



IASC INTERNATIONAL ARCTIC
SCIENCE COMMITTEE



IASC PROGRESS

Encouraging and supporting science-led international programs

IASC is engaged in all fields of Arctic research. Its main scientific working bodies are five Working Groups (WGs): Atmosphere, Cryosphere, Marine, Social & Human and Terrestrial. The primary function of the WGs is to encourage and support science-led international programs by offering opportunities for planning and coordination, and by facilitating communication and

access to facilities. Each WG is composed of up to two scientists from each IASC member country, appointed by the national adhering bodies. The members are experts in their field, with an international reputation and from different scientific disciplines so that the full range of Arctic research is represented in the WGs. Though the WGs are disciplinary, they also address cross-

cutting science questions by initiating activities which involve at least three WGs. This edition of the IASC Progress provides an overview of the ongoing activities and initiatives of all five IASC WGs. It also includes initial ideas for possible WG contributions to the 3rd International Conference on Arctic Research Planning (ICARP III).



Atmosphere Working Group (AWG)

IASC Atmosphere Working Group at the ASSW 2013 in Krakow, Poland

- Polar Climate Predictability
- Long-term, International Sea Ice Observatory

- Historical Data Retrieval and Reanalysis
- Atmospheric Chemistry

AWG: Polar Prediction Workshop (Tokyo, Japan / January 2013)

The third AWG-sponsored Polar Prediction Workshop was held in Tokyo in January 2013. Recent rapid Arctic warming is regarded as a research frontier in Arctic research and the

AWG considers the Arctic amplification as one of the most important research subjects. It is important to realize that the Arctic amplification is the most effective cooling mechanism of the Earth in response to anthropogenic global warming. The Arctic amplification results in the Arctic Oscillation (AO) negative, causing

a warm Arctic and cold mid-latitudes, and cooling the entire Earth system. The results of the workshop suggest that the melting of Arctic sea ice decelerates global warming.

contact: Hiroshi Tanaka

AWG: IASOA Workshop (Vancouver, Canada / May 2013)

The International Arctic Systems for Observing the Atmosphere (IASOA) half-day workshop at the Arctic Observing Summit (AOS) was convened for the purpose of initiating two IASOA topical working groups (Black Carbon and Surface Radiation), focusing on the near-term goal of developing two contributions to the 2013 Arctic Report Card. The IASC-supported meeting combined a local (Vancouver) audience of 14 participants with more than 10 additional remote participants via webinar. IASOA has spent five years developing its coordinating potential across ten independently-funded observatories. Those efforts to date have resulted

in a growing community of science collaborators, improved documentation of the observatories, platforms and observing assets, as well as initial documentation of the hundreds of datasets collected from these observatories over several decades.

It has long been the intention of IASOA founders that the consortium would move towards creating pan-Arctic synthesis science. IASOA is ecologically broad in its coverage of the Arctic atmosphere including tundra, estuary, coastal and high elevation; it is deep in its concentration of dozens of long-term measurements at single locations – process studies, systems science, interdisciplinary; and it is long in its decades long records of parameters. Many topical

areas of potential interest have been identified by the IASOA steering committee; of these Black Carbon and Surface Radiation emerged as two areas of valuable long-term data, strong interest and willing participation.

The charge to these working groups was both general (identify the specific datasets of interest, their level of readiness for inter-comparison, recommendations for standardization, etc.) and specific: How can these datasets contribute to the discourse on Arctic change, as represented in the annual Arctic Report Card publication?

contact: Sandy Starkweather
www.iasoa.org

Linkages of the drastic Arctic change to mid-latitude climate Change

Since the industrialization, the Earth has been warming unprecedentedly fast over the past several millennia and the warming occurs more substantially in the Arctic. On the contrary to such global warming, over the past decade, the northern hemisphere (NH) is experiencing severe cold air outbreaks in winter, which often accompany severe snow storms, resulting in a huge socio-economic impact. Recent studies

suggest that such severe NH winter anomalous cooling is associated with the increase of snow over Siberia and the drastic melting of the Arctic sea ice that provide a favorable condition for the polar atmosphere to be warmer through an increase in planetary wave activities. The warmer atmosphere leads to the weakening and more southward displacement of NH polar vortex, resulting in more frequent cold surges in mid-latitudes.

