

Union Calendar No. 224

117TH CONGRESS
2^D SESSION

H. R. 1437

[Report No. 117-304]

To amend the Weather Research and Forecasting Innovation Act of 2017 to direct the National Oceanic and Atmospheric Administration to provide comprehensive and regularly updated Federal precipitation information, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 26, 2021

Ms. SHERRILL (for herself, Ms. ROSS, Ms. NORTON, Mr. PASCRELL, Ms. JOHNSON of Texas, Mr. CRIST, Mr. FITZPATRICK, Mr. SIRES, and Ms. MOORE of Wisconsin) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

MAY 3, 2022

Additional sponsors: Mr. PALLONE, Ms. CASTOR of Florida, Mr. CASTEN, Mrs. LURIA, Ms. KUSTER, Mrs. NAPOLITANO, Mr. COHEN, Ms. WILD, Mr. LUCAS, Mrs. BICE of Oklahoma, Ms. STEVENS, Mr. MEIJER, Ms. BONAMICI, Ms. STANSBURY, Mr. KILDEE, Mr. RUSH, Mr. CLEAVER, and Ms. BLUNT ROCHESTER

MAY 3, 2022

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Strike out all after the enacting clause and insert the part printed in *italic*]

[For text of introduced bill, see copy of bill as introduced on February 26, 2021]

A BILL

To amend the Weather Research and Forecasting Innovation Act of 2017 to direct the National Oceanic and Atmospheric Administration to provide comprehensive and regularly updated Federal precipitation information, 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,*

3 **SECTION 1. SHORT TITLE.**

4 *This Act may be cited as the “Providing Research and*
 5 *Estimates of Changes In Precipitation Act” or the*
 6 *“PRECIP Act”.*

7 **SEC. 2. AMENDMENT TO THE WEATHER RESEARCH AND**
 8 **FORECASTING INNOVATION ACT OF 2017.**

9 *(a) IN GENERAL.—The Weather Research and Fore-*
 10 *casting Innovation Act of 2017 (15 U.S.C. 8521) is amend-*
 11 *ed by adding at the end the following:*

12 **“TITLE VI—IMPROVING FEDERAL**
 13 **PRECIPITATION INFORMATION**

14 **“SEC. 601. STUDY ON PRECIPITATION ESTIMATION.**

15 *“(a) IN GENERAL.—Not later than 90 days after the*
 16 *date of enactment of the PRECIP Act, the Administrator,*
 17 *in consultation with other Federal agencies as appropriate,*
 18 *shall seek to enter an agreement with the National Acad-*
 19 *emies—*

20 *“(1) to conduct a study on the state of practice*
 21 *and research needs for precipitation estimation, in-*
 22 *cluding probable maximum precipitation estimation;*
 23 *and*

24 *“(2) to submit, not later than 24 months after*
 25 *the date on which such agreement is finalized, to the*

1 *Committee on Science, Space, and Technology of the*
2 *House of Representatives and the Committee on Com-*
3 *merce, Science, and Transportation of the Senate,*
4 *and make publicly available on a website, a report on*
5 *the results of the study under paragraph (1).*

6 “(b) *STUDY.*—*The report under subsection (a) shall in-*
7 *clude the following:*

8 “(1) *An examination of the current state of prac-*
9 *tice for precipitation estimation at scales appropriate*
10 *for decisionmaker needs, and rationale for further evo-*
11 *lution of this field.*

12 “(2) *An evaluation of best practices for precipi-*
13 *tation estimation that are based on the best-available*
14 *science, include assumptions of non-stationarity, and*
15 *can be utilized by the user community.*

16 “(3) *A framework for—*

17 “(A) *the development of a National Guid-*
18 *ance Document for estimating extreme precipita-*
19 *tion in future conditions; and*

20 “(B) *evaluation of the strengths and chal-*
21 *lenges of the full spectrum of approaches, includ-*
22 *ing for probable maximum precipitation studies.*

23 “(4) *A description of existing research needs in*
24 *the field of precipitation estimation in order to mod-*

1 *ernize current methodologies and incorporate assump-*
2 *tions of non-stationarity.*

3 *“(5) A description of in-situ, airborne, and*
4 *space-based observation requirements, that could en-*
5 *hance precipitation estimation and development of*
6 *models, including an examination of the use of geo-*
7 *graphic information systems and geospatial tech-*
8 *nology for integration, analysis, and visualization of*
9 *precipitation data.*

