

118TH CONGRESS
1ST SESSION

S. 2398

To require research into the health consequences of the environmental impacts of nuclear war, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 19, 2023

Mr. MARKEY introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

To require research into the health consequences of the environmental impacts of nuclear war, 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 “Health Impacts of Nu-
5 clear War Act of 2023”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that—

8 (1) nuclear weapons explosions would have dev-
9 astating health impacts, including immediate radi-
10 ation exposure, thermal burns, and blast injuries;

1 (2) a large body of scientific literature suggests
2 that the impacts of wide-spread nuclear weapons ex-
3 plosions are likely to extend well beyond the imme-
4 diate effect of the explosions and may include long-
5 lasting and catastrophic environmental effects, in-
6 cluding—

7 (A) the generation of vast quantities of
8 soot as a result of firestorms generated by nu-
9 clear explosions;

10 (B) the injection of such soot into the
11 stratosphere;

12 (C) a significant reduction in sunlight
13 reaching the Earth's surface as a result of such
14 soot, causing a significant reduction in Earth's
15 surface temperatures, substantial changes to
16 precipitation and ocean circulation patterns,
17 and a dramatic decrease in crop and fisheries
18 yields; and

19 (D) damage to the ozone layer as a result
20 of such soot, causing increased ultraviolet radi-
21 ation at the Earth's surface;

22 (3) such an environmental catastrophe could
23 impact the United States even if the nuclear weap-
24 ons explosions were outside the United States;

1 (4) the health consequences of such an environ-
2 mental catastrophe would be severe and long-lasting
3 and may include—

4 (A) increased cancer rates as a result of
5 higher ultra-violet radiation levels or radioactive
6 fallout;

7 (B) malnutrition as a result of decreases in
8 agricultural and fisheries productivity after an
9 abrupt reduction in sunlight;

10 (C) infectious disease spread due to dete-
11 riorated public health concerns and com-
12 promised immunity;

13 (D) hypothermia, frostbite, and other con-
14 sequences of exposure to extreme cold; and

15 (E) other, cascading effects, such as con-
16 sequences of widespread damage to critical in-
17 frastructure;

18 (5) such health consequences may be even more
19 damaging and long-lasting than the initial impact of
20 nuclear explosions, and the prospects for recovery
21 from such consequences are currently unclear;

22 (6) such health consequences should be consid-
23 ered when preparing all-hazards emergency plans as
24 a component of chemical, biological, radiological, and
25 nuclear threats;

1 (7) the focus of existing Federal Government
 2 preparedness and planning for nuclear threats has
 3 primarily been on individual nuclear detonation inci-
 4 dents, and not on responding to the long-term envi-
 5 ronmental and health impacts; and

6 (8) research into, and preparedness for, the
 7 health consequences of the environmental impacts of
 8 nuclear war is of critical importance to the national
 9 security of the United States.

10 **SEC. 3. HEALTH CONSEQUENCES OF THE ENVIRONMENTAL**
 11 **IMPACTS OF NUCLEAR WAR.**

12 Subtitle C of title XXVIII of the Public Health Serv-
 13 ice Act (42 U.S.C. 300hh–31 et seq.) is amended by add-
 14 ing at the end the following:

15 **“SEC. 2827. HEALTH CONSEQUENCES OF THE ENVIRON-**
 16 **MENTAL IMPACTS OF NUCLEAR WAR.**

17 “(a) DEFINITIONS.—In this section:

18 “(1) ENVIRONMENTAL IMPACTS OF NUCLEAR
 19 WAR.—The term ‘environmental impacts of nuclear
 20 war’ means changes to the environment resulting, ei-
 21 ther directly or indirectly, from the explosion of nu-
 22 clear weapons, including—

23 “(A) the generation of vast quantities of
 24 soot as a result of firestorms generated by nu-
 25 clear explosions;

1 “(B) the injection of such soot into the
2 stratosphere;

3 “(C) a significant reduction in sunlight
4 reaching the Earth’s surface as a result of such
5 soot, causing a significant reduction in Earth’s
6 surface temperatures, substantial changes to
7 precipitation and ocean circulation patterns,
8 and a dramatic decrease in crop and fisheries
9 yields;

10 “(D) damage to the ozone layer as a result
11 of such soot, causing increased ultraviolet radi-
12 ation at the Earth’s surface; and

13 “(E) other impacts, as determined by the
14 Secretary.