contact: Seong-Joong Kim

Additional AWG Activities planned for 2013 / 2014:

- Northern hemisphere polar jet stream links with Arctic climate change
- Fourth Polar Prediction workshop
- Atmospheric chemistry workshop



Cryosphere Working Group (CWG)

IASC Cryosphere Working Group at the ASSW 2013 in Krakow, Poland

- Sea-ice boundary layer dynamics
- Permafrost
- Tidewater glacier dynamics

CWG: National Correspondents Workshop on GTN-P - Implementation and Data Policy (Geneva, Switzerland / May 2013)

The objective of the Geneva National Correspondents Workshop was the training of the National Correspondents (NC) who were recently appointed by the countries involved in GTN-P

(Global Terrestrial Network for Permafrost). This IASC-supported workshop helped them to establish a strong national participation in this program and to actively contribute to the achievement of the GTN-P goals and obligations. In total there were 50 registered attendees including 19 NC representing Austria, Canada, China, Denmark/Greenland, France,

Germany, Japan, Italy, South Korea, Kyrgyz Republic, Norway, Poland, Portugal, Russia, Sweden, Switzerland, USA, Antarctica, Svalbard. The workshop discussed on how to partner with other international organizations and platforms of climate data collection, and how to provide products to the public.
www.gtnp.org

CWG: CliC Arctic Sea Ice Working Group Workshop (Tromsø, Norway / June 2013)

CliC (Climate and Cryosphere) sea-ice activities make it possible to offer an international platform for discussing the progress made in Arctic and Antarctic sea-ice research, identify weaknesses in knowledge and methods used in observations, data processing, model validation and calibration to concentrate on perspec-

tive avenues of improving all aspects of sea-ice research. This workshop for 30 researchers from around the world, supported by IASC, included specialists working on sea-ice modeling, observations, remote sensing and forecasting.

The main goals of the workshop were to: (1) establish optimal linkages between international groups involved in sea ice modeling, observations, data assimilation, prediction and

service provision; and (2) finding avenues for future research efforts that are most productive for addressing the gaps in knowledge and weaknesses in our ability to observe sea ice, generate sea-ice data products and strengthen sea-ice modeling capabilities. (3) outline observational needs for sea-ice Models.

contact: Jenny Baeseman
www.climate-cryosphere.org

CWG: Additional CWG Activities planned for 2013 / 2014:

The next phase of the Tidewater Glacier initiative will include a model-data summit to be held in Grenoble, France in June 2014, immediately after the International Glaciological Society Symposium in Chamonix at the end of May on „The contribution of glaciers and ice sheets to sea level change“.

CWG will initiate a study to look at the problem of getting regional scale estimates of **glacier mass balance** for areas outside the ice sheets, especially during periods when there are gaps in satellite records or when available sensors change.

CWG will also continue its support of the **Ice Sheet Mass Balance and Sea Level (ISMSS)** group which is now co-sponsored by IASC, the

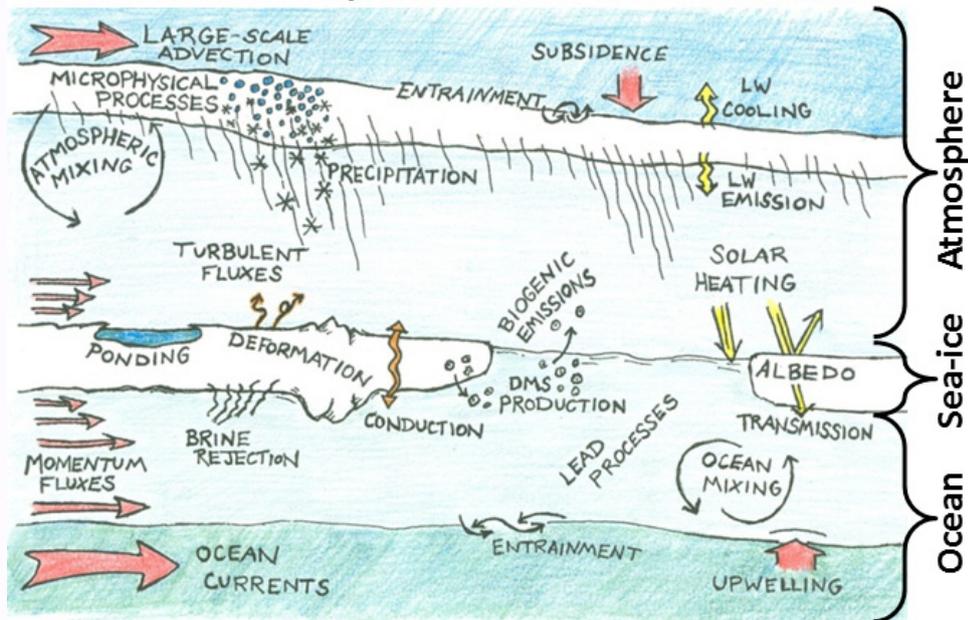
Scientific Committee on Antarctic Research (SCAR) and the Climate and Cryosphere (CliC) project.

