

108TH CONGRESS  
2D SESSION

# S. 2648

To strengthen programs relating to ocean science and training by providing improved advice and coordination of efforts, greater interagency cooperation, and the strengthening and expansion of related programs administered by the National Oceanic and Atmospheric Administration.

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## IN THE SENATE OF THE UNITED STATES

JULY 13, 2004

Mr. HOLLINGS (for himself, Mr. STEVENS, and Mr. INOUE) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To strengthen programs relating to ocean science and training by providing improved advice and coordination of efforts, greater interagency cooperation, and the strengthening and expansion of related programs administered by the National Oceanic and Atmospheric Administration.

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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the  
5 “Ocean Research Coordination and Advancement Act”.

1 (b) TABLE OF CONTENTS.—The table of contents for  
 2 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Findings.
- Sec. 3. Definitions.

TITLE I—OCEAN SCIENCE COORDINATION AND ADVICE

- Sec. 101. National Ocean Science Committee.
- Sec. 102. Subcommittee on Ocean Education.
- Sec. 103. Ocean Research and Education Advisory Panel.

TITLE II—INTERAGENCY PROGRAMS TO ADVANCE OCEAN AND  
 COASTAL KNOWLEDGE

- Sec. 201. National strategy for ocean science, education, and technology.
- Sec. 202. National ocean partners program.
- Sec. 203. Ocean and coastal education program.
- Sec. 204. Ocean science and technology scholarship program.

TITLE III—NOAA PROGRAMS

- Sec. 301. Research plan.
- Sec. 302. Marine ecosystem research.
- Sec. 303. National Oceanic and Atmospheric Administration education program.
- Sec. 304. Amendment to the National Sea Grant College Program Act.

TITLE IV—AUTHORIZATIONS

- Sec. 401. Authorization of appropriations.

3 **SEC. 2. FINDINGS.**

4 The Congress finds the following:

- 5 (1) The coastal regions and marine waters of
- 6 the United States are vital to the Nation's public
- 7 safety, homeland security, transportation, trade, en-
- 8 ergy production, recreation and tourism, food pro-
- 9 duction, scientific research and education, environ-
- 10 mental health, and historical and cultural heritage.
- 11 (2) Coastal development, resource extraction,
- 12 and other human activities, coupled with an expand-
- 13 ing coastal population, are contributing to processes

1 of environmental change that may significantly  
2 threaten the long-term health and sustainability of  
3 marine and coastal ecosystems.

4 (3) The ocean remains one of the least explored  
5 and understood environments on the planet pro-  
6 viding a frontier for new discoveries and requiring  
7 regional, ecosystem-based management approaches.

8 (4) Development and implementation of edu-  
9 cation and training programs are essential to build  
10 a national scientific and technological workforce that  
11 meets the needs of growing ocean and coastal econo-  
12 mies and better prepares the Nation for competition  
13 in the global economy.

14 (5) A coordinated program of education and  
15 basic and applied research would assist the Nation  
16 and the world to further knowledge of the oceans  
17 and the global climate system, ensure homeland and  
18 national security, develop innovative marine prod-  
19 ucts, improve weather and climate forecasts,  
20 strengthen management of marine and coastal re-  
21 sources, increase the safety and efficiency of mari-  
22 time operations, and protect the environment and  
23 mitigate man-made and natural hazards.

24 (6) Increased Federal cooperation and invest-  
25 ment are essential to build on ocean and coastal re-

1 search and education activities that are taking place  
2 within numerous federal, state, and local agencies,  
3 academic institutions and industries and to establish  
4 new partnerships for sharing ocean science re-  
5 sources, intellectual talent, and facilities.

6 **SEC. 3. DEFINITIONS.**

7 In this Act:

8 (1) **ADVISORY PANEL.**—The term “Advisory  
9 Panel” means the Ocean Research and Education  
10 Advisory Panel established under section 108.

11 (2) **COMMITTEE.**—The term “Committee”  
12 means the National Ocean Science Committee estab-  
13 lished under section 101.

14 (3) **COUNCIL.**—The term “Council” means the  
15 National Science and Technology Council.

16 (4) **OCEAN SCIENCE.**—The term “ocean  
17 science” includes the exploration of ocean, coastal,  
18 and Great Lakes environments, the development of  
19 methods and instruments to study and monitor such  
20 environments, and the conduct of basic and applied  
21 research and education activities to advance under-  
22 standing of—

23 (A) the physics, chemistry, biology, and ge-  
24 ology of the oceans, coasts, and Great Lakes;

1 (B) marine and coastal processes and  
2 interactions with other components of the total  
3 Earth system; and

4 (C) the impacts of the oceans, coastal re-  
5 gions, and Great Lakes on society and manner  
6 in which such environments are influenced by  
7 human activity.

8 (5) STRATEGY.—The term “strategy” means  
9 the National Strategy for Ocean Science, Education,  
10 and Technology developed under section 201.

11 (6) SUBCOMMITTEE.—The term “Sub-  
12 committee” means the Subcommittee on Ocean Edu-  
13 cation established under section 102.

14 **TITLE I—OCEAN SCIENCE**  
15 **COORDINATION AND ADVICE**

16 **SEC. 101. NATIONAL OCEAN SCIENCE COMMITTEE.**

17 (a) COMMITTEE.—The Chair of the National Science  
18 and Technology Council, in consultation with the Chair  
19 of the Council on Ocean Stewardship, shall establish a Na-  
20 tional Ocean Science Committee.

