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Series: Bromley, D. Allan, Files
Subseries: Correspondence Files

OA/ID Number: 62022
Folder ID Number: 62022-006

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TYPE: WHITE HOUSE MEMORANDUM DOCUMENT NUMBER: 9200087
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: BRADY, Phillip: ASSISTANT TO THE PRESIDENT AND STAFF SECRETARY

TO: DR. D.A. BROMLEY

JAN 14 1992

DATE OF
CORRESPONDENCE: 01/09/92

SUBJECT: REVIEW OF THE ANNUAL REPORT OF THE DEPARTMENT OF
ENERGY.

DIRECTORATE
ASSIGNED: PHYSICAL SCIENCES

STAFF
ASSIGNED: Lee Schroeder
with Dave Garman
Doug Beason
Don Pryor

ACTION
REQUIRED: REVIEW/COMMENT

STAFF
ACTION:

SENDER'S DUE DATE: 01/23/92
OSTP DUE DATE: 01/23/92 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
Damar Hawkins

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:

REMARKS: The only OSTP comments of significance
are on the 3 pages marked with yellow
tabs. All other comments can be disregarded, as
desired.

OSTP RECEIVED: 01/13/92
FILE: P-EOP-WHITE HOUSE MEMO

DEPT RECEIVED: K. M. E.

CENTRAL FILES:

1/23/92

close out
1/24/92

"Document Control"

TYPE: WHITE HOUSE MEMORANDUM DOCUMENT NUMBER: 9200087
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: BRADY, Phillip: ASSISTANT TO THE PRESIDENT AND STAFF SECRETARY
TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 01/09/92
SUBJECT: REVIEW OF THE ANNUAL REPORT OF THE DEPARTMENT OF
ENERGY.

DIRECTORATE STAFF
ASSIGNED: PHYSICAL SCIENCES ASSIGNED:

ACTION
REQUIRED: REVIEW/COMMENT STAFF
ACTION:

SENDER'S DUE DATE: 01/23/92
OSTP DUE DATE: 01/23/92 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
Damar Hawkins

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 01/13/92 DEPT RECEIVED:
FILE: P-EOP-WHITE HOUSE MEMO
CENTRAL FILES:



THIS IS THE 2ND AND FINAL STAFFING OF THE ANNUAL REPORT OF THE DEPARTMENT OF ENERGY.

WHITE HOUSE STAFFING MEMORANDUM

DATE: 1/9/92 ACTION/CONCURRENCE/COMMENT DUE BY: 1/23/92

SUBJECT: ANNUAL REPORT OF THE DEPARTMENT OF ENERGY

MAIL ROOM

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT	☐	☐	HORNER	☐	☐
SKINNER	☐	☐	MCCLURE	☐	☐
SCOWCROFT	☒	☐	PETERSMEYER	☐	☐
DARMAN	☒	☐	PORTER	☒	☐
BRADY	☐	☒	ROGICH	☐	☐
BROMLEY	☒	☐	SMITH	☐	☐
CARD	☐	☐	CLERK	☐	☒
DEMAREST	☐	☐	DELAND	☒	☐
FITZWATER	☐	☐		☐	☐
GRAY	☐	☐		☐	☐
HOLIDAY	☒	☐		☐	☐

REMARKS:

FINAL STAFFING OF ENERGY ANNUAL REPORT.

Please provide comments on the attached report directly to this office by THURSDAY, JANUARY 23, 1992.
Thank you.

RESPONSE:

PLEASE RETURN REPORT AFTER REVIEW

PHILLIP D. BRADY
Assistant to the President
and Staff Secretary
Ext. 2702

Preface

This is the 11th Secretary's Annual Report to Congress of the United States Department of Energy, and it covers the year 1990. Activities of all elements of the Department are described herein except those of the independent Federal Energy Regulatory Commission, which issues its own report. Reference is made to seven supplements to this report:

