

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

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

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

(D) the manner in which such system, environment, and changes are influenced by human actions;

(5) “Plan” means the National Global Change Research Plan developed under section 2934 of this title, or any revision thereof; and

(6) “Program” means the United States Global Change Research Program established under section 2933 of this title.

(Pub. L. 101-606, §2, Nov. 16, 1990, 104 Stat. 3096.)

#### Statutory Notes and Related Subsidiaries

##### SHORT TITLE

Pub. L. 101-606, §1, Nov. 16, 1990, 104 Stat. 3096, provided that: “This Act [enacting this chapter] may be cited as the ‘Global Change Research Act of 1990.’”

Pub. L. 101-606, title II, §201, Nov. 16, 1990, 104 Stat. 3102, provided that: “This title [enacting subchapter II of this chapter] may be cited as the ‘International Cooperation in Global Change Research Act of 1990.’”

#### SUBCHAPTER I—UNITED STATES GLOBAL CHANGE RESEARCH PROGRAM

### § 2931. Findings and purpose

#### (a) Findings

The Congress makes the following findings:

(1) Industrial, agricultural, and other human activities, coupled with an expanding world population, are contributing to processes of global change that may significantly alter the Earth habitat within a few human generations.

(2) Such human-induced changes, in conjunction with natural fluctuations, may lead to significant global warming and thus alter world climate patterns and increase global sea levels. Over the next century, these consequences could adversely affect world agricultural and marine production, coastal habitability, biological diversity, human health, and global economic and social well-being.

(3) The release of chlorofluorocarbons and other stratospheric ozone-depleting substances is rapidly reducing the ability of the atmosphere to screen out harmful ultraviolet radiation, which could adversely affect human health and ecological systems.

(4) Development of effective policies to abate, mitigate, and cope with global change will rely on greatly improved scientific understanding of global environmental processes and on our ability to distinguish human-induced from natural global change.

(5) New developments in interdisciplinary Earth sciences, global observing systems, and computing technology make possible significant advances in the scientific understanding and prediction of these global changes and their effects.

(6) Although significant Federal global change research efforts are underway, an ef-

fective Federal research program will require efficient interagency coordination, and coordination with the research activities of State, private, and international entities.

#### (b) Purpose

The purpose of this subchapter is to provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change.

(Pub. L. 101-606, title I, §101, Nov. 16, 1990, 104 Stat. 3096.)

### § 2932. Committee on Earth and Environmental Sciences

#### (a) Establishment

The President, through the Council, shall establish a Committee on Earth and Environmental Sciences. The Committee shall carry out Council functions under section 6651 of title 42 relating to global change research, for the purpose of increasing the overall effectiveness and productivity of Federal global change research efforts.

#### (b) Membership

The Committee shall consist of at least one representative from—

- (1) the National Science Foundation;
- (2) the National Aeronautics and Space Administration;
- (3) the National Oceanic and Atmospheric Administration of the Department of Commerce;
- (4) the Environmental Protection Agency;
- (5) the Department of Energy;
- (6) the Department of State;
- (7) the Department of Defense;
- (8) the Department of the Interior;
- (9) the Department of Agriculture;
- (10) the Department of Transportation;
- (11) the Office of Management and Budget;
- (12) the Office of Science and Technology Policy;
- (13) the Council on Environmental Quality;
- (14) the National Institute of Environmental Health Sciences of the National Institutes of Health; and
- (15) such other agencies and departments of the United States as the President or the Chairman of the Council considers appropriate.

Such representatives shall be high ranking officials of their agency or department, wherever possible the head of the portion of that agency or department that is most relevant<sup>1</sup> to the purpose of the subchapter described in section 2931(b) of this title.

#### (c) Chairperson

The Chairman of the Council, in consultation with the Committee, biennially shall select one of the Committee members to serve as Chairperson. The Chairperson shall be knowledgeable and experienced with regard to the administra-

<sup>1</sup> So in original. Probably should be “relevant”.

tion of scientific research programs, and shall be a representative of an agency that contributes substantially, in terms of scientific research capability and budget, to the Program.

