

DEPARTMENT OF HOMELAND SECURITY CLIMATE  
 CHANGE RESEARCH ACT

JANUARY 10, 2020.—Committed to the Committee of the Whole House on the State  
 of the Union and ordered to be printed

Mr. THOMPSON of Mississippi, from the Committee on Homeland  
 Security, submitted the following

R E P O R T

[To accompany H.R. 4737]

[Including cost estimate of the Congressional Budget Office]

The Committee on Homeland Security, to whom was referred the bill (H.R. 4737) to amend the Homeland Security Act of 2002 to require the Under Secretary for Science and Technology of the Department of Homeland Security to research and evaluate existing Federal research regarding approaches to mitigate climate change on homeland security to identify areas for further research within the Department, research and develop approaches to mitigate the consequences of climate change on homeland security, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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The amendment is as follows:

Strike all after the enacting clause and insert the following:

**SECTION 1. SHORT TITLE.**

This Act may be cited as the “Department of Homeland Security Climate Change Research Act”.

**SEC. 2. CLIMATE CHANGE PLANNING, RESEARCH AND DEVELOPMENT, AND PROTECTION AND PREPAREDNESS.**

(a) IN GENERAL.—Title III of the Homeland Security Act of 2002 is amended by adding at the end the following new section:

**“SEC. 321. CLIMATE CHANGE RESEARCH AND DEVELOPMENT.**

“(a) IN GENERAL.—The Under Secretary for Science and Technology—

“(1) shall evaluate existing Federal research regarding approaches to mitigate the consequence of climate change on homeland security to identify areas for additional research and development pursuant to paragraph (2) with respect to—

“(A) any connection between climate change and homeland security, including how the resulting competition for resources, economic distress, and social discontent has contributed to, among other outcomes, acts of terrorism;

“(B) the degree to which climate change is reflected in terrorism preparedness and emergency planning and policies, including with respect to preparedness, response to, and recovery from natural disasters; and

“(C) the degree to which the Federal funding structure to respond to major disaster declarations and emergency declarations is adequately structured to meet the demands of responding to and recovering from acts of terrorism and natural disasters that are aggravated by climate change; and

“(2) shall, to the extent practicable, conduct research and development on approaches to mitigate the consequences of climate change on homeland security in response to finding pursuant to paragraph (1).

“(b) SCOPE.—The scope of the research and development under subsection (a)(2) shall include the following:

“(1) Any connection between climate change and homeland security, including how the resulting competition for resources, economic distress, and social discontent can contribute to, among other outcomes, acts of terrorism.

“(2) The degree to which climate change is reflected in terrorism preparedness and emergency planning and policies, including with respect to preparedness, response to, and recovery from natural disasters.

“(3) The degree to which the Federal funding structure to respond to major disaster declarations and emergency declarations is adequately structured to meet the demands of responding to and recovering from acts of terrorism and natural disasters that are aggravated by climate change.

“(c) CONSULTATION.—In carrying out this section, the Under Secretary for Science and Technology shall consult with the heads of other relevant agencies and departments of the Federal Government, first responders, and relevant owners and operators of critical infrastructure.

“(d) CLIMATE CHANGE DEFINED.—The term ‘climate change’ refers to detectable changes in one or more climate system components that is directly or indirectly attributed to—

“(1) human activity; and

“(2) altering the composition of the global atmosphere.”.

(b) CLERICAL AMENDMENT.—The table of contents in section 1(b) of the Homeland Security Act of 2002 is amended by inserting after the item relating to section 320 the following new item:

“Sec. 321. Climate change research and development.”.

**SEC. 3. REPORT TO CONGRESS.**

Not later than one year after the date of the enactment of this Act and annually thereafter for three years, the Under Secretary for Science and Technology of the Department of Homeland Security shall submit to the Committee on Homeland Security of the House of Representatives and the Committee on Homeland Security and Governmental Affairs of the Senate a report on any research and development activities carried out pursuant to section 321 of the Homeland Security Act of 2002, as added by this Act.

## PURPOSE AND SUMMARY

H.R. 4737, the “Department of Homeland Security Climate Change Research Act,” would direct the Department of Homeland Security (the Department or DHS)’s Science and Technology Directorate to assess current Federal research regarding the connection between climate change and homeland security to identify research gaps and, to the extent practical, conduct additional research to fill identified gaps. In addition to focusing on how climate change can result in competition for resources, economic distress, and social discontent, the research shall consider the degree to which climate change is reflected in terrorism preparedness, and how Federal spending is affected for disasters that are aggravated by climate change. Under this measure, DHS would also be required, to the extent practical, to develop approaches to mitigate the consequences of climate change on homeland security. For three years after enactment of H.R. 4737, DHS would be required to submit annual reports to Congress on the Department’s activities in furtherance of the implementation of this measure.

