

118TH CONGRESS  
1ST SESSION

# H. R. 2995

To authorize the National Mesonet Program of the National Weather Service,  
and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

APRIL 28, 2023

Mrs. BICE (for herself, Mr. TONKO, and Mr. LUCAS) introduced the following  
bill; which was referred to the Committee on Science, Space, and Technology

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## A BILL

To authorize the National Mesonet Program of the National  
Weather Service, 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 “National Mesonet Au-  
5 thorization Act”.

6 **SEC. 2. NATIONAL MESONET PROGRAM.**

7 (a) IN GENERAL.—Title I of the Weather Research  
8 and Forecasting Innovation Act of 2017 (15 U.S.C. 8501  
9 et seq.) is amended by adding at the end the following  
10 new section:

1 **“SEC. 111. NATIONAL MESONET PROGRAM.**

2 “(a) FINDINGS.—Congress finds the following:

3 “(1) Since the initial establishment of the Na-  
4 tional Mesonet Program, a public-private partner-  
5 ship program, the Program has leveraged data col-  
6 lected by existing weather observation networks to—

7 “(A) provide accurate, real-time observa-  
8 tions to support weather forecasters, emergency  
9 response, and all-weather sensitive activities  
10 across the United States;

11 “(B) address persistent impediments, iden-  
12 tified in a 2009 National Academy of Sciences  
13 Report, From the Ground Up, to fulfill the  
14 need for broader and denser environmental ob-  
15 servation networks to improve severe weather  
16 lead-times;

17 “(C) help achieve major improvements for  
18 the National Oceanic and Atmospheric Admin-  
19 istration and the broader American Weather  
20 Enterprise, as identified in the 2011 National  
21 Academy of Sciences Report, The National  
22 Weather Service Modernization and Associated  
23 Restructuring;

24 “(D) increase the amount of non-Federal  
25 weather data available to the Federal Govern-  
26 ment by orders of magnitude; and

1           “(E) improve understanding of the impact,  
2           size, and duration of mesoscale weather events.

3           “(2) The National Mesonet Program is a crit-  
4           ical component of Administration operations and  
5           provides reliable, real-time observation capabilities  
6           for the physical environment that enhances pre-  
7           diction, preparedness, and response strategies to se-  
8           vere weather events.

9           “(3) The National Mesonet Program is a pri-  
10          mary input, ingest, and quality-assurance/quality-  
11          control for non-Federal weather data that are crit-  
12          ical to operations, including situational awareness,  
13          forecasting, decision support, research, in-situ  
14          verification and validation for emerging satellite  
15          technologies, and numerical weather prediction mod-  
16          eling.

17          “(b) PROGRAM.—There is in the National Weather  
18          Service a program to be known as the National Mesonet  
19          Program (in this section referred to as the ‘Program’).  
20          The Program shall—

21                 “(1) be administered by the Under Secretary;  
22                 and

23                 “(2) obtain observations in all geographic envi-  
24                 ronments to improve understanding of and forecast  
25                 capabilities for atmospheric events, with a

1 prioritization on leveraging available commercial,  
2 academic, and other non-Federal weather data to en-  
3 hance coordination across the private, public, and  
4 academic sectors of the United States weather enter-  
5 prise.

6 “(c) PROGRAM ELEMENTS.—The Program shall  
7 carry out the following activities:

8 “(1) Improve environmental observations used  
9 by the National Oceanic and Atmospheric Adminis-  
10 tration and the National Weather Service to support  
11 baseline forecasts and warnings that protect the Na-  
12 tion’s citizens, businesses, military, and government  
13 agencies and enable such individuals and entities to  
14 operate in safe, efficient, and orderly manners.

15 “(2) When demonstrably cost effective, leverage  
16 existing networks of environmental monitoring sta-  
17 tions to increase the quantity and density of weather  
18 observations and data available to the Administra-  
19 tion.

20 “(3) Establish means to integrate greater den-  
21 sity and type of weather observations into the Pro-  
22 gram on an annual basis, including by encouraging  
23 local and regional networks of environmental moni-  
24 toring stations and satellite constellations to partici-  
25 pate in the Program.

1           “(4) Yield increased quantities of boundary-  
2 layer data to improve numerical weather prediction  
3 performance, including regarding subseasonal to sea-  
4 sonal timescales.

5           “(5) Provide the critical technical and adminis-  
6 trative infrastructure needed to facilitate rapid inte-  
7 gration and sustained use of new and emerging net-  
8 works of environmental monitoring stations antici-  
9 pated in coming years from non-Federal sources.

10           “(6) Expand and enhance environmental obser-  
11 vational networks in the roadway environment to  
12 provide real-time road weather and surface condi-  
13 tions for surface transportation and related eco-  
14 nomic sectors.

15           “(7) Identify available terrestrial or marine  
16 weather data, or quantifiable gaps in such data, to  
17 improve the understanding of air-sea interactions.

18           “(8) Support the National Weather Service in  
19 reaching its target of a 30-minute warning time for  
20 severe weather through better predictive model algo-  
21 rithms driven by increasingly effective observations.

