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116TH CONGRESS
1ST SESSION

H. R. 5519

To amend the America COMPETES Act to improve measurement and assessment capabilities for understanding proposed atmospheric interventions in Earth's climate, including, as a priority, the effects of proposed interventions in the stratosphere and in cloud-aerosol processes.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 19, 2019

Mr. MCNERNEY introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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A BILL

To amend the America COMPETES Act to improve measurement and assessment capabilities for understanding proposed atmospheric interventions in Earth's climate, including, as a priority, the effects of proposed interventions in the stratosphere and in cloud-aerosol processes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Atmospheric Climate Intervention Research Act''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) The National Oceanic and Atmospheric Administration (referred to in this section as ''NOAA'') and its Office of Ocean and Atmospheric Research undertakes research, including scientific research, computer modeling and other forms of analysis, and uses satellite, airborne, and ground-based systems to monitor atmospheric chemistry and dynamics, including radiative forcing gases and stratospheric ozone as well as the chemical compounds and atmospheric conditions that affect its concentration.

(2) The NOAA Earth System Research Laboratory, the NOAA Geophysical Fluid Dynamics Laboratory, and the NOAA Air Resource Laboratory are actively involved in observations, modeling, and monitoring that enhance the scientific understanding of atmospheric chemistry and dynamics, drivers of radiative forcing of climate change in the atmosphere, the health of the stratosphere, including ozone and the processes affecting its concentration in the stratosphere, and cloud aerosol interactions and their climate effects.

(3) There are significant risks posed by the potential introduction of material into the stratosphere from natural events such as volcanic eruptions, increased air and space traffic, and proposals to inject

material to temporarily reduce global radiative forcing of climate that currently are the subject of a forthcoming report by the National Academies of Sciences.

(4) To monitor and assess these risks requires significant improvements to observations of the abundances and chemistry of the stratospheric gases and particles and the reflectivity of the stratosphere to establish the baseline state of the stratosphere and its trend over time and to develop enhancements to stratospheric models used for predicting climate impacts of material introduced into the stratosphere by natural or other means.

(5) Under the Weather Modification Reporting Act of 1972 (15 U.S.C. 330 et seq.), NOAA is responsible for oversight of any activities undertaken to modify weather, which includes research or testing activities related to modifying the atmosphere to affect local, regional, or global climate (defined as atmospheric climate intervention under such Act).

(6) The Montreal Protocol, finalized in 1987, and ratified by the United States in 1988, has proven to be innovative and successful in protecting the Earth's ozone layer, and is the only environmental treaty to achieve universal ratification by all coun-

tries in the world. The United States has been a leader within the Protocol throughout its existence. Hence, the Protocol should remain the governing global agreement to protect the stratospheric ozone layer.

SEC. 3. STRATOSPHERE AND CLIMATE INTERVENTION RESEARCH PROGRAM.

Section 4001 of the America COMPETES Act (33 U.S.C. 893) is amended—

(1) in subsection (a)—

(A) by striking ''atmospheric research'' and inserting ''atmospheric and climate intervention research''; and

(B) by inserting ''and observational, monitoring, forecasting,'' after ''advanced technologies''; and

(2) in subsection (b)—

(A) in the heading, by striking ''and atmospheric'' and inserting '', ATMOSPHERIC, AND CLIMATE INTERVENTION'';

(B) in paragraph (2), by striking ''and'' at the end;

(C) in paragraph (3), by striking the period at the end and inserting a semicolon; and

(D) by adding at the end the following:

''(4) to improve measurement and assessment capabilities for understanding proposed atmospheric interventions in climate, including, as a priority, the effects of proposed interventions in the stratosphere and in cloud-aerosol processes;

''(5) within the Office of Ocean and Atmospheric Research of the National Oceanic and Atmospheric Administration, to undertake research, including scientific research, and develop increased observations, improved models, new analyses, computing and related technologies, and risk assessment to improve understanding and prediction of—

''(A) the chemistry and dynamics of the stratosphere;

''(B) Earth's radiation budget; and

''(C) the impacts of changes in atmospheric aerosol forcing on the Earth's energy balance and climate;

''(6) to expand the use of cloud computing, space-based and ground-based remote sensing capabilities, and other commercially available technologies to accelerate research; and

''(7) within the Office of Oceanic and Atmospheric Research, to assess and advise the Secretary with respect to reports submitted under the Weather

Modification Reporting Act of 1972 (15 U.S.C. 330 et seq.) relating to atmospheric climate intervention experiments, and, as determined appropriate by the Office, make available to the public findings and data relating to such reports.''.

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