

Special edition
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PHOTO: DANA BERGSTROM

A joint newsletter of the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC)

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Editorial by Mike Sparrow Executive Director of SCAR and Volker Rachold, Executive Secretary of IASC

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Joint newsletter publication by SCAR and IASC underlines importance of bipolar research

Welcome to the first edition of "Polar News", a joint publication between the International Arctic Science Committee (IASC) and the Scientific Committee on Antarctic Research (SCAR). Polar News replaces both IASC Progress and the SCAR Newsletter for this Quarter and will likely be an annual publication that focuses on bipolar science.

Both SCAR and IASC provide fora for international coordination, bringing together investigators from different countries and different disciplines to engage in coordinated and collaborative research activities. They enable research and links to international policy makers that would not be possible working solely through a single country and provide a medium for countries to expand their scientific activities.

There are many common scientific interests between IASC and SCAR in the polar regions and much to be gained from developing synergies between both organisations in polar and bipolar research.

The IASC and SCAR Bipolar Action Group

To assist IASC and SCAR in thinking about how they might work yet more closely together in future, and how they might best contribute to the International Polar Year and its legacy, a Joint Bipolar Action Group (BipAG) was formed in early 2008. This joint Action Group provided very useful advice to the SCAR and IASC Executive Committees and helped to initiate a number of joint bipolar activities.

SCAR and IASC agreed to perpetuate this joint advisory group for another two years and to establish BipAG II, the joint Bipolar Action Group on Science Cooperation, with the term of reference to advise the SCAR and IASC Executive Committees on the development of instruments such as workshops, programmes and networks to address bipolar issues. The recommendations from the first meeting of BipAG II include not only science ideas

SCAR and IASC are recognized by the International Council for Science (ICSU) as the main source of information and guidance on polar issues. Both SCAR and IASC also serve as ICSU's Observers to the IPCC to ensure that polar issues are fully considered (see article on page 2).

Areas of current and future collaboration include studies related to the cryosphere (for example ISMASS – see page 3) and to the roles of the polar regions in the climate system. Bipolar cooperation will continue to be explored through the joint Bipolar Action Group (BiPAG II, see below) that is charged with identifying areas for scientific co-operation.

IASC and SCAR are also jointly considering how best to preserve and build-on their stewardship responsibilities for the legacies of the IPY in observing systems, data and information management, and mentoring of students and early career scientists. Issues regarding the IPY legacies are being addressed as a joint activity of the SCAR/IASC Executive Committees.

but also opportunities for developing the next generation of polar scientists, suggestions for more effective science coordination and data management and ideas for better communicating the importance of the Polar Regions for Planet Earth.



PHOTO: CARLOS FURTADO

The full reports of the latest and previous meetings are available at <http://www.scar.org/about/partnerships/iasc/bipag2.html>

Polar science in a global context

SCAR, IASC and the International Council for Science (ICSU)

Since its founding in 1931, the International Council for Science (ICSU) mobilizes the knowledge and resources of the international science community in order to strengthen international science for the benefit of society. ICSU was a co-sponsor of the International Polar Year 2007-2008 and, thus, the cooperation between ICSU, SCAR and IASC has become much closer over the last years. SCAR is an inter-disciplinary body of ICSU and IASC serves as an International Scientific Associate of the organization.