1. *Eleventh Annual Report to Congress on the Automotive Technology Development Program*, published in November 1989 by the Office of Transportation Systems, Heat Engine Propulsion Division, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0278).
2. *Twelfth Annual Report to Congress on the Automotive Technology Development Program*, published in November 1990 by the Office of Transportation Technologies, Advanced Propulsion Division, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0300P).
3. *Thirteenth Annual Report to Congress, Electric and Hybrid Vehicles Program*, published in April 1990 by the Office of Transportation Systems, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0285P).
4. *Fourteenth Annual Report to Congress, Electric and Hybrid Vehicles Program*, published in April 1991 by the Office of Transportation Technologies, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0305P).
5. *Eleventh Annual Report to Congress and the Secretary of Energy on the Nationwide Energy Extension Service Program*, published in July 1990 by the National Energy Extension Service Advisory Board, Office of Technical and Financial Assistance, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0291P).
6. *Thirteenth Report to Congress: Comprehensive Program and Plan for Federal Energy Education, Extension, and Information Activities: Annual Revisions*, published in November 1989 by the Office of State and Local Assistance Programs, Assistant Secretary, Conservation and Renewable Energy (DOE/CE/0294P).
7. *Comprehensive Program and Plan for Federal Energy Education, Extension, and Information Activities: Annual Revisions*, published in November 1990, Office of National Programs, Assistant Secretary, Conservation and Renewable Energy (DOE/CE-0334P).

Section 9 of the Methane Transportation Research, Development, and Demonstration Act of 1980, 15 U.S.C. 3808 (Public Law 96-512), is satisfied by material appearing on page _____.

The Magnetic Fusion Engineering Act of 1980 (Public Law 96-386) requires that certain aspects of the fusion program be reported to Congress annually. The section on magnetic fusion energy beginning on page _____ in Chapter 5 satisfies that requirement.

→ admin 3/10/92 ✓

"Document Control"

TYPE: WHITE HOUSE MEMORANDUM DOCUMENT NUMBER: 9200084
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C

FROM: BRADY, Phillip D.: ASSISTANT TO THE PRESIDENT AND STAFF
SECRETARY

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 01/08/92

SUBJECT: REQUESTS COMMENTS ON THE FOURTH BIENNIAL REPORT OF
THE INTERAGENCY ARCTIC RESEARCH POLICY COMMITTEE.

DIRECTORATE STAFF
ASSIGNED: ENVIRONMENT ASSIGNED: Jim Waddell

ACTION
REQUIRED: AS NECESSARY STAFF
ACTION: COMMENTS TO DAB

SENDER'S DUE DATE: 01/22/92
OSTP DUE DATE: 01/22/92 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 01/22/92

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS: This is a fairly straight forward, non-controversial report to
Congress. Minor point: appendix, pages 1 & 2, list of projects
that are either part of, or are coordinated with, the U.S.
Global Research Program (USGCRP) might be beneficial to make a
comment to that affect. Enviro X-REF Files 5 & 4-A-6

OSTP RECEIVED: 01/13/92 DEPT RECEIVED: 01/13/92
FILE: P-EOP-WHITE HOUSE STAFFING

CENTRAL FILES:



RECEIVED
92 JAN 13 PM 2:56
WHITE HOUSE STAFFING MEMORANDUM

DATE: 1/8/92

ACTION/CONCURRENCE/COMMENT DUE BY:

1/22/92

SUBJECT: FOURTH BIENNIAL REPORT OF THE INTERAGENCY ARCTIC RESEARCH
POLICY COMMITTEE
OSTP
MAIL ROOM

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT	☐	☐	HORNER	☐	☐
SKINNER	☐	☐	MCCLURE	☐	☐
SCOWCROFT	☐	☐	PETERSMEYER	☐	☐
DARMAN	☒	☐	PORTER	☒	☐
BRADY	☐	☒	ROGICH	☐	☐
BROMLEY	☒	☐	SMITH	☐	☐
CARD	☐	☐	CLERK	☐	☒
DEMAREST	☐	☐		☐	☐
FITZWATER	☐	☐		☐	☐
GRAY	☐	☐		☐	☐
HOLIDAY	☒	☐		☐	☐

REMARKS:

Please provide comments to this office by
JANUARY 22, 1992. Thank you.

PLEASE RETURN REPORT AFTER REVIEW.

RESPONSE:

PHILLIP D. BRADY
Assistant to the President
and Staff Secretary
Ext. 2702

- D R A F T -

TO THE CONGRESS OF THE UNITED STATES:

Pursuant to the provisions of section 108(b) of Public Law 98-373 (15 U.S.C. 4107(b)), I transmit herewith the Fourth Biennial Report of the Interagency Arctic Research Policy Committee (February 1, 1990, to January 31, 1992).

THE WHITE HOUSE,

This draft transmittal was prepared by the Office of the Executive Clerk.

