



**WP 21**

Agenda Item: 4.4.6

Person Responsible: M. Sparrow

**XXXIII SCAR Delegates Meeting**

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# **Concept: International Polar Partnership (Initiative)**



## Executive Summary

**Introduction/ Background:** In order to facilitate the concept of an International Polar Partnership Initiative (IPII) a Concept Note Steering Group was formed from representatives of AMAP, APECS, EPB-ESF, IASC, IASSA, ICSU, IOC, SCAR, WMO, UoA and UNEP. The Executive Director represented SCAR, but included the rest of the Executive Committee in the discussions.

**Recommendations/Actions and Justification:** Delegates are requested to note progress and comment as appropriate

**Expected Benefits/Outcomes:** If approved the IPII could result in improved coordination between organisations and more efficient use of resources. It should be noted that this is a 'top-down' initiative and buy-in from the Antarctic Community at least is still a challenge.

**Partners:** AMAP, APECS, EPB-ESF, IASC, IASSA, ICSU, IOC, WMO, UoA and UNEP...

**Budget Implications:** No funds requested as yet

## Concept: International Polar Partnership (Initiative)

### ***Why an IPP(I)?***

People have always been fascinated by the Polar Regions. They are often thought of as remote snow and ice covered deserts, where only a few hardy people, explorers and scientists venture. However this view is changing and it's the science at the poles that is leading this change. The polar environment affects the Earth system and its climate in many ways, influencing weather patterns and extreme events world-wide. Both Polar Regions are being economically exploited and the "opening" of the Arctic will further increase its already significant role as a major player in the global economy. Despite the marked progress in environmental research, scientists are still getting to grips with the multitude and complexity of physical and biogeochemical processes that take place in the both Polar Regions, and how these relate to the rest of the globe. Because of interrelated physical processes, human activity and teleconnections, it cannot be stated any more plainly: ***what happens in the poles does not stay in the poles.***

Although at present there is wide recognition of the importance of polar issues, much of the current understanding and in particular the relationship between human and natural influences is incomplete. Indeed, we need to look at the poles as a fully coupled human-natural system. ***Change is outpacing our understanding*** of the Arctic and the Antarctic and our ability to provide knowledge for decision-making in polar-related activities.

### ***What will the IPP(I) address?***

An IPP(I) will:

- Bring together and coordinate those working on polar issues to identify synergies and effectively use existing resources to address important issues of common interest,
- Facilitate research to address interaction of human and biophysical systems on many timescales, and
- Develop a nuanced understanding of the human and natural processes in the poles that directly relate to the future of people around the world.

With these goals in mind, promising directions for IPP(I) are those which advocate for further, nuanced knowledge of the poles, engage all stakeholders, are relevant to societal issues, and, most importantly, benefit from enhanced collaboration and coordination in polar activities, such as:

- Establishing and maintaining polar observing, assessment, prediction, and services systems,
- Promoting interdisciplinary/multiplatform data collection, exchange, and interoperability,
- Building capacity in communities of polar scientists and practitioners,
- Developing a common language and cooperative synergistic relations between local peoples, social and natural scientists, and practitioners.

### ***Are we adequately addressing key problems? If not, what will be the consequences?***

The poles remain the most extensive data voids on the planet. Almost all current observing systems depend on short-term research funding, while contributions to polar predictions systems are available in prototype versions only. In the Arctic, polar information services needed for sustainable development suffer from a lack of adequate observations. In the Antarctic, the inadequacy of the observing system results in lack of or insufficient understanding of several key processes.

The ***main polar issues are not addressed at present as effectively as required.*** There needs to be a considerably greater sense of urgency among decision-makers and awareness by the general public regarding the global importance of environmental issues in the Polar Regions and of the need to address them in a coordinated, sustained, planned, timely, and resourceful manner and to speed up the transition of activities

from research to operations. *A failure to effectively address polar issues will be felt much more strongly and in an increased number and variety of ways by future generations.*

