

(ii) meet or exceed, or are expected to meet or exceed, the performance of similar, in-house information and technology capabilities and services that are owned and operated by the National Oceanic and Atmospheric Administration prior to the establishment of the pilot program.

(C) Authorization of appropriations

There is authorized to be appropriated, out of funds appropriated to the National Environmental Satellite, Data, and Information Service, to carry out this paragraph \$5,000,000 for fiscal year 2019, \$10,000,000 for fiscal year 2020, and \$5,000,000 for each of fiscal years 2021 through 2023, to remain available until expended.

(b) Reports

Not later than 1 year after January 7, 2019, and triennially thereafter until the date that is 6 years after the date on which the first report is submitted, the Under Secretary, acting through the Chief Information Officer of the National Oceanic and Atmospheric Administration and in coordination with the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service, shall produce and make publicly available a report that explains how the Under Secretary intends—

- (1) to continually support upgrades to pursue the fastest, most powerful, and cost-effective high performance computing technologies in support of its weather prediction mission;
- (2) to ensure a balance between the research to operations requirements to develop the next generation of regional and global models as well as highly reliable operational models;
- (3) to take advantage of advanced development concepts to, as appropriate, make next generation weather prediction models available in beta-test mode to operational forecasters, the United States weather industry, and partners in academic and Government research;
- (4) to use existing computing resources to improve advanced research and operational weather prediction;
- (5) to utilize non-Federal contracts to obtain the necessary expertise for advanced weather computing, if appropriate;
- (6) to utilize cloud computing; and
- (7) to create a long-term strategy to transition the programming language of weather model code to current and broadly-used coding language.

(Pub. L. 115–25, title I, §108, Apr. 18, 2017, 131 Stat. 97; Pub. L. 115–423, §5(a), Jan. 7, 2019, 132 Stat. 5457.)

Editorial Notes

AMENDMENTS

2019—Pub. L. 115–423 amended section generally. Prior to amendment, section related to annual report on computing resources prioritization.

§ 8519. Authorization of appropriations

(a) In general

There are authorized to be appropriated to the Office of Oceanic and Atmospheric Research to carry out this subchapter—

- (1) \$136,516,000 for fiscal year 2019, of which—
 - (A) \$85,758,000 is authorized for weather laboratories and cooperative institutes;
 - (B) \$30,758,000 is authorized for weather and air chemistry research programs; and
 - (C) \$20,000,000 is authorized for the joint technology transfer initiative described in section 8512(b)(4) of this title;
- (2) \$148,154,000 for fiscal year 2020, of which—
 - (A) \$87,258,000 is authorized for weather laboratories and cooperative institutes;
 - (B) \$40,896,000 is authorized for weather and air chemistry research programs; and
 - (C) \$20,000,000 is authorized for the joint technology transfer initiative described in section 8512(b)(4) of this title;
- (3) \$150,154,000 for fiscal year 2021, of which—
 - (A) \$88,758,000 is authorized for weather laboratories and cooperative institutes;
 - (B) \$41,396,000 is authorized for weather and air chemistry research programs; and
 - (C) \$20,000,000 is authorized for the joint technology transfer initiative described in section 8512(b)(4) of this title;
- (4) \$152,154,000 for fiscal year 2022, of which—
 - (A) \$90,258,000 is authorized for weather laboratories and cooperative institutes;
 - (B) \$41,896,000 is authorized for weather and air chemistry research programs; and
 - (C) \$20,000,000 is authorized for the joint technology transfer initiative described in section 8512(b)(4) of this title; and
- (5) \$154,154,000 for fiscal year 2023, of which—
 - (A) \$91,758,000 is authorized for weather laboratories and cooperative institutes;
 - (B) \$42,396,000 is authorized for weather and air chemistry research programs; and
 - (C) \$20,000,000 is authorized for the joint technology transfer initiative described in section 8512(b)(4) of this title.

(b) Limitation

No additional funds are authorized to carry out this subchapter and the amendments made by this title.¹

(Pub. L. 115–25, title I, §110, Apr. 18, 2017, 131 Stat. 98; Pub. L. 115–423, §3(b), Jan. 7, 2019, 132 Stat. 5455.)

Editorial Notes

REFERENCES IN TEXT

This subchapter, referred to in text, was in the original “this title”, meaning title I of Pub. L. 115–25, which enacted this subchapter and amended provisions formerly set out as a note under section 313 of this title, which is now classified to section 8520 of this title. For complete classification of title I to the Code, see Tables.

The amendments made by this title, referred to in subsec. (b), mean the amendments made by title I of Pub. L. 115–25, which amended provisions formerly set out as a note under section 313 of this title and which is now classified to section 8520 of this title.

