

Calendar No. 194

119TH CONGRESS
1ST SESSION**S. 613****[Report No. 119–83]**

To require the Under Secretary of Commerce for Oceans and Atmosphere
to maintain the National Mesonet Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 2025

Mr. SCHATZ (for himself and Mr. MARSHALL) introduced the following bill;
which was read twice and referred to the Committee on Commerce,
Science, and Transportation

OCTOBER 21, 2025

Reported by Mr. CRUZ, without amendment

A BILL

To require the Under Secretary of Commerce for Oceans
and Atmosphere to maintain the National Mesonet Pro-
gram, 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 “Improving Flood and
5 Agricultural Forecasts Act of 2025”.

1 **SEC. 2. NATIONAL MESONET PROGRAM.**

2 (a) PROGRAM.—The Under Secretary shall maintain
3 the National Mesonet Program (referred to in this section
4 as the “Program”), which shall—

5 (1) obtain observations to improve under-
6 standing of and forecast capabilities for atmospheric,
7 drought, fire, and water events, with a prioritization
8 on leveraging available commercial, academic, and
9 other non-Federal Government environmental data
10 to enhance coordination across the private, public,
11 and academic sectors of the weather enterprise in
12 the United States;

13 (2) establish means to integrate greater density
14 and more types of environmental observations into
15 the Program on an annual basis, including by en-
16 couraging local and regional networks of environ-
17 mental monitoring stations and in situ sensor net-
18 works, including soil moisture and ground-based
19 profilers, to participate in the Program;

20 (3) establish memoranda of understanding with
21 networks outside of the scope of the Program in fur-
22 therance of this section; and

23 (4) coordinate with satellite data and services
24 acquired under section 302 of the Weather Research
25 and Forecasting Innovation Act of 2017 (15 U.S.C.
26 8532).

1 (b) PROGRAM ELEMENTS.—In carrying out the Pro-
2 gram, the Under Secretary shall—

3 (1) increase data density by—

4 (A) improving and increasing the quantity
5 and density of environmental observations used
6 by the National Oceanic and Atmospheric Ad-
7 ministration (referred to in this section as the
8 “Administration”) and the National Weather
9 Service to support baseline forecasts, including
10 nowcasts, warnings, and hyper local forecasts
11 that protect individuals, businesses, agricultural
12 production, food security, the military, and gov-
13 ernment agencies in the United States, and en-
14 abling such individuals and entities to operate
15 in a safe, efficient, and orderly manner;

16 (B) yielding increased quantities of bound-
17 ary-layer data to improve numerical weather
18 prediction performance, including in subsea-
19 sonal to seasonal timescales;

20 (C) identifying available terrestrial or ma-
21 rine environmental data, or quantifiable gaps in
22 such data, to improve the understanding of air-
23 sea interactions; and

24 (D) supporting the National Weather Serv-
25 ice in reaching its target of a 30-minute warn-

1 ing time for severe weather through better pre-
2 dictive model algorithms driven by increasingly
3 effective observations;

4 (2) monitor local meteorological conditions by—

5 (A) acquiring soil and moisture data to
6 monitor soil moisture, vegetation water content,
7 and moisture loss from evaporation, in support
8 of operational forecasting, the National Inte-
9 grated Drought Information System, and local
10 commercial, agricultural, and emergency man-
11 agement needs;

12 (B) supporting the National Coordinated
13 Soil Moisture Monitoring Network in acquiring
14 soil moisture and related data to support the
15 development of decision-support products and
16 other information services; and

17 (C) expanding and enhancing environ-
18 mental observational networks in the roadway
19 environment to provide real-time road weather
20 and surface conditions for surface transpor-
21 tation and related economic sectors; and

22 (3) administer the Program by—

23 (A) obtaining data in furtherance of this
24 section only when demonstrably cost effective

1 and meeting or exceeding data quality stand-
2 ards available to the Administration;

3 (B) subject to the requirement in subpara-
4 graph (A), leveraging existing networks of envi-
5 ronmental monitoring stations, including sup-
6 plemental radar systems, to increase the quan-
7 tity and density of environmental observations
8 and data available to the Administration;

9 (C) providing the critical technical and ad-
10 ministrative infrastructure needed to facilitate
11 rapid integration and sustained use of new and
12 emerging networks of environmental monitoring
13 stations anticipated in coming years from non-
14 Federal Government sources;

15 (D) coordinating with existing data devel-
16 oped by the Administration and used for fore-
17 casts, including data from the National Envi-
18 ronmental Satellite, Data, and Information
19 Service, the Integrated Ocean Observing Sys-
20 tem, the Global Ocean Monitoring and Observ-
21 ing Program, the National Data Buoy Center,
22 and the National Ocean Service; and

23 (E) identifying and communicating to the
24 Office of Oceanic and Atmospheric Research
25 and other partners priorities of research and

1 development needed to advance observations in
2 the Program.