22           “(9) Coordinate with existing Administration  
23 data used for forecasts, including data from the Na-  
24 tional Environmental Satellite, Data, and Informa-  
25 tion Service, the Integrated Ocean Observing Sys-

1 tem, the Global Ocean Monitoring and Observing  
2 Program, and National Ocean Service water level  
3 stations.

4 “(10) Identify and communicate to the Office of  
5 Oceanic and Atmospheric Research and other part-  
6 ners priorities of research and development needed  
7 to advance observations in the Program.

8 “(d) FINANCIAL AND TECHNICAL ASSISTANCE.—

9 “(1) IN GENERAL.—In furtherance of the Pro-  
10 gram, the Under Secretary may, to the extent  
11 amounts are made available, award financial assist-  
12 ance to State, Tribal, private, and academic entities  
13 seeking to build, expand, or upgrade equipment and  
14 capacity of mesonet systems. Financial assistance  
15 under this subsection may be made in coordination  
16 or addition to awards from other Federal agencies.

17 “(2) AGREEMENTS.—Before receiving financial  
18 assistance under paragraph (1), the State, Tribal,  
19 private, or academic entity seeking financial assist-  
20 ance under this subsection shall enter into an agree-  
21 ment with the Under Secretary to provide data to  
22 the Program, subject to verification of the relative  
23 operational value and evaluation of the cost of such  
24 data, for use in weather prediction, severe weather  
25 warnings, and emergency response.

1           “(3) ASSISTANCE AND OTHER SUPPORT.—The  
2 Under Secretary may provide technical assistance,  
3 project implementation support, and guidance to en-  
4 tities seeking financial assistance under this sub-  
5 section.

6           “(4) TERMS.—In providing financial assistance  
7 under this subsection, the Under Secretary shall es-  
8 tablish terms to ensure that each State, Tribal, pri-  
9 vate, or academic entity that receives financial as-  
10 sistance under this subsection receives a level of  
11 Federal support commensurate with the quality and  
12 other characteristics of the data to be provided.

13           “(5) DETERMINATION.—A State, Tribal, pri-  
14 vate, or academic entity may receive financial assist-  
15 ance under this subsection only if the Under Sec-  
16 retary determines such entity shall provide sufficient  
17 non-Federal financial support to maintain the qual-  
18 ity of the mesonet system and associated data stand-  
19 ards required by the Program.

20           “(e) ADVISORY COMMITTEE.—

21           “(1) IN GENERAL.—The Under Secretary shall  
22 ensure the Program has an active advisory com-  
23 mittee of subject matter experts to identify, imple-  
24 ment, procure, and track data needed to supplement  
25 the Program, and recommend improvements, expan-

1 sions, and acquisitions of available data. The Under  
2 Secretary may designate an existing Federal advi-  
3 sory committee, subcommittee, or working group, in-  
4 cluding, if appropriate, the Science Advisory Board  
5 of the National Oceanic and Atmospheric Adminis-  
6 tration, to carry out this subsection.

7 “(2) PARTNERSHIPS.—The advisory committee  
8 under paragraph (1) shall establish partnerships  
9 with one or more institutions of higher education (as  
10 such term is defined in section 101 of the Higher  
11 Education Act of 1965 (20 U.S.C. 1001)) to iden-  
12 tify, evaluate, and recommend potential partner-  
13 ships, regional or subregional consortia, and collabo-  
14 rative methods that would expand the number of  
15 participants and volume of data in the Program.

16 “(f) REGULAR REPORTING.—The Under Secretary  
17 shall provide regular briefings, not less than twice annu-  
18 ally, to the Committee on Science, Space, and Technology  
19 of the House of Representatives and the Committee on  
20 Commerce, Science, and Transportation of the Senate on  
21 all Program activities. Such briefings shall include infor-  
22 mation relating to the following:

23 “(1) Efforts to implement the activities de-  
24 scribed in subsection (c).



1           “(2) Any financial or technical assistance pro-  
2           vided pursuant to subsection (d).

3           “(3) Efforts to address recommendations re-  
4           ceived from the advisory committee under subsection  
5           (e).

6           “(4) The potential need and associated benefits  
7           of a coastal and ocean mesonet, or other emerging  
8           areas of weather data needs.

9           “(5) Progress toward eliminating gaps in  
10          weather observation data by States and regions of  
11          the United States.

12          “(6) Any other topic the Under Secretary deter-  
13          mines relevant.

14          “(g) AUTHORIZATION OF APPROPRIATIONS.—From  
15          amounts made available to the National Weather Service  
16          for Operations, Research, and Facilities, the Director of  
17          the National Weather Service, to carry out this section,  
18          shall allocate up to the following amounts for each speci-  
19          fied fiscal year:

20                 “(1) \$50,000,000 for fiscal year 2024.

21                 “(2) \$55,000,000 for fiscal year 2025.

22                 “(3) \$61,000,000 for fiscal year 2026.

23                 “(4) \$68,000,000 for fiscal year 2027.

24                 “(5) \$70,000,000 for fiscal year 2028.”.

1           (b) CLERICAL AMENDMENT.—The table of contents  
2 for the Weather Research and Forecasting Innovation Act  
3 of 2017 is amended by inserting after the item relating  
4 to section 110 the following new item:

“Sec. 111. National Mesonet Program.”.

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