- D R A F T -

11

TO THE CONGRESS OF THE UNITED STATES:

Pursuant to the provisions of section 108(b) of Public Law 98-373 (15 U.S.C. 4107(b)), I transmit herewith the Third Biennial Report of the Interagency Arctic Research Policy Committee (February 1, 1988, to January 31, 1990).

Gay Bush

THE WHITE HOUSE,

February 1, 1990.

- Copy of Last Xmittal -

DRAFT

NATIONAL SCIENCE FOUNDATION

January ____, 1992

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

I am pleased to transmit through you to the Congress the enclosed report required under Public Law 98-373, as amended by Public Law 101-609, the Arctic Research and Policy Act.

The report is submitted on behalf of the Interagency Arctic Research Policy Committee for which the National Science Foundation serves as chair agency. The report lists activities and accomplishments of the Interagency Committee, which was authorized by the Act and established by Executive Order 12501 of January 28, 1985. As required by Public Law 101-609, it also lists, for the first time, agency responses to recommendations of the Arctic Research Commission.

It is a distinct honor for the member agencies to serve on the Interagency Committee and for the National Science Foundation to chair it.

Sincerely,

Walter E. Massey
Director

Enclosure: Biennial Report

FOURTH BIENNIAL REPORT OF THE
INTERAGENCY ARCTIC RESEARCH POLICY COMMITTEE
TO THE CONGRESS
FEBRUARY 1, 1990 TO JANUARY 31, 1992

Prepared by the National Science Foundation
for the Interagency Arctic Research Policy Committee

Section 108(b) of Public Law 98-373, as amended by Public Law 101-609, the Arctic Research and Policy Act, directs the Interagency Arctic Research Policy Committee (IARPC) to submit to Congress, through the President, a biennial report containing a statement of the activities and accomplishments of the IARPC. The IARPC was authorized by the Act and was established by Executive Order 12501 dated January 28, 1985.

Section 108(b)(2) of Public Law 98-373, as amended by Public Law 101-609 directs the IARPC to submit to Congress, through the President, as part of its biennial report, a statement "dealing with particularity the recommendations of the Arctic Research Commission with respect to Federal interagency activities in Arctic Research and the disposition and responses to those recommendations." In response to this requirement, the IARPC has examined all recommendations of the Arctic Research Commission since it was established in 1985. The required statements appear in Appendix A.

During the period February 1, 1990 to January 31, 1992, the IARPC has:

- o Prepared and published the second biennial revision to the United States Arctic Research Plan, as required by Section 108(a)(4) of the Act. The President transmitted the Plan to Congress on July 23, 1991.
- o Published and distributed four issues of the journal Arctic Research of the United States. The journal reviewed all Federal agency arctic research for FY 1989 and 1990 and included summaries of the IARPC and Arctic Research Commission meetings and activities. The Spring 1991 issue contained the full text of the second biennial revision to the U. S. Arctic Research Plan.
- o Consulted with the Commission on policy and program matters described in the Section 108(a)(3), was represented at all meetings of the Commission, and responded to Commission reports on goals and objectives, logistics and data. (Appendix A.)
- o Continued the processes of interagency cooperation and coordination required under Section 108(a)(6), (7), (8) and (9);
- o Provided input to an integrated budget analysis for arctic research for the President's budget, which identified \$116 million in Federal support for fiscal year 1990, and \$128 million in fiscal year 1991.
- o Provided for public participation as required in Section 108(a)(10), which culminated in public involvement in the development of the recommendations and the second biennial revision to the Plan at a meeting in Anchorage in March 1991.