### ***Are we in position to address the existing challenges in the Polar Regions? If yes, how?***

The International Polar Year 2007-2008 produced an unprecedented “snapshot” of the Polar Regions, expanding greatly our understanding of the poles, while often providing as many questions as answers. At present *there is the scientific and technological possibility to ensure reliable and comprehensive monitoring of the Polar Regions* and to further deepen the understanding of main processes and phenomena and their interactions *in order to support informed decision-making*. However, *current financial considerations require* increased efficiency of using existing funding, aiming at *high return on investment* and focusing on practical use of research outcomes and the ability to do more with less. *Cooperation, coordination, and sharing of resources should therefore be the main strategy* for developing polar activities. Because it is a long-sighted initiative, the IPP(I) will be able to continue to ensure the training of future generations of polar researchers. To achieve the increased efficiency of joint activities by several organizations *a common implementation plan is needed for the development of observing systems, research, services, education and outreach, and practical applications of knowledge in the Polar Regions*. The plan should help to conduct future polar activities in a socially conscious manner and in a true cooperation with local residents.

Some possible successes the IPP(I) is poised to address are:

- Observation and data assimilation systems in the Polar Regions that are able to support skillful environmental predictions at a range of time scales, effective environmental assessments, early warning systems, search and rescue, and pollution prevention and combat operations,
- Other examples.

### ***Scope of the IPP(I)***

The IPP(I) is born out of a conviction that the magnitude of the changes at the poles and the strength of their interactions with the rest of the Earth system call for *full breadth of polar and environmental sciences, observations, data, analysis, modelling, prediction and services*. A cross-disciplinary and systems approach is needed to address *both natural and human systems* as well as their interaction. IPP(I) will not attempt to identify important research questions, but will defer this task to its qualified participants. Potential IPP(I) participants are already doing this through the International Arctic Science Committee’s 3<sup>rd</sup> International Conference on Arctic Research Planning (ICARP-III), “crowdsourcing” techniques such as the Scientific Committee on Antarctic Research’s Horizon Scan, and the International Arctic Social Science Association’s Arctic Human Development Report II. These “bottom-up” processes rely on expertise and enthusiasm of broad research communities.

The IPP(I) recognizes significant similarities between polar and alpine regions. Observing systems in alpine regions are generally less developed than elsewhere, much like the poles. Overlapping extreme environments can play host to related physical, ecological, or human systems. *Linkages between high latitude and high altitude environments are important* for the IPP(I) and will be included in the planning documents in all aspects where considerable synergies are to be expected.

*Outreach, education, mentoring, training of early career scientists and specialists*, both the North and South, are necessary conditions for the initiative’s success and an investment into building the work force for decades to come. In addition, meaningful and resourceful involvement of the *local residents*, including indigenous peoples, should be ensured.

### ***Who will participate in the IPP(I)?***

In order to address polar challenges, major national and international agencies and organizations will have to have a broad range of individual and cooperative activities. Taking into account the stakeholders' main goals, objectives, resources and available expertise and comparing them with the magnitude of the challenges facing us, lead to the unequivocal conclusion that ***no stakeholder can effectively achieve its objectives in the Polar Regions without efficient coordination and sharing resources with partners.***

This IPP(I) Concept Document has been developed with input from representatives of organizations such as:

- Arctic Monitoring and Assessment Programme (an Arctic Council Working Group),
- Association of Polar Early Career Scientists,
- GRID-Arendal (for UNEP),
- Intergovernmental Oceanographic Commission of UNESCO,
- International Arctic Science Committee,
- International Arctic Social Sciences Association,
- International Council for Science,
- International Hydrographic Organization,
- Mountain Research Initiative,
- Scientific Committee on Antarctic Research,
- UNESCO,
- University of the Arctic,
- World Meteorological Organization.

The IPP(I) is envisioned as a platform to bring together organizations (national, international, intergovernmental, academic, industrial, etc.) with interests in the goals and topics stated in this concept document. Because the IPP(I) aims to bring other groups to the same table and values coordination rather than additional new programmes itself, it is envisioned that it can be run by only a micro-secretariat (part time person?) which facilitates frequent and close communications between participants.

While international organizations provide a forum for discussion of issues, finding joint approaches and solutions, it is the nations that are the final beneficiaries of the joint activities and the main actors of them. Small funding for programme coordination will initially come from international agencies and programmes but the main bulk of resources required for research and development activities, field work, construction, and exploitation will come from interested nations.