

Markey Substitute

AMENDMENT NO. _____

Calendar No. _____

Purpose: In the nature of a substitute.

IN THE SENATE OF THE UNITED STATES—117th Cong., 2d Sess.**S. 2510**

To reduce the health risks of heat by establishing the National Integrated Heat Health Information System within the National Oceanic and Atmospheric Administration and the National Integrated Heat Health Information System Interagency Committee to improve extreme heat preparedness, planning, and response, requiring a study, and establishing financial assistance programs to address heat effects, and for other purposes.

Referred to the Committee on _____ and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended
to be proposed by Mr. MARKEY (for himself, Ms.
SINEMA, and Ms. ROSEN)

Viz:

- 1 Strike all after the enacting clause and insert the fol-
- 2 lowing:
- 3 **SECTION 1. SHORT TITLE.**
- 4 This Act may be cited as the “Preventing Health
- 5 Emergencies And Temperature-related Illness and Deaths
- 6 Act of 2021” or the “Preventing HEAT Illness and
- 7 Deaths Act of 2021”.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) **EXTREME HEAT.**—The term “extreme
4 heat” means heat that substantially exceeds local cli-
5 matological norms in terms of any combination of
6 the following:

7 (A) Duration of an individual heat event.

8 (B) Intensity.

9 (C) Season length.

10 (D) Frequency.

11 (2) **HEAT.**—The term “heat” means any com-
12 bination of the atmospheric parameters associated
13 with modulating human thermal regulation, such as
14 air temperature, humidity, solar exposure, and wind
15 speed.

16 (3) **HEAT EVENT.**—The term “heat event”
17 means an occurrence of extreme heat that may have
18 heat-health implications.

19 (4) **HEAT-HEALTH.**—The term “heat-health”
20 means health effects to humans from heat or the
21 risk of such effects.

22 (5) **PLANNING.**—The term “planning” means
23 activities performed across timescales (including
24 days, weeks, months, years, and decades) with sce-
25 nario-based, probabilistic or deterministic informa-
26 tion to identify and take actions to proactively miti-

1 gate heat-health risks from increased frequency, du-
2 ration, and intensity of heat waves and increased
3 ambient temperature.

4 (6) PREPAREDNESS.—The term “preparedness”
5 means activities performed across timescales (includ-
6 ing days, weeks, months, years, and decades) with
7 probabilistic or deterministic information to manage
8 risk in advance of a heat event and increased ambi-
9 ent temperature.

10 (7) TRIBAL GOVERNMENT.—The term “Tribal
11 government” means the recognized governing body
12 of any Indian or Alaska Native tribe, band, nation,
13 pueblo, village, community, component band, or com-
14 ponent reservation, individually identified (including
15 parenthetically) in the list published most recently as
16 of the date of enactment of this Act pursuant to sec-
17 tion 104 of the Federally Recognized Indian Tribe
18 List Act of 1994 (25 U.S.C. 5131).

19 (8) VULNERABLE POPULATIONS.—The term
20 “vulnerable populations” means populations that
21 face health, financial, educational, or housing dis-
22 parities that would render them more susceptible to
23 the negative impacts of extreme heat.

1 **SEC. 3. NATIONAL INTEGRATED HEAT HEALTH INFORMA-**
2 **TION SYSTEM INTERAGENCY COMMITTEE.**

3 (a) ESTABLISHMENT OF COMMITTEE.—There is es-
4 tablished within the Office of Science and Technology Pol-
5 icy an interagency committee, to be known as the “Na-
6 tional Integrated Heat Health Information System Inter-
7 agency Committee” (in this section referred to as the
8 “Committee”).

9 (b) PURPOSE.—The Committee shall coordinate,
10 plan, and direct agencies represented on the Committee
11 to execute, as appropriate, activities across such agencies
12 to ensure a united Federal approach to reducing health
13 risks from heat across timescales (including days, weeks,
14 months, years, and decades).

15 (c) MEMBERSHIP.—

16 (1) IN GENERAL.—In order to carry out and
17 achieve the purpose described in subsection (b), the
18 Committee shall include the following:

19 (A) The Director of the National Inte-
20 grated Heat Health Information System.

21 (B) Not fewer than 1 representative from
22 each of the following:

23 (i) From the Department of Com-
24 merce, the following:

1 (I) From the National Oceanic
2 and Atmospheric Administration, the
3 following:

4 (aa) The National Weather
5 Service.

6 (bb) The Climate Program
7 Office of the Office of Oceanic
8 and Atmospheric Research.

