our calls for contributions although we would like to get more! This is your newsletter and your contributions are vital for its existence. So please, keep the Northern Notes in mind when you read something or find interesting stuff you think would fit in our newsletter. You can send us your ideas/contributions at any time - you don't have to wait for our call. You may also want to submit photos with your contributions. On the topic of photos, if you have interesting photos from the North that you wouldn't mind sharing, please send them to us at the secretariat, and they may be featured as part of the new IASSA website.

Let me also remind you of the main event of our Association, the ICASS VII, which will take place in Akureyri in June 2011. Details and information on session proposals, calls, etc will appear on the new IASSA website as they become available in the New Year.

Lára, our IASSA secretary, will bring you an update just below, including an update on the new IASSA logo and website.

Happy Holiday greetings and all the best in the New Year.

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## FEATURES

### IPY 2007-2008 and Social/Human Sciences: Mission Accomplished?

by Igor Krupnik and Grete Hovelsrud

In early 2005, a few months after IASSA's entry into IPY 2007–2008, the IASSA-IPY 'planning team' published a paper in the journal *ARCTIC* that described the role of social sciences and the humanities in IPY as an 'integrating mission.'<sup>1</sup> That paper was, in fact, an enlarged version of the Preamble produced by the planning team in August 2004 for the IPY *Framework* document (ICSU 2004), to justify IASSA's argument for a

<sup>1</sup> Krupnik, I. Bravo, M. Csonka, Y. Hovelsrud-Broda, G. Müller-Wille, L. Poppel, B. Schweitzer, P. Sörlin, S. Social Sciences and Humanities in the International Polar Year 2007–2008: An integrating mission. *ARCTIC* 58(1), March 2005, pp. 91-95.

special 'social and humanities' theme in IPY. The IASSA membership was kept informed of developments in IPY social and humanities field through subsequent updates for the *Northern Notes* newsletter and elsewhere (Hovelsrud and Krupnik 2006; Hovelsrud and Helgeson 2006; Krupnik 2006; 2007; 2009) and at ICASS-6 in Nuuk in August 2008. This paper offers a preliminary assessment of the impact created by the participation of social/human scientists, polar residents, and indigenous people in IPY 2007–2008, and the new realities it helped initiate in polar research.

*Scope.* Altogether, over 30 endorsed international projects and several dozen national IPY initiatives have addressed polar social and humanities issues during 2006–2009; several projects are ongoing and will continue into 2010. The majority of those projects involved indigenous and local groups and organizations as partners or leaders, particularly those looking at community responses and adaptations to rapid climate and socio-economic changes (see below). Several local communities have joined IPY monitoring networks to collect, exchange and document observations of changes in sea ice, biota, weather and climate. IPY researchers also studied Arctic human health issues, including diseases such as tuberculosis, food security, traditional food sources, the impact of global contaminants, and new risks to Arctic residents.

Altogether, the IPY social/human science projects engaged several hundred (up to 500-600, upon preliminary count) scientists, students, indigenous experts, local monitors, and representatives of major organizations of polar residents in all circumpolar nations.<sup>2</sup> As claimed by many independent observers, the introduction of social sciences and engagement of polar residents contributed to the new spirit of IPY 2007–2008 and made it a genuine multi-disciplinary enterprise. Compared to an almost 'zero' input in IPY-2 in 1932–1933 and in IGY in 1957–1958, the social/human studies account for more than 20% of all scholarly activities in this IPY and, perhaps, a third of its public and educational impact.

*Inter-disciplinary and international collaboration.* Social/human scientists have already participated in a number of large interdisciplinary science initiatives prior to IPY 2007–2008 (the

<sup>2</sup> As of today's count, researchers from 18 nations (Australia, Bulgaria, Canada, Estonia, Denmark/Greenland, Finland, France, Germany, Iceland, Italy, New Zealand, the Netherlands, Norway, Poland, Russia, Sweden, UK, USA) participated in various IPY projects in social/human sciences.

International Biological Program, IBP in 1964–1974 was perhaps, the first of significance). Nonetheless, the science scope of this IPY was remarkably different from any of the preceding large-scale polar science programs and certainly by comparison with the earlier IPY/IGY. Dedicated efforts were made to include synthetic cross-disciplinary studies and projects exploring the human dimension, ecological diversity, and community and ecosystem health.

For the first time in IPY–IGY history, physical, natural, social and humanistic scientists and local community-based experts worked together under a common multidisciplinary science framework. This new form of cross-disciplinary collaboration is widely perceived as a lasting achievement of IPY. It marks an extraordinary advance in our perception of the complexities of the polar regions and of the importance of synthesis, knowledge integration and data sharing in the understanding of processes that affect our planet.

IPY 2007–2008 created the momentum to advance collaborative international research in social/human sciences to a new level. All endorsed international projects included partners from several nations. Many projects were, in fact, coordinated programs made of several local efforts, with teams of researchers working in several areas under a concerted agenda, though with individual national planning and funding (i.e., nos. 6, 10, 100, 120, 123, 157, 162, 166, 399, 436, 462, and many other). This marks a tremendous advance in social science scope and planning; it helps bring social studies structurally closer to the more complex organization of natural sciences and interdisciplinary programs that now dominate research across the polar regions.

*Partnership with polar residents.* IPY 2007–2008 has advanced the participation of Arctic residents, and particularly indigenous people, in polar science at all levels, including in research planning, data collection, management, analysis and outreach. For the first time, Arctic residents and their organizations have acted as full partners and leaders in several international projects (i.e., nos. 30, 46, 183, 187, 247, 399, etc.) that involved participants from many nations and disciplines. The contributions, observations and knowledge contributed by Arctic residents have proven key to the success of several IPY studies on the dynamics of sea ice, weather, changes in habitat and wildlife distribution, sustainability of local economies, public health and community well-being. These developments will enable future research to make maximum use of indigenous knowledge and for indigenous communities to



benefit from scientific advances in their own regions. This legacy of partnership has built a solid foundation for the engagement of Arctic residents and indigenous peoples in future large-scale science projects. It has also ensured that the research undertaken during IPY was relevant for the communities engaged in collaborative studies and addressed the issues high on communities priority list, such as health and well-being, long-term sustainability, language and knowledge preservation, subsistence rights, economic and policy development..

*Key science themes.* Of six main themes of IPY 2007–2008, none was perhaps more central to the IPY planners than producing a baseline ‘snapshot’ of contemporary natural and human environments and processes across the polar regions (“Theme #1: To determine the present environmental status of the polar regions”). A special sub-set of that theme was the addition of human societies and human-environmental interactions, including human health (“How do human societies interact with the present natural environment of polar regions, and with its spatial and temporal variability?”). Almost every major program in the IPY social/human field assessed the contemporary status of the polar regions, for example, human health (no.166), community development (nos. 157, 462), industrial exploitation (nos. 46, 227, 310), indigenous language and knowledge preservation (nos. 82, 123, 164, 166, 183), protection of cultural heritage (nos. 10, 100, 135), and local resource use (nos. 162, 247, 399, 408). Though it may be hard to compile something akin to a new *Arctic Human Development Report* (2004) out of the collective record of individual IPY project, the sheer scope of the IPY social studies ensures that data from IPY projects will be used as comparative baseline for decades to come. Of course, the long-term comparative value of the IPY studies is contingent upon individual projects making their data available to a wider community in accordance with the IPY requirements.

*Most urgent issues (frontiers).* Theme #4 of the IPY ‘science plan’ (“To investigate the frontiers of science in the polar regions”) introduced a diverse list of science issues that the IPY planners viewed as most rapidly developing fields in polar research. It also included a set of social topics that were seen as particularly relevant to IPY; “What will be the nature and extent of social transformations induced by large-scale resource exploitation, industrialization and infrastructures development in polar regions? How will these influence relations between demographic, economic and social trends, and ultimately impact the environment?”

Several endorsed IPY projects in social/human studies addressed precisely these topics (i.e. nos. 10, 46, 157, 227, 310, 335, 462, 399, etc.). At the same time other areas emerged as ‘frontiers’ in polar social research, thanks to IPY. If ‘frontiers’ are to be identified as areas of most rapid advance in terms of research, publications, number of new projects and researchers, then the clear winners are the themes related to local observations and interpretation of change, both environmental and social (see below). These themes include indigenous environmental knowledge and its relations to the data and interpretations developed by physical and natural scientists, new socio-political realities in the post-Cold War Arctic (movement of people, institutions, and ideas), and new collaborative studies initiated by local communities to address their economic, cultural, and political needs. In addition, we witnessed a remarkable resurgence of studies in the history of science, polar explorations, and in society’s views on the role of the polar regions that has been common to the previous IPY/IGY. In fact, of all groups of scholars participating in IPY, social scientists put most resources and attention in studying the legacy of the early IPY ventures and their role in shaping the face of polar science.

*Change in the polar regions* was one of the key issues that dominated the vision for IPY science during the early planning period of in 2003–2005 (Theme #2: To quantify, and understand, past and present natural environmental and social change in the polar regions). To better encapsulate the role of social sciences, Theme 2 was re-formulated to include ‘the socio-economic consequences of environmental changes in polar regions, and how do polar communities respond to and interact with change.’ Perhaps, the very addition of ‘change’ as the key science theme has emerged as the hallmark of this IPY, as compared to its predecessors. The emphasis on change also reflects of growing concern about global warming, environmental diversity, and the industrial exploitation of land and ocean resources (and its societal impacts) which constitute the leading issues on the agenda of modern interdisciplinary science.

‘Change,’ both environmental and social, featured prominently in many IPY social projects. IPY social projects addressed the many and varied aspects of change, and prominent amongst these were oil and gas development, the shrinking of polar ice, community integration, well-being and threats to indigenous languages and cultures. In addition, several studies also focused on how climate warming has become an added factor in accelerating or influencing social change. From

the perspective of polar residents, climate warming should be seen as but one driver of change in conjunction with many other social, political, and economic developments. Understanding this new interplay among multiple drivers of change in the polar regions is a challenge both to social scientists and to larger interdisciplinary projects, in general. One of the results of IPY is a much more active inclusion of social sciences in such large interdisciplinary research ventures (like ISAC, SAON, DAMOCLES, SWIPA, and other). Another outcome is an almost universal requirement of societal impacts and of the input from polar residents to be included to any future major studies of polar regions to be initiated by the Arctic Council, IASC, and other organizations.

