

Maximizing the Legacy of IPY in the Arctic

Proposal for the Arctic Council

Submitted by Norway

Summary

The legacy of IPY should reach beyond the pure scientific achievements to enable scientists, policy-makers, and Arctic residents to continue to work together to understand and to address the big scientific outcomes of IPY. The Arctic Council is the natural relevant body to assess and to take responsibility for the realization of IPY legacy aspects which are specific of the Arctic and are of potentially great influence on the future development in the Arctic.

It is suggested that the Arctic Council takes steps to ensure that the IPY work, findings and experiences are used in a best possible manner for Arctic management and governance. The following steps are suggested:

- Continued support to the establishment of SAON as a robust and coordinated system of observing systems as a lasting legacy of the IPY.
- Initiate a process to consider issues related to scientific access to all areas of the Arctic.
- Using experiences gained from the IPY process as basis for developing ideas for improved research coordination and funding across the Arctic community.
- Continued support to ongoing recruitment and international capacity building initiatives.
- Initiate a project with the aim to place the scientific results from IPY in the context of society and governance, aiming to:
 - conduct a scoping study and analysis of the IPY science program with regard to where it will produce new knowledge of societal impact that should be brought to the attention of decision makers.
 - consider mechanisms that could ensure that this knowledge is brought forward (e.g. an IPY-assessment report using the ACIA-process as a model).
 - convene an AC IPY Legacy Workshop to discuss further the potential mechanisms for communication and societal use of IPY research.

1. Introduction

The 4th International Polar Year 2007-2008 is the largest international research cooperation program ever launched, involving several tens of thousands of scientists on a global scale. IPY aims at making new important progress in the polar sciences, with a special focus on Arctic and bipolar issues. IPY has initiated almost 1000 research initiatives worldwide which condensed to more than 200 concrete research projects, involving between 5 and 20 countries and up to a few hundred scientists each. In contrast to previous polar years, the present program has a much wider scientific scope, including, for the first time, fields of direct societal importance, such as ecosystem and human health, development of indigenous

societies, politics and economy, as well as genuinely interdisciplinary projects involving both natural and social science.

The IPY lasts for two calendar years, from 1 March 2007 to 1 March 2009, but many major projects will continue beyond the latter date. A full evaluation of the outcome from this initiative will, however, take years and thus will influence polar research over a much longer time frame. Already now, before the official end of IPY, it is clear that the projects will yield a wealth of new data and scientific publications, which need to be registered, organized and be made available in an optimum way in order to guarantee the success of this unique research effort.

Already in the initiation phase of the 4th IPY, there was agreement on that the legacy of this initiative should reach beyond the pure scientific achievements to enable scientists, policy-makers, and Arctic residents to continue to work together to understand and to address the big scientific outcomes of IPY. This seems to be particularly important in the context of the wider focus the Arctic has seen the last decade due to the especially pronounced manifestation of global change and, as a consequence of this, improved accessibility of natural resources there.

The Arctic Council is the natural relevant body to assess and to take responsibility for the realization of IPY legacy aspects which are specific of the Arctic and are of potentially great influence on the future development in the Arctic.

2. Key IPY legacy issues relevant to the work of the Arctic Council

The following issues have been identified as important legacy issues:

- Observations and data access/management
- Access to areas
- Communication and societal use of research results
- Recruitment, capacity building and coordinated funding

These legacy issues go beyond the research itself and are of societal interest. The Arctic Council should consider these four legacy issues, maintaining a focus on the immediate relevance for human societies and the natural factors which their existence depends on in the region as well as the relevance for the future development in the Arctic.

2.1 Observations and data access/management

Notwithstanding the many and frequent reports of Arctic change, our knowledge of the Arctic system is limited in many respects: there are temporal, spatial and disciplinary gaps in observing records, and data are often difficult to obtain or even unavailable. Sub-optimal observing and data management hamper our ability to monitor and study environmental and socio-economic change and their regional and global consequences. Only circum-Arctic

efforts in monitoring and research with a long-term perspective can guarantee that critical changes in the region with potentially severe impact on societies are identified and understood, and possible mitigation or adaptation measures are taken.

