

108TH CONGRESS  
2D SESSION

# H. R. 4546

To provide for the National Oceanic and Atmospheric Administration, to authorize appropriations for the National Oceanic and Atmospheric Administration, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

JUNE 14, 2004

Mr. EHLERS introduced the following bill; which was referred to the Committee on Science, and in addition to the Committee on Resources, 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

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## A BILL

To provide for the National Oceanic and Atmospheric Administration, to authorize appropriations for the National Oceanic and Atmospheric Administration, 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,*

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1 **TITLE I—NATIONAL OCEANIC**  
2 **AND ATMOSPHERIC ADMINIS-**  
3 **TRATION**

4 **SEC. 101. SHORT TITLE.**

5 This title may be cited as the “National Oceanic and  
6 Atmospheric Administration Act”.

7 **SEC. 102. DEFINITIONS.**

8 In this title:

9 (1) The term “Administration” means the Na-  
10 tional Oceanic and Atmospheric Administration.

11 (2) The term “Secretary” means the Secretary  
12 of Commerce.

13 (3) The term “Administrator” means the Ad-  
14 ministrator of the National Oceanic and Atmos-  
15 pheric Administration.

16 **SEC. 103. NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-**  
17 **ISTRATION.**

18 (a) IN GENERAL.—There shall be in the Department  
19 of Commerce an agency known as the National Oceanic  
20 and Atmospheric Administration.

21 (b) MISSION.—The mission of the Administration is  
22 to understand and predict changes in the Earth’s ocean  
23 and atmosphere and the effects of such changes on the  
24 land environment, to conserve and manage coastal, ocean,  
25 and Great Lakes ecosystems to meet national economic,

1 social, and environmental needs, and to educate the public  
2 about these topics.

3 (c) FUNCTIONS.—The functions of the Administra-  
4 tion shall include—

5 (1) collecting, through observation and other  
6 means, communicating, analyzing, processing, pro-  
7 viding, and disseminating comprehensive scientific  
8 data and information about weather and climate,  
9 solar and geophysical events on the Sun and in the  
10 space environment, and about the coasts, oceans,  
11 Great Lakes, and upper reaches of estuaries;

12 (2) operating and maintaining a system for the  
13 storage, retrieval, and dissemination of data relating  
14 to weather and climate, solar and geophysical events  
15 on the Sun and in the space environment, and about  
16 the coasts, oceans, Great Lakes, and upper reaches  
17 of estuaries;

18 (3) conducting and supporting basic and ap-  
19 plied research and development of technology as may  
20 be necessary to carry out the functions described in  
21 this subsection;

22 (4) issuing weather, water, climate, and space  
23 weather forecasts and warnings;

1           (5) coordinating efforts of Federal agencies in  
2           support of national and international programs with  
3           respect to meteorological services;

4           (6) coordinating weather research activities of  
5           Federal agencies, as provided by law;

6           (7) understanding the science of Earth's cli-  
7           mate and related systems, and undertaking research,  
8           development, and demonstration to enhance society's  
9           ability to plan and respond to climate variability and  
10          change;

11          (8) protecting, restoring, and managing the use  
12          of the coasts, oceans, and Great Lakes through eco-  
13          system-based research, development, demonstration,  
14          and management;

15          (9) coordinating efforts of Federal agencies in  
16          support of national and international programs with  
17          respect to integrated Earth observing systems;

18          (10) administering public outreach and edu-  
19          cation programs and services to increase scientific  
20          and environmental literacy about weather and cli-  
21          mate, solar and geophysical events on the Sun and  
22          in the space environment, and the coasts, oceans,  
23          Great Lakes, and upper reaches of estuaries;

24          (11) cooperating, in consultation with the Sec-  
25          retary of State, with international organizations and

1 scientists in bilateral and multilateral research, de-  
2 velopment, conservation, and service programs re-  
3 lated to coastal, ocean, and Great Lakes issues; and  
4 (12) any other function assigned to the Admin-  
5 istration by law.

6 **SEC. 104. ADMINISTRATION LEADERSHIP.**

7 (a) ADMINISTRATOR.—

8 (1) IN GENERAL.—There shall be, as the Ad-  
9 ministrator of the Administration, an Under Sec-  
10 retary of Commerce for Oceans and Atmosphere.  
11 The Administrator shall be appointed by the Presi-  
12 dent, by and with the advice and consent of the Sen-  
13 ate. The Administrator shall be paid at the rate of  
14 basic pay for level III of the Executive Schedule.

15 (2) FUNCTIONS.—The Administrator shall per-  
16 form such functions and exercise such powers with  
17 respect to the Administration as the Secretary may  
18 prescribe, including—

19 (A) general management;

20 (B) policy development and guidance;

21 (C) budget formulation, guidance, and exe-  
22 cution; and

23 (D) serving as the Department of Com-  
24 merce official for all ocean and atmosphere  
25 issues with other elements of the Department of

1 Commerce and with other Federal agencies,  
2 State, tribal, and local governments, and the  
3 public.

4 (3) DELEGATION OF AUTHORITY.—The Admin-  
5 istrator may, except as otherwise prohibited by  
6 law—

7 (A) delegate any functions, powers, or du-  
8 ties of the Administrator to such officers and  
9 employees of the Administration as the Admin-  
10 istrator may designate; and

11 (B) authorize such successive redelegations  
12 of such functions, powers, or duties within the  
13 Administration as the Administrator considers  
14 necessary or appropriate.

15 (b) ASSISTANT SECRETARY FOR OCEANS AND AT-  
16 MOSPHERE.—

17 (1) IN GENERAL.—There shall be, as Deputy  
18 Administrator of the Administration, an Assistant  
19 Secretary of Commerce for Oceans and Atmosphere.  
20 The Assistant Secretary shall be appointed by the  
21 President, by and with the advice and consent of the  
22 Senate. The Assistant Secretary shall be the Admin-  
23 istrator's first assistant for purposes of subchapter  
24 III of chapter 33 of title 5, United States Code. The

1 Assistant Secretary shall be paid at the rate of basic  
2 pay for level IV of the Executive Schedule.

3 (2) FUNCTIONS.—The Assistant Secretary shall  
4 perform such functions and exercise such powers as  
5 the Secretary or Administrator may prescribe and  
6 shall act as Administrator during the absence or dis-  
7 ability of the Administrator or in the event of a va-  
8 cancy in the office of Administrator.

9 (c) DEPUTY UNDER SECRETARY FOR OCEANS AND  
10 ATMOSPHERE.—

11 (1) IN GENERAL.—There shall be in the Admin-  
12 istration a Deputy Under Secretary for Oceans and  
13 Atmosphere. The Deputy Under Secretary shall be  
14 appointed by the Secretary. The position of Deputy  
15 Under Secretary shall be a Senior Executive Service  
16 position authorized under section 3133 of title 5,  
17 United States Code.