*Antarctic social sciences.* Since the early planning for IPY 2007–2008, most of the projects in social and human sciences have been focused on the Arctic, with the exception of a few bi-polar projects, primarily in polar heritage and history of explorations (nos. 10, 27, 100, 135). Nonetheless, IPY has given rise to a number of successful social research projects in Antarctica (in the history of science, polar explorations, governance, tourism, economic sustainability, etc.), and has helped establish a small, though vocal, community of Antarctic social scientists. In summer 2004, acknowledging this new trend, the Scientific Committee for Antarctic Research (SCAR) created a special ‘action group’ on *The History of Institutionalization of Antarctic Research*, under the leadership of Cornelia Luedecke (IPY #27). The group held five sessions during 2005–2009, produced several important publications, and has a major collection in press. In 2009 SCAR agreed, for the first time in its 50-year history, to establish a special *Social Science Action Group* (SSAG) to be chaired by two social scientists from New Zealand, Daniela Liggitt and Gary Steel (see <http://www.scar.org/researchgroups/via/>). This is a most welcome development, since for the first time in its 20-year history IASSA may get an active and enthusiastic ‘sister’ organization from the southern hemisphere.<sup>3</sup>

*Other impacts.* There are several other ‘footprints’ of social and human sciences’ presence in this IPY that have gradually become evident over the course of the program. Social scientists championed the development of ‘ethical principles’ for conducting IPY research

<sup>3</sup> We are grateful to Daniela Liggitt ([daniela.haase@canterbury.ac.nz](mailto:daniela.haase@canterbury.ac.nz)) and Gary Steel ([gary.steel@lincoln.ac.nz](mailto:gary.steel@lincoln.ac.nz)) for this information.

(<http://www.ipy.org/ipy-blogs/item/796>). Social scientists were the first to argue for the documentation of the IPY ‘history,’ that is, for collecting narratives, documents, and memoirs related to the origination and early planning for IPY 2007–2008. The results of this work are summarized in the opening sections of the JC IPY Report. We advocated for the effort to secure and preserve IPY-related documentation and memorabilia, that is, for the creation of the IPY archives, if not an ‘IPY 2007–2008 Museum.’ The Scott Polar Research Institute in Cambridge, UK kindly agreed to host both types of the IPY-related materials.

These are some preliminary ideas that we believe are of interest to the IPY participants and to the broad polar social science community. Presently, the IPY Joint Committee (JC) is working on a major summary report on the IPY 2007–2008 planning, operations, and legacies. The Report is due by the time of the main IPY conference in Oslo in June 2010 and is being prepared by a large international and cross-disciplinary team of more than 50 contributors, under general editorship of Igor Krupnik and David Hik. The Summary Report will contain a more detailed summary of the IPY social sciences and humanities activities, dependent upon information and input from individual IPY projects. A special section on the human health studies in IPY is being prepared by another team led by Alan Parkinson and Kue Young. Stay tune for the next issue of the *NoNo* newsletter for more developments related to the Joint Committee’s IPY Report and to the Oslo IPY conference in June 2010.

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### **Summary of International IPY Data Management Meeting, September 29 - October 1, 2009, Ottawa, Ontario**

On behalf of the IPY International Programme Office, The Canadian IPY Federal Program hosted a meeting of the International IPY Data Management Committee, September 29 to

October 1 in Ottawa, Ontario. This meeting was attended by participants from 10 countries with active IPY programs as well as representatives from international Arctic and Antarctic science programs (i.e. SAON) as well as global programs (i.e. WMO).

The meeting was organized with day one (September 29) consisting of plenary with a focus on current and future polar data activities as well as a panel discussion on social sciences and traditional knowledge data and information management. Day two was reserved for 4 breakout sessions on the following topics, Governance and sustainability of sharing and interoperability of IPY/Polar data, Practical Approaches to interoperability, Future and processes of archiving and preservation of IPY/Polar data, and, Defining the IPY Data Collection.

The discussions in each of the breakout sessions were intended to provide content for sections in the State of Polar Data Report. Day three, (October 1) was dedicated to compiling the content from the breakout sessions and begin drafting the State of Polar Data Report. Some of the main challenges that will drive the polar data agenda are: ensuring IPY data are made accessible, promote sustainability and buy in from national institutions and international organizations, and, facilitating better integration of physical science and social science data.



The co-chairs of the meeting, Taco de Bruin (Netherlands) and Mark Parsons (USA) will act a chief editors of the State of Polar Data document while Scott Tomlinson (Canada), Øystein Godøy (Norway) and Julie Leclert (UK) were nominated as editors of the Governance, Interoperability and Preservation sections of the report respectively. An aggressive timeline was set to ensure that the document is ready for the Oslo conference in 2010, with a first draft to be completed by December 2009, and a final draft to be sent to the IPY Joint Committee by early February 2010.

The meeting was ideally timed to discuss issues of polar data management as the focus of many IPY projects has now shifted to analysis and preservation of data. Canada was thanked by the co-chairs and many international participants for hosting this meeting and providing an opportunity for the key issues on polar data management to be discussed.

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## **International Arctic Science Committee (IASC) Research Priorities in Human and Social Sciences**

by Louwrens Hacquebord

In the last five years, human and social sciences have finally achieved the position in polar research that they deserve. From the very beginning in 1990, the International Arctic Science Committee (IASC) has been a multidisciplinary organization, covering all fields of Arctic research. In the newest listing of research priorities, the importance of the human and social sciences as an integrative part of science in the Arctic is further underlined.

Although much research in this field had been done previously, the Arctic Climate Impact Assessment (ACIA) in 2005 increased research endeavors in the field of humanities and social sciences enormously. For the first time the impact of a warming Arctic was studied not only from a natural sciences perspective but also from that of the Human and Social Sciences. Eight of the eighteen chapters in this report contain information about the impact of a changing Arctic on human activities. In the same period the Arctic Human Development Report (AHDR, 2004) was written to provide a comprehensive knowledge base for the Arctic Council's sustainable development program by providing an assessment of human development in the Arctic.

Based on these two reports, the International Conference on Arctic research Planning (ICARP) II (2005) formulated two science plans in this field. This increased interest induced an extra theme in the program of the International Polar Year (IPY) especially devoted to the human and social sciences in polar areas. It has stimulated this field of research enormously. Several IPY projects carried out under this theme have produced very promising results.

IASC will especially undertake and stimulate activities that elaborate on the two ICARP II science plans named *Arctic Economies and Sustainable Development* and *Indigenous Peoples and Change in the Arctic: Adaptation, Adjustment and Empowerment*. Besides these two plans, research in the fields of human and social sciences



may play a role in several other science plans that resulted from the ICARP II process underlining the importance of, and opportunities rising from a multidisciplinary approach.

However, studies of the history of the exploration and exploitation of natural resources and of the history of science are missing in the ICARP II program. These aspects were included in the EUROCORES program BOREAS: Histories from the North, environments, movements, and narratives. This EUROCORES program started in 2005 and draws attention to the history of the Arctic. IPY projects such as LASHIPA, large-scale historical exploitation of Polar Areas, and Field Stations have elaborated on this aspect. The current geopolitical situation in the north makes this research very relevant and interesting for the human and social dimension within IASC.

In short we can summarize the following special research areas that are considered by IASC as areas of paramount importance:

- Indigenous peoples and arctic change: adaptation, adjustment and empowerment;
- Arctic economies and sustainable development;
- Arctic governance and geopolitical developments;
- The history of the exploration and exploitation of natural resources in the Arctic;
- The history of arctic science.

These thematic foci were reflected in the program of the Open Science Symposium organized during the last Arctic Science Summit Week (ASSW) in Bergen. Two out of the eight sessions were completely dedicated to research results from the humanities and social sciences, namely:

*Indigenous Cultures - Past to Future* and *History of Arctic Science*. Two others sessions: *Risks to Human Health from a changing Arctic* and *Sea Ice Changes and the impacts on Biodiversity and Human Communities*, had a strong link to the social as well as the natural sciences and were a strong exhibit of the multidisciplinary character of arctic science.

In the upcoming year IASC will further co-sponsor two workshops directed at the implementation of the Arctic Social indicator (ASI) monitoring system and exploring ways to guarantee renewed innovative and international research activities around social and cultural systems in the Arctic. The ASI project workshop is the completion of the work plan for the ASI-II process, and the identification of key data challenges and steps ahead to help facilitate the further process of ASI towards achieving the overall project goals. The ASI project will leave an IPY legacy of human dimension databases of constructed and measured arctic specific

indicators that reflect a range of aspects of human development in the Arctic (including economy, health, education, culture, fate control, and closeness to nature). In *The Future of Arctic Humanities and Social Science Research* participants will review thematic priorities, as well as present and future organizational and funding mechanisms necessary to translate research ideas into research activities.

These are just a few examples of upcoming IASC supported activities. We are looking forward to another year of encouraging, facilitating and promoting leading-edge multi-disciplinary research to foster a greater scientific understanding of the arctic region and its role in the Earth system. And as always, in close cooperation with our partner IASSA.

Louwrens Hacquebord

Director

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## **CAVIAR - Community Adaptation and Vulnerability in the Arctic Regions**

by Grete K. Hovelsrud

CAVIAR is an International Polar Year project, and a pan-Arctic consortium. Locally based research takes place in Canada, Finland, Greenland, Iceland, Norway, Russia, Sweden and the USA. CAVIAR is led by Grete Hovelsrud, CICERO, Norway and Barry Smit, University of Guelph, Canada. The research embraces the historical context of change, local involvement in research design, local and traditional knowledge, case studies and local, regional, national governance levels. The results from interdisciplinary research are relevant for policy makers. CAVIAR is about the relationship between people and the environment in which they live. The aim is to understand how projected changes in climate interact with social and environmental changes in shaping adaptation and vulnerability to climate change. The local communities define the focus of the study together with the researchers. CAVIAR builds on lessons from the Arctic Climate Impact Assessment (ACIA) that rapid environmental and societal changes takes place in the Arctic, that communities are highly adaptable but more vulnerable than before in the face of the recent and rapid changes and that community focus and involvement in research is critical.

Interest in the ways that people in the Arctic are affected by climate change and how they can

adapt has been expressed by researchers, policy makers, and local and indigenous communities. Considerable information is now available on climate change and its physical impacts in the Arctic including evidence from local observations. Documentation of how Arctic communities are affected and how they might adapt is an emerging but still underdeveloped area of research. The CAVIAR project is designed to address these research and policy needs.

Arctic communities face challenges related to climate change combined with changes in dynamic global economic, political, and social systems. Fishermen in northern Norway currently have a viable cod industry, but they are susceptible to changing ocean conditions affecting fish stocks and to shifts in markets and institutional arrangements. Inuit subsistence harvesting of seals, whales and other species is highly influenced by changing habitat conditions and by government regulations and international agreements. Efforts to address climate and other changes in the Arctic involve individuals, communities and governance institutions that are all influenced by local, regional and global forces. Climate change is exacerbating many existing challenges that Arctic communities face related to health and a variety of social issues, wildlife harvesting and animal husbandry, community and transportation infrastructure, and to resource extraction and other competing land uses. The CAVIAR project focuses on understanding the ways that climate change affects communities and identifying adaptation options, which requires a broad assessment of the interrelated stresses that communities are facing. The project includes 26 case studies being carried out in all eight Arctic countries. The study sites include coastal and reindeer herding in Sámi communities, remote Inuit communities, fishing villages and larger “gateway” cities. First, in the case studies we utilize the same research framework for conceptualizing adaptation and vulnerability in the local communities. Active involvement in research design and throughout the project by local partners is a second critical feature. Thirdly, a common framework allow for comparison of adaptation needs and vulnerability across communities and countries.