ICSU family

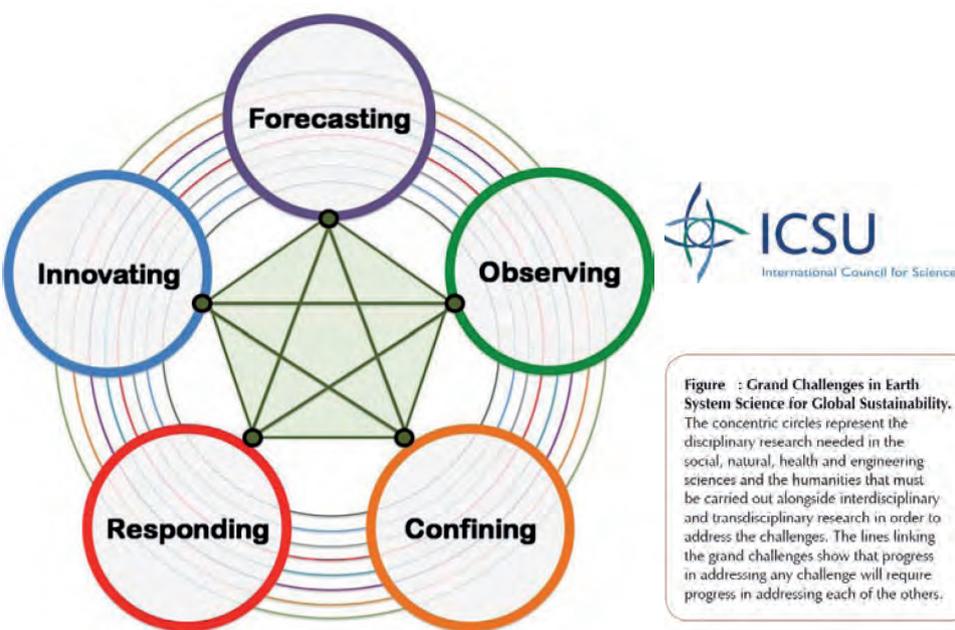
Within the ICSU family, SCAR and IASC play a key role in activities relating to polar science. Both SCAR and IASC promote and support leading-edge multidisciplinary research in order to foster a greater scientific understanding of the polar region and its role in the Earth system. They also provide objective and independent scientific advice to governments and other organizations on issues of science affecting the management of the Polar Regions. SCAR and

IASC are contributing to the assessment reports of the Intergovernmental Panel on Climate Change (IPCC) through ICSU's observers status.

Strategic vision and mission

Both SCAR and IASC embrace and contribute to the strategic vision and mission of ICSU. As an example, they were both actively involved in the Earth System Visioning and share the vision about the future Grand Challenges on Earth System Research for Global Sustainability.

Given the unique setting and rapid change of the polar environment, ICSU recognizes that now it is more important than ever, to re-assert the Universality of Science principle in the Polar Regions. Research in the Arctic and Antarctic region and bipolar opportunities were therefore important agenda points at two recent meetings that included representatives from ICSU, SCAR, IASC, the Association of Early Career Scientists (APECS) and the International Association of Cryospheric Sciences (IACS).



ICSU General Assembly and Polar Science

At the 30th ICSU General Assembly held in Rome (Italy) from the 24th of September until the 1st of October 2011, Mike Sparrow (SCAR), Jenny Baeseman (APECS) and Volker Rachold (IASC) were given the unique opportunity to address the ICSU General Assembly. In a 45 minute presentation SCAR, IASC and APECS reflected on the past, present and future of polar science,

including lessons learnt from the International Polar Year. It was proposed in the ICSU Strategic Plan 2012-2017 that a review of these and other international bodies involved in polar research be carried out, with a view to preserving, and building on, the legacy of IPY. Along with APECS, SCAR and IASC have inherited many aspects of this legacy.

The joint SCAR, APECS and IASC presentation is available for download at <http://www.iasc.info/index.php/component/content/article/15-pages/153-icsu-gcs-polar-science>

Global Challenges in polar research

A two day symposium on "Research Urgencies in the Polar Regions and their Links to the ICSU Grand Challenges in Global Sustainability" was held at the University of Siena (Italy) on 23-24 September 2011 and sponsored by SCAR, IASC and the International Association of Cryospheric Sciences (IACS). The meeting endorsed the continuation of relevant polar activities as a contribution towards the ICSU Grand Challenges and as a legacy of the IPY.

The meeting concluded with a statement identifying lessons to be learnt from the IPY that are relevant to the future of polar research, and essential in order to address the ICSU Grand Challenges:

- developing advanced research based interdisciplinary observational networks and sustaining a monitoring system supplemented with records of past changes;
- ensuring data preservation, exchange, availability and effective use of the capabilities of the ICSU System of World Data Centres;
- focusing on an understanding of processes and the ability to better model the polar environment as the basis for predicting future climate;
- facilitating active and equal engagement of indigenous people;
- actively engaging and supporting the next generation of scientists in a meaningful way;
- nurturing and strengthening partnerships with main stakeholders;
- creating opportunities for a wider scientific community participation; and
- integrating education and outreach to the wider community as a necessary component of all research projects.

http://www.mna.it/english/News/ICSU_symposium



City of Siena, location of the symposium on Research urgencies in the Polar Regions and their links to the ICSU Grand Challenges.

