

116TH CONGRESS  
1ST SESSION

# S. 2597

To require the National Oceanic and Atmospheric Administration to make certain operational models available to the public, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

OCTOBER 15, 2019

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

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## A BILL

To require the National Oceanic and Atmospheric Administration to make certain operational models available to the public, 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 “Learning Excellence  
5 and Good Examples from New Developers Act of 2019”  
6 or the “LEGEND Act of 2019”.

7 **SEC. 2. DEFINITIONS.**

8 In this Act:

1           (1) ADMINISTRATION.—The term “Administra-  
2           tion” means the National Oceanic and Atmospheric  
3           Administration.

4           (2) ADMINISTRATOR.—The term “Adminis-  
5           trator” means the Under Secretary of Commerce for  
6           Oceans and Atmosphere and Administrator of the  
7           National Oceanic and Atmospheric Administration.

8           (3) MODEL.—The term “model” means any nu-  
9           merical model of the Earth’s system or its compo-  
10          nents produced by scientists employed by the Ad-  
11          ministration.

12          (4) OPERATIONAL MODEL.—The term “oper-  
13          ational model” means any model that has an output  
14          used by the Administration for operational or public  
15          service functions.

16          (5) OPEN SOURCE CODE.—The term “open  
17          source code” means computer code or programming  
18          language that is available for public use or modifica-  
19          tion.

20 **SEC. 3. PURPOSES.**

21          The purposes of this Act are—

22               (1) to support innovation in modeling by allow-  
23               ing interested stakeholders to have easy and com-  
24               plete access to the models used by the Administra-  
25               tion; and

1           (2) to use vetted innovations arising from ac-  
2           cess provided under paragraph (1) to improve mod-  
3           eling by the Administration.

4 **SEC. 4. REQUIREMENT TO MAKE CERTAIN OPERATIONAL**  
5 **MODELS AVAILABLE TO THE PUBLIC.**

6           (a) **IN GENERAL.**—The Administrator shall make  
7 available to the public the following:

8           (1) Current and future operational models de-  
9           veloped by the Administration, in the form of open  
10          source code for a period consistent with applicable  
11          records retention requirements.

12          (2) All Government-owned data, subject to re-  
13          distribution rights, associated with such models and  
14          used in operational forecasting by the Administra-  
15          tion, including—

16                  (A) relevant metadata;

17                  (B) data used for current operational fore-  
18          casts; and

19                  (C) a description of intended model out-  
20          puts.

21          (b) **DISCRETION TO MAKE EXPERIMENTAL OR DE-**  
22 **VELOPMENT MODELS AVAILABLE.**—The Administrator  
23 may make experimental or developmental models associ-  
24 ated with development projects funded by the Administra-  
25 tion available to the public as open source code.

1 (c) PLATFORM.—In carrying out subsections (a) and  
2 (b), the Administrator may use government servers, con-  
3 tracts or agreements with a private vendor, or any other  
4 platform consistent with the purpose of this Act.

5 (d) TECHNICAL CORRECTION.—Section 102(b) of the  
6 Weather Research Forecasting and Innovation Act of  
7 2017 (15 U.S.C. 8512(b)) is amended by redesignating  
8 the second paragraph (4) (as added by section 4(a) of the  
9 National Integrated Drought Information System Reau-  
10 thorization Act of 2018 (Public Law 115–423)) as para-  
11 graph (5).

12 (e) PHASED IMPLEMENTATION.—

13 (1) IMMEDIATE EFFECT FOR CERTAIN MOD-  
14 ELS.—For operational models that, as of the date of  
15 the enactment of this Act, meet the requirements de-  
16 scribed in paragraph (5)(E)(ii) of section 102(b) of  
17 the Weather Research Forecasting and Innovation  
18 Act of 2017 (15 U.S.C. 8512(b)), as redesignated by  
19 subsection (d), the Administrator shall implement  
20 the requirements of subsection (a) as soon as prac-  
21 ticable after such date of enactment.

22 (2) NEW MODELS.—For operational models  
23 that meet the requirements described in paragraph  
24 (1) and are created or substantially updated after  
25 the date of the enactment of this Act, the Adminis-

1 trator shall implement the requirements of sub-  
2 section (a) not later than 1 year after such date of  
3 enactment.

4 **SEC. 5. REQUIREMENT TO REVIEW MODELS AND LEVER-**  
5 **AGE INNOVATIONS.**

6 The Administrator shall—

7 (1) consistent with the mission of the Earth  
8 Prediction Innovation Center, periodically review in-  
9 novations and improvements made by persons out-  
10 side the Administration to the operational models  
11 made available to the public under section 4 in order  
12 to improve the accuracy and timeliness of forecasts  
13 of the Administration; and

14 (2) if the Administrator identifies an innovation  
15 for such a model the Administrator considers suit-  
16 able, develop and implement a plan to use the inno-  
17 vation to improve the model.

18 **SEC. 6. REPORT ON IMPLEMENTATION.**

19 (a) IN GENERAL.—Not later than 1 year after the  
20 date of the enactment of this Act, the Administrator shall  
21 submit to the appropriate congressional committees a re-  
22 port on the implementation of this Act that includes a de-  
23 scription of—

24 (1) how operational models have been made  
25 publicly available as required by section 4(a); and

1           (2) the process of the Administration under sec-  
2           tion 5—

3                   (A) for engaging with interested stake-  
4           holders to learn what innovations those stake-  
5           holders have found;

6                   (B) for reviewing those innovations; and

7                   (C) for operationalizing innovations the  
8           Administrator considers suitable.

9           (b) APPROPRIATE CONGRESSIONAL COMMITTEES  
10          DEFINED.—In this section, the term “appropriate con-  
11          gressional committees” means—

12                   (1) the Committee on Commerce, Science, and  
13          Transportation and the Committee on Appropria-  
14          tions of the Senate; and

15                   (2) the Committee on Science, Space, and  
16          Technology and the Committee on Appropriations of  
17          the House of Representatives.

18          **SEC. 7. PROTECTION OF NATIONAL SECURITY INTERESTS.**

19           (a) IN GENERAL.—Notwithstanding any other provi-  
20          sion of this Act, the Administrator may withhold models  
21          or data used in operational weather forecasting if the Ad-  
22          ministrator determines doing so to be necessary to protect  
23          the national security interests of the United States.

24           (b) RULE OF CONSTRUCTION.—Nothing in this Act  
25          shall be construed to supersede any other provision of law

1 governing the protection of the national security interests  
2 of the United States.

3 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

4       There are authorized to be appropriated to the Ad-  
5 ministration for each of fiscal years 2021 through 2026  
6 such sums as may be necessary to carry out this Act.

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