

117TH CONGRESS
1ST SESSION

H. R. 1437

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. PASCHELL, 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

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
5 and Estimates of Changes In Precipitation Act” or the
6 “PRECIP Act”.

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

3 (a) IN GENERAL.—Section 508 of the Weather Re-
4 search and Forecasting Innovation Act of 2017 (15 U.S.C.
5 8521) is amended by adding at the end the following:

6 **“TITLE VI—IMPROVING FED-**
7 **ERAL PRECIPITATION INFOR-**
8 **MATION**

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

10 “(a) IN GENERAL.—Not later than 90 days after the
11 date of enactment of the PRECIP Act, the Administrator,
12 in consultation with other Federal agencies as appropriate,
13 shall seek to enter an agreement with the National Acad-
14 emies—

15 “(1) to conduct a study on the state of practice
16 and research needs for precipitation estimation, in-
17 cluding probable maximum precipitation estimation;
18 and

19 “(2) to submit, not later than 24 months after
20 the date on which such agreement is finalized, to the
21 Committee on Science, Space, and Technology of the
22 House of Representatives and the Committee on
23 Commerce, Science, and Transportation of the Sen-
24 ate, and make publicly available on a website, a re-
25 port on the results of the study under paragraph
26 (1).

1 “(b) STUDY.—The report under subsection (a) shall
2 include the following:

3 “(1) An examination of the current state of
4 practice for precipitation estimation at scales appro-
5 priate for decisionmaker needs, and rationale for
6 further evolution of this field.

7 “(2) An evaluation of best practices for precipi-
8 tation estimation that are based on the best-avail-
9 able science, include assumptions of non-stationarity,
10 and can be utilized by the user community.

11 “(3) A framework for—

12 “(A) the development of a National Guid-
13 ance Document for estimating extreme precipi-
14 tation in a changing climate; and

15 “(B) evaluation of the strengths and chal-
16 lenges of the full spectrum of approaches, in-
17 cluding for probable maximum precipitation
18 studies.

19 “(4) A description of existing research needs in
20 the field of precipitation estimation in order to mod-
21 ernize current methodologies and incorporate the im-
22 pacts of climate change on precipitation.

23 “(5) A description of in-situ, airborne, and
24 space-based observation requirements, that could en-
25 hance precipitation estimation and development of

1 models, including an examination of the use of geo-
2 graphic information systems and geospatial tech-
3 nology for integration, analysis, and visualization of
4 precipitation data.

5 “(6) A recommended plan for a Federal re-
6 search and development program, including speci-
7 fications for costs, timeframes, and responsible agen-
8 cies for addressing identified research needs.

9 “(7) An analysis of the respective roles in pre-
10 cipitation estimation of various Federal agencies,
11 academia, State, tribal, territorial, and local govern-
12 ments, and other public and private stakeholders.

13 “(8) Recommendations for data management to
14 promote long-term needs such as enabling retrospec-
15 tive analyses and data discoverability, interoper-
16 ability, and reuse.

17 “(9) Recommendations for how data and serv-
18 ices from the entire enterprise can be best leveraged
19 by the Federal Government.

20 “(10) Such other topics as the Administrator or
21 National Academies consider appropriate.

22 “(c) AUTHORIZATION OF APPROPRIATIONS.—There
23 is authorized \$1,500,000 to the National Oceanic and At-
24 mospheric Administration to carry out this study.

1 **“SEC. 602. IMPROVING PRECIPITATION FREQUENCY ESTI-**
2 **MATES.**

3 “(a) IN GENERAL.—The Administrator shall—

4 “(1) not later than 5 years after the date of en-
5 actment of this title and not less than every 5 years
6 thereafter, update precipitation frequency estimates
7 for the United States, such that each update in-
8 cludes at least one precipitation frequency atlas that
9 incorporates assumptions of non-stationarity;

10 “(2) develop products targeted at users of this
11 data in support of the mission of the National Oce-
12 anic and Atmospheric Administration;

13 “(3) make publicly available, in a searchable,
14 interoperable format, all precipitation frequency esti-
15 mate studies developed by the National Oceanic and
16 Atmospheric Administration that the Administrator
17 has the legal right to redistribute and that are
18 deemed to be at an appropriate stage of development
19 on an internet website of the National Oceanic and
20 Atmospheric Administration; and

21 “(4) ensure all precipitation frequency estimate
22 data, products, and supporting documentation and
23 metadata are preserved, curated, and served by the
24 National Oceanic and Atmospheric Administration,
25 as appropriate.

1 “(b) AUTHORIZATION OF APPROPRIATIONS.—There
2 are authorized to be appropriated to the National Oceanic
3 and Atmospheric Administration to carry out this section
4 \$3,500,000 for each of fiscal years 2022 through 2030.