PHOTO COURTESY CITYPICTURES

In the Spotlight

Ice Sheet Mass Balance and Sea Level (ISMASS)

ISMASS is an expert group co-sponsored by SCAR and IASC. The goals of ISMASS are to:

- Promote research on the estimation of the mass balance of ice sheets and its contribution to sea level;
- Facilitate the coordination among the different international efforts focused on this field of research;
- Propose directions for future research in this area;
- Integrate the observations and modelling efforts, as well as the distribution and archiving of the corresponding data;
- Attract a new generation of scientists into this field of research, and
- Contribute to the diffusion to the society and policy makers, of the current scientific knowledge and the main achievements in this field of science.

The mass balance of a glacier or ice sheet is the net balance between the mass gained by snow deposition, and the loss of mass by melting (either at the glacier surface or under the floating ice shelves or ice tongues) and calving (production of icebergs). A negative mass balance means that a glacier is losing mass, and, for grounded glaciers and ice sheets, this



PHOTO: ANDREAS PETER AHLSTROHM (GEUS)

mass loss directly contributes to sea level rise (the melting of floating ice shelves and ice tongues does not contribute to sea level rise, because of the lower density of ice as compared to water, which determines the floating portion of the ice). This is one of the reasons why it is important, under a warming climate, to have accurate estimates of the mass balance of glaciers and ice sheets.

Over the past years it has become evident that a bipolar perspective is desirable for ISMASS. Ongoing dynamical changes in Greenland outlet glaciers, such as the speed up and rapid thinning of Jakobshavn Isbræ following weakening and disintegration of its

floating terminus, provide valuable insights into future response of Antarctic glaciers and ice streams following further warming.

There is a strong need for studying both the Antarctic and Greenland ice sheets to improve physical understanding of ice sheet processes responsible for rapid change and to incorporate improved physical understanding into numerical models.

The interim chair of the ISMASS Steering Committee is Francisco Navarro (francisco.navarro@upm.es)

For further details see <http://www.scar.org/research-groups/physicalscience/ismass.html>

Education, outreach and communication during IPY
ICSU Report delivered by APECS, SCAR and IASC

One year after the launch of the IPY Education, Outreach and Communication (EOC) Assessment Project, the task of inventorying and investigating the hundreds of IPY EOC programmes that occurred during the IPY 2007-08 is now complete. Supported by the Association of Polar Early Career Scientists (APECS), IASC and SCAR, this ICSU funded project is the only detailed examination of what happened in outreach during IPY.

The latest IPY event was one of the most ambitious polar research programmes to date, tens of thousands of scientists and students participated, but IPY also set out to involve members of the general public in active polar science endeavours on a global scale. How successful was this part of the IPY plan? With over 550 IPY EOC activities, from more than 70 countries in 25 languages IPY EOC is one of the largest global investments in science outreach to date. The IPY EOC Assessment brought together educators, communications personnel and researchers and the resulting report examines the success of IPY EOC efforts, and discusses why IPY EOC was able to reach its goals and beyond. From the experience of IPY, the report also outlines a set of lessons learned on how to improve science outreach across a variety of disciplines. These lessons will be useful for other science outreach projects - large or small - regional, national or international.

IPY EOC went to new heights, depths and extremes to take people to the poles and to take the poles to the people. Now the legacy of IPY outreach is helping to shape the future of science education and outreach. Read the report or search the online Polar Outreach Catalogue - a growing inventory of these IPY projects and new outreach efforts to help educate the world about the global importance of the Polar Regions.

The IPY Outreach Assessment Report

Provencher J, Baeseman J, Carlson D, Badhe R, Bellman J, Hik D, Huffman L, Legg J, Pauls M, Pit M, Shan S, Timm K, Ulstein K, Zicus S (2011) *Polar Research Education, Outreach and Communication during the fourth IPY: How the 2007-2008 International Polar Year has contributed to the future of education, outreach and communication*. Paris: International Council for Science (ICSU).

POLAR RESEARCH EDUCATION,
OUTREACH AND COMMUNICATION
DURING THE FOURTH IPY

How the 2007-2008 International Polar Year contributed
to the future of education, outreach and communication



The report and the searchable Polar Outreach Catalogue are available at <http://apecs.is/education-outreach/catalogue/ipy-outreach-assessment>



News from the North

Summer 2011: Arctic sea ice near record lows

Source: National Snow and Ice Data Center

The summer sea ice melt season has ended in the Arctic. Arctic sea ice extent reached its low for the year, the second lowest in the satellite record, on September 9. The minimum extent was only slightly above 2007, the record low year, even though weather conditions this year were not as conducive to ice loss as in 2007. Both the Northwest Passage and the Northern Sea Route were open for a period during September.