21 (b) MEMBERSHIP.—The Committee shall be com-  
22 posed of the following members:

23 (1) The Administrator of the National Oceanic  
24 and Atmospheric Administration.

25 (2) The Secretary of the Navy.

1           (3) The Director of the National Science Foun-  
2           dation.

3           (4) The Administrator of the National Aero-  
4           nautics and Space Administration.

5           (5) The Under Secretary of Energy for Energy,  
6           Science, and Environment.

7           (6) The Administrator of the Environmental  
8           Protection Agency.

9           (7) The Under Secretary of Homeland Security  
10          for Research and Development.

11          (8) The Commandant of the Coast Guard.

12          (9) The Director of the United States Geologi-  
13          cal Survey.

14          (10) The Director of the Minerals Management  
15          Service.

16          (11) The Commanding General of the Army  
17          Corps of Engineers.

18          (12) The Director of the National Institutes of  
19          Health.

20          (13) Under Secretary of Agriculture for Re-  
21          search, Education, and Economics.

22          (14) The Assistant Secretary of State for  
23          Oceans and International Environmental and Sci-  
24          entific Affairs.

1           (15) The Director of the Defense Advanced Re-  
2           search Projects Agency.

3           (16) The Director of the Office of Science and  
4           Technology Policy.

5           (17) The Director of the Office of Management  
6           and Budget.

7           (18) The leadership of such other Federal agen-  
8           cies and departments as the chair and vice chairs of  
9           the Committee deem appropriate

10          (c) CHAIR AND VICE CHAIRS.—The chair and vice  
11          chairs of the Committee shall be appointed every 2 years  
12          by a selection subcommittee of the Committee composed  
13          of, at a minimum, the Administrator of the National Oce-  
14          anic and Atmospheric Administration, the Director of the  
15          National Science Foundation, and the Secretary of the  
16          Navy. The term of office of the chair and vice chairs shall  
17          be 2 years. A person who has previously served as chair  
18          or vice chair may be reappointed.

19          (d) RESPONSIBILITIES.—The Committee shall—

20                 (1) serve as the primary source of advice and  
21                 support on ocean science for the Council and the  
22                 Council on Ocean Stewardship and assist in carrying  
23                 out the functions of the Council as they relate to  
24                 such matters, including budgetary analyses;

1           (2) serve as the committee on ocean science for  
2 the Council and carry out its functions under section  
3 401 of the National Science and Technology Policy,  
4 Organization, and Priorities Act of 1976 (42 U.S.C.  
5 6651) that relate to ocean sciences;

6           (3) improve cooperation among Federal depart-  
7 ments and agencies with respect to ocean science  
8 budgets, programs, operations, facilities and per-  
9 sonnel;

10          (4) provide a forum for development of the  
11 strategy and oversee its implementation;

12          (5) suggest policies and procedures and provide  
13 support for interagency ocean science programs, in-  
14 cluding the National Ocean Partners Program;

15          (6) oversee the implementation of an integrated  
16 and sustained ocean and coastal observing system;

17          (7) establish interagency subcommittees and  
18 working groups as appropriate to develop com-  
19 prehensive and balanced Federal programs and ap-  
20 proaches to ocean science needs;

21          (8) coordinate United States government activi-  
22 ties with those of other nations and with inter-  
23 national ocean observing efforts, research and tech-  
24 nology and education; and

1           (9) carry out such other activities as the Coun-  
2           cil may require.

3 **SEC. 102. SUBCOMMITTEE ON OCEAN EDUCATION.**

4           (a) **MEMBERSHIP.**—The Committee shall establish a  
5 Subcommittee on Ocean Education. Each member of the  
6 Committee and the Under Secretary of Education may  
7 designate a senior Federal agency representative with ex-  
8 pertise in education to serve on the Subcommittee. The  
9 Committee shall select a Chair and one or more Vice  
10 Chairs from the membership of the Subcommittee.

11          (b) **RESPONSIBILITIES.**—The Subcommittee shall—

12           (1) support and advise the Committee and the  
13 Council on matters related to ocean and coastal edu-  
14 cation and outreach and lead development of a com-  
15 mon perspective;

16           (2) provide recommendations on education goals  
17 and priorities for the strategy and guidance for edu-  
18 cational investments;

19           (3) foster the development of education and  
20 outreach programs that are integrated with and  
21 based upon Federal ocean science programs;

22           (4) coordinate Federal ocean and coastal edu-  
23 cation activities for students at all levels, including  
24 funding for educational opportunities at the under-  
25 graduate, graduate; and post-doctoral levels;

1           (5) identify and work to establish linkages  
2 among Federal programs and those of States, aca-  
3 demic institutions, museums and aquaria, industry,  
4 foundations and other non-governmental organiza-  
5 tions;

6           (6) facilitate Federal agency efforts to work  
7 with minority-serving institutions, historically black  
8 colleges and universities, and traditionally majority-  
9 serving institutions to ensure that students of under-  
10 represented groups have access to and support for  
11 pursuing ocean-related careers; and

12           (7) carry out such other activities as the Com-  
13 mittee and the Council request.