18 (2) FUNCTIONS.—The Deputy Under Sec-  
19 retary—

20 (A) shall serve as an advisor to the Admin-  
21 istrator on all program and policy issues;

22 (B) shall ensure the timely and effective  
23 implementation of Administration policies and  
24 objectives;



1 (C) in the absence or disability of the As-  
2 sistant Secretary, or in the event of a vacancy  
3 in such position, shall act in that position; and

4 (D) shall perform such other duties as the  
5 Secretary or Administrator shall prescribe.

6 (d) DEPUTY ASSISTANT SECRETARY FOR OCEANS  
7 AND ATMOSPHERE.—

8 (1) IN GENERAL.—There shall be in the Admin-  
9 istration a Deputy Assistant Secretary for Oceans  
10 and Atmosphere. The Deputy Assistant Secretary  
11 for Oceans and Atmosphere shall be appointed by  
12 the Secretary. The position of Deputy Assistant Sec-  
13 retary for Oceans and Atmosphere shall be a Senior  
14 Executive Service position authorized under section  
15 3133 of title 5, United States Code.

16 (2) FUNCTIONS.—The Deputy Assistant Sec-  
17 retary for Oceans and Atmosphere—

18 (A) shall serve as an advisor to the Admin-  
19 istrator on program and policy issues related to  
20 environmental policy, strategic planning, and  
21 program analysis;

22 (B) shall ensure the timely and effective  
23 implementation of Administration policies and  
24 objectives related to environmental policy, stra-  
25 tegic planning, and program analysis; and

1 (C) shall perform such other duties as the  
2 Secretary or Administrator shall prescribe.

3 (e) DEPUTY ASSISTANT SECRETARY FOR INTER-  
4 NATIONAL AFFAIRS.—

5 (1) IN GENERAL.—There shall be in the Admin-  
6 istration a Deputy Assistant Secretary for Inter-  
7 national Affairs. The Deputy Assistant Secretary for  
8 International Affairs shall be appointed by the Sec-  
9 retary. The position of Deputy Assistant Secretary  
10 for International Affairs shall be a Senior Executive  
11 Service position authorized under section 3133 of  
12 title 5, United States Code.

13 (2) FUNCTIONS.—The Deputy Assistant Sec-  
14 retary for International Affairs—

15 (A) shall serve as an advisor to the Admin-  
16 istrator on program and policy issues related to  
17 coordination of United States policy with re-  
18 spect to international oceanic and atmospheric  
19 matters, and shall focus on international envi-  
20 ronmental issues critical to the United States;

21 (B) shall participate in international nego-  
22 tiations concerning oceanic and atmospheric  
23 matters; and

24 (C) shall perform such other duties as the  
25 Secretary or Administrator shall prescribe.

1 (f) DEPUTY ASSISTANT SECRETARY FOR SCIENCE  
2 AND TECHNOLOGY.—

3 (1) IN GENERAL.—There shall be in the Admin-  
4 istration a Deputy Assistant Secretary for Science  
5 and Technology, who shall coordinate and oversee  
6 the science and technology activities of the Adminis-  
7 tration and ensure that Administration decisions are  
8 informed by the results of appropriate and relevant  
9 research. The Deputy Assistant Secretary for  
10 Science and Technology shall be appointed by the  
11 Secretary. The position of Deputy Assistant Sec-  
12 retary for Science and Technology shall be a Senior  
13 Executive Service career reserved position as defined  
14 in section 3132(a)(8) of title 5, United States Code.

15 (2) FUNCTIONS.—The Deputy Assistant Sec-  
16 retary for Science and Technology shall—

17 (A) coordinate research and development  
18 activities across the Administration, including  
19 coordination of research and development budg-  
20 ets;

21 (B) advise the Administrator on how pro-  
22 grams can be transitioned from research to  
23 operational use;

24 (C) provide advice to the Administrator re-  
25 garding science and technology issues and their

1 relationship to Administration policies, proce-  
2 dures, and decisions;

3 (D) participate in developing the Adminis-  
4 tration's strategic plans and policies and review  
5 the science and technology aspects of those  
6 plans and policies;

7 (E) develop and oversee guidelines for the  
8 dissemination of research and development re-  
9 sults conducted, sponsored, or cited by the Ad-  
10 ministration to the public;

11 (F) develop and oversee guidelines for peer  
12 review of science and technology research spon-  
13 sored by the Administration;

14 (G) oversee implementation of the strategic  
15 plan for science and technology research, devel-  
16 opment, and demonstration required under sec-  
17 tion 109(b);

18 (H) oversee management of research lab-  
19 oratories in the Administration; and

20 (I) perform such other duties as the Sec-  
21 retary or Administrator shall prescribe.

22 (3) QUALIFICATIONS.—An individual appointed  
23 under paragraph (1) shall be a person who has an  
24 outstanding science and technology background, in-

1 including research accomplishments, scientific reputa-  
2 tion, and public policy experience.

3 (4) CONSULTATION.—Before appointing an in-  
4 dividual under paragraph (1), the Secretary shall  
5 consult with the National Academy of Sciences, the  
6 Science Advisory Board of the Administration, and  
7 other appropriate scientific organizations.

8 (g) GENERAL COUNSEL.—

9 (1) IN GENERAL.—There shall be in the Admin-  
10 istration a General Counsel. The General Counsel  
11 shall be appointed by the Secretary. The General  
12 Counsel shall be paid at the rate of basic pay for  
13 level V of the Executive Schedule.

14 (2) FUNCTIONS.—The General Counsel—

15 (A) shall serve as the chief legal officer of  
16 the Administration for all legal matters that  
17 arise in connection with the conduct of the  
18 functions of the Administration; and

19 (B) shall perform such other functions and  
20 exercise such powers as the Secretary or Ad-  
21 ministrator may prescribe.

22 (h) CONTINUATION OF SERVICE.—Any individual  
23 serving on the date of enactment of this Act in a position  
24 provided for in this Act may continue to serve in that posi-  
25 tion until a successor is appointed under this Act. Nothing

1 in this title shall be construed to require the appointment  
2 of a successor under this Act sooner than would have been  
3 required under law as in effect before the date of enact-  
4 ment of this Act.

5 **SEC. 105. NATIONAL WEATHER SERVICE.**

6 (a) IN GENERAL.—The Secretary shall maintain  
7 within the Administration a National Weather Service.

8 (b) MISSION.—The mission of the National Weather  
9 Service is to provide weather, water, and climate forecasts  
10 and warnings for the United States, its territories, adja-  
11 cent waters, and ocean areas for the protection of life and  
12 property and the enhancement of the national economy.