It is important to CAVIAR research that it is relevant to the local communities, and therefore close collaboration with local stakeholders is critical. Our research is unique in that it starts with an initial visit to the community to meet with potential local partners to frame the research questions. Once the focus are defined further field work is carried out in the communities to identify

the local challenges, including climate change, their adaptive strategies, and vulnerability to change. In our case communities, climate change is linked to a range of issues concerned with natural resource use and municipal maintenance and planning, with varying importance between the different communities.

We have made repeated visits to the case communities to present the project, secure agreement to collaborate, discuss the research focus, and identify the locally relevant environmental and societal focus, including climate or weather related topics if raised by the partners. The researchers have engaged in participant observation, conducted semi-structured interviews with local government representatives, both decision-makers and politicians, oil and gas industry, fishermen, fishing industry, farmers, reindeer herders, entrepreneurs, tourist industry, store owners and “people at the local pubs”. One major challenge is to tease out how social, economic and political factors interact with climate change in shaping vulnerability. Another is to understand how societal aspects may aggravate or alleviate the consequences of climate change. Yet other challenges include how to identify relevant indicators for vulnerability, how to develop scenarios for future societal changes, understand how multiple factors interact to cause community change, how to best facilitate local community involvement, and how to compare local studies to increase our general understanding about vulnerability and adaptation.

Useful verbal opinions on the project so far include: “We very much enjoy being asked to participate in a project which engages our community.” “We know where we live and we are used to all kinds of rough weather.” “The climate is always changing in this part of the world.” “We are used to adapting to climate and weather, but we see new and different changes now.” “Working with the social sciences in this project has taught us climatologists a lot about what is important in the Arctic communities in terms of weather elements.” “It is unusual for scientists to come and ask what the local people think about.” “Working closely with the communities show us how much knowledge and expertise local people have.”

In CAVIAR, scientists from a number of disciplines work closely with community members in integrating scientific, local and traditional knowledge. Such integration is essential for understanding local adaptation and vulnerability to climatic and other changes. CAVIAR project case studies are carried out in 26 communities in Canada, Greenland, Finland,

Iceland, Norway, Russia, Sweden and the USA. The scientists have formed partnerships with the community members in each of the case studies in addition to the scientific partnerships. A number of young scholars, Master and graduate students are involved and form their own partnerships to increase their Arctic network. The work is predominantly carried out by various social science disciplines such as anthropology, geography, and political science, but strong partnerships have formed with unlikely bed mates from other scientific disciplines such as climatology, oceanography, fisheries biology and hydrology. These scientific partnerships are formed and driven by the need for understanding physical processes of relevance to the local communities. Because one of the aims of the project is to compare across communities, regions and countries we find partners from Alaska, USA, Murmansk, Russia and Finnmark, Norway addressing similar issues connected with reindeer herding. Topics on fisheries create partners in Iceland, Norway, Greenland and Russia, and understanding of forestry in Sweden is useful for partners in Finland and Canada. The exchange between local and science partners have broaden all of our perspectives.

A host of social, economic and political changes are taking place in the Arctic, many of which are linked to or compounded by climatic and related environmental change. In this project we have made repeated visits to the communities for feedback on our preliminary interpretations and understandings of current challenges faced by the communities. To some extent the challenges include the consequences of climate change, but not only. In the north weather is always an important topic and people are used to adapting to extreme conditions. However, the current observations indicate the communities now face new and different weather conditions, which are linked to climate change. This includes changes in sea ice conditions, distribution and migration of economically important fish species, moth attacks on birch forests, and icing conditions on fishing vessels, the tundra and on roads. The consequences of changes in temperature and precipitation vary greatly between the communities and are closely related to the particular local livelihoods and activities.

The researchers and local partners have identified non-climatic factors such as social conditions, economy, demography, and resource management as being important for the viability of the communities. The communities are in different ways vulnerable to a combination of climatic and societal changes. Some indigenous communities face considerable cultural and social change

driven by outside influence, which require adaptive strategies to cope. Some communities are dependent upon subsistence related livelihoods, which make them vulnerable to changes in the resource base. Others may exploit natural resources for external markets and are vulnerable to changes in the resource base and sensitive to changing markets. Other communities may be more sensitive to conditions that may challenge community infrastructure in terms of melting permafrost and avalanches. Our next steps will be to analyse future vulnerability to change in the case communities, and to compare across the Arctic in order to provide policy makers with better tools for the future.

(Published in International Innovation November 2009)

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### **An Update on the Arctic Social Indicators Project (2006-2011)**

by Joan Nymand Larsen

The Arctic Social Indicators (ASI) project - IPY # 462 - is a project following up on the activities of the Arctic Human Development Report (AHDR), and was initiated by the Stefansson Arctic Institute, Akureyri, Iceland. The project is endorsed by the Arctic Council, and is financially supported by the Nordic Council of Minister's Arctic Cooperation Programme. ASI has been divided into two phases; phase I on the construction of Arctic social indicators, which ran from 2006-2008; and phase II ( 2009-2011), on the implementation of the ASI indicators.

In 2006, the ASI project responded to the AHDR (2004), in aiming to develop a set of indicators to track changes in human development in the Arctic, for domains that reflect prominent aspects of human development in the Arctic. The project's long range goal of devising Arctic social indicators is to design and move towards the implementation of a system for monitoring changes in human development in the Arctic and to further our understanding of living conditions within this region.

The goal of ASI-I was to weigh the relative merits of a range of proposed indicators of human development in the Arctic, and to develop and select a number of indicators that seem most likely to prove successful in this context. ASI was

implemented with the objective to devise a limited set of indicators that reflect key aspects of human development in the Arctic, that are tractable in terms of measurement, and that can be monitored over time at a reasonable cost in terms of labour and material resources.

A critical outcome of the AHDR was the conceptualization of dimensions of human development in the Arctic. The report contended that measuring human development in the Arctic would require a distinct set of indicators. Simply using the UN Human Development Index to measure human development in the Arctic would result in a distorted picture.

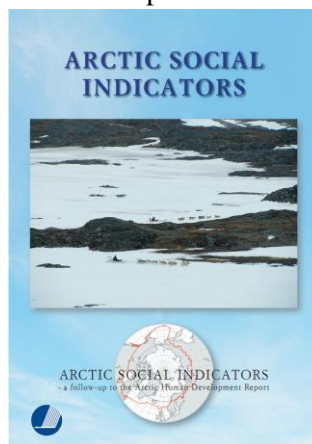
Six domains for the development of ASI indicators were chosen – three domains that reflect prominent aspects of human development in the Arctic, and another three domains that are correspond with those used by the UN in its construction of the UN HDI: (1) Fate control and or the ability to guide one's own destiny; (2) Cultural integrity or belonging to a viable local culture; (3) Contact with nature or interacting closely with the natural world; (4) Material Well-being; (5) Education; (6) Health/Population.

In phase one of ASI, indicators were identified and selected based on a set of selection criteria that include: ease of measurement, affordability, robustness, data availability, interest of stakeholders, measurability at different levels, applicability to both indigenous and non-indigenous inhabitants, and internal validity. The task of identifying and selecting the best possible indicator set, using the list of selection criteria, proved to be particularly challenging. All efforts to develop indicators must strike a balance between the analytic attractions of relying on a single indicator and the desire to introduce a large number of indicators in the interests of developing an accurate picture of complex and multi-dimensional phenomena. But going to the other extreme and ending up with dozens of indicators in the interests of capturing all the dimensions of a complex phenomenon is equally problematic. Not only does this create major measurement problems; it also can lead to disparate measures that are difficult to interpret.

Identifying the best possible indicator is a major challenge. An indicator should be the most accurate statistic for measuring both the level and extent of change in the social outcome of interest. It should adequately reflect what it is intended to measure, and ideally there should be wide support for the indicators chosen so they will not be changed regularly. It is critical that the chosen indicators are consistent over time and across

places, as the usefulness of indicators is related directly to the ability to track trends over time and compare the well-being of regions. Data needs to be collected and reported regularly and frequently to ensure they provide timely information. The need for consistency in indicators places increased demands on the adoption of common data protocols and metadata. There are a number of possible trade-offs that need to be considered in selecting the best indicator among a set of possible indicators. The best measures may not be collected frequently enough to allow yearly comparisons. As in the case of other indicators of human development in the Arctic we face important trade-offs in the construction and measurement of ASI indicators. Compromises will need to be made to achieve good indicators that are obtainable at a reasonable cost in terms of time and resources. This may come at the cost of constructing an ideal yet probably unattainable indicator. It is within the scope of the ASI to identify and work towards meeting these challenges.

ASI phase I - now completed - covered the initial developmental stage in a long-term effort to measure and monitor human development on an integrated basis in the circumpolar Arctic. With this developmental phase of ASI now completed the next step is to move to ASI-II on



implementation, with the aim to work towards a system of long-term monitoring.

The first ASI report – representing phase I on indicator construction and data challenges - is about 160 pages in length and has eight chapters:

**Chapter 1: *Introduction: Human Development in the Arctic and Arctic Social Indicators***

Joan Nymand Larsen, Stefansson Arctic Institute & University of Akureyri, Iceland; and Gail Fondahl, University of Northern British Columbia, Canada; and Oran Young, Bren School of Environmental Science and Management, University of California (Santa Barbara), USA.