9 (II) The National Institute of
10 Standards and Technology.

11 (III) The Bureau of the Census.

12 (ii) From the Department of Health
13 and Human Services, the following:

14 (I) The National Institute for
15 Occupational Safety and Health of the
16 Centers for Disease Control and Pre-
17 vention.

18 (II) The Office of the Assistant
19 Secretary of Health and Human Serv-
20 ices for Preparedness and Response.

21 (III) The Substance Abuse and
22 Mental Health Services Administra-
23 tion.

24 (IV) The National Institutes of
25 Health.

1 (V) The Indian Health Service.

2 (iii) From the Department of the In-
3 terior, the following:

4 (I) The Bureau of Indian Affairs.

5 (II) The Bureau of Land Man-
6 agement.

7 (iv) From the Environmental Protec-
8 tion Agency, the following:

9 (I) The Office of Environmental
10 Justice.

11 (II) The Office of Air and Radi-
12 ation, if the Administrator of the En-
13 vironmental Protection Agency deter-
14 mines appropriate.

15 (III) The Office of Research and
16 Development, if the Administrator de-
17 termines appropriate.

18 (v) The Federal Emergency Manage-
19 ment Agency.

20 (vi) The Department of Defense.

21 (vii) The Occupational Safety and
22 Health Administration.

23 (viii) The Department of Agriculture.

24 (ix) The Department of Housing and
25 Urban Development.

1 (x) The Department of Transpor-
2 tation.

3 (xi) The Department of Energy.

4 (xii) The National Aeronautics and
5 Space Administration.

6 (xiii) Such other Federal agencies as
7 the Director of the Office of Science and
8 Technology Policy considers appropriate.

9 (2) SELECTION OF REPRESENTATIVES.—The
10 head of an agency specified in paragraph (1)(B)
11 shall, in appointing representatives of the agency to
12 the Committee, select representatives who have ex-
13 pertise in areas relevant to the responsibilities of the
14 Committee.

15 (3) CO-CHAIRS.—

16 (A) IN GENERAL.—The members of the
17 Committee shall select 2 individuals from
18 among such members to serve as co-chairs of
19 the Committee, subject to the approval of the
20 Director of the Office of Science and Tech-
21 nology Policy.

22 (B) SELECTION.—

23 (i) INITIAL SELECTION.—Of the co-
24 chairs first selected, one co-chair shall be
25 from the National Oceanic and Atmos-

1 pheric Administration and one co-chair
2 shall be from the Centers for Disease Con-
3 trol and Prevention.

4 (ii) SUBSEQUENT SELECTION.—Sub-
5 sequent co-chairs shall be selected from
6 among the members of the Committee.

7 (C) TERMS.—Each co-chair shall serve for
8 a term of not more than 3 years.

9 (D) RESPONSIBILITIES OF CO-CHAIRS.—
10 The co-chairs of the Committee shall—

11 (i) determine the agenda of the Com-
12 mittee, in consultation with other members
13 of the Committee;

14 (ii) direct the work of the Committee;
15 and

16 (iii) convene meetings of the Com-
17 mittee not less frequently than once each
18 fiscal quarter.

19 (d) RESPONSIBILITIES OF COMMITTEE.—The Com-
20 mittee shall promote an integrated, Federal Government-
21 wide approach to reducing health risks and impacts of
22 heat, including by—

23 (1) developing the strategic plan required by
24 subsection (e);

1 (2) coordinating across Federal agencies on
2 heat-health communication, research, service deliv-
3 ery, and workforce development; and

4 (3) building capacity and partnerships with
5 Federal and non-Federal entities.

6 (e) STRATEGIC PLAN.—

7 (1) IN GENERAL.—Not later than 2 years after
8 the date of the enactment of this Act, the Committee
9 shall submit to Congress and make available on a
10 public website a 5-year integrated strategic plan that
11 outlines the goals and projects of the Committee, in-
12 cluding how the Committee will improve coordination
13 and integration of interagency Federal actions to ad-
14 dress health risks of heat, including—

15 (A) a strategy for improving and coordi-
16 nating existing Federal data collection and
17 sharing on heat-related illnesses and mortalities
18 to inform Federal heat-related activities; and

19 (B) mechanisms for financing heat pre-
20 paredness within such agencies as the Com-
21 mittee considers appropriate.

22 (2) IMPLEMENTATION PLANS.—The head of an
23 agency represented on the Committee may imple-
24 ment the portions of the strategic plan required by
25 paragraph (1) that are relevant to that agency by

1 developing and implementing a multi-year implemen-
2 tation plan.