13 (c) GOALS.—The goals of the National Weather Serv-  
14 ice shall include—

15 (1) to provide timely and accurate weather,  
16 water, climate, and space weather forecasts; and

17 (2) to provide timely and accurate warnings of  
18 weather, water, and climate natural hazards, and of  
19 space weather hazards.

20 (d) FUNCTIONS.—The functions of the National  
21 Weather Service shall include—

22 (1) maintaining a network of regional and local  
23 weather forecast offices;

24 (2) maintaining a network of observation sys-  
25 tems to collect weather and climate data;

1           (3) operating national centers to deliver guid-  
2           ance, forecasts, warnings, and analysis about weath-  
3           er, water, climate, and space weather phenomena for  
4           the Administration and the public;

5           (4) conducting and supporting applied research  
6           to facilitate the rapid incorporation of weather and  
7           climate science advances into operational tools; and

8           (5) such other functions to serve the mission of  
9           the National Weather Service as the Administrator  
10          may prescribe.

11       (e) PUBLIC-PRIVATE PARTNERSHIPS.—Not less than  
12       once every 5 years, the Secretary shall develop and submit  
13       to Congress a policy that defines processes for making deci-  
14       sions about the roles of the National Weather Service and  
15       the private sector in providing weather and climate related  
16       products, technologies, and services. The first such policy  
17       shall be completed not less than 12 months after the date  
18       of enactment of this Act. At least 90 days before submit-  
19       ting the policy to Congress, the Secretary shall publish the  
20       policy in the Federal Register for a public comment peri-  
21       ods of not less than 60 days.

22       **SEC. 106. OPERATIONS AND SERVICES.**

23       (a) IN GENERAL.—The Secretary shall maintain  
24       within the Administration operational and service pro-  
25       grams to support routine data collection and direct serv-

1 ices and products regarding satellite, observations, and  
2 coastal, ocean, and Great Lakes information.

3 (b) FUNCTIONS.—To support the mission described  
4 in section 102(b), and in addition to the functions de-  
5 scribed in section 102(c), the operations and service func-  
6 tions of the Administration shall include—

7 (1) acquiring, managing, and operating coastal,  
8 ocean, and Great Lakes observing systems;

9 (2) ensuring the availability of a global Earth-  
10 observing system, integrating remote sensing and in  
11 situ assets that provide critical data needed to sup-  
12 port the mission of the Administration, and pro-  
13 viding that data to decisionmakers and the public;

14 (3) developing, acquiring, and managing oper-  
15 ational environmental satellite constellations and as-  
16 sociated ground control and data acquisition facili-  
17 ties to support the mission of the Administration;

18 (4) managing and distributing atmospheric,  
19 geophysical, and marine data and data products for  
20 the Administration through national environmental  
21 data centers;

22 (5) providing for long-term stewardship of envi-  
23 ronmental data, products, and information via data  
24 processing, storage, and archive facilities;



1           (6) promoting widespread availability of envi-  
2       ronmental data and information through full and  
3       open access and exchange to the greatest extent pos-  
4       sible;

5           (7) issuing licenses for private remote sensing  
6       space systems under the Land Remote Sensing Pol-  
7       icy Act of 1992;

8           (8) administering a national water level obser-  
9       vation network, which shall include monitoring of  
10      the Great Lakes;

11          (9) providing charts and other information for  
12      safe navigation of the oceans and inland waters, as  
13      provided by law; and

14          (10) such other functions to serve the oper-  
15      ations and services mission of the Administration as  
16      the Administrator may prescribe.

17 **SEC. 107. RESEARCH AND EDUCATION.**

18      (a) IN GENERAL.—The Secretary shall maintain  
19      within the Administration programs to conduct and sup-  
20      port research and education and the development of tech-  
21      nologies relating to weather, climate, and the coasts,  
22      oceans, and Great Lakes.

23      (b) FUNCTIONS.—To support the mission described  
24      in section 102(b), and in addition to the functions de-

1 scribed in section 102(c), the research and education func-  
2 tions of the Administration shall include—

3 (1) conducting and supporting research and de-  
4 velopment of technology to improve the Administra-  
5 tion’s capabilities in collecting, through observation  
6 and otherwise, communicating, analyzing, proc-  
7 essing, providing, and disseminating comprehensive  
8 scientific data and information about weather, cli-  
9 mate, and the coasts, oceans, and Great Lakes;

10 (2) improving environmental prediction and  
11 management capabilities through ecosystem-based  
12 research and development;

13 (3) improving knowledge of Earth’s climate and  
14 related systems through research and observation for  
15 decision support;

16 (4) reducing uncertainty in projections of how  
17 the Earth’s climate and related systems may change  
18 in the future;

19 (5) fostering the public’s ability to understand  
20 and integrate scientific information into consider-  
21 ations of national environmental issues through edu-  
22 cation and public outreach activities;

23 (6) administering the National Sea Grant Col-  
24 lege Program Act;

1           (7) conducting and supporting research and de-  
2       velopment of technology for exploration of the  
3       oceans;

4           (8) maintaining a system of laboratories to per-  
5       form the functions described in this subsection;

6           (9) supporting extramural peer-reviewed com-  
7       petitive grant programs to assist the Administration  
8       in performing the functions described in this sub-  
9       section; and

10          (10) such other functions to serve the research  
11       and education mission of the Administration as the  
12       Administrator may prescribe.

13 **SEC. 108. SCIENCE ADVISORY BOARD.**

14       (a) IN GENERAL.—There shall be within the Admin-  
15       istration a Science Advisory Board, which shall provide  
16       such scientific advice as may be requested by the Adminis-  
17       trator, the Committee on Commerce, Science and Trans-  
18       portation of the Senate, or the Committee on Science or  
19       on Resources of the House of Representatives.

20       (b) PURPOSE.—The purpose of the Science Advisory  
21       Board is to advise the Administrator and Congress on  
22       long-range and short-range strategies for research, edu-  
23       cation, and the application of science to resource manage-  
24       ment and environmental assessment and prediction.

25       (c) MEMBERS.—

1           (1) IN GENERAL.—The Science Advisory Board  
2       shall consist of not more than 15 members ap-  
3       pointed by the Administrator to ensure a balanced  
4       representation among preeminent scientists, engi-  
5       neers, educators, industry, and science policy experts  
6       reflecting the full breadth of the Administration’s  
7       areas of responsibility.

8           (2) TERMS OF SERVICE.—Members shall be ap-  
9       pointed for 3-year terms, renewable once, and shall  
10      serve at the discretion of the Administrator. An indi-  
11      vidual serving a term as a member of the Science  
12      Advisory Board on the date of enactment of this Act  
13      may complete that term, and may be reappointed  
14      once for another term of 3 years unless the term  
15      being served on such date of enactment is the second  
16      term served by that individual. Vacancy appoint-  
17      ments shall be for the remainder of the unexpired  
18      term of the vacancy, and an individual so appointed  
19      may subsequently be appointed for 2 full 3-year  
20      terms if the remainder of the unexpired term is less  
21      than one year.

