

116TH CONGRESS
1ST SESSION

H. R. 1261

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

FEBRUARY 14, 2019

Ms. DELBENE (for herself, Mr. KILMER, Mr. CARTWRIGHT, Ms. BONAMICI, Mr. HECK, and Mr. SMITH of Washington) 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

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
5 Preparedness Act”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

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

2 (2) 3D ELEVATION DATA.—

3 (A) IN GENERAL.—The term “3D ele-
4 vation data” means 3D, high-resolution data
5 obtained using LiDAR, IfSAR, or other meth-
6 ods over the United States (including terri-
7 tories).

8 (B) INCLUSIONS.—The term “3D elevation
9 data” includes terrestrial and bathymetric ele-
10 vation data.

11 (3) 3D ELEVATION PROGRAM.—The term “3D
12 Elevation Program” means the 3D Elevation Pro-
13 gram established under section 5(a).

14 (4) IfSAR.—The term “IfSAR” means
15 interferometric synthetic aperture radar.

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

20 (6) LAHAR.—The term “lahar” means a large
21 debris flow of mostly volcanic material that is—

22 (A) often fast-moving; and

23 (B) a hazard in watersheds downstream of
24 volcanic peaks.

1 (7) LiDAR.—The term “LiDAR” means light
2 detection and ranging.

3 (8) SECRETARY.—The term “Secretary” means
4 the Secretary of the Interior, acting through the Di-
5 rector of the United States Geological Survey.

6 (9) STATE.—The term “State” means—

7 (A) a State; and

8 (B) the District of Columbia.

9 (10) STATE OFFICE.—The term “State office”
10 means any unit of State government that handles
11 the identification, mapping, assessment, and re-
12 search of landslide hazards or responding to land-
13 slide events, including—

14 (A) a State geological survey office;

15 (B) a State department of emergency re-
16 sponse; and

17 (C) a State department of transportation.

18 (11) TERRITORY.—The term “territory”
19 means—

20 (A) the Commonwealth of Puerto Rico;

21 (B) Guam;

22 (C) American Samoa;

23 (D) the Commonwealth of the Northern
24 Mariana Islands;

25 (E) the Federated States of Micronesia;

- 1 (F) the Republic of the Marshall Islands;
2 (G) the Republic of Palau; and
3 (H) the United States Virgin Islands.

4 **SEC. 3. NATIONAL LANDSLIDE HAZARDS REDUCTION PRO-**
5 **GRAM.**

6 (a) ESTABLISHMENT.—The Secretary shall establish
7 a program, to be known as the “National Landslide Haz-
8 ards Reduction Program” (referred to in this section as
9 the “program”)—

10 (1) to identify and understand landslide haz-
11 ards and risks;

12 (2) to reduce losses from landslides;

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

15 (4) to help improve communication and emer-
16 gency preparedness, including by coordinating with
17 communities and entities responsible for infrastruc-
18 ture that are at risk of landslide hazards.

19 (b) DESCRIPTION OF PROGRAM.—

20 (1) PROGRAM ACTIVITIES.—The Secretary, in
21 coordination with the Interagency Coordinating
22 Committee on Landslide Hazards established by
23 subsection (c)(1) (referred to in this section as the
24 “Committee”) and in coordination with existing ac-

1 activities of the United States Geological Survey and
2 other Federal agencies, shall—

3 (A) identify, map, assess, and research
4 landslide hazards;

5 (B) respond to landslide events; and

6 (C) in coordination with State offices,
7 units of local government, territories, and In-
8 dian tribes—

9 (i) establish working groups with
10 State offices, units of local government,
11 territories, and Indian tribes to identify re-
12 gional and local priorities for researching,
13 identifying, mapping, and assessing land-
14 slide hazards; and

15 (ii) develop and implement landslide
16 hazard guidelines for—

17 (I) geologists;

18 (II) geological and geotechnical
19 engineers;

20 (III) emergency management
21 personnel; and

22 (IV) land use and other decision-
23 makers.