CWG will provide travel support for Early Career Scientists to participate in the **19th Northern Research Basins (NRB)** International Symposium and Workshop, to be held 11-17 August 2013, in Alaska.

MOSAic – Building a Process-level Understanding of the New Arctic

Multi-year, detailed, and comprehensive measurements, extending from the atmosphere through the sea-ice and into the ocean of the central Arctic Basin are needed to improve our understanding and modeling of the changing Arctic climate and weather, and enhance Arctic sea-ice predictive capabilities. The **Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAic)** initiative aims to address this fundamental need through cross-cutting, observational and modeling activities. The program is organized around the central science question: “What are the causes and consequences of an evolving and diminished Arctic sea ice cover?” Scientific emphasis will focus on processes that transfer heat, moisture, density, momentum, and nutrients through the Arctic climate system. To address the science objectives, the program will include an intensive observational component designed to provide a process-level understanding of interdependent atmosphere, sea-ice, ocean, and biological processes that are leading to, and responding to, drastic changes in the sea-ice. Observations will be made from a manned, transpolar drifting observatory, wherein an ice-hardened ship will serve as a cen-

A Mosaic of Interdependent Arctic Climate Processes



tral hub for comprehensive, interdisciplinary observations over 1-2 years’ time. Information on spatial variability and heterogeneity in the system will be obtained using a coordinated network of distributed measurements from buoys, unmanned aerial systems, autonomous underwater vehicles, additional ships, aircraft, and satellites. A hierarchy of modeling activities will capitalize on these observations to study detailed climate processes, evaluate and

improve model parameterizations, facilitate regional model intercomparisons, and elucidate the impacts of Arctic processes on hemispheric circulation patterns. The International Arctic Science Committee is helping to facilitate and coordinate this international activity.

contact: **Matthew Shupe**
www.mosaicobservatory.org



Marine Working Group (MWG)

IASC Marine Working Group at the ASSW 2013 in Krakow, Poland

- Predicting and understanding rapid changes to the Arctic Ocean System
- Understanding biological and ecosystem processes in the Arctic and Sub-arctic seas
- Understanding sea ice structure dynamics and the Arctic System
- Understanding geochemical processes in the Arctic and Sub-arctic seas
- Enhancing and improving access to the paleo record of the Arctic Ocean through Scientific Arctic drilling

MWG: Distributed Biological Observatory (DBO) Data Workshop
 (Seattle, USA / February/March 2013)

The dramatic seasonal retreat and thinning of sea ice, record-setting seawater temperatures and multiple observations of biological changes in the Pacific Arctic sector has highlighted the need for understanding ecosystem response to climate forcing. The “Distributed Biological Observatory (DBO)” was developed by the international **Pacific Arctic Group (PAG)** as a change

detection array along a latitudinal gradient extending from the northern Bering Sea to the Barrow Arc in the Amerasian Arctic.

A DBO data workshop was held at the NOAA Pacific Marine Environmental Laboratory (PMEL) in Seattle on 27 February-1 March 2013. The meeting brought together scientists and associated project data sets collected during the 2010-2012 DBO pilot effort. The purpose of the meeting was to discuss the results, share data sets, develop an international data policy for this observing

effort, and organize collaborative publications. The MWG has endorsed the DBO project, and supports development of similar activities in the Atlantic sector of the Arctic. The DBO 2013 data meeting report is available [here](#).

contact: **Jackie Grebmeier**
www.arctic.noaa.gov/dbo

MWG: Internal mixing processes in the Arctic Ocean Workshop

(Woods Hole, US / October 2013)