22          (3) CHAIRPERSON.—The Administrator shall  
23      designate a chairperson from among the members of  
24      the Board.

1           (4) APPOINTMENT.—Members of the Science  
2       Advisory Board shall be appointed as special Gov-  
3       ernment employees, within the meaning given such  
4       term in section 202(a) of title 18, United States  
5       Code.

6           (5) CRITERIA FOR SELECTION.—The Adminis-  
7       trator shall develop and apply standard criteria, in  
8       accordance with applicable Department of Commerce  
9       guidance, for the selection of members of the Science  
10      Advisory Board.

11      (d) ADMINISTRATIVE PROVISIONS.—

12           (1) REPORTING.—The Science Advisory Board  
13      shall report to the Administrator and the appro-  
14      priate requesting party.

15           (2) ADMINISTRATIVE SUPPORT.—The Adminis-  
16      trator shall provide administrative support to the  
17      Science Advisory Board.

18           (3) MEETINGS.—The Science Advisory Board  
19      shall meet at least twice each year, and at other  
20      times at the call of the Administrator or the Chair-  
21      person.

22           (4) COMPENSATION AND EXPENSES.—A mem-  
23      ber of the Science Advisory Board shall not be com-  
24      pensated for service on such board, but upon request  
25      by the member may be allowed travel expenses, in-

1 cluding per diem in lieu of subsistence, in accord-  
2 ance with subchapter I of chapter 57 of title 5,  
3 United States Code.

4 (5) SUBCOMMITTEES.—The Science Advisory  
5 Board may establish such subcommittees of its  
6 members as may be necessary. The Science Advisory  
7 Board may establish task forces and working groups  
8 consisting of Board members and outside experts as  
9 may be necessary.

10 (e) EXPIRATION.—Section 14 of the Federal Advisory  
11 Committee Act (5 U.S.C. App.) shall not apply to the  
12 Science Advisory Board.

13 **SEC. 109. REPORTS.**

14 (a) REPORT ON DATA MANAGEMENT, ARCHIVAL,  
15 AND DISTRIBUTION.—Not later than 1 year after the date  
16 of enactment of this Act the Secretary shall develop and  
17 transmit to the Committee on Commerce, Science, and  
18 Transportation of the Senate and the Committee on  
19 Science of the House of Representatives a report on the  
20 environmental data and information systems of the Ad-  
21 ministration. The report shall include—

22 (1) an assessment of the adequacy of the envi-  
23 ronmental data and information systems of the Ad-  
24 ministration to—

1 (A) provide adequate capacity to manage,  
2 archive and disseminate environmental informa-  
3 tion collected and processed, or expected to be  
4 collected and processed, by the Administration  
5 and other appropriate departments and agen-  
6 cies;

7 (B) establish, develop, and maintain infor-  
8 mation bases, including necessary management  
9 systems, which will provide for consistent, effi-  
10 cient, and compatible transfer and use of data;

11 (C) develop effective interfaces among the  
12 environmental data and information systems of  
13 the Administration and other appropriate de-  
14 partments and agencies;

15 (D) develop and use nationally accepted  
16 formats and standards for data collected by  
17 various national and international sources; and

18 (E) integrate and interpret data from dif-  
19 ferent sources to produce information that can  
20 be used by decisionmakers in developing policies  
21 that effectively respond to national and global  
22 environmental concerns; and

23 (2) a strategic plan to—

24 (A) set forth modernization and improve-  
25 ment objectives for an integrated national envi-

ronmental data access and archive system for the 10 year period beginning with the year in which the plan is transmitted, including facility requirements and critical new technology components that would be necessary to meet the objectives set forth;

(B) propose specific Administration programs and activities for implementing the plan;

(C) identify the data and information management, archival, and distribution responsibilities of the Administration with respect to other Federal departments and agencies and international organizations; and

(D) provide an implementation schedule and estimate funding levels necessary to achieve modernization and improvement objectives.

(b) STRATEGIC PLAN FOR SCIENTIFIC RESEARCH.—

Not later than 1 year after the date of enactment of this Act the Secretary shall develop and transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a strategic plan for science and technology research, development, and demonstration at the Administration. The plan shall include an assessment of the science and technology needs of the Administration



1 and a strategic plan for coordinating research, develop-  
 2 ment, and demonstration activities across the Administra-  
 3 tion to effectively meet those needs.

4 **SEC. 110. EFFECT OF REORGANIZATION PLAN.**

5 Reorganization Plan No. 4 of 1970 shall have no fur-  
 6 ther force and effect.

7 **TITLE II—AUTHORIZATION OF**  
 8 **APPROPRIATIONS**

9 **SEC. 201. SHORT TITLE.**

10 This title may be cited as the “National Oceanic and  
 11 Atmospheric Administration Authorization Act of 2004”

12 **SEC. 202. AUTHORIZATION OF APPROPRIATIONS.**

13 There are authorized to be appropriated to the Ad-  
 14 ministrator—

15 (1) for Program Support—

16 (A) \$300,000,000 for fiscal year 2005;

17 (B) \$306,000,000 for fiscal year 2006; and

18 (C) \$312,000,000 for fiscal year 2007;

19 (2) for the National Ocean Service—

20 (A) \$490,000,000 for fiscal year 2005;

21 (B) \$500,000,000 for fiscal year 2006; and

22 (C) \$510,000,000 for fiscal year 2007;

23 (3) for the Office of Oceanic and Atmospheric  
 24 Research—

25 (A) \$414,000,000 for fiscal year 2005;

1 (B) \$422,000,000 for fiscal year 2006; and

2 (C) \$430,000,000 for fiscal year 2007;

3 (4) for the National Weather Service—

4 (A) \$836,000,000 for fiscal year 2005;

5 (B) \$853,000,000 for fiscal year 2006; and

6 (C) \$870,000,000 for fiscal year 2007;

7 (5) for the National Environmental Satellite

8 Data and Information Service—

9 (A) \$897,000,000 for fiscal year 2005;

10 (B) \$915,000,000 for fiscal year 2006; and

11 (C) \$933,000,000 for fiscal year 2007; and

12 (6) for the Office of Program Planning and In-

13 tegration—

14 (A) \$2,000,000 for fiscal year 2005;

15 (B) \$2,000,000 for fiscal year 2006; and

16 (C) \$2,000,000 for fiscal year 2007.