24 (2) NATIONAL STRATEGY.—Not later than 1
25 year after the date of enactment of this Act, and

1 every 5 years thereafter, the Secretary, in coordina-
2 tion with the Committee, shall develop and publish
3 a national strategy for landslide hazards, risk reduc-
4 tion, and response in the United States (including
5 territories), which shall include—

6 (A) goals and priorities for the program;

7 (B) priorities for data acquisition, re-
8 search, communications, and risk management
9 on landslides and landslide hazards across rel-
10 evant Federal agencies; and

11 (C) a detailed interagency plan, which shall
12 take into consideration national disaster pre-
13 paredness, response, and recovery frameworks,
14 to carry out the national strategy, including de-
15 tails about the programs, projects, and budgets
16 that will be used to implement the national
17 strategy.

18 (3) NATIONAL LANDSLIDE HAZARDS DATA-
19 BASE.—In carrying out the program, the Secretary,
20 in coordination with State offices, units of local gov-
21 ernment, territories, and Indian tribes, shall develop
22 and maintain a publicly accessible national landslide
23 hazard and risk inventory database to compile,
24 maintain, standardize, and evaluate data regard-
25 ing—

- 1 (A) landslide hazards and risks;
- 2 (B) the impact of landslides on—
 - 3 (i) health and safety;
 - 4 (ii) the economy and infrastructure;
 - 5 and
 - 6 (iii) the environment;
- 7 (C) landslide hazard stabilization; and
- 8 (D) reduction of losses from landslides.

9 (4) LANDSLIDE HAZARD AND RISK PREPARED-
10 NESS FOR COMMUNITIES.—In carrying out the pro-
11 gram, the Secretary, in coordination with the Sec-
12 retary of the Army, the Secretary of Commerce, the
13 Secretary of Homeland Security, the Secretary of
14 Transportation, and the heads of other relevant Fed-
15 eral agencies, and in consultation with State offices,
16 units of local government, territories, and Indian
17 tribes, shall develop and disseminate—

- 18 (A) landslide planning and risk reduction
- 19 guidance, guidelines, maps, tools, and training
- 20 materials to help inform State, territorial, local,
- 21 and Tribal governments and decisionmakers
- 22 with respect to—
 - 23 (i) the use and implementation of
 - 24 landslide hazard assessments;

1 (ii) the applied use of the database
2 developed under paragraph (3);

3 (iii) reducing losses from landslides;
4 and

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

8 (B) landslide preparedness curricula and
9 training modules for—

10 (i) State, territorial, local, and Tribal
11 officials;

12 (ii) Federal, State, territorial, local,
13 and Tribal emergency managers; and

14 (iii) the National Guard.

15 (5) DEBRIS FLOW EARLY WARNING SYSTEM.—

16 In carrying out the program, the Secretary, in co-
17 ordination with the Secretary of Commerce and the
18 Secretary of Homeland Security, shall expand the
19 early warning system for debris flow by—

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

23 (B) developing procedures with State, ter-
24 ritorial, local, and Tribal governments to mon-

1 itor stormwater drainage in areas with high de-
2 bris flow risk; and

3 (C) identifying high-risk debris flow areas,
4 such as recently burned land and potential
5 lahar hazard areas.

6 (6) EMERGENCY RESPONSE ACTIVITIES.—In
7 carrying out the program, the Secretary, in coordi-
8 nation with the Secretary of Commerce, the Sec-
9 retary of Homeland Security, the heads of other rel-
10 evant Federal agencies, States offices, units of local
11 government, territories, and Indian tribes, shall es-
12 tablish and support emergency response procedures
13 for the rapid deployment of Federal scientists,
14 equipment, and services to areas impacted by a sig-
15 nificant landslide event—

16 (A) to support emergency response efforts
17 and improve the safety of emergency respond-
18 ers;

19 (B) to improve data collection; and

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

23 (c) INTERAGENCY COORDINATING COMMITTEE ON
24 LANDSLIDE HAZARDS.—

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

4 (2) MEMBERSHIP.—The Committee shall be
5 composed of the following members (or their des-
6 ignees):

7 (A) The Secretary, who shall serve as
8 Chairperson of the Committee.

9 (B) The Secretary of Agriculture.

10 (C) The Secretary of the Army.

11 (D) The Secretary of Commerce.

12 (E) The Secretary of Homeland Security.

13 (F) The Secretary of Transportation.

