

105-384, Nov. 13, 1998, 112 Stat. 3454, which is classified principally to this subchapter. For complete classification of this title to the Code, see Short Title of 1998 Amendment note set out under section 851 of this title and Tables.

## AMENDMENTS

2018—Subsec. (a). Pub. L. 115-282, §1001(a)(1), designated existing provisions as subsec. (a) and inserted heading.

Subsec. (a)(1). Pub. L. 115-282, §1001(a)(2)(A), substituted “surveys, \$70,814,000 for each of fiscal years 2019 through 2023.” for “surveys—

“(A) \$55,000,000 for fiscal year 2009;

“(B) \$56,000,000 for fiscal year 2010;

“(C) \$57,000,000 for fiscal year 2011; and

“(D) \$58,000,000 for fiscal year 2012.”

Subsec. (a)(2). Pub. L. 115-282, §1001(a)(2)(B), substituted “vessels, \$25,000,000 for each of fiscal years 2019 through 2023.” for “vessels—

“(A) \$32,130,000 for fiscal year 2009;

“(B) \$32,760,000 for fiscal year 2010;

“(C) \$33,390,000 for fiscal year 2011; and

“(D) \$34,020,000 for fiscal year 2012.”

Subsec. (a)(3). Pub. L. 115-282, §1001(a)(2)(C), substituted “Administration, \$29,932,000 for each of fiscal years 2019 through 2023.” for “Administration—

“(A) \$25,900,000 for fiscal year 2009;

“(B) \$26,400,000 for fiscal year 2010;

“(C) \$26,900,000 for fiscal year 2011; and

“(D) \$27,400,000 for fiscal year 2012.”

Subsec. (a)(4). Pub. L. 115-282, §1001(a)(2)(D), substituted “subchapter, \$26,800,000 for each of fiscal years 2019 through 2023.” for “subchapter—

“(A) \$32,640,000 for fiscal year 2009;

“(B) \$33,280,000 for fiscal year 2010;

“(C) \$33,920,000 for fiscal year 2011; and

“(D) \$34,560,000 for fiscal year 2012.”

Subsec. (a)(5). Pub. L. 115-282, §1001(a)(2)(E), substituted “subchapter, \$30,564,000 for each of fiscal years 2019 through 2023.” for “subchapter—

“(A) \$27,000,000 for fiscal year 2009;

“(B) \$27,500,000 for fiscal year 2010;

“(C) \$28,000,000 for fiscal year 2011; and

“(D) \$28,500,000 for fiscal year 2012.”

Subsec. (b). Pub. L. 115-282, §1001(a)(3), added subsec. (b).

Subsec. (c). Pub. L. 115-282, §1001(b), added subsec. (c).  
2008—Pub. L. 110-386 amended section generally. Prior to amendment, section authorized appropriations for fiscal years 2003 through 2007.

2002—Pub. L. 107-372 reenacted section catchline without change and amended text generally. Prior to amendment, text read as follows: “There is authorized to be appropriated to the Administrator the following:

“(1) To carry out nautical mapping and charting functions under the Act of 1947 and sections 892a and 892b of this title, except for conducting hydrographic surveys, \$33,000,000 for fiscal year 1999, \$34,000,000 for fiscal year 2000, and \$35,000,000 for fiscal year 2001.

“(2) To conduct hydrographic surveys under section 892a(a)(1) of this title, including the leasing of ships, \$33,000,000 for fiscal year 1999, \$35,000,000 for fiscal year 2000, and \$37,000,000 for fiscal year 2001. Of these amounts, no more than \$16,000,000 is authorized for any one fiscal year to operate hydrographic survey vessels owned and operated by the Administration.

“(3) To carry out geodetic functions under the Act of 1947, \$25,000,000 for fiscal year 1999, \$30,000,000 for fiscal year 2000, and \$30,000,000 for fiscal year 2001.

“(4) To carry out tide and current measurement functions under the Act of 1947, \$22,500,000 for each of fiscal years 1999 through 2001. Of these amounts \$4,500,000 is authorized for each fiscal year to implement and operate a national quality control system for real-time tide and current and maintain the national tide network, and \$7,000,000 is authorized for each fiscal year to design and install real-time tide and current data measurement systems under section 892a(b)(4) of this title.”

1998—Pub. L. 105-383 amended section generally, substituting present provisions for substantially identical provisions.

## Statutory Notes and Related Subsidiaries

## EFFECTIVE DATE OF 1998 AMENDMENT

Amendment by Pub. L. 105-383 effective immediately after enactment of Pub. L. 105-384, Nov. 13, 1998, see section 432(a) of Pub. L. 105-383, set out as a note under section 892c of this title.

## SUBCHAPTER V—RESEARCH, DEVELOPMENT, EDUCATION, AND INNOVATION

## § 893. Ocean and atmospheric research and development program

## (a) In general

The Administrator of the National Oceanic and Atmospheric Administration, in consultation with the Director of the National Science Foundation and the Administrator of the National Aeronautics and Space Administration, shall establish a coordinated program of ocean, coastal, Great Lakes, and atmospheric research and development, in collaboration with academic institutions and other nongovernmental entities, that shall focus on the development of advanced technologies and analytical methods that will promote United States leadership in ocean and atmospheric science and competitiveness in the applied uses of such knowledge.

## (b) Oceanic and atmospheric research and development program

The Administrator shall implement programs and activities—

(1) to identify emerging and innovative research and development priorities to enhance United States competitiveness, support development of new economic opportunities based on NOAA research, observations, monitoring modeling, and predictions that sustain ecosystem services;

(2) to promote United States leadership in oceanic and atmospheric science and competitiveness in the applied uses of such knowledge, including for the development and expansion of economic opportunities; and

(3) to advance ocean, coastal, Great Lakes, and atmospheric research and development, including potentially transformational research, in collaboration with other relevant Federal agencies, academic institutions, the private sector, and nongovernmental programs, consistent with NOAA's mission to understand, observe, and model the Earth's atmosphere and biosphere, including the oceans, in an integrated manner.

## (c) Report

No later than 12 months after January 4, 2011, the Administrator, in consultation with the National Science Foundation or other such agencies with mature transformational research portfolios, shall develop and submit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science and Technology that describes NOAA's strategy for enhancing transformational research in its research and development portfolio to increase United States

competitiveness in oceanic and atmospheric science and technology. The report shall—

- (1) define “transformational research”;
- (2) identify emerging and innovative areas of research and development where transformational research has the potential to make significant and revolutionary <sup>-1</sup> advancements in both understanding and U.S. science leadership;
- (3) describe how transformational research priorities are identified and appropriately <sup>-1</sup> balanced in the context of NOAA’s broader research portfolio;
- (4) describe NOAA’s plan for developing a competitive peer review and priority-setting <sup>-1</sup> process, funding mechanisms, performance and evaluation measures, and transition-to-operation guidelines for transformational research; and
- (5) describe partnerships with other agencies involved in transformational research.

(Pub. L. 110–69, title IV, § 4001, Aug. 9, 2007, 121 Stat. 599; Pub. L. 111–358, title III, § 301, Jan. 4, 2011, 124 Stat. 3996.)

#### Editorial Notes

##### AMENDMENTS

2011—Pub. L. 111–358 designated existing provisions as subsec. (a), inserted heading, and added subsecs. (b) and (c).

#### Statutory Notes and Related Subsidiaries

##### CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

#### § 893a. NOAA ocean and atmospheric science education programs

##### (a) In general

The Administrator of the National Oceanic and Atmospheric Administration shall conduct, develop, support, promote, and coordinate formal and informal educational activities at all levels to enhance public awareness and understanding of ocean, coastal, Great Lakes, and atmospheric science and stewardship by the general public and other coastal stakeholders, including underrepresented groups in ocean and atmospheric science and policy careers. In conducting those activities, the Administrator shall build upon the educational programs and activities of the agency, with consideration given to the goal of promoting the participation of individuals identified in sections 1885a and 1885b of title 42 in STEM fields and in promoting the acquisition and retention of highly qualified and motivated young scientists to complement and supplement workforce needs.

##### (b) Educational program goals

The education programs developed by NOAA shall, to the extent applicable—

- (1) carry out and support research based programs and activities designed to increase student interest and participation in STEM;

- (2) improve public literacy in STEM;
- (3) employ proven strategies and methods for improving student learning and teaching in STEM;
- (4) provide curriculum support materials and other resources that—
  - (A) are designed to be integrated with comprehensive STEM education;
  - (B) are aligned with national science education standards;
  - (C) are designed considering the unique needs of underrepresented groups, translating such materials and other resources;
  - (D) promote the adoption and implementation of high-quality education practices that build toward college and career-readiness; and
  - (E) are promoted widely, especially among individuals identified in sections 1885a and 1885b of title 42; and
- (5) create and support opportunities for enhanced and ongoing professional development for teachers using best practices that improves the STEM content and knowledge of the teachers, including through programs linking STEM teachers with STEM educators at the higher education level.

##### (c) NOAA science education plan

The Administrator, appropriate National Oceanic and Atmospheric Administration programs, ocean atmospheric science and education experts, and interested members of the public shall maintain a science education plan setting forth education goals and strategies for the Administration, as well as programmatic actions to carry out such goals and priorities over the next 20 years, and evaluate and update such plan every 5 years.

##### (d) Metrics

In executing the National Oceanic and Atmospheric Administration science education plan under subsection (c), the Administrator shall maintain a comprehensive system for evaluating the Administration’s educational programs and activities. In so doing, the Administrator shall ensure that such education programs have measurable objectives and milestones as well as clear, documented metrics for evaluating programs. For each such education program or portfolio of similar programs, the Administrator shall—

- (1) encourage the collection of evidence as relevant to the measurable objectives and milestones; and
- (2) ensure that program or portfolio evaluations focus on educational outcomes and not just inputs, activities completed, or the number of participants.

##### (e) Construction

Nothing in this section may be construed to affect the application of section 1232a of title 20 or sections 794 and 794d of title 29.

##### (f) STEM defined

In this section, the term “STEM” means the academic and professional disciplines of science, technology, engineering, and mathematics.

(Pub. L. 110–69, title IV, § 4002, Aug. 9, 2007, 121 Stat. 600; Pub. L. 111–358, title III, § 302, Jan. 4,

<sup>1</sup> So in original.