More information: <http://nsidc.org/arcticseaicenews/>



David Attenborough presents Frozen Planet on BBC One
PHOTO:BBC One

Frozen Planet airs on BBC One

Source: BBC

The Frozen Planet series is the follow-up to the ground-breaking Planet Earth and has been created by the same award-winning team. The Ice Worlds episode of Planet Earth attracted the most viewers and this series picks up where it left off. The seven-part series premiered in BBC this Fall.

More information: <http://www.bbc.co.uk/programmes/b00mf17n>

Unprecedented Arctic ozone loss in 2011

Source: Nature and The Guardian

A recent paper published in Nature reports that a huge hole that appeared in the Earth's protective ozone layer above the

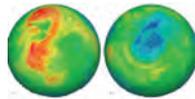


PHOTO: OMI/Aura/NASA

Arctic in 2011 was the largest recorded in the northern hemisphere. Normally, atmospheric conditions high above the Arctic do not trigger a large-scale plunge in ozone levels. But during the 2010/11 winter, a high-altitude wind pattern called the polar vortex was unusually strong, leading to very cold conditions in the stratosphere that also lasted for several months. This created the right conditions for the ozone-destroying forms of chlorine to slash ozone levels over a long period.

More information: <http://www.nature.com/nature/journal/v478/n7370/full/nature10556.html>

The role of the European Union in Arctic research Conclusion of a seminar held in the European Parliament

The EU Arctic Forum Brussels in cooperation with the University of the Arctic (UArctic), IASC and the International Arctic Social Sciences Association (IASSA) organized a seminar to discuss the role of the European Union in Arctic research. More than 50 participants, including MEP's, leaders in Arctic research, politicians, diplomats and other experts attended the seminar, which was held in Brussels at the European Parliament on 24 May 2011. As the outcome of the seminar, the following conclusions were drawn:

1. The ongoing climatic transformation of the Arctic Region is of major importance not only to the people living in the North and the Arctic states, but also to the European Union and the rest of the Globe. The rapid loss of sea ice, the potential for Greenland to contribute to global sea level rise, and the risk of additional Greenhouse Gas emissions from degrading permafrost are just some of the issues that have global ramifications. Thus, the study of the Arctic, in particular in terms of the International Council for Science (ICSU) Grand Challenges of Earth System Science for Global Sustainability (Forecasting, Observing, Confining, Responding, Innovating) has never been more important.

2. Likewise, due to melting Arctic ice, and the growing need to secure stable sources of energy, Europe alongside the rest of the world has become increasingly interested in the Arctic, in particular the potential to extract and develop new resources and the opening of maritime routes. There are roughly 4 million people living in the Arctic – although some put it higher at 10 million - of which 10 percent are indigenous peoples. Northern inhabitants are the ones who will either benefit, or be challenged the most by increased Arctic resource development. Thus, political, economic, social, cultural and legal issues are central to the changes taking place in the Arctic - pointing out the equal importance of both the social and natural sciences in understanding these changes.

3. The European Union is currently in the process of defining an EU Arctic Policy that approaches the questions of responsibilities and interests in the Arctic in a holistic way. Such a policy must be based on an all-inclusive, interdisciplinary and cross-sectoral input of state-of-the-art science. Improving the knowledge base by developing and furthering cutting-edge sciences that deals with Arctic issues must be given high priority given the rapid changes occurring in the Arctic and the global implications.

4. The European Union has demonstrated the capacity to organize joint research programs as well as targeted framework and regional funding initiatives. The EU should utilize this comparative advantage in creating joint initiatives also for Arctic Research.

5. The Arctic science and education community needs to develop better avenues for communicating science to policy and decision makers. A science-policy-interface for the Arctic would better enable the EU to base the development and implementation of its Arctic Policy on solid, high quality science that truly reflects a holistic approach. Likewise, science results must be made accessible for Arctic residents, which means that funds need to be made available for presenting them in a form digestible for practitioners.

