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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. 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

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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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Providing Research and Estimates of Changes In Precipitation Act" or the "PRECIP Act".

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

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

"TITLE VI—IMPROVING FEDERAL PRECIPITATION INFORMATION

"SEC. 601. STUDY ON PRECIPITATION ESTIMATION.

"(a) IN GENERAL.—Not later than 90 days after the date of enactment of the PRECIP Act, the Administrator, in consultation with other Federal agencies as appropriate, shall seek to enter an agreement with the National Academies—

"(1) to conduct a study on the state of practice and research needs for precipitation estimation, including probable maximum precipitation estimation; and

"(2) to submit, not later than 24 months after the date on which such agreement is finalized, to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, and make publicly available on a website, a report on the results of the study under paragraph (1).

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

''(1) An examination of the current state of practice for precipitation estimation at scales appropriate for decisionmaker needs, and rationale for further evolution of this field.

''(2) An evaluation of best practices for precipitation estimation that are based on the best-available science, include assumptions of non-stationarity, and can be utilized by the user community.

''(3) A framework for—

''(A) the development of a National Guidance Document for estimating extreme precipitation in a changing climate; and

''(B) evaluation of the strengths and challenges of the full spectrum of approaches, including for probable maximum precipitation studies.

''(4) A description of existing research needs in the field of precipitation estimation in order to modernize current methodologies and incorporate the impacts of climate change on precipitation.

''(5) A description of in-situ, airborne, and space-based observation requirements, that could enhance precipitation estimation and development of

models, including an examination of the use of geographic information systems and geospatial technology for integration, analysis, and visualization of precipitation data.

''(6) A recommended plan for a Federal research and development program, including specifications for costs, timeframes, and responsible agencies for addressing identified research needs.

''(7) An analysis of the respective roles in precipitation estimation of various Federal agencies, academia, State, tribal, territorial, and local governments, and other public and private stakeholders.

''(8) Recommendations for data management to promote long-term needs such as enabling retrospective analyses and data discoverability, interoperability, and reuse.

''(9) Recommendations for how data and services from the entire enterprise can be best leveraged by the Federal Government.

''(10) Such other topics as the Administrator or National Academies consider appropriate.

''(c) AUTHORIZATION OF APPROPRIATIONS.—There is authorized $1,500,000 to the National Oceanic and Atmospheric Administration to carry out this study.

"SEC. 602. IMPROVING PRECIPITATION FREQUENCY ESTIMATES.

''(a) IN GENERAL.—The Administrator shall—

''(1) not later than 5 years after the date of enactment of this title and not less than every 5 years thereafter, update precipitation frequency estimates for the United States, such that each update includes at least one precipitation frequency atlas that incorporates assumptions of non-stationarity;

''(2) develop products targeted at users of this data in support of the mission of the National Oceanic and Atmospheric Administration;

''(3) make publicly available, in a searchable, interoperable format, all precipitation frequency estimate studies developed by the National Oceanic and Atmospheric Administration that the Administrator has the legal right to redistribute and that are deemed to be at an appropriate stage of development on an internet website of the National Oceanic and Atmospheric Administration; and

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

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

"SEC. 603. IMPROVING PROBABLE MAXIMUM PRECIPITATION ESTIMATES.

''(a) IN GENERAL.—Not later than 90 days after the date on which the National Academies makes public the report under section 601, the Administrator, in consideration of the report recommendations, shall consult with relevant partners, including users of the data, on the development of a plan to—

''(1) not later than 6 years after the completion of the National Academies report under section 601 and not less than every 10 years thereafter, update probable maximum precipitation estimates for the United States, such that each update includes estimates that incorporate assumptions of non-stationarity;

''(2) coordinate with partners to conduct research in the field of extreme precipitation estimation, in accordance with the research needs identified by the National Academies report under section 601;

''(3) make publicly available, in a searchable, interoperable format, all probable maximum precipitation studies developed by the National Oceanic and Atmospheric Administration that the Administrator has the legal right to redistribute and deemed to be at an appropriate state of development on an internet website of the National Oceanic and Atmospheric Administration; and

''(4) ensure all probable maximum precipitation estimate data, products, and supporting documentation and metadata developed by the National Oceanic and Atmospheric Administration are preserved, curated, and served by the National Oceanic and Atmospheric Administration, as appropriate.

''(b) NATIONAL GUIDANCE DOCUMENT FOR THE DEVELOPMENT OF PROBABLE MAXIMUM PRECIPITATION ESTIMATES.—The Administrator, in collaboration with Federal agencies, State, territorial, tribal and local governments, academia and other partners the Administrator deems appropriate, shall develop a National Guidance Document that—

''(1) provides best practices that can be followed by Federal and State regulatory agencies, private meteorological consultants, and other users that perform probable maximum precipitation studies;

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

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

''(4) provides confidence in regional and site-specific probable maximum precipitation estimates; and

''(5) includes such other topics as the Administrator deems appropriate.

''(c) PUBLICATION.—Not later than 2 years after the date on which the National Academies makes public the report under section 601, the Administrator shall make publicly available the National Guidance Document under subsection (b) on an internet website of the National Oceanic and Atmospheric Administration.

''(d) UPDATES.—The Administrator shall update the National Guidance Document not less than once every 10 years after the publication of the National Guidance Document under subsection (c) and publish such updates in accordance with such subsection.

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

''(1) $13,000,000 for fiscal year 2022.

''(2) $14,000,000 for fiscal year 2023.

''(3) $14,000,000 for fiscal year 2024.

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

''(5) $2,000,000 for fiscal year 2026.

''(6) $2,000,000 for fiscal year 2027.

"SEC. 604. DEFINITIONS.

'' In this title:

''(1) ADMINISTRATOR.—The term 'Administrator' means the Under Secretary of Commerce for Oceans and Atmosphere and Administrator of the National Oceanic and Atmospheric Administration.

''(2) NATIONAL ACADEMIES.—The term 'National Academies' means the National Academies of Sciences, Engineering, and Medicine.

''(3) PRECIPITATION FREQUENCY ATLAS.—The term 'precipitation frequency atlas' means a geographical atlas, such as the NOAA Atlas 14, that contains precipitation frequency estimates for the United States with associated lower and upper bounds of a determined confidence interval and supplementary information on temporal distribution of heavy precipitation, analysis of seasonality, and trends in annual maximum series data.

''(4) PRECIPITATION FREQUENCY ESTIMATE.—The term 'precipitation frequency estimate' means the magnitude associated with specific average re-

currence interval or annual exceedance probability for a given duration.

''(5) UNITED STATES.—The term 'United States' means, collectively, each State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Virgin Islands of the United States, and any other territory or possession of the United States.''.

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

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