

Union Calendar No. 376

110TH CONGRESS
2^D SESSION

H. R. 906

[Report No. 110–605, Part I]

To promote and coordinate global change research, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 7, 2007

Mr. UDALL of Colorado (for himself and Mr. INGLIS of South Carolina) introduced the following bill; which was referred to the Committee on Science and Technology, and in addition to the Committee on Foreign Affairs, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

APRIL 24, 2008

Additional sponsors: Ms. GIFFORDS, Mr. LANTOS, Mr. GILCHREST, Mr. INSLEE, Mr. JONES of North Carolina, Mr. GORDON of Tennessee, Mr. BARTLETT of Maryland, Mr. EHLERS, Mr. MILLER of North Carolina, Mr. WU, and Ms. EDDIE BERNICE JOHNSON of Texas

APRIL 24, 2008

Reported from the Committee on Science and Technology with an amendment
[Strike out all after the enacting clause and insert the part printed in *italic*]

APRIL 24, 2008

Committee on Foreign Affairs discharged; committed to the Committee of the Whole House on the State of the Union and ordered to be printed

A BILL

To promote and coordinate global change research, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 *This Act may be cited as the “Global Change Research*
5 *and Data Management Act of 2007”.*

6 **TITLE I—GLOBAL CHANGE**
7 **RESEARCH**

8 **SEC. 101. FINDINGS AND PURPOSE.**

9 *(a) FINDINGS.—The Congress makes the following*
10 *findings:*

11 *(1) Industrial, agricultural, and other human*
12 *activities, coupled with an expanding world popu-*
13 *lation, are contributing to processes of global change*
14 *that are significantly altering the Earth habitat.*

15 *(2) Such human-induced changes, in conjunction*
16 *with natural fluctuations, may lead to significant al-*
17 *terations of world climate patterns. Over the next cen-*
18 *tury, these changes could adversely affect world agri-*
19 *cultural and marine production, coastal habitability,*

1 *biological diversity, human health, global social and*
2 *political stability, and global economic activity.*

3 *(3) Developments in interdisciplinary Earth*
4 *sciences, global observing systems, and satellite and*
5 *computing technologies make possible significant sci-*
6 *entific understanding of global changes and their ef-*
7 *fects, and have resulted in the significant expansion*
8 *of environmental data and information.*

9 *(4) Development of effective policies to prevent,*
10 *mitigate, and adapt to global change will rely on im-*
11 *provement in scientific understanding of global envi-*
12 *ronmental processes and on development of informa-*
13 *tion that is of use to decisionmakers at the local, re-*
14 *gional, and national levels.*

15 *(5) Although the United States Global Change*
16 *Research Program has made significant contributions*
17 *to understanding Earth's climate and the anthropo-*
18 *genic influences on Earth's climate and its eco-*
19 *systems, the Program now needs to produce more in-*
20 *formation to meet the expressed needs of decision-*
21 *makers.*

22 *(6) Predictions of future climate conditions for*
23 *specific regions have considerable uncertainty and are*
24 *unlikely to be confirmed in a time period necessary*
25 *to inform decisions on land, water, and resource man-*

1 *agement. However, improved understanding of global*
2 *change should be used to assist decisionmakers in the*
3 *development of policies to ensure that ecological, so-*
4 *cial, and economic systems are resilient under a vari-*
5 *ety of plausible climate futures.*

6 *(7) In order to most effectively meet the needs of*
7 *decisionmakers, both the research agenda of the*
8 *United States Global Change Research Program and*
9 *its implementation must be informed by continuous*
10 *feedback from documented users of information gen-*
11 *erated by the Program.*

12 *(b) PURPOSE.—The purpose of this title is to provide*
13 *for the continuation and coordination of a comprehensive*
14 *and integrated United States observation, research, and*
15 *outreach program which will assist the Nation and the*
16 *world to understand, assess, predict, and respond to the ef-*
17 *fects of human-induced and natural processes of global*
18 *change.*

19 **SEC. 102. DEFINITIONS.**

20 *For purposes of this title—*

21 *(1) the term “global change” means human-in-*
22 *duced or natural changes in the global environment*
23 *(including alterations in climate, land productivity,*
24 *oceans or other water resources, atmospheric chem-*

1 *istry, biodiversity, and ecological systems) that may*
2 *alter the capacity of the Earth to sustain life;*