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

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

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

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

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

24 (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 “Advi-
19 sory Committee on Landslides” (referred to in this
20 subsection 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

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

3 (B) who shall be representatives of—

4 (i) States, including State geological
5 organizations;

6 (ii) territories, including territorial ge-
7 ological organizations;

8 (iii) Indian tribes, including Tribal ge-
9 ological organizations;

10 (iv) research institutions and institu-
11 tions of higher education that are quali-
12 fied—

13 (I) to provide advice regarding
14 landslide hazard and risk reduction;
15 and

16 (II) to represent related sci-
17 entific, architectural, engineering, and
18 planning disciplines;

19 (v) industry standards development
20 organizations; and

21 (vi) State, territorial, local, and Tribal
22 emergency management agencies.

23 (3) RECOMMENDATIONS.—

24 (A) IN GENERAL.—The Advisory Com-
25 mittee shall submit to the Committee rec-

ommendations for the implementation of the program, including recommendations regarding—

(i) landslide hazard and risk reduction and planning;

(ii) tools for communities;

(iii) research; and

(iv) such other topics as the Advisory Committee determines appropriate.

(B) CONSIDERATION.—The Secretary and the agency heads described in subparagraphs (B) through (I) of subsection (c)(2) shall take into consideration any recommendation of the Advisory Committee submitted under subparagraph (A).

(e) GRANT PROGRAMS.—

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

(A) IN GENERAL.—Subject to appropriations, the Secretary may—

(i) provide grants, on a competitive basis, to State, territorial, local, and Tribal governments to research, map, assess, and collect data on landslide hazards within the jurisdictions of those governments; and

1 (ii) accept and use funds received
2 from other Federal and non-Federal part-
3 ners to advance the purposes of the pro-
4 gram.

5 (B) PRIORITY.—

6 (i) IN GENERAL.—The Secretary shall
7 consult annually with the Committee,
8 States, units of local government, terri-
9 tories, and Indian tribes to establish prior-
10 ities for the grant program under this
11 paragraph.

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

15 (I) that will achieve the greatest
16 landslide hazard and risk reduction;

17 (II) that reflect the goals and
18 priorities of the national strategy es-
19 tablished under subsection (b)(2)(A);

20 (III) not less than 50 percent of
21 the total cost of which is matched by
22 non-Federal sources; and

23 (IV) that include acquisition of
24 enhanced elevation data consistent
25 with the 3D Elevation Program.

1 (2) NATIONAL LANDSLIDE RESEARCH
2 GRANTS.—

3 (A) IN GENERAL.—To advance the goals
4 and priorities of the national strategy estab-
5 lished under subsection (b)(2)(A), subject to ap-
6 propriations, the Director of the National
7 Science Foundation (referred to in this para-
8 graph as the “Director”) may provide grants to
9 eligible entities for landslide research, including
10 research on—

11 (i) the causes, mechanisms, triggers,
12 hydrology, and geology of landslides;

13 (ii) ways to reduce landslide hazards
14 and risks to minimize loss of life and prop-
15 erty, including landslide hazard and risk
16 communication, perception, decision-
17 making, tools, and technologies; and

18 (iii) other goals and priorities of the
19 national strategy established under sub-
20 section (b)(2)(A).

21 (B) ELIGIBLE ENTITIES.—The Director
22 shall determine whether an entity is eligible to
23 receive a grant under this paragraph.

24 (C) REQUIREMENTS.—In providing grants
25 under this paragraph, the Director shall—

1 (i) ensure that the grants are pro-
2 vided on a competitive basis; and

3 (ii) consider grant applications sub-
4 mitted by eligible entities that have devel-
5 oped the application in partnership with 1
6 or more State geological surveys.

7 (f) BIENNIAL REPORT.—The Secretary shall submit
8 to Congress a biennial report, including a description of,
9 with respect to the preceding 2 calendar years—

10 (1) the goals and accomplishments of the Sec-
11 retary and the agency heads described in subpara-
12 graphs (B) through (I) of subsection (c)(2) in car-
13 rying out the national strategy developed under sub-
14 section (b)(2), expressed—

15 (A) by agency, program, and budgetary re-
16 source; and

17 (B) by the goals and priorities of the na-
18 tional strategy established under subsection
19 (b)(2)(A);

20 (2) the results of the activities of the Com-
21 mittee under this section;

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

1 (4) the grants provided under this section dur-
2 ing the preceding 2 calendar years, including a de-
3 scription of—