## BACKGROUND AND NEED FOR LEGISLATION

Since the 19th Century, the Earth has warmed roughly 1.8 degrees Fahrenheit and is predicted to warm to 2.7 degrees by 2030.<sup>1</sup> In 2018, the U.S. Global Change Research Program, a Federal program responsible for coordinating Federal climate research, found that it is extremely likely that “. . . human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence.”<sup>2</sup>

Climate change has national security implications. In 2015, the Department of Defense released a report entitled the “National Security Implications of Climate-Related Risks and a Changing Climate.”<sup>3</sup> In it, the Defense Department states:

A changing climate increases the risk of instability and conflict overseas . . . The Department of Defense sees climate change as a present security threat, not strictly a long-term risk. We are already observing the impacts of climate change in shocks and stressors to vulnerable nations and communities, including in the United States, and in the Arctic, Middle East, Africa, and South America. Case studies indicate that in addition to exacerbating existing risks from other factors (e.g. social, economic, and political fault lines), climate induced stress can generate new vulnerabilities (e.g.) water scarcity and thus contribute to instability and conflict even in a situation not previously considered at risk.<sup>4</sup>

<sup>1</sup>“This is why fighting climate change is so urgent.” The Environmental Defense Fund. Accessed September 9, 2019. <https://www.edf.org/climate/why-fighting-climate-change-so-urgent>.

<sup>2</sup> USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA. <https://science2017.globalchange.gov/>.

<sup>3</sup>“National Security Implications of Climate-Related Risks and Changing Climate.” The Department of Defense. July 23, 2015. Accessed August 26, 2019. <https://archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf>.

<sup>4</sup>Ibid.

Further, the FY 2018 National Defense Authorization Act, as signed by President Trump, stated that “[a]s global temperatures rise, droughts and famines can lead to more failed states, which are breeding grounds of extremist and terrorist organizations.”<sup>5</sup> A University of California-Berkley study concluded that “[d]roughts and famines, floods, wildfires, and other events caused at least in part by climate change lead to instability that extremist groups can take advantage of to create conflict.”<sup>6</sup> Parts of the world are already starting to see this dynamic play out.

In Iraq, ISIS targeted for recruitment farmers whose crops were lost to drought and other weather events.<sup>7</sup> In 2018, U.S. officials “expressed concern about ISIS and al Qaeda affiliates in the Sahel region [of Africa]” engaged in recruitment, which some experts believe stem from increased water instability in the region caused by climate change.<sup>8</sup> A year earlier, National Geographic published a report on how terrorist recruiters operated successfully in the region. It explained how, in 2009, a terrorist recruiter targeted “the most shabbily dressed farmers” with promises of “easy riches” and help feeding their families in return for joining the terrorist organization and then, in subsequent years, “[w]ith every flood or bout of extreme heat or cold, the jihadists would reappear” and the farmers, “in no state to navigate the extra challenges of climate change,” were recruited.<sup>9</sup> That is how “the most environmentally damaged Sunni Arab villages quickly emerged as some of the deep-pocketed jihadists’ foremost recruiting grounds.”<sup>10</sup>

While the Department of Defense has analyzed this through the lens of defense, there is a need for climate change to be analyzed through the homeland security lens, as it has implications for terrorism preparedness and emergency planning.

#### HEARINGS

For the purposes of section 103(i) of H. Res 6. of the 116th Congress, the following hearing was used to develop H.R. 4737:

- On April 9, 2019, the Committee held a hearing entitled “Assessing the Homeland Security Impacts of a Changing Climate.” The Committee received testimony from Dr. Astrid Caldas, Senior Climate Scientist, Union of Concerned Scientists; Mr. Timothy Manning, Senior Advisor to the Pacific Disaster Center and the President and CEO of Berglind-Manning l.c.; Ms. Kristie Trousdale, Deputy Director, Children’s Environmental Health Network; and Chief Dan Eggleston, President and Chairman of the Board, International Association of Fire Chiefs.

<sup>5</sup>National Defense Authorization Act for Fiscal Year 2018. Public Law 115–91. 1283 Stat. 131. December 12, 2017.

<sup>6</sup>Benson, Thor. “The Cities at Risk of Climate-Driven Conflict.” CityLab. March 21, 2018. Accessed August 26, 2019. <https://www.citylab.com/environment/2018/03/the-cities-at-risk-of-climate-driven-conflict/555410/>.