**Chapter 2: *Health and Population***

Lawrence Hamilton, University of New Hampshire, USA; Peter Bjerregaard, National Institute of Public Health, University of Southern Denmark; and Birger Poppel,



Ilisimatusarfik, University of Greenland,  
Greenland

Chapter 3: ***Material Well-being in the Arctic***

Joan Nymand Larsen, Stefansson Arctic Institute  
& University of Akureyri, Iceland; and Lee  
Huskey, University of Alaska Anchorage, USA

Chapter 4: ***Education***

Rasmus Ole Rasmussen, Nordregio – Nordic  
Centre for Spatial Development, Sweden;  
Raymond Barnhardt, University of Alaska  
Fairbanks, USA; and Jan Henry Keskitalo, Sámi  
University College, Kautokeino, Norway

Chapter 5: ***Cultural Well-being and Cultural  
Vitality***

Peter Schweitzer, University of Alaska Fairbanks,  
USA; Stephanie Irlbacher Fox, Fox Consulting,  
Yellowknife, Canada; Yvon Csonka, Federal  
Statistical Office, Switzerland; and Lawrence  
Kaplan, University of Alaska Fairbanks, USA

Chapter 6: ***Contact with Nature***

Susan A. Crate, George Mason University, USA;  
Bruce C. Forbes, Arctic Centre, University of  
Lapland, Finland; Leslie King, Vancouver Island  
University, Canada; and Jack Kruse, University  
of Alaska Anchorage, USA

Chapter 7: ***Fate Control***

Jens Dahl, University of Copenhagen, Denmark;  
Gail Fondahl, University of Northern British  
Columbia, Canada; Andrey Petrov, University of  
Northern Iowa, USA; and Rune Sverre Fjellheim,  
the Sámi Parliament, Karasjok, Norway

Chapter 8: ***Conclusion: Measuring Change in  
Human Development in the Arctic***

Joan Nymand Larsen, Stefansson Arctic Institute  
and University of Akureyri, Iceland; Peter  
Schweitzer, University of Alaska Fairbanks, USA;  
Gail Fondahl, University of Northern British  
Columbia, Canada; and Jack Kruse, University of  
Alaska Anchorage, USA

This report was launched at the Arctic Council  
meeting of the Sustainable Development Working  
Group (SDWG) on November 10 in Copenhagen.  
The report is directed at a broad audience,  
including the science community, inhabitants of  
the Arctic, students of northern colleges and  
universities, policymakers at all levels, and the  
Arctic Council and its SDWG. It is being  
published by the Nordic Council of Ministers  
(NCM) and can be ordered from the NCM. It will  
also be available for downloading from the web,  
at [www.norden.com](http://www.norden.com) shortly.

Naturally, creating and refining suitable indicators  
of human development in the Arctic will take time  
and involve a step-wise process in which initial

proposals are vetted empirically and refined or  
replaced over time as our ability to capture the  
essential features of human development under  
the specific conditions arising in the Arctic rises.

This brings us now to phase two: Phase-II of the  
ASI project runs from 2009-2011, and is also  
financially supported by the Nordic Council of  
Ministers' Arctic Cooperation Programme. A final  
report will be presented end of 2011. This phase  
responds to a number of key recommendations  
presented in ASI-I, including the recommendation  
to implement ASI-II and the ASI monitoring  
system.

So far ASI has made significant progress toward  
the development of an Arctic social indicator  
system, having identified a set of indicators to  
monitor Arctic human development. This next  
logical step in monitoring of human development  
is to test, validate and refine the indicators across  
the Arctic. This constitutes ASI-II. The objectives  
of ASI-II are: to systematically identify and  
describe data challenges, including data  
availability and data quality by region for each of  
the final set of recommended ASI indicators as  
well as select other and promising Arctic social  
indicators considered in ASI; to categorize  
indicators according to a tier system based on data  
availability and ease of measurement; to measure  
ASI indicators by region and at different scales; to  
test and validate ASI indicators by region; to  
refine the ASI indicators where needed based on  
further research, testing, and feedback from  
northern communities and other Arctic  
stakeholders; to conduct a series of regional  
comparisons and analyses based on measured ASI  
indicators to illustrate and further test their  
strength and applicability; to formulate  
recommendations for a long-term monitoring  
system; and to present the final results in a format  
that targets a broad audience and which at the  
same time makes the report useful in educational  
instruction in the UArctic and other northern  
colleges and universities.

On November 13-14, 2009 the ASI working group  
held the first international ASI-Phase II  
(Implementation) workshop in Roskilde,  
Denmark, where the team worked on developing  
the structure and process of ASI-Phase II. The  
group discussed key ASI data challenges, and  
identified regions for ASI applications for the  
testing and validation of indicators.

Joan Nymand Larsen  
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## **The Circumpolar Biodiversity Monitoring Programme**

### **Who We Are**

The Circumpolar Biodiversity Monitoring Program (CBMP) is an international network of scientists and conservation experts from government agencies, academic institutions, and Indigenous and conservation organizations working together to harmonize and integrate efforts to monitor the Arctic's living resources.

Our goal is to facilitate more rapid detection, communication, and response with respect to the significant trends and pressures affecting biodiversity in the circumpolar Arctic.

The CBMP is a cornerstone program of the Arctic Council's Conservation of Arctic Flora and Fauna Working Group (CAFF).

### **Why We Matter**

The Arctic boasts an impressive array of biodiversity, from unique flora to globally significant populations of shorebirds, geese, reindeer, caribou, and marine and freshwater fish and mammals. With ecosystems that are still largely intact, the Arctic helps maintain the biological, chemical, and physical balance of an increasingly fragile planet.

Yet, this globally valuable region – and the biodiversity it supports – is under increasing pressure due to climate change and resource development, with the consequences of rapid change difficult to predict.

Despite a significant investment in monitoring of the Arctic's living resources each year, we still lack a clear picture of the status of and trends in Arctic biodiversity. The major cause: incomplete coverage and lack of coordination and integration between monitoring efforts.

With the stakes this high, the gap between monitoring and meaningful results must be bridged, and soon. The CBMP intends to do exactly that.

### **What We Do**

The CBMP is focusing its efforts in five key program areas:

1. Coordination and Integration of Arctic Monitoring
  - Developing integrated monitoring plans through Expert Monitoring Groups representing major Arctic ecosystems and themes.
  - Streamlining and optimizing monitoring through an Arctic Biodiversity Monitoring Strategy.
2. Data Management
  - Developing a web-based data portal to integrate, synthesize, and depict key trends in Arctic

biodiversity.

### 3. Capacity Building

- Promoting community-based monitoring techniques to incorporate the knowledge and expertise of Arctic peoples.

### 4. Communications, Education, and Outreach

- Fostering communication amongst and between the scientific community, policy-makers and Arctic residents.

### 5. Reporting

- Promoting awareness and action by the general public and policymakers through frequent, meaningful reporting on biodiversity status and trends.

### **Join Us**

The CBMP engages a diversity of individuals, agencies, and organizations actively involved with Arctic monitoring, research, resource management, and conservation.

Our members are signatories to the CBMP Charter, endorsing the Program's efforts to facilitate effective conservation of Arctic biodiversity through enhanced and coordinated pan-Arctic monitoring.

Some of our members further assist the CBMP as:

- Partners – actively engaged in CBMP initiatives such as working with the Program on targeted pilot projects.
- Sponsors – providing the financial and in-kind assistance needed to deliver on the Program's mandate.

### **Contact Us**

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## **Update on Social Sciences Initiatives within APECS**

by Gerlis Fugmann

The Association of Polar Early Career Scientists (APECS) has grown to around 2000 members from approximately 40 countries over the last year and is recognized as one of the IPY legacies. As an international and interdisciplinary association it focuses on preparing early polar and cryospheric

researchers for successful and balanced careers that have a significant impact on the way polar science, policy and education are conducted. Social sciences are playing an increasing role within APECS, and several initiatives (e.g. Virtual Poster Session, Literature Discussions) have been created over the last year for young social scientists to be involved in the organization.



Poster presentations offer an excellent way to communicate research with other researchers and also with the members of the general public, to develop new ideas, and also to meet new collaborators. The *APECS Virtual Poster Session* ([www.apecs.is/virtual-poster-session](http://www.apecs.is/virtual-poster-session)), sponsored by the Nordic Council of Ministers, is focusing on bringing the concept of the poster presentation beyond the four walls of the conference hall to create an online database of polar research poster publications. This platform will:

- Allow researchers to permanently display their posters to reach a greater audience than in regular conference settings;
- Encourage new partnerships and collaborations that reach beyond discipline, country and the people at a conference;
- Give an additional venue to present and share ideas;
- Establish an online resource of polar research findings from IPY related research and beyond which can also be used by educators.

Another initiative is the *APECS Literature Discussions*, a forum where people can discuss recent articles, books, films etc. that pertain to the Polar Regions, including listings on “Human and Social Systems” and “Polar Law and Policy”. Visit the APECS Literature Discussion (<http://apecs.is/literature>) to read and participate in the active discussions.

Over the past year APECS has run panel discussions and workshops at numerous international conferences including the Arctic Science Summit Week and the Antarctic Climate Evolution Conference. A successful interdisciplinary career development workshop for early career researchers was held in Victoria, BC,

Canada, in early December 2009. Furthermore, APECS was involved in several education and outreach projects aimed at bringing the Polar Regions closer to the wider public or into schools, such as contributions by APECS members to the International Polar Week and a collaboration with the IPY Education and Outreach Committee to develop a polar resource book for teachers, university students and young scientists who wish to bring polar lessons into the classroom. Over the coming year, APECS is planning more panel discussions and workshops at numerous international conferences. Please visit [www.apecs.is/events](http://www.apecs.is/events) for more information or contact Gerlis Fugmann ([g\\_fugmann@hotmail.com](mailto:g_fugmann@hotmail.com)) to get involved.

A major event for APECS will be the IPY Oslo Science Conference in Oslo, Norway, in June 2010, which has set a new precedent for the involvement of early career scientists and the activities available for young researchers to further their career. Activities and support for early career scientists include an APECS Professional Development workshop, a networking reception with senior mentors, awards for outstanding young researcher presentations, and financial assistance. Please visit [www.apecs.is/events](http://www.apecs.is/events) for more information.

Continued support for Social Scientists within APECS is given by Rosa Thorisdottir, the Social Sciences Discipline Coordinator. She is continuously working on stimulating communication and giving early career social science researchers the opportunity to hold a stronger voice within the general discourse, and among other things, to tackle some of the communication mismatches existing between social and natural scientists working in the Arctic. If you wish to pass a message to young arctic researchers within the Social Sciences contact Rosa at [rosa.thoris@gmail.com](mailto:rosa.thoris@gmail.com).

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## CONFERENCES

### 2010 State of the Arctic Conference

16-19 March 2010  
Miami, Florida, USA

The State of the Arctic Conference will be held at the Hyatt Regency Miami in Miami, Florida, USA. The main goal of the conference is to review our understanding of the arctic system in a time of rapid environmental change.

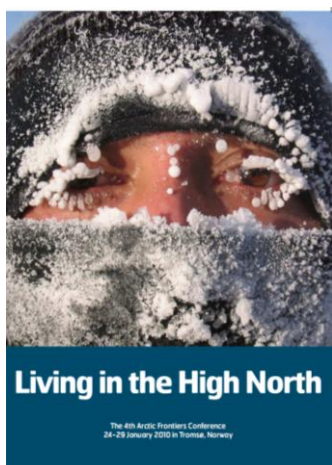


It will provide an open international forum for discussion of future research directions aimed toward a better understanding of the arctic system and its trajectory. Topics will range from basic understanding of the Arctic and system-wide change to developing response strategies to adapt and mitigate change. The conference also will provide an opportunity for resource management and service agencies to link the most recent science findings to their objectives and priorities.

