

116TH CONGRESS 1ST SESSION

H.R. 1261

AN ACT

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-
- ${\it 2\ tives\ of\ the\ United\ States\ of\ America\ in\ Congress\ assembled},$

1 SECTION 1. SHORT TITLE.

2	This Act may be cited as the "National Landslide
3	Preparedness Act".
4	SEC. 2. DEFINITIONS.
5	In this Act:
6	(1) 3D.—The term "3D" means 3-dimensional.
7	(2) 3D ELEVATION DATA.—
8	(A) In general.—The term "3D ele-
9	vation data" means 3D, high-resolution data
10	obtained using LiDAR, IfSAR, or other meth-
11	ods over the United States (including territories
12	and freely associated states).
13	(B) Inclusions.—The term "3D elevation
14	data" includes terrestrial and bathymetric ele-
15	vation data.
16	(3) 3D ELEVATION PROGRAM.—The term "3D
17	Elevation Program" means the 3D Elevation Pro-
18	gram established under section 5(a).
19	(4) Freely associated states.—The term
20	"freely associated states" means—
21	(A) the Federated States of Micronesia;
22	(B) the Republic of the Marshall Islands;
23	and
24	(C) the Republic of Palau.
25	(5) IFSAR.—The term "IfSAR" means
26	interferometric synthetic aperture radar.

1	(6) Indian tribe.—The term "Indian tribe"
2	has the meaning given the term in section 4 of the
3	Indian Self-Determination and Education Assistance
4	Act (25 U.S.C. 5304).
5	(7) Lahar.—The term "lahar" means a large
6	debris flow of mostly volcanic material that is—
7	(A) often fast-moving; and
8	(B) a hazard in watersheds downstream of
9	volcanic peaks.
10	(8) Lidar.—The term "Lidar" means light
11	detection and ranging.
12	(9) Secretary.—The term "Secretary" means
13	the Secretary of the Interior, acting through the Di-
14	rector of the United States Geological Survey.
15	(10) State.—The term "State" means—
16	(A) a State; and
17	(B) the District of Columbia.
18	(11) State office.—The term "State office"
19	means any unit of State government that handles
20	the identification, mapping, assessment, and re-
21	search of landslide hazards or responding to land-
22	slide events, including—
23	(A) a State geological survey office;
24	(B) a State department of emergency re-
25	sponse; and

1	(C) a State department of transportation.
2	(12) Territory.—The term "territory"
3	means—
4	(A) the Commonwealth of Puerto Rico;
5	(B) Guam;
6	(C) American Samoa;
7	(D) the Commonwealth of the Northern
8	Mariana Islands; and
9	(E) the United States Virgin Islands.
10	SEC. 3. NATIONAL LANDSLIDE HAZARDS REDUCTION PRO-
11	GRAM.
12	(a) Establishment.—The Secretary shall establish
13	a program, to be known as the "National Landslide Haz-
14	ards Reduction Program" (referred to in this section as
15	the "program")—
16	(1) to identify and understand landslide haz-
17	ards and risks;
18	(2) to reduce losses from landslides;
19	(3) to protect communities at risk of landslide
20	hazards; and
21	(4) to help improve communication and emer-
22	gency preparedness, including by coordinating with
23	communities and entities responsible for infrastruc-
24	ture that are at risk of landslide hazards.
25	(b) Description of Program.—

1	(1) Program activities.—The Secretary, in
2	coordination with the Interagency Coordinating
3	Committee on Landslide Hazards established by
4	subsection $(c)(1)$ (referred to in this section as the
5	"Committee") and in coordination with existing ac-
6	tivities of the United States Geological Survey and
7	other Federal agencies, shall—
8	(A) identify, map, assess, and research
9	landslide hazards;
10	(B) respond to landslide events; and
11	(C) in coordination with State offices,
12	units of local government, territories, freely as-
13	sociated states, and Indian tribes—
14	(i) establish working groups with
15	State offices, units of local government,
16	territories, freely associated states, and In-
17	dian tribes to identify regional and local
18	priorities for researching, identifying, map-
19	ping, and assessing landslide hazards; and
20	(ii) develop and implement landslide
21	hazard guidelines for—
22	(I) geologists;
23	(II) geological and geotechnical
24	engineers;

