

Canada needs a polar policy

A lack of coordination in Arctic research funding leaves scientists without the support they need for fieldwork. **John England** outlines how Canada can set things right, and show leadership in the north.

Canada is the second largest polar nation and among the wealthiest, giving it a responsibility to lead in stewardship of the Arctic. In keeping with its tradition of advancing polar science, Canada invested Can\$156 million (US\$147 million) during the 2007–09 International Polar Year (IPY), seeding a resurgence of scientific activity and outreach. Sadly, the post-IPY future does not look as bright.

The capacity to support researchers in remote field sites has plummeted, making it difficult for Canadian researchers to continue crucial monitoring of the fast-changing Arctic environment, from receding glaciers to disappearing polar-bear habitat. Worse, the restricted logistical funds aren't distributed in partnership with money from the main granting body — the Natural Sciences and Engineering Research Council of Canada (NSERC). So researchers with grant money in their pockets, and government affirmation that their research is important, often can't afford to pay for their fieldwork.

The underlying problem is the lack of a national polar policy, which would commit Canada to clear objectives and better coordinate research activities. The need for such a policy topped the list of recommendations in a 2005 NSERC report called *From Opportunity to Action: A Progress Report on Canada's Renewal of Northern Research*. The lack of such a policy leaves many Canadian scientists feeling voiceless and chronically insecure about research support.

Polar advancement

Now is an opportune time to apply pressure to change this, given the country's increasing demonstrations of interest in the Arctic. In 2008, the Canadian government announced the establishment of a world-class High Arctic Research Station (location still undecided), and the construction of a new icebreaker. Can\$85 million was awarded in 2009 to refurbish 18 research stations across the north. A Network of Centres of Excellence, called ArcticNet, was established in 2003. And six, ten-year NSERC Northern Research Chairs were set up in 2002 to promote scientific excellence and northern partnerships.

Despite these moves, many northern researchers simply can't afford to get where they need to go. The Polar Continental Shelf Program (PCSP) was established in 1958 as the

main agency providing field logistics across northern Canada, a remote region the size of Europe. The programme supplies researchers with everything from skidoos and tents to satellite phones, transports them to field sites using helicopters and ski-equipped planes and oversees the safety of remote camps. If a severe storm destroys tents, or a camp is threatened by a polar bear, the PCSP comes to the rescue. In doing so, the PCSP has earned an international reputation for efficiency and resourcefulness. Budget cuts before both 1988 and 2003 led



Getting people and supplies into remote Arctic field sites requires expensive air support.

to lobbying that secured increases of up to Can\$3 million for the PCSP. Today it has an annual budget of only Can\$6.3 million, with Can\$4 million for direct logistical support. And in the past five years, factors including a doubling of aviation-fuel costs have rapidly eroded the PCSP's ability to fulfil its mission.

The number of PCSP applicants receiving 75% or more of their requested aircraft hours has dropped from 80% in 2003 to 26% in 2009. In 2009, the average difference between the requested aircraft support and that awarded by the PCSP was 20 hours, at a cost of Can\$1,800 per hour. This shortfall is equivalent to the average 2009 NSERC geoscience grant of Can\$36,000 — an amount that must also cover

commercial airfares, food, scientific equipment and analyses. Increasingly, this places Arctic fieldwork beyond the reach of most Canadian researchers, many of whom now talk openly about shifting their research attentions to something that can be studied farther south.

The PCSP allocates its logistical resources separately from, and often in contradiction to, the resource needs of peer-reviewed NSERC grants. This lack of coordination threatens long-established monitoring programmes.

A positive step was taken in July 2009 when Indian and Northern Affairs Canada released *Canada's Northern Strategy*, a report identifying four priorities for the region: exercising sovereignty, promoting social and economic development, protecting the environment, and improving and developing governance. A strategy alone, however, fails to commit federal departments to these objectives, and cannot safeguard funding. A more compelling step was taken in December 2009, when the Senate Standing Committee on Fisheries and Oceans called for an Arctic affairs cabinet committee, chaired by the prime minister, to develop policies in partnership with aboriginal jurisdictions. But this remains only a suggestion.

To see the potential impact of a formal Polar Policy, Canada needs only to look at the success of the US Arctic Research and Policy Act. This inaugurated an unprecedented level of integrated research and logistical support, and mandatory inter-agency cooperation. The US National Science Foundation, through its Office of Polar Programs, has US\$104 million available for Arctic research and similar resources for its logistics. The point is not that Canada should invest to the same level, but that it must use allocated funds with similar effectiveness. A Canadian polar policy could ensure that the PCSP allocation is thoroughly integrated with the NSERC granting process.

Numerous other northern nations, including Norway, Sweden, Finland and Russia, have integrated government support for polar research that leaves Canada trailing. Only a national polar policy can provide the commitment, integration and continuity that will ensure world-class research. ■

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