3 *(2) the term “global change research” means*
4 *study, monitoring, assessment, prediction, and infor-*
5 *mation management activities to describe and under-*
6 *stand—*

7 *(A) the interactive physical, chemical, and*
8 *biological processes that regulate the total Earth*
9 *system;*

10 *(B) the unique environment that the Earth*
11 *provides for life;*

12 *(C) changes that are occurring in the Earth*
13 *system; and*

14 *(D) the manner in which such system, envi-*
15 *ronment, and changes are influenced by human*
16 *actions;*

17 *(3) the term “interagency committee” means the*
18 *interagency committee established under section 103;*

19 *(4) the term “Plan” means the National Global*
20 *Change Research and Assessment Plan developed*
21 *under section 105;*

22 *(5) the term “Program” means the United States*
23 *Global Change Research Program established under*
24 *section 104; and*

1 (6) the term “regional climate change” means
2 the natural or human-induced changes manifested in
3 the local or regional environment (including alter-
4 ations in weather patterns, land productivity, water
5 resources, sea level rise, atmospheric chemistry, bio-
6 diversity, and ecological systems) that may alter the
7 capacity of a specific region to support current or fu-
8 ture social and economic activity or natural eco-
9 systems.

10 **SEC. 103. INTERAGENCY COOPERATION AND COORDINA-**
11 **TION.**

12 (a) *ESTABLISHMENT.*—The President shall establish or
13 designate an interagency committee to ensure cooperation
14 and coordination of all Federal research activities per-
15 taining to processes of global change for the purpose of in-
16 creasing the overall effectiveness and productivity of Federal
17 global change research efforts. The interagency committee
18 shall include representatives of both agencies conducting
19 global change research and agencies with authority over re-
20 sources likely to be affected by global change.

21 (b) *FUNCTIONS OF THE INTERAGENCY COMMITTEE.*—
22 The interagency committee shall—

23 (1) serve as the forum for developing the Plan
24 and for overseeing its implementation;

1 (2) *serve as the forum for developing the vulner-*
2 *ability assessment under section 107;*

3 (3) *ensure cooperation among Federal agencies*
4 *with respect to global change research activities;*

5 (4) *work with academic, State, industry, and*
6 *other groups conducting global change research, to*
7 *provide for periodic public and peer review of the*
8 *Program;*

9 (5) *cooperate with the Secretary of State in—*

10 (A) *providing representation at inter-*
11 *national meetings and conferences on global*
12 *change research in which the United States par-*
13 *ticipates; and*

14 (B) *coordinating the Federal activities of*
15 *the United States with programs of other nations*
16 *and with international global change research*
17 *activities;*

18 (6) *work with appropriate Federal, State, re-*
19 *gional, and local authorities to ensure that the Pro-*
20 *gram is designed to produce information needed to*
21 *develop policies to reduce the vulnerability of the*
22 *United States and other regions to global change;*

23 (7) *facilitate ongoing dialog and information ex-*
24 *change with regional, State, and local governments*
25 *and other user communities; and*

1 (8) *identify additional decisionmaking groups*
2 *that may use information generated through the Pro-*
3 *gram.*

4 **SEC. 104. UNITED STATES GLOBAL CHANGE RESEARCH**
5 **PROGRAM.**

6 (a) *ESTABLISHMENT.*—*The President shall establish*
7 *an interagency United States Global Change Research Pro-*
8 *gram to improve understanding of global change, to respond*
9 *to the information needs of communities and decision-*
10 *makers, and to provide periodic assessments of the vulner-*
11 *ability of the United States and other regions to global and*
12 *regional climate change. The Program shall be implemented*
13 *in accordance with the Plan.*

14 (b) *LEAD AGENCY.*—*The lead agency for the United*
15 *States Global Change Research Program shall be the Office*
16 *of Science and Technology Policy.*

17 (c) *INTERAGENCY PROGRAM ACTIVITIES.*—*The Direc-*
18 *tor of the Office of Science and Technology Policy, in con-*
19 *sultation with the interagency committee, shall identify ac-*
20 *tivities included in the Plan that involve participation by*
21 *2 or more agencies in the Program, and that do not fall*
22 *within the current fiscal year budget allocations of those*
23 *participating agencies, to fulfill the requirements of this*
24 *Act. The Director of the Office of Science and Technology*
25 *Policy shall allocate funds to the agencies to conduct the*