For updates on the EU Arctic Strategy go to: http://eas.europa.eu/arctic_region/index_en.htm

Second International Arctic Forum "The Arctic - Territory of Dialogue"

The Second International Arctic Forum, "The Arctic – Territory of Dialogue," sponsored by the Russian Geographical Society, took place in Arkhangelsk on September 22-23, 2011. Over 450 scientists, politicians and journalists from the eight Arctic States and many other countries took part in the conference.

This year, the forum's focus was on the Arctic transport system as a fundamental factor in the development of the Arctic Region, its hydro-meteorological and navigational support, integrated safety and security and emergency prevention, protection of the Arctic environment



Prime Minister Vladimir Putin took part in the Forum organized in Arkhangelsk

PHOTO:Government of the Russian federation

and preserving the way of life of the indigenous population. For more information please visit: <http://arctic.ru/forum>

Antarctic experts meet for conference in Edinburgh

Source: BBC News

More than 500 experts from around the world met in Edinburgh to present the latest scientific research on the Antarctic. For the first time in more than 20 years, the Scientific Committee on Antarctic Research (SCAR) has held its conference in the UK. Organisers chose Edinburgh as they view it as the "birthplace of geology". Delegates examined the role the icy continent can play in understanding the world. They looked at what life existed in Antarctica millions of years ago and asked what clues conditions there now could give experts about possible life on Mars. The scientists also discussed what lies beneath the super-continent's vast 3km thick ice sheet.

The international symposium (ISAES XI), which took place 100 years after Captain Scott's famous Antarctic expedition, was organised and hosted by University of Edinburgh, SCAR, the British Antarctic Survey and British Geological Survey. Read the full article on the BBC News website <http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-14099822>

Next generation of SCAR Scientific Research Programmes

As part of its Strategic Plan, SCAR is currently planning for the next generation of Scientific Research Programmes. Four programmes are currently in the planning process, with another in the pipeline. These are State of the Antarctic Ecosystem (AntEco), Antarctic Ecosystems: adaptations, Thresholds and Resilience (AntETR), Antarctic Climate Change in the 21st Century (AntarcticClimate21; formally PACE), and Solid Earth Response and Cryosphere Evolution (SERCE). For further details, please see <http://www.scar.org/researchgroups/progplanning/>



PHOTO: JENNIFER MUÑOZ PALMA

News from the South

Three-way race to Antarctic lakes

Source: New Scientist Environment News

Antarctic researchers are set to make first contact with long-lost lakes deep beneath the continent's ice – closely followed by second and third contact. Three expeditions will attempt to enter the hidden lakes over the next two years, in search of unknown kinds of life that have evolved in isolation. The projects could also determine if or when the west Antarctic ice sheet will collapse – one of the worst-case scenarios in future climate change. More information: <http://www.newscientist.com/article/dn21032-three-way-race-to-reach-lost-antarctic-lakes.html>

Antarctic ice flow revealed

Source: Science Magazine

The Antarctic continent's immense mantle of ice is diminishing as warming ocean waters drive melt and accelerated glacier flow at the coasts. The importance of this process is widely recognized: A mere 5% reduction in the total mass of ice, for example, would place much of Miami, Amsterdam, and Bangkok below sea level. Predicting such changes in the centuries ahead requires understanding not only climate and its direct impact on ice loss but also the glacial flow that carries ice from the continent's interior out to its edges. In the journal Science (9 September 2011), Rignot et al. report the first nearly complete measurement and mapping of ice flow for the entire Antarctic continent, providing a new foundation for studies of ice sheet evolution. More information: <http://www.sciencemag.org/content/333/6048/1386.full>

Giant crabs make Antarctic leap

Source: BBC News

King crabs have been found on the edge of Antarctica, probably as a result of warming in the region, scientists say. Writing in the journal Proceedings B, scientists report a large, reproductive population of crabs in the Palmer Deep, a basin cut in the continental shelf. They suggest the crabs were washed in during an upsurge of warmer water. The crabs are voracious crushers of sea floor animals and will probably change the ecosystem profoundly if and when they spread further, researchers warn. More information: <http://www.bbc.co.uk/news/science-environment-14803840>