## 17 **TITLE III—COASTAL OCEAN** 18 **SCIENCE PROGRAM**

### 19 **SEC. 1. SHORT TITLE.**

20 This title may be cited as the “Coastal Ocean Science  
21 Program Act of 2004”.

### 22 **SEC. 2. COASTAL OCEAN SCIENCE PROGRAM.**

23 Section 201(c) of the National Oceanic and Atmos-  
24 pheric Administration Authorization Act of 1992 is  
25 amended to read as follows:

1 “(c) COASTAL OCEAN SCIENCE PROGRAM.—

2 “(1) IN GENERAL.—There shall be in the Na-  
3 tional Oceanic and Atmospheric Administration a  
4 Coastal Ocean Science Program that supports Great  
5 Lakes, estuarine, and coastal ocean research and as-  
6 sessment through competitive, peer-reviewed re-  
7 search programs.

8 “(2) PROGRAM ELEMENTS.—The Coastal  
9 Ocean Science Program shall augment and integrate  
10 existing research capabilities of the National Oceanic  
11 and Atmospheric Administration, other Federal  
12 agencies, and the academic community. Research  
13 shall be conducted to improve predictions of eco-  
14 system trends in coastal, ocean, and Great Lakes  
15 ecosystems, and upper reaches of estuaries; to better  
16 conserve and manage coastal, ocean, and Great  
17 Lakes ecosystems; to improve predictions of effects  
18 of coastal and Great Lakes pollution to help correct  
19 and prevent environmental degradation; to improve  
20 understanding and characterization of the role  
21 oceans play in global climate and environmental  
22 analysis; and to improve predictions of coastal haz-  
23 ards to protect human life, personal property, and  
24 ecosystem function.

1           “(3) AUTHORIZATION OF APPROPRIATIONS.—  
2       There are authorized to be appropriated to the Sec-  
3       retary of Commerce for implementing the Coastal  
4       Ocean Science Program such sums as may be nec-  
5       essary for each of fiscal years 2005 through 2008.”.

## 6       **TITLE IV—MARINE RESEARCH**

### 7       **SEC. 401. SHORT TITLE.**

8       This title may be cited as the “Marine Research Act”.

### 9       **SEC. 402. PURPOSES.**

10      The purposes of this title are to provide for—

11           (1) Presidential support and coordination of  
12      interagency marine research programs; and

13           (2) development and coordination of a com-  
14      prehensive and integrated United States ocean,  
15      coastal, and Great Lakes research and monitoring  
16      program that will assist this Nation and the world  
17      to understand, use, and respond to the interactions  
18      of humans and the marine environment.

### 19      **SEC. 403. INTERAGENCY MARINE RESEARCH PROGRAM.**

20           (a) COORDINATION.—The President, through the Na-  
21      tional Science and Technology Council, shall coordinate  
22      and support a national research program to improve un-  
23      derstanding of the interactions of humans and the marine  
24      environment.

1       (b) IMPLEMENTATION PLAN.—Within 1 year after  
2 the date of enactment of this Act, the National Science  
3 and Technology Council, through the Director of the Of-  
4 fice of Science and Technology Policy, shall develop and  
5 submit to the Congress a plan for coordinated Federal ac-  
6 tivities under the program. Nothing in this subsection is  
7 intended to duplicate or supersede the activities of the  
8 Inter-Agency Task Force on Harmful Algal Blooms and  
9 Hypoxia established under section 603 of the Harmful  
10 Algal Bloom and Hypoxia Research and Control Act of  
11 1998 (16 U.S.C. 1451 note). In developing the plan, the  
12 National Science and Technology Council shall consult  
13 with the Inter-Agency Task Force on Harmful Algal  
14 Blooms and Hypoxia. Such plan shall build on and com-  
15 plement the ongoing activities of the National Oceanic and  
16 Atmospheric Administration, the National Science Foun-  
17 dation, and other departments and agencies, and shall—

18           (1) establish, for the 10-year period beginning  
19 in the year it is submitted, the goals and priorities  
20 for Federal research which most effectively advance  
21 scientific understanding of the connections between  
22 humans and the marine environment, provide usable  
23 information for the protection of human life, and use  
24 the biological potential of the oceans for development  
25 of new products;

1           (2) describe specific activities required to  
2           achieve such goals and priorities, including the fund-  
3           ing of competitive research grants, ocean and coastal  
4           observations, training and support for scientists, and  
5           participation in international research efforts;

6           (3) identify and address, as appropriate, rel-  
7           evant programs and activities of the Federal agen-  
8           cies and departments that would contribute to the  
9           program;

10          (4) consider and use, as appropriate, reports  
11          and studies conducted by Federal agencies and de-  
12          partments, the National Research Council, the  
13          Ocean Research Advisory Panel, the Commission on  
14          Ocean Policy, and other expert scientific bodies; and

15          (5) estimate Federal funding for research ac-  
16          tivities to be conducted under the program.

17          (c) PROGRAM SCOPE.—The program may include the  
18          following activities related to the interaction of humans  
19          and the marine environment:

20               (1) Interdisciplinary research among the ocean  
21               and biological sciences, and coordinated research and  
22               activities to improve understanding of processes  
23               within the ocean that may affect human life and to  
24               explore the potential contribution of marine orga-  
25               nisms to medicine and research.

1           (2) Coordination with the National Ocean Re-  
2           search Leadership Council (10 U.S.C. 7902(a)) to  
3           ensure that any integrated ocean and coastal observ-  
4           ing system provides information necessary to sup-  
5           port the program described in this section, including  
6           detection of contaminants in marine waters and sea-  
7           food.

8           (3) Development through partnerships among  
9           Federal agencies, States, or academic institutions of  
10          new technologies and approaches for detecting and  
11          reducing hazards to human life from ocean sources  
12          and to strengthen understanding of the value of ma-  
13          rine biodiversity.

14          (4) Support for scholars, trainees, and edu-  
15          cation opportunities that encourage an interdiscipli-  
16          nary and international approach to exploring the di-  
17          versity of life in the oceans.

18 **SEC. 404. NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-**  
19 **ISTRATION MARINE RESEARCH INITIATIVE.**

20          (a) ESTABLISHMENT.—As part of the interagency  
21          program planned and coordinated under section 403, the  
22          Secretary of Commerce is authorized to establish a Marine  
23          Research Initiative to coordinate and implement research  
24          and activities of the National Oceanic and Atmospheric

1 Administration related to the program. The Marine Re-  
2 search Initiative is authorized to provide support for—

3 (1) centralized program and research coordina-  
4 tion;

5 (2) one or more National Oceanic and Atmos-  
6 pheric Administration national centers of excellence;

7 (3) research grants; and

8 (4) distinguished scholars and traineeships.