The MWG will arrange an open workshop on „Internal mixing processes in the Arctic Ocean and their importance for water mass formation and heat and freshwater fluxes“ 21-22 October 2013 in Woods Hole in connection with the FAMOS (Forum for Arctic Modeling and Observational Synthesis) workshop being held on 23-

25 October. The rationale for the meeting is that the Arctic Ocean is a low energy environment in which mixing and water mass transformation processes could be different compared to most of the world ocean where mechanically generated turbulence predominates. Although often invoked, few hard numbers about the efficiency of these internal processes exist. The aim of the workshop is to identify and examine these mechanisms and determine if they play a

major role in the physics and the circulation of the Arctic Ocean. The workshop will include invited presentations on the different processes followed by discussions. Insights gained during the workshop will be applied and tested in the plenary and group discussions on the following FAMOS meeting.

contact: Bert Rudels

MWG: Arctic Cod Workshop (Copenhagen, Denmark / April 2014)

The MWG is supporting an international workshop on arctic cods (*Boreogadus saida* and *Arcotogadus glacialis*) that will be held in conjunction with the ESSAS Annual Science Meeting in Copenhagen (7-9 April, 2014). The goal of this workshop is to synthesize current information on the stock structure, distribution and biology of these two foundational species throughout the arctic and subarctic seas, and to identify potential climate change effects on their distribution and dynamics. The workshop aims to bring

Arctic Cod: *Boreogadus saida* (a pelagic cod adapted to close association with ice (cryopelagic))



together experts from around the circumpolar North to share knowledge about *B. saida* and *A. glacialis*, synthesize what we currently know, and plant the seed for future comparative.

contact: Franz Mueter

MWG: Contribution to ICARPIII:

The MWG is proposing a series of workshops culminating in an ICARP III themed session addressing the effects of climate change on processes and their feedbacks on greenhouse gases. Examples of processes affecting release and uptake of greenhouse gases in a changing Arctic include:

- Changing Sea Ice Cover
- Thawing of permafrost
- Warmer Atlantic water inflow



Terrestrial Working Group (TWG)

IASC Terrestrial Working Group at the ASSW 2013 in Krakow, Poland

- Improving knowledge at multiple spatial scales of the current state of Arctic terrestrial geosystems and ecosystems
- Determining terrestrial and freshwater environmental and biosphere processes that amplify or moderate climate warming
- Understanding the interactions of species and their environment, and the biology of life in extreme Environments
- Observation of changes in arctic geo- and biodiversity
- Development of high spatial resolution models of terrestrial geosystem and ecosystem Change
- Determining the role of connectivity in the functioning of arctic terrestrial systems, including connections within the arctic and the global system

TWG: Shaping forces of biodiversity in the Arctic (Reykjavik, Iceland / January 2013)

The TWG initiated an activity aiming at identifying the key shaping forces of biodiversity in the Arctic. The first step was to run a small workshop of sixteen scientists, representing a wide range of disciplines, in Reykjavik, January 2013. The workshop explored the feasibility of building a coherent research framework that would

address the shaping forces of arctic biodiversity across temporal and spatial scales in search for commonalities across biological hierarchies and organism groups. A special emphasis was on distinguishing between external and internal forces, how they interact and whether they differ between small and large organisms and how they relate to organism mobility and dispersal. To reach a wider audience the outcome of the workshop was presented at the Science

Symposium during the ASSW 2013 in Krakow and will also be presented at the ITEX Conference in Switzerland in September 2013. The next step will be to write up a conceptual paper on the workshop outcomes to be published in a special issue of a relevant scientific journal together with invited papers on case studies.

contact: Ingibjorg Jonsdottir

TWG: Arctic Vegetation Archive Workshop (Kraków, Poland / April 2013)

The Arctic Vegetation Archive (AVA) Workshop sponsored by the TWG, CAFF Flora Group, and NASA Land Cover and Land Use Change Program, took place during the business meetings of ASSW 2013. The goal of the AVA is to unite and harmonize the vegetation-plot (relevé)

TWG: Thermokarst Aquatic Ecosystem (THAW) Workshop (Quebec City, Canada / March 2014)