DRAFT

- o Prepared a strategy report, published in January 1991, for an FY 1992 interagency arctic program that identified four key science elements for future research and coordination (Western Arctic Ocean Circulation and Productivity; Arctic Basin Geodynamics; Arctic Environmental Monitoring; and the Bering Land Bridge Program). (Appendix B.)
- o Participated in the development of testimony on federal arctic research for hearings on April 24, 1991 by the National Ocean Policy Study of the Senate Committee on Commerce, Science, and Transportation, and hearings on May 13, 1991 by the Science, Technology, and Space Subcommittee of the Senate Committee on Commerce, Science, and Transportation.
- o Prepared and updated the Arctic Environmental Data Directory, which now contains information on 350 arctic data sets, and published Arctic Data Interactive (ADI), a prototype CD-ROM (compact disc - read only memory) product containing arctic environmental data and information.
- o Established an Interagency Social Sciences Task Force and prepared a coordinated social sciences and health research plan. Of special concern is research on the health of indigenous peoples and research on the Arctic as a unique environment for studying human/environmental adaptation and sociocultural change.
- o Approved an Interagency Statement of Principles for the Conduct of Research in the Arctic to encourage communication and scientific partnerships with northern indigenous peoples (published in the second biennial revision to the United States Arctic Research Plan).
- o Participated in the establishment of the non-governmental International Arctic Science Committee.
- o Participated in policy formulation and official endorsement of the June 1991 international agreement for an Arctic Environmental Protection Strategy. This strategy contains a set of principles and objectives for the protection of the Arctic environment. It also established the Arctic Monitoring and Assessment Program (AMAP) to provide a forum for international harmonization of Arctic monitoring programs. IARPC's Environmental Monitoring Working Group serves as a U.S. focal point for AMAP and coordinates domestic monitoring efforts.
- o Convened two formal meetings of the Committee, in June, 1990 and June, 1991.

Appendix A:

Disposition and Response to Recommendations of the Arctic Research Commission

The Commission's recommendations appear in a series of publications, as follows:

1. National Needs and Arctic Research: A Framework for Action (May 1986)
2. Entering the Age of the Arctic (Annual Report, January 1988)
3. Logistic Support of Arctic Research (July 1988)
4. Goals and Objectives to Guide United States Arctic Research (December 1988)
5. Arctic Data and Information: Issues and Goals (June 1989)
6. Improvements to the Scientific Content of the Environmental Impact Statement Process (December 1989)
7. Arctic Engineering Research: Initial Findings and Recommendations (April 1990)
8. Logistic Support of United States Research in Greenland: Current Situation and Prospects (December 1990)
9. Goals, Objectives and Priorities to Guide United States Arctic Research (January 1991)

The Interagency Arctic Research Policy Committee's response to these recommendations appears in TABLE I. Recommendations have been summarized and combined, where appropriate; the full text of Arctic Research Commission recommendations may be found in the documents referenced under the column headed Source in TABLE I. The Interagency Arctic Research Policy Committee's responses to the Arctic Research Commission recommendations appear in the column headed Disposition and Response. Many of these responses refer to the Second Biennial Revision to the U.S. Arctic Research Plan, published in the journal Arctic Research of the United States, Volume 5, Spring 1991 (abbreviated in TABLE I as USARP 1991). The U.S. Arctic Research Plan was sent to the Congress by the President on July 23, 1991.

TABLE 1

INTERAGENCY ARCTIC RESEARCH POLICY COMMITTEE

Disposition and Response to Recommendations of the Arctic Research Commission

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
<u>Arctic as a Component of Global Earth System</u>			
Research to understand the Arctic Ocean, especially the Bering and marginal sea, sea ice, and sea bed.	1 4	NSF, DOC, DOD, DOI, NASA	Programs being implemented in accordance with Section 2.1, 2.2, 3.1, USARP 1991. See also Arctic Oceans Research: Strategy for an FY 91 Program, published by IARPC, Jan 1990.
Support research program to determine role of sea ice in controlling arctic living resources	2	NSF, DOD, DOC, NASA, DOI	Programs being implemented in accordance with Section 2.1, 3.6.3 USARP 1991
Research to understand the coupled land and atmosphere components of the Arctic system.	1 4	NSF, DOC, DOD, NASA, DOI, DOE	Programs being implemented in accordance with Section 3.4, USARP 1991
Systematic long-term monitoring of arctic atmosphere, land sea-surface parameters, sea ice and glacier behavior, and other sensitive climate indicators.	4	EPA, DOC, NSF, DOI, NASA, DOE, DOD	Arctic Monitoring and Assessment Program under development in accordance with Section 2.3 USARP 1991.
Assessment of the full extent and causes of stratospheric ozone depletion in the Arctic.	4	DOC, NASA, NSF	Programs being implemented in accordance with Section 2.3, 3.2.3 USARP 1991. NASA observations have verified depletion in the Arctic.