10 *“(6) A recommended plan for a Federal research*
11 *and development program, including specifications*
12 *for costs, timeframes, and responsible agencies for ad-*
13 *ressing identified research needs.*

14 *“(7) An analysis of the respective roles in pre-*
15 *cipitation estimation of various Federal agencies,*
16 *academia, State, tribal, territorial, and local govern-*
17 *ments, and other public and private stakeholders.*

18 *“(8) Recommendations for data management to*
19 *promote long-term needs such as enabling retrospec-*
20 *tive analyses and data discoverability, interoper-*
21 *ability, and reuse.*

22 *“(9) Recommendations for how data and services*
23 *from the entire enterprise can be best leveraged by the*
24 *Federal Government.*

1 “(10) *A description of non-Federal precipitation*
 2 *data, its accessibility by the Federal Government, and*
 3 *ways for National Oceanic and Atmospheric Admin-*
 4 *istration to improve or expand such datasets.*

5 “(11) *Such other topics as the Administrator or*
 6 *National Academies consider appropriate.*

7 “(c) *AUTHORIZATION OF APPROPRIATIONS.—There is*
 8 *authorized \$1,500,000 to the National Oceanic and Atmos-*
 9 *pheric Administration to carry out this study.*

10 **“SEC. 602. IMPROVING PRECIPITATION FREQUENCY ESTI-**
 11 **MATES.**

12 “(a) *IN GENERAL.—The Administrator shall—*

13 “(1) *not later than 5 years after the date of en-*
 14 *actment of this title and not less frequently than every*
 15 *5 years thereafter, update precipitation frequency es-*
 16 *timates for the United States, such that each update*
 17 *includes at least one precipitation frequency atlas*
 18 *that incorporates assumptions of non-stationarity;*

19 “(2) *develop products targeted at users of this*
 20 *data in support of the mission of the National Oce-*
 21 *anic and Atmospheric Administration;*

22 “(3) *make publicly available, in a searchable,*
 23 *interoperable format, all precipitation frequency esti-*
 24 *mate studies developed by the National Oceanic and*
 25 *Atmospheric Administration that the Administrator*

1 *has the legal right to redistribute and that are deemed*
2 *to be at an appropriate stage of development on an*
3 *internet website of the National Oceanic and Atmos-*
4 *spheric Administration; and*

5 “(4) *ensure all precipitation frequency estimate*
6 *data, products, and supporting documentation and*
7 *metadata are preserved, curated, and served by the*
8 *National Oceanic and Atmospheric Administration,*
9 *as appropriate.*

10 “(b) *AUTHORIZATION OF APPROPRIATIONS.—There*
11 *are authorized to be appropriated to the National Oceanic*
12 *and Atmospheric Administration to carry out this section*
13 *\$3,500,000 for each of fiscal years 2022 through 2030.*

14 **“SEC. 603. IMPROVING PROBABLE MAXIMUM PRECIPITA-**
15 **TION ESTIMATES.**

16 “(a) *IN GENERAL.—Not later than 90 days after the*
17 *date on which the National Academies makes public the re-*
18 *port under section 601, the Administrator, in consideration*
19 *of the report recommendations, shall consult with relevant*
20 *partners, including users of the data, on the development*
21 *of a plan to—*

22 “(1) *not later than 6 years after the completion*
23 *of the National Academies report under section 601*
24 *and not less than every 10 years thereafter, update*
25 *probable maximum precipitation estimates for the*

1 *United States, such that each update includes esti-*
2 *mates that incorporate assumptions of non-*
3 *stationarity;*

4 *“(2) coordinate with partners to conduct re-*
5 *search in the field of extreme precipitation esti-*
6 *mation, in accordance with the research needs identi-*
7 *fied by the National Academies report under section*
8 *601;*

9 *“(3) make publicly available, in a searchable,*
10 *interoperable format, all probable maximum precipi-*
11 *tation studies developed by the National Oceanic and*
12 *Atmospheric Administration that the Administrator*
13 *has the legal right to redistribute and deemed to be*
14 *at an appropriate state of development on an internet*
15 *website of the National Oceanic and Atmospheric Ad-*
16 *ministration; and*

17 *“(4) ensure all probable maximum precipitation*
18 *estimate data, products, and supporting documenta-*
19 *tion and metadata developed by the National Oceanic*
20 *and Atmospheric Administration are preserved,*
21 *curated, and served by the National Oceanic and At-*
22 *mospheric Administration, as appropriate.*

