

Union Calendar No. 859

115TH CONGRESS
2D SESSION

H. R. 1675

[Report No. 115–1035, Part I]

To establish a national program to identify and reduce losses from landslide hazards, to establish a national 3D Elevation Program, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 22, 2017

Ms. DELBENE (for herself, Ms. BONAMICI, Mr. CARTWRIGHT, Ms. LEE, Ms. NORTON, Mr. SMITH of Washington, Mr. KILMER, Mr. HECK, and Mr. GRIJALVA) introduced the following bill; which was referred to the Committee on Natural Resources, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

NOVEMBER 16, 2018

Reported from the Committee on Natural Resources with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

NOVEMBER 16, 2018

Referral to the Committee on Science, Space, and Technology extended for a period ending not later than December 28, 2018

DECEMBER 28, 2018

Additional sponsors: Mr. POLIS, Mr. TIPTON, and Mrs. TORRES

DECEMBER 28, 2018

Committee on Science, Space, and Technology discharged; committed to the Committee of the Whole House on the State of the Union and ordered to be printed

[For text of introduced bill, see copy of bill as introduced on March 22, 2017]

A BILL

To establish a national program to identify and reduce losses from landslide hazards, to establish a national 3D Elevation Program, 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 “National Landslide Pre-*
5 *paredness Act”.*

6 **SEC. 2. DEFINITIONS.**

7 *In this Act:*

8 (1) *3D*.—*The term “3D” means 3-dimensional.*

9 (2) *3D ELEVATION DATA*.—

10 (A) *IN GENERAL*.—*The term “3D elevation*
11 *data” means 3D, high-resolution data obtained*
12 *using lidar, ifsar, or other methods over the*
13 *United States (including territories).*

14 (B) *INCLUSIONS*.—*The term “3D elevation*
15 *data” includes terrestrial and bathymetric ele-*
16 *vation data.*

17 (3) *3D ELEVATION PROGRAM*.—*The term “3D*
18 *Elevation Program” means the 3D Elevation Pro-*
19 *gram established under section 5(a).*

20 (4) *IF SAR*.—*The term “ifsar” means*
21 *interferometric synthetic aperture radar.*

22 (5) *INDIAN TRIBE*.—*The term “Indian tribe” has*
23 *the meaning given the term in section 4 of the Indian*
24 *Self-Determination and Education Assistance Act (25*
25 *U.S.C. 5304).*

1 (6) *LIDAR.*—The term “lidar” means light detection
2 and ranging.

3 (7) *SECRETARY.*—The term “Secretary” means
4 the Secretary of the Interior, acting through the Director
5 of the United States Geological Survey.

6 (8) *STATE.*—The term “State” means any unit
7 of State or Territorial government handling the identification,
8 mapping, assessment, and research of landslide hazards or responding to landslide events, including—

11 (A) a State geological survey office;
12 (B) a State department of emergency response; and
14 (C) a State department of transportation.

15 **SEC. 3. NATIONAL LANDSLIDE HAZARDS REDUCTION PROGRAM.**

17 (a) *ESTABLISHMENT.*—The Secretary shall establish a program, to be known as the “National Landslide Hazards Reduction Program” (referred to in this section as the “program”—

21 (1) to identify and understand landslide hazards and risks;

23 (2) to reduce losses from landslides;

24 (3) to protect communities at risk of landslide hazards; and

1 (4) to help improve communication and emergency preparedness, including by coordinating with
2 communities and entities responsible for infrastructure that are at risk of landslide hazards.

5 (b) *DESCRIPTION OF PROGRAM.*—

6 (1) *PROGRAM ACTIVITIES.*—The Secretary, in coordination with the Interagency Coordinating Committee on Landslide Hazards established by subsection
7 (c)(1) (referred to in this section as the “Committee”)
8 and in coordination with existing activities of the
9 United States Geological Survey and other Federal
10 agencies, shall—

13 (A) identify, map, assess, and research
14 landslide hazards;

15 (B) respond to landslide events; and

16 (C) in coordination with States and Indian
17 tribes—

18 (i) establish working groups with
19 States and Indian tribes to identify regional and local priorities for researching,
20 identifying, mapping, and assessing landslide hazards; and

23 (ii) develop and implement landslide hazard guidelines for—

25 (I) geologists;

(II) geological and geotechnical engineers; and

(III) land use and other decision-makers.

5 (2) *NATIONAL STRATEGY.*—Not later than 180
6 days after the date of enactment of this Act, and every
7 5 years thereafter, the Secretary, in coordination with
8 the Committee, shall develop and publish a national
9 strategy for landslide hazards and risk reduction in
10 the United States, which shall include—

11 (A) goals and priorities for the program;
12 (B) priorities for data acquisition, research,
13 communications, and risk management on land-
14 slides and landslide hazards across relevant Fed-
15 eral agencies; and

1 *pile, maintain, standardize, and evaluate data re-*
2 *garding—*

3 (A) *landslide hazards and risks nationwide;*

4 (B) *the nationwide impact of landslides*

5 *on—*

6 (i) *health and safety;*

7 (ii) *the economy and infrastructure;*

8 *and*

9 (iii) *the environment;*

10 (C) *landslide hazard stabilization; and*

11 (D) *reduction of losses from landslides.*

12 (4) *LANDSLIDE HAZARD AND RISK PREPARED-*
13 *NESS FOR COMMUNITIES.—In carrying out the pro-*
14 *gram, the Secretary, in coordination with the Sec-*
15 *retary of the Army, the Secretary of Commerce, the*
16 *Secretary of Homeland Security, the Secretary of*
17 *Transportation, and the heads of other relevant Fed-*
18 *eral agencies, and in consultation with States and In-*
19 *dian tribes, shall develop and disseminate—*

20 (A) *landslide planning and risk reduction*
21 *guidance, guidelines, maps, tools, and training*
22 *materials to help inform State, local, and tribal*
23 *governments and decisionmakers with respect*
24 *to—*

1 (i) the use and implementation of
2 landslide hazard assessments;

3 (ii) the applied use of the database de-
4 veloped under paragraph (3);

5 (iii) reducing losses from landslides;
6 and

7 (iv) resources available for commu-
8 nities working to improve landslide hazard
9 preparedness; and

10 (B) landslide preparedness curricula and
11 training modules for—

12 (i) State, local, and tribal officials;

13 (ii) Federal, State, local, and tribal
14 emergency managers; and

15 (iii) the National Guard.

16 (5) FLASH FLOOD AND DEBRIS FLOW EARLY
17 WARNING SYSTEM.—In carrying out the program, the
18 Secretary, in coordination with the Secretary of Com-
19 merce and Secretary of Agriculture, shall expand the
20 early warning system for flash floods and debris flow
21 by—

22 (A) expanding the early warning system for
23 post-wildfire debris flow to include recently
24 burned areas across the western United States;

1 (B) developing procedures with State, local,
2 and tribal governments to monitor stormwater
3 drainage in areas with high flash flood and de-
4 bris flow risk;

5 (C) identifying high-risk debris flow areas,
6 such as recently burned land and potential lahar
7 hazard areas; and

8 (D) identifying areas susceptible to post-
9 wildfire landslides.

10 (6) *EMERGENCY RESPONSE ACTIVITIES.*—In car-
11 rying out the program, the Secretary, in coordination
12 with the Secretary of Commerce, the Secretary of
13 Homeland Security, the heads of other relevant Fed-
14 eral agencies, States, and Indian tribes, shall estab-
15 lish emergency response procedures for the rapid de-
16 ployment of Federal scientists, equipment, and serv-
17 ices to areas impacted by a significant landslide
18 event—

19 (A) to support emergency response efforts
20 and improve the safety of emergency responders;

21 (B) to improve data collection; and

22 (C) to conduct research to advance the un-
23 derstanding of the causes, impacts, and reduc-
24 tion of landslide hazards and risks.

1 (c) *INTERAGENCY COORDINATING COMMITTEE ON*2 *LANDSLIDE HAZARDS.*—

3 (1) *IN GENERAL.*—*There is established a com-*
4 *mittee, to be known as the “Interagency Coordinating*
5 *Committee on Landslide Hazards”.*

6 (2) *MEMBERSHIP.*—*The Committee shall be com-*
7 *posed of the following members (or their designees):*

8 (A) *The Secretary, who shall serve as Chair-*
9 *person of the Committee.*

10 (B) *The Secretary of the Army.*

11 (C) *The Secretary of Commerce.*

12 (D) *The Secretary of Homeland Security.*

13 (E) *The Secretary of Transportation.*

14 (F) *The Director of the National Science*
15 *Foundation.*

16 (G) *The Director of the Office of Science*
17 *and Technology Policy.*

18 (H) *The Director of the Office of Manage-*
19 *ment and Budget.*

20 (I) *The Secretary of Agriculture.*

21 (3) *MEETINGS.*—*The Committee shall meet at*
22 *the call of the Chairperson.*

23 (4) *PURPOSE AND DUTIES.*—*The Committee*
24 *shall—*

25 (A) *advise and oversee the program;*

1 (B) facilitate communication and coordina-
2 tion across Federal agencies in the planning,
3 management, budgeting, and execution of land-
4 slide activities; and

5 (C) support the development and execution
6 of the national strategy under subsection (b)(2),
7 including by—

8 (i) supporting the development of na-
9 tional goals and priorities for the national
10 strategy;

11 (ii) articulating Federal agency roles,
12 responsibilities, and resources for carrying
13 out the national strategy; and

14 (iii) overseeing the implementation of
15 the national strategy.

16 (d) ADVISORY COMMITTEE.—

17 (1) IN GENERAL.—The Secretary shall establish
18 an advisory committee, to be known as the “Advisory
19 Committee on Landslides” (referred to in this sub-
20 section as the “Advisory Committee”).

21 (2) MEMBERSHIP.—The Advisory Committee
22 shall be composed of not fewer than 11 members—

23 (A) of whom none may be an individual de-
24 scribed in any of subparagraphs (A) through (F)

1 *of section 7342(a)(1) of title 5, United States
2 Code; and*

3 *(B) who shall be representatives of—
4 (i) States, including State geological
5 organizations;*

6 *(ii) Indian tribes, including tribal geo-
7 logical organizations;*

8 *(iii) research institutions and institu-
9 tions of higher education that are quali-
10 fied—*

11 *(I) to provide advice regarding
12 landslide hazard and risk reduction;
13 and*

14 *(II) to represent related scientific,
15 architectural, engineering, and plan-
16 ning disciplines;*

17 *(iv) industry standards development
18 organizations; and*

19 *(v) State, local, and tribal emergency
20 management agencies.*

21 *(3) RECOMMENDATIONS.—*

22 *(A) IN GENERAL.—The Advisory Committee
23 shall submit to the Committee recommendations
24 for the implementation of the program, including
25 recommendations regarding—*

13 (e) GRANT PROGRAMS.—

14 (1) COOPERATIVE LANDSLIDE HAZARD MAPPING
15 AND ASSESSMENT PROGRAM.—

1 (ii) accept and use funds received from
2 other Federal and non-Federal partners to
3 advance the purposes of the program.

4 (B) PRIORITY.—

5 (i) IN GENERAL.—The Secretary shall
6 consult annually with the Committee,
7 States, and Indian tribes to establish prior-
8 ities for the grant program under this para-
9 graph.

10 (ii) FUNDING PRIORITIZATION.—In
11 providing grants under this paragraph, the
12 Secretary shall give priority to projects
13 that—

14 (I) will achieve the greatest land-
15 slide hazard and risk reduction;

16 (II) reflect the goals and priorities
17 of the national strategy established
18 under subsection (b)(2)(A);

19 (III) are matched at least 50 per-
20 cent of the total cost of the project from
21 non-Federal sources; and

22 (IV) include acquisition of en-
23 hanced elevation data consistent with
24 the 3D Elevation Program.

1 (2) NATIONAL LANDSLIDE RESEARCH GRANTS.—

2 *In providing grants for landslide research and devel-*
3 *opment, the Director of the National Science Founda-*
4 *tion, in consultation with the Secretary and the Com-*
5 *mittee, shall ensure that the grants are provided on*
6 *a competitive basis to State, local, and tribal govern-*
7 *ments, institutions of higher education, and non-*
8 *governmental entities to advance the goals and prior-*
9 *ities of the national strategy established under sub-*
10 *section (b)(2)(A), including for research and develop-*
11 *ment on—*

12 (A) *the causes, mechanisms, triggers, hy-*
13 *drology, and geology of landslides;*

14 (B) *ways to reduce landslide hazards and*
15 *risks to minimize loss of life and property, in-*
16 *cluding landslide hazard and risk communica-*
17 *tion, perception, decisionmaking, tools, and tech-*
18 *nologies; and*

19 (C) *other goals and priorities of the na-*
20 *tional strategy established under subsection*
21 *(b)(2)(A).*

22 (f) ANNUAL REPORT.—*The Secretary shall submit to*
23 *Congress an annual report, including a description of, with*
24 *respect to the preceding calendar year—*

1 (1) the goals and accomplishments of the Secretary and the agency heads described in subparagraphs (A) through (H) of subsection (c)(2) in carrying out the national strategy developed under subsection (b)(2), expressed—

6 (A) by agency, program, and budgetary resource; and

8 (B) by the goals and priorities of the national strategy established under subsection (b)(2)(A);

11 (2) the results of the activities of the Committee under this section;

13 (3) the extent to which any recommendations of the Advisory Committee under subsection (d)(3)(A) have been implemented;

16 (4) the grants provided under this section during that preceding calendar year, including a description of—

19 (A) each activity carried out using such a grant; and

21 (B) the results of those activities; and

22 (5) for each significant landslide event in the United States during that preceding calendar year—

- 1 (A) a description of the landslide event and
2 the implications of the event on communities, in-
3 cluding life and property;
- 4 (B) recommendations on how the identifica-
5 tion of the landslide risk could have been im-
6 proved prior to the event;
- 7 (C) a description of the effectiveness of any
8 warning and risk communication, including the
9 dissemination of warnings by State, local, and
10 tribal partners in the affected area;
- 11 (D) recommendations to improve risk iden-
12 tification, reduction, and communication to
13 landowners and local governments;
- 14 (E) recommendations to improve landslide
15 hazard preparedness and emergency response ac-
16 tivities under this section; and
- 17 (F) such other findings as the Secretary de-
18 termines appropriate.

19 (g) SUNSET.—This program, including any reporting
20 requirements, shall sunset on the date that is seven years
21 after the date of enactment.

22 **SEC. 4. GROUND SUBLIMATION.**

23 As the Secretary determines to be appropriate, the Sec-
24 retary shall support the identification, mapping, research,

1 and monitoring of subsidence and groundwater resource ac-
2 counting.

3 **SEC. 5. 3D ELEVATION PROGRAM.**

4 (a) *ESTABLISHMENT OF 3D ELEVATION PROGRAM.—*

5 (1) *IN GENERAL.—The Secretary shall establish*
6 *a program, to be known as the “3D Elevation Pro-*
7 *gram”—*

8 (A) *to provide 3D elevation data coverage*
9 *for the United States;*

10 (B) *to coordinate and facilitate the collec-*
11 *tion, dissemination, and use of 3D elevation*
12 *data among Federal departments and agencies*
13 *and non-Federal entities;*

14 (C) *to produce standard, publicly accessible*
15 *3D elevation data products for the United States;*

16 *and*

17 (D) *to promote the collection, dissemination,*
18 *and use of 3D elevation data among Federal,*
19 *State, local, and tribal governments, commu-*
20 *nities, institutions of higher education, and the*
21 *private sector through—*

22 (i) *cooperative agreements;*

23 (ii) *the development and maintenance*
24 *of spatial data infrastructure to provide*

1 *quality control and deliver to the public 3D*
2 *elevation data products;*

3 *(iii) the development of standards and*
4 *guidelines for 3D elevation data acquisition*
5 *to increase accessibility to 3D elevation*
6 *data in a standard, easy-to-use format; and*

7 *(iv) the identification, assessment, and*
8 *adoption of emerging technologies to im-*
9 *prove the accuracy and efficiency of the 3D*
10 *Elevation Program.*

11 (2) *MANAGEMENT.—*

12 (A) *IN GENERAL.—The Secretary shall*
13 *manage the 3D Elevation Program—*

14 *(i) to ensure efficiency with respect to*
15 *related activities of the Department of the*
16 *Interior and other participating Federal de-*
17 *partments and agencies; and*

18 *(ii) to meet the needs of Department of*
19 *the Interior programs, stakeholders, and the*
20 *public.*

21 (B) *OTHER FEDERAL DEPARTMENTS AND*
22 *AGENCIES.—The head of each Federal depart-*
23 *ment and agency involved in the acquisition,*
24 *production, distribution, or application of 3D*
25 *elevation data shall—*

- 1 (i) coordinate with the 3D Elevation
2 Federal Interagency Coordinating Com-
3 mittee established under subsection (b) to
4 acquire additional, enhanced 3D elevation
5 data;
- 6 (ii) submit to the Secretary a descrip-
7 tion of priority areas of interest for 3D ele-
8 vation data collection for use in providing
9 grants and cooperative agreements under
10 subsection (d);
- 11 (iii) implement policies and procedures
12 for data acquisition and sharing that are
13 consistent with standards and guidelines de-
14 veloped under the 3D Elevation Program;
- 15 (iv) participate in, and share the re-
16 sults and benefits of, the 3D Elevation Pro-
17 gram, in accordance with standards and
18 guidelines developed under the 3D Elevation
19 Program; and
- 20 (v) ensure that any 3D elevation data
21 acquired with Federal grant funding—
22 (I) meets 3D Elevation Program
23 standards; and
24 (II) is included in the national
25 holdings of those data.

1 (b) *3D ELEVATION FEDERAL INTERAGENCY COORDI-*
2 *NATING COMMITTEE.—*

3 (1) *ESTABLISHMENT.—The Secretary, in coordi-*
4 *nation with the Secretary of Commerce, shall estab-*
5 *lish an interagency coordinating committee, to be*
6 *known as the “3D Elevation Federal Interagency Co-*
7 *ordinating Committee” (referred to in this subsection*
8 *as the “Committee”), to better coordinate 3D ele-*
9 *vation data management across the Federal Govern-*
10 *ment.*

11 (2) *MEMBERSHIP.—The Committee shall be com-*
12 *posed of the following members (or their designees):*

13 (A) *The Secretary, who shall serve as Chair-*
14 *person of the Committee.*

15 (B) *The Secretary of Agriculture.*

16 (C) *The Secretary of Commerce.*

17 (D) *The Secretary of Homeland Security.*

18 (E) *The Director of the National Science*
19 *Foundation.*

20 (F) *The Director of the Office of Science*
21 *and Technology Policy.*

22 (G) *The Director of the Office of Manage-*
23 *ment and Budget.*

24 (H) *The head of any other Federal depart-*
25 *ment or agency, at the request of the Secretary.*

1 (3) *COORDINATION.*—The Committee shall co-
2 ordinate, as appropriate, with the existing activities
3 of—

4 (A) the 3D Elevation Program Executive
5 Forum;

6 (B) the Alaska Mapping Executive Com-
7 mittee;

8 (C) the 3D Elevation Working Group; and

9 (D) the 3D National Elevation Sub-
10 committee.