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
Research to understand the high-latitude upper atmosphere and its extension into the magnetosphere.	1 4	NSF, DOC, DOD, NASA, DOI, DOE	Programs being implemented in accordance with Section 3.2, USARP 1991.
Research in the health-culture-socioeconomic system: to identify and resolve the major health, behavioral, and cultural problems that derive from distinctive characteristics of the Arctic environment.	1 4	USDA, DOC, HHS, DOI, DOD, SI, State, NSF	Programs being implemented in accordance with Section 3.6, USARP 1991. Beringia program initiated, See Section 2.4, USARP 1991. Federal (HHS) - Alaska research cooperation.
Support four areas of arctic health research: injury control, cancer, diet, and infectious diseases.	2	HHS, DOD	Programs being implemented in accordance with Section 3.6.3 USARP 1991.
Research on the Arctic as a component of the global economic system	9	NSF, EPA, DOI, DOE, DOC	NSF Arctic Social Sciences Program established, 1990. First research awards made in 1991. Also see Section 3.3 USARP 1991.
The economic importance of the commercial fishery in the Bering Sea to the U.S., Japan, and other nations requires a deeper understanding of that marine ecosystem as a rational basis for the prudent management of biotic resources and the safeguarding of U.S. interests in this area.	4	DOC, DOI, SI, NSF	Programs being implemented in accordance with Section 2.1, 3.1.2 and 3.6.2, USARP 1991.

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
Development of a program of enhanced science education at the elementary and high school levels in arctic Alaska.	4	NSF, DOI, SI	Federal support is available through NSF for Native American curriculum development. Other programs being implemented in accordance with Sections 3.6.1 and 3.6.2, USARP 1991.

Environmental Impact Statement Process

Impartial external scientific and engineering review mechanisms should be established (for environmental reviews).	6	All IARPC agencies	This policy already exists under CEQ regulations, 40 CFR, Parts 1500-1508.
External reviewers should be carefully selected for their expertise in the relevant fields.	6	All IARPC agencies	Agency policy.
External reviewers should be protected from litigation.	6	All IARPC agencies	Reviewers of public documents usually do not face direct litigation.
The full text of all reviews should become part of the public record.	6	All IARPC agencies	Required under Section 102(2)(C) of National Environmental Policy Act.
Agencies should stipulate that new scientific or technical information obtained during the course of an EIS process should be published in the refereed literature.	6	All IARPC agencies	Agency policy.

RECOMMENDATION

SOURCE

IMPLEMENTING AGENCIES

DISPOSITION AND RESPONSE

The identification, review and resolution of environmental issues should be channeled through a single coordination team.

6

All IARPC agencies

Most major EIS's are coordinated by agency interdisciplinary teams.

The Council on Environmental Quality (CEQ) should set guidelines for the implementation of the external review process.

6

CEQ

Guidance already exists in CEQ regulations.

CEQ has offered to host an interagency discussion regarding applying these recommendations in the context of a particular EIS.

Arctic Engineering

The IARPC should develop an arctic engineering research plan with special emphasis on the following priority items:

7

DOT, NSF, DOI, EPA, DOD

Engineering research being implemented. See Section 3.5, USARP 1991.

- Oil spill prevention technology, including containment and spill cleanup.
- Waste disposal and air pollution control.
- Power generation and energy storage.
- Improved arctic construction techniques.
- Transportation systems for arctic conditions.
- Materials and processes with properties for arctic operations.

Private industry research programs complement Federal research.

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
Priority areas of applied scientific research whose results are of crucial importance for arctic engineering: • Physical properties of ice and snow. • Physical and chemical behavior of arctic soils.	7	NSF, DOD	Research being implemented in accordance with Section 3.1.1, USARP 1991 for physical properties of ice and snow; Section 3.4.2 for arctic soils.
More extensive communication and cooperation should be developed between the various government agencies and the professional societies.	7	All IARPC agencies	Most communication and cooperation is on the basis of individual participation in professional society activities.
High priority should be given at U.S. universities to the improvement of existing, and the development of new engineering courses and programs.	7	NSF, DOD	Federal support is available for curriculum development.
The U.S. should support a strong component of cooperative arctic engineering research in the programs of the International Arctic Science Committee (IASC).	7	NSF, DOD, DOC	IASC programs are under development at the time of this report.
<u>Arctic Data and Information</u>			
IARPC should take the lead in developing U.S. policy directives for the management of arctic data and information.	5	All IARPC agencies	Data Policy Statement developed in context of Global Change Research Program.