**(d) Support personnel**

An Executive Secretary shall be appointed by the Chairperson of the Committee, with the approval of the Committee. The Executive Secretary shall be a permanent employee of one of the agencies or departments represented on the Committee, and shall remain in the employ of such agency or department. The Chairman of the Council shall have the authority to make personnel decisions regarding any employees detailed to the Council for purposes of working on business of the Committee pursuant to section 6651 of title 42.

**(e) Functions relative to global change**

The Council, through the Committee, shall be responsible for planning and coordinating the Program. In carrying out this responsibility, the Committee shall—

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

(2) improve cooperation among Federal agencies and departments with respect to global change research activities;

(3) provide budgetary advice as specified in section 2935 of this title;

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

(5) cooperate with the Secretary of State in—

(A) providing representation at international meetings and conferences on global change research in which the United States participates; and

(B) coordinating the Federal activities of the United States with programs of other nations and with international global change research activities such as the International Geosphere-Biosphere Program;

(6) consult with actual and potential users of the results of the Program to ensure that such results are useful in developing national and international policy responses to global change; and

(7) report at least annually to the President and the Congress, through the Chairman of the Council, on Federal global change research priorities, policies, and programs.

(Pub. L. 101-606, title I, §102, Nov. 16, 1990, 104 Stat. 3097.)

**§ 2933. United States Global Change Research Program**

The President shall establish an interagency United States Global Change Research Program to improve understanding of global change. The Program shall be implemented by the Plan developed under section 2934 of this title.

(Pub. L. 101-606, title I, §103, Nov. 16, 1990, 104 Stat. 3098.)

**§ 2934. National Global Change Research Plan**

**(a) In general**

The Chairman of the Council, through the Committee, shall develop a National Global

Change Research Plan for implementation of the Program. The Plan shall contain recommendations for national global change research. The Chairman of the Council shall submit the Plan to the Congress within one year after November 16, 1990, and a revised Plan shall be submitted at least once every three years thereafter.

**(b) Contents of Plan**

The Plan shall—

(1) establish, for the 10-year period beginning in the year the Plan is submitted, the goals and priorities for Federal global change research which most effectively advance scientific understanding of global change and provide usable information on which to base policy decisions relating to global change;

(2) describe specific activities, including research activities, data collection and data analysis requirements, predictive modeling, participation in international research efforts, and information management, required to achieve such goals and priorities;

(3) identify and address, as appropriate, relevant programs and activities of the Federal agencies and departments represented on the Committee that contribute to the Program;

(4) set forth the role of each Federal agency and department in implementing the Plan;

(5) consider and utilize, as appropriate, reports and studies conducted by Federal agencies and departments, the National Research Council, or other entities;

(6) make recommendations for the coordination of the global change research activities of the United States with such activities of other nations and international organizations, including—

(A) a description of the extent and nature of necessary international cooperation;

(B) the development by the Committee, in consultation when appropriate with the National Space Council, of proposals for cooperation on major capital projects;

(C) bilateral and multilateral proposals for improving worldwide access to scientific data and information; and

(D) methods for improving participation in international global change research by developing nations; and

(7) estimate, to the extent practicable, Federal funding for global change research activities to be conducted under the Plan.

**(c) Research elements**

The Plan shall provide for, but not be limited to, the following research elements:

(1) Global measurements, establishing worldwide observations necessary to understand the physical, chemical, and biological processes responsible for changes in the Earth system on all relevant spatial and time scales.

(2) Documentation of global change, including the development of mechanisms for recording changes that will actually occur in the Earth system over the coming decades.

(3) Studies of earlier changes in the Earth system, using evidence from the geological and fossil record.

(4) Predictions, using quantitative models of the Earth system to identify and simulate