AMENDMENTS

2019—Pub. L. 115–423 amended section generally. Prior to amendment, section related to authorization of appropriations for fiscal years 2017 and 2018.

¹ See References in Text note below.

§ 8520. United States Weather Research Program**(a) Establishment**

The Secretary of Commerce, in cooperation with the Federal Coordinating Council for Science, Engineering, and Technology through the Committee on Earth and Environmental Sciences, shall establish a United States Weather Research Program to—

(1) increase benefits to the Nation from the substantial investment in modernizing the public weather warning and forecast system in the United States;

(2) improve local and regional weather forecasts and warnings;

(3) address critical weather-related scientific issues;

(4) coordinate governmental, university, and private-sector efforts;

(5) submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives, not less frequently than once each year, a report, including—

(A) a list of ongoing research projects;

(B) project goals and a point of contact for each project;

(C) the five projects related to weather observations, short-term weather, or subseasonal forecasts within Office of Oceanic and Atmospheric Research that are closest to operationalization;

(D) for each project referred to in subparagraph (C)—

(i) the potential benefit;

(ii) any barrier to operationalization; and

(iii) the plan for operationalization, including which line office will financially support the project and how much the line office intends to spend;

(6) establish teams with staff from the Office of Oceanic and Atmospheric Research and the National Weather Service to oversee the operationalization of research products developed by the Office of Oceanic and Atmospheric Research;

(7) develop mechanisms for research priorities of the Office of Oceanic and Atmospheric Research to be informed by the relevant line offices within the National Oceanic and Atmospheric Administration, the relevant user community, and the weather enterprise;

(8) develop an internal mechanism to track the progress of each research project within the Office of Oceanic and Atmospheric Research and mechanisms to terminate a project that is not adequately progressing;

(9) develop and implement a system to track whether extramural research grant goals were accomplished;

(10) provide facilities for products developed by the Office of Oceanic and Atmospheric Research to be tested in operational simulations, such as test beds;

(11) encourage academic collaboration with the Office of Oceanic and Atmospheric Research and the National Weather Service by facilitating visiting scholars; and

(12) carry out the activities of the Earth Prediction Innovation Center as described in section 8512(b)(2) of this title.

(b) Implementation plan

The Secretary of Commerce, in cooperation with the Committee on Earth and Environmental Sciences, shall prepare and submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a plan for implementation of the United States Weather Research Program which shall—

(1) establish, for the 10-year period beginning in the year the plan is submitted, the goals and priorities for Federal weather research which most effectively advance the scientific understanding of weather processes and provide information to improve weather warning and forecast systems in the United States;

(2) describe specific activities, including research activities, data collection and data analysis requirements, predictive modeling, participation in international research efforts, demonstration of potential operational forecast applications, and education and training required to achieve such goals and priorities; and

(3) set forth the role of each Federal agency and department to be involved in the United States Weather Research Program, identifying and addressing, as appropriate, relevant programs and activities of the Federal agencies and departments that would contribute to such Program.

(c) Subseasonal defined

In this section, the term “subseasonal” means the time range between 2 weeks and 3 months.

(Pub. L. 102-567, title I, §108, Oct. 29, 1992, 106 Stat. 4276; Pub. L. 115-25, title I, §109, Apr. 18, 2017, 131 Stat. 97; Pub. L. 115-423, §4(b), Jan. 7, 2019, 132 Stat. 5457.)

Editorial Notes**CODIFICATION**

Pub. L. 115-25, which directed amendment of section 108 of the “Oceanic and Atmospheric Administration Authorization Act of 1992”, was executed to this section, which is section 108 of the National Oceanic and Atmospheric Administration Authorization Act of 1992, to reflect the probable intent of Congress.

Section was formerly set out as a note under section 313 of this title.

Section was enacted as part of the National Oceanic and Atmospheric Administration Authorization Act of 1992, and not as part of the Weather Research and Forecasting Innovation Act of 2017 which comprises this chapter.

AMENDMENTS

2019—Subsec. (a)(12). Pub. L. 115-423 added par. (12).

2017—Subsec. (a)(5) to (11). Pub. L. 115-25, §109(1), added pars. (5) to (11). See Codification note above.

Subsec. (b). Pub. L. 115-25, §109(2), substituted “The” for “Not later than 90 days after October 29, 1992, the” in introductory provisions. See Codification note above.

Subsec. (c). Pub. L. 115-25, §109(3), added subsec. (c). See Codification note above.

§ 8521. Weather and climate information in agriculture**(a) Findings**

Congress finds that—