New data and, thus, a considerable growth of the observational basis for research and monitoring will be a major outcome of the 4th IPY. However, already the previous IPY/IGY in 1957/58 showed very clearly that the value of such periods of intense research only can be fully exploited if there is a critical mass of long-term measurements available, in the context of which the campaign data can be interpreted. Sufficiently long time series to interpret changes in a long-term context are scarce and distributed very unevenly in the Arctic; in some disciplines they are only in their starting phase or completely missing. IPY will help to assess the quality of the existing measurement network and to identify requirements for a more appropriate observation network.

The Arctic Council has already identified the importance of sustained data collection and provision, and initiated a process to establish a “Sustained Arctic Observing Networks” (SAON), involving both IPY bodies, existing international and national research and monitoring networks, and organizations related to traditional knowledge. SAON aims to coordinate observing activities of government agencies, scientific researchers, local residents and communities. By promoting communication and collaboration among the observing activities, and inviting others to join as appropriate, SAON will contribute to the establishment of a robust, lasting and coordinated system of systems.

2.2 Access to areas

Coordinated observations imply that the observers have access to the regions where the observations are to be made. In the past, access to some areas has been severely hampered by bureaucratic and economic obstacles. Such obstacles have been especially challenging for scientists when moving across national borders, but they also have occurred inside countries. As a special recognition to IPY, the Russian Federation has taken concrete actions to reduce both bureaucratic rules on access and fees. So far, these improvements seem to be limited to the IPY period.

An important and highly valuable legacy of IPY could be to reconsider access impediments in all regions of the Arctic, taking note of the improvements made by Russia during IPY, and through inter-governmental consultations to improve the access situation for scientists in the whole Arctic on a long-term basis.

2.3 Recruitment, international capacity building and coordinated funding

Securing an adequate and balanced recruitment of young experts and establishing a system for comprehensive/extensive cooperation and scientist exchange programs to promote a culture of mutual understanding across national and discipline borders is an important aspect in ensuring that critical changes in the region with potentially severe impact on societies are identified and understood, and possible mitigation or adaptation measures can be taken.

IPY has both boosted activities in already existing recruitment structures, such as the University of the Arctic (<http://www.uarctic.org>), and initiated the establishment of new recruitment structures, such as the Association of Polar Early Career Scientists (APECS; <http://arcticportal.org/apecs/about>).

Coordinated research planning and funding is also a critical issue. Traditionally, research funding (and priorities) is decided at the national level. However, there are a few exceptions, and some of the experiences gained from the IPY process could be of value in developing ideas for improved research coordination and funding. This is an issue that could be moved forward by consultations involving Ministries of Science/Education and National funding agencies.

2.4 Communication and societal use of research results

Both the complexity and the volume of measurements and other results of the IPY projects and possible legacy activities require very effective “condensation” and outreach processes in order to become available to administrators, stakeholders and the interested public in an understandable way in due time.

A number of potential mechanisms for communication and outreach exist. Some examples include:

- “State of” reports that in a concise and thematically balanced manner updates knowledge on the Arctic, comprising all thematic areas relevant to the Arctic Council (an example of such a report form is the State of the Arctic Report/Arctic Report Card - <http://www.arctic.noaa.gov/reportcard/about.html>).
- Assessment of scientific findings in the context of societal needs, e.g. an assessment of the IPY findings in context of their relevance for Arctic people and future governance. The ACIA-process could be used as a model for such an IPY-assessment report.
- Establishment of international outreach platform where new findings and important developments in the Arctic are presented to authorities, interested experts, media and the public. The IPY Oslo Science Conference (Polar Science – Global Impact) planned to take place June 2010 (see <http://www.ipy-osc.no>) and other IPY-conferences provide a possible initial element of such a strategy.

It should also be emphasized in this context that IPY has boosted a wealth of contacts between the scientific community and other crucial sectors of society, such as the educational structures, media and art, which have been very important for the visibility of IPY and public awareness on the importance of the polar regions for global change. These experiences should be considered in the legacy outreach aspect.