Another activity that the TWG decided to co-sponsor is the THAW (Thermokarst Aquatic ecosystem) Workshop 2014 which will be held in Quebec City on 11~14 March 2014. The workshop will include a study on "freshwater ecosystems in changing permafrost landscapes" and the activity will be closely linked to the Arctic Freshwater Systems synthesis (see cross-cutting, below) and the Global Change, Arctic Hydrology and Earth System Processes workshop.

contact: Warwick F. Vincent

TWG: The International Tundra Experiment ITEX – an international conference and synthesis Workshop (Grisons, Switzerland / September 2014)

The International Tundra Experiment is a scientific network of experiments focusing on the impact of climate change on selected plant species in tundra and alpine vegetation. Research teams at more than 61 circumpolar sites in tundra ecosystems have carried out similar, multi-year plant manipulation experiments for up to 20 years that allow them to compare annual variation in plant performance with respect to response to climate conditions.

TWG: Additional Activities planned for 2013 / 2014:

The IASC TWG is in the process of developing a proposal for a cross-cutting IASC Action Group consisting of members of the Social and Human, Cryosphere, and Terrestrial working groups that would address the synergistic consequences of a combination of rapid industrial expansion and climate change in the Arctic. Currently the consequences of and prediction of land-use changes in the Arctic, including the extensive networks of infrastructure needed for exploration and development of mineral resources, are not adequately addressed in any of the IASC working groups. Recent studies indicate that combinations of climate change and industrial development have resulted in major changes to local eco-

data from the Arctic tundra biome for use in developing a pan-Arctic vegetation classification and as a resource for climate-change and biodiversity research. The AVA will be an open access database that will be the first to represent an entire global biome. Forty-two people participated in the workshop and presented 25 papers. The topics of the papers included reviews of the history and need for the AVA, the status

TWG: Global Change, Arctic Hydrology and Earth System Processes (ARCHES) Workshop (Winter 2014, Edinburgh, UK)

The role of changing hydrology and active layer moisture regimes for ecosystems, biogeochemical and biophysical processes in the arctic terrestrial realm (including surface waters) has been overlooked relative to the much clearer emphasis on climate warming as a key driver of change. The „Global Change, Arctic Hydrology and Earth System Processes (ARCHES)“ scoping exercise will bring together a small group of ex-

We welcome all researchers to this conference who are interested in changes in arctic and alpine tundra. Contributions are welcome that range from observations of variability to experimental manipulations.

The conference will take place in Switzerland on 17-20 September, 2013. The venue will be the Hotel Kurhaus, a charming art-nouveau hotel in Bergün, a small mountain village in a breath-taking alpine landscape of the south-eastern Swiss Alps.

contact: Ingibjorg Jonsdottir
www.wsl.ch/alpine-arctic-flora/itex/index_EN

systems, including the permafrost, hydrology, vegetation, wildlife, and local people. The effects of resource development on broader regions are more difficult to assess, but are apparent and in many regions are more keenly felt by the indigenous people of the Arctic than those of climate change. The effects are both positive and negative with respect to biological resources and the local communities. These consequences first of all need to be quantified at several scales for the circumpolar Arctic and then methods developed for predicting future consequences, so that policy makers, governments, industry and local people can develop adaptive-management approaches to adjust to and mitigate the coming changes. The initial activity would be a request to IASC to help support a Network Workshop entitled "Cumula-

of vegetation data collection and classification in each of the circumpolar countries, potential applications of the AVA and reviews of the various database approaches that are being used.

contact: Skip Walker
www.geobotany.uaf.edu/ava/

parts to review the current state of knowledge on arctic hydrological change, to identify research gaps, and to horizon-scan based on best available predictions of change in the arctic terrestrial realm. The exercise will be closely linked to the THAW workshop (see above) and the Arctic Freshwater Synthesis (see cross-cutting).

contact: Philip Wookey



tive effects of infrastructure development and climate change in the Arctic." Maximum synergy for the workshop would be achieved by holding it in conjunction with another major meeting such as ICARP III.

contact: Skip Walker

TWG: Contributions to ICARP III:

TWG members agreed that a coordinated effort to address the impact of snow changes should be considered as a possible TWG contribution to ICARP III.



Social & Human Working Group (SHWG)

IASC Social & Human Working Group at the ASSW 2013 in Krakow, Poland

- The Arctic in a global context
- Natural resources, use, exploitation and development: past, present, future
- Histories and methodologies of arctic sciences and arts
- Human health, wellbeing and ecosystem change
- Perceptions and representations of arctic science
- Arctic residents and change: dynamics of mitigation and sustainability
- Security, governance and law
- Collaborative community research on climate change
- Competing forms of resource use in a changing environment

SHWG: Russia and Arctic Anthropology: Toward an Agenda for the 21st Century (St. Petersburg, Russ. Federation / May 2013)

Ten Arctic social scientists, from eight countries, convened in St. Petersburg, Russian Federation, for a workshop on "Russia and Arctic Anthropology: Toward an Agenda for the 21st Century". The workshop was organized by Nikolai Vakhtin and Peter Schweitzer, and supported by European University – St. Petersburg and the IASC SHWG. The participants included



one indigenous scholar originally from the Russian Arctic. The group discussed the current state and future of Arctic anthropology and other social sciences research both broadly and specifically in Arctic Russia. Participants then worked toward developing a framework for a new, large-scale research initiative focusing on key elements of change in the Russian Arctic. The group expects to continue elaborating the framework in the next months.

contact: Peter Schweitzer

SHWG: Supporting the preparation of the 2nd Arctic Human Development Report (AHDR II)

The SHWG is supporting the Arctic Human Development Report II by providing financial

assistance for SHWG members to participate in the meetings of the writing teams. IASC has also assumed responsibility for the review process of the AHDR II which is coordinated by the IASC Executive Secretary. The final AHDR II

will be presented at ASSW 2014 to feed into the ICARP III process.

contact: Joan Nymand Larson
www.svs.is/AHDR%20II/AHDR%20II.htm

SHWG: Contributions to ICARP III:

As an early planning activity in the lead up to ICARP-III in 2015, a town-hall will be convened at the International Congress of Arctic Social Sciences (ICASS) in May 2014, with support from the SHWG.

ICASS, which is held every three years, brings together several hundred social scientists and humanities scholars from a wide range of dis-

ciplines and institutions. The Congress also includes indigenous research partners, northern residents, policy makers, members of NGO's and government officials interested in the North. The ICARP-III Townhall will allow these social scientists and humanities scholars to have input into the ICARP III planning process. The event will be 'live-streamed' so that IASSA members who cannot attend the Congress will

still be able to participate in the townhall. Two early career scientists will be engaged to provide a written record summarizing the input, for submission to the ICARP Steering Committee.

contact: Gail Fondahl
<http://resweb.res.unbc.ca/icass2014/index.htm>

The IASC Council formed the Geoscience Action Group to tackle the underrepresentation of geological research in the current WG structure. The SHWG noted that social and human dimensions of geoscience research also need to be developed over coming years, including coordinated investigation of the substantial archaeological and palaeoenvironmental records of the polar regions. These provide scientists with unique opportunities for high-resolution reconstruction of environmental change and associated human responses over a variety of



timescales. We are planning to host a workshop addressing long-term human adaptive dynamics in the polar regions at the Arctic Centre in Groningen in 2014. This will produce a special issue of a scientific journal.

contact: Peter Jordan

SHWG is also considering a Social Sciences contribution to the follow-up of the „State of the Arctic Coasts 2010“ report.



IASC Cross-cutting Activities

Arctic in Rapid Transition (ART): now officially an IASC Network

ART is a pan-Arctic scientific Network developed and steered by early-career scientists, which aims at studying the impact of environmental changes on the Arctic marine ecosystem. ART has a focus on bridging across time-scales, by incorporating paleo-studies

with modern observations and modeling. Initially endorsed by the IASC MWG, ART recently transitioned to a new status by becoming an official IASC Network. ART is now in the process of broadening its scientific vision to address the changing marine realm as an integrated system fully ramified with other components of the Arctic. Within this framework, ART will continue to propose inter-disciplinary workshops

targeted to students and post-docs, and will support the development of joint projects and collaborations that should deliver innovative knowledge on biogeochemical and ecological implications of Arctic changes.

contact:

Carolyn Wegner , Alexandre Forest

www.iarc.uaf.edu/en/ART

Arctic Freshwater Synthesis

There is increasing scientific recognition that changes to the Arctic freshwater systems have produced, and could produce even greater, changes to bio-geophysical and socio-economic systems of special importance to northern residents and also produce some extra-arctic effects that will have global consequences. To address such concerns, a scientific synthesis will be conducted that focuses on the various Arctic freshwater sources, fluxes, storage and effects. The range of sources and fluxes to be assessed include: atmospheric vapour trans-

port, precipitation-evaporation, river flow, ablation of glaciers and ice caps, sea ice formation/ablation and marine (low-salinity water) exchanges. Extra-Arctic sources and fluxes from lower latitudes will be included, given their relatively large influence on the overall Arctic freshwater budget, as well as potential flux regulators (e.g., flow from the Greenland Ice Sheet). Jointly organized with CliC, the synthesis will be coordinated through a set of international workshops and meetings, with past open community meetings at the AGU Fall Meeting in San Francisco in 2012 and at

the ASSW 2013. An upcoming core workshop is planned for the fall of 2013. The community will be informed of progress at upcoming international conferences, including AGU Fall Meeting in December 2013 and the ASSW in Helsinki, Finland, in April 2014. Researchers wishing to contribute to the synthesis are welcome to contact IASC for more information.

contact:

Arvid Bring

Johanna Mård Karlsson

Historical Data Retrieval

This workshop will develop research strategies based on data rescue and the use of large, high data rate, or previously technically intractable data sets. It has long been recognized that progress in many areas of Arctic science is hampered by sparse data or by data that are inherently difficult to interpret. Large quantities of historical data are available that have not been

utilized because they are not easily converted into a readily analyzable form, such as manuscripts, instrument traces, photographs and video/audio recordings. This activity builds on existing country programs with the potential for large increases in easily useable Arctic data across disciplines.

Synergistic objectives include: Increase in easily available relevant historical data for all Arctic scientists; the leaders of active projects (i.e. Old

Weather – Arctic) can become familiar with research objectives in other Arctic disciplines fostered through data/information sharing or by contributing technical insight; and all will benefit from an exploration of end-to-end ideas for data sources, technical processing, and research applications.

contact: Rajmund Przybylak

Geosciences Assessment

Taking into account the upcoming ICARP III in 2015, the IASC Action Groups in Geosciences (AGG) is planning to promote an assessment on the „Geodynamic Evolution of the Arctic“ as a major geoscience contribution to the Conference. This will involve an active role of all IASC WGs, because of the overarching themes that will be treated. In this context the AGG would like to emphasize a careful review of the evolution of the Arctic Ocean basins and ridges, in which important themes such as the correlation of Circum-Arctic orogens, foldbelts and fault zones, the history of Arctic gateways will be dealt with.

Considering the high vulnerability of the

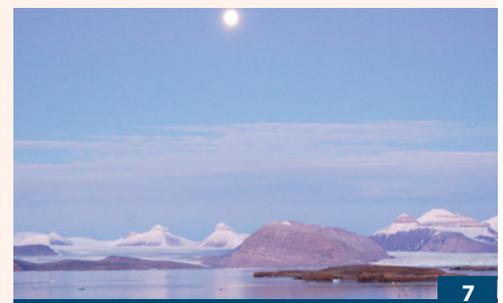
Arctic environment to climate change, the climatic history of this fundamental region will be put in the right perspective, taking into account both the long term variability during Mesozoic-Cenozoic times, but also, on a more recent scale, the millennial oscillations during the Holocene and the Anthropocene epoch. The dynamic responses to these changes in the Arctic are currently reflected in the permafrost and gas hydrate variability, as well as in the ice sheet stability and as a consequence in the future sea level changes. Finally all these features are highly impacting the human and social evolution of the Arctic people and therefore the economic aspects of this funda-

mental region of our Planet must be carefully considered.

Contact: Carlo Barbante

Victoria Pease

Bernard Coakley



Atmosphere Working Group

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Hiroshi L. Tanaka - Japan, Vice Chair
Michael Tjernström - Sweden, Vice Chair
Kathy Law - France, Vice Chair
Claude Labine - Canada
Bian Lingen - China
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Baek-Min Kim - Korea
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Piotr Glowacki - Poland
Benjamin Vinegla Pérez - Spain
Daniel Sanchez-Mata - Spain
Jelte Rozema - The Netherlands
Phil Wookey - UK
Donald A. (Skip) Walker - USA
Vanessa Loughheed - USA
Takayuki Nakatsubo - Japan