3 (c) FINANCIAL AND TECHNICAL ASSISTANCE.—

4 (1) IN GENERAL.—In furtherance of the Pro-
5 gram, in a fiscal year, the Under Secretary may
6 award not less than 15 percent of the amount appro-
7 priated for the Program for that fiscal year for fi-
8 nancial assistance to State, Tribal, private, and aca-
9 demic entities seeking to build, expand, or upgrade
10 equipment and capacity of mesonet systems.

11 (2) OTHER FEDERAL AWARDS.—Financial as-
12 sistance under this subsection may be made in co-
13 ordination with and in addition to awards from
14 other Federal agencies.

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

24 (4) ASSISTANCE AND OTHER SUPPORT.—The
25 Under Secretary may provide—

1 (A) technical assistance, project implemen-
2 tation support, and guidance to State, Tribal,
3 private, and academic entities seeking financial
4 assistance under this subsection; and

5 (B) technical and financial assistance for
6 maintenance of monitoring stations in under-
7 represented or remote areas of the country
8 where it is financially unfeasible for one entity
9 to operate such stations without such assist-
10 ance.

11 (5) TERMS.—In providing financial assistance
12 under this subsection, the Under Secretary shall es-
13 tablish terms to ensure that each State, Tribal, pri-
14 vate, or academic entity that receives financial as-
15 sistance under this subsection receives a level of sup-
16 port commensurate with the quality and other char-
17 acteristics of the data to be provided.

18 (6) DETERMINATION.—A State, Tribal, private,
19 or academic entity may only receive financial assist-
20 ance under this subsection if the Under Secretary
21 determines such entity will provide sufficient finan-
22 cial support from non-Federal Government sources
23 and fully maintain the quality of the mesonet system
24 and associated data standards required by the Pro-
25 gram for a period of not less than 5 years.

1 (7) PRIORITY.—The Under Secretary shall
 2 prioritize providing assistance under paragraph (1)
 3 to not fewer than one entity in a remote area or an
 4 area that has a lack of environmental monitoring
 5 stations described in subsection (a)(2).

6 (d) ADVISORY COMMITTEE.—

7 (1) IN GENERAL.—The Under Secretary shall
 8 ensure the Program has an active advisory com-
 9 mittee of subject matter experts to make rec-
 10 ommendations to the Administration on—

11 (A) the identification, implementation, pro-
 12 curement, and tracking of data needed to sup-
 13 plement the Program; and

14 (B) improvements, expansions, and acqui-
 15 sitions of available data.

16 (2) DESIGNATION OF EXISTING COMMITTEE.—
 17 The Under Secretary may designate an existing ad-
 18 visory committee, subcommittee, or working group of
 19 the Federal Government, including the Science Advi-
 20 sory Board of the Administration, to carry out the
 21 requirement under paragraph (1).

22 (3) ACADEMIC EXPERTISE.—The advisory com-
 23 mittee under paragraph (1), in consultation with the
 24 Program, shall include expertise from one or more
 25 institutions of higher education (as defined in sec-

tion 101 of the Higher Education Act of 1965 (20 U.S.C. 1001)) to assist the advisory committee to identify, evaluate, and recommend potential partnerships, regional or subregional consortia, and collaborative methods that would expand the number of participants and volume of data in the Program.

(e) REGULAR BRIEFINGS.—

(1) IN GENERAL.—Not less frequently than annually through 2035, and not later than June 30 of each year, the Under Secretary shall provide regular briefings to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives on all activities under the Program.

(2) BRIEFING CONTENT.—Each briefing required under paragraph (1) shall include information relating to the following:

(A) Efforts to implement the activities described in subsection (b).

(B) Any financial or technical assistance provided pursuant to subsection (c).

(C) Efforts to address recommendations received from the advisory committee under subsection (d), if any.

1 (D) The potential need and associated ben-
2 efits of a coastal and ocean mesonet, or other
3 emerging areas of weather data needs.

4 (E) Progress toward eliminating gaps in
5 weather observation data in States and regions
6 of the United States.

7 (F) Any other topic the Under Secretary
8 determines relevant.

9 (f) DEFINITIONS.—In this section:

10 (1) SEASONAL, STATE, SUBSEASONAL, UNDER
11 SECRETARY, WEATHER ENTERPRISE.—The terms
12 “seasonal”, “State”, “subseasonal”, “Under Sec-
13 retary”, and “weather enterprise” have the mean-
14 ings given such terms in section 2 of the Weather
15 Research and Forecasting Innovation Act of 2017
16 (15 U.S.C. 8501).

17 (2) WEATHER DATA.—The term “weather
18 data” means information used to track and predict
19 weather conditions and patterns, including forecasts,
20 observations, and derivative products from such in-
21 formation.

22 (g) AUTHORIZATION OF APPROPRIATIONS.—From
23 amounts authorized to be appropriated to the National
24 Weather Service, there shall be available not more than
25 the following amounts to carry out this section:

- 1 (1) \$50,000,000 for fiscal year 2025.
- 2 (2) \$55,000,000 for fiscal year 2026.
- 3 (3) \$61,000,000 for fiscal year 2027.
- 4 (4) \$68,000,000 for fiscal year 2028.
- 5 (5) \$70,000,000 for fiscal year 2029.

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