3 (3) UPDATES.—Not later than 5 years after the
4 submission of the strategic plan required by para-
5 graph (1), and every 5 years thereafter until 2042,
6 the Committee shall submit to Congress an update
7 of the plan, which shall include progress made to-
8 ward goals outlined in the plan and new priorities
9 that emerge.

10 (f) CONSULTATION.—In carrying out the responsibil-
11 ities of the Committee, the Committee shall consult with
12 relevant regional, State, Tribal, and local governments,
13 international organizations and partners, research institu-
14 tions, nongovernmental organizations and associations,
15 and medical experts with expertise in emergency response,
16 environmental health, economic or business development,
17 or community engagement.

18 **SEC. 4. NATIONAL INTEGRATED HEAT HEALTH INFORMA-**
19 **TION SYSTEM.**

20 (a) ESTABLISHMENT.—The Under Secretary of Com-
21 merce for Oceans and Atmosphere shall establish within
22 the National Oceanic and Atmospheric Administration a
23 system, to be known as the “National Integrated Heat
24 Health Information System” (NIHHIS) (in this section
25 referred to as the “System”).

1 (b) PURPOSE.—The purpose of the System is—

2 (1) to improve the capacity of weather, subsea-
3 sonal, and seasonal forecasts for the United States
4 to allow the Federal Government and stakeholders to
5 plan, prepare for, adapt to, and mitigate risks of ex-
6 treme heat across multiple timescales; and

7 (2) to facilitate the work of the National Inte-
8 grated Heat Health Information System Interagency
9 Committee.

10 (c) DIRECTOR.—The System shall be headed by a Di-
11 rector.

12 (d) RESPONSIBILITIES.—In carrying out the purpose
13 described in subsection (b), the Director shall—

14 (1) develop and sustain robust relationships
15 with Federal and non-Federal partners and decision-
16 makers—

17 (A) to respond to the demand for action-
18 able weather- and climate-related information
19 that reduces health risks on multiple timescales;
20 and

21 (B) to develop and deliver timely and ac-
22 cessible weather- and climate-related decision
23 support services, tools, and information to in-
24 form planning, preparedness, and risk-reducing
25 actions across timescales;

1 (2) coordinate and collaborate with the inter-
2 national community and global partners to conduct
3 research and learn from, leverage, and contribute to
4 global weather and climate knowledge as it pertains
5 to extreme heat;

6 (3) enhance observations and monitoring nec-
7 essary for the activities described in paragraph (1)
8 and (2); and

9 (4) communicate, educate, and build awareness
10 regarding extreme heat events to communities, edu-
11 cational and economic sectors, Tribal governments,
12 and other relevant stakeholders.

13 **SEC. 5. STUDY ON EXTREME HEAT INFORMATION AND RE-**
14 **SPONSE.**

15 (a) STUDY.—

16 (1) IN GENERAL.—Not later than 120 days
17 after the date of the enactment of this Act, the
18 Under Secretary of Commerce for Oceans and At-
19 mosphere, in consultation with the National Inte-
20 grated Heat Health Information System Interagency
21 Committee and the entities described in section 3(f),
22 shall seek to enter into an agreement with the Na-
23 tional Academies of Science, Engineering, and Medi-
24 cine to conduct a study on extreme heat information

1 and response, to be completed not later than 2 years
2 after the date of the enactment of this Act.

3 (2) ELEMENTS.—The study described in para-
4 graph (1) shall—

5 (A) identify the policy, research, oper-
6 ations, communications, and data gaps affecting
7 heat-health planning, preparedness, response,
8 resilience, and adaptation, and impacts to vul-
9 nerable populations;

10 (B) provide recommendations for address-
11 ing gaps identified under subparagraph (A);

12 (C) provide recommendations, in addition
13 to the recommendations provided under sub-
14 paragraph (B), which may include strategies
15 for—

16 (i) communicating warnings to and
17 promoting resilience of populations vulner-
18 able to extreme heat;

19 (ii) distributing extreme heat warn-
20 ings, including to individuals with limited
21 English proficiency and individuals who
22 may have other established barriers to
23 such information;

24 (iii) designing warnings described in
25 clause (ii) to convey the urgency and sever-

1 ity of heat events and achieve behavior
2 changes that reduce the mortality and
3 morbidity of extreme heat effects;

4 (iv) understanding compound and cas-
5 cading risks to inform development and
6 implementation of heat-health risk reduc-
7 tion interventions; and

8 (v) promoting community resilience
9 and addressing specific decision support
10 service needs of vulnerable populations;
11 and

12 (D) consider the effectiveness of country-
13 or local-level heat awareness and communica-
14 tion tools, preparedness plans, or mitigation.