1	(III) emergency management
2	personnel; and
3	(IV) land use and other decision-
4	makers.
5	(2) National Strategy.—Not later than 1
6	year after the date of enactment of this Act, and
7	every 5 years thereafter, the Secretary, in coordina-
8	tion with the Committee, shall develop and publish
9	a national strategy for landslide hazards, risk reduc-
10	tion, and response in the United States (including
11	territories and freely associated states), which shall
12	include—
13	(A) goals and priorities for the program;
14	(B) priorities for data acquisition, re-
15	search, communications, and risk management
16	on landslides and landslide hazards across rel-
17	evant Federal agencies; and
18	(C) a detailed interagency plan, which shall
19	take into consideration national disaster pre-
20	paredness, response, and recovery frameworks,
21	to carry out the national strategy, including de-
22	tails about the programs, projects, and budgets
23	that will be used to implement the national
24	strategy.

1	(3) National Landslide Hazards data-
2	BASE.—In carrying out the program, the Secretary,
3	in coordination with State offices, units of local gov-
4	ernment, territories, freely associated states, and In-
5	dian tribes, shall develop and maintain a publicly ac-
6	cessible national landslide hazard and risk inventory
7	database to compile, maintain, standardize, and
8	evaluate data regarding—
9	(A) landslide hazards and risks;
10	(B) the impact of landslides on—
11	(i) health and safety;
12	(ii) the economy and infrastructure;
13	and
14	(iii) the environment;
15	(C) landslide hazard stabilization; and
16	(D) reduction of losses from landslides.
17	(4) Landslide hazard and risk prepared-
18	NESS FOR COMMUNITIES.—In carrying out the pro-
19	gram, the Secretary, in coordination with the Sec-
20	retary of the Army, the Secretary of Commerce, the
21	Secretary of Homeland Security, the Secretary of
22	Transportation, and the heads of other relevant Fed-
23	eral agencies, and in consultation with State offices,
24	units of local government, territories, freely associ-

1	ated states, and Indian tribes, shall develop and dis-
2	seminate—
3	(A) landslide planning and risk reduction
4	guidance, guidelines, maps, tools, and training
5	materials to help inform State, territorial, freely
6	associated state, local, and Tribal governments
7	and decisionmakers with respect to—
8	(i) the use and implementation of
9	landslide hazard assessments;
10	(ii) the applied use of the database
11	developed under paragraph (3);
12	(iii) reducing losses from landslides;
13	and
14	(iv) resources available for commu-
15	nities working to improve landslide hazard
16	preparedness; and
17	(B) landslide preparedness curricula and
18	training modules for—
19	(i) State, territorial, freely associated
20	state, local, and Tribal officials;
21	(ii) Federal, State, territorial, freely
22	associated state, local, and Tribal emer-
23	gency managers; and
24	(iii) the National Guard.

- 1 (5) Debris flow early warning system.—
 2 In carrying out the program, the Secretary, in co3 ordination with the Secretary of Commerce and the
 4 Secretary of Homeland Security, shall expand the
 5 early warning system for debris flow by—
 - (A) expanding the early warning system for post-wildfire debris flow to include recently burned areas across the western United States;
 - (B) developing procedures with State, territorial, freely associated state, local, and Tribal governments to monitor stormwater drainage in areas with high debris flow risk; and
 - (C) identifying high-risk debris flow areas, such as recently burned land and potential lahar hazard areas.
 - (6) EMERGENCY RESPONSE ACTIVITIES.—In carrying out the program, the Secretary, in coordination with the Secretary of Commerce, the Secretary of Homeland Security, the heads of other relevant Federal agencies, States offices, units of local government, territories, freely associated states, and Indian tribes, shall establish and support emergency response procedures for the rapid deployment of Federal scientists, equipment, and services to areas impacted by a significant landslide event—