14 **SEC. 103. OCEAN RESEARCH AND EDUCATION ADVISORY**  
15 **PANEL.**

16           (a) MEMBERSHIP.—The Committee shall maintain  
17 an Ocean Research and Education Advisory Panel con-  
18 sisting of not less than 10 and not more than 18 members  
19 appointed by the chair, including the following:

20           (1) Members representing the National Acad-  
21 emy of Sciences, the National Academy of Engineer-  
22 ing and the Institute of Medicine.

23           (2) Members selected from among individuals  
24 representing ocean industries, State governments,

1 academia, and such other participants in ocean and  
2 coastal activities as the chair considers appropriate.

3 (3) Members selected from among individuals  
4 eminent in the fields of marine science, marine pol-  
5 icy, ocean engineering or related fields.

6 (4) Members selected from among individuals  
7 eminent in the field of education.

8 (b) RESPONSIBILITIES.—The advisory panel will ad-  
9 vise the Committee on the following:

10 (1) Development and implementation of the  
11 strategy.

12 (2) Policies and procedures to implement the  
13 National Ocean Partners Program and on establish-  
14 ment of topics and selection and allocation of funds  
15 for partnership projects.

16 (3) Matters relating to national oceanographic  
17 data requirements, ocean and coastal observing sys-  
18 tems, ocean science education and training, oceano-  
19 graphic facilities, and modernization of the nation's  
20 marine laboratories.

21 (4) Any additional matters that the Committee  
22 considers appropriate.

23 (c) PROCEDURAL MATTERS.—

24 (1) All meetings of the Advisory Panel shall be  
25 open to the public, except that a meeting or any por-

1       tion of it may be closed to the public if it concerns  
2       matters or information that pertains to national se-  
3       curity, employment matters, litigation, or other rea-  
4       sons provided under section 552b of title 5, United  
5       States Code. Interested persons shall be permitted to  
6       appear at open meetings and present oral or written  
7       statements on the subject matter of the meeting.  
8       The Advisory Panel may administer oaths or affir-  
9       mations to any person appearing before it.

10           (2) All open meetings of the Advisory Panel  
11       shall be preceded by timely public notice in the Fed-  
12       eral Register of the time, place, and subject of the  
13       meeting.

14           (3) Minutes of each meeting shall be kept and  
15       shall include a record of the people present, a de-  
16       scription of the discussion that occurred, and copies  
17       of all statements filed. Subject to section 552 of title  
18       5, United States Code, the minutes and records of  
19       all meetings and other documents that were made  
20       available to or prepared for the Advisory Panel shall  
21       be available for public inspection and copying at a  
22       single location in the partners program office.

23           (4) The Federal Advisory Committee Act (5  
24       U.S.C. App.) does not apply to the Advisory Panel.

1 (d) FUNDING.—The Chair and Vice Chairs of the  
2 Committee annually shall make funds available to support  
3 the activities of the Advisory Panel.

4 **TITLE II—INTERAGENCY PRO-**  
5 **GRAMS TO ADVANCE OCEAN**  
6 **AND COASTAL KNOWLEDGE**

7 **SEC. 201. NATIONAL STRATEGY FOR OCEAN SCIENCE, EDU-**  
8 **CATION, AND TECHNOLOGY.**

9 (a) IN GENERAL—The Chair of the Council, through  
10 the Committee, shall develop a National Strategy for  
11 Ocean Science, Education and Technology. The Chair  
12 shall submit the strategy to the Congress within one year  
13 after the date of enactment of this title, and a revised  
14 strategy shall be submitted at least once every three years  
15 thereafter. The initial strategy shall be based on the rec-  
16 ommendations of the United States Commission on Ocean  
17 Policy and shall establish, for the 10-year period beginning  
18 in the year the strategy is submitted, the scientific goals  
19 and priorities for research, technology, education, out-  
20 reach, and operations which most effectively advance  
21 knowledge and provide usable information for ocean policy  
22 decisions.

23 (b) SPECIFIC ACTIONS.—The strategy shall—

24 (1) provide for a doubling of the Federal invest-  
25 ment in ocean science research over 5 years and for

1 additional investments in education and outreach,  
2 technology development, and ocean exploration;

3 (2) identify and address relevant programs and  
4 activities of the members of the Committee that con-  
5 tribute to the goals and priorities, setting forth the  
6 role of and funding for each such member in imple-  
7 menting the strategy;

8 (3) establish mechanisms for accelerating the  
9 transition of—

10 (A) commercial or military technologies  
11 and data to civilian research, education, and op-  
12 erations applications; and

13 (B) technologies and tools developed by  
14 government and university scientists to oper-  
15 ations, including both governmental and non-  
16 governmental uses;

17 (4) consider and use, as appropriate, reports  
18 and studies conducted by Federal agencies and de-  
19 partments, the National Research Council, or other  
20 entities; and

21 (5) make recommendations for the coordination  
22 of Federal ocean science activities with those of  
23 States, regional entities, other nations, and inter-  
24 national organizations.

1 (c) ELEMENTS.—The strategy shall include the fol-  
2 lowing elements:

3 (1) Global measurements on all relevant spatial  
4 and time scales.

5 (2) Partnerships among Federal agencies,  
6 states, academia, industries, and other members of  
7 the ocean science community.

8 (3) Oceanographic facility support, including  
9 the procurement, maintenance and operation of ob-  
10 serving and research platforms, such as ships and  
11 aircraft, laboratories, and related infrastructure.

