

***In the Senate of the United States,***

*November 17, 2022.*

*Resolved*, That the bill from the House of Representatives (H.R. 1437) entitled “An Act 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.”, do pass with the following

**AMENDMENT:**

Strike all after the enacting clause and insert the following:

1 ***SECTION 1. SHORT TITLE.***

2 *This Act may be cited as the “Providing Research and*

3 *Estimates of Changes In Precipitation Act” or the*

4 *“PRECIP Act”.*

1 **SEC. 2. AMENDMENT TO THE WEATHER RESEARCH AND**  
2 **FORECASTING INNOVATION ACT OF 2017 RE-**  
3 **LATING TO IMPROVING FEDERAL PRECIPITA-**  
4 **TION INFORMATION.**

5 (a) *IN GENERAL.*—*The Weather Research and Fore-*  
6 *casting Innovation Act of 2017 (15 U.S.C. 8501 et seq.) is*  
7 *amended by adding at the end the following:*

8 **“TITLE VI—IMPROVING FEDERAL**  
9 **PRECIPITATION INFORMATION**

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

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

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

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

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

3               “(1) *An examination of the current state of prac-*  
4 *tice for precipitation estimation at scales appropriate*  
5 *for decisionmaker needs, and rationale for further evo-*  
6 *lution of this field.*

7               “(2) *An evaluation of best practices for precipi-*  
8 *tation estimation that are based on the best-available*  
9 *science, include considerations 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 precipita-*  
14 *tion in future conditions; and*

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

18              “(4) *A description of existing research needs in*  
19 *the field of precipitation estimation in order to mod-*  
20 *ernize current methodologies and consider non-*  
21 *stationarity.*

22              “(5) *A description of in-situ, airborne, and*  
23 *space-based observation requirements, that could en-*  
24 *hance precipitation estimation and development of*  
25 *models, including an examination of the use of geo-*

1 *graphic information systems and geospatial tech-*  
2 *nology for integration, analysis, and visualization of*  
3 *precipitation data.*

4 “(6) *A recommended plan for a Federal research*  
5 *and development program, including specifications*  
6 *for costs, timeframes, and responsible agencies for ad-*  
7 *dressing identified research needs.*

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

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

16 “(9) *Recommendations for how data and services*  
17 *from the entire enterprise can be best leveraged by the*  
18 *Federal Government.*

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

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

1 **“SEC. 602. IMPROVING PROBABLE MAXIMUM PRECIPITA-**  
2 **TION ESTIMATES.**

3 *“(a) IN GENERAL.—Not later than 90 days after the*  
4 *date on which the National Academies makes public the re-*  
5 *port under section 601, the Administrator, in consideration*  
6 *of the report recommendations, shall consult with relevant*  
7 *partners, including users of the data, on the development*  
8 *of a plan to—*

9 *“(1) not later than 6 years after the completion*  
10 *of such report and not less than every 10 years there-*  
11 *after, update probable maximum precipitation esti-*  
12 *mates for the United States, such that each update*  
13 *considers non-stationarity;*

14 *“(2) coordinate with partners to conduct re-*  
15 *search in the field of extreme precipitation esti-*  
16 *mation, in accordance with the research needs identi-*  
17 *fied in such report;*

18 *“(3) make publicly available, in a searchable,*  
19 *interoperable format, all probable maximum precipi-*  
20 *tation studies developed by the National Oceanic and*  
21 *Atmospheric Administration that the Administrator*  
22 *has the legal right to redistribute and deemed to be*  
23 *at an appropriate state of development on an internet*  
24 *website of the National Oceanic and Atmospheric Ad-*  
25 *ministration; and*

1           “(4) ensure all probable maximum precipitation  
2 estimate data, products, and supporting documenta-  
3 tion and metadata developed by the National Oceanic  
4 and Atmospheric Administration are preserved,  
5 curated, and served by the National Oceanic and At-  
6 mospheric Administration, as appropriate.

7           “(b) NATIONAL GUIDANCE DOCUMENT FOR THE DE-  
8 VELOPMENT OF PROBABLE MAXIMUM PRECIPITATION ESTI-  
9 MATES.—The Administrator, in collaboration with Federal  
10 agencies, State, territorial, Tribal and local governments,  
11 academia, and other partners the Administrator deems ap-  
12 propriate, shall develop a National Guidance Document  
13 that—

14           “(1) provides best practices that can be followed  
15 by Federal and State regulatory agencies, private me-  
16 teorological consultants, and other users that perform  
17 probable maximum precipitation studies;

18           “(2) considers the recommendations provided in  
19 the National Academies study under section 601;

20           “(3) facilitates review of probable maximum pre-  
21 cipitation studies by regulatory agencies; and

22           “(4) provides confidence in regional and site-spe-  
23 cific probable maximum precipitation estimates.

24           “(c) PUBLICATION.—Not later than 2 years after the  
25 date on which the National Academies makes public the re-

1 port under section 601, the Administrator shall make pub-  
2 licly available the National Guidance Document under sub-  
3 section (b) on an internet website of the National Oceanic  
4 and Atmospheric Administration.

5 “(d) *UPDATES.*—The Administrator shall update the  
6 National Guidance Document not less than once every 10  
7 years after the publication of the National Guidance Docu-  
8 ment under subsection (c) and publish such updates in ac-  
9 cordance with such subsection.

10 “(e) *FUNDING.*—Amounts available to carry out this  
11 section may only come from within amounts authorized to  
12 be appropriated to the Administrator.

13 **“SEC. 603. DEFINITIONS.**

14 “In this title:

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

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

22 “(3) *UNITED STATES.*—The term ‘United States’  
23 means, collectively, each State of the United States,  
24 the District of Columbia, the Commonwealth of Puer-  
25 to Rico, American Samoa, Guam, the Commonwealth

1       *of the Northern Mariana Islands, the Virgin Islands*  
2       *of the United States, and any other territory or pos-*  
3       *session of the United States.”.*

4       **(b) CONFORMING AMENDMENT.**—*Section 1(b) of the*  
5       *Weather Research and Forecasting Innovation Act of 2017*  
6       *(15 U.S.C. 8501 note) is amended in the table of contents*  
7       *by adding at the end the following:*

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

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

      “*Sec. 602. Improving probable maximum precipitation estimates.*

      “*Sec. 603. Definitions.*”.

Attest:

*Secretary.*



117<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**H.R. 1437**

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**AMENDMENT**