For additional information, including registration, abstract submission, and other materials go to State of the Arctic Conference website <http://soa.arcus.org>.

### Arctic Frontiers 2010 Living in the High North

Tromsø, Norway  
24-29 January 2010  
[www.arctic-frontiers.com](http://www.arctic-frontiers.com)



Below is an overview of Arctic Frontiers 2010. This year there are four main parallel sessions in the science section:

Part I: Ice and climate, including paleo climate.  
Part II: Sustainable communities in the High North;

economy, well-being including health issues, and

self-governance

Part III: Marine Biodiversity under change

Part IV: Frontiers in E-learning of the High North

In addition Session II is further divided into three sub-sessions running in parallel sessions:

Part IIA: Well being

Part IIB: Self governance

Part IIC: Economy

### Policy section: 25–26 January 2010

The policy section of Arctic Frontiers 2010 will focus on the need for dynamic and adaptive strategies to ensure the sustainability of arctic communities in a changing environment.

Two sessions are planned and an plenary discussion:

Session I: Changes in strategies for the Arctic.

Session II: Sustainable communities in the Arctic.

Plenary discussion: COP15 is history, what now?

### Science section: 27–29 January 2010

The science section is divided into four parallel sessions:

Part I: Ice and climate, including paleo climate.

Part II: Sustainable communities in the High North; economy, well-being including health issues, and self-governance.

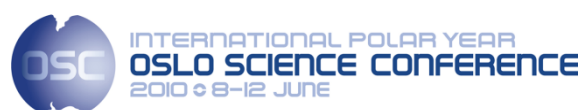
Part III: Marine Biodiversity under change.

Part IV: Frontiers in E-learning of the High North.

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### The IPY Oslo Science Conference

Oslo, Norway  
8-12 June 2010  
[www.ipy-osc.no](http://www.ipy-osc.no)



The International Polar Year 2007-2008 (IPY) was an undertaking in globally-urgent science that attracted more than 50,000 participants from 60 countries. The IPY Oslo Science Conference (IPY-OSC) will gather the full community to celebrate the accomplishments of the IPY, to display and explore the richness of IPY data, and to chart future directions for polar and global science.

The conference will consist of over thirty sessions designed around the following six themes:

Theme 1 - Linkages between polar regions and global systems

Theme 2 - Past, present, and future changes in polar regions

Theme 3 - Polar ecosystems and biodiversity

Theme 4 - Human dimensions of change: Health, society, and resources  
Theme 5 - New frontiers, data practices, and directions in polar research  
Theme 6 - Polar science education, outreach, and communication

For further details about the themes and their correlating sessions, including specific session contacts, please click on the links in the left sidebar at: [www.ipy-osc.no/section/1245938774.04](http://www.ipy-osc.no/section/1245938774.04).

Submission of abstracts will be accepted through Wednesday, 20 January 2010. Abstracts must be submitted to a specific session. To read the complete call for abstracts, please go to: [www.ipy-osc.no/section/1257865053.48](http://www.ipy-osc.no/section/1257865053.48).

Registration for the IPY-OSC will open in mid-December.

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### **Boreas Final Conference**

The Boreas program held its final conference, October 28-31, in Rovaniemi, Finland. Boreas: Histories from the North-environments, movements, and narratives is a three year old European Science Foundation EUROCORES initiative. The program includes seven collaborative research projects. Each project team consist of scholars from North America and Europe representing a variety of disciplines. In addition to funding by the ESF, research projects were funded by national science funding agencies from the U.S, Canada, and a number of European nations.

The Boreas research projects addressed the themes of movements, community, and the narratives that express this human experience. Boreas research challenged the image of a static, empty North by examining the changing relations between human societies and the environment from pre-historic to modern times. The research on these projects is entering its final stage and the final conference provided an opportunity to exchange results.

The conference also provided an opportunity to expand the research questions and the community of scholars interested in questions of the human condition in the Arctic. More than half of the presentations at the conference were by scholars new to Boreas. The participation of a large number of students from around the north was also supported.

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Professor of Economics

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## **ANNOUNCEMENTS**

**Arctic Virtual Learning Tools project**  
by Kirsi Latola<sup>1</sup>, Halldor Johannsson<sup>2</sup>, Scott Forest<sup>3</sup>

The Arctic Virtual Learning Tools project is led by the University of Arctic ([www.uarctic.org](http://www.uarctic.org)) and the Arctic Portal ([www.arcticportal.org](http://www.arcticportal.org)). The project will improve access to education in the Arctic region through online learning tools that support the existing programs and curriculum of the University of the Arctic. This will be achieved by the development of new learning resources (Open Textbooks), and online learning environments (Virtual Classroom). These new resources will serve to improve access to education and the standards of living of Arctic residents, especially in smaller communities. The virtual classroom will give enhanced and content-rich opportunities for on-line discussion and alternative forms of interactive teaching.

The open textbooks and virtual classroom will be managed and distributed through the Arctic Portal and will be open for on-line teaching conducted at the University of Arctic members and other partners. The project has conducted a web based survey on the past experiences and wishes in e-learning among Arctic students and teachers. The survey was conducted in October-November 2009 and the results are being used determining the specifications and consequently the developing of a platform and tools for students and teachers. The new platform will be piloted in the fall 2010 with the Thematic Network on Global Change course on "Adaptation to the globalization in the Arctic" developed by Professor Svein Mathiesen at Sámi University College, Norway.

The interim results of the project will be officially introduced at the Arctic Frontiers Conference in Tromsø in January and the IPY conference in Oslo, June 2010.

The project is a three year project. It has received funding from the Nordic council of Ministers Arctic co-operation program.

<sup>1</sup>University of Arctic Thematic Networks Office, Thule Institute, University of Oulu, Finland, [kirsi.latola@oulu.fi](mailto:kirsi.latola@oulu.fi),

<sup>2</sup>Nordurslodagattin ses. – Arctic Portal, Akureyri, Iceland,

<sup>3</sup>UArctic International Secretariat, University of Lapland, Rovaniemi, Finland



## **Nunavik Geomatics Inc.**

by Donat Savoie

Makivik Corporation ([www.makivik.org](http://www.makivik.org)), organization that represents the Inuit of Nunavik, northern Quebec, Canada, has recently created a new subsidiary company: NUNAVIK GEOMATICS INC. NGI is the commercial operation of the Cartographic Branch of the Makivik Nunavik Research Centre. NRC has been in existence for 30 years and in June 2007 was the recipient of the GOLD AWARD of the Canadian Environment Awards. The Centre has been involved for several years on land use and occupancy studies, on the quality of country foods, environmental studies; Inuit hunters are directly involved in the studies of NRC. If you wish further information on Nunavik Geomatics Inc., please contact the Director Adam Lewis ([a\\_lewis@makivik.org](mailto:a_lewis@makivik.org)) or the Nunavik Research Centre, please contact Dr. Bill Doidge, Director ([b\\_doidge@makivik.org](mailto:b_doidge@makivik.org)).

Pita Aatami, President of Makivik, has in the last months, made several presentations on Nunavik Successes and Challenges, namely at the American Council for Quebec Studies, held in Quebec City, November 15, 2008; Arctic Net Conference in Quebec City, December 10-12, 2008; Arctic Circle Meeting in Ottawa on February 10, 2009. These presentations deal with current social, economic and cultural issues of the Inuit of Nunavik and also about successes of Nunavik institutions including Makivik Corporation. For further information on Makivik, please contact the President's Legal Counsel and Executive Assistant Jean-François Arteau at [jfarteau@makivik.org](mailto:jfarteau@makivik.org).

In the context of developing further relations with other Aboriginal groups in the Circumpolar North, Makivik had invited a group of Sami Parliamentarians of Sweden to Nunavik, end of April 2009, to discuss and exchange on issues of common concern, including governance, resource management, language, education, culture (rf. Makivik Magazine, Issue 88, Summer 2009).

Thanks to the Bibliothèque et Archives nationales du Québec, all of Makivik's publications are now digitized, preserved and accessible at this address: <http://service.banq.qc.ca/sdx/makivik>. This Outreach Project, is part of "Hearing and Sharing the Voices of Nunavik", a joint project of the Université du Québec à Montréal and McGill University, initiative funded by the International Polar Year.

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## **Graduate Fellowship Opportunities in Interdisciplinary Marine Ecosystem Studies**

by Jan Carlile



The University of Alaska Fairbanks (UAF) is seeking motivated graduate candidates for our Marine Ecosystem Sustainability in the Arctic and

Subarctic (MESAS) program (<http://www.uaf.edu/mesas>). This interdisciplinary NSF-funded IGERT (<http://www.igert.org>) program incorporates social and natural sciences to explore new approaches to studying and managing marine ecosystems. In addition to interdisciplinary coursework, the MESAS program provides opportunities for an internship with a partner organization and mentoring of undergraduate students. Fellowships (available to US citizens or permanent residents seeking PhD degree) include \$30K/yr stipend, tuition, and health insurance. Apply by February 15 for Fall 2010 enrollment; enrolling new cohorts through 2012. Interested students should visit our website for more information (<http://www.uaf.edu/mesas>) or contact the MESAS Office at [mesas@uaf.edu](mailto:mesas@uaf.edu).

Jan Carlile  
MESAS Program Coordinator  
[mesas@uaf.edu](mailto:mesas@uaf.edu)

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## **The SWIPA Project**

[www.amap.no/swipa](http://www.amap.no/swipa)

Scientific observations confirm that all parts of the Arctic is reacting to global warming. The Arctic has changed dramatically during the past decade. The sea ice is retreating and thinning, the Greenland Ice Sheet is melting and the permafrost is thawing. Although the natural variability of the Arctic system is large, the direction of change is clear and the rate of change has taken scientists by surprise.



In April 2008, the Arctic Council initiated the project “Climate Change and the Cryosphere: Snow, Water, Ice, and Permafrost in the Arctic” (SWIPA) as a follow up to the 2005 Arctic Climate Impact Assessment (ACIA). The final SWIPA report will be delivered to the Arctic Council in the spring of 2011. However the observational data collected for the project is painting a clear picture: The different parts of the arctic cryosphere (cold sphere) are changing. We are beyond the point of possibility of denial or theoretical suspicions.

### **Rapid change of sea ice**

The extent of Arctic sea ice has decreased during the past thirty years. The past five years have seen the five lowest ice extents recorded during September, when sea ice is at its annual minimum. The ice cover has also become thinner and younger, with a decreasing area of multi-year ice. These changes leave the remaining ice thinner and more vulnerable, setting the stage for further rapid retreat. Furthermore the loss of sea ice creates a positive feedback to warming, because the open water absorbs far more sunlight and heat than ice and snow. Recent scientific estimates foresee an almost ice-free arctic sea during summer within 30 years.

