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**INTERNATIONAL POLAR YEAR AS A CATALYST FOR SUSTAINING ARCTIC RESEARCH**

by Karen Kraft Sloan & David Hik*

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**INTRODUCTION**

The Arctic covers an area of more than thirty million km², and is home to a population of about four million, including over thirty different indigenous peoples. The Arctic is also a region experiencing rapid environmental, economic, social, and political change. The health and well-being of northern people and their environments, the sustainability of northern communities, and the future development of northern resources, will increasingly define global issues in this century. The success and sustainability of an Arctic-focused agenda requires meaningful and sustained engagement, and leadership from indigenous and non-indigenous northern peoples, governments and institutions, in partnership with a wide variety of national and international interests. This concept has been affirmed, although not always embraced, by indigenous organizations, many regional and national governments, the Arctic Council, and other intergovernmental bodies.

One important role of science and research is to assist governments in effectively discharging their responsibilities and mandates. In the Arctic, these mandates are necessarily far reaching, diverse and include a broad range of disciplines, from the natural sciences, the human behavioral, social and historical sciences, medical sciences, engineering and applied sciences, and research in the managerial, economic, and legal fields. This research is characterized by an abundance of cross-cutting issues that require interdisciplinary or multidisciplinary approaches, and the knowledge provided by research must address questions on a wide range of scales from local to global, and from immediate to long-term. It is also recognized that advanced technological knowledge and fundamental or theoretical research must be combined with the holistic observations and knowledge of indigenous northern peoples.

Some of the most compelling examples of scientific cooperation in the Arctic have been the diverse scientific activities conducted under the banner of the International Polar Year (“IPY”) on four occasions during the past 125 years. The present International Polar Year runs from March 2007 to March 2009, and involves approximately fifty thousand participants from over sixty nations, engaged in about two hundred international research projects in the Arctic and Antarctic regions. The major objectives of IPY include efforts to obtain a ‘snapshot’ of the state of the Polar Regions, to explore new frontiers of science, and to promote scientific cooperation, training, and outreach.

Recently, there has been increased discussion of the legacy of this IPY, and promotion of the notion that IPY will be a “catalyst” for sustaining future Arctic and Antarctic research efforts. History would suggest this outcome is possible, but what efforts are required to secure a legacy of sustained interest and investment in Arctic research?

**LESSONS FROM THE INTERNATIONAL GEOPHYSICAL YEAR**

The scientific outcomes of the International Geophysical Year (“IGY”) of 1957–1958 (which began as the third IPY) are remarkable and have been summarized elsewhere. But IGY catalyzed more than just innovative research. Halfway through the IGY, Dr. Laurence M. Gould, while delivering the American Geographical Society Bowman lecture, declared: “The IGY may turn out to be a brilliant new approach toward international understanding and organization.” Indeed, a few days after Gould delivered his address, the Special Committee on Antarctic Research (“SCAR”) was officially organized in The Hague and became a permanent committee of the International Council for Science. SCAR then prepared a plan of Antarctic research that went beyond the original IGY program.

Subsequently, the United Kingdom, followed by other governments, expressed interest in finding an international solution to competing Antarctic territorial claims. This quest led to the creation of the Antarctic Treaty in 1959. The Treaty is a remarkable document. It was signed by the twelve nations active in Antarctica at the time, all of which participated in IGY and nine of which had made territorial claims in Antarctica or reserved the right to do so. At the present time, 46 countries are signatories to this treaty. In a preamble and fourteen short articles, the signatories agreed, among other considerations, that Antarctica should be used “exclusively for peaceful purposes”; to “promote international cooperation in scientific investigation in Antarctica;” and to “the establishment of a firm foundation for the continuation and development of such cooperation . . . as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind.”

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All of this was agreed to in the shadow of the Cold War “in a remarkably short time, by disparate, thinly acquainted, mutually wary cultures—military, scientific, and diplomatic,” and in the language of the preamble, “shall continue forever.” In 1958, Gould hypothesized that the IGY approach “could provide a pattern that will move over into other areas and result in further working together of all nations.” The Treaty proves him prescient, by serving as an apt example of how the IGY’s legacy was both broadened and sustained beyond the immediate scientific program. By inspiring a multinational diplomatic conversation about the future of a continent, and the security for scientific activity conducted within its borders, the IGY continues to influence the world.