1 *identified interagency activities. Such activities may in-*
2 *clude—*

3 (1) *development of scenarios for climate, land-*
4 *cover change, population growth, and socioeconomic*
5 *development;*

6 (2) *calibration and testing of alternative re-*
7 *gional and global climate models;*

8 (3) *identification of economic sectors and re-*
9 *gional climatic zones; and*

10 (4) *convening regional workshops to facilitate in-*
11 *formation exchange and involvement of regional,*
12 *State, and local decisionmakers, non-Federal experts,*
13 *and other stakeholder groups in the activities of the*
14 *Program.*

15 (d) *WORKSHOPS.—The Director shall ensure that at*
16 *least one workshop is held per year in each region identified*
17 *by the Plan under section 105(b)(11) to facilitate informa-*
18 *tion exchange and outreach to regional, State, and local*
19 *stakeholders as required by this Act.*

20 (e) *AUTHORIZATION OF APPROPRIATIONS.—There are*
21 *authorized to be appropriated to the Office of Science and*
22 *Technology Policy for carrying out this section \$10,000,000*
23 *for each of the fiscal years 2008 through 2013.*

1 **SEC. 105. NATIONAL GLOBAL CHANGE RESEARCH AND AS-**
2 **SESSMENT PLAN.**

3 (a) *IN GENERAL.*—*The President shall develop a Na-*
4 *tional Global Change Research and Assessment Plan for im-*
5 *plementation of the Program. The Plan shall contain rec-*
6 *ommendations for global change research and assessment.*
7 *The President shall submit an outline for the development*
8 *of the Plan to the Congress within 1 year after the date*
9 *of enactment of this Act, and shall submit a completed Plan*
10 *to the Congress within 3 years after the date of enactment*
11 *of this Act. Revised Plans shall be submitted to the Congress*
12 *at least once every 5 years thereafter. In the development*
13 *of each Plan, the President shall conduct a formal assess-*
14 *ment process under this section to determine the needs of*
15 *appropriate Federal, State, regional, and local authorities*
16 *and other interested parties regarding the types of informa-*
17 *tion needed by them in developing policies to reduce soci-*
18 *ety's vulnerability to global change and shall utilize these*
19 *assessments, including the reviews by the National Academy*
20 *of Sciences and the National Governors Association under*
21 *subsections (e) and (f), in developing the Plan.*

22 (b) *CONTENTS OF THE PLAN.*—*The Plan shall—*

23 (1) *establish, for the 10-year period beginning in*
24 *the year the Plan is submitted, the goals and prior-*
25 *ities for Federal global change research which most ef-*
26 *fectively advance scientific understanding of global*

1 *change and provide information of use to Federal,*
2 *State, regional, and local authorities in the develop-*
3 *ment of policies relating to global change;*

4 (2) *describe specific activities, including efforts*
5 *to determine user information needs, research activi-*
6 *ties, data collection, database development, and data*
7 *analysis requirements, development of regional sce-*
8 *narios, assessment of model predictability, assessment*
9 *of climate change impacts, participation in inter-*
10 *national research efforts, and information manage-*
11 *ment, required to achieve such goals and priorities;*

12 (3) *identify relevant programs and activities of*
13 *the Federal agencies that contribute to the Program*
14 *directly and indirectly;*

15 (4) *set forth the role of each Federal agency in*
16 *implementing the Plan;*

17 (5) *consider and utilize, as appropriate, reports*
18 *and studies conducted by Federal agencies, the Na-*
19 *tional Research Council, or other entities;*

20 (6) *make recommendations for the coordination*
21 *of the global change research and assessment activities*
22 *of the United States with such activities of other na-*
23 *tions and international organizations, including—*

24 (A) *a description of the extent and nature*
25 *of international cooperative activities;*

1 (B) bilateral and multilateral efforts to pro-
2 vide worldwide access to scientific data and in-
3 formation; and

4 (C) improving participation by developing
5 nations in international global change research
6 and environmental data collection;

7 (7) detail budget requirements for Federal global
8 change research and assessment activities to be con-
9 ducted under the Plan;

10 (8) catalog the type of information identified by
11 appropriate Federal, State, regional, and local deci-
12 sionmakers needed to develop policies to reduce soci-
13 ety's vulnerability to global change and indicate how
14 the planned research will meet these decisionmakers'
15 information needs;

