

119TH CONGRESS
2D SESSION

S. 3919

To amend the Weather Research and Forecasting Innovation Act of 2017 with respect to the hurricane forecast improvement program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

FEBRUARY 25, 2026

Mr. BUDD introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To amend the Weather Research and Forecasting Innovation Act of 2017 with respect to the hurricane forecast improvement program, 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 “Hurricane Forecast
5 Improvement Program Enhancement Act”.

6 **SEC. 2. HURRICANE FORECAST IMPROVEMENT PROGRAM.**

7 Section 104 of the Weather Research and Fore-
8 casting Innovation Act of 2017 (15 U.S.C. 8514) is
9 amended to read as follows:

1 **“SEC. 104. HURRICANE FORECAST IMPROVEMENT PRO-**
2 **GRAM.**

3 “(a) IN GENERAL.—The Under Secretary, in collabo-
4 ration with the United States weather industry and aca-
5 demic partners, shall maintain a program to improve hur-
6 ricane forecasting, predictions, and warnings.

7 “(b) GOAL.—The goal of the program under sub-
8 section (a) shall be to develop and extend accurate hurri-
9 cane forecasts, predictions, and warnings in order to re-
10 duce the loss of life or property related to hurricanes, with
11 a focus on the following:

12 “(1) Improving the understanding, prediction,
13 and communication of rapid intensity change and
14 projected path of hurricanes, including probabilistic
15 methods for hurricane hazard mapping.

16 “(2) Improving the forecast and impact-based
17 communication of inland flooding, compound flood-
18 ing, and storm surges from hurricanes.

19 “(3) Incorporating social, behavioral, risk, com-
20 munication, and economic sciences to clearly inform
21 response to prevent the loss of life or property.

22 “(4) Evaluating and incorporating, as appro-
23 priate, innovative observations, including acoustic or
24 infrasonic measurements, novel sensor technologies,
25 observation tools or networks, crewed or uncrewed

1 systems, and hosted instruments on commercial air-
2 crafts, vessels, and satellites.

3 “(c) ACTIVITIES.—In carrying out subsection (a), the
4 Under Secretary shall award grants for research, includ-
5 ing relating to the following:

6 “(1) Implementing key strategies and following
7 priorities and objectives outlined by the 2019 report
8 of the National Oceanic and Atmospheric Adminis-
9 tration entitled, ‘Hurricane Forecast Improvement
10 Program’.

11 “(2) In coordination with the Social and Behav-
12 ioral Sciences Subcommittee of the National Science
13 and Technology Council and other relevant inter-
14 agency committees, improving the social, behavioral,
15 and economic sciences related to risk communica-
16 tion, and delivery of information critical for reducing
17 the loss of life or property related to hurricanes.

18 “(3) Improving the physical sciences, oper-
19 ational modeling, and tools related to hurricane for-
20 mation, the impacts of wind and water-based hurri-
21 cane hazards on the built and natural environment,
22 and the interaction of hurricanes and tornadoes.

23 “(d) WARNINGS.—In carrying out subsection (a), the
24 Under Secretary shall—

1 “(1) conduct and transition to operations the
2 research necessary to develop and deploy prob-
3 abilistic weather forecast guidance technology relat-
4 ing to hurricanes and related weather phenomena;

5 “(2) incorporate into hurricane modeling and
6 forecasting, as appropriate, social, behavioral, and
7 economic sciences research; and

8 “(3) expand computational resources, including
9 cloud computing, to support and improve higher res-
10 olution operational modeling of hurricanes and re-
11 lated weather phenomena.

12 “(e) ANNUAL REPORT.—Not later than June 1 of
13 each year until 2029, the Under Secretary, in consultation
14 with the Secretary of Defense, shall submit to the Com-
15 mittee on Commerce, Science, and Transportation of the
16 Senate and the Committee on Science, Space, and Tech-
17 nology of the House of Representatives a report that in-
18 cludes the following:

19 “(1) The number and causes of missed mission
20 requirements for the National Hurricane Operations
21 Plan and the National Winter Season Operations
22 Plan, including those related to equipment malfunc-
23 tion, aircraft availability, aircraft maintenance, flight
24 hour limits, and availability of pilots or other air and
25 maintenance crew members.

1 “(2) Requirements related to the plans de-
2 scribed in paragraph (1) that were requested by
3 forecasters but not tasked, and the reasons why
4 those were not tasked.

5 “(3) A workforce management plan addressing
6 any shortfalls in human capital resources that are
7 necessary for hurricane observational data collection
8 aboard aircraft or uncrewed systems.

9 “(4) A summary of—

10 “(A) hurricane technology that is under re-
11 search and development to improve confidence
12 in hurricane track and intensity predictions;

13 “(B) hurricane technology that is at the
14 prototype demonstration stage or beyond; and

15 “(C) plans for transitioning the hurricane
16 technology described in subparagraph (B) into
17 operations.”.

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