**Toward an Arctic Treaty?**

Given this, what promise does the current International Polar Year hold for formalizing international support for Arctic science cooperation? What kind of practical measures are needed to ensure this? Many of the relevant issues have already been clearly articulated, including reviews of the options that should be considered to develop a comprehensive Arctic legal regime. More recently, a 2006 editorial in *Nature* argued for G8 leaders to commit to improving links between Arctic research communities, “on the model that has been tried and tested in the Antarctic.” The editorial underlined the value of IPY, noting that it too provides an opportunity for a case to be made for a “more concerted, international effort” to support research in the Arctic. The authors asserted that “scientists working in the Arctic are well connected with each other,” and goes on to say that while an Antarctic treaty exists that “obliges its signatories to collaborate in scientific research,” no formal or political framework exists for collaboration on Arctic science.

Nevertheless, what worked in the context of the Antarctic is not directly applicable to the Arctic. The physical, political, economic, ecological, and historical realities of the poles and their occupation and traditional use by indigenous peoples and national governments are very different. Gould reminded us in 1958 that the poles “are distinguished by their dissimilarities rather than by any common characteristics.” In a recent issue of *Foreign Affairs*, Scott Borgeson agreed: “Although it is tempting to look to the past for solutions to the Arctic conundrum, no perfect analogy exists. The 1959 Antarctic Treaty . . . provides some lessons, but it concerns a continent rather than an ocean.” He goes on to say, “there is simply no comparable historical example of a saltwater space with such ambiguous ownership, such a dramatically mutating seascape, and such extraordinary economic promise.” In this context, it is unsurprising that there is so much attention on the seabed mapping and claims process laid out under the United Nations Convention on the Law of the Sea, whereby nations bordering the Arctic Ocean may be able to extend their sovereignty beyond the usual 200-nautical mile limit recognized in international law, if the seabed is an extension of the continental shelf.

Given the unique contexts of the two poles, a different institutional arrangement to support international Arctic science cooperation is needed. It should be pointed out that the Circumpolar North is not without efforts to increase international cooperation. In fact, there has been a “recent proliferation of efforts to enhance international cooperation,” reflecting the mix of institutions and organizations in the region. However, solutions that will be acceptable to most stakeholders, especially Arctic nations, and that will strengthen and support research and monitoring, regulatory arrangements, and adaptation to rapid climate change will require ingenuity and commitment over the long-term.

Along with regional efforts to provide opportunities for bi-lateral and multi-lateral cooperation, is the maze of global multi-national environmental agreements (“MEAs”) that affect the Arctic. Attempts have been made to better understand how various global agreements impact the region. However, solutions that will be acceptable to most stakeholders, especially Arctic nations, and that will strengthen and support research and monitoring, regulatory arrangements, and adaptation to rapid climate change will require ingenuity and commitment over the long-term.

IPY has added to this mix by promoting a Circumpolar Biodiversity Monitoring Program. Other international conservation non-governmental organizations, like the World Wildlife Fund have also called for a “new approach, which includes thinking about a solid Arctic Treaty and a multilateral governance body.” And last year an editorial in the *New Scientist* concluded, “What more fitting conclusion could there be to this event [IPY] than for scientists to call for the same protection in the north—for an Arctic Treaty? Or have scientists lost the nerve to make such grand demands?”

In 2006, United Nations Environment Program (“UNEP”)/Global Resource International Database-Arendal and the Standing Committee for Parliamentarians of the Arctic Regions sponsored a seminar to investigate the implications of global MEAs for the Arctic in order to better understand the “fit” of current circum-arctic initiatives with these global agreements. Key recommendations include the need to: undertake an audit of the
effectiveness and relevance of current MEAs; identify gaps in coverage; evaluate whether or not a unified legal regime, such as a treaty or a framework convention would be appropriate for the Arctic region; and explore mechanisms to enhance institutional cooperation such as a permanent Arctic secretariat, Arctic MEA implementation strategy. The seminar report and its recommendations were submitted to the UNEP, the Arctic Parliamentarians, the Arctic Council, the Nordic Council of Ministers, and the governing bodies and secretariats of MEAs, along with being distributed to Arctic stakeholders.