3. Arctic Council IPY legacy project

As pointed out above, important parts of the four elements related to the Arctic IPY legacy are already covered by the ongoing initiatives, such as the SAON work. However, other aspects may not be fully so well covered, and the Arctic Council should take steps to ensure that the IPY work, findings and experiences are used in a best possible manner for Arctic management and governance through the Arctic Council.

It is suggested that the following steps could be taken for the four elements of the IPY legacy at this point in time:

Observations and data access/management

In the *Salekhard Declaration* member States and other entities were urged to strengthen monitoring and research efforts needed to comprehensively address Arctic change and to promote the establishment of a circumpolar Arctic observing network of monitoring stations with coordinated data handling and information exchange for scientific data, statistics and traditional knowledge as a lasting legacy of the IPY. The SAON initiative has been a response answering to this request.

The Arctic Council should continue to support the establishment of SAON as a robust, lasting and coordinated system of observing systems in order to in best possible manner ensure that critical changes in the region with potentially severe impact on societies are identified and understood.

Access to areas

The question of scientific access to all areas of the Arctic is a complicated, demanding and potentially politically complicated issue. The following process is suggested:

- A scoping study should be conducted to gain a broader understanding and overview of current circum-arctic scientific access regulations and obstacles, as well as experiences gained during the IPY in this regard.
- On basis of such a scoping study the extent of the problem should be analyzed and possible ways forward should be considered.
- One mechanism to ensure continuity and progress on this important matter could be to establish a Group of Expert under the Arctic Council.

Recruitment, capacity building and coordinated funding

IPY has both boosted activities in already existing recruitment structures, such as the University of the Arctic, and initiated the establishment of new recruitment structures, such as the Association of Polar Early Career Scientists (APECS). The Arctic Council should continue to support such initiatives which are essential in promoting a culture of mutual understanding across national and discipline borders.

Arctic Council members should use their experiences gained from the IPY process to consider potential mechanisms for improved research coordination and funding across the Arctic. One way of moving this issue forward could be to initiate a process of consultations involving Ministries of Science/Education and National funding agencies of the Arctic countries.

Communication and societal use of research results

The communication and outreach aspects of the IPY are to a large degree centered on the scientific aspects of the work that has been conducted during the event. The Arctic Council could play a major role in ensuring that the scientific results are placed in the context of society and governance. Such focus could also provide a solid basis for Arctic Council input to the processes in conjunction with the upcoming COP-15 (United Nations Climate Change Conference 2009). The following process is suggested:

- Conduct a scoping study and analyze the IPY science program with regard to where it will produce new knowledge of societal impact that should be brought to the attention of decision makers. The attached draft list of “legacy projects” could be used as starting point for such a scoping study.
- Based on the results of the scoping study, and through consultations between AC members, consider mechanisms for bringing this knowledge forward. One alternative could be to undertake an IPY-assessment report using the ACIA-process as a model.
- Since IPY is truly bipolar, the Arctic Council should in this process also consider if (and how) legacy initiatives like an IPY-assessment could include Antarctica.
- On basis of scoping study and consultations (mentioned above), convene an AC IPY Legacy Workshop to discuss further the potential mechanisms for communication and societal use of IPY work. The findings of the scoping study and consultations should be circulated to the participants in advance of the workshop.
- The workshop should prepare recommendations based on the outcomes of the workshop discussions, and submit to the Arctic Council for their consideration. It is important to bring this forward through the Ministerial Declaration 2009.

- Norway is prepared to take lead responsibility in moving this part of the Arctic Council IPY Legacy project forward, within the following budget and time framework:
 - Scoping study/consultation/background papers:
 - *Time:* 1 December, 2008 – 1 March, 2009
 - *Budget:* NOK 500 000. The budget includes work of a project coordinator and production of background documents. Norway is prepared to fund this work.
 - Workshop:
 - *Time:* At the latest mid-March 2009
 - *Budget:* NOK 600 000. The budget includes organization of the workshop and writing and printing of the workshop report with recommendations. Norway is prepared to fund this workshop.
 - In-kind contributions: All delegations will have to cover their own costs related to their contributions to the scoping study, consultations and the workshop.