

Calendar No. 514116TH CONGRESS
2^D SESSION**S. 2597****[Report No. 116–253]**

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

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

AUGUST 12, 2020

Reported by Mr. WICKER, with an amendment

[Omit the part struck through and insert the part printed in *italie*]

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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Learning Excellence
3 and Good Examples from New Developers Act of 2019”
4 or the “LEGEND Act of 2019”.

5 **SEC. 2. DEFINITIONS.**

6 In this Act:

7 (1) **ADMINISTRATION.**—The term “Administra-
8 tion” means the National Oceanic and Atmospheric
9 Administration.

10 (2) **ADMINISTRATOR.**—The term “Adminis-
11 trator” means the Under Secretary of Commerce for
12 Oceans and Atmosphere and Administrator of the
13 National Oceanic and Atmospheric Administration.

14 (3) **MODEL.**—The term “model” means any nu-
15 merical model of the Earth’s system or its compo-
16 nents produced by scientists employed by the Ad-
17 ministration.

18 (4) **OPERATIONAL MODEL.**—The term “oper-
19 ational model” means any model that has an output
20 used by the Administration for operational or public
21 service functions.

22 (5) **OPEN SOURCE CODE.**—The term “open
23 source code” means computer code or programming
24 language that is available for public use or modifica-
25 tion.

1 **SEC. 3. PURPOSES.**

2 The purposes of this Act are—

3 (1) to support innovation in modeling by allow-
4 ing interested stakeholders to have easy and com-
5 plete access to the models used by the Administra-
6 tion; and

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

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

12 (a) IN GENERAL.—The Administrator shall make
13 available to the public the following:

14 (1) Current and future operational models de-
15 veloped by the Administration, in the form of open
16 source code for a period consistent with applicable
17 records retention requirements.

18 (2) All Government-owned data, subject to re-
19 distribution rights, associated with such models and
20 used in operational forecasting by the Administra-
21 tion, including—

22 (A) relevant metadata;

23 (B) data used for current operational fore-
24 casts; and

25 (C) a description of intended model out-
26 puts.

1 (b) DISCRETION TO MAKE EXPERIMENTAL OR DE-
2 VELOPMENT MODELS AVAILABLE.—The Administrator
3 may make experimental or developmental models associ-
4 ated with development projects funded by the Administra-
5 tion available to the public as open source code.

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

10 (d) TECHNICAL CORRECTION.—Section 102(b) of the
11 Weather Research Forecasting and Innovation Act of
12 2017 (15 U.S.C. 8512(b)) is amended by redesignating
13 the second paragraph (4) (as added by section 4(a) of the
14 National Integrated Drought Information System Reau-
15 thorization Act of 2018 (Public Law 115–423)) as para-
16 graph (5).

17 (e) PHASED IMPLEMENTATION.—

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

1 the requirements of subsection (a) as soon as prac-
2 ticable after such date of enactment.

3 (2) NEW MODELS.—For operational models
4 that meet the requirements described in paragraph
5 (1) and are created or substantially updated after
6 the date of the enactment of this Act, the Adminis-
7 trator shall implement the requirements of sub-
8 section (a) not later than 1 year after such date of
9 enactment.

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

12 The Administrator shall—

13 (1) consistent with the mission of the Earth
14 Prediction Innovation Center, periodically review in-
15 novations and improvements made by persons out-
16 side the Administration to the operational models
17 made available to the public under section 4 in order
18 to improve the accuracy and timeliness of forecasts
19 of the Administration; and

20 (2) if the Administrator identifies an innovation
21 for such a model the Administrator considers suit-
22 able, develop and implement a plan to use the inno-
23 vation to improve the model.

1 **SEC. 6. REPORT ON IMPLEMENTATION.**

2 (a) IN GENERAL.—Not later than 1 year after the
3 date of the enactment of this Act, the Administrator shall
4 submit to the appropriate congressional committees a re-
5 port on the implementation of this Act that includes a de-
6 scription of—

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

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

11 (A) for engaging with interested stake-
12 holders to learn what innovations those stake-
13 holders have found;

14 (B) for reviewing those innovations; and

15 (C) for operationalizing innovations the
16 Administrator considers suitable.

17 (b) APPROPRIATE CONGRESSIONAL COMMITTEES
18 DEFINED.—In this section, the term “appropriate con-
19 gressional committees” means—

20 (1) the Committee on Commerce, Science, and
21 Transportation and the Committee on Appropria-
22 tions of the Senate; and

23 (2) the Committee on Science, Space, and
24 Technology and the Committee on Appropriations of
25 the House of Representatives.

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

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

7 (b) RULE OF CONSTRUCTION.—Nothing in this Act
8 shall be construed to supersede any other provision of law
9 governing the protection of the national security interests
10 of the United States.

11 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

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

15 **SEC. 8. FUNDING.**

16 *The Administrator shall carry out this Act using*
17 *amounts available to the Administrator for fiscal years*
18 *2021 through 2026.*

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