1	(A) to support emergency response efforts
2	and improve the safety of emergency respond-
3	ers;
4	(B) to improve data collection; and
5	(C) to conduct research to advance the un-
6	derstanding of the causes, impacts, and reduc-
7	tion of landslide hazards and risks.
8	(c) Interagency Coordinating Committee on
9	Landslide Hazards.—
10	(1) In general.—There is established a com-
11	mittee, to be known as the "Interagency Coordi-
12	nating Committee on Landslide Hazards".
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 the Army.
20	(D) The Secretary of Commerce.
21	(E) The Secretary of Homeland Security.
22	(F) The Secretary of Transportation.
23	(G) The Director of the National Science
24	Foundation.

1	(H) The Director of the Office of Science
2	and Technology Policy.
3	(I) The Director of the Office of Manage-
4	ment and Budget.
5	(3) Meetings.—The Committee shall meet at
6	the call of the Chairperson.
7	(4) Purpose and duties.—The Committee
8	shall—
9	(A) advise and oversee the program;
10	(B) facilitate communication and coordina-
11	tion across Federal agencies in the planning,
12	management, budgeting, and execution of land-
13	slide activities; and
14	(C) support the development and execution
15	of the national strategy under subsection $(b)(2)$,
16	including by—
17	(i) supporting the development of na-
18	tional goals and priorities for the national
19	strategy;
20	(ii) articulating Federal agency roles,
21	responsibilities, and resources for carrying
22	out the national strategy; and
23	(iii) overseeing the implementation of
24	the national strategy.
25	(d) Advisory Committee.—

1	(1) In General.—The Secretary shall establish
2	an advisory committee, to be known as the "Advi-
3	sory Committee on Landslides" (referred to in this
4	subsection as the "Advisory Committee").
5	(2) Membership.—The Advisory Committee
6	shall be composed of not fewer than 11 members—
7	(A) of whom none may be an individual de-
8	scribed in any of subparagraphs (A) through
9	(F) of section 7342(a)(1) of title 5, United
10	States Code; and
11	(B) who shall be representatives of—
12	(i) States, including State geological
13	organizations;
14	(ii) territories and freely associated
15	states, including territorial and freely asso-
16	ciated state geological organizations;
17	(iii) Indian tribes, including Tribal ge-
18	ological organizations;
19	(iv) research institutions and institu-
20	tions of higher education that are quali-
21	fied—
22	(I) to provide advice regarding
23	landslide hazard and risk reduction;
24	and

1	(II) to represent related sci-
2	entific, architectural, engineering, and
3	planning disciplines;
4	(v) industry standards development
5	organizations; and
6	(vi) State, territorial, freely associated
7	state, local, and Tribal emergency manage-
8	ment agencies.
9	(3) Recommendations.—
10	(A) In General.—The Advisory Com-
11	mittee shall submit to the Committee rec-
12	ommendations for the implementation of the
13	program, including recommendations regard-
14	ing—
15	(i) landslide hazard and risk reduction
16	and planning;
17	(ii) tools for communities;
18	(iii) research; and
19	(iv) such other topics as the Advisory
20	Committee determines appropriate.
21	(B) Consideration.—The Secretary and
22	the agency heads described in subparagraphs
23	(B) through (I) of subsection (c)(2) shall take
24	into consideration any recommendation of the

1	Advisory Committee submitted under subpara-
2	graph (A).
3	(e) Grant Programs.—
4	(1) Cooperative landslide hazard map-
5	PING AND ASSESSMENT PROGRAM.—
6	(A) In general.—Subject to appropria-
7	tions, the Secretary may—
8	(i) provide grants, on a competitive
9	basis, to State, territorial, freely associated
10	state, local, and Tribal governments to re-
11	search, map, assess, and collect data on
12	landslide hazards within the jurisdictions
13	of those governments; and
14	(ii) accept and use funds received
15	from other Federal and non-Federal part-
16	ners to advance the purposes of the pro-
17	gram.
18	(B) Priority.—
19	(i) IN GENERAL.—The Secretary shall
20	consult annually with the Committee,
21	States, units of local government, terri-
22	tories, freely associated states, and Indian
23	tribes to establish priorities for the grant
24	program under this paragraph.