12 (4) Focused research initiatives and competitive  
13 research grants.

14 (5) Technology and sensor development, includ-  
15 ing the transition of such technologies to operations.

16 (6) Workforce and professional development in-  
17 cluding traineeships, scholarships, fellowships and  
18 internships.

19 (7) Ocean science education coordination and  
20 establishment of mechanisms to improve ocean lit-  
21 eracy and contribute to public awareness of the con-  
22 dition and importance of the oceans.

23 (8) Information management systems that allow  
24 analysis of data from varied sources to produce in-

1 formation readily usable by policymakers and stake-  
2 holders.

3 (d) PUBLIC PARTICIPATION.—In developing the  
4 strategy, the Committee shall consult with the Advisory  
5 Panel, academic, State, industry, and conservation groups  
6 and representatives. Not later than 90 days before the  
7 Chair of the Council submits the strategy, or any revision  
8 thereof, to the Congress, a summary of the proposed strat-  
9 egy or revision shall be published in the Federal Register  
10 for a public comment period of not less than 60 days.

11 **SEC. 202. NATIONAL OCEAN PARTNERS PROGRAM.**

12 (a) PURPOSE.—Building on the program established  
13 under section 7901 of title 10, United States Code, the  
14 Committee shall establish and maintain a National Ocean  
15 Partners Program that identifies and carries out ocean  
16 science partnerships among the National Oceanic and At-  
17 mospheric Administration, the National Science Founda-  
18 tion, the Office of Naval Research and Oceanographer of  
19 the Navy, other Federal agencies, States, academia, indus-  
20 tries, and other members of the ocean science community.

21 (b) PROJECT SELECTION.—At least annually, the  
22 Committee shall establish a limited number of topics for  
23 partnership awards and partners may submit projects on  
24 such topics for implementation under the program. Part-

1 nership projects shall be competitively reviewed, selected,  
2 and allocated funding based on the following criteria:

3 (1) The project is consistent with the strategy  
4 and addresses—

5 (A) ocean and coastal observing systems;

6 (B) ocean education;

7 (C) ocean infrastructure coordination; or

8 (D) interagency collaboration on national  
9 ocean science and research priorities.

10 (2) The project has broad participation within  
11 the ocean community.

12 (3) The partners have a long-term commitment  
13 to the objectives of the project.

14 (4) Resources supporting the project are shared  
15 among the partners.

16 (5) The project includes a plan for education  
17 and outreach.

18 (6) The project has been subject to peer review.

19 (c) ANNUAL REPORT.— Not later than March 1 of  
20 each year, the Committee shall submit to Congress a re-  
21 port on the National Ocean Partners Program. The report  
22 shall contain the following:

23 (1) A description of activities of the program  
24 carried out during the previous fiscal year, together  
25 with a list of the members of the Advisory Panel and

1 any working groups in existence during that fiscal  
2 year.

3 (2) A general outline of the activities planned  
4 for the program during the fiscal year in which the  
5 report is prepared.

6 (3) A summary of projects continued from the  
7 previous fiscal year and projects expected to be  
8 started during the fiscal year in which the report is  
9 prepared and during the following fiscal year.

10 (4) An analysis of trends in the Federal invest-  
11 ment in ocean science research, education and tech-  
12 nology development.

13 (d) PARTNERS PROGRAM OFFICE.—The Committee  
14 shall establish a program office for the National Ocean  
15 Partners Program. The Committee shall use competitive  
16 procedures in selecting an operator for the partners pro-  
17 gram office and supervise performance of duties by such  
18 office. Responsibilities of the partners program office shall  
19 include—

20 (1) support for the activities of the Committee  
21 and any working groups or subcommittees under  
22 this section;

23 (2) management of the process for proposing  
24 partnership projects to the Committee, including the  
25 peer review process for such projects;

1           (3) annual preparation and submission to the  
2           Committee of status information on all partnership  
3           projects and program activities;

4           (4) development and maintenance of a database  
5           on investments by Federal agencies in ocean and  
6           coastal research and education; and

7           (5) any additional duties for the administration  
8           of the National Ocean Partners Program or to sup-  
9           port Committee activities that the Committee con-  
10          siders appropriate.

11          (e) CONTRACT, GRANT, AND INTERAGENCY FINANC-  
12          ING AUTHORITY.—

13           (1) The Committee may authorize one or more  
14           of the members of the Committee to enter into con-  
15           tracts and make grants, using funds appropriated  
16           pursuant to an authorization for the National Ocean  
17           Partners Program, for the purpose of implementing  
18           the program and carrying out the responsibilities of  
19           the Committee. A project or activity under such pro-  
20           gram may be established by any instrument that the  
21           Committee considers appropriate, including grants,  
22           memoranda of understanding, cooperative research  
23           and development agreements, and similar instru-  
24           ments.

1           (2) The members of the Committee are author-  
2 ized to participate in interagency financing and  
3 share, transfer, receive and spend funds appro-  
4 priated to any member of the Committee for the  
5 purposes of carrying out any administrative or pro-  
6 grammatic project or activity under the National  
7 Ocean Partnership Program, including support for a  
8 common infrastructure and system integration for  
9 an ocean observing system. Funds may be trans-  
10 ferred among such departments and agencies  
11 through an appropriate instrument that specifies the  
12 goods, services, or space being acquired from an-  
13 other Committee member and the costs of the same.