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
Arctic data policy and guidelines should be based on the needs of the user community.	5	All IARPC agencies	Prototype Arctic Environmental Data Directory Working Group (AEDDWG) involves agency, academic, international Arctic community.
An adequate portion of funds allocated to arctic research by the Federal Government should be set aside for the successful management of data and the dissemination of information.	5	All IARPC agencies	Some IARPC agencies share funding for AEDDWG; each operates independently with preservation of and access to Arctic data and information.
An Arctic Data and Information System (ADIS) should be planned and developed under the guidance of IARPC to handle publicly available scientific and technical data and information.	4 5	All IARPC agencies	Preliminary effort is joint development of Arctic Environmental Data Directory, linked to Earth Science Data Directory. Arctic data are referenced, but data reside in host agencies.
The policy and plans for an ADIS should address the following, listed in order of decreasing priority: (1) interlinking data and information; (2) defining needs for environmental monitoring and long-term data; (3) ensuring quality control of data;	5	All IARPC agencies	Programs being implemented in accordance with Section 2.5, USARP 1991. OSTP policy addresses priorities 1,3,5,6,7 and 9. Interagency plans for the prototype Arctic

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
(4) devising strategies to arrest the proliferation of "gray literature"; (5) improving the mechanisms for international exchange of arctic data and information; (6) providing for standardization of data and information; (7) minimizing the cost to the user of data and information services; (8) safeguarding confidentiality (9) providing for the recording of historical and proxy data; (10) protecting data and information from environmental and human hazards.			Environmental Data Directory address the first steps for priorities 1,2,3,5,6,7,9,10. Agency and interagency plans for the Arctic Data and Information System are preliminary, viewing development of the Global Change Data and Information System as the model to follow.
IARPC should consider a cooperative interagency agreement as the vehicle for the implementation of arctic data and information policy.	5	All IARPC agencies	OSTP Data Policy Statement provides policy guidelines for "full and open sharing" of scientific data and information.
<u>Arctic Logistics</u>			
Provide Arctic Research vessel with ice-breaking capabilities	1 3 4 9	NSF, DOT	Commenced acquisition of replacement Coast Guard polar icebreaker. Bids opened Oct 11, 1991. Contract award Feb/Mar 1992.

RECOMMENDATION

SOURCE

IMPLEMENTING AGENCIES

DISPOSITION AND RESPONSE

Multi-year upgrade of scientific support capabilities of USCG Polar-class icebreakers nears completion.

Additional arctic research vessel under consideration by NSF. Conceptual design completed for class 3 ice capable ship.

Many land based centers exist. See Section 4 of USARP 1991. State of Alaska has published a directory of Federal and State research sites and facilities.

Poker Flat Rocket Range, Alaska is being upgraded to state of the art capability.

See Section 4, USARP 1991

NSF, DOE, DOD, DOI

NSF, DOD, NASA

NSF, DOD

Support Land-based logistics centers

Provide high-latitude sounding rocket launch facility

Provide central logistics coordination

1
3
4

1
3
4

1
3
4

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
<u>Logistics Support of US Research in Greenland</u>			
The Department of Defense (DOD) should give careful consideration to the continuance of an adequate logistic support capability at Sondrestrom Air Force Base.	8	DOD	Department of Defense will terminate operations at Sondrestrom Air Base by September 30, 1992. Air National Guard flights will continue for transport of passengers and cargo.
Alternative scenarios of Danish takeover of Sondrestrom Air Base should be considered.	8	DOD, NSF	Currently under negotiation with Greenland Home Rule Government.
New modes of research operations for the major projects in Greenland should be designed.	8	NSF	The NSF-funded Polar Ice Coring Office would consider new operational modes as projects require.
Closer research ties with Danish and other European researchers should be developed.	8	DOD, NSF, NASA	On-going process. Agencies attend annual meeting with <u>Danish Commission for Research in Greenland.</u>

<u>RECOMMENDATION</u>	<u>SOURCE</u>	<u>IMPLEMENTING AGENCIES</u>	<u>DISPOSITION AND RESPONSE</u>
Agencies should alert the U.S. scientific community concerned with research in Greenland and provide them with details on the ongoing U.S./Denmark negotiations regarding Sondrestrom.	8	All IARPC agencies	Information being provided on an on-going basis.
<u>International</u> Continued vigorous participation of the U.S. in the planning process for the establishment of an International Arctic Science Committee.	4	All IARPC agencies	IASC was established, 1990. U.S. participation is through the Polar Research Board.