16 (9) identify the observing systems currently em-
17 ployed in collecting data relevant to global and re-
18 gional climate change research and prioritize addi-
19 tional observation systems that may be needed to en-
20 sure adequate data collection and monitoring of glob-
21 al change;

22 (10) describe specific activities designed to facili-
23 tate outreach and data and information exchange
24 with regional, State, and local governments and other
25 user communities; and

1 (11) *identify and describe regions of the United*
2 *States that are likely to experience similar impacts of*
3 *global change or are likely to share similar*
4 *vulnerabilities to global change.*

5 (c) *RESEARCH ELEMENTS.—The Plan shall include at*
6 *a minimum the following research elements:*

7 (1) *Global measurements, establishing worldwide*
8 *to regional scale observations prioritized to under-*
9 *stand global change and to meet the information*
10 *needs of decisionmakers on all relevant spatial and*
11 *time scales.*

12 (2) *Information on economic, demographic, and*
13 *technological trends that contribute to changes in the*
14 *Earth system and that influence society's vulner-*
15 *ability to global and regional climate change.*

16 (3) *Development of indicators and baseline data-*
17 *bases to document global change, including changes in*
18 *species distribution and behavior, extent of glacia-*
19 *tions, and changes in sea level.*

20 (4) *Studies of historical changes in the Earth*
21 *system, using evidence from the geological and fossil*
22 *record.*

23 (5) *Assessments of predictability using quan-*
24 *titative models of the Earth system to simulate global*
25 *and regional environmental processes and trends.*

1 (6) *Focused research initiatives to understand*
2 *the nature of and interaction among physical, chem-*
3 *ical, biological, land use, and social processes related*
4 *to global and regional climate change.*

5 (7) *Focused research initiatives to determine and*
6 *then meet the information needs of appropriate Fed-*
7 *eral, State, and regional decisionmakers.*

8 (d) *INFORMATION MANAGEMENT.—The Plan shall in-*
9 *corporate, to the extent practicable, the recommendations*
10 *relating to data acquisition, management, integration, and*
11 *archiving made by the interagency climate and other global*
12 *change data management working group established under*
13 *section 203.*

14 (e) *NATIONAL ACADEMY OF SCIENCES EVALUATION.—*
15 *The President shall enter into an agreement with the Na-*
16 *tional Academy of Sciences under which the Academy*
17 *shall—*

18 (1) *evaluate the scientific content of the Plan;*

19 *and*

20 (2) *recommend priorities for future global and*
21 *regional climate change research and assessment.*

22 (f) *NATIONAL GOVERNORS ASSOCIATION EVALUA-*
23 *TION.—The President shall enter into an agreement with*
24 *the National Governors Association Center for Best Prac-*
25 *tices under which that Center shall—*

1 (1) *evaluate the utility to State, local, and re-*
2 *gional decisionmakers of each Plan and of the antici-*
3 *pated and actual information outputs of the Program*
4 *for development of State, local, and regional policies*
5 *to reduce vulnerability to global change; and*

6 (2) *recommend priorities for future global and*
7 *regional climate change research and assessment.*

8 (g) *PUBLIC PARTICIPATION.*—*In developing the Plan,*
9 *the President shall consult with representatives of academic,*
10 *State, industry, and environmental groups. Not later than*
11 *90 days before the President submits the Plan, or any revi-*
12 *sion thereof, to the Congress, a summary of the proposed*
13 *Plan shall be published in the Federal Register for a public*
14 *comment period of not less than 60 days.*

15 **SEC. 106. BUDGET COORDINATION.**

16 (a) *IN GENERAL.*—*The President shall provide general*
17 *guidance to each Federal agency participating in the Pro-*
18 *gram with respect to the preparation of requests for appro-*
19 *priations for activities related to the Program.*

20 (b) *CONSIDERATION IN PRESIDENT’S BUDGET.*—*The*
21 *President shall submit, at the time of his annual budget*
22 *request to Congress, a description of those items in each*
23 *agency’s annual budget which are elements of the Program.*

1 **SEC. 107. VULNERABILITY ASSESSMENT.**

2 (a) *REQUIREMENT.*—*Within 1 year after the date of*
3 *enactment of this Act, and at least once every 5 years there-*
4 *after, the President shall submit to the Congress an assess-*
5 *ment which—*

6 (1) *integrates, evaluates, and interprets the find-*
7 *ings of the Program and discusses the scientific uncer-*
8 *tainties associated with such findings;*