15 “(2) HEALTH CONSEQUENCES OF THE ENVI-
16 RONMENTAL IMPACTS OF NUCLEAR WAR.—The term
17 ‘health consequences of the environmental impacts of
18 nuclear war’ means adverse effects on the physical
19 or mental well-being of individuals resulting, either
20 directly or indirectly, from environmental impacts of
21 nuclear war, including—

22 “(A) increased cancer rates as a result of
23 higher ultra-violet radiation levels or radioactive
24 fallout;

1 “(B) malnutrition as a result of decreases
2 in agricultural and fisheries productivity after
3 an abrupt reduction in sunlight;

4 “(C) infectious disease spread due to dete-
5 riorated public health conditions and com-
6 promised immunity, including due to malnutri-
7 tion;

8 “(D) hypothermia, frostbite, and other
9 consequences of exposure to extreme cold; and

10 “(E) other consequences, as determined by
11 the Secretary.

12 “(3) NUCLEAR WAR.—The term ‘nuclear war’
13 means military conflict involving the detonation of
14 multiple nuclear weapons.

15 “(b) RESEARCH GRANTS TO STUDY THE HEALTH
16 CONSEQUENCES OF THE ENVIRONMENTAL IMPACTS OF
17 NUCLEAR WAR.—

18 “(1) RESEARCH AND PREPAREDNESS PRO-
19 GRAM.—The Secretary, in collaboration with the Di-
20 rector of the National Institutes of Health, the Di-
21 rector of the Centers for Disease Control and Pre-
22 vention, and the Assistant Secretary for Prepared-
23 ness and Response, shall develop and implement a 5-
24 year research and preparedness program, which may
25 include activities carried out by the Secretary, as

1 well as grants, contracts, and cooperative agree-
2 ments awarded to eligible entities, to address the
3 health consequences of the environmental impacts of
4 nuclear war.

5 “(2) COMPONENTS OF RESEARCH AND PRE-
6 PAREDNESS PROGRAM.—The program may in-
7 clude—

8 “(A) scientific study of the potential health
9 consequences of the environmental impacts of
10 nuclear war, including the longevity of such ef-
11 fects and the prospects for recovery;

12 “(B) exercises and drills to understand
13 possible health system response to the environ-
14 mental impacts of nuclear war;

15 “(C) identifying and addressing capability
16 and capacity gaps for health system response to
17 the environmental impacts of nuclear war; and

18 “(D) developing countermeasures to com-
19 bat the health effects of the environmental im-
20 pacts of nuclear war.

21 “(3) ELIGIBLE ENTITIES.—To be eligible to re-
22 ceive a grant, contract, or cooperative agreement de-
23 scribed in paragraph (1), an entity shall—

24 “(A) be—

25 “(i) a nonprofit entity;

1 “(ii) a nonprofit research institution;

2 or

3 “(iii) an institution of higher edu-
4 cation (as defined in section 102 of the
5 Higher Education Act of 1965); and

6 “(B) submit an application to the Sec-
7 retary, at such time, in such manner, and con-
8 taining such information as the Secretary may
9 require.

10 “(4) AUTHORIZATION OF APPROPRIATIONS.—

11 To carry out this subsection, there are authorized to
12 be appropriated \$10,000,000 for each of fiscal years
13 2024 through 2028.

14 “(c) ASSESSMENT AND RECOMMENDATIONS BY THE
15 SECRETARY.—

16 “(1) ASSESSMENT.—The Secretary shall con-
17 duct an assessment of the ability of the health sys-
18 tems of the United States to respond to the health
19 consequences of the environmental impacts of nu-
20 clear war, including—

21 “(A) an assessment of the possible health
22 consequences of the environmental impacts of
23 nuclear war;

24 “(B) an assessment of existing State and
25 Federal governmental preparedness and re-

1 sponse authorities, capabilities, protocols, and
2 plans to respond to the likely health con-
3 sequences of the environmental impacts of nu-
4 clear war;

5 “(C) an assessment of current counter-
6 measures to address the range of likely health
7 impacts in the event of environmental impacts
8 of nuclear war;

9 “(D) an assessment of the current sci-
10 entific uncertainties relating to the environ-
11 mental consequences of nuclear war, their
12 health consequences, and their implications for
13 preparedness;

14 “(E) recommendations for further sci-
15 entific research to address any uncertainties
16 identified under subparagraph (D); and

17 “(F) identification and prioritization of the
18 most critical preparedness and response gaps of
19 the United States to address the health con-
20 sequences of the environmental impacts of nu-
21 clear war.

22 “(2) ASSESSMENT REPORT.—Not later than 1
23 year after the date of enactment of the Health Im-
24 pacts of Nuclear War Act of 2023, the Secretary
25 shall prepare and submit to the Committee on

1 Health, Education, Labor, and Pensions of the Sen-
2 ate and the Committee on Energy and Commerce of
3 the House of Representatives a report that contains
4 the findings of the study conducted under paragraph
5 (1).

6 “(3) COORDINATION.—In carrying out the as-
7 sessment under paragraph (1), the Secretary shall
8 coordinate with the following:

9 “(A) Each of the following heads of agen-
10 cies or departments (or the designees of such
11 heads):

12 “(i) The Director of the National In-
13 stitutes of Health.