1	(ii) Funding prioritization.—In
2	providing grants under this paragraph, the
3	Secretary shall give priority to projects—
4	(I) that will achieve the greatest
5	landslide hazard and risk reduction;
6	(II) that reflect the goals and
7	priorities of the national strategy es-
8	tablished under subsection (b)(2)(A);
9	(III) not less than 50 percent of
10	the total cost of which is matched by
11	non-Federal sources; and
12	(IV) that include acquisition of
13	enhanced elevation data consistent
14	with the 3D Elevation Program.
15	(2) National Landslide research
16	GRANTS.—
17	(A) IN GENERAL.—To advance the goals
18	and priorities of the national strategy estab-
19	lished under subsection (b)(2)(A), subject to ap-
20	propriations, the Director of the National
21	Science Foundation (referred to in this para-
22	graph as the "Director") may provide grants to
23	eligible entities for landslide research, including
24	research on—

1	(i) the causes, mechanisms, triggers,
2	hydrology, and geology of landslides;
3	(ii) ways to reduce landslide hazards
4	and risks to minimize loss of life and prop-
5	erty, including landslide hazard and risk
6	communication, perception, decision-
7	making, tools, and technologies; and
8	(iii) other goals and priorities of the
9	national strategy established under sub-
10	section $(b)(2)(A)$.
11	(B) ELIGIBLE ENTITIES.—The Director
12	shall determine whether an entity is eligible to
13	receive a grant under this paragraph.
14	(C) Requirements.—In providing grants
15	under this paragraph, the Director shall—
16	(i) ensure that the grants are pro-
17	vided on a competitive basis; and
18	(ii) consider grant applications sub-
19	mitted by eligible entities that have devel-
20	oped the application in partnership with
21	one or more State geological surveys.
22	(f) BIENNIAL REPORT.—The Secretary shall submit
23	to Congress a biennial report, including a description of
24	with respect to the preceding 2 calendar years—

1	(1) the goals and accomplishments of the Sec-
2	retary and the agency heads described in subpara-
3	graphs (B) through (I) of subsection (e)(2) in car-
4	rying out the national strategy developed under sub-
5	section (b)(2), expressed—
6	(A) by agency, program, and budgetary re-
7	source; and
8	(B) by the goals and priorities of the na-
9	tional strategy established under subsection
10	(b)(2)(A);
11	(2) the results of the activities of the Com-
12	mittee under this section;
13	(3) the extent to which any recommendations of
14	the Advisory Committee under subsection (d)(3)(A)
15	have been implemented;
16	(4) the grants provided under this section dur-
17	ing the preceding 2 calendar years, including a de-
18	scription of—
19	(A) each activity carried out using such a
20	grant; and
21	(B) the results of those activities; and
22	(5) for each significant landslide event in the
23	United States (including territories and freely asso-
24	ciated states) during the preceding 2 calendar
25	vears—

1	(A) a description of the landslide event and
2	the implications of the event on communities,
3	including life and property;
4	(B) recommendations on how the identi-
5	fication of the landslide risk could have been
6	improved prior to the event;
7	(C) a description of the effectiveness of
8	any warning and risk communication, including
9	the dissemination of warnings by State, terri-
10	torial, freely associated state, local, and Tribal
11	partners in the affected area;
12	(D) recommendations to improve risk iden-
13	tification, reduction, and communication to
14	landowners and units of local government;
15	(E) recommendations to improve landslide
16	hazard preparedness and emergency response
17	activities under this section; and
18	(F) such other findings as the Secretary
19	determines appropriate.
20	(g) Funding.—There is authorized to be appro-
21	priated to carry out this section \$37 million for each of
22	fiscal years 2020 through 2023, of which—
23	(1) \$25 million each fiscal year shall be made
24	available to the United States Geological Survey;