15 (3) DEVELOPMENT OF DEFINITIONS.—In con-
16 ducting the study described in paragraph (1), the
17 National Academies of Sciences, Engineering, and
18 Medicine shall work with heat and health experts to
19 identify consistent and agreed upon definitions for
20 heat events, heat waves, and other relevant terms.

21 (b) REPORT.—Not later than 90 days after comple-
22 tion of the study described in subsection (a)(1), the Com-
23 mittee shall—

24 (1) make available to the public on an internet
25 website of the National Oceanic and Atmospheric

1 Administration a report on the findings and conclu-
2 sions of the study; and

3 (2) submit the report to—

4 (A) the Committee on Commerce, Science,
5 and Transportation of the Senate;

6 (B) the Committee on Health, Education,
7 Labor, and Pensions of the Senate;

8 (C) the Committee on Science, Space, and
9 Technology of the House of Representatives;

10 (D) the Committee on Energy and Com-
11 merce of the House of Representatives; and

12 (E) the Committee on Education and
13 Labor of the House of Representatives.

14 **SEC. 6. FINANCIAL ASSISTANCE FOR RESEARCH AND RE-**
15 **SILIENCE IN ADDRESSING EXTREME HEAT**
16 **RISKS.**

17 (a) ESTABLISHMENT OF PROGRAM.—Subject to the
18 availability of appropriations, not later than 1 year after
19 the date of the enactment of this Act, the Under Secretary
20 of Commerce for Oceans and Atmosphere shall establish
21 and administer a community heat resilience program to
22 provide financial assistance to eligible entities to carry out
23 projects described in subsection (e) to ameliorate human
24 health impacts of extreme heat events.

1 (b) PURPOSE.—The purpose of the financial assist-
2 ance provided under this section is to further scientific re-
3 search regarding extreme heat and fund efforts to educate
4 communities about extreme heat.

5 (c) FORMS OF ASSISTANCE.—Financial assistance
6 provided under this section may be in the form of con-
7 tracts, grants, or cooperative agreements.

8 (d) ELIGIBLE ENTITIES.—Entities eligible to receive
9 financial assistance under this section to carry out
10 projects described in subsection (e) include—

- 11 (1) nonprofit entities;
- 12 (2) States;
- 13 (3) Tribal governments;
- 14 (4) local governments; and
- 15 (5) academic institutions.

16 (e) ELIGIBLE PROJECTS.—Projects described in this
17 subsection include projects—

- 18 (1) to expand public awareness of heat risks;
- 19 (2) to conduct heat mapping campaigns;
- 20 (3) to conduct scientific research to assess gaps
21 and priorities regarding the risks of extreme heat in
22 communities;
- 23 (4) to communicate risks to isolated commu-
24 nities; and

1 (5) to educate such communities about how to
2 respond to extreme heat events.

3 (f) PRIORITIES.—In selecting eligible entities to re-
4 ceive financial assistance under this section, the Under
5 Secretary of Commerce for Oceans and Atmosphere shall
6 prioritize entities that will carry out projects that provide
7 benefits for historically disadvantaged communities.

8 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

9 (a) NATIONAL INTEGRATED HEAT HEALTH INFOR-
10 MATION SYSTEM INTERAGENCY COMMITTEE; NATIONAL
11 INTEGRATED HEAT HEALTH INFORMATION SYSTEM.—
12 There is authorized to be appropriated to the National
13 Oceanic and Atmospheric Administration to carry out sec-
14 tions 3 and 4, including for any administrative costs for
15 the National Integrated Heat Health Information System
16 Interagency Committee and the National Integrated Heat
17 Health Information System, \$5,000,000 for each of fiscal
18 years 2023 through 2027.

19 (b) STUDY ON EXTREME HEAT INFORMATION AND
20 RESPONSE.—There is authorized to be appropriated to
21 the National Oceanic and Atmospheric Administration to
22 contract with the National Academies of Science, Engi-
23 neering, and Medicine to carry out section 5 \$500,000 for
24 each of fiscal years 2023 through 2025.

1 (c) FINANCIAL ASSISTANCE TO ADDRESS EXTREME
2 HEAT.—There is authorized to be appropriated to the Na-
3 tional Oceanic and Atmospheric Administration to carry
4 out section 6 \$1,500,000 for each of fiscal years 2023
5 through 2027.