9 (2) *analyzes current trends in global change,*
10 *both human-induced and natural, and projects major*
11 *trends for the subsequent 25 to 100 years;*

12 (3) *based on indicators and baselines developed*
13 *under section 105(c)(3), as well as other measure-*
14 *ments, analyzes changes to the natural environment,*
15 *land and water resources, and biological diversity*
16 *in—*

17 (A) *major geographic regions of the United*
18 *States; and*

19 (B) *other continents;*

20 (4) *analyzes the effects of global change, includ-*
21 *ing the changes described in paragraph (3), on food*
22 *and fiber production, energy production and use,*
23 *transportation, human health and welfare, water*
24 *availability and coastal infrastructure, and human*
25 *social and economic systems, including providing in-*
26 *formation about the differential impacts on specific*

1 *geographic regions within the United States, on peo-*
2 *ple of different income levels within those regions, and*
3 *for rural and urban areas within those regions; and*

4 (5) *summarizes the vulnerability of different geo-*
5 *graphic regions of the world to global change and*
6 *analyzes the implications of global change for the*
7 *United States, including international assistance,*
8 *population displacement, food and resource avail-*
9 *ability, and national security.*

10 (b) *USE OF RELATED REPORTS.*—*To the extent appro-*
11 *priate, the assessment produced pursuant to this section*
12 *may coordinate with, consider, incorporate, or otherwise*
13 *make use of related reports, assessments, or information*
14 *produced by the United States Global Change Research Pro-*
15 *gram, regional, State, and local entities, and international*
16 *organizations, including the World Meteorological Organi-*
17 *zation and the Intergovernmental Panel on Climate*
18 *Change.*

19 **SEC. 108. POLICY ASSESSMENT.**

20 *Not later than 1 year after the date of enactment of*
21 *this Act, and at least once every 4 years thereafter, the*
22 *President shall enter into a joint agreement with the Na-*
23 *tional Academy of Public Administration and the National*
24 *Academy of Sciences under which the Academies shall—*

1 (1) *document current policy options being imple-*
2 *mented by Federal, State, and local governments to*
3 *mitigate or adapt to the effects of global and regional*
4 *climate change;*

5 (2) *evaluate the realized and anticipated effec-*
6 *tiveness of those current policy options in meeting*
7 *mitigation and adaptation goals;*

8 (3) *identify and evaluate a range of additional*
9 *policy options and infrastructure for mitigating or*
10 *adapting to the effects of global and regional climate*
11 *change;*

12 (4) *analyze the adoption rates of policies and*
13 *technologies available to reduce the vulnerability of*
14 *society to global change with an evaluation of the*
15 *market and policy obstacles to their adoption in the*
16 *United States; and*

17 (5) *evaluate the distribution of economic costs*
18 *and benefits of these policy options across different*
19 *United States economic sectors.*

20 **SEC. 109. ANNUAL REPORT.**

21 *Each year at the time of submission to the Congress*
22 *of the President's budget request, the President shall submit*
23 *to the Congress a report on the activities conducted pursu-*
24 *ant to this title, including—*

1 (1) *a description of the activities of the Program*
2 *during the past fiscal year;*

3 (2) *a description of the activities planned in the*
4 *next fiscal year toward achieving the goals of the*
5 *Plan; and*

6 (3) *a description of the groups or categories of*
7 *State, local, and regional decisionmakers identified as*
8 *potential users of the information generated through*
9 *the Program and a description of the activities used*
10 *to facilitate consultations with and outreach to these*
11 *groups, coordinated through the work of the inter-*
12 *agency committee.*

13 **SEC. 110. RELATION TO OTHER AUTHORITIES.**

14 *The President shall—*

15 (1) *ensure that relevant research, assessment,*
16 *and outreach activities of the National Climate Pro-*
17 *gram, established by the National Climate Program*
18 *Act (15 U.S.C. 2901 et seq.), are considered in devel-*
19 *oping national global and regional climate change re-*
20 *search and assessment efforts; and*

21 (2) *facilitate ongoing dialog and information ex-*
22 *change with regional, State, and local governments*
23 *and other user communities through programs au-*
24 *thorized in the National Climate Program Act (15*
25 *U.S.C. 2901 et seq.).*

1 **SEC. 111. REPEAL.**

2 *The Global Change Research Act of 1990 (15 U.S.C.*
3 *2921 et seq.) is repealed.*