1	(2) \$11 million each fiscal year shall be made
2	available to the National Science Foundation; and
3	(3) \$1 million each fiscal year shall be made
4	available to the National Oceanic and Atmospheric
5	Administration.
6	SEC. 4. GROUND SUBSIDENCE.
7	As the Secretary determines to be appropriate and
8	subject to appropriations, the Secretary, through existing
9	programs, shall advance the identification, mapping, re-
10	search, monitoring, restoration, and mitigation of subsid-
11	ence and groundwater resource accounting, losses from
12	subsidence, including saltwater intrusion, particularly in
13	areas affected by drought and sea level rise.
14	SEC. 5. 3D ELEVATION PROGRAM.
15	(a) Establishment of 3D Elevation Pro-
16	GRAM.—
17	(1) In general.—The Secretary shall establish
18	a program, to be known as the "3D Elevation Pro-
19	gram''—
20	(A) to provide 3D elevation data coverage
21	for the United States;
22	(B) to coordinate and facilitate the collec-
23	tion, dissemination, and use of 3D elevation
24	data among Federal departments and agencies
25	and non-Federal entities;

1	(C) to produce standard, publicly acces-
2	sible 3D elevation data products for the United
3	States; and
4	(D) to promote the collection, dissemina-
5	tion, and use of 3D elevation data among Fed-
6	eral, State, local, and Tribal governments, com-
7	munities, institutions of higher education, and
8	the private sector through—
9	(i) cooperative agreements;
10	(ii) the development and maintenance
11	of spatial data infrastructure to provide
12	quality control and deliver to the public 3D
13	elevation data products;
14	(iii) in coordination with the 3D Ele-
15	vation Federal Interagency Coordinating
16	Committee established under subsection
17	(b), States, and industry and standards
18	bodies, the development of standards and
19	guidelines for 3D elevation data acquisition
20	to increase accessibility to 3D elevation
21	data in a standard, easy-to-use format; and
22	(iv) the identification, assessment, and
23	adoption of emerging technologies to im-
24	prove the accuracy and efficiency of the
25	3D Elevation Program.

1	(2) Management.—
2	(A) IN GENERAL.—The Secretary shall
3	manage the 3D Elevation Program—
4	(i) to ensure efficiency with respect to
5	related activities of the Department of the
6	Interior and other participating Federal
7	departments and agencies; and
8	(ii) to meet the needs of Department
9	of the Interior programs, stakeholders, and
10	the public.
11	(B) OTHER FEDERAL DEPARTMENTS AND
12	AGENCIES.—The head of each Federal depart-
13	ment and agency involved in the acquisition,
14	production, distribution, or application of 3D
15	elevation data shall—
16	(i) coordinate with the 3D Elevation
17	Federal Interagency Coordinating Com-
18	mittee established under subsection (b) to
19	acquire additional, enhanced 3D elevation
20	data;
21	(ii) submit to the Secretary a descrip-
22	tion of priority areas of interest for 3D ele-
23	vation data collection for use in providing
24	grants and cooperative agreements under
25	subsection (d):

1	(iii) implement policies and procedures
2	for data acquisition and sharing that are
3	consistent with standards and guidelines
4	developed under the 3D Elevation Pro-
5	gram;
6	(iv) participate in, and share the re-
7	sults and benefits of, the 3D Elevation
8	Program, in accordance with standards
9	and guidelines developed under the 3D
10	Elevation Program; and
11	(v) ensure that any 3D elevation data
12	acquired with Federal grant funding—
13	(I) meets 3D Elevation Program
14	standards; and
15	(II) is included in the national
16	holdings of those data.
17	(b) 3D Elevation Federal Interagency Co-
18	ORDINATING COMMITTEE.—
19	(1) Establishment.—The Secretary, in co-
20	ordination with the Secretary of Commerce and the
21	Secretary of Homeland Security, shall establish an
22	interagency coordinating committee, to be known as
23	the "3D Elevation Federal Interagency Coordinating
24	Committee' (referred to in this subsection as the