The *Neolithodes yaldwyni*, a giant red crab

Winner of the Martha T. Muse Prize for 2011 is announced



Dr. José Xavier

Dr. José Xavier, from the Institute of Marine Research of the University of Coimbra in Portugal and the British Antarctic Survey in UK, has been awarded the prestigious 2011 Martha T. Muse Prize for Science and Policy in Antarctica. Dr. Xavier has conducted outstanding research on the predator-prey dynamics that

sustain populations of albatrosses, penguins and other top predators in the Southern Ocean. One example of his leadership in this field is his recent publication of a comprehensive monograph on the prey of top predators that will be a great aid to many researchers. The Selection Committee of leading Antarctic scientists and policy makers also cited his leadership in the establishment of a new and thriving Antarctic research programme in Portugal during the International Polar Year (IPY, 2007-2008) and in launching a highly successful educational programme, LATITUDE 60! during the IPY.

<http://www.museprize.org/>

Exploring linkages between environmental management and value systems: The case of Antarctica

The first international workshop organised by the SCAR Social Sciences Action Group (SSAG) promises to bring together an extensive and diverse range of Antarctic social scientists and humanities researchers to engage in thought-provoking discourse on the connection between Antarctic values and environmental management. This workshop will help advance theory and empirical research with regard to the range of values informing human engagement with Antarctica, which, generally speaking, is the *raison d'être* of the SCAR SSAG. The workshop programme combines the traditional, individual research presentations with breakout group discussions. This structure will allow workshop

participants to fully engage in a broad, creative discussion focussing on the workshop theme. The workshop will make use of modern communication technology and will integrate online presentations with those that are made in person. The workshop is supported by SCAR and Gateway Antarctica (University of Canterbury). Even though registration for the workshop has officially closed, there is still a possibility to accommodate a small number of additional participants.

Date: 5 December 2011

Time: 8:30 am – 6:00 pm

Venue: University of Canterbury, Christchurch, New Zealand



Polar Activities of the World Meteorological Organization



The World Meteorological Organization (WMO) has a long history in polar activities, with itself and its predecessor, the International Meteorological Organization (IMO), being a sponsor or co-sponsor of all International Polar Years. Many legacies evolved from the stimulus of these polar years, and a key legacy for WMO from IPY2007-2008 was the establishment in 2008 of a new Panel of Experts on Polar Observations, Research and Services (EC-PORS) to assist in the oversight of WMO Polar activities. -By Barry Goodison, Scientific Officer, Observing and Information Systems Department, WMO -

EC-PORS brings observations, research and services together allowing WMO to maximize the value of its and its partners' investments in Polar Regions. Partnerships are critical for EC-PORS to be effective. Not only does it coordinate internally within WMO, but also externally with organizations and scientific bodies, including IASC and SCAR, to coordinate and implement WMO's cross-cutting polar activities. EC-PORS currently has 32 experts nominated by 21 WMO Members (countries) and Organizations.

Strengthening the Interface with Users

"Services" is a key driver that anchors the work of WMO Polar Activities. The need to strengthen the interface with users including the research community, northern peoples, and economic sectors is essential. The ultimate goal is to develop a comprehensive description of the global community's polar service requirements and articulate the value to be delivered.

WMO recognized the success of IPY2007-2008 and the resulting observing legacies and feels there is considerable benefit in coordinating these with the WMO Integrated Global Observing System (WIGOS) to provide the widening range of operational services and serve research programme requirements in Polar Regions. There is a need to establish an observational framework for Polar Regions that balances space-based observations with in-situ measurements while developing a methodology to address new observational requirements, including the identification of key polar variables from both a research and services perspective. This includes establishment of a reconstituted Polar Space Task Group (PSTG), composed of representatives from space agencies, to coordinate the planning, processing and archiving of Earth observation data sets.

Polar Regions are extremely important in terms of their global impacts on weather, climate and water. Yet, it is fully realized that there are significant challenges for sustaining and funding networks in remote harsh, cold environments, including those networks established during IPY. Sustainability of observing networks is a critical issue for both Polar Regions that needs to be co-operatively addressed by all polar countries and organizations, including WMO, Arctic Council, IASC and SCAR. Sustaining Arctic Observing Networks (SAON) is one such initiative.