9 (b) NATIONAL CENTERS.—(1) The Secretary is au-  
10 thorized to identify and provide financial support for,  
11 through a competitive process to develop within the Na-  
12 tional Oceanic and Atmospheric Administration, one or  
13 more centers of excellence that strengthen the capabilities  
14 of the National Oceanic and Atmospheric Administration  
15 to carry out its programs and activities related to the Ma-  
16 rine Research Initiative.

17 (2) The center or centers shall focus on areas related  
18 to agency missions, including use of marine organisms as  
19 indicators for marine environmental health, ocean pollut-  
20 ants, marine toxins and pathogens, harmful algal blooms,  
21 hypoxia, seafood testing, and biology and pathobiology of  
22 marine mammals, and on disciplines including marine  
23 genomics, marine environmental microbiology, and ecologi-  
24 cal chemistry.



1       (3) In selecting centers for funding, the Secretary  
2 shall give priority to proposals with strong interdiscipli-  
3 nary scientific merit that encourage educational opportu-  
4 nities and provide for effective partnerships among the  
5 National Oceanic and Atmospheric Administration, other  
6 Federal entities, and State, academic, and industry par-  
7 ticipants.

8       (c) EXTRAMURAL RESEARCH GRANTS.—(1) The Sec-  
9 retary is authorized to provide grants of financial assist-  
10 ance to the scientific community for critical research and  
11 projects that explore the interaction of humans and the  
12 marine environment and that complement or strengthen  
13 programs and activities of the National Oceanic and At-  
14 mospheric Administration. Officers and employees of Fed-  
15 eral agencies may collaborate with, and participate in,  
16 such research and projects to the extent requested by the  
17 grant recipient.

18       (2) Grants under this subsection shall be awarded  
19 through a competitive peer-reviewed process that may be  
20 conducted jointly with other agencies participating in the  
21 interagency program established in section 403.

22       (d)       DISTINGUISHED       SCHOLARS       AND  
23 TRAINEESHIPS.—(1) The Secretary of Commerce is au-  
24 thorized to designate and provide financial assistance to  
25 support distinguished scholars from academic institutions,

1 industry, State governments, or other Federal agencies for  
 2 collaborative work with National Oceanic and Atmospheric  
 3 Administration scientists and facilities.

4 (2) The Secretary of Commerce is authorized to es-  
 5 tablish a program to provide traineeships, training, and  
 6 experience to predoctoral and postdoctoral students and  
 7 to scientists at the beginning of their careers who are in-  
 8 terested in research on the interaction of humans and the  
 9 marine environment conducted under the National Oce-  
 10 anic and Atmospheric Administration initiative.

11 **SEC. 405. AUTHORIZATION OF APPROPRIATIONS.**

12 There are authorized to be appropriated to the Sec-  
 13 retary of Commerce to carry out the National Oceanic and  
 14 Atmospheric Administration Marine Research Initiative  
 15 established under section 404, \$8,000,000 for each of fis-  
 16 cal years 2005 through 2008. Not less than 50 percent  
 17 of the amounts appropriated to carry out the Initiative  
 18 for each fiscal year shall be utilized to support the pro-  
 19 grams described in subsections (c) and (d) of section 404.

20 **TITLE V—OCEAN AND COASTAL**  
 21 **OBSERVATION SYSTEMS**

22 **SEC. 501. SHORT TITLE.**

23 This title may be cited as the “Ocean and Coastal  
 24 Observation Systems Act”.

1 **SEC. 502. PURPOSES.**

2 The purposes of this title are to provide for—

3 (1) development and maintenance of an inte-  
4 grated system that provides for sustained ocean and  
5 coastal observations from in situ, remote, and vessel  
6 platforms, and that promotes improved comprehen-  
7 sive scientific data and information about the ocean  
8 and coastal environment; and

9 (2) implementation of a data and information  
10 system required by all components of an integrated  
11 ocean and coastal observing system and related re-  
12 search.

13 **SEC. 503. INTEGRATED OCEAN AND COASTAL OBSERVING**  
14 **SYSTEM.**

15 (a) ESTABLISHMENT.—The President, through the  
16 National Oceanic and Atmospheric Administration, shall  
17 establish and maintain an integrated system of marine  
18 monitoring, data communication and management, data  
19 analysis, and research designed to provide data and infor-  
20 mation for the rapid and timely detection and prediction  
21 of changes occurring in the ocean and coastal environment  
22 that impact the Nation’s social, economic, and ecological  
23 systems. Such an integrated ocean and coastal observing  
24 system shall provide for long-term and continuous obser-  
25 vations of the oceans and coasts for the following pur-  
26 poses:

1           (1) Improving weather forecasts and public  
2       warnings of natural disasters and coastal hazards  
3       and mitigating such disasters and hazards.

4           (2) Understanding, assessing, and responding  
5       to human-induced and natural processes of global  
6       change.

7           (3) Conducting focused research to enhance the  
8       national understanding of coastal and global ocean  
9       systems.

10          (4) Providing information that contributes to  
11       public awareness of the condition and importance of  
12       the oceans.

13       (b) FUNCTIONS.—In carrying out responsibilities  
14   under this section, the National Oceanic and Atmospheric  
15   Administration shall—

16          (1) serve as the lead entity providing oversight  
17       of Federal ocean and coastal observing requirements  
18       and activities;

19          (2) adopt and maintain plans for the design,  
20       operation, and improvement of such system;

21          (3) coordinate and administer a program of re-  
22       search and development to support the operation of  
23       an integrated ocean and coastal observing system  
24       and advance the understanding of the oceans;

1           (4) establish a joint operations center to be  
2           maintained in conjunction with other Federal agen-  
3           cies;

4           (5) provide, as appropriate, support for and  
5           representation on United States delegations to inter-  
6           national meetings on ocean and coastal observing  
7           programs and in consultation with the Secretary of  
8           State to coordinate relevant Federal activities with  
9           those of other nations;

10          (6) promote collaboration among regional coast-  
11          al observing systems established pursuant to sub-  
12          section (d);

13          (7) prepare annual and long-term plans for the  
14          design and implementation of an integrated ocean  
15          and coastal observing system, including the regional  
16          coastal observing systems and taking into account  
17          the science and technology advances considered  
18          ready for operational status;

19          (8) identify requirements for a common set of  
20          measurements to be collected and distributed;

21          (9) establish standards and protocols for quality  
22          control and data management and communications,  
23          in consultation with the Joint Operations Center es-  
24          tablished pursuant to subsection (c); and

1           (10) work with regional coastal observing enti-  
2           ties, the National Sea Grant College Program, and  
3           other bodies as needed to assess user needs, develop  
4           data products, make effective use of existing capa-  
5           bilities, and incorporate new technologies, as appro-  
6           priate.

