



IASC INTERNATIONAL ARCTIC
SCIENCE COMMITTEE

DECEMBER 2012

IASCPROGRESS



*Wishing you a Merry Christmas
and all the best for 2013.
Thank you for the successful teamwork
& looking forward to an interesting New
Year!*

*The IASC Secretariat
Sara, Yoo Kyung, Heike, Ursula & Volker*



International Polar Initiative (IPI)

The Polar Regions of the world are undergoing a range of fast and dramatic transformations, as demonstrated by the 2012 record minimum in Arctic sea-ice extent and the collapse of ice-shelves along the Antarctic Peninsula. The changes seen in the Polar Regions will have significant global impacts both on the environment and on society. The Polar Regions remain the largest observational data voids on the planet. We do not fully understand the complex interlinked processes governing the changes and variability observed and, as a result, predictions and projections for the Polar Regions tend to be characterized by significant biases and uncertainties compared with the rest of the globe.

Previous research, assessments, and experience

of exploration and fieldwork, including the significant outcomes of the recent International Polar Year 2007-2008 (IPY), provide a basis for addressing these challenges. However, there is a need for a “behavioral” change in polar activities. The relative scarcity of available resources requires a highly coordinated, efficient, targeted, and systematic approach to planning and executing polar activities. Working together, coordinating efforts and sharing resources would make it possible to set ambitious goals for polar activities such as eventual implementation of an operational sustainable and comprehensive polar observing system. Such a system would significantly enhance our ability to predict polar weather, climate, hydrological and environmental conditions,

to track human development trends in the polar regions, to enable adaptation to and facilitate mitigation of climate change, and to contribute to the protection and, when applicable, sustainable development, of the Polar Regions and of the planet as a whole.

To effectively address the challenges and efficiently use available resources, a new and novel framework for long-term cooperation between stakeholders with a mandate and interest in the Polar Regions, entitled the “International Polar Initiative” (IPI), has been drafted for discussion by a range of international polar bodies and organizations, including IASC. For more information and input into this process see:

<http://internationalpolarinitiative.org/>.



Photo: Wang Yong, Chinese Arctic and Antarctic Administration

3rd International Conference on Arctic Research Planning (ICARP III)

to be held as part of the Arctic Science Summit Week (ASSW) 2015 and IASC’s 25th Anniversary Symposium

Over the past two decades, IASC has been organizing forward-looking conferences focused on international and interdisciplinary perspectives for advancing Arctic research cooperation and applications of Arctic knowledge.

In 2015, it will have been 10 years since the 2nd International Conference on Arctic Research Planning (ICARP II in 2005) and 20 years since the first ICARP in 1995. ICARP II was an important part of the lead-up towards the International Polar Year 2007-2008, which now is concluded. ICARP III will provide a timely opportunity to further the

development of cross-cutting, inter-disciplinary and trans-disciplinary initiatives, and engage IASC’s partners in future collaborative activities building on past experiences. It will present a framework to identify Arctic science priorities for the next decade, to coordinate Arctic research agendas, and to inform policy makers, people who live in or near the Arctic and the global community who have growing concerns about the changing Arctic environment and its impact on the planet. ICARP III is a specific area of cooperation in the agreement between IASC and the International Arctic Social Science Association (IASSA) and University of the Arctic (UARctic), and the initial planning for ICARP III has also considered the development of other initiatives

such as the International Polar Initiative (IPI). The preliminary plans for ICARP III will be presented at the ASSW 2013 to seek research community input and to secure further membership for the ICARP III Steering Committee from IASC partner organizations.

Also, IASC will celebrate its 25th anniversary in 2015. This anniversary presents the opportunity to review IASC contributions and recognize those who have been instrumental in its founding, development and growth. The IASC Council agreed that this anniversary should be held in conjunction with ICARP III during the ASSW 2015 in Japan.

Arctic in Rapid Transition (ART)

An emerging network linking time-scales, disciplines and generations to better understand the changing Arctic Ocean

ART is an international scientific network focused on bridging time scales, science disciplines, and geographic regions to better understand the past, present and future response of Arctic marine ecosystems to sea ice transitions and climate change. ART was originally developed with the aim of updating and refreshing the issues raised within the reports of the International Conference on Arctic Research Planning II (ICARP II) to a post-International Polar Year (IPY) perspective. In that way, ART is a product of the ICARP-II Marine Roundtable, an initiative of the former Arctic Ocean Sciences Board (AOSB), now the IASC Marine Working Group (MWG). The science and implementation plans of ART were developed during two successful workshops that took place in Fairbanks (USA) and Winnipeg (Canada) and endorsed by the MWG and IASC in 2010 and 2011, respectively. The implementation of ART is following a three-phase approach extending up to 2020 (<http://www.iarc.uaf.edu/ART/>), with a progression from a networking stage to phases centered on data collection, modelling and synthesis.

The uniqueness of ART in the vast panorama of Arctic scientific networks and programs is arrayed along five original aspects: (1) ART was entirely developed and is led by early career scientists (ECS), with the ongoing support by an advisory

board; (2) it is international and aims at integrating knowledge beyond regional specificities; (3) it is inter-disciplinary, fosters data exchange across disciplines and aims at including the human dimension; (4) it has an emphasis on connecting temporal scales from paleo-records, modern observations and predictive modelling; and (5) it stresses the importance of mentoring and knowledge transfer across generations. Those axes are supported by a series of key science questions linking physical forcings, biogeochemical-ecological processes and societal implications that form the core of the ART scientific program.

