

Baldwin Substitute (Modified)

AMENDMENT NO. \_\_\_\_\_

Calendar No. \_\_\_\_\_

Purpose: In the nature of a substitute.

**IN THE SENATE OF THE UNITED STATES—117th Cong., 2d Sess.**

**S. 3053**

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.

Referred to the Committee on \_\_\_\_\_ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended to be proposed by Ms. BALDWIN

Viz:

1 Strike all after the enacting clause and insert the fol-

2 lowing:

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 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.)  
7 is amended by adding at the end the following:

8 **“TITLE VI—IMPROVING FED-**  
9 **ERAL PRECIPITATION INFOR-**  
10 **MATION**

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

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

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

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

1 port on the results of the study under paragraph  
2 (1).

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

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

9 “(2) An evaluation of best practices for precipi-  
10 tation estimation that are based on the best-avail-  
11 able science, include considerations of non-  
12 stationarity, and can be utilized by the user commu-  
13 nity.

14 “(3) A framework for—

15 “(A) the development of a National Guid-  
16 ance Document for estimating extreme precipi-  
17 tation in future conditions; and

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

22 “(4) A description of existing research needs in  
23 the field of precipitation estimation in order to mod-  
24 ernize current methodologies and consider non-  
25 stationarity.

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

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

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

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

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

23          “(10) A description of non-Federal precipitation  
24          data, its accessibility by the Federal Government,

1 and ways for National Oceanic and Atmospheric Ad-  
2 ministration to improve or expand such datasets.

3 “(11) Such other topics as the Administrator or  
4 National Academies consider appropriate.

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

8 **“SEC. 602. IMPROVING PROBABLE MAXIMUM PRECIPITA-**  
9 **TION ESTIMATES.**

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

16 “(1) not later than 6 years after the completion  
17 of such report and not less than every 10 years  
18 thereafter, update probable maximum precipitation  
19 estimates for the United States, such that each up-  
20 date considers non-stationarity;

21 “(2) coordinate with partners to conduct re-  
22 search in the field of extreme precipitation esti-  
23 mation, in accordance with the research needs iden-  
24 tified in such report;

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 Oce-  
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 under 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. 603. 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) UNITED STATES.—The term ‘United  
15 States’ means, collectively, each State of the United  
16 States, the District of Columbia, the Commonwealth  
17 of Puerto Rico, American Samoa, Guam, the Com-  
18 monwealth of the Northern Mariana Islands, the  
19 Virgin Islands of the United States, and any other  
20 territory or possession of the United States.”.

21 (b) CONFORMING AMENDMENT.—Section 1(b) of the  
22 Weather Research and Forecasting Innovation Act of  
23 2017 (15 U.S.C. 8501 note) is amended in the table of  
24 contents 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."