5 **“SEC. 603. IMPROVING PROBABLE MAXIMUM PRECIPITA-**
6 **TION ESTIMATES.**

7 “(a) IN GENERAL.—Not later than 90 days after the
8 date on which the National Academies makes public the
9 report under section 601, the Administrator, in consider-
10 ation of the report recommendations, shall consult with
11 relevant partners, including users of the data, on the de-
12 velopment of a plan to—

13 “(1) not later than 6 years after the completion
14 of the National Academies report under section 601
15 and not less than every 10 years thereafter, update
16 probable maximum precipitation estimates for the
17 United States, such that each update includes esti-
18 mates that incorporate assumptions of non-
19 stationarity;

20 “(2) coordinate with partners to conduct re-
21 search in the field of extreme precipitation esti-
22 mation, in accordance with the research needs iden-
23 tified by the National Academies report under sec-
24 tion 601;

1 “(3) make publicly available, in a searchable,
2 interoperable format, all probable maximum precipi-
3 tation studies developed by the National Oceanic and
4 Atmospheric Administration that the Administrator
5 has the legal right to redistribute and deemed to be
6 at an appropriate state of development on an inter-
7 net website of the National Oceanic and Atmos-
8 pheric Administration; and

9 “(4) ensure all probable maximum precipitation
10 estimate data, products, and supporting documenta-
11 tion and metadata developed by the National Oee-
12 anic and Atmospheric Administration are preserved,
13 curated, and served by the National Oceanic and At-
14 mospheric Administration, as appropriate.

15 “(b) NATIONAL GUIDANCE DOCUMENT FOR THE DE-
16 VELOPMENT OF PROBABLE MAXIMUM PRECIPITATION
17 ESTIMATES.—The Administrator, in collaboration with
18 Federal agencies, State, territorial, tribal and local gov-
19 ernments, academia and other partners the Administrator
20 deems appropriate, shall develop a National Guidance
21 Document that—

22 “(1) provides best practices that can be fol-
23 lowed by Federal and State regulatory agencies, pri-
24 vate meteorological consultants, and other users that
25 perform probable maximum precipitation studies;

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

3 “(3) facilitates review of probable maximum
4 precipitation studies by regulatory agencies;

5 “(4) provides confidence in regional and site-
6 specific probable maximum precipitation estimates;
7 and

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

10 “(c) PUBLICATION.—Not later than 2 years after the
11 date on which the National Academies makes public the
12 report under section 601, the Administrator shall make
13 publicly available the National Guidance Document under
14 subsection (b) on an internet website of the National Oce-
15 anic and Atmospheric Administration.

16 “(d) UPDATES.—The Administrator shall update the
17 National Guidance Document not less than once every 10
18 years after the publication of the National Guidance Docu-
19 ment under subsection (c) and publish such updates in
20 accordance with such subsection.

21 “(e) AUTHORIZATION OF APPROPRIATIONS.—There
22 are authorized to be appropriated to the National Oceanic
23 and Atmospheric Administration to carry out this section:

24 “(1) \$13,000,000 for fiscal year 2022.

25 “(2) \$14,000,000 for fiscal year 2023.

1 “(3) \$14,000,000 for fiscal year 2024.

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

3 “(5) \$2,000,000 for fiscal year 2026.

4 “(6) \$2,000,000 for fiscal year 2027.

5 **“SEC. 604. DEFINITIONS.**

6 “ In this title:

7 “(1) ADMINISTRATOR.—The term ‘Adminis-
8 trator’ means the Under Secretary of Commerce for
9 Oceans and Atmosphere and Administrator of the
10 National Oceanic and Atmospheric Administration.

11 “(2) NATIONAL ACADEMIES.—The term ‘Na-
12 tional Academies’ means the National Academies of
13 Sciences, Engineering, and Medicine.

14 “(3) PRECIPITATION FREQUENCY ATLAS.—The
15 term ‘precipitation frequency atlas’ means a geo-
16 graphical atlas, such as the NOAA Atlas 14, that
17 contains precipitation frequency estimates for the
18 United States with associated lower and upper
19 bounds of a determined confidence interval and sup-
20plementary information on temporal distribution of
21 heavy precipitation, analysis of seasonality, and
22 trends in annual maximum series data.

23 “(4) PRECIPITATION FREQUENCY ESTIMATE.—
24 The term ‘precipitation frequency estimate’ means
25 the magnitude associated with specific average re-

1 currence interval or annual exceedance probability
2 for a given duration.

3 “(5) UNITED STATES.—The term ‘United
4 States’ means, collectively, each State of the United
5 States, the District of Columbia, the Commonwealth
6 of Puerto Rico, American Samoa, Guam, the Com-
7 monwealth of the Northern Mariana Islands, the
8 Virgin Islands of the United States, and any other
9 territory or possession of the United States.”.

10 (b) CONFORMING AMENDMENT.—Section 1(b) of the
11 Weather Research and Forecasting Innovation Act of
12 2017 (15 U.S.C. 8501 note) is amended in the table of
13 contents 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.”.