### **Greenland Ice Sheet is raising sea level**

The Greenland Ice Sheet has in recent years lost almost 200 cubic kilometres of ice each year to the sea.

Recent projections indicate that water from the Greenland Ice Sheet and other sources, plus thermal expansion due to ocean warming, may result in substantial sea level rise even within this century. The melting and loss of ice is likely also to affect marine ecology around Greenland level. (The first results from this part of the SWIPA project are available in the report: *The Greenland Ice Sheet in a Changing Climate...*)

### **Permafrost is thawing and may lead to major greenhouse gas releases**

The landbased part of the Arctic cryosphere, composed of snow, permafrost, mountain glaciers and ice caps, and lake and river ice show change all over.

Snow cover has been decreasing during the past 30 years and the spring melt is coming earlier and earlier.

Reductions in glacier-covered areas are widespread across the Arctic and affect mountain glaciers and ice caps of all sizes. In Russia, for example, mountain glaciers have lost from 17% to 50% of their surface area during the past five or six decades.

Permafrost has warmed in many areas in the last two to three decades. Along the margins of the permafrost zone, permafrost has been lost, often with dramatic effects for Arctic residents and businesses.

At the global scale, thawing permafrost may create an enormous positive feedback to climate warming. Huge quantities of carbon, released largely in the form of methane—a potent greenhouse gas—are locked in the ground within permafrost and below the seabed on Arctic continental shelves. Studies suggest that if even 1% of this methane is released, it could trigger abrupt worldwide climate change.

### **Background:**

The SWIPA project is coordinated by AMAP (Arctic Monitoring and Assessment Programme) in cooperation with IASC (International Arctic Science Committee), WCRP/CliC (World Climate Research Program/Climate and Cryosphere Project), IPY (International Polar Year), IASSA (International Arctic Social Sciences Association). SWIPA is bringing together leading Arctic scientists to compile, synthesise and evaluate information from Arctic monitoring networks and recent international research activities, such as those carried out during the 2007-2008 International Polar Year (IPY), to better quantify and understand the recent changes to the arctic cryosphere. The implications of these changes for people, in the Arctic and globally, are also being assessed.

The changes in the arctic cryosphere interact in many ways. Understanding the results of these interactions and the resulting effects on the Arctic societies is a major scientific challenge and a key SWIPA activity.

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### **Danish Arctic Research Centre Survives!**

To all you who signed the protest against the closing of the Arctic Centre in Strandgade in Copenhagen:

The letter of petition forwarded to the Danish Minister of Science and the Parliament Committee on Greenland on September 22 had its effect. It has been decided that the Polar Library will continue under the University of Copenhagen. The library, the university department of Eskimology and Arctic Studies and the Arctic Institute along with other institutions related to the Arctic and the North Atlantic region will still be present at the Arctic House, Strandgade 102 in Copenhagen.

We do not know exactly who made the decision. The outcome is, however, extremely important for

all of us with an interest in research in the Arctic. The three of us circulating the letter wish to express our sincere thanks for the support. 113 signatures on a few days' notice is impressive. Some of the interventions were cited in the Danish media and obviously made its impact. We hope that the decision will be the start of a new proactive Danish policy in relation to Arctic research in general and to Arctic research within the humanities and social science related areas in particular.

Once again we want to express our sincere thanks to you.

Susanne Dybbroe, Hans Christian Gulløv and Jens Dahl

## NEW PUBLICATIONS



### Arctic Food Security

Editors: Gérard Duhaime and Nick Bernard

Publisher: CCI Press & CIÉRA, 2008

ISBN: 978 1 896445 42 7

Occasional Publication Series No 58

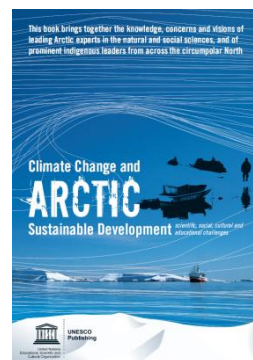
Includes a CD with book contents for Keywork Searching Zoomable Poster

Files.

Food security in the Arctic is threatened on all fronts. Traditional food production and food economies have witnessed drastic change, brought about as a result of social, economic, and political influences. Nevertheless, subsistence production continues to be very important in the food economy and security of circumpolar communities, despite increased participation in the wage economy and a growing reliance on imported food products. The decreased consumption of country food and concomitant increase in imported and prepared food in the local diet has resulted in an increase in associated health risks. But neither are country foods without risk, as evidenced by studies on contamination of the food chain, and various impacts of climate and cultural change.

This volume presents the results of a 5-year multi-disciplinary study by an international panel of experts on food security (or insecurity) in the Arctic and the various factors and mechanisms that have impacted and continue to affect its sustainability. Contributions examine the impacts of development and environmental change and the consequent introduction of new technologies, transportation and infrastructure, the influence of

wage economies, the impacts of conservation and co-management systems, hunting and fishing quotas, fur boycotts and anti-sealing lobbies, the disruption of traditional distribution networks, market forces, social policies, as well as legal and jurisdictional influences. Issues and their intensity vary between regions of the circumpolar, but many common themes emerge.



### Climate Change and Arctic Sustainable Development: scientific, social, cultural and educational challenges

Publisher: UNESCO

Publishing

ISBN: 978 92 3 104139 6

The book was launched in Copenhagen at UNFCCC

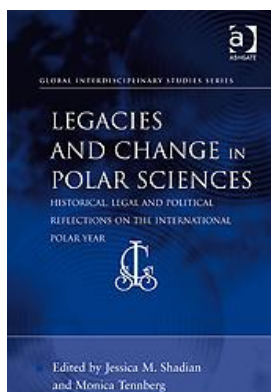
COP15, 9 December 2009.

The Arctic is undergoing rapid and dramatic environmental and social transformations due to climate change. This has ramifications for the entire planet, as change spreads through interconnected global networks that are environmental, cultural, economic and political. Today, with the major thrust of research shifting away from deciphering causes and monitoring trends, the central preoccupation of a growing circle of actors has become the exploration of strategies for responding and adapting to climate change. But to understand the far-reaching impacts of climate change and the complexities of adaptation, a truly interdisciplinary approach is required.

Unique in the UN system, UNESCO combines the domains of natural sciences, social sciences, culture, education and communication. Given this broad mandate, UNESCO favours integrated approaches for monitoring and adapting to climate change in the Arctic, fostering dialogue among scientists, circumpolar communities and decision-makers.

This book brings together the knowledge, concerns and visions of leading Arctic scientists in the natural and social sciences, prominent Chukchi, Inuit and Saami leaders from across the circumpolar North, and international experts in education, health and ethics. They highlight the urgent need for a sustained interdisciplinary and multi-actor approach to monitoring, managing and responding to climate change in the Arctic, and explore avenues by which this can be achieved.

To order a copy go to [www.unesco.org/publishing](http://www.unesco.org/publishing) or contact [links@unesco.org](mailto:links@unesco.org).



**Legacies and Change in Polar Sciences: Historical, Legal and Political Reflections on The International Polar Year**

Editors: Jessica Shadian (Bodo Graduate School for Business) and Monica Tennberg (University of Lapland, Finland)

Publisher: **Ashgate Press**: Global Interdisciplinary Studies, UK, 2009

ISBN: 978-0-7546-7399-6

(This book is part of the International Polar Year)

Contents:

Michael Bravo: Preface

Jessica Shadian and Monica Tennberg:

Introduction

Part I: Whose Arctic? Constructing an Arctic politics through claims of knowledge

Jessica Shadian: Revisiting Politics and Science in the Poles: IPY and the Governance of Science

Post-Westphalia

Robert Huebert: Science, Cooperation and Conflict in the Polar Regions

Annika E. Nilsson: A Changing Arctic Climate: More than Just Weather

Urban Wråkberg: IPY Field Stations. Functions and Meanings

Part II: Who's Environment? Science and Politics in the Antarctica

Julia Jabour and Marcus Haward: Antarctic Science, Politics and IPY Legacies

Donald R. Rothwell: The IPY and the Antarctic Treaty System: reflections 50 years later

Consuelo León Woppke: The Formation and Context of the Chilean Antarctic Mentality from the Colonial Era through the IGY

Sanjay Chaturvedi: Biological Prospecting in the Southern Polar Region: Science-Geopolitics Interface

Monica Tennberg: Three spirals of power/knowledge: scientific laboratories, environmental panopticons and emerging biopolitics.

**Finding Dahshaa: Self-Government, Social Suffering, and Aboriginal Policy in Canada**

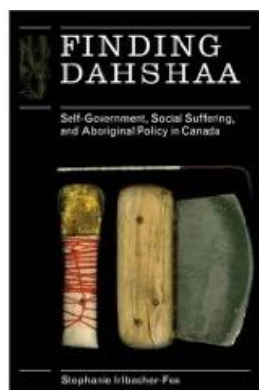
Author: Stephanie Irlbacher-Fox

Publisher: UBC Press 2009

ISBN: 978-0-7748-1625-0

Just as dahshaa, a rare type of dried, rotted spruce wood, is essential to the moosehide-tanning process in Dene culture, self-determination and the alleviation of social suffering are necessary to Indigenous survival in Northwest Territories. But are self-government agreements an effective path to self-determination?

Finding Dahshaa describes self-government negotiations as they have unfolded between Canada and the Dehcho, Défînê, and Inuvialuit and Gwich'in peoples. By contrasting accounts of negotiating sessions in city boardrooms with vibrant descriptions of Dene moosehide-tanning camps on the land and community meetings in small northern communities, it shows why Canada's Aboriginal policy has failed to alleviate the causes of social suffering in the North. Social suffering is not a relic of the past, it has become part of the process as government negotiators have dismissed it as irrelevant to self-government or used it as a rationale to minimize Indigenous authority. Ethnographic descriptions of tanning practices, which embody principles and values central to the project of self-determination, by contrast, offer an alternative model for negotiations.



An informed and passionate account, Finding Dahshaa draws on the author's experience working for Indigenous peoples and includes a foreword by Dene National Chief Bill Erasmus. It is the first ethnographic study of self-government negotiations in Canada.

