

119TH CONGRESS
2D SESSION

S. 4571

To require the Environmental Protection Agency to establish a tropospheric ozone research program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 19, 2026

Mr. WHITEHOUSE (for himself and Mr. SCHATZ) introduced the following bill;
which was read twice and referred to the Committee on Environment and
Public Works

A BILL

To require the Environmental Protection Agency to establish
a tropospheric ozone research 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 “Tropospheric Ozone
5 Research Act of 2026”.

6 **SEC. 2. TROPOSPHERIC OZONE RESEARCH PROGRAM.**

7 (a) DEFINITIONS.—In this section:

1 (1) ADMINISTRATOR.—The term “Adminis-
2 trator” means the Administrator of the Environ-
3 mental Protection Agency.

4 (2) PROGRAM.—The term “program” means
5 the grant program established under subsection (b).

6 (3) TROPOSPHERIC OZONE.—The term “tropo-
7 spheric ozone” means ozone found within the
8 Earth’s troposphere.

9 (4) TROPOSPHERIC OZONE PRECURSOR.—The
10 term “tropospheric ozone precursor” means any of
11 methane, nitrogen oxides, carbon monoxide, non-
12 methane volatile organic compounds, and other com-
13 pounds that react to form tropospheric ozone.

14 (b) ESTABLISHMENT.—Not later than 90 days after
15 the date on which amounts are appropriated to carry out
16 this Act, the Administrator shall establish a competitive
17 grant program to award grants to eligible entities to carry
18 out research with respect to the climate impacts of tropo-
19 spheric ozone.

20 (c) RESEARCH TOPICS.—

21 (1) IN GENERAL.—The research carried out
22 using grants under the program shall include re-
23 search with respect to—

(A) improving understanding of the impact of tropospheric ozone concentrations and mitigation on global temperatures, including—

(i) the role of regional or localized tropospheric ozone concentrations;

(ii) the role of emission or mitigation of specific tropospheric ozone precursors; and

(iii) interactions with other atmospheric pollutants (such as particulate matter);

(B) improving understanding of the impact of tropospheric ozone concentrations and mitigation on regional, localized, and seasonal temperatures and heat stress, including—

(i) the role of regional or localized tropospheric ozone concentrations;

(ii) the role of emission or mitigation of specific tropospheric ozone precursors; and

(iii) interactions with other atmospheric pollutants (such as particulate matter);

(C) improving understanding of natural interactions affecting tropospheric ozone con-

centrations and mitigation, such as non-anthropogenic tropospheric ozone precursor emissions, stratospheric ozone, and lightning;

(D) improving understanding of crop loss impacts from elevated levels of tropospheric ozone, including regional and local impacts and potential measures to reduce crop loss impacts;

(E) improving understanding of forest and ecosystem productivity impacts from elevated levels of tropospheric ozone, including regional and local impacts;

(F) developing or updating existing regional and global climate models or other relevant models to better incorporate the radiative forcing and temperature impacts of tropospheric ozone and the interactions between tropospheric ozone and other greenhouse gases and air pollutants; and

(G) subject to paragraph (3), strengthening and expanding tropospheric ozone and tropospheric ozone precursor monitoring and observational infrastructure, including—

(i) enhancement of ground-based monitoring networks (with increased coverage

in rural, agricultural, and other understudied regions);

(ii) integration of surface observations with satellite remote sensing and chemical transport model outputs;

(iii) expanded vertical profiling through ozonesondes and aircraft measurements, particularly in understudied regions; and

(iv) development of standardized data assimilation frameworks to support climate and air quality monitoring.

(2) CURRENT AND FUTURE MODELING.—

(A) IN GENERAL.—In seeking to carry out the research described in subparagraphs (A) through (F) of paragraph (1), the Administrator shall seek to include research that—

(i) assesses tropospheric ozone impacts and interactions at concentrations present on the date the program is established; and

(ii) models future tropospheric ozone concentrations, impacts, and interactions.

(B) FUTURE TROPOSPHERIC OZONE.—In seeking to carry out research with respect to

1 the future tropospheric ozone concentrations,
2 impacts, and interactions described in subpara-
3 graph (A)(ii), the Administrator shall seek to
4 carry out research that—

5 (i) models a range of scenarios, in-
6 cluding scenarios that assume that trends
7 in emissions of tropospheric ozone precur-
8 sors, other atmospheric pollutants, and
9 greenhouse gases in effect on the date on
10 which the program is established continue
11 and scenarios that assume reductions in
12 such emissions; and

13 (ii) includes an assessment of how cli-
14 mate impacts (such as increased wildfires,
15 increased temperatures, altered atmos-
16 pheric circulation patterns, and changes in
17 humidity, stagnation frequency, and light-
18 ning frequency) or changes in other atmos-
19 pheric pollutants across the modeled range
20 of scenarios affect tropospheric ozone con-
21 centrations, and related impacts.