4 **SEC. 112. GLOBAL CHANGE RESEARCH INFORMATION.**

5 *The President shall establish or designate a Global*
6 *Change Research Information Exchange to make scientific*
7 *research and other information produced through or utilized*
8 *by the Program which would be useful in preventing, miti-*
9 *gating, or adapting to the effects of global change accessible*
10 *through electronic means.*

11 **SEC. 113. ICE SHEET STUDY AND REPORT.**

12 *(a) STUDY.—*

13 *(1) REQUIREMENT.—The Director of the Na-*
14 *tional Science Foundation and the Administrator of*
15 *National Oceanic and Atmospheric Administration*
16 *shall enter into an arrangement with the National*
17 *Academy of Sciences to complete a study of the cur-*
18 *rent status of ice sheet melt, as caused by climate*
19 *change, with implications for global sea level rise.*

20 *(2) CONTENTS.—The study shall take into con-*
21 *sideration—*

22 *(A) the past research completed related to*
23 *ice sheet melt as reviewed by Working Group I*
24 *of the Intergovernmental Panel on Climate*
25 *Change;*

1 (B) additional research completed since the
2 fall of 2005 that was not included in the Work-
3 ing Group I report due to time constraints; and

4 (C) the need for an accurate assessment of
5 changes in ice sheet spreading, changes in ice
6 sheet flow, self-lubrication, the corresponding ef-
7 fect on ice sheets, and current modeling capabili-
8 ties.

9 (3) *REPORT.*—Not later than 18 months after the
10 date of enactment of this Act, the National Academy
11 of Sciences shall transmit to the Committee on
12 Science and Technology of the House of Representa-
13 tives and the Committee on Commerce, Science, and
14 Transportation of the Senate a report on the key find-
15 ings of the study conducted under subsection (a),
16 along with recommendations for additional research
17 related to ice sheet melt and corresponding sea level
18 rise.

19 **SEC. 114. HURRICANE FREQUENCY AND INTENSITY STUDY**
20 **AND REPORT.**

21 (a) *STUDY.*—

22 (1) *REQUIREMENT.*—The Administrator of the
23 National Oceanic and Atmospheric Administration
24 and the Director of the National Science Foundation
25 shall enter into an arrangement with the National

1 *Academy of Sciences to complete a study of the cur-*
2 *rent state of the science on the potential impacts of*
3 *climate change on patterns of hurricane and typhoon*
4 *development, including storm intensity, track, and*
5 *frequency, and the implications for hurricane-prone*
6 *and typhoon-prone coastal regions.*

7 (2) *CONTENTS.—The study shall take into con-*
8 *sideration—*

9 (A) *the past research completed related to*
10 *hurricane and typhoon development, track, and*
11 *intensity as reviewed by Working Groups I and*
12 *II of the Intergovernmental Panel on Climate*
13 *Change;*

14 (B) *additional research completed since the*
15 *fall of 2005 that was not included in the Work-*
16 *ing Group I and II reports due to time con-*
17 *straints;*

18 (C) *the need for accurate assessment of po-*
19 *tential changes in hurricane and typhoon inten-*
20 *sity, track, and frequency and of the current*
21 *modeling and forecasting capabilities and the*
22 *need for improvements in forecasting of these pa-*
23 *rameters; and*

24 (D) *the need for additional research and*
25 *monitoring to improve forecasting of hurricanes*

1 *and typhoons and to understand the relationship*
2 *between climate change and hurricane and ty-*
3 *phoon development.*

4 (3) *REPORT.—Not later than 18 months after the*
5 *date of enactment of this Act, the National Academy*
6 *of Sciences shall transmit to the Committee on*
7 *Science and Technology of the House of Representa-*
8 *tives and the Committee on Commerce, Science, and*
9 *Transportation of the Senate a report on the key find-*
10 *ings of the study conducted under subsection (a).*

11 **TITLE II—CLIMATE AND OTHER**
12 **GLOBAL CHANGE DATA MAN-**
13 **AGEMENT**

14 **SEC. 201. FINDINGS AND PURPOSES.**

15 (a) *FINDINGS.—The Congress makes the following*
16 *findings:*

17 (1) *Federal agencies have a primary mission to*
18 *manage and archive climate and other global change*
19 *data obtained through their research, development, or*
20 *operational activities.*