14 “(ii) The Assistant Secretary for Pre-
15 paredness and Response.

16 “(iii) The Director of the Centers for
17 Disease Control and Prevention.

18 “(iv) The Assistant to the President
19 for National Security Affairs.

20 “(v) The Director of the Office of
21 Science and Technology Policy.

22 “(vi) The Secretary of Energy.

23 “(vii) The Under Secretary of Energy
24 for Nuclear Security.

1 “(viii) The Administrator of the Na-
2 tional Nuclear Security Administration.

3 “(ix) The Director of the Office of
4 Science of the Department of Energy.

5 “(x) The Secretary of Commerce.

6 “(xi) The Under Secretary of Com-
7 merce for Oceans and Atmosphere.

8 “(xii) The Director of the National
9 Center for Atmospheric Research.

10 “(xiii) The Secretary of the Interior.

11 “(xiv) The Director of the United
12 States Geological Survey.

13 “(xv) The Administrator of the Envi-
14 ronmental Protection Agency.

15 “(xvi) The Director of the National
16 Science Foundation.

17 “(xvii) The Secretary of Defense.

18 “(xviii) The Director of the Defense
19 Threat Reduction Agency.

20 “(xix) The Chairman of the Joint
21 Chiefs of Staff.

22 “(xx) The Secretary of State.

23 “(xxi) The Under Secretary of State
24 for Arms Control and International Secu-
25 rity.

1 “(xxii) The Administrator of the Fed-
2 eral Emergency Management Authority.

3 “(xxiii) The Secretary of Agriculture.

4 “(xxiv) The Secretary of Homeland
5 Security.

6 “(B) Other stakeholders, as the Secretary
7 determines appropriate.”.

8 **SEC. 4. SCOPE OF NUCLEAR THREATS.**

9 The Public Health Service Act is amended—

10 (1) in section 319C–1 (42 U.S.C. 247d–3a)—

11 (A) in subsection (b)(2)(A)(i), by inserting
12 “and with respect to the health consequences of
13 the environmental impacts of nuclear war, as
14 defined in section 2827” after “nuclear
15 threats”; and

16 (B) in subsection (g)(1)(A), by inserting
17 “and with respect to the health consequences of
18 the environmental impacts of nuclear war, as
19 defined in section 2827” after “nuclear
20 threats”;

21 (2) in section 319C–2(c) (42 U.S.C. 247d–3b),
22 by inserting “and with respect to the health con-
23 sequences of the environmental impacts of nuclear
24 war, as defined in section 2827” after “nuclear
25 threats”;

1 (3) in section 319C–3(c)(1) (42 U.S.C. 247d–
 2 3c(c)(1)), by inserting “and with respect to the
 3 health consequences of the environmental impacts of
 4 nuclear war, as defined in section 2827” after “in-
 5 fectious diseases”;

6 (4) in section 319F(d)(3)(A) (42 U.S.C. 247d–
 7 6(d)(3)(A)), by inserting “and with respect to the
 8 health consequences of the environmental impacts of
 9 nuclear war, as defined in section 2827” after “in-
 10 fectious diseases”;

11 (5) in section 319L(c)(4)(F)(i) (42 U.S.C.
 12 247d–7e(c)(4)(F)(i)), by inserting “and with respect
 13 to the health consequences of the environmental im-
 14 pacts of nuclear war, as defined in section 2827”
 15 after “infectious diseases”;

16 (6) in section 2801(d)(3) (42 U.S.C.
 17 300hh(d)(3)), by inserting “and with respect to the
 18 health consequences of the environmental impacts of
 19 nuclear war, as defined in section 2827” before the
 20 semicolon;

21 (7) in section 2811 (42 U.S.C. 300hh–10)—

22 (A) in subsection (b)(4)(J)(i), in the mat-
 23 ter preceding subclause (I), by inserting “and
 24 with respect to the health consequences of the
 25 environmental impacts of nuclear war, as de-

1 fined in section 2827” after “infectious dis-
2 eases”;

3 (B) in subsection (d)(1), by inserting “, in-
4 cluding the health consequences of the environ-
5 mental impacts of nuclear war, as defined in
6 section 2827” after “nuclear threats”; and

7 (C) in subsection (d)(2)(A), by inserting “,
8 including with respect to the health con-
9 sequences of the environmental impacts of nu-
10 clear war, as defined in section 2827,” after
11 “Nation”; and

12 (8) in section 2811–1(c)(1)(A) (42 U.S.C.
13 300hh–10a(c)(1)(A)), by inserting “and with respect
14 to the health consequences of the environmental im-
15 pacts of nuclear war, as defined in section 2827”
16 after “infectious diseases”.

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