14           (3) The Committee shall establish uniform pro-  
15 posal request and application procedures and report-  
16 ing requirements for use by each Committee member  
17 that are applicable to all projects and activities  
18 under the National Ocean Partners Program.

19           (4) Projects under the program may include  
20 demonstration projects.

21           (f) TRANSITIONAL PLAN.—The Committee shall sub-  
22 mit a plan and recommendations to the Congress for the  
23 transition of the National Oceanographic Partnership Pro-  
24 gram under chapter 665 of title 10, United States Code,  
25 to the National Ocean Partners Program established

1 under subsection (a) of this section not later than 2 years  
2 after the date of enactment of this Act.

3 (g) SUNSET OF NATIONAL OCEANOGRAPHIC PART-  
4 NERSHIP PROGRAM.—Chapter 665 of title 10, United  
5 States Code, is repealed as of the date that is 3 years  
6 after the date of enactment of this Act.

7 **SEC. 203. OCEAN AND COASTAL EDUCATION PROGRAM.**

8 (a) ESTABLISHMENT.—Consistent with the strategy,  
9 the Committee, through the Subcommittee, shall establish  
10 an interagency ocean and coastal education program to  
11 improve public awareness, understanding and appreciation  
12 of the role of the oceans in meeting our Nation’s economic,  
13 social and environmental needs. The ocean and coastal  
14 education program shall include formal education activi-  
15 ties for elementary, secondary, undergraduate, graduate  
16 and postdoctoral students, continuing education activities  
17 for adults, and informal education activities for learners  
18 of all ages.

19 (b) ELEMENTS.—The program shall use appropriate  
20 interagency coordination mechanisms and shall, at a min-  
21 imum, provide sustained funding for—

22 (1) a national network of Centers for Ocean  
23 Sciences Education Excellence to improve the acqui-  
24 sition of knowledge by students at all levels;

1           (2) a regional education network to support  
2 academic competition and experiential learning op-  
3 portunities for high school students;

4           (3) teacher enrichment programs that provide  
5 for participation in research expeditions, voyages of  
6 exploration and the conduct of scientific research;

7           (4) development of model instructional pro-  
8 grams for students at all levels;

9           (5) student training and support to provide di-  
10 verse ocean-related education opportunities at the  
11 undergraduate, graduate, and postdoctoral levels;  
12 and

13           (6) mentoring programs and partnerships with  
14 minority-serving institutions to ensure diversity in  
15 the ocean and coastal workforce.

16 **SEC. 204. OCEAN SCIENCE AND TECHNOLOGY SCHOLAR-**  
17 **SHIP PROGRAM.**

18 (a) ESTABLISHMENT.—

19           (1) The Committee shall establish a National  
20 Ocean Science and Technology Scholarship Program  
21 that is designed to recruit and prepare students for  
22 careers with Federal agencies and departments rep-  
23 resented on the Committee (hereinafter referred to  
24 as “participating agencies”). The program shall  
25 award scholarships to individuals who are eligible to

1 participate and selected through a competitive pro-  
2 cess primarily on the basis of academic merit, with  
3 consideration given to financial need and the goal of  
4 promoting the participation of individuals identified  
5 in section 33 or 34 of the Science and Engineering  
6 Equal Opportunities Act (42 U.S.C. 1885a or  
7 1885b).

8 (2) To carry out the program, participating  
9 agencies shall enter into contractual agreements  
10 with individuals selected under paragraph (1) under  
11 which the individuals agree to serve as full-time em-  
12 ployees of the participating agency for the period de-  
13 scribed in subsection (d), in positions needed by the  
14 participating agency and for which the individuals  
15 are qualified, in exchange for receiving a scholarship.

16 (b) ELIGIBILITY CRITERIA.—In order to be eligible  
17 to participate in the program, an individual shall—

18 (1) be enrolled or accepted for enrollment as a  
19 full-time student at an institution of higher edu-  
20 cation (as defined in section 101(a) of the Higher  
21 Education Act of 1965) in an academic field or dis-  
22 cipline described in the list made available under  
23 subsection (c);

24 (2) be a United States citizen;

1           (3) at the time of the initial scholarship award,  
2           not be an employee of the department or agency pro-  
3           viding the award;

4           (4) not have received a scholarship under this  
5           section for more than 4 academic years, unless the  
6           participating agency grants a waiver; and

7           (5) submit an application to a participating  
8           agency at such time, in such manner, and containing  
9           such information, agreements, or assurances as the  
10          participating agency may require.

11          (c) SCHOLARSHIP AVAILABILITY AND LIMITS.—

12           (1) The Committee shall make publicly avail-  
13           able a list of academic programs and fields of study  
14           for which scholarships under the program may be  
15           used and shall update the list as necessary.

16           (2) A participating agency may provide a schol-  
17           arship to an eligible individual to cover tuition, fees,  
18           and other authorized expenses as established by reg-  
19           ulation. The dollar amount of a scholarship for an  
20           academic year shall in no case exceed the cost of at-  
21           tendance as such cost is determined in section 472  
22           of the Higher Education Act of 1965 (20 U.S.C.  
23           10871l).

24           (3) The participating agency may enter into a  
25           contractual agreement with an institution of higher

1 education under which the amounts provided for a  
2 scholarship under this section for tuition, fees, and  
3 other authorized expenses are paid directly to the in-  
4 stitution with respect to which the scholarship is  
5 provided.

6 (d) SERVICE.—

7 (1) Except as provided in subsection (f), the pe-  
8 riod of service for which an individual shall be obli-  
9 gated to serve as an employee of the participating  
10 agency is 12 months for each academic year for  
11 which a scholarship under this section is provided.

12 (2) Except as provided in subsection (f), obli-  
13 gated service under paragraph (1) may include con-  
14 tract employment if a full time equivalent position is  
15 not immediately available and shall begin not later  
16 than 60 days after the individual obtains the edu-  
17 cational degree for which the scholarship was pro-  
18 vided.

19 (e) REPAYMENT.—

20 (1) Scholarship recipients who fail to maintain  
21 a high level of academic standing, as defined by the  
22 participating agency, who are dismissed from their  
23 educational institutions for disciplinary reasons, or  
24 who voluntarily terminate academic training before  
25 graduation from the educational program for which

1 the scholarship was awarded, shall be in breach of  
2 their contractual agreement and, in lieu of any serv-  
3 ice obligation arising under such agreement, shall be  
4 liable to the United States for repayment within 1  
5 year after the date of default of all scholarship funds  
6 paid to them and to the institution of higher edu-  
7 cation on their behalf under the agreement, except  
8 as provided in subsection (f). The repayment period  
9 may be extended by the participating agency when  
10 determined to be necessary.

11 (2) Scholarship recipients who, for any reason,  
12 fail to begin or complete their service obligation  
13 after completion of academic training, or fail to com-  
14 ply with the terms and conditions of deferment es-  
15 tablished by the participating agency pursuant to  
16 subsection (f), shall be in breach of their contractual  
17 agreement. When recipients breach their agreements  
18 pursuant to this paragraph, the recipient shall be  
19 liable to the United States for an amount equal to  
20 the total amount of scholarships received by such in-  
21 dividual under this section; plus the interest on the  
22 amounts of such awards which would be payable if  
23 at the time the awards were received they were loans  
24 bearing interest at the maximum legal prevailing

1 rate, as determined by the Treasurer of the United  
2 States, multiplied by 3.

3 (f) DEFERRAL, CANCELLATION, OR WAIVER.—The  
4 participating agency shall by regulation provide for the de-  
5 ferral or the partial or total waiver or suspension of any  
6 obligation of service or payment incurred by an individual  
7 under the program (or a contractual agreement there-  
8 under) whenever the participating agency determines that  
9 such a deferral, waiver or suspension is appropriate, com-  
10 pliance by the individual is impossible or would involve ex-  
11 tremes hardship, or if enforcement of such obligation with  
12 respect to the individual would be contrary to the best in-  
13 terests of the Government.

14 **TITLE III—NOAA OCEAN**  
15 **SCIENCE AND EDUCATION**  
16 **PROGRAMS**

17 **SEC. 301. RESEARCH PLAN.**

18 The Administrator of the National Oceanic and At-  
19 mospheric Administration shall develop a 20-year inte-  
20 grated research plan for the agency setting forth research  
21 goals and priorities, as well as programmatic actions to  
22 carry out those goals and priorities. The plan shall—

23 (1) articulate goals, priorities, and pro-  
24 grammatic actions for the agency in 5-year phases;

1           (2) identify linkages between Administration re-  
2           search activities and missions;

3           (3) identify how Administration laboratories,  
4           joint institutes, cooperative institutes, joint centers,  
5           and the extramural scientific community will partici-  
6           pate and assist in achieving the goals of the plan;

7           (4) consider the recommendations of relevant  
8           reports prepared by the National Research Council  
9           and international scientific institutions and organi-  
10          zations;

11          (5) be developed in consultation with pro-  
12          grammatic offices, the extramural scientific commu-  
13          nity, and interested members of the public; and

14          (6) be revised or updated every 5-to-7 years.

15 **SEC. 302. MARINE ECOSYSTEM RESEARCH.**

16          (a) MARINE ECOSYSTEM RESEARCH PROGRAM.—  
17          The Administrator of the National Oceanic and Atmos-  
18          pheric Administration, in cooperation with the National  
19          Science Foundation, the United States Geological Survey,  
20          the Office of Naval Research, and other members of the  
21          Committee, shall establish and maintain a 10-year inter-  
22          agency marine ecosystem research program, including  
23          competitive research grants to the scientific community,  
24          that complements or strengthens the Federal program for  
25          the purposes of—

1           (1) improving national understanding of marine  
2           ecosystem status and trends, including the patterns,  
3           processes, and consequences of changing marine bio-  
4           logical diversity;

5           (2) improving the linkages between marine eco-  
6           logical and oceanographic sciences and providing a  
7           basis for ecosystem-based management of the oceans  
8           and coastal resources;

9           (3) increasing the effectiveness of ocean, coastal  
10          and fisheries conservation and management through  
11          application of ecosystem-based approaches;

12          (4) facilitating and encouraging the use of new  
13          technological advances, predictive models, and his-  
14          torical perspectives to characterize and assess ma-  
15          rine ecosystems and to investigate marine biodiver-  
16          sity;

17          (5) strengthening and expanding the field of  
18          marine taxonomy, including use of genomics and  
19          proteomics;

20          (6) using new understanding gained through  
21          the program to improve predictions of the impacts of  
22          human activities on the marine environment, includ-  
23          ing pollution and coastal development, and of the  
24          impacts of changes in the marine environment on  
25          human well-being; and

1           (7) providing Federal, regional, and State deci-  
2           sion makers with usable information and products to  
3           support policy and technical decisions under existing  
4           authorities, including the Magnuson-Stevens Fishery  
5           Conservation and Management Act, the Marine  
6           Mammal Protection Act, the National Marine Sanc-  
7           tuaries Act, and the Coastal Zone Management Act.