Within the framework of ART Phase I and with the aim of further developing the organic identity of ART as an interdisciplinary and international network led by ECS, ART joined forces with the Association of Polar Early Career Scientists (APECS) to organize its first science and training workshop. This event entitled "Overcoming Challenges of Observation to Model Integration in Marine Ecosystem Response to Sea Ice Transitions" took place in Sopot, Poland, at the Institute of Oceanology Polish Academy of Sciences (IOPAN), from 22 to 26 October 2012. The workshop gathered 64 participants (23 PhD students, 25 post-docs and 16 senior scientists) coming from 12 different countries and with very various backgrounds (e.g. modelling, paleo-oceanography, marine ecology, coastal and glacier dynamics, atmospheric sciences, and social sciences). The workshop was primarily supported by a cross-cutting grant from IASC, as well as by funds

from the Prince Albert II of Monaco Foundation and from the Polish Academy of Sciences.

The overarching objective of the workshop was to bring together scientists with diverse expertise and levels of experience in order to develop inter-disciplinary research papers. A unique aspect of this activity was to give leadership of the sub-group discussions that led to manuscript planning to ECS. This resulted in the conception of 8 potential papers that would deal with cross-cutting aspects of Arctic marine sciences, ranging from the physical regime over geological and modern time-scales, to the biogeochemical impact of terrigenous delivery, up to the responses of the carbon cycle, food web efficiency, and to the implications for society. In addition of these breakouts, the workshop consisted in a coherent series of training seminars, hands-on practicals, plenary lectures, and poster sessions. Following the philosophy behind ART and APECS, the emphasis of the workshop was thus on the active involvement and mentoring of the emerging scientific generation that is progressively playing an increasing role in Arctic science planning and managing. Such framework is essential to allow for capacity building and empowerment within the large cohort of new Arctic scientists recently trained in the wake of the International Polar Year 2007-2008 and other large-scale Arctic programs that took place over the last decade.

ART-APECS workshop participants, 22-26 October 2012, Sopot, Poland



The ASSW 2013 will be held in Krakow (Poland) on 13-19 April 2013 and include a three-day Science Symposium entitled: "The Arctic Hub – Regional and Global Perspectives".

The Arctic region is characterized by unique environmental and socio-economic conditions. It is in specific interactions with low latitudes and changes in the „Arctic Hub“ have far-reaching regional and global implications. The ASSW 2013 Science Symposium focuses on these multidimensional changes and linkages. Original contributions to the below disciplinary and cross-cutting sessions in form of oral and poster presentations are heartily welcomed until **6 January 2013**:

Disciplinary Sessions

- **Atmosphere Processes and Global Climate Connections**
- **Cryospheric Changes: Drivers and Consequences**
- **Marine Processes and Variability**
- **Terrestrial Ecosystem Responses to Environmental Stressors**
- **Impact of Global Changes on Arctic Society**

Cross-Cutting Sessions

- **Arctic People and Resources: Opportunities, Challenges and Risks**
- **Applying Local and Traditional Knowledge to Better Understanding of the Changing Arctic**
- **Arctic System Science for Regional and Global Sustainability**
- **Changing North: Predictions and Scenarios**

For more information see:
<http://www.assw2013.us.edu.pl/>

Arctic Observing Summit (AOS)

As a task of the Sustaining Arctic Observing Networks (SAON) initiative of IASC and the Arctic Council, the Arctic Observing Summit (AOS) provides community-driven, science-based guidance for the design, implementation, coordination and sustained, long-term (decades) operation of Arctic observing systems that serve a broad spectrum of scientific and societal needs. The AOS is a high-level, biennial summit that presents a platform to address urgent and broadly recognized needs of Arctic observing across all components of the Arctic system, including the human component. It will foster international communication and coordination of long-term observations aimed at improving understanding and respon-

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ding to system-scale Arctic change. The AOS will be an international forum for optimizing resource allocation through coordination and exchange among researchers, funding agencies, and others involved or interested in long-term observing activities, while minimizing duplication and gaps.

The AOS is led by the International Study of Arctic Change (ISAC). The first summit will be held in Vancouver (Canada) on 30 April to 2 May 2013. From 2014 on, the AOS will be held every second year in conjunction with the ASSW, with the 2014 AOS being held in Finland.

For more information see:
www.arcticchange.org/arctic-observing-summit-2013/

IASC Council

Country	Organization	Representative
Canada	Canadian Polar Commission	David Hik, President
China	Chinese Arctic and Antarctic Administration	Huigen Yang, Vice-President
Czech Republik	Czech Centre for Polar Research	Josef Elster
Denmark/Greenland	The Commission for Scientific Research in Greenland as of Jan. 2013: Agency for Science Technology and Innovation	Naja Mikkelsen, Vice-President
Finland	Delegation of the Finnish Academies of Science and Letters	Kari Laine
France	Institute Polaire Français	Yves Frenot
Germany	Deutsche Forschungsgemeinschaft	Karin Lochte
Iceland	RANNÍS, The Icelandic Centre for Research	Thorsteinn Gunnarsson
India	National Centre for Antarctic and Ocean Research (NCAOR)	Rasik Ravindra
Italy	National Research Council of Italy	Carlo Brabante
Japan	Science Council of Japan	Tetsuo Ohata
The Netherlands	The Netherlands Organization for Scientific Research	Louwrens Hacquebord
Norway	The Research Council of Norway	Susan Barr, Vice-President
Poland	Polish Academy of Sciences, Committee on Polar Research	Jacek Jania
Russia	The Russian Academy of Sciences	Vladimir I Pavlenko
Republic of Korea	Korea National Committee on Polar Research	Byong-Kwon Park
Spain	Comité Polar Español	Manuel Catalan
Sweden	The Swedish Research Council	Magnus Friberg
Switzerland	Swiss Committee on Polar Research	Martin Lüthi
United Kingdom	Natural Environment Research Council	Cynan Ellis-Evans
USA	Polar Research Board	Jackie Grebmeier, Vice-President