This book is an important contribution to the study of the relationship between the Dene and Canada. Dr. Irlbacher-Fox is non-Indigenous, and she has spent most of her life living and working in Denendeh among the Dene, Metis, and Inuvialuit peoples. She has listened to us using both her mind and her heart, which shows in the passion and conviction she conveys in her research and writing. I welcome her contribution to bringing to light aspects of both the strength and the struggles of the Dene. From the Foreword by Bill Erasmus, Dene National Chief

"Finding Dahshaa draws on Stephanie Irlbacher-Fox's extensive hands-on negotiating experience, and formidable research and academic skills, to



offer badly needed analysis of past and current issues impeding progress on aboriginal self-government in the Mackenzie Valley. I recommend this book.” – Mary Simon, President, Inuit Tapiriit Kanatami

“Stephanie Irlbacher-Fox understands what it is to work through political negotiations in the attempt to achieve justice for Indigenous peoples. Her rootedness in the North and her years of dedicated experience working with Indigenous organizations have prepared her to take on the challenge of conveying essential truths about the struggle for justice in Denendeh. The insights and knowledge conveyed in this powerful work of criticism, analysis and self-reflection are truly valuable. In her work we see manifest a love for the land, for the water, for the fish, for the caribou and for the Dene people. Stephanie Irlbacher-Fox is a unique creature, a white lady from Yellowknife who can tan hides good, and an outstanding scholar who, in producing *Finding Dahshaa*, has provided us with one of the most deeply thought, thoroughly experienced, and honest reflections on Indigenous politics written to date.” – Taiaiake Alfred, author of *Wasáse: Indigenous Pathways of Action and Freedom*

“In my opinion *Finding Dahshaa* is the best study of why self-government negotiations in the North are not working well and how they can be made to work for the well-being of Aboriginal and non-Aboriginal partners. I highly recommend this profound, game-changing study to all concerned with the future of cooperation between Aboriginal and non-Aboriginal peoples.”  
– James Tully, Distinguished Professor, University of Victoria

#### About the Author

Stephanie Irlbacher-Fox holds a doctorate in polar studies from Cambridge University and for the past decade has worked for Indigenous peoples on self-government and related political development processes in Canada’s Northwest Territories.

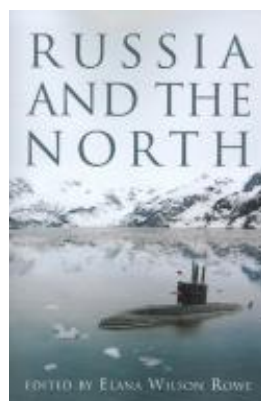
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#### Russia and the North

Editor: Elana Wilson Rowe  
Publisher: University of Ottawa Press  
230 pages  
ISBN: 978-0-7766-0700-9

The geopolitical interests of Arctic states are a hot topic as climate change and a growing demand for energy cause greater concern over disputed borders and overlapping sovereignty claims in the North. Russia plays a central role in the international politics of the North, being the

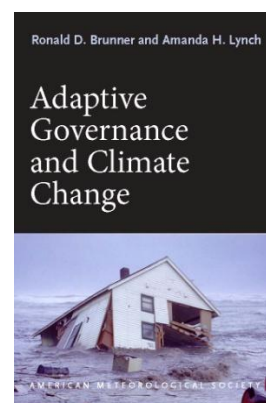
largest Arctic state geographically and an important player in the regional and global energy marketplace.



A new book, *Russia and the North* examines how Russia defines and addresses northern spaces, opportunities and challenges within its own borders and internationally. The volume analyzes the politics of circumpolar cooperation, security, petroleum development, climate change, and indigenous peoples.

Editor Elana Wilson Rowe is a senior research fellow at the Department for Russian and Eurasian Studies at the Norwegian Institute of International Affairs. She holds a Ph.D. from the Scott Polar Research Institute. She has worked on a broad range of issues relating to circumpolar and Russian politics, including climate change policy and international multilateral politics.

All inquiries can be directed to Jessica Clark at [jessica.clark@uottawa.ca](mailto:jessica.clark@uottawa.ca) or +1 (613) 562-5800, ext. 1311.



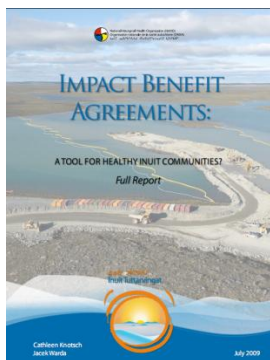
#### Adaptive Governance and Climate Change

Authors: Ronald D. Brunner and Amanda H. Lynch  
Publisher: American Meteorology Society  
344 pages, 20 photos, paperback  
ISBN: 978-1-878220-97-4  
Available winter 2010

Weather-related disasters are on the rise, nowhere more dramatically than in the Arctic. In *Adaptive Governance and Climate Change*, policy scientist Ronald Brunner and climate researcher Amanda Lynch show how, based on their collaboration with the people of Barrow, Alaska, programs that adapt quickly and easily to new information and experimental results encourage diversity and innovation in a community’s search for solutions, while at the same time pointedly recast the problem as one in which every culture and community around the world has an inherent interest. This is adaptive governance at work, a departure from the dominant ways of thinking that factors the global problem into thousands of local

problems, each of which is more tractable scientifically and politically, and engages local activists and officials in solving their immediate climate-related problems. As such, adaptive governance is an opportunity for field testing, in series and in parallel, thousands of policies for adapting to climate changes we cannot avoid, and mitigating those we can. For example, findings from their partial field test in the Alaskan North Slope Coastal Region can be used for similar purposes elsewhere in the Arctic.

Like others concerned about climate change and its impacts, Brunner and Lynch hope major initiatives, including cap and trade legislation and the United National Climate Conference's emission reduction targets, will succeed. However, emissions continue to rise, and even the ambitious targets set by international accords would fall far short of the drastic cuts that are needed to prevent catastrophe. Given the lack of political will in suitably addressing the danger of climate change thus far, and to help people reduce vulnerability to extreme weather events, they argue it is time to pursue the complementary approach of adaptive governance across the globe.



**Impact Benefit Agreements: A Tool For Healthy Inuit Communities?**  
 Authors: Cathleen Knotsch, Inuit Tuttarvingat of the National Aboriginal Health Organization and Jacek Warda, JPW Innovation Associates

Inc.  
 Publisher: National Aboriginal Health Organization  
 ISBN: 978-1-926543-21-5

All Arctic exploration and mining activities in Canada require that corporations negotiate some form of agreement with local Indigenous populations. For agreements involving Inuit, the decision making is done by Inuit regional corporations and governments. Inuit have entered into Impact and Benefit Agreements (IBAs) in the past and are presently negotiating agreements with companies that intend to extract resources from grounds included in Inuit land claim settlements. The focus of this paper is on Impact and Benefit Agreements (IBAs) and their role in community well-being.

This paper provides a general overview of the nature of IBAs currently in place in the Arctic regions of Canada, and provides examples of similar agreements with Indigenous populations in other countries, in particular Australia. Special attention is devoted to learning processes and good practices in negotiating, developing and implementing IBAs, including the success stories and lessons learned. The paper discusses IBAs from the perspectives of negotiators for Indigenous organizations, industry negotiators and government.

The full report is available on Inuit Tuttarvingat's Web site: [www.naho.ca/inuit](http://www.naho.ca/inuit). The executive summary is available in five dialects of Inuktitut.



Jan Åge Riseth  
**Modernization and pasture degradation**  
 A comparative study of two Sámi reindeer pasture regions in Norway 1960-1990

**Modernization and pasture degradation: A comparative study of two Sámi reindeer pasture regions in Norway 1960-1990**

Author: Jan Åge Riseth  
 Publisher: VDM Verlag  
 Paperback: 252 pages  
 ISBN-10: 3639164857  
 ISBN-13: 978-3639164855

The book aims to explain why reindeer pastures in the 1980s became overgrazed in parts of North Norway (North) and not in Mid Norway (South). The compared regions were exposed to the same external changes ? i.e., new technologies, increased market access and new state policies. Common property regimes may be vulnerable to all these kinds of changes. Given the different outcomes experienced, the study focus on the interaction between such external factors and internal characteristics like the natural resource base and the Sámi institutions. The analysis show that both regions had institutions vulnerable to external changes, but that North characteristics implied the largest institutional challenges. South had both a physical geography and a history that made the changes easier to handle. State policies clearly influenced North development in a negative direction promoting actions not considered legitimate while South herders advanced institutional changes. The study underlines the need of focusing self- governance and cultural dynamics and examining a wide number of relevant factors before imposing changes in governance structures. The book is based on the theoretical and analytical approach developed around the Workshop of



Political Theory and Policy Analysis and the 2009 Nobel Prize Laureate Professor Elinor Ostrom, Indiana University Bloomington.

### About the Author

Riseth is a nature manager (MSc) and an institutional economist (PhD) trained at the Norwegian University of Life Sciences and Indiana University Bloomington. He is a former department director of the Norwegian Agency of Reindeer Management and currently a senior research scientist at Norut Tromsø doing transdisciplinary research.

## ON THE WEB

### The ARCTIC PORTAL – The Arctic Gateway

[www.arcticportal.org](http://www.arcticportal.org)

The Arctic Portal is a comprehensive gateway to the Arctic on the internet.

It provides access to Arctic data, information and organizations across the Arctic, facilitating cooperation between public and private parties.

The Arctic Portal was created as a project supported by the Arctic Council and its working groups CAFF and PAME under the guidance of Iceland's Senior Arctic Official and the Icelandic Foreign Ministry in close cooperation and consultation with the University of Akureyri, The Steffansson Institute, University of the Arctic, The International Centre for Reindeer Husbandry, International Arctic Science Committee and others. It was launched at the Ministerial Meeting of the Arctic Council in Salekhard, Russia, in November 2006.

The Arctic Portal is under constant development. Its features include: news from around the Arctic; information on the Arctic Council and its Working Groups; sections on science, People and Business; a document and project database; upcoming events; links; multimedia material including, live web-casts, videos and presentation material from conferences and videos from around the Arctic; interactive mapping; webcams and weather in the Arctic; acronyms interpretation; feature of the week and advanced search. Latest features in portlets on Climate Change, Shipping and Energy.

In addition many key Arctic organizations and projects have established their web presence through and with the assistance of the Arctic Portal. The list keeps growing and now includes: IASC, IPY.org, CAFF, PAME, IPS, ICR, EALAT, APECS, CBMP, AMSA, NRF, IPA,

SAON, PAG, Arctic Data and now also IASSA. Additionally, the Arctic Portal provides links and a searchable interface to a myriad of other Arctic entities, projects and activities.

**IPY Legacy** - The Arctic Portal is an endorsed IPY Project Nr. 388. Its development constitutes a contribution to the legacy of the International Polar Year (IPY) and it functions as a venue for various IPY activities and projects. The Arctic Portal permanently hosts [www.ipy.org](http://www.ipy.org) through an agreement with the IPY International Program Office. Consequently it will serve as an interface to and host of IPY legacy information, multimedia material and data, including national IPY web sites.