Integrating all Antarctic Networks

For the Antarctic, EC-PORS co-ordinates WMO's operational responsibilities. Recently, WMO has adopted the EC-PORS recommendation to integrate all WMO Antarctic networks (surface and upper-air stations and including all GCOS (GSN and GUAN) and GAW stations) into an Antarctic Observing

Network (AntON) that will comprise all operational stations, all producing climate messages. It is also responsible for updating the Antarctic section in WMO's Manual on the Global Observing System (WMO-No. 544). WMO recognizes the major contributions of other organizations which fund and operate networks contributing to AntON. However, it also acknowledges that the density of the AntON is much less than that desirable to properly characterize Antarctic weather and climate.

Polar Prediction

An exciting new opportunity of interest to SCAR and IASC is the proposed decadal initiative to develop a Global Integrated Polar Prediction System (GIPPS), capable of providing information to meet user needs for decision making on timescales from hours to centuries. The global benefits of such a

of the Global Cryosphere Watch (GCW), in collaboration with international partner organizations and programmes, with the aim of an operational GCW. Partnering and collaboration are essential in the development of GCW, and IASC and SCAR are two key partners in ensuring its success.

GCW's mission is to provide authoritative, clear, and useable data, information, and analyses on the past, current and future state of the cryosphere to meet the needs of WMO Members and partners in delivering services to users, the media, public, decision and policy makers. The GCW Implementation Strategy, developed through consultation with WMO Members, potential partners and the scientific community, sets the framework for moving forward. The GCW Implementation meeting in November will initiate action on the GCW task plan. (<http://>



PHOTO: ANNA HOGG

system are large, enabling service delivery and development of observing strategies in Polar Regions, while addressing key uncertainties in weather, climate, water and related environmental variability and change in these regions, hence contributing to improved global prediction. WMO Congress agreed to embark on a multi-year endeavour towards GIPPS, as an IPY Legacy to benefit the global community (http://www.wmo.int/pages/prog/www/Antarctica/GIPPS_Concept_paper_and_Resolution.pdf). WWRP/THORPEX and WCRP are taking an active lead and would welcome engagement of the polar community, particularly SCAR and IASC.

A Focus on Cryosphere

The cryosphere occurs globally, existing in various forms spanning all latitudes and occurring in approximately one hundred countries, in addition to the Antarctic continent. Recognizing the unparalleled demand for authoritative information on past, present and future state of the world's snow and ice resources WMO is embarking on the development

www.wmo.int/pages/prog/www/Antarctica/GCW_Implementation_Strategy_and_Resolution.pdf.

Beyond IPY2007-2008

A topic being discussed within the community is the nature of any IPY follow-on. It is generally agreed that it would take a decadal effort to achieve what needs to be done. Organizations, including IASC, SCAR, and WMO, have been discussing this issue. A draft concept document is to be discussed at the Montreal 2012 IPY Conference "From Knowledge to Action", which should help chart the way forward. GCW and GIPPS would logically contribute to any such effort.

Partnering to achieve successful observation and research and deliver services in the Polar Regions will be essential, and WMO, IASC and SCAR are well positioned to move forward together over the next decade.

Further information is available at: <http://www.wmo.int/pages/prog/www/Antarctica/antarctica.html>



Upcoming

IASC Workshops

Overcoming Barriers to Arctic Ocean Scientific Drilling: The Site Survey Challenge

Location: Copenhagen, Denmark

When: 1-3 November 2011

The focus of the workshop is to plan site survey campaigns. The planning will be based on existing and planned proposals and pre-proposals that were developed as a result of the successful 2008 Magellan workshop „Arctic Ocean History: From Speculation to Reality.“



Workshop on the Global Terrestrial Network on Permafrost (GTN-P) user requirements definition

Location: Potsdam, Germany

When: 10-11 November 2011

The IASC Cryosphere Working Group in cooperation with the International Permafrost Association (IPA) and the Scientific Committee on Antarctic Research (SCAR) organizes a workshop to encourage, facilitate and promote the first step in the realization of the GTN-P Strategy and Implementation Plan. Both the strategy and plan will focus on the definition of user requirements for an observing network on permafrost based on a broader stakeholder involvement and the standardization of permafrost measurement methods at the international level

Distributed Biological Observatory

Location: Victoria, Canada

When: 15 November 2011



The Distributed Biological Observatory (DBO) is designed as a change detection array for the identification and consistent monitoring of biophysical responses in pivotal geographic areas

that exhibit high productivity, biodiversity and rates of change. The Pacific Arctic Group (PAG) in the Pacific sector of the Arctic is undertaking a pilot program of this array. With the goal of the IASC Marine Working Group to both understand biological processes and ecosystem change in the Arctic, the WG is supporting actions to harmonize DBO activities in the Pacific sector with similar and ongoing planned activities in the Atlantic sector of the Arctic.