7           (c) JOINT OPERATIONS CENTER.—The Adminis-  
8           trator of the National Oceanic and Atmospheric Adminis-  
9           tration, in conjunction with the Administrator of the Na-  
10          tional Aeronautics and Space Administration, the Director  
11          of the National Science Foundation, the Under Secretary  
12          for Science and Technology of the Department of Home-  
13          land Security, and any other Federal agent the President  
14          considers appropriate, shall operate and maintain a joint  
15          operations center—

16               (1) to acquire, integrate, and deploy required  
17               technologies and provide support for an ocean and  
18               coastal observing system based on annual long-term  
19               plans, developed by the National Oceanic and At-  
20               mospheric Administration;

21               (2) to implement standards and protocols for  
22               quality control and data management and commu-  
23               nications;

24               (3) to migrate science and technology advance-  
25               ments from research and development to operational

1 deployment based on the annual and long-term  
2 plans;

3 (4) to integrate and extend existing programs  
4 into an operating ocean and coastal observing sys-  
5 tem based on the annual and long-term plans;

6 (5) to coordinate the data communication and  
7 management system; and

8 (6) to certify that regional coastal observing  
9 systems meet the standards established in subsection  
10 (d) and to ensure a periodic process for review and  
11 recertification of the regional coastal observing sys-  
12 tems.

13 (d) REGIONAL COASTAL OBSERVING SYSTEMS.—

14 (1) IN GENERAL.—The Administrator of the  
15 National Oceanic and Atmospheric Administration,  
16 through the Joint Operations Center, shall work  
17 with representatives of entities in each region that  
18 provide ocean data and information to users to form  
19 regional associations. The regional associations shall  
20 be responsible for the development and operation of  
21 observing systems in the coastal regions extending to  
22 the seaward boundary of the United States Exclu-  
23 sive Economic Zone, including the Great Lakes. Par-  
24 ticipation in a regional association may consist of  
25 legal entities, including research institutions, institu-

tions of higher learning, for-profit corporations, non-profit corporations, State, local, and regional agencies, and consortia of 2 or more such institutions or organizations, that—

(A) have demonstrated an organizational structure capable of supporting and integrating all aspects of a coastal ocean observing system within a region or subregion; and

(B) have prepared an acceptable business plan, including research components, and gained documented acceptance of their intended regional or subregional jurisdiction by users and other parties of interest within the region or subregion with the objectives of—

(i) delivering an integrated and sustained system that meets national goals;

(ii) incorporating into the system existing and appropriate regional observations collected by Federal, State, regional, or local agencies;

(iii) responding to the needs of the users, including the public, within the region;

(iv) maintaining sustained, 24-hour-a-day operations and disseminating observa-



1 tions in a manner that is routine, predict-  
2 able and, if necessary, in real-time or near  
3 real-time;

4 (v) providing services that include the  
5 collection and dissemination of data and  
6 data management for timely access to data  
7 and information;

8 (vi) creating appropriate products  
9 that are delivered in a timely fashion to  
10 the public and others who use, or are af-  
11 fected by, the oceans;

12 (vii) providing free and open access to  
13 the data collected with financial assistance  
14 under this title; and

15 (viii) adhering to national standards  
16 and protocols to ensure that data and re-  
17 lated products can be fully exchanged  
18 among all of the regional coastal systems  
19 and will be accessible to any user in any  
20 part of the Nation.

21 (2) CIVIL LIABILITY.—For purposes of deter-  
22 mining the civil liability under section 2671 of title  
23 28, United States Code, any regional observing sys-  
24 tem and any employee thereof that is designated  
25 part of a regional association under this subsection

1 shall be deemed to be an instrumentality of the  
2 United States with respect to any act or omission  
3 committed by any such system or any employee  
4 thereof in fulfilling the purposes of this title.

5 (e) PILOT PROJECTS.—

6 (1) IN GENERAL.—The Administrator, in con-  
7 sultation with the Joint Operations Center, may ini-  
8 tiate pilot projects. A pilot project is an organized,  
9 planned set of activities designed to provide an eval-  
10 uation of technology, methods, or concepts within a  
11 defined schedule and having the goal of advancing  
12 the development of the sustained, integrated ocean  
13 observing system. The pilot projects shall—

14 (A) develop protocols for coordinated im-  
15 plementation of the full system;

16 (B) design and implement regional coastal  
17 ocean observing systems;

18 (C) establish mechanisms for the exchange  
19 of data between and among regions and Federal  
20 agencies;

21 (D) specify products and services and re-  
22 lated requirements for observations, data man-  
23 agement, and analysis in collaboration with user  
24 groups; and

1 (E) develop and test new technologies and  
2 techniques to more effectively meet the needs of  
3 users of the system.

4 (2) INFRASTRUCTURE CAPITAL PROJECTS.—

5 The pilot projects shall include one or more projects  
6 to capitalize the infrastructure for the collection,  
7 management, analysis, and distribution of data and  
8 one or more projects where the basic infrastructure  
9 and institutional mechanisms already exist for ongoing  
10 coastal observations, to fund the operations necessary  
11 for the collection of the common set of observations.  
12

13 **SEC. 504. INTERAGENCY FINANCING.**

14 The departments and agencies represented on the  
15 joint operations center are authorized to participate in  
16 interagency financing and share, transfer, receive, and  
17 spend funds appropriated to any member of the joint operations  
18 center for the purposes of carrying out any administrative  
19 or programmatic project or activity under this title.

20 **SEC. 505. GREAT LAKES.**

21 Provisions of this title relating to ocean and coastal  
22 areas shall also apply to the Great Lakes.

23 **SEC. 506. AUTHORIZATION OF APPROPRIATIONS.**

24 (a) OBSERVING SYSTEM AUTHORIZATION.—For development  
25 and implementation of an integrated ocean and

1 coastal observing system under section 503, including fi-  
2 nancial assistance to regional coastal ocean observing sys-  
3 tems and in addition to any amounts previously author-  
4 ized, there are authorized to be appropriated to—

5 (1) the National Oceanic and Atmospheric Ad-  
6 ministration, such sums as may be necessary;

7 (2) the National Science Foundation, such  
8 sums as may be necessary;

9 (3) the National Aeronautics and Space Admin-  
10 istration, such sums as may be necessary; and

11 (4) other Federal agencies with operational  
12 coastal or ocean monitoring systems or which pro-  
13 vide funds to States for such systems, such sums as  
14 may be necessary.

15 (b) REGIONAL COASTAL OBSERVING SYSTEMS.—The  
16 Administrator of the National Oceanic and Atmospheric  
17 Administration shall make at least 51 percent of the funds  
18 appropriated pursuant to subsection (a)(1) available as  
19 grants for the development and implementation of the re-  
20 gional coastal observing systems based on the plans adopt-  
21 ed by the Council, which may be used to leverage non-  
22 Federal funds.