22 (3) PUBLIC AVAILABILITY OF DATA.—The Ad-
23 ministrator shall ensure that any data collected pur-
24 suant to paragraph (1)(G) is made publicly avail-
25 able.

1 (d) ELIGIBLE ENTITIES.—An entity eligible to re-
2 ceive a grant under the program is—

3 (1) an institution of higher education;

4 (2) a National Laboratory (as defined in section
5 2 of the Energy Policy Act of 2005 (42 U.S.C.
6 15801)); or

7 (3) any other nonprofit research entity with
8 demonstrated expertise in atmospheric chemistry,
9 weather modeling, climate modeling, or air quality
10 monitoring.

11 (e) APPLICATIONS.—An eligible entity seeking a
12 grant under the program shall submit to the Adminis-
13 trator an application at such time, in such manner, and
14 containing such information as the Administrator may re-
15 quire.

16 (f) TIMING.—The Administrator shall select recipi-
17 ents of grants under the program not later than 180 days
18 after the date on which the program is established.

19 (g) COLLABORATION.—In carrying out the program,
20 the Administrator shall collaborate with the international
21 scientific community on science, research, and data-shar-
22 ing with respect to the research topics described in sub-
23 section (c)(1), including through multilateral forums.

24 (h) REPORTS.—

25 (1) REPORTS TO ADMINISTRATOR.—

1 (A) IN GENERAL.—The recipient of a
2 grant under the program shall annually submit
3 to the Administrator a report describing the
4 findings of the recipient with respect to the re-
5 search for which the grant was provided.

6 (B) PUBLIC AVAILABILITY.—A report sub-
7 mitted under subparagraph (A) shall be made
8 publicly available.

9 (2) EPA REPORT.—Not later than 4 years after
10 the date on which the program is established, the
11 Administrator shall submit to the Committee on En-
12 vironment and Public Works of the Senate and the
13 Committee on Energy and Commerce of the House
14 of Representatives and make publicly available a re-
15 port that describes the findings and recommenda-
16 tions of the Administrator with respect to the pro-
17 gram and tropospheric ozone, which shall include—

18 (A) a description of the contributions of
19 tropospheric ozone at concentrations in effect
20 on the date the report is submitted to—

21 (i) global temperature rise;

22 (ii) regional, localized, and seasonal
23 warming and heat stress;

24 (iii) crop losses and forest and eco-
25 system productivity impacts; and

1 (iv) health effects;

2 (B) the forecasted future contributions,
 3 under a range of scenarios, including scenarios
 4 that assume trends in emissions of tropospheric
 5 ozone precursors, other atmospheric pollutants,
 6 and greenhouse gases in effect on the date the
 7 report is submitted continue and scenarios that
 8 assume reductions in such emissions, of tropo-
 9 spheric ozone to—

10 (i) global temperature rise;

11 (ii) regional, localized, and seasonal
 12 warming and heat stress;

13 (iii) crop losses and forest and eco-
 14 system productivity impacts; and

15 (iv) health effects;

16 (C) a description of the national or, as ap-
 17 propriate, regional, local, or seasonal options to
 18 mitigate specific tropospheric ozone precur-
 19 sors—

20 (i) to maximize global and localized
 21 warming reductions;

22 (ii) to minimize adverse impacts to
 23 health, forests, or ecosystems; and

24 (iii) to minimize crop loss impacts;

1 (D) a high-level assessment of the costs
 2 and benefits of tropospheric ozone precursor
 3 mitigation options identified under subpara-
 4 graph (C); and

5 (E) policy recommendations for—

6 (i) mitigation strategies for specific
 7 tropospheric precursors to minimize the
 8 negative impacts of tropospheric ozone,
 9 based on the findings described subpara-
 10 graphs (C) and (D);

11 (ii) improvements in data collection
 12 and reporting for tropospheric ozone and
 13 tropospheric ozone precursors; and

14 (iii) further research needs.

15 (i) AUTHORIZATION OF APPROPRIATIONS.—

16 (1) IN GENERAL.—There are authorized to be
 17 appropriated to the Administrator to carry out the
 18 program—

19 (A) \$10,500,000 for each of fiscal years
 20 2027 through 2029; and

21 (B) \$1,000,000 for fiscal year 2030.

22 (2) REQUIREMENTS.—Of the amounts made
 23 available under paragraph (1)—

1 (A) with respect to the amounts made
2 available under subparagraph (A) of that para-
3 graph—

4 (i) \$10,000,000 shall be used to make
5 grants under the program; and

6 (ii) \$500,000 shall be used to imple-
7 ment and oversee the program; and

8 (B) the amounts made available under sub-
9 paragraph (B) of that paragraph shall be used
10 to prepare the report required under subsection
11 (h)(2).

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