

Ben Ray Luján

AMENDMENT NO. _____ Calendar No. _____

Purpose: To provide for the establishment of regional
wildland fire research centers.

IN THE SENATE OF THE UNITED STATES—119th Cong., 1st Sess.

S. 1462

To improve forest management activities on National Forest
System land, public land under the jurisdiction of the
Bureau of Land Management, and Tribal land to return
resilience to overgrown, fire-prone forested land, and
for other purposes.

Referred to the Committee on _____ and
ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENTS intended to be proposed by Mr. LUJÁN to
the amendment (No. _____) proposed by

Viz:

- 1 In section 102(a), add at the end the following:
- 2 (3) FEDERAL SCIENCE AGENCY; INSTITUTION
- 3 OF HIGHER EDUCATION; LAND-GRANT COLLEGES
- 4 AND UNIVERSITIES; REGIONAL CENTER; WILDLAND
- 5 FIRE; WILDLAND FIRE MANAGEMENT AGENCIES;
- 6 WILDLAND FIRE RESEARCH.—The terms “Federal
- 7 science agency”, “institution of higher education”,
- 8 “land-grant colleges and universities”, “regional cen-
- 9 ter”, “wildland fire”, “wildland fire management

1 agencies”, and “wildland fire research” have the
2 meanings given those terms in section 120A(a).

3 (4) NATIONAL LABORATORY.—The term “Na-
4 tional Laboratory” has the meaning given that term
5 in section 2 of the Energy Policy Act of 2005 (42
6 U.S.C. 15801).

7 In section 102(d), add at the end the following:

8 (8)(A) Establishing wildland fire science, data
9 management and sharing protocols, and techno-
10 logical research priorities in cooperation with each
11 regional center informed by the operational needs of
12 wildland fire management agencies.

13 (B) Coordinating data collection efforts sup-
14 porting the efforts of each regional center, includ-
15 ing—

16 (i) building data layers across each region
17 described in section 120A(c)(3)(B);

18 (ii) ensuring data collection and reporting
19 across each region described in section
20 120A(c)(3)(B) is consistent and standardized;
21 and

22 (iii) providing updates on the development
23 of wildland fire research models.

1 (C) Ensuring the coordination of, and avoid un-
2 necessary duplication of, the activities of the re-
3 gional centers and the activities of institutions of
4 higher education, land-grant colleges and univer-
5 sities, Federal science agencies, and State research
6 organizations with respect to wildland fire research,
7 including—

8 (i) the National Oceanic and Atmospheric
9 Administration;

10 (ii) the National Science Foundation;

11 (iii) the National Laboratories;

12 (iv) the National Aeronautics and Space
13 Administration;

14 (v) the Environmental Protection Agency;

15 (vi) the United States Fire Administration;

16 (vii) the United States Geological Survey;

17 (viii) the research and development pro-
18 gram of the Forest Service;

19 (ix) the interagency Joint Fire Science
20 Program;

21 (x) the Department of Defense Strategic
22 Environmental Research and Development Pro-
23 gram; and

24 (xi) any other relevant entity with special-
25 ized expertise in wildland fire research.

1 (D) Supporting end-to-end applications that as-
2 sist wildland fire management agencies in adopting
3 technologies and incorporating research findings pro-
4 duced by the regional centers.

5 At the end of subtitle B of title I, add the following:

6 **SEC. 120A. ESTABLISHMENT OF REGIONAL WILDLAND FIRE**
7 **RESEARCH CENTERS.**

8 (a) DEFINITIONS.—In this section:

9 (1) APPROPRIATE COMMITTEES OF CON-
10 GRESS.—The term “appropriate committees of Con-
11 gress” means—

12 (A) the Committee on Energy and Natural
13 Resources, the Committee on Agriculture, Nu-
14 trition, and Forestry, and the Committee on
15 Appropriations of the Senate;

16 (B) the Committee on Natural Resources,
17 the Committee on Agriculture, and the Com-
18 mittee on Appropriations of the House of Rep-
19 resentatives; and

20 (C) any other committee of Congress with
21 the authority to facilitate the development of
22 wildland fire research.