23 *“(b) NATIONAL GUIDANCE DOCUMENT FOR THE DE-*
24 *VELOPMENT OF PROBABLE MAXIMUM PRECIPITATION ESTI-*
25 *MATES.—The Administrator, in collaboration with Federal*

1 agencies, State, territorial, tribal and local governments,
2 academia and other partners the Administrator deems ap-
3 propriate, shall develop a National Guidance Document
4 that—

5 “(1) provides best practices that can be followed
6 by Federal and State regulatory agencies, private me-
7 teorological consultants, and other users that perform
8 probable maximum precipitation studies;

9 “(2) considers the recommendations provided in
10 the National Academies study in section 601;

11 “(3) facilitates review of probable maximum pre-
12 cipitation studies by regulatory agencies;

13 “(4) provides confidence in regional and site-spe-
14 cific probable maximum precipitation estimates; and

15 “(5) includes such other topics as the Adminis-
16 trator deems appropriate.

17 “(c) PUBLICATION.—Not later than 2 years after the
18 date on which the National Academies makes public the re-
19 port under section 601, the Administrator shall make pub-
20 licly available the National Guidance Document under sub-
21 section (b) on an internet website of the National Oceanic
22 and Atmospheric Administration.

23 “(d) UPDATES.—The Administrator shall update the
24 National Guidance Document not less than once every 10
25 years after the publication of the National Guidance Docu-

1 *ment under subsection (c) and publish such updates in ac-*
 2 *cordance with such subsection.*

3 “(e) *AUTHORIZATION OF APPROPRIATIONS.—There are*
 4 *authorized to be appropriated to the National Oceanic and*
 5 *Atmospheric Administration to carry out this section:*

6 “(1) *\$13,000,000 for fiscal year 2022.*

7 “(2) *\$14,000,000 for fiscal year 2023.*

8 “(3) *\$14,000,000 for fiscal year 2024.*

9 “(4) *\$2,000,000 for fiscal year 2025.*

10 “(5) *\$2,000,000 for fiscal year 2026.*

11 “(6) *\$2,000,000 for fiscal year 2027.*

12 **“SEC. 604. DEFINITIONS.**

13 “*In this title:*

14 “(1) *ADMINISTRATOR.—The term ‘Adminis-*
 15 *trator’ means the Under Secretary of Commerce for*
 16 *Oceans and Atmosphere and Administrator of the Na-*
 17 *tional Oceanic and Atmospheric Administration.*

18 “(2) *NATIONAL ACADEMIES.—The term ‘National*
 19 *Academies’ means the National Academies of*
 20 *Sciences, Engineering, and Medicine.*

21 “(3) *PRECIPITATION FREQUENCY ATLAS.—The*
 22 *term ‘precipitation frequency atlas’ means a geo-*
 23 *graphical atlas, such as the NOAA Atlas 14, that con-*
 24 *tains precipitation frequency estimates for the United*
 25 *States with associated lower and upper bounds of a*

1 *determined confidence interval and supplementary in-*
 2 *formation on temporal distribution of heavy precipi-*
 3 *tation, analysis of seasonality, and trends in annual*
 4 *maximum series data.*

5 “(4) *PRECIPITATION FREQUENCY ESTIMATE.*—
 6 *The term ‘precipitation frequency estimate’ means the*
 7 *magnitude associated with specific average recurrence*
 8 *interval or annual exceedance probability for a given*
 9 *duration.*

10 “(5) *UNITED STATES.*—*The term ‘United States’*
 11 *means, collectively, each State of the United States,*
 12 *the District of Columbia, the Commonwealth of Puer-*
 13 *to Rico, American Samoa, Guam, the Commonwealth*
 14 *of the Northern Mariana Islands, the Virgin Islands*
 15 *of the United States, and any other territory or pos-*
 16 *session of the United States.”.*

17 (b) *CONFORMING AMENDMENT.*—*Section 1(b) of the*
 18 *Weather Research and Forecasting Innovation Act of 2017*
 19 *(15 U.S.C. 8501 note) is amended in the table of contents*
 20 *by adding at the end the following:*

“*TITLE VI—IMPROVING FEDERAL PRECIPITATION INFORMATION*

“*Sec. 601. Study on precipitation estimation.*

“*Sec. 602. Improving precipitation frequency estimates.*

“*Sec. 603. Improving probable maximum precipitation estimates.*

“*Sec. 604. Definitions.”.*

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