You can find more information on upcoming and past IASC activities on the service page / Activities 2011-2012 under www.iasc.info

Planet under Pressure

Location: London, UK

When: 26-29 March 2012

Based on the latest scientific evidence, the London Planet Under Pressure conference will provide a comprehensive update of our knowledge of the Earth system and the pressure our planet is now under. The London conference will focus the scientific community's and the wider world's attention on climate, ecological degradation, human well-being, planetary thresholds, food security, energy, governance across scales and poverty alleviation.

At the conference a polar session on "Ice Sheets and Glaciers in a Warming World" will be chaired by Mike Sparrow (SCAR), Volker Rachold (IASC) and Rasul Ghulam from the Pakistan Meteorological Department (PMD). Observations clearly show that glaciers and Polar ice-sheets are responding to climate change. Though considerable uncertainty remains regarding the response of the Greenland and Antarctic ice sheets to future warming, recent research has shown that ice loss from Greenland and the Antarctic has increased over the last 20



years, and will soon become the biggest driver of sea level rise. Many glaciers at the "Third Pole" - the Himalaya and the Tibetan Plateau (HKH - Himalaya-Karakoran-Hindukush) - are also losing their ice mass at unprecedented rates, resulting in changes in water availability for populations and agriculture downstream.

This session discusses new findings on the changes of Polar ice sheets and glaciers, including those of the Asian mountains, in response to climate change. The results of both field studies and modelling will be presented. The focus will be on the impact of these changes on both global scale, in terms of sea level rise, and on regional scale, e.g. water resources.

<http://www.planetunderpressure2012.net>

Antarctic Science and Policy Advice in a Changing World

XXXII SCAR Open Science Conference and XXIV COMNAP AGM



Where: Portland, Oregon, USA

When: 13-25 July 2012

The XXXII SCAR biennial meetings and Open Science Conference will emphasize the SCAR's dual role in facilitating scientific research and providing advice to policy makers. Plenary sessions will focus on high level overarching themes of interest to the majority of attendees:

1. Antarctic Conservation

Challenges in a Century of Change led by N. Gilbert

2. Past, Present and Future Climate Evolution led by J. Turner and N. Bertler

3. Evolution and Biodiversity in Antarctica led by J. Gutt
Keynote talks on the opening day of the SCAR OSC will include the Weyprecht Lecture (Bob Bindshadler: glaciers, ice sheet mass balance and sea level), the Antarctic Science Lecture (Angelika Brandt: marine biodiversity), the 2012 Martha T. Muse Prize winner, and the thematic Policy Advice in a Changing World.

Abstract submission is now OPEN. Submit your abstract at <http://scar2012.geol.pdx.edu/>

IPY Montreal and ASSW

Where: Montreal Canada

When: 19-22 April 2012 and 22-27 April 2012

The abstract deadline for the IPY 2012 Montreal Conference has closed. Over two thousand abstracts were submitted with a broad international representation. The focus of "From Knowledge to Action", this final IPY Conference will contribute to the translation of new polar scientific findings into an evidence-based agenda for action that will influence global decisions, policies and outcomes over the coming years.

Before the kick-off of this science filled week, Montreal also hosts the Business Meetings of the Arctic Science Summit Week 2012. The ASSW is an initiative of IASC. The purpose of the summit is to provide opportunities for coordination, collaboration and cooperation in all areas of Arctic science, and to combine science and management meetings. <http://www.ipy2012montreal.ca> and

<http://www.iasc.info/index.php/home/assw>

10th Conference on Permafrost

Where: Salekhard, Russia

When: 25-29 June 2012



The Tenth International Conference on Permafrost will be held in Russia in June 2012 for the first time since 1973. The Russian organizers have decided to hold the conference on permafrost, in Salekhard, in western Siberia. Salekhard is a booming city, with an increasing number of cutting-edge facilities built to accompany the rising activity linked to oil and gas extraction in the area. The organizers, in addition to traditional scientific sessions, plenary lectures and scientific meetings, have planned a series of activities for the participants, including many early career scientists and a large number of unique field trips to permafrost sites. For more information, check the website of the conference at <http://www.ticop2012.org/>