8           (b) PROGRAM ELEMENTS.—The research program  
9           established under this section shall provide for the fol-  
10          lowing:

11           (1) Dynamic access to biological and other data  
12           through an integrated ocean biogeographic informa-  
13           tion system that—

14                   (A) links marine databases; and manages  
15                   data generated by the program; and

16                   (B) supports understanding of marine sys-  
17                   tems required for ecosystem-based conservation  
18                   and management, including analysis of biodiver-  
19                   sity and related physical and ecological param-  
20                   eters.

21           (2) Integrated national and regional studies and  
22           products that focus on appropriate scales to support  
23           ecosystem-based management; including habitat  
24           mapping and assessment.

1           (3) Improved biological sensors for ocean and  
2 coastal observing systems.

3           (4) Investment in exploration and taxonomy to  
4 study little known areas and describe new species.

5           (5) Studies of earlier changes in marine popu-  
6 lations to trace information on biological abundance  
7 and diversity to the earliest historical periods of  
8 minimum human impact.

9           (6) Improved predictive capability to enhance  
10 the effectiveness of conservation and management  
11 programs and to facilitate and minimize adverse im-  
12 pacts of human activities and natural processes on  
13 marine and coastal ecosystems.

14           (7) Pilot projects focused on priority informa-  
15 tion needs for critical living marine resource man-  
16 agement decisions under existing statutory authori-  
17 ties.

18       (c) BASELINE REPORT AND BIENNIAL ASSESS-  
19 MENTS.—The Administrator of the National Oceanic and  
20 Atmospheric Administration, through the Committee,  
21 shall prepare and submit to the President and Congress—

22           (1) a baseline report on the state of knowledge  
23 concerning marine ecosystems and their sub-compo-  
24 nents, including recommendations for improving  
25 such knowledge base, considering the recommenda-

1 tions of the United States Commission on Ocean  
2 Policy and the priorities established under sub-  
3 section (a) not later than 1 year after the date of  
4 enactment of this Act; and

5 (2) a biennial assessment not later than 2 years  
6 after the date of submission of the baseline report  
7 required under subsection (d)(1) and every 2 years  
8 thereafter that—

9 (A) integrates, evaluates, and interprets  
10 the findings of the program and discusses the  
11 scientific uncertainties associated with such  
12 findings; and

13 (B) analyzes current trends in marine and  
14 coastal ecosystems, both human-induced and  
15 natural, and projects major trends for the sub-  
16 sequent decade.

17 **SEC. 303. NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-**  
18 **ISTRATION EDUCATION PROGRAM.**

19 (a) IN GENERAL.—

20 (1) The Administrator of the National Oceanic  
21 and Atmospheric Administration shall conduct, de-  
22 velop support, promote, and coordinate education ac-  
23 tivities that meet the defined program scope under  
24 section 203(b) and that enhance public awareness  
25 and understanding of the science, service, and stew-

1       ardship missions of the National Oceanic and At-  
2       mospheric Administration. In planning the program,  
3       the Administrator shall consult with the Sub-  
4       committee and build upon the educational programs  
5       and activities of the National Sea Grant College  
6       Program, The National Marine Sanctuaries Pro-  
7       gram, the National Estuarine Research Reserve Sys-  
8       tem, and programs relating to ocean exploration, un-  
9       dersea research, and oceans and human health.

10           (2) Authorized activities for the program shall  
11       include education of the general public, teachers,  
12       students at all levels, and ocean and coastal man-  
13       agers and stakeholders.

14           (3) In carrying out educational activities, the  
15       Administrator may enter into grants, contracts, co-  
16       operative agreements, resource sharing agreements  
17       or interagency financing with Federal, State and re-  
18       gional agencies, tribes, commercial organizations,  
19       educational institutions, non-profit organizations or  
20       other persons.

21       (b) GOALS.—The Administrator of the National Oce-  
22       anic and Atmospheric Administration, in consultation with  
23       the appropriate program directors, shall ensure that edu-  
24       cational activities and programs conducted pursuant to  
25       subsection (a) shall—

1           (1) integrate agency science into high-quality  
2 educational materials;

3           (2) improve access to National Oceanic and At-  
4 mospheric Administration educational resources;

5           (3) support educator professional development  
6 programs to improve understanding and use of agen-  
7 cy sciences;

8           (4) promote participation in agency-related  
9 sciences and careers, particularly by members of  
10 underrepresented groups;

11           (5) leverage partnerships to enhance formal and  
12 informal environmental science education; and

13           (6) build capability within the agency for edu-  
14 cational excellence.