23 (2) CAREER PATHWAY.—The term “career
24 pathway” has the meaning given that term in sec-

1 tion 3 of the Workforce Innovation and Opportunity
2 Act (29 U.S.C. 3102).

3 (3) FEDERAL SCIENCE AGENCY.—The term
4 “Federal science agency” has the meaning given
5 that term in section 103(f) of the America COM-
6 PETES Reauthorization Act of 2010 (42 U.S.C.
7 6623(f)).

8 (4) INSTITUTION OF HIGHER EDUCATION.—The
9 term “institution of higher education” has the
10 meaning given that term in section 101(a) of the
11 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

12 (5) LAND-GRANT COLLEGES AND UNIVER-
13 SITIES.—The term “land-grant colleges and univer-
14 sities” has the meaning given that term in section
15 1404 of the National Agricultural Research, Exten-
16 sion, and Teaching Policy Act of 1977 (7 U.S.C.
17 3103).

18 (6) MINORITY-SERVING INSTITUTION.—The
19 term “minority-serving institution” means an insti-
20 tution defined in any of paragraphs (1) through (7)
21 of section 371(a) of the Higher Education Act of
22 1965 (20 U.S.C. 1067q(a)).

23 (7) REGIONAL CENTER.—The term “regional
24 center” means a regional wildland fire research cen-
25 ter established under subsection (c)(1).

1 (8) TRIBAL ORGANIZATION.—The term “Tribal
2 organization” has the meaning given that term in
3 section 4 of the Indian Self-Determination and Edu-
4 cation Assistance Act (25 U.S.C. 5304).

5 (9) WILDLAND FIRE.—The term “wildland
6 fire” means any non-structure fire that occurs in
7 vegetation or natural fuels and includes wildfires
8 originating from an unplanned ignition or prescribed
9 fire.

10 (10) WILDLAND FIRE MANAGEMENT AGEN-
11 CIES.—The term “wildland fire management agen-
12 cies” means—

13 (A) the Forest Service;

14 (B) the Bureau of Land Management;

15 (C) the National Park Service;

16 (D) the United States Fish and Wildlife
17 Service; and

18 (E) the Bureau of Indian Affairs.

19 (11) WILDLAND FIRE RESEARCH.—The term
20 “wildland fire research” means research to better
21 understand—

22 (A) the causes and consequences of
23 wildland fires, including antecedent and con-
24 temporaneous factors that increase the risk of
25 catastrophic events;

1 (B) the spread and behavior of wildland
2 fires, including fires in the wildland-urban
3 interface;

4 (C) the efficacy of mitigation strategies for
5 wildland fires;

6 (D) the impact of wildland fires on public
7 health, safety, and the environment;

8 (E) the rehabilitation and restoration of
9 affected ecosystems after wildland fires; and

10 (F) the development of mitigation strate-
11 gies and techniques to improve the safety of
12 wildland fire managers and firefighters.

13 (b) COMPETITIVE PROCESS.—The Secretaries shall
14 establish a competitive process for the selection and estab-
15 lishment of regional wildland fire research centers in ac-
16 cordance with subsection (c).

17 (c) SELECTION AND ESTABLISHMENT OF REGIONAL
18 CENTERS.—

19 (1) IN GENERAL.—The Secretaries shall select
20 not fewer than 8 institutions of higher education or
21 land-grant colleges and universities at which to es-
22 tablish, in accordance with the timeline described in
23 paragraph (2), regional centers to coordinate the de-
24 velopment of wildland fire research.

1 (2) TIMELINE.—In establishing regional centers
2 under paragraph (1), the Secretaries shall estab-
3 lish—

4 (A) as soon as practicable after the date of
5 enactment of this Act, subject to the availability
6 of appropriations, a pilot program under which
7 not fewer than 2 regional centers shall be estab-
8 lished; and

9 (B) not later than 2 years after the date
10 on which the pilot program is established under
11 subparagraph (A), the remaining regional cen-
12 ters.

13 (3) CRITERIA FOR SELECTION.—

14 (A) IN GENERAL.—In establishing a re-
15 gional center at an institution of higher edu-
16 cation or land-grant college or university under
17 this section, the Secretaries shall prioritize the
18 selection of institutions, colleges, or universities
19 that meet not fewer than one of the following
20 criteria:

21 (i) Have existing programs of record
22 in wildland fire research.

