

118TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

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

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IN THE SENATE OF THE UNITED STATES

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Mr. MARKEY introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**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           response 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(e)(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(e)(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(e) (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”.