SOURCES

1. National Needs and Arctic Research: A Framework for Action (May 1986)
2. Entering the Age of the Arctic (Annual Report, January 1988)
3. Logistic Support of Arctic Research (July 1988)
4. Goals and Objectives to Guide United States Arctic Research (December 1988)
5. Arctic Data and Information: Issues and Goals (June 1989)
6. Improvements to the Scientific Content of the Environmental Impact Statement Process (December 1989)
7. Arctic Engineering Research: Initial Findings and Recommendations (April 1990)
8. Logistic Support of United States Research in Greenland: Current Situation and Prospects (December 1990)
9. Goals, Objectives and Priorities to Guide United States Arctic Research (January 1991)

Appendix B:

Status Reports on IARPC Program Implementation

The Interagency Arctic Research Policy Committee (IARPC) is developing integrated interagency programs to meet national needs for arctic research. At its June 5, 1991 meeting, the IARPC Chairman requested that status reports on implementation of these integrated interagency programs be included in this biennial report. Reports on these IARPC programs follow:

I. Arctic Ocean/Atmosphere Research

The Arctic Ocean/Atmosphere Research Working Group was formed in 1989. It is coordinating multiagency research programs for the Bering-Chukchi-Beaufort Sea region based on the following agency programs.

The National Science Foundation's (NSF) Arctic System Science (ARCSS) Program is an Arctic-wide study to understand the physical, geological, chemical, biological, and social processes of the arctic system that interact with the total Earth system and thus contribute to or are influenced by global change. Its Ocean-Atmosphere-Ice Interactions component initiated 26 projects in Fiscal Year 1991.

The Office of Naval Research's (ONR) Arctic Sciences Program has three principal components that include or are being conducted in the western Arctic: Arctic Research, Sea Ice Mechanics, and LEADDEX (a study of large open cracks, or leads, in pack ice and their implications for air-sea coupling). A pilot study related to leads investigations was initiated in FY91.

NASA's Alaska Synthetic Aperture Radar (SAR) Facility began acquiring and processing SAR images and derived products from the ERS-1 satellite shortly after launch of the satellite in July 1991. Distribution of these products to the research community will begin as soon as approval to do so is received from the European Space Agency. Meanwhile, the National Snow and Ice Data Center (NSIDC) is continuing routine distribution of CD-ROM data disks containing high-latitude information derived from the passive-microwave sensors Scanning Multichannel Microwave Radiometer (SMMR) and Special Sensor Microwave/Imager (SSM/I). NASA-supported research using data from the Alaska SAR Facility and from NSIDC addresses primarily the role of the Arctic in global climate, with a focus on ocean/ice/atmosphere interactions. This work complements the process studies and in situ investigations supported by other agencies. NASA is also assessing the feasibility of using airborne laser altimeters to monitor the mass balance of the Greenland Ice Sheet.

NOAA's arctic research capabilities address mission-related specific problems and support other agency programs (e.g., ONR studies of leads). NOAA's Fisheries Oceanography Coordinated Investigations (FOCI) is examining the rich fisheries of the Bering Sea with a focus on pollock. NOAA conducted assessments of bottom fish and shellfish resources, and continued studies of certain marine mammals (e.g., northern fur seals and sea lions, and bowhead whales) in the Bering Sea. A joint study of the ocean circulation from Bering Strait into the Arctic basin was undertaken with Russian researchers.

NOAA and the Navy initiated studies to improve predictions of sea ice through communication of synthetic aperture radar (SAR) data from the NASA-supported Alaska SAR Facility at the University of Alaska to the Navy/NOAA Joint Ice Center (JIC) in Suitland, Maryland. The Navy/NOAA JIC is also expanding the Arctic Drifting Buoy Program through an interagency coordination effort established to maintain a network to satisfy both operational and global change research requirements.

The Office of the Oceanographer of the Navy continued to modernize and improve its sea ice analysis and forecasting capabilities at the JIC through the development of the Digital Ice Forecasting and Analysis System (DIFAS), the Polar Ice Prediction System (PIPS) ice forecasting model, and a communications link between U.S. and Canadian ice centers for the routine exchange of sea ice and iceberg data and products.

The Fish and Wildlife Service continued cooperative investigations with Russia to improve and standardize methods for Pacific Walrus assessments. Studies of polar bears continued, including investigations of potential impacts of oil exploration on the Arctic National Wildlife Refuge.

Marine Geology and Geophysics

The Office of Naval Research, U.S. Geological Survey, and NSF Marine Geology and Geophysics programs conduct projects to understand the Arctic continental margin and deep ocean basin, one of the least understood geological regions of the world. Geophysical and geological research is underway to understand the tectonic history, geological structure, sediment distribution, and climatic and glacial history of the deeper basin.