Despite this discussion and activity, the idea of an Arctic Treaty may be unattainable. Timo Koivurova has recently warned that there are potential down-sides to negotiating an Arctic treaty, including lengthy and costly preparatory and negotiation processes, the risk of legalizing lowest common denominator standards, and contributing another layer of complexity to the already fragmented array of multilateral environmental agreements. There is also a growing recognition that indigenous peoples organizations, such as the Inuit Circumpolar Council, have legitimate interests in these discussions that have not been fully recognized. However, all of the recent attempts to provide for greater cooperation in the Circumpolar region bode well for enhancing international support for Arctic science and research. Countless individuals from many polar and non-polar nations have exerted tremendous energy in securing scientific, political, and financial support for IPY. But since these are not easily garnered, the question remains—how will activity be sustained in the long-term?

A ROADMAP FOR SUSTAINING ARCTIC SCIENCE AND RESEARCH?

The Arctic research community and northern residents cannot act alone. Governments have significant responsibilities for improving international Arctic science cooperation, and therefore the support of governments is required. The Arctic Council has most notably advanced cooperation for broader collaboration in the Circumpolar North. Within the Arctic Council, indigenous peoples of the Arctic have representation as Permanent Participants, for active engagement, and full consultation on Council activities. Under the leadership of the Arctic Council, seminal work has been produced including the Arctic Climate Impact Assessment and the Arctic Human Development Report. Both featured excellent research work, including traditional and local knowledge and peer-reviewed science. A high level of international cooperation and a commitment to extend this work continues.

More recently, emphasis has been placed on the need for a well coordinated and sustained Arctic Observing Network that meets scientific and societal needs. In November 2006, Arctic Council Ministers urged all member nations to maintain and extend long-term monitoring of change in the Arctic, with a view to building a lasting legacy of the International Polar Year. There is a strong consensus that scientific understanding of the changing Arctic system and its global connections and consequences requires improved Arctic observing capabilities that are linked to global observing activities. Numerous observing sites, systems, and networks already exist in the Arctic, and more are being initiated during IPY. In order to maximize the likelihood that these disparate activities can be integrated into a sustained network for long-term observation that will support the scientific study of Arctic system change in a global context, there is, among other things, a vital need to:

- Improve coordination to avoid repetition, duplication and overlap, and promote synergies;
- Assess user needs, and identify and fill gaps in spatial, temporal and disciplinary coverage to achieve a circumpolar observing network;
- Guarantee access to data and information in an easy, free, open and timely fashion, and in standard, internationally accepted formats, to the broadest possible community of users;
- Ensure sustainability through long-term funding and commitments; and
- Establish links to global observing activities, networks, and systems.

Additionally, many non-Arctic nations have strong Arctic science programs and interests, yet are restricted from full membership within the Arctic Council. Capturing the enthusiasm and interest of these nations could contribute greatly to strengthening international collaboration on Arctic science. Indeed, this is the intended role of the International Arctic Science Committee.

THE LEGACY OF IPY 2007

Some of the legacies of IPY 2007–2008 may transpire regardless of whether efforts are made to secure them, and some may only come about with some exertion. Collectively, however, they would undoubtedly result in a significant, broad, and far-reaching impact for IPY, for example:

- Establish permanent observation and monitoring networks;
- Improve the link between observation and monitoring to modelling;
- Manage the explosion of data that IPY will create, and ensure access to it;
- Raise the public profile of the polar regions;
• Link science and policy more effectively;
• Improve opportunities for northerners by increasing linkages to higher education;
• Ensure that there is a “critical mass” of northerners in the next generation of Arctic science researchers; and
• Share logistical information more broadly and more efficiently.

