

111TH CONGRESS
2^D SESSION

H. R. 3820

IN THE SENATE OF THE UNITED STATES

MARCH 3, 2010

Received; read twice and referred to the Committee on Commerce, Science,
and Transportation

AN ACT

To reauthorize Federal natural hazards reduction programs,
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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Natural Hazards Risk
3 Reduction Act of 2010”.

4 **SEC. 2. FINDINGS.**

5 Congress finds the following:

6 (1) The United States faces significant risks
7 from many types of natural hazards, including
8 earthquakes, hurricanes, tornadoes, wildfires, and
9 floods. Increasing numbers of Americans are living
10 in areas prone to these hazards.

11 (2) Earthquakes occur without warning and can
12 have devastating effects. According to the U.S. Geo-
13 logical Survey, two recent earthquakes, the
14 Northridge Earthquake in 1994, and the Loma
15 Prieta Earthquake in 1989, killed nearly 100 people,
16 injured 12,757, and caused \$33 billion in damages.
17 Nearly all States face some level of seismic risk.
18 Twenty-six urban areas in 14 States have a signifi-
19 cant seismic risk.

20 (3) Severe weather is the most costly natural
21 hazard, measured on a per year basis. According to
22 data from the National Weather Service over the
23 last 10 years, tornadoes, thunderstorms, and hurri-
24 canes have caused an average of 226 fatalities and
25 \$16 billion of property damage per year. The 2005
26 hurricane season was one of the most destructive in

1 United States history, killing 1,836 people, and
2 causing \$80 billion in damage.

3 (4) The United States Fire Administration re-
4 ports that 38 percent of new home construction in
5 2002 was in areas adjacent to, or intermixed with,
6 wildlands. Fires in the wildland-urban interface are
7 costly. For example, the 2007 California Witch fire
8 alone caused \$1.3 billion in insured property losses,
9 according to the Insurance Services Office (ISO). In
10 addition, Government Accountability Office reported
11 in 2007 that the Federal spending for wildfire sup-
12 pression between 2001 and 2005 was, on average,
13 \$2.9 billion per year.

14 (5) Developing better knowledge about natural
15 hazard phenomena and their effects is crucial to as-
16 sessing the risks these hazards pose to communities.
17 Instrumentation, monitoring, and data gathering to
18 characterize earthquakes and wind events are impor-
19 tant activities to increase this knowledge.

20 (6) Current building codes and standards can
21 mitigate the damages caused by natural hazards.
22 The Institute for Business and Home Safety esti-
23 mated that the \$19 billion in damage caused by
24 Hurricane Andrew in 1994 could have been reduced
25 by half if such codes and standards were in effect.

1 Research for the continuous improvement of building
2 codes, standards, and design practices—and for de-
3 veloping methods to retrofit existing structures—is
4 crucial to mitigating losses from natural hazards.

5 (7) Since its creation in 1977, the National
6 Earthquake Hazards Reduction Program (NEHRP)
7 has supported research to develop seismic codes,
8 standards, and building practices that have been
9 widely adopted. The NEHRP Recommended Provi-
10 sions for Seismic Regulations for New Buildings and
11 Other Structures and the Guidance for Seismic Per-
12 formance Assessment of Buildings are two examples.

13 (8) Research to understand the institutional,
14 social, behavioral, and economic factors that influ-
15 ence how households, businesses, and communities
16 perceive risk and prepare for natural hazards, and
17 how well they recover after a disaster, can increase
18 the implementation of risk mitigation measures.

19 (9) A major goal of the Federal natural haz-
20 ards-related research and development effort should
21 be to reduce the loss of life and damage to commu-
22 nities and infrastructure through increasing the
23 adoption of hazard mitigation measures.

24 (10) Research, development, and technology
25 transfer to secure infrastructure is vitally important.

1 Infrastructure that supports electricity, transpor-
2 tation, drinking water, and other services is vital im-
3 mediately after a disaster, and their quick return to
4 function speeds the economic recovery of a disaster-
5 impacted community.

6 **TITLE I—EARTHQUAKES**

7 **SEC. 101. SHORT TITLE.**

8 This title may be cited as the “National Earthquake
9 Hazards Reduction Program Reauthorization Act of
10 2010”.

11 **SEC. 102. FINDINGS.**

12 Section 2 of the Earthquake Hazards Reduction Act
13 of 1977 (42 U.S.C. 7701) is repealed.

14 **SEC. 103. DEFINITIONS.**

15 Section 4 of the Earthquake Hazards Reduction Act
16 of 1977 (42 U.S.C. 7703) is amended by striking para-
17 graphs (8) and (9).