11 (4) *MEETINGS.*—The Committee shall meet at
12 the call of the Chairperson.

13 (5) *DUTIES.*—The Committee shall—

14 (A) oversee the planning, management, and
15 coordination of the 3D Elevation Program; and

16 (B) develop, by not later than 1 year after
17 the date of enactment of this Act, and update pe-
18 riodically thereafter—

19 (i) a strategic plan that establishes
20 goals and priorities for activities carried
21 out under the 3D Elevation Program; and

22 (ii) a detailed management plan to
23 implement the strategic plan.

24 (c) *SUBCOMMITTEE OF NATIONAL GEOSPATIAL ADVI-
25 SORY COMMITTEE.*—

1 (1) *ESTABLISHMENT.*—

2 (A) *IN GENERAL.*—The Secretary shall es-
3 tablish, within the National Geospatial Advisory
4 Committee, a subcommittee (referred to in this
5 subsection as the “Subcommittee”).

6 (B) *MEMBERSHIP.*—The Subcommittee
7 shall—

8 (i) consist of not fewer than 11 mem-
9 bers, of whom none may be a Federal officer
10 or employee; and

11 (ii) include representatives of—

12 (I) research and academic institu-
13 tions;

14 (II) industry standards develop-
15 ment organizations;

16 (III) units of State and local gov-
17 ernment; and

18 (IV) the private sector.

19 (2) *DUTIES.*—

20 (A) *ASSESSMENT.*—The Subcommittee shall
21 conduct an assessment of—

22 (i) trends and developments in—

23 (I) the collection, dissemination,
24 and use of 3D elevation data; and

(II) science and technology relat-

ing to 3D elevation data;

(ii) the effectiveness of the 3D Ele-

vation Program in carrying out the activi-

ties described in subsection (a)(1);

(iii) the need to revise or reorganize

the 3D Elevation Program; and

(iv) the management, coordination,

implementation, and activities of the 3D

Elevation Program.

(B) REPORT.—Not later than 1 year after

the date of enactment of this Act, and not less

frequently than once every 2 years thereafter, the

Subcommittee shall submit to the Secretary and

the 3D Elevation Federal Interagency Coordi-

nating Committee established under subsection

(b) a report that includes—

(i) the findings of the assessment under

subparagraph (A); and

(ii) recommendations of the Sub-

committee based on those findings, if any.

GRANTS AND COOPERATIVE AGREEMENTS.—

(1) *IN GENERAL.—The Secretary may make*

grants and enter into cooperative agreements with

other Federal departments and agencies, units of trib-

1 *al, State, or local government, institutions of higher
2 education, nonprofit research institutions, or other org-
3 anizations to facilitate the improvement of nation-
4 wide coverage of 3D elevation data.*

5 *(2) APPLICATIONS.—To be eligible to receive a
6 grant or enter into a cooperative agreement under
7 this subsection, an entity described in paragraph (1)
8 shall submit to the Secretary an application at such
9 time, in such manner, and containing such informa-
10 tion as the Secretary may require.*

11 *(3) TERMS AND CONDITIONS.—A grant or coop-
12 erative agreement under this subsection shall be sub-
13 ject to such terms and conditions as the Secretary de-
14 termines to be appropriate, including making data
15 publically available and interoperable with other Fed-
16 eral datasets.*

17 *(e) SUNSET.—This program, including any reporting
18 requirements, shall sunset on the date that is seven years
19 after the date of enactment.*

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115TH CONGRESS
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H. R. 1675

[Report No. 115-1035, Part I]

A BILL

To establish a national program to identify and reduce losses from landslide hazards, to establish a national 3D Elevation Program, and for other purposes.

DECEMBER 28, 2018

Committee on Science, Space, and Technology discharged; committed to the Committee of the Whole House on the State of the Union and ordered to be printed