There is still a need to define and pursue the next steps in securing a broad legacy for IPY, as envisioned by so many of the scientific and governmental participants. These efforts to secure the IPY legacy could include:

1. Making the IPY legacy part of the IPY process itself, like the efforts to secure Sustained Arctic Observing Networks.40
2. Identifying partners in order to link with and build upon other efforts, through Arctic Council and other organizations, including national governments.
3. Learning from other efforts to formalize international polar science cooperation, especially from the implementation of the Antarctic Treaty System and from the first fifteen years of the evolution of the Arctic Council.
4. Being opportunistic and identifying fora to engage governments and other potential partners and supporters.
5. Identifying champions and providing them with resources to promote the global and local value of enhancing Arctic science, research, and knowledge capacity.

Endnotes: International Polar Year

1 Welcome to ACIA, Arctic Climate Impact Assessment website, http://www.acia.uaf.edu/ (last visited Apr. 25, 2008) [hereinafter Arctic Climate Impact Assessment]. Arctic Climate Impact Assessment evaluated and synthesized knowledge on climate variability, climate change, and increased ultraviolet radiation and their consequences. The aim was to provide useful and reliable information to the governments, organizations, and peoples of the Arctic on policy options to meet such changes.

2 See generally Arctic Council website, http://arctic-council.org/section/the_arctic_council (last visited Apr. 17, 2008); Michaëlle Jean, Governor General, Canada, 2007 Speech from the Throne (Oct. 16, 2007), available at http://www.sft-dtt.gc.ca/gfx/docs/sftdt-e.pdf (last visited Mar. 23, 2008); Yukon Gov’t et al., Northern Vision: A Stronger North and A Better Canada (2007), available at http://www.anothervision.ca/photography_0526.html (last visited Mar. 24, 2008). In the 2007 Northern Vision document, the territorial leaders in Canada called for partners to aid in developing healthy, viable communities of self-reliant individuals, in a context where Aboriginal rights have been successfully negotiated and implemented, and where northerners are the primary beneficiaries of northern resource development. These goals are similar to those articulated by the federal government, which has placed priority on (1) strengthening Canada’s sovereignty and protecting Canada’s environmental heritage; (2) promoting economic and social development; and (3) improving and devolving governance so that northerners have greater control over their destinies.


4 See E. F. Roots, Environmental Research in Arctic Canada: Bringing Global and Local Science Together, 51:7 MEMORIES OF THE NATIONAL INSTITUTE OF POLAR RESEARCH 24 (1996); C. M. Furgal, C. Fletcher & C. Dickson, Ways of Knowing and Understanding: Environment 73 (Canada, Ottawa, 2006);


6 Albert, id.


8 Behr et al., IPY history reflects progress in science and society, WITNESS THE ARCTIC, Spring 2007, at 1–4.

Endnotes: International Polar Year continued from page 7


12 Antarctic Treaty, id. art. I.

13 Antarctic Treaty, id. art. III.

14 Antarctic Treaty, id. pmbl.


16 Antarctic Treaty, supra note 11, pmbl.

17 Gould, supra note 9.

18 Behr et al., supra note 8.


22 Gould, supra note 9.


26 Young, id.


33 The Inuit Circumpolar Council (ICC) is the body that represents all Inuit from Alaska, Canada, Greenland, and Chukotka on matters of international importance. See generally About ICC, Inuit Circumpolar Council website, http://www.inuit.org/index.asp?lang=eng (last visited Apr. 20, 2008).

34 Arctic Climate Impact Assessment, supra note 1.


39 The International Arctic Science Committee is a non-governmental organization whose aim is to encourage and facilitate cooperation in all aspects of Arctic research, in all countries engaged in Arctic research and in all areas of the Arctic region. See The International Arctic Science Committee website, http://www.arcticportal.org/iasc (last visited Apr. 17, 2008).

40 SAON, supra note 37.

41 Behr et al., supra note 8.

42 Gould, supra note 9.

Endnotes: Snow, Sand, Ice, and Sun continued from page 12


22 Dernbach, id.


25 Petition, id. at 6.

26 Petition, id. at 5.

27 Petition, id. at 7.

28 Petition, supra note 24, at 7.

29 Petition, supra note 24, at 7.

30 Petition, supra note 24, at 7–8.