23 (ii) Have existing partnerships with
24 research institutions of the Federal Gov-
25 ernment and other academic institutions

1 and entities relating to wildland fire re-
2 search.

3 (iii) Participate in or lead a program
4 under the Joint Fire Science Program.

5 (iv) Are a minority-serving institution.

6 (B) REGIONS.—The Secretaries shall es-
7 tablish not fewer than one regional center in
8 each of the following regions of the United
9 States, as defined by the Secretaries:

10 (i) Alaska.

11 (ii) California.

12 (iii) The Pacific Northwest.

13 (iv) The Pacific Islands.

14 (v) The Plains and Northeast.

15 (vi) The Rockies.

16 (vii) The Southeast.

17 (viii) The Southwest.

18 (4) PURPOSE.—Each regional center, with re-
19 spect to the region covered by the regional center,
20 shall—

21 (A) to the extent practical, coordinate re-
22 search with other wildland fire research entities,
23 such as other academic institutions, the Envi-
24 ronmental Protection Agency, the National Oce-
25 anic and Atmospheric Administration, the Na-

1 tional Science Foundation, the National Aero-
2 nautics and Space Administration, the Depart-
3 ment of Energy, the research and development
4 program of the Forest Service, the National
5 Laboratories, the United States Geological Sur-
6 vey, and State and regional research organiza-
7 tions;

8 (B) improve the understanding of wildland
9 fire through wildland fire research that can be
10 applied by wildland fire management agencies;

11 (C) develop technologies and other tools to
12 understand, monitor, and predict wildland fire,
13 including—

14 (i) models to predict fire potential and
15 the spread and behavior of wildland fire
16 and smoke;

17 (ii) models to predict how vegetation
18 will respond to changes in the environment
19 and wildland fire;

20 (iii) the integration of technologies to
21 predict the spread and behavior of wildland
22 fire and smoke in as near-real-time as pos-
23 sible; and

24 (iv) other innovations to be integrated
25 into operational decision support systems

1 relating to wildland fire, such as the
2 Wildland Fire Decision Support System
3 and the Interagency Fuel Treatment Deci-
4 sion Support System;

5 (D) develop technologies and other tools to
6 safely support land management activities to re-
7 duce the severity of wildland fire;

8 (E) leverage predictive capabilities to re-
9 duce the impact of smoke on communities and
10 wildfire incident management teams, including
11 wildland firefighters;

12 (F) improve the understanding of post-fire
13 risk to the landscape, including flash flooding
14 potential and watershed impacts;

15 (G) test and operate models to support
16 land management decision-making, including
17 through—

18 (i) operating models to support man-
19 agement of wildland fire and vegetation;

20 (ii) the demonstration of integration
21 technologies to support management of
22 wildland fire in as near-real-time as pos-
23 sible; and

24 (iii) the incorporation of decision
25 science and social science that examines

1 the perception and adoption of information
2 related to wildland fire risk;

3 (H) develop a career pathway training pro-
4 gram with respect to carrying out wildland fire
5 research;

6 (I) develop data management protocols to
7 allow for full and open exchange of data pursu-
8 ant to the principles of findability, accessibility,
9 interoperability, and reusability (commonly re-
10 ferred to as the “FAIR principles”) and archive
11 and access that data;

12 (J) develop training programs for pre-
13 scribed fire implementation; and

14 (K) make its work and data fully and
15 openly available.

16 (d) ADVISORY BOARDS.—

17 (1) IN GENERAL.—In accordance with chapter
18 10 of title 5, United States Code (commonly referred
19 to as the “Federal Advisory Committee Act”), the
20 Secretary shall establish at each regional center an
21 advisory board, to be known as the “Regional Advi-
22 sory Board”, to carry out the duties described in
23 paragraph (4).

