Item 6.4 of the Provisional Agenda

CONCEPT: INTERNATIONAL POLAR PARTNERSHIP INITIATIVE (IPPI)

Summary

The International Polar Partnership Initiative (IPPI) is the evolution of the concept for the International Polar Decade (IPD). The IOC Assembly at its 26th Session in 2011 (Decision 6.4) requested that the IOC Executive Secretary: “(a) cooperate with the WMO and other organizations in the preparation of the IPD; and (b) arrange for IOC representation in a multi-agency Steering Group, which, when established, will lead the IPD consultative process and prepare a draft IPD Concept document;” for consultation with an IOC governing body meeting.

The draft IPPI Concept enclosed¹ was synthesized by Vladimir Ryabinin (WMO-IOC-ICSU World Climate Research Programme), who is acting as the secretariat of the IPPI Steering Group, co-chaired by David Hik (Canada) and Jan-Gunnar Winther (Norway). It is provided for comment by the Executive Council under Agenda Item 6.4.

There are no financial and administrative implications at this time.

The proposed decision is referenced EC-XLVII/Dec. 6.4 in the Action Paper (document IOC/EC-XLVII/2 Prov.)

¹ This document has been prepared and shared amongst various organizations in English only.
"Why then do we feel this strange attraction for these polar regions, a feeling so powerful and last ing, that when we return home we forget the mental and physical hardships, and want nothing more than to return to them?"

— Jean-Baptiste Charcot

**Why an IPPI?**

1. The polar regions used to be thought of as remote snow and ice covered deserts, where only a few hardy explorers and scientists ventured. However this view is changing fast, and modern science presents to the world a totally new picture of the polar regions which shows their complex nature and their importance to the whole globe.

2. Transformations occurring in the polar regions are both fast and diverse, involving both natural and human processes. The polar environment affects the Earth system and its climate in many ways, influencing weather patterns and extreme events worldwide. Polar regions are being economically exploited, and the “opening” of the Arctic is further increasing its already significant role as a major player in the global economy. Because of interrelated physical processes, human activity and teleconnections, *what happens in the poles does not stay in the poles.*

3. Despite the wide recognition of the importance of polar issues, much of the current understanding of the leading processes there and in particular of the relationships between human and natural influences is far from complete. *Change is outpacing our understanding* of the Arctic and the Antarctic and our ability to provide knowledge for decision-making in polar-related activities.

4. IPPI is a joint response of the community of polar stakeholders to the above challenges. Its purpose is to identify and address polar issues of high regional and global significance.

**What will the IPPI address?**

5. IPPI will promote research on human and natural processes in the poles and help to identify synergies and effectively use existing resources to address important polar issues of common interest. The initiative will engage appropriate stakeholders and support the activities that are relevant to societal issues and benefit from enhanced collaboration and coordination.

6. Specifically, IPPI aims to:
   (i) Create, upgrade, and maintain necessary polar components of observing, assessment, prediction, and services systems;
   (ii) Strengthen interdisciplinary/multiplatform data collection, search and rescue, exchange, archival and access, and related interoperability;
   (iii) Build long-term capacity in communities of polar scientists and practitioners; and
   (iv) Develop 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?**

7. The poles remain the most extensive data voids on the planet. Almost all polar observing systems are developed through research funding. Therefore, their sustainability cannot be guaranteed. Elements of polar prediction systems are available in prototype versions only. In the Arctic, severe shortage of observations impedes the development of information services for sustainable development. The practice of ecosystem-based management is very limited there and the high risks that industrial development brings to the fragile Arctic environment are poorly quantified. Capabilities to react in the case of an environmental accident are absolutely insufficient. In the Antarctic, the inadequacy of the observing system results in the lack of or insufficient
understanding of key regional processes, which adversely affects the robustness of global climate predictions.

8. 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 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?

9. 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 capability 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. Another strong requirement is to ensure that observations made in the polar regions, even if they are made as a part of a research-funded project, are exchanged as soon as possible and are therefore used in environmental prediction. Being a long-sighted initiative, the IPPI should strongly support training of future generations of polar researchers.

10. The increased efficiency of IPPI activities will be achieved by developing, agreeing, and using a common Implementation Plan 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. The Plan may include specific activities agreed by various combinations (subsets) of IPPI Participants.

Scope of the IPPI

11. The IPPI 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 environmental sciences, observations, data, analysis, modelling, prediction, and services. A cross-disciplinary and systems approach is needed to addresses both natural and human systems as well as their interaction. IPPI will not attempt to define the research agenda, but will defer this task to its qualified participants. For example,

- the International Arctic Science Committee’s 3rd International Conference on Arctic Research Planning (ICARP-III),
- the Horizon Scan, a “crowdsourcing” technique of the Scientific Committee on Antarctic Research, and
- the International Arctic Social Science Association’s Arctic Human Development Report II

will rely on expertise and enthusiasm of broad research communities. The IPPI Implementation Plan will integrate the outcomes of these research planning activities with the polar agenda of agencies involved in IPPI. This is how the “bottom-up” research agenda and “top-down” implementation planning will meet.
12. Cold climates and cryospheric processes dominate both polar and alpine regions. The relationship of indigenous peoples to central governments and external capital are similar in both environments. The density of observing sites in high-elevations is, like that of the poles, very low. Therefore, IPPI seeks to explore synergies between the heretofore largely disjunct polar and mountain research communities and discover mutual beneficial collaborations at the level of observation, process studies, modelling of coupled human-natural systems, and at the level of support to programme and policy formation. **Linkages between high latitude and high altitude environments are thus important** for IPPI and will be pursued whenever considerable synergies are to be expected.

13. Outreach, education, and training of early career scientists and specialists both of the North and South are an investment into building the work force for decades to come and a necessary condition for the long-term IPPI success, as is the meaningful and resourceful involvement of the **local residents**, including indigenous peoples.

**Who will participate in the IPPI?**

14. The Steering Group on a long-term international cooperative polar initiative developed the IPPI Concept with input from representatives of the following organizations:

- 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

15. Having reviewed the main goals, objectives, resources and available expertise of major national and international agencies and organizations and having projected them on the existing challenges, the Group came to the unequivocal conclusion that **no stakeholder can effectively achieve its objectives in the polar regions without efficient coordination and sharing resources with partners.**

16. The IPPI will bring together **organizations** (national and international, non-governmental and intergovernmental, academic and educational, industrial and non-profit, etc.) with interests in the goals and topics stated in this concept document. 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. Because the IPPI 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, which facilitates frequent and close communications between participants. 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.
Will IPPI bring us what we could not obtain if it did not exist?

17. The Steering Group on a long-term international cooperative polar initiative agreed that it would propose an initiative if the answer to the above question was affirmative. It concluded that the current approaches to addressing regionally and globally significant polar challenges are disintegrated and lack required efficiency. There is long-standing lack of progress in the development of sustainable polar observing systems. Resources available to any nation or organization are limited. However, the similarities in polar stakeholder interests do exist and in principle it is feasible to introduce more energy and efficiency into polar research, observations and services. This truly calls for an IPPI, a partnership arrangement in polar activities.

Next steps

18. Participation in IPPI will involve a commitment to cooperate and to develop of a joint implementation strategy in order to pursue a set of mutually agreed societally important goals.

19. Prospective IPPI Participants are invited to comment on this Concept and suggest modifications. Once the Concept is agreed, the Steering Group will offer it for endorsement of participating organizations. Further steps will include more detailed specification of shared objectives and activities.