Current marine geology and geophysics programs include a sediment dynamics field effort led by ONR with participation by USGS and NSF in the Storfjorden and Kangerdlugssuaq Fjords. Extensive sediment coring by the POLAR STAR and POLARSTERN was accomplished in the eastern Arctic as part of the International Arctic Oceanographic Expedition; and an airborne gravity meter/magnetometer survey was completed over the southern half of Greenland by Navy/Defense Mapping Agency.

II. Arctic Monitoring

The Arctic Monitoring Working Group was established by the Interagency Arctic Research Policy Committee (IARPC) at its June 5, 1991 meeting to support the newly developed international Arctic Monitoring and Assessment Program (AMAP). The Committee directed that NOAA and EPA serve as the co-chairs of the Working Group.

The purpose of the Working Group is to promote the integration of U.S. monitoring activities in the Arctic regions, and to provide a focal point for U.S. interactions with the Arctic Monitoring and Assessment Program (AMAP) established by the Arctic Environmental Protection Strategy.

The first meeting of the AMAP Task Force was held in December 1991 in Tromsø, Norway. The major issues discussed were: 1) defining a mandate, rules, and procedures

for AMAP, 2) developing a monitoring and assessment framework, 3) tasking lead countries to develop expert reports in the areas of emissions and sources (Secretariat), atmosphere (Canada), marine (Norway), freshwater (Finland), terrestrial (Sweden), human health (Denmark), and remote sensing and modeling (USA), 4) proposing the nature and scope of a harmonized monitoring network, 5) developing a plan for the management of key Arctic data, 6) defining the relationship between AMAP and other international fora, including IASC (the International Arctic Science Committee).

III. Arctic Data and Information

The Arctic Environmental Data Directory Working Group was formed in 1989. Its goal is to develop a system of primary sources for information on data for Arctic environmental research. To achieve this goal, it has developed the Arctic Environmental Data Directory (AEDD), a subset of the Earth Science Data Directory, published and distributed the Arctic Data Interactive (ADI) compact disc, and held workshops and symposia.

The AEDD entries represent significant Arctic holdings managed by several IARPC agencies, several Alaska state and local agencies, various universities which conduct Arctic research, and Ministries in Canada and other Arctic nations. AEDD is maintained by the U.S. Geological Survey.

A prototype digital data publication, the Arctic Data Interactive (ADI), on Compact Disc Read-Only Memory (CD-ROM) was developed to disseminate AEDD. The ADI compact disc was distributed to Arctic scientists, educators, libraries, and the public. The ADI won a Federal design and achievement award and is a candidate for a Presidential Design Achievement Award by the National Endowment for the Arts.

The Group has an outreach program to contact organizations which gather and manage Arctic data and those which use Arctic data and information. Workshops have been held in many Alaska locations, and presentations on Arctic data activities have been given to Federal and academic groups and conferences.

Future priorities are to increase the number of references to Arctic data in the AEDD, especially to the holdings of U.S. agencies, to improve and maintain the quality of the references in AEDD, and to increase socio-economic and health-related data entries. It is working with international programs such as the Arctic Monitoring and Assessment Program to use AEDD to represent Arctic data from other nations.

IV. Arctic Social Sciences/Bering Land Bridge

IARPC's Implementation Working Group on the Bering Land Bridge was established in 1991. Beringia, the lands and seas adjacent to Bering Strait, are a crossroads of the New and the Old Worlds. The region is an important focus of scientific cooperation. Proposals for trans-Beringian research are being formulated by American and Russian scientists. Among the subjects being addressed are North Pacific oceanography and fisheries; paleoecology, botany, and zoology; and the cultures, languages, history, and archeology of native peoples. Other concerns include problems of extracting natural resources without

damaging the environment, and preserving cultural heritage while facilitating human adaptation to rapidly changing environmental, social, economic, and political conditions.

The Smithsonian's international exhibition, "Crossroads of Continents: Cultures of Siberia and Alaska," the National Park Service's Beringian Heritage International Park program, the NSF Arctic Social Sciences Program, and a series of recent international symposia illustrate the potential for trans-Beringian scientific research programs to be implemented through the IARPC. In the summer of 1991 ethnographic and archaeological field projects were initiated in Northwest Alaska with NSF, Smithsonian, and National Park Service support.