24 (2) COMPOSITION.—

1 (A) IN GENERAL.—Each Regional Advi-
2 sory Board shall consist of members, who shall
3 be from, or have responsibility covering, the re-
4 gion covered by the relevant regional center, in-
5 cluding at minimum—

6 (i) one regional representative from
7 each wildland fire management agency, ap-
8 pointed by that agency;

9 (ii) one representative from a State
10 government agency from each State lo-
11 cated in that region with expertise in for-
12 estry and wildland fire mitigation and
13 management, appointed by the Governor of
14 that State;

15 (iii) one representative from an Indian
16 Tribe or Tribal organization from that re-
17 gion with expertise in forestry and wildland
18 fire mitigation and management on Tribal
19 or Federal land, appointed by the Secre-
20 taries; and

21 (iv) additional representatives elected
22 under subparagraph (B)(ii).

23 (B) ELECTED MEMBERSHIP.—

24 (i) SUBCOMMITTEE.—Each Regional
25 Advisory Board shall solicit and approve,

on at least an annual basis, nominations for individuals with operational expertise in wildland fire mitigation and management to serve as a representative on a subcommittee to the Regional Advisory Board for the purposes of clause (ii), composed of not more than 15 individuals, including representatives from, as applicable—

(I) institutions of higher education or land-grant colleges and universities;

(II) nongovernmental organizations;

(III) private industry;

(IV) the wildland firefighter community, including organizations that represent the interests of wildland firefighters; and

(V) Southwest Ecological Restoration Institutes established under section 5(a) of the Southwest Forest Health and Wildfire Prevention Act of 2004 (16 U.S.C. 6704(a)).

(ii) ELECTION.—The subcommittee described in clause (i) for a Regional Advi-

1 sory Board may elect a member or mem-
2 bers of the subcommittee to serve as a
3 member of the Regional Advisory Board
4 under subparagraph (A)(iv) for a 2-year
5 term.

6 (3) COMPENSATION.—Each member of a Re-
7 gional Advisory Board shall serve on a voluntary
8 basis without compensation.

9 (4) DUTIES.—Each Regional Advisory Board
10 shall—

11 (A) ensure and support the coordination of
12 wildland fire research between the relevant re-
13 gional center and Federal and State land man-
14 agement agencies in that region;

15 (B) communicate the operational needs of
16 Federal and State land management agencies
17 and wildland fire management agencies in that
18 region to the relevant regional center and to the
19 Board governing the Wildfire Intelligence Cen-
20 ter appointed under section 102(f);

21 (C) advise, in coordination with the rel-
22 evant regional center, on research goals and ob-
23 jectives; and

24 (D) assist the relevant regional center with
25 the dissemination of research outputs and data

1 to the Board governing the Wildfire Intelligence
2 Center appointed under section 102(f) and Fed-
3 eral and State land management agencies and
4 wildland fire management agencies in that re-
5 gion.

6 (5) MEETINGS.—Each Regional Advisory Board
7 shall meet quarterly.

8 (6) TERM.—Unless specified otherwise, a mem-
9 ber of a Regional Advisory Board shall serve for a
10 term of 4 years.

11 (7) VACANCIES.—

12 (A) IN GENERAL.—A vacancy on a Re-
13 gional Advisory Board—

14 (i) shall not affect the powers of the
15 Regional Advisory Board; and

16 (ii) shall be filled in the same manner
17 as the original appointment was made by
18 not later than 180 days after the date on
19 which the vacancy occurs.

20 (B) FILLING UNEXPIRED TERM.—An indi-
21 vidual chosen to fill a vacancy shall be ap-
22 pointed for the unexpired term of the member
23 replaced.

24 (e) REPORT ON WILDLAND FIRE RESEARCH.—Not
25 later than each of 2 years and 4 years after the date of

1 enactment of this Act, the Secretaries, in consultation with
2 the Board governing the Wildfire Intelligence Center ap-
3 pointed under section 102(f), shall submit to the appro-
4 priate committees of Congress a report describing—

5 (1) the progress each regional center has made
6 in the development of wildland fire research; and

7 (2) recommendations to improve wildland fire
8 research.

9 (f) CONSULTATION.—In carrying out the require-
10 ments of this section, the Secretaries shall consult with—

11 (1) Federal science agencies; and

12 (2) the Office of Science and Technology Policy.