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

6 (B) the results of those activities; and

7 (5) for each significant landslide event in the
8 United States (including territories) during the pre-
9 ceding 2 calendar years—

10 (A) a description of the landslide event and
11 the implications of the event on communities,
12 including life and property;

13 (B) recommendations on how the identi-
14 fication of the landslide risk could have been
15 improved prior to the event;

16 (C) a description of the effectiveness of
17 any warning and risk communication, including
18 the dissemination of warnings by State, terri-
19 torial, local, and Tribal partners in the affected
20 area;

21 (D) recommendations to improve risk iden-
22 tification, reduction, and communication to
23 landowners and units of local government;

1 (E) recommendations to improve landslide
2 hazard preparedness and emergency response
3 activities under this section; and

4 (F) such other findings as the Secretary
5 determines appropriate.

6 (g) FUNDING.—There is authorized to be appro-
7 priated to carry out this section \$37,000,000 for each of
8 fiscal years 2020 through 2023, of which—

9 (1) \$25,000,000 each fiscal year shall be made
10 available to the United States Geological Survey;

11 (2) \$11,000,000 each fiscal year shall be made
12 available to the National Science Foundation; and

13 (3) \$1,000,000 each fiscal year shall be made
14 available to the National Oceanic and Atmospheric
15 Administration.

16 **SEC. 4. GROUND SUBSIDENCE.**

17 As the Secretary determines to be appropriate and
18 subject to appropriations, the Secretary, through existing
19 programs, shall advance the identification, mapping, re-
20 search, and monitoring of subsidence and groundwater re-
21 source accounting, particularly in areas affected by
22 drought.

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

24 (a) ESTABLISHMENT OF 3D ELEVATION PRO-
25 GRAM.—

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

4 (A) to provide 3D elevation data coverage
5 for the United States;

6 (B) to coordinate and facilitate the collec-
7 tion, dissemination, and use of 3D elevation
8 data among Federal departments and agencies
9 and non-Federal entities;

10 (C) to produce standard, publicly acces-
11 sible 3D elevation data products for the United
12 States; and

13 (D) to promote the collection, dissemina-
14 tion, and use of 3D elevation data among Fed-
15 eral, State, local, and Tribal governments, com-
16 munities, institutions of higher education, and
17 the private sector through—

18 (i) cooperative agreements;

19 (ii) the development and maintenance
20 of spatial data infrastructure to provide
21 quality control and deliver to the public 3D
22 elevation data products;

23 (iii) in coordination with the 3D Ele-
24 vation Federal Interagency Coordinating
25 Committee established under subsection

(b), States, and industry and standards bodies, the development of standards and guidelines for 3D elevation data acquisition to increase accessibility to 3D elevation data in a standard, easy-to-use format; and

(iv) the identification, assessment, and adoption of emerging technologies to improve the accuracy and efficiency of the 3D Elevation Program.

(2) MANAGEMENT.—

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

(i) to ensure efficiency with respect to related activities of the Department of the Interior and other participating Federal departments and agencies; and

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

(B) OTHER FEDERAL DEPARTMENTS AND AGENCIES.—The head of each Federal department and agency involved in the acquisition, production, distribution, or application of 3D 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
14 developed under the 3D Elevation Pro-
15 gram;

16 (iv) participate in, and share the re-
17 sults and benefits of, the 3D Elevation
18 Program, in accordance with standards
19 and guidelines developed under the 3D
20 Elevation Program; and

21 (v) ensure that any 3D elevation data
22 acquired with Federal grant funding—

23 (I) meets 3D Elevation Program
24 standards; and

1 (II) is included in the national
2 holdings of those data.

3 (b) 3D ELEVATION FEDERAL INTERAGENCY CO-
4 ORDINATING COMMITTEE.—

5 (1) ESTABLISHMENT.—The Secretary, in co-
6 ordination with the Secretary of Commerce and the
7 Secretary of Homeland Security, shall establish an
8 interagency coordinating committee, to be known as
9 the “3D Elevation Federal Interagency Coordinating
10 Committee” (referred to in this subsection as the
11 “Committee”), to better coordinate 3D elevation
12 data management across the Federal Government.

13 (2) MEMBERSHIP.—The Committee shall be
14 composed of the following members (or their des-
15 ignees):

16 (A) The Secretary, who shall serve as
17 Chairperson of the Committee.

18 (B) The Secretary of Agriculture.

19 (C) The Secretary of Commerce.

20 (D) The Secretary of Homeland Security.

21 (E) The Director of the National Science
22 Foundation.

23 (F) The Director of the Office of Science
24 and Technology Policy.

1 (G) The Director of the Office of Manage-
2 ment and Budget.

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

5 (3) COORDINATION.—The Committee shall co-
6 ordinate, as appropriate, with the existing activities
7 of—

8 (A) the 3D Elevation Program Executive
9 Forum;

10 (B) the Alaska Mapping Executive Com-
11 mittee;

12 (C) the 3D Elevation Working Group;

13 (D) the 3D National Elevation Sub-
14 committee; and

15 (E) State offices.

16 (4) MEETINGS.—The Committee shall meet at
17 the call of the Chairperson.

18 (5) DUTIES.—The Committee shall—

19 (A) oversee the planning, management,
20 and coordination of the 3D Elevation Program;
21 and

22 (B) develop, by not later than 1 year after
23 the date of enactment of this Act, and update
24 periodically thereafter—

- 1 (i) a strategic plan that establishes
2 goals and priorities for activities carried
3 out under the 3D Elevation Program; and
4 (ii) a detailed management plan to
5 implement the strategic plan.

6 (c) SUBCOMMITTEE OF NATIONAL GEOSPATIAL AD-
7 VISORY COMMITTEE.—

8 (1) ESTABLISHMENT.—

9 (A) IN GENERAL.—The Secretary shall es-
10 tablish, within the National Geospatial Advisory
11 Committee, a subcommittee (referred to in this
12 subsection as the “Subcommittee”).

13 (B) MEMBERSHIP.—The Subcommittee
14 shall—

15 (i) consist of not fewer than 11 mem-
16 bers, of whom none may be a Federal offi-
17 cer or employee; and

18 (ii) include representatives of—

19 (I) research and academic insti-
20 tutions;

21 (II) industry standards develop-
22 ment organizations;

23 (III) units of State and local gov-
24 ernment; and

25 (IV) the private sector.

1 (2) DUTIES.—

2 (A) ASSESSMENT.—The Subcommittee
3 shall conduct an assessment of—

4 (i) trends and developments in—

5 (I) the collection, dissemination,
6 and use of 3D elevation data; and

7 (II) science and technology relat-
8 ing to 3D elevation data;

9 (ii) the effectiveness of the 3D Ele-
10 vation Program in carrying out the activi-
11 ties described in subsection (a)(1);

12 (iii) the need to revise or reorganize
13 the 3D Elevation Program; and

14 (iv) the management, coordination,
15 implementation, and activities of the 3D
16 Elevation Program.

17 (B) REPORT.—Not later than 1 year after
18 the date of enactment of this Act, and every 2
19 years thereafter, the Subcommittee shall submit
20 to the Secretary and the 3D Elevation Federal
21 Interagency Coordinating Committee estab-
22 lished under subsection (b) a report that in-
23 cludes—

24 (i) the findings of the assessment
25 under subparagraph (A); and

1 (ii) recommendations of the Sub-
2 committee based on those findings, if any.

3 (d) GRANTS AND COOPERATIVE AGREEMENTS.—

4 (1) IN GENERAL.—The Secretary may make
5 grants and enter into cooperative agreements with
6 other Federal departments and agencies, units of
7 State, local, or Tribal government, institutions of
8 higher education, nonprofit research institutions, or
9 other organizations to facilitate the improvement of
10 nationwide coverage of 3D elevation data.

11 (2) APPLICATIONS.—To be eligible to receive a
12 grant or enter into a cooperative agreement under
13 this subsection, an entity described in paragraph (1)
14 shall submit to the Secretary an application at such
15 time, in such manner, and containing such informa-
16 tion as the Secretary may require.

17 (3) TERMS AND CONDITIONS.—A grant or coop-
18 erative agreement under this subsection shall be sub-
19 ject to such terms and conditions as the Secretary
20 determines to be appropriate, including making data
21 publically available and interoperable with other
22 Federal datasets.

1 (e) AUTHORIZATION OF APPROPRIATIONS.—There is
2 authorized to be appropriated to carry out this section
3 \$20,000,000 for each of fiscal years 2020 through 2023.

○