1	"Committee"), to better coordinate 3D elevation
2	data management across the Federal Government.
3	(2) Membership.—The Committee shall be
4	composed of the following members (or their des-
5	ignees):
6	(A) The Secretary, who shall serve as
7	Chairperson of the Committee.
8	(B) The Secretary of Agriculture.
9	(C) The Secretary of Commerce.
10	(D) The Secretary of Homeland Security.
11	(E) The Director of the National Science
12	Foundation.
13	(F) The Director of the Office of Science
14	and Technology Policy.
15	(G) The Director of the Office of Manage-
16	ment and Budget.
17	(H) The head of any other Federal depart-
18	ment or agency, at the request of the Secretary.
19	(3) COORDINATION.—The Committee shall co-
20	ordinate, as appropriate, with the existing activities
21	of—
22	(A) the 3D Elevation Program Executive
23	Forum;
24	(B) the Alaska Mapping Executive Com-
25	mittee;

1	(C) the 3D Elevation Working Group;
2	(D) the 3D National Elevation Sub-
3	committee; and
4	(E) State offices.
5	(4) Meetings.—The Committee shall meet at
6	the call of the Chairperson.
7	(5) Duties.—The Committee shall—
8	(A) oversee the planning, management,
9	and coordination of the 3D Elevation Program;
10	and
11	(B) develop, by not later than 1 year after
12	the date of enactment of this Act, and update
13	periodically thereafter—
14	(i) a strategic plan that establishes
15	goals and priorities for activities carried
16	out under the 3D Elevation Program; and
17	(ii) a detailed management plan to
18	implement the strategic plan.
19	(c) Subcommittee of National Geospatial Ad-
20	VISORY COMMITTEE.—
21	(1) Establishment.—
22	(A) IN GENERAL.—The Secretary shall es-
23	tablish, within the National Geospatial Advisory
24	Committee, a subcommittee (referred to in this
25	subsection as the "Subcommittee").

1	(B) Membership.—The Subcommittee
2	shall—
3	(i) consist of not fewer than 11 mem-
4	bers, of whom none may be a Federal offi-
5	cer or employee; and
6	(ii) include representatives of—
7	(I) research and academic insti-
8	tutions;
9	(II) industry standards develop-
10	ment organizations;
11	(III) units of State and local gov-
12	ernment; and
13	(IV) the private sector.
14	(2) Duties.—
15	(A) Assessment.—The Subcommittee
16	shall conduct an assessment of—
17	(i) trends and developments in—
18	(I) the collection, dissemination,
19	and use of 3D elevation data; and
20	(II) science and technology relat-
21	ing to 3D elevation data;
22	(ii) the effectiveness of the 3D Ele-
23	vation Program in carrying out the activi-
24	ties described in subsection $(a)(1)$;

1	(iii) the need to revise or reorganize
2	the 3D Elevation Program; and
3	(iv) the management, coordination,
4	implementation, and activities of the 3D
5	Elevation Program.
6	(B) Report.—Not later than 1 year after
7	the date of enactment of this Act, and every 2
8	years thereafter, the Subcommittee shall submit
9	to the Secretary and the 3D Elevation Federal
10	Interagency Coordinating Committee estab-
11	lished under subsection (b) a report that in-
12	cludes—
13	(i) the findings of the assessment
14	under subparagraph (A); and
15	(ii) recommendations of the Sub-
16	committee based on those findings, if any.
17	(d) Grants and Cooperative Agreements.—
18	(1) IN GENERAL.—The Secretary may make
19	grants and enter into cooperative agreements with
20	other Federal departments and agencies, units of
21	State, local, or Tribal government, institutions of
22	higher education, nonprofit research institutions, or
23	other organizations to facilitate the improvement of
24	nationwide coverage of 3D elevation data.

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

- (3) TERMS AND CONDITIONS.—A grant or cooperative agreement under this subsection shall be subject to such terms and conditions as the Secretary determines to be appropriate, including making data publically available and interoperable with other Federal datasets.
- 13 (e) AUTHORIZATION OF APPROPRIATIONS.—There is 14 authorized to be appropriated to carry out this section \$40 15 million for each of fiscal years 2020 through 2023.

Passed the House of Representatives June 3, 2019. Attest:

Clerk.

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116TH CONGRESS H. R. 1261

AN ACT

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