<sup>7</sup>Gerretsen, Isabelle. “How climate change is fueling extremism.” CNN. March 10, 2019. Accessed September 9, 2019. <https://www.cnn.com/2019/03/06/world/climate-change-terrorism-extremism-africa-middle-east-intl/index.html>.

<sup>8</sup>Ibid.

<sup>9</sup>Schwartzstein, Peter. “Climate Change and Water Woes Drove Isis Recruiting in Iraq.” National Geographic. November 14, 2017. Accessed September 9, 2019. <https://www.nationalgeographic.com/news/2017/11/climate-change-drought-drove-isis-terrorist-recruiting-iraq/>.

<sup>10</sup>Ibid.

## COMMITTEE CONSIDERATION

The Committee met on October 23, 2019, with a quorum being present, to consider H.R. 4737 and ordered the measure to be reported to the House with a favorable recommendation, with an amendment, by unanimous consent.

The following amendment was offered and agreed to by unanimous consent:

An amendment offered by Mr. Rogers.

Page 2, line 13, strike “shall”.

Page 2, line 14, strike “research and” and insert “shall”.

Page 3, line 11, insert “, to the extent practicable,” after “shall”.

Page 4, strike the proposed subsection (e).

Add at the end the following:

**SEC. 3. REPORT TO CONGRESS.**

Not later than one year after the date of the enactment of this Act and annually thereafter for three years, the Under Secretary for Science and Technology of the Department of Homeland Security shall submit to the Committee on Homeland Security of the House of Representatives and the Committee on Homeland Security and Governmental Affairs of the Senate a report on any research and development activities carried out pursuant to section 321 of the Homeland Security Act of 2002, as added by this Act.

## COMMITTEE VOTES

Clause 3(b) of rule XIII of the Rules of the House of Representatives requires the Committee to list the recorded votes on the motion to report legislation and amendments thereto.

No recorded votes were requested during consideration of H.R. 4737.

## COMMITTEE OVERSIGHT FINDINGS

In compliance with clause 3(c)(1) of rule XIII of the Rules of the House of Representatives, the Committee advises that the findings and recommendations of the Committee, based on oversight activities under clause 2(b)(1) of rule X of the Rules of the House of Representatives, are incorporated in the descriptive portions of this report.

CONGRESSIONAL BUDGET OFFICE ESTIMATE NEW BUDGET  
AUTHORITY, ENTITLEMENT AUTHORITY, AND TAX EXPENDITURES

With respect to the requirements of clause 3(c)(2) of rule XIII of the Rules of the House of Representatives and section 308(a) of the Congressional Budget Act of 1974 and with respect to requirements of clause (3)(c)(3) of rule XIII of the Rules of the House of Representatives and section 402 of the Congressional Budget Act of 1974, the Committee adopts as its own the estimate of the estimate of new budget authority, entitlement authority, or tax expenditures or revenues contained in the cost estimate prepared by the Director of the Congressional Budget Office.

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
Washington, DC, December 11, 2019.

Hon. BENNIE G. THOMPSON,  
Chairman, Committee on Homeland Security,  
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for Department of Homeland Security Legislation.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Kim Cawley.

Sincerely,

PHILLIP L. SWAGEL,  
Director.

Enclosure.

<b>Department of Homeland Security Legislation</b>			
As ordered reported by the House Committee on Homeland Security on October 23, 2019			
By Fiscal Year, Millions of Dollars	2020	2020-2024	2020-2029
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	*	*	not estimated
Statutory pay-as-you-go procedures apply?	No	<b>Mandate Effects</b>	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

\* = less than \$500,000; the table above applies to each bill described below.

On October 23, 2019, the House Committee on Homeland Security ordered reported the following bills:

- H.R. 2932, the Homeland Security for Children Act, which would direct the Department of Homeland Security (DHS) to consider the needs of children during its strategic planning activities (such as preparation for natural disasters);
- H.R. 3787, the DHS Countering Unmanned Aircraft Systems Coordinator Act, which would direct DHS to designate one of its officials to coordinate the department's efforts to combat threats from unmanned aircraft systems (or drones);
- H.R. 4737, the Department of Homeland Security Climate Change Research Act, which would direct DHS to assess and potentially expand upon existing federal research projects that examine ways to mitigate the effects of climate change on homeland security programs; and

DHS is currently carrying out activities similar to those required by the bills listed above, and any new activities required under the legislation would not require substantial action by the department. Thus, CBO estimates that implementing each bill would not have

a significant cost; any spending would be subject to the availability of appropriated funds.

The CBO staff contact for this estimate is Kim Cawley. The estimate was reviewed by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.

#### FEDERAL MANDATES STATEMENT

The Committee adopts as its own the estimate of Federal mandates prepared by the Director of the Congressional Budget Office pursuant to section 423 of the Unfunded Mandates Reform Act.

#### DUPLICATIVE FEDERAL PROGRAMS

Pursuant to clause 3(c) of rule XIII, the Committee finds that H.R. 4737 does not contain any provision that establishes or reauthorizes a program known to be duplicative of another Federal program.

#### PERFORMANCE GOALS AND OBJECTIVES

Pursuant to clause 3(c)(4) of rule XIII of the Rules of the House of Representatives, the objective of H.R. 4737 is to require the Department of Homeland Security to assess the current Federal research regarding the connection between climate change and homeland security to identify research gaps and, to the extent practical, conduct additional research to fill those gaps. The goal of H.R. 4737 is to ensure the Federal Government has a full picture of how climate change may be affecting homeland security and researches approaches to mitigate any such effects.

#### ADVISORY ON EARMARKS

In compliance with rule XXI of the Rules of the House of Representatives, this bill, as reported, contains no congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9(d), 9(e), or 9(f) of the rule XXI.

#### SECTION-BY-SECTION ANALYSIS OF THE LEGISLATION

##### *Section 1. Short title*

This section provides that this bill may be cited as the “Department of Homeland Security Climate Change Research Act.”

##### *Sec. 2. Climate change planning, research and development, and protection and preparedness.*

This section directs DHS’s Science and Technology Directorate to evaluate the current Federal research regarding the connection between climate change and homeland security to identify research gaps and, to the extent practical, conduct additional research to fill those gaps. The research is to focus on how climate change can result in competition for resources, economic distress, and social discontent, the degree to which climate change is reflected in terrorism preparedness, and how Federal spending is affected for disasters that are aggravated by climate change. DHS is also required, to the extent practical, to develop approaches to mitigate the consequences of climate change on homeland security.

*Sec. 3. Report to Congress*

This section requires DHS, for three years after enactment, to submit an annual report on research and development related to this Act.

## CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (new matter is printed in italic and existing law in which no change is proposed is shown in roman):

**HOMELAND SECURITY ACT OF 2002****SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

(a) **SHORT TITLE.**—This Act may be cited as the “Homeland Security Act of 2002”.

(b) **TABLE OF CONTENTS.**—The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.

\* \* \* \* \*

TITLE III—SCIENCE AND TECHNOLOGY IN SUPPORT OF HOMELAND  
SECURITY

\* \* \* \* \*

*Sec. 321. Climate change research and development.*

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**TITLE III—SCIENCE AND TECHNOLOGY  
IN SUPPORT OF HOMELAND SECURITY**

\* \* \* \* \*

**SEC. 321. CLIMATE CHANGE RESEARCH AND DEVELOPMENT.**

(a) *IN GENERAL.*—*The Under Secretary for Science and Technology—*

*(1) shall evaluate existing Federal research regarding approaches to mitigate the consequence of climate change on homeland security to identify areas for additional research and development pursuant to paragraph (2) with respect to—*

*(A) any connection between climate change and homeland security, including how the resulting competition for resources, economic distress, and social discontent has contributed to, among other outcomes, acts of terrorism;*

*(B) the degree to which climate change is reflected in terrorism preparedness and emergency planning and policies, including with respect to preparedness, response to, and recovery from natural disasters; and*

*(C) the degree to which the Federal funding structure to respond to major disaster declarations and emergency declarations is adequately structured to meet the demands of responding to and recovering from acts of terrorism and natural disasters that are aggravated by climate change; and*

(2) shall, to the extent practicable, conduct research and development on approaches to mitigate the consequences of climate change on homeland security in response to finding pursuant to paragraph (1).

(b) SCOPE.—The scope of the research and development under subsection (a)(2) shall include the following:

(1) Any connection between climate change and homeland security, including how the resulting competition for resources, economic distress, and social discontent can contribute to, among other outcomes, acts of terrorism.

(2) The degree to which climate change is reflected in terrorism preparedness and emergency planning and policies, including with respect to preparedness, response to, and recovery from natural disasters.

(3) The degree to which the Federal funding structure to respond to major disaster declarations and emergency declarations is adequately structured to meet the demands of responding to and recovering from acts of terrorism and natural disasters that are aggravated by climate change.

(c) CONSULTATION.—In carrying out this section, the Under Secretary for Science and Technology shall consult with the heads of other relevant agencies and departments of the Federal Government, first responders, and relevant owners and operators of critical infrastructure.

(d) CLIMATE CHANGE DEFINED.—The term “climate change” refers to detectable changes in one or more climate system components that is directly or indirectly attributed to—

(1) human activity; and

(2) altering the composition of the global atmosphere.

\* \* \* \* \*