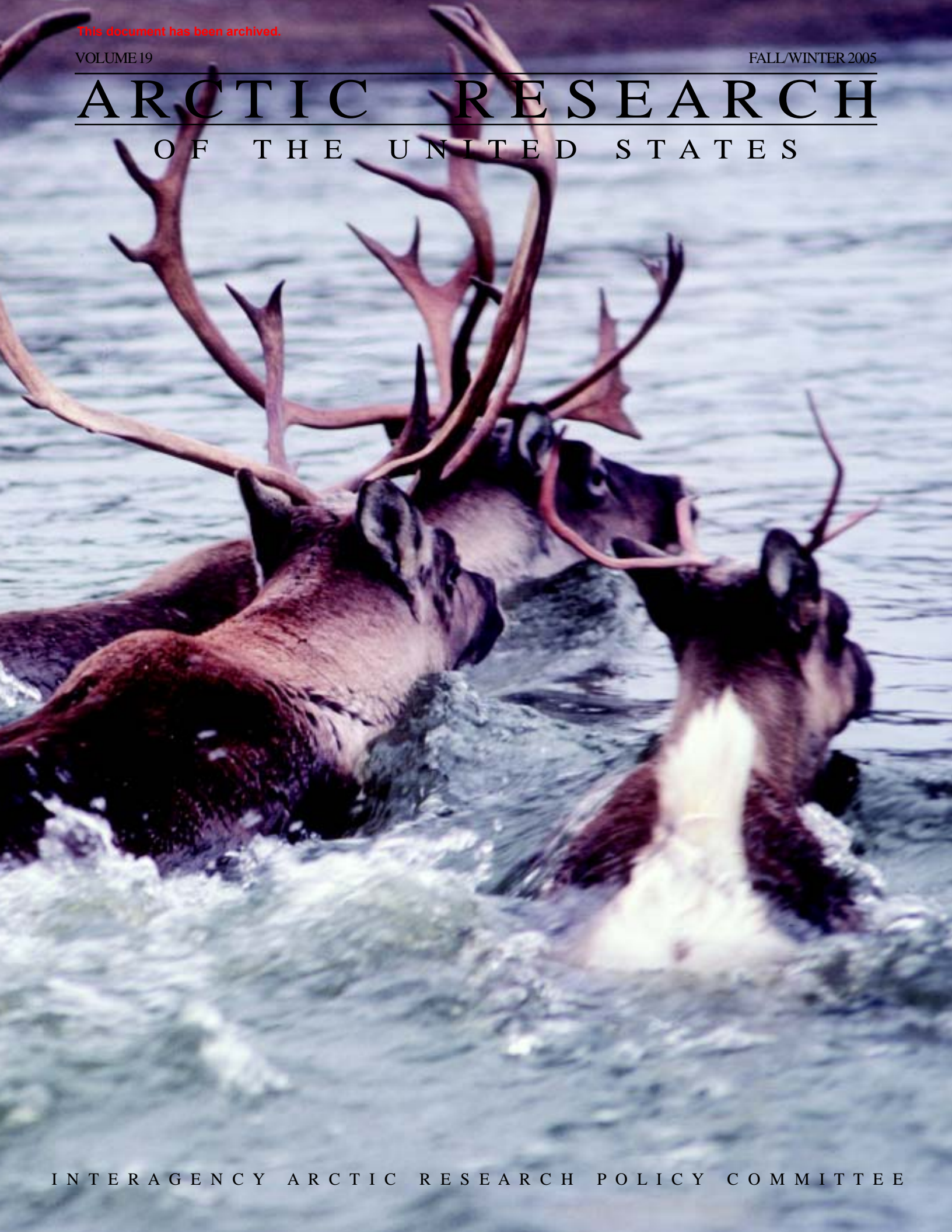


ARCTIC RESEARCH

OF THE UNITED STATES



About the Journal

The journal *Arctic Research of the United States* is for people and organizations interested in learning about U.S. Government-financed Arctic research activities. It is published semi-annually (spring and fall) by the National Science Foundation on behalf of the Interagency Arctic Research Policy Committee (IARPC). The Interagency Committee was authorized under the Arctic Research and Policy Act (ARPA) of 1984 (PL 98-373) and established by Executive Order 12501 (January 28, 1985). Publication of the journal has been approved by the Office of Management and Budget.

Arctic Research contains

- Reports on current and planned U.S. Government-sponsored research in the Arctic;
- Reports of IARPC meetings; and
- Summaries of other current and planned Arctic research, including that of the State of Alaska, local governments, the private sector, and other nations.

Arctic Research is aimed at national and international audiences of government officials, scientists, engineers, educators, private and public groups, and residents of the Arctic. The emphasis is on summary and survey articles covering U.S. Government-sponsored or -funded research rather than on technical reports, and the articles are intended to be comprehensible to a nontechnical audience. Although the articles go through the normal editorial process, manuscripts are not

refereed for scientific content or merit since the journal is not intended as a means of reporting scientific research. Articles are generally invited and are reviewed by agency staffs and others as appropriate.