21 (2) *Maintenance of climate and global change*
22 *data records is essential to present and future studies*
23 *of the Earth's atmosphere, biogeochemical cycles, and*
24 *climate.*

1 (3) *Federal capabilities for the management and*
2 *archiving of these data have not kept pace with ad-*
3 *vances in satellite and other observational technologies*
4 *that have vastly expanded the type and amount of in-*
5 *formation that can be collected.*

6 (4) *Proposals and plans for expansion of global*
7 *observing networks should include plans for the man-*
8 *agement of data to be collected and budgets reflecting*
9 *the cost of support for management and archiving of*
10 *data.*

11 (b) *PURPOSES.*—*The purposes of this title are to estab-*
12 *lish climate and other global change data management and*
13 *archiving as Federal agency missions, and to establish Fed-*
14 *eral policies for managing and archiving climate and other*
15 *global change data.*

16 **SEC. 202. DEFINITIONS.**

17 *For purposes of this title—*

18 (1) *the term “metadata” means information de-*
19 *scribing the content, quality, condition, and other*
20 *characteristics of climate and other global change*
21 *data, compiled, to the maximum extent possible, con-*
22 *sistent with the requirements of the “Content Stand-*
23 *ard for Digital Geospatial Metadata” (FGDC–STD–*
24 *001–1998) issued by the Federal Geographic Data*

1 *Committee, or any successor standard approved by*
2 *the working group; and*

3 *(2) the term “working group” means the inter-*
4 *agency climate and other global change data manage-*
5 *ment working group established under section 203.*

6 **SEC. 203. INTERAGENCY CLIMATE AND OTHER GLOBAL**
7 **CHANGE DATA MANAGEMENT WORKING**
8 **GROUP.**

9 *(a) ESTABLISHMENT.—The President shall establish or*
10 *designate an interagency climate and other global change*
11 *data management working group to make recommendations*
12 *for coordinating Federal climate and other global change*
13 *data management and archiving activities.*

14 *(b) MEMBERSHIP.—The working group shall include*
15 *the Administrator of the National Aeronautics and Space*
16 *Administration, the Administrator of the National Oceanic*
17 *and Atmospheric Administration, the Secretary of Energy,*
18 *the Secretary of Defense, the Director of the National*
19 *Science Foundation, the Director of the United States Geo-*
20 *logical Survey, the Archivist of the United States, the Ad-*
21 *ministrator of the Environmental Protection Agency, the*
22 *Secretary of the Smithsonian Institution, or their designees,*
23 *and representatives of any other Federal agencies the Presi-*
24 *dent considers appropriate.*

1 (c) *REPORTS.*—Not later than 1 year after the date
2 of enactment of this Act, the working group shall transmit
3 a report to the Congress containing the elements described
4 in subsection (d). Not later than 4 years after the initial
5 report under this subsection, and at least once every 4 years
6 thereafter, the working group shall transmit reports updat-
7 ing the previous report. In preparing reports under this
8 subsection, the working group shall consult with expected
9 users of the data collected and archived by the Program.

10 (d) *CONTENTS.*—The reports and updates required
11 under subsection (c) shall—

12 (1) include recommendations for the establish-
13 ment, maintenance, and accessibility of a catalog
14 identifying all available climate and other global
15 change data sets;

16 (2) identify climate and other global change data
17 collections in danger of being lost and recommend ac-
18 tions to prevent such loss;

19 (3) identify gaps in climate and other global
20 change data and recommend actions to fill those gaps;

21 (4) identify effective and compatible procedures
22 for climate and other global change data collection,
23 management, and retention and make recommenda-
24 tions for ensuring their use by Federal agencies and
25 other appropriate entities;

1 (5) *develop and propose a coordinated strategy*
2 *for funding and allocating responsibilities among*
3 *Federal agencies for climate and other global change*
4 *data collection, management, and retention;*

5 (6) *make recommendations for ensuring that*
6 *particular attention is paid to the collection, manage-*
7 *ment, and archiving of metadata;*

8 (7) *make recommendations for ensuring a uni-*
9 *fied and coordinated Federal capital investment strat-*
10 *egy with respect to climate and other global change*
11 *data collection, management, and archiving;*

12 (8) *evaluate the data record from each observing*
13 *system and make recommendations to ensure that de-*
14 *livered data are free from time-dependent biases and*
15 *random errors before they are transferred to long-term*
16 *archives; and*