**Indigenous Peoples** - The Arctic Portal and the Indigenous Peoples Secretariat, IPS, have made an agreement to launch a new and advanced website on the Portal for the secretariat. The Arctic Portal welcomes the cooperation with IPS and its quest to increase the usability of its website and visibility of its valuable work. The Arctic Portal is dedicated to support the preservation and sustainability of Northern Culture. It sees the cooperation with IPS as an important milestone in creating an Arctic Language and community square portlet including an Arctic Chamber of Commerce, which aims at supporting the continued use of indigenous languages, the preservation of the Arctic cultures and sustainability of Arctic living.

**The Virtual Learning Tools Project** - Education is a key for community development. In order to provide inexpensive, jet advanced, Arctic educational and networking opportunities, there is a need to relocate such activities to a different venue, into the virtual world. The Virtual

Learning Tools project, which is a co-operation between The Arctic Portal, University of the Arctic and others, will improve the access to education in the Arctic region through online interactive learning tools that support the existing programs and curriculum of the University of the Arctic. It will provide the tools and venue that enable students in remote Arctic locations to seek education. It will also open the Arctic to students and teachers in non-Arctic locations and allow them to participate in Arctic-related education. The Virtual Learning Tools will offer an inexpensive way for prospective users to seek education without having to leave their family and community.

**UArctic Atlas** - In cooperation with the University of the Arctic, the Arctic Portal is developing the second edition of the UArctic Atlas, a learning resource that presents a visual and geographic overview of the Arctic region, including its physical environment and socio-cultural life. In addition to the graphical overview the Atlas provides a scientific overview on the major areas of Arctic reality by providing articles and other material within the visual context. The Atlas will serve a broad target group from public to students and academics.

The Arctic Portal welcomes and encourages cooperation with further organizations, projects and networks as cooperation and interoperability is vital to the success and sustainability of Arctic societies.

For further information contact Halldór Jóhannsson, Arctic Portal Project Manager: [halldor@arcticportal.org](mailto:halldor@arcticportal.org)

**The Forgotten Story of Inuit Whalers**  
<http://inuitwhalers.ca>



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**Qikiqtani Inuit Association**

On September 28, 2009, Qikiqtani Inuit Association announced the competition of *The Forgotten Story of Inuit Whalers* project, funded through Heritage Canada Partnerships Fund Program. As a result, a new educational multimedia web site on the historical interactions between Inuit and European and American whalers is available to the public as well as students at the high school, college and university level.

"We have always heard of the whalers coming up here, but we never hear about the Inuit whalers

and the role Inuit had during this era. This project brings that piece of history back to Inuit. Six Inuit songs recorded between 1895 and 1914 from Hudson Bay about the first encounter with the whalers will be available to the public for the first time ever on the website" said Joe Attagutluk, Executive Board member of QIA.

As a result, relevant historical information is now available on the website about Inuit leaders who were involved in the Arctic whaling era from the Davis Strait, Cumberland Sound, Hudson Strait and Hudson Bay area. Elders, academic experts and knowledgeable individuals were consulted, along with over 175 students to create a state-of-the-art educational tool.

Web site production partners include the Heritage Canada Partnerships Fund program, the Association de francophones du Nunavut, Laval University's Centre interuniversitaire d'études et de recherches autochtones, Parks Canada, Nunavut Parks, the Inuit Broadcasting Corporation, and the Pangnirtung Attagoyuk School.

**Inuvialuit Settlement Region Database**  
[www.aina.ucalgary.ca/isr](http://www.aina.ucalgary.ca/isr)



The Inuvialuit Settlement Region Database now describes more than 10,000 publications and research projects about the Inuvialuit Settlement Region (ISR) in the Northwest Territories and Yukon. The database covers all subjects, and includes the land and marine areas of the ISR. Publications of all types, especially grey literature, are included. More than 2000 database records have links to PDF files of online publications. The database's coverage of research projects is based on information from the five territorial and federal agencies that license research in the ISR.

The Inuvialuit Settlement Region Database is maintained by the Joint Secretariat - Inuvialuit Renewable Resource Committees and the Arctic Institute of North America's Arctic Science and Technology Information System (ASTIS), and is funded by Shell Canada Limited and MGM Energy Corporation.

**ArcticStat: Socioeconomic Circumpolar Database**  
[www.arcticstat.org](http://www.arcticstat.org)

The currently available statistical data dealing with Arctic populations comes from multiple sources. Such a diversity of sources makes consulting and using this data difficult because it is highly dispersed among countries into several statistical agencies, each of them having its own way to display the data, when not its own methods, and its own way to ask the users for navigating into their website. As a result, and whatever its quality and relevance to describe, to understand and to influence Arctic realities, finding the existing data can be a highly time-consuming procedure.

ArcticStat was created in order to overcome these difficulties and to increase the research capacity by taking advantage of already existing data. ArcticStat is a circumpolar database that aims to facilitate research by gathering together this dispersed data. ArcticStat contains socioeconomic data covering 30 Arctic regions out of 8 countries: Alaska, Northern Canada, Greenland, Iceland, Faroe Islands, Northern Norway, Northern Sweden, Northern Finland and Northern Russian Federation. The data included in ArcticStat deals with the population, language, health, education, migration, economy, employment and other social realities. So far, ArcticStat is a unique socio-economic databank devoted to the Arctic circumpolar regions.

ArcticStat is free-access web-based databank. It operates mainly as a user-friendly portal linking users directly with the relevant tables into the web sites from where they originate. When such procedure is not possible, users have access to tables directly stored into ArcticStat database itself. ArcticStat website has been conceived as a user-friendly device, based on three simple indexes to choose from: countries and regions, indicators and sub-indicators, and different years. Map-based research is also offered through an interactive circumpolar map.

ArcticStat is being updated on an on-going basis and new indicators are being added periodically. A metadata page is included working exactly like the statistics section and being updated regularly. ArcticStat has been put on line on October 1<sup>st</sup>

2007 and is permanently reachable at [www.arcticstat.org](http://www.arcticstat.org). Nowadays, ArcticStat gives direct and easy access to more than 5 300 tables through 9 indicators and some 75 sub-indicators.

The data found in ArcticStat is grouped in a coherent and systematic whole, facilitating the description, analysis, interpretation and comparison of the living conditions of Arctic populations, greatly accelerating facts findings throughout the Arctic statistics and facilitating comparisons at the level of the circumpolar regions. ArcticStat can help decision-making process by facilitating access to updated and valid information. Moreover, ArcticStat is being used as a pedagogical resource for teaching, research and dissemination, especially for those involved in Arctic programs, such as those universities affiliated with the University of the Arctic.

ArcticStat was created by the Canada Research Chair on Comparative Aboriginal Condition of Université Laval (Canada). It represents a major Canadian contribution to the International Polar Year. ArcticStat has been officially endorsed by the

Sustainable Development Working Group (SDWG) of the Arctic Council during the ministerial meeting held in Salekhard at the end of October 2006.

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**Have you visited these websites?**

**The Forgotten Story of Inuit Whalers**

**Inuit Gallery of Vancouver: Presenting Fine Inuit and Northwest Coast First Nations Art**

**Arctic Indigenous Languages**

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**The Arctic Governance Project**  
[www.arcticgovernance.org](http://www.arcticgovernance.org)

The Arctic Governance Project is pleased to announce the launch of its new website. The website features the Arctic Governance Compendium, a comprehensive, searchable source of perspectives, proposals and news on the challenging issues facing the region.

The Compendium is the first collection of its kind, offering an authoritative repository of information on Arctic governance.

The Compendium is searchable in six dimensions – by topic area: Marine, Terrestrial, Atmospheric; and by type of proposal: Existing Governance



Arrangements, Proposed Governance Arrangements, and Governance Systems. Existing governance systems are divided according to scale and type, while proposed governance arrangements give an overview of the proposals and their sources. At this stage of AGP, governance systems are more or less dormant, but this "pathway" will be activated in parallel with the development of governance principles.

The Compendium also features critical governance questions. Visitors are encouraged to propose revisions to each question, or to pose new ones. This process will enable the Project to gather a wide array of perspectives to inform its work.

### **About The Arctic Governance Project**

The Arctic Governance Project joins preeminent researchers, indigenous leaders, and members of the policy community to frame the critical issues of governance in the Arctic and devise innovative responses for a sustainable future.

The project captures the best in scientific research and innovative policy solutions, and draws on insights from traditional ecological knowledge as well as from cutting edge science.



The Arctic Governance Compendium reflects this comprehensive approach, and will be used as the basis for the Project's work in 2010. In January 2010, the Project's leadership and a diverse cross-section of researchers and stakeholders will evaluate the Compendium's proposals and perspectives at the Arctic Governance Project's Tromsø Summit.

During the Summit, participants will identify critical, cutting-edge questions about Arctic governance, find common ground wherever it exists, and formulate a set of principles that can guide debates about the relative merits of existing governance arrangements and proposals.

After the Summit, a set of responsible and widely supported principles will be compiled. These will be presented to key policymakers in the national, international and non-governmental sectors.

For more information, please write to: [info@arcticgovernance.org](mailto:info@arcticgovernance.org)

We look forward to discussing the Project with you and welcome any comments and suggestions you may have about ways to maximize the effectiveness of the Project.

Else Grete Broderstad  
University of Tromsø, Norway

## **FUNDING**

### **Graduate Student Fellowships - Canada's Role in the Circumpolar World**

The Northern Governance Thematic Network of the University of the Arctic, with support from the Department of Foreign Affairs and International Trade Canada, is pleased to announce ten fellowships for Graduate Students, valued at \$5000 each.

### **Canada's Role in the Circumpolar World**

The objectives of the fellowship are to: foster innovative research and policy development on a range of issues related to Canada in the circumpolar world; encourage and promote research of circumpolar studies by Canadian graduate students; and encourage research in the field of the circumpolar world in the interest of higher education, scholarship and an informed public opinion.

Research papers will focus on one of the following two areas:

1. The Arctic Council as a mechanism to advance Canada's foreign policy objectives, including:
  - to deepen the exchange of best practices and explore a more robust discussion on policy issues and coordination,
  - to increase the outreach and advocacy role of the of the Arctic Council, including vis-à-vis Northerners,
  - to identify key emerging issues regarding sustainable development and environmental protection facing the Arctic requiring further study/research.
2. Canada in the circumpolar world:
  - future political trends and challenges facing the region,
  - how Arctic states can best manage emerging issues in the region bilaterally and/or multilaterally (for example, pollution/environment, Emergency Response, Search and Rescue through bilateral or multilateral cooperation/instruments including the International Maritime Organization, United

Nations Framework Convention on Climate Change etc.)

- opportunities for Canada to take a leadership role (for example, conservation and sustainable use of the Arctic marine and coastal environment).

Successful applicants will be notified by December 1, 2009. Final papers are due March 1, 2010. Visit <http://artsandscience.usask.ca/icngd> for further information on the successful applicants and their research papers.

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