As indicated in the U.S. Arctic Research Plan, research is defined differently by different agencies. It may include basic and applied research, monitoring efforts, and other information-gathering activities. The definition of Arctic according to the ARPA is "all United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas; and the Aleutian chain." Areas outside of the boundary are discussed in the journal when considered relevant to the broader scope of Arctic research.

Issues of the journal will report on Arctic topics and activities. Included will be reports of conferences and workshops, university-based research, and activities of state and local governments and public, private and resident organizations. Unsolicited nontechnical reports on research and related activities are welcome.

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Cover

Caribou crossing the Porcupine River, interior Alaska. Copyrighted photo by Joel Bennett, Alaska Division of Tourism.

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U.S. Arctic Research Plan

Biennial Revision: 2006–2010

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United States Arctic Research Plan

Biennial Revision: 2006–2010

Introduction

The United States Arctic Research Plan was prepared by the Interagency Arctic Research Policy Committee (IARPC). The Plan is a consensus document that reflects the views of thirteen IARPC agencies. It responds to recommendations of the U.S. Arctic Research Commission and to recommendations of scientists who provided advice to the IARPC agencies.

The Plan includes six special focus multi-agency research programs agreed to by the

Federal agencies and includes multiagency cross-cutting issues such as research support and logistics, facilities, international activities, and data and information. The Plan describes high-priority research needs of the agencies. The Plan also responds to environmental and strategic objectives of U.S. Arctic policy.

The Plan is a living document. In accordance with the Arctic Research and Policy Act, it is revised every two years.

Executive Summary

Background

The United States has substantial economic, scientific, strategic, and environmental interests in the Arctic. As required by the Arctic Research and Policy Act of 1984, as amended (see Appendix E),* a comprehensive Arctic Research Plan is prepared by the Interagency Arctic Research Policy Committee. The President delegated the authority to transmit the report to Congress to the Director of the National Science Foundation on February 17, 2005. Section 109(a) of the Act requires a biennial revision to the Plan. This document updates the Plan and elaborates on the requirements of Section 109(a).

United States research in the Arctic and this biennial revision are governed by U.S. national policy on the Arctic, research goals and objectives agreed upon by the Interagency Committee, and guidance provided by the Arctic Research Commission.

Guiding Vision

It is in the national interest of the United States to support scientific and engineering research to implement its national policy objectives, including:

- Protecting the Arctic environment and conserving its living resources;
- Promoting environmentally sustainable natural resource management and economic development in the region;
- Strengthening institutions for cooperation among the eight Arctic nations;
- Involving the indigenous people of the Arctic in decisions that affect them;
- Enhancing scientific monitoring and research on local, regional, and environmental issues (including their assessment); and
- Meeting post-Cold-War national security and defense needs.

Interagency Coordination

The Arctic Research and Policy Act requires cooperation among agencies of the U.S. Government with missions and programs relevant to the Arctic. It established the Interagency Arctic Research Policy Committee to “promote Federal interagency coordination of all Arctic research activities” [Section 108(a)(9)]. The Interagency Committee, chaired by the National Science Foundation (NSF), continues to provide the mechanism

for developing and coordinating U.S. Arctic research activities.

Revision to the Plan

This revision to the United States Arctic Research Plan includes two major sections. The first presents the Special Focus Interagency Research Programs. For this biennial revision of the Plan, agencies agreed that the following six programs are ready for immediate attention as interagency focused efforts:

- The International Polar Year (IPY)
- Study of Environmental Arctic Change (SEARCH)
- Developing a Research Plan for a Sustainable Bering Sea
- Arctic Health Research
- Research on Resource Evaluation
- Research on Civil Infrastructure.

The second major section is the Agency Programs, which represent the objectives of Federal agencies, focusing on the period covered by this revision (2006–2010). They are presented in seven major categories, and where common activities exist they are presented as collective programs:

- Arctic Ocean and Marginal Seas
- Atmosphere and Climate
- Land and Offshore Resources
- Land–Atmosphere–Water Interactions
- Engineering and Technology
- Social Sciences
- Health.

Since the passage of the Act, the Interagency Committee, the Arctic Research Commission, and the State of Alaska have addressed issues related to logistics support for Arctic research. This revision considers issues related to surface ships and ice platforms; land-based and atmospheric facilities and platforms; coordination; and data facilities.

Budgetary Consideration

Appendix C presents a summary of each agency’s funding for 2006–2010. The total interagency Arctic budget estimate for FY 05 is \$352 million; for FY 06 it is \$312 million. Program descriptions reflect the general direction of agency programs. The data reported here and in the tables in Section 1.2 and Appendix C were compiled from individual program submissions from participating Federal agencies. The information covers expenditures for research but may exclude administrative costs that are included in agency budget source documents.

* Amended on November 16, 1990 (Public Law 101-609); see Appendix E.