17 (9) *evaluate optimal design of observation system*
18 *components to ensure a cost-effective, adequate set of*
19 *observations detecting and tracking global change.*

20 **TITLE III—INTERNATIONAL CO-**
21 **OPERATION IN GLOBAL**
22 **CHANGE RESEARCH**

23 **SEC. 301. FINDINGS AND PURPOSES.**

24 (a) *FINDINGS.—The Congress makes the following*
25 *findings:*

1 (1) *Pooling of international resources and sci-*
2 *entific capabilities will be essential to a successful*
3 *international global change program.*

4 (2) *While international scientific planning is al-*
5 *ready underway, there is currently no comprehensive*
6 *intergovernmental mechanism for planning, coordi-*
7 *nating, or implementing research to understand glob-*
8 *al change and to mitigate possible adverse effects.*

9 (3) *An international global change research pro-*
10 *gram will be important in building future consensus*
11 *on methods for reducing global environmental deg-*
12 *radation.*

13 (4) *The United States, as a world leader in envi-*
14 *ronmental and Earth sciences, should help provide*
15 *leadership in developing and implementing an inter-*
16 *national global change research program.*

17 (b) *PURPOSES.*—*The purposes of this title are to—*

18 (1) *promote international, intergovernmental co-*
19 *operation on global change research;*

20 (2) *involve scientists and policymakers from de-*
21 *veloping nations in such cooperative global change re-*
22 *search programs; and*

23 (3) *promote international efforts to provide tech-*
24 *nical and other assistance to developing nations*
25 *which will facilitate improvements in their domestic*

1 *standard of living while minimizing damage to the*
2 *global or regional environment.*

3 **SEC. 302. INTERNATIONAL DISCUSSIONS.**

4 *(a) GLOBAL CHANGE RESEARCH.—The President shall*
5 *direct the Secretary of State to initiate discussions with*
6 *other nations leading toward international protocols and*
7 *other agreements to coordinate global change research ac-*
8 *tivities. Such discussions should include the following*
9 *issues:*

10 *(1) Allocation of costs in global change research*
11 *programs, especially with respect to major capital*
12 *projects.*

13 *(2) Coordination of global change research plans*
14 *with those developed by international organizations*
15 *such as the International Council on Scientific*
16 *Unions, the World Meteorological Organization, and*
17 *the United Nations Environment Program.*

18 *(3) Establishment of global change research cen-*
19 *ters and training programs for scientists, especially*
20 *those from developing nations.*

21 *(4) Development of innovative methods for man-*
22 *agement of international global change research, in-*
23 *cluding the use of new or existing intergovernmental*
24 *organizations for the coordination or funding of glob-*
25 *al change research.*

1 (5) *Establishment of international offices to dis-*
2 *seminate information useful in identifying, pre-*
3 *venting, mitigating, or adapting to the possible effects*
4 *of global change.*

5 (b) *ENERGY RESEARCH.—The President shall direct*
6 *the Secretary of State (in cooperation with the Secretary*
7 *of Energy, the Secretary of Commerce, the United States*
8 *Trade Representative, and other appropriate Federal*
9 *agents) to initiate discussions with other nations leading*
10 *toward an international research protocol for cooperation*
11 *on the development of energy technologies which have mini-*
12 *mally adverse effects on the environment. Such discussions*
13 *should include the following issues:*

14 (1) *Creation of an international cooperative pro-*
15 *gram to fund research related to energy efficiency and*
16 *conservation, solar and other renewable energy*
17 *sources, and passively safe and diversion-resistant nu-*
18 *clear reactors.*

19 (2) *Creation of an international cooperative pro-*
20 *gram to develop low-cost energy technologies which*
21 *are appropriate to the environmental, economic, and*
22 *social needs of developing nations.*

23 (3) *Exchange of information concerning environ-*
24 *mentally safe energy technologies and practices, in-*
25 *cluding those described in paragraphs (1) and (2).*

Union Calendar No. 376

110TH CONGRESS
2^D SESSION

H. R. 906

[Report No. 110-605, Part I]

A BILL

To promote and coordinate global change research,
and for other purposes.

APRIL 24, 2008

Reported from the Committee on Science and Technology
with an amendment

APRIL 24, 2008

Committee on Foreign Affairs discharged; committed to
the Committee of the Whole House on the State of the
Union and ordered to be printed