15       (c) EDUCATIONAL PARTNERSHIP PROGRAM.—The  
16 Administrator of the National Oceanic and Atmospheric  
17 Administration shall establish an educational partnership  
18 with minority serving institutions to provide support for  
19 cooperative science centers, an environmental entrepre-  
20 neurship program, a graduate sciences program and an  
21 undergraduate scholarship program.

22       (d) NOAA OCEAN EDUCATION PLAN.—The Adminis-  
23 trator of the National Oceanic and Atmospheric Adminis-  
24 tration shall develop an ocean education plan setting forth  
25 ocean education goals and priorities for the agency, as well

1 as programmatic actions to carry out such goals and prior-  
2 ities over the next 20 years. The plan may be prepared  
3 as part of the research plan required by section 301 or  
4 may be prepared separately and shall—

5 (1) set forth the Administration’s goals, prior-  
6 ities, and programmatic activities for ocean edu-  
7 cation in 5-year phases;

8 (2) identify linkages between NOAA ocean edu-  
9 cation activities and NOAA programs and missions;

10 (3) consider the recommendations of ocean  
11 science and education experts, as well as those of  
12 professional education associations or organizations;

13 (4) be developed in consultation with pro-  
14 grammatic offices, ocean science and education ex-  
15 perts, and interested members of the public; and

16 (5) be revised or updated every 5-to-7 years.

17 **SEC. 304. AMENDMENT TO THE NATIONAL SEA GRANT COL-**  
18 **LEGE PROGRAM ACT.**

19 Section 212(a) of the National Sea Grant College  
20 Program Act (33 U.S.C 1131(a)) is amended by adding  
21 at the end the following:

22 “(3) MARINE AND AQUATIC SCIENCE EDUCATION.—  
23 In addition to the amounts authorized for each fiscal year  
24 under paragraphs (1) and (2), there are authorized to be

1 appropriated for marine and aquatic science education in  
 2 each of fiscal years 2005 through 2010—

3 “(A) \$6,000,000 in increased funding for the  
 4 educational activities of sea grant programs;

5 “(B) \$4,000,000 for competitive grants for  
 6 projects and research that target national and re-  
 7 gional marine and aquatic science literacy;

8 “(C) \$4,000,000 for competitive grants to sup-  
 9 port educational partnerships under the national  
 10 Coastal and Ocean Education Program to be funded  
 11 through the National Ocean Partners Program or  
 12 other appropriate mechanism; and

13 “(D) \$3,000,000 in increased funding for en-  
 14 hanced outreach and communications activities of  
 15 sea grant programs.

## 16 **TITLE IV—AUTHORIZATIONS**

### 17 **SEC. 401. AUTHORIZATION OF APPROPRIATIONS.**

18 (a) PARTNERS PROGRAM PROJECTS AND ADMINIS-  
 19 TRATION.—Of the amounts authorized to be appropriated  
 20 annually to the Department of the Navy, the National  
 21 Science Foundation, the National Oceanic and Atmos-  
 22 pheric Administration, and the National Aeronautics and  
 23 Space Administration for fiscal year 2005 through fiscal  
 24 year 2010—

1           (1) up to \$25,000,000 from each agency may  
2           be made available for National Ocean Partners Pro-  
3           gram projects under section 202; and

4           (2) at least \$600,000 or 3 percent of the  
5           amount appropriated for the National Oceano-  
6           graphic Partners Program, whichever is greater,  
7           shall be available for operations of the partners pro-  
8           gram office established under section 202(d).

9           (b) NATIONAL OCEAN AND COASTAL EDUCATION  
10          PROGRAM.—Of the amounts authorized annually to the  
11          Department of the Navy, the National Science Founda-  
12          tion, the National Oceanic and Atmospheric Administra-  
13          tion, and the National Aeronautics and Space Administra-  
14          tion for fiscal year 2005 through fiscal year 2010, up to  
15          \$25,000,000 from each agency may be made available for  
16          the National Ocean and Coastal Education Program  
17          under section 203.

18          (c) SCHOLARSHIP PROGRAM.—Of the amounts au-  
19          thorized annually to the Department of the Navy, the Na-  
20          tional Science Foundation, the National Oceanic and At-  
21          mospheric Administration, and the National Aeronautics  
22          and Space Administration for fiscal year 2005 through fis-  
23          cal year 2010, up to \$15,000,000 may be made available  
24          for National Ocean Science and Technology Scholarships  
25          under section 204.

1 (d) NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-  
2 ISTRATION.—

3 (1) MARINE ECOSYSTEM RESEARCH.—For de-  
4 velopment and implementation of the research pro-  
5 gram under section 302, there are authorized to be  
6 appropriated to the National Oceanic and Atmos-  
7 pheric Administration \$50,000,000 for each of fiscal  
8 years 2005 through 2010.

9 (2) OCEAN EDUCATION.—In addition to the  
10 amounts authorized under subsection (a), (b), and  
11 (c) and under the National Sea Grant College Pro-  
12 gram Act, there are authorized to be appropriated to  
13 the Administrator of the National Oceanic and At-  
14 mospheric Administration.—

15 (A) \$25,000,000 for each of fiscal  
16 years 2005 through 2010 for education ac-  
17 tivities under section 303(a); and

18 (B) \$20,000,000 for each of fiscal  
19 years 2005 through 2010 for education ac-  
20 tivities under section 303(c).

21 (e) AVAILABILITY.—Sums appropriated pursuant to  
22 this section shall remain available until expended.

○