1       **TITLE VI—ABRUPT CLIMATE**  
2                   **CHANGE**

3   **SEC. 601. SHORT TITLE.**

4       This title may be cited as the “Abrupt Climate  
5   Change Research Act of 2004”.

6   **SEC. 602. ABRUPT CLIMATE CHANGE RESEARCH PROGRAM.**

7       (a) ESTABLISHMENT OF PROGRAM.—The Secretary  
8   of Commerce shall establish within the National Oceanic  
9   and Atmospheric Administration, and shall carry out, a  
10   program of scientific research on abrupt climate change.

11       (b) PURPOSES OF PROGRAM.—The purposes of the  
12   program are as follows:

13           (1) To develop a global array of terrestrial and  
14       oceanographic indicators of paleoclimate in order to  
15       sufficiently identify and describe past instances of  
16       abrupt climate change.

17           (2) To improve understanding of thresholds and  
18       nonlinearities in geophysical systems related to the  
19       mechanisms of abrupt climate change.

20           (3) To incorporate such mechanisms into ad-  
21       vanced geophysical models of climate change.

22           (4) To test the output of such models against  
23       an improved global array of records of past abrupt  
24       climate changes.

1 (c) ABRUPT CLIMATE CHANGE DEFINED.—In this  
 2 section, the term “abrupt climate change” means a change  
 3 in the climate that occurs so rapidly or unexpectedly that  
 4 human or natural systems have difficulty adapting to the  
 5 climate as changed.

6 **SEC. 603. AUTHORIZATION OF APPROPRIATIONS.**

7 There are authorized to be appropriated to the Sec-  
 8 retary of Commerce for such sums as may be necessary  
 9 to carry out the research program required under section  
 10 602.

11 **TITLE VII—UNITED STATES**  
 12 **WEATHER RESEARCH PROGRAM**

13 **SEC. 701. SHORT TITLE.**

14 This title may be cited as the “United States Weather  
 15 Research Program Act of 2004”.

16 **SEC. 702. PROGRAM FOCUS.**

17 The focus of the United States Weather Research  
 18 Program, an interagency program established under sec-  
 19 tion 108 of the National Oceanic and Atmospheric Admin-  
 20 istration Authorization Act of 1992 (15 U.S.C. 313 note),  
 21 shall be on—

- 22 (1) hurricanes, floods, and heavy precipitation,
- 23 including both snow and rain;
- 24 (2) building on existing investments, including
- 25 those of the National Weather Service modernization

1 effort, to dramatically accelerate improvement in  
2 weather forecasts;

3 (3) providing attention and resources in areas  
4 where progress can be made quickly and where the  
5 impact will be greatest;

6 (4) establishing goals that can be attained by  
7 leveraging the resources of several agencies and  
8 through the collaborative scientific efforts of the  
9 operational and research communities in academia  
10 and government; and

11 (5) making research grants to universities and  
12 other research institutions.

13 **SEC. 703. PROGRAM RESEARCH PRIORITIES.**

14 The research priorities of the United States Weather  
15 Research Program shall be in the areas of—

16 (1) hurricanes, to improve—

17 (A) landfall location forecasts; and

18 (B) forecasts of hurricane strength;

19 (2) heavy precipitation, to improve forecasts of  
20 both winter storms and rain storms through better  
21 prediction of timing, location, and intensity;

22 (3) floods, to improve—

23 (A) flood forecasting by coupling precipita-  
24 tion forecasts with hydrologic prediction; and

1 (B) forecasting and warning systems for  
2 inland flooding related to tropical cyclones;

3 (4) two-to-fourteen day forecasting, to—

4 (A) improve short and medium range nu-  
5 merical weather predictions and warnings of  
6 high-impact weather events;

7 (B) conduct the Hemispheric Observing  
8 System Research and Predictability Experiment  
9 (THORpex) to fill observational gaps in the  
10 Northern Hemisphere; and

11 (C) test and evaluate advanced data as-  
12 simulation techniques in global models;

13 (5) societal and economic impacts, to—

14 (A) identify methods of delivering weather  
15 information effectively and recommend ways to  
16 improve weather communications;

17 (B) assess social and economic impacts of  
18 adverse weather ranging from disastrous to rou-  
19 tine;

20 (C) evaluate what weather information is  
21 most useful to public and private decision mak-  
22 ers; and

23 (D) providing for research on societal and  
24 economic impact to ensure a connection be-



1           tween weather research and improvement of the  
2           human condition; and  
3           (6) testing research concepts in an environment  
4           identical to those used by operational meteorologists,  
5           to enable technology transfer to those operational  
6           meteorologists.

7 **SEC. 704. INTERAGENCY PLANNING AND PROCESS.**

8           The National Oceanic and Atmospheric Administra-  
9           tion, as the lead agency of the United States Weather Re-  
10          search Program, shall coordinate and consult with the Na-  
11          tional Science Foundation, the National Aeronautics and  
12          Space Administration, other appropriate Federal agencies,  
13          and other appropriate entities to develop a five-year  
14          plan—

15                (1) describing how Federal agencies can best  
16                team with universities and other research institu-  
17                tions;

18                (2) identifying social, economic, and military  
19                needs and requirements for weather information, as  
20                well as defining the research required to meet these  
21                needs;

22                (3) outlining methods for dissemination of  
23                weather information to user communities; and

1           (4) describing best practices for transferring  
2       United States Weather Research Program research  
3       results to forecasting operations.

4   **SEC. 705. REPORTING REQUIREMENTS.**

5       Not later than one year after the date of the enact-  
6   ment of this Act, and every 5 years thereafter, the Admin-  
7   istrator of the National Oceanic and Atmospheric Admin-  
8   istration shall transmit to the Committee on Science of  
9   the House of Representatives and the Committee on Com-  
10   merce, Science, and Transportation of the Senate a report  
11   which shall include—

12           (1) the most recent five-year plan developed or  
13       updated under section 704, including the roles and  
14       funding to be provided by various Federal agencies  
15       in achieving the objectives of the plan;

16           (2) a justification of any changes to the plan  
17       since the last transmittal under this section; and

18           (3) a detailed assessment of the extent to which  
19       the objectives of the plan have been achieved.

20   **SEC. 706. AUTHORIZATION OF APPROPRIATIONS.**

21       There are authorized to be appropriated to the Office  
22   of Atmospheric Research of the National Oceanic and At-  
23   mospheric Administration for carrying out this title such  
24   sums as may be necessary, of which at least 50 percent  
25   shall be for competitive, peer-reviewed grants to, or con-

1 tracts or cooperative agreements with, institutions of high-  
2 er education (as defined in section 101 of the Higher Edu-  
3 cation Act of 1965 (20 U.S.C. 1001)).

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