18 **SEC. 104. NATIONAL EARTHQUAKE HAZARDS REDUCTION**

19 **PROGRAM.**

20 Section 5 of the Earthquake Hazards Reduction Act
21 of 1977 (42 U.S.C. 7704) is amended—

22 (1) in subsection (a)—

23 (A) by amending paragraph (2) to read as
24 follows:

1 “(2) PROGRAM ACTIVITIES.—The activities of
2 the Program shall be designed to—

3 “(A) research and develop effective meth-
4 ods, tools, and technologies to reduce the risk
5 posed by earthquakes to the built environment,
6 especially to lessen the risk to existing struc-
7 tures and lifelines;

8 “(B) improve the understanding of earth-
9 quakes and their effects on households, busi-
10 nesses, communities, buildings, structures, and
11 lifelines, through interdisciplinary and multi-
12 disciplinary research that involves engineering,
13 natural sciences, and social sciences; and

14 “(C) facilitate the adoption of earthquake
15 risk reduction measures by households, busi-
16 nesses, communities, local, State, and Federal
17 governments, national standards and model
18 building code organizations, architects and engi-
19 neers, building owners, and others with a role
20 in planning for disasters and planning, con-
21 structing, retrofitting, and insuring buildings,
22 structures, and lifelines through—

23 “(i) grants, contracts, cooperative
24 agreements, and technical assistance;

1 “(ii) development of standards, guide-
2 lines, voluntary consensus standards, and
3 other design guidance for earthquake haz-
4 ards risk reduction for buildings, struc-
5 tures, and lifelines;

6 “(iii) outreach and information dis-
7 semination to communities on location-spe-
8 cific earthquake hazards and methods to
9 reduce the risks from those hazards; and

10 “(iv) development and maintenance of
11 a repository of information, including tech-
12 nical data, on seismic risk and hazards re-
13 duction.”; and

14 (B) by striking paragraphs (3) through
15 (5);

16 (2) by amending subsection (b) to read as fol-
17 lows:

18 “(b) RESPONSIBILITIES OF PROGRAM AGENCIES.—

19 “(1) LEAD AGENCY.—The National Institute of
20 Standards and Technology (in this section referred
21 to as the ‘Institute’) shall be responsible for plan-
22 ning and coordinating the Program. In carrying out
23 this paragraph, the Director of the Institute shall—

24 “(A) ensure that the Program includes the
25 necessary components to promote the imple-

1 mentation of earthquake hazards risk reduction
2 measures by households, businesses, commu-
3 nities, local, State, and Federal governments,
4 national standards and model building code or-
5 ganizations, architects and engineers, building
6 owners, and others with a role in preparing for
7 disasters, or the planning, constructing, retro-
8 fitting, and insuring of buildings, structures,
9 and lifelines;

10 “(B) support the development of perform-
11 ance-based seismic engineering tools, and work
12 with the appropriate groups to promote the
13 commercial application of such tools, through
14 earthquake-related building codes, standards,
15 and construction practices;

16 “(C) ensure the use of social science re-
17 search and findings in informing research and
18 technology development priorities, commu-
19 nicating earthquake risks to the public, devel-
20 oping earthquake risk mitigation strategies, and
21 preparing for earthquake disasters;

22 “(D) coordinate all Federal post-earth-
23 quake investigations; and

24 “(E) when warranted by research or inves-
25 tigative findings, issue recommendations for

1 changes in model codes to the relevant code de-
2 velopment organizations, and report back to
3 Congress on whether such recommendations
4 were adopted.

5 “(2) NATIONAL INSTITUTE OF STANDARDS AND
6 TECHNOLOGY.—In addition to the lead agency re-
7 sponsibilities described under paragraph (1), the In-
8 stitute shall be responsible for carrying out research
9 and development to improve building codes and
10 standards and practices for buildings, structures,
11 and lifelines. In carrying out this paragraph, the Di-
12 rector of the Institute shall—

13 “(A) work, in conjunction with other ap-
14 propriate Federal agencies, to support the de-
15 velopment of improved seismic standards and
16 model codes;

17 “(B) in coordination with other appro-
18 priate Federal agencies, work closely with
19 standards and model code development organi-
20 zations, professional societies, and practicing
21 engineers, architects, and others involved in the
22 construction of buildings, structures, and life-
23 lines, to promote better building practices, in-
24 cluding by—

1 “(i) developing technical resources for
2 practitioners on new knowledge and stand-
3 ards of practice; and

4 “(ii) developing methods and tools to
5 facilitate the incorporation of earthquake
6 engineering principles into design and con-
7 struction practices;

8 “(C) develop tools, technologies, methods,
9 and practitioner guidance to feasibly and cost-
10 effectively retrofit existing buildings and struc-
11 tures to increase their earthquake resiliency;
12 and

13 “(D) work closely with national standards
14 organizations, and other interested parties, to
15 develop seismic safety standards and practices
16 for new and existing lifelines.

17 “(3) FEDERAL EMERGENCY MANAGEMENT
18 AGENCY.—

19 “(A) IN GENERAL.—The Federal Emer-
20 gency Management Agency (in this paragraph
21 referred to as the ‘Agency’), consistent with the
22 Agency’s all hazards approach, shall be respon-
23 sible for facilitating the development and adop-
24 tion of standards, model building codes, and
25 better seismic building practices, developing

1 tools to assess earthquake hazards, promoting
2 the adoption of hazard mitigation measures,
3 and carrying out a program of direct assistance
4 to States and localