

117TH CONGRESS
1ST SESSION

S. _____

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

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

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 2021”
6 or the “LEGEND Act of 2021”.

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) EARTH PREDICTION INNOVATION CEN-
9 TER.—The term “Earth Prediction Innovation Cen-
10 ter” means the community global weather research
11 modeling system described in paragraph (5)(E) of
12 section 102(b) of the Weather Research Forecasting
13 and Innovation Act of 2017 (15 U.S.C. 8512(b)), as
14 redesignated by section 4(g).

15 (4) MODEL.—The term “model” means any
16 vetted numerical model and associated data assimila-
17 tion of the Earth’s system or its components—

18 (A) developed, in whole or in part, by sci-
19 entists and engineers employed by the Adminis-
20 tration; or

21 (B) otherwise developed using Federal
22 funds.

23 (5) OPERATIONAL MODEL.—The term “oper-
24 ational model” means any model that has an output

1 used by the Administration for operational func-
2 tions.

3 (6) **SUITABLE MODEL.**—The term “suitable
4 model” means a model that meets the requirements
5 described in paragraph (5)(E)(ii) of section 102(b)
6 of the Weather Research Forecasting and Innovation
7 Act of 2017 (15 U.S.C. 8512(b)), as redesignated by
8 section 4(g), as determined by the Administrator.

9 **SEC. 3. PURPOSES.**

10 The purposes of this Act are—

11 (1) to support innovation in modeling by allow-
12 ing interested stakeholders to have easy and com-
13 plete access to the models used by the Administra-
14 tion, as the Administrator determines appropriate;
15 and

16 (2) to use vetted innovations arising from ac-
17 cess described in paragraph (1) to improve modeling
18 by the Administration.

19 **SEC. 4. PLAN AND IMPLEMENTATION OF PLAN TO MAKE**
20 **CERTAIN MODELS AND DATA AVAILABLE TO**
21 **THE PUBLIC.**

22 (a) **IN GENERAL.**—The Administrator shall develop
23 and implement a plan to make available to the public the
24 following:

1 (1) Operational models developed by the Ad-
2 ministration.

3 (2) Models that are not operational models, in-
4 cluding experimental and developmental models, as
5 the Administrator determines appropriate.

6 (3) Applicable information and documentation
7 for models described in paragraphs (1) and (2).

8 (4) Subject to section 7, all data owned by the
9 Federal Government and data that the Adminis-
10 trator has the legal right to redistribute that are as-
11 sociated with models made available to the public
12 pursuant to the plan and used in operational fore-
13 casting by the Administration, including—

14 (A) relevant metadata;

15 (B) data used for operational models used
16 by the Administration as of the date of the en-
17 actment of this Act; and

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

20 (b) ACCOMMODATIONS.—In developing and imple-
21 menting the plan under subsection (a), the Administrator
22 may make such accommodations as the Administrator
23 considers appropriate to ensure that the public release of
24 any model, information, documentation, or data pursuant
25 to the plan does not jeopardize—

1 (1) national security;

2 (2) intellectual property or redistribution rights,
3 including under titles 17 and 35, United States
4 Code;

5 (3) any trade secret or commercial or financial
6 information subject to section 552(b)(4) of title 5,
7 United States Code;

8 (4) any models or data that are otherwise re-
9 stricted by contract or other written agreement; or

10 (5) the mission of the Administration to protect
11 lives and property.

12 (c) PRIORITY.—In developing and implementing the
13 plan under subsection (a), the Administrator shall
14 prioritize making available to the public the models de-
15 scribed in subsection (a)(1).

16 (d) EXCLUSION OF CERTAIN MODELS.—In devel-
17 oping and implementing the plan under subsection (a), the
18 Administrator may exclude models that the Administrator
19 determines will be retired or superseded in fewer than 5
20 years after the date of the enactment of this Act.

21 (e) PLATFORMS.—In carrying out subsections (a)
22 and (b), the Administrator may use government servers,
23 contracts or agreements with a private vendor, or any
24 other platform consistent with the purpose of this Act.

1 (f) SUPPORT PROGRAM.—The Administrator shall
2 plan for and establish a program to support infrastruc-
3 ture, including telecommunications and technology infra-
4 structure of the Administration and the platforms de-
5 scribed in subsection (e), relevant to making operational
6 models and data available to the public pursuant to the
7 plan under subsection (a).

8 (g) TECHNICAL CORRECTION.—Section 102(b) of the
9 Weather Research Forecasting and Innovation Act of
10 2017 (15 U.S.C. 8512(b)) is amended by redesignating
11 the second paragraph (4) (as added by section 4(a) of the
12 National Integrated Drought Information System Reau-
13 thorization Act of 2018 (Public Law 115–423; 132 Stat.
14 5456)) as paragraph (5).

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

17 The Administrator shall—

18 (1) consistent with the mission of the Earth
19 Prediction Innovation Center, periodically review in-
20 novations and improvements made by persons out-
21 side the Administration to the operational models
22 made available to the public pursuant to the plan
23 under section 4(a) in order to improve the accuracy
24 and timeliness of forecasts of the Administration;
25 and

1 (2) if the Administrator identifies an innovation
2 for a suitable model, develop and implement a plan
3 to use the innovation to improve the model.

4 **SEC. 6. REPORT ON IMPLEMENTATION.**

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

10 (1) the implementation of the plan required by
11 section 4;

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

14 (A) for engaging with interested stake-
15 holders to learn what innovations those stake-
16 holders have found;

17 (B) for reviewing those innovations; and

18 (C) for operationalizing innovations to im-
19 prove suitable models.

20 (b) APPROPRIATE CONGRESSIONAL COMMITTEES
21 DEFINED.—In this section, the term “appropriate con-
22 gressional committees” means—

23 (1) the Committee on Commerce, Science, and
24 Transportation and the Committee on Appropria-
25 tions of the Senate; and

1 (2) the Committee on Science, Space, and
2 Technology and the Committee on Appropriations of
3 the House of Representatives.

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

5 (a) IN GENERAL.—Notwithstanding any other provi-
6 sion of this Act, the Administrator, in consultation with
7 the Secretary of Defense, as appropriate, may withhold
8 any model or data if the Administrator determines doing
9 so to be necessary to protect the national security interests
10 of the United States.

11 (b) RULE OF CONSTRUCTION.—Nothing in this Act
12 shall be construed to supersede any other provision of law
13 governing the protection of the national security interests
14 of the United States.

15 **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

16 (a) IN GENERAL.—There is authorized to be appro-
17 priated to carry out this Act \$2,000,000 for each of fiscal
18 years 2022 through 2026.

19 (b) DERIVATION OF FUNDS.—Funds to carry out
20 this section shall be derived from amounts authorized to
21 be appropriated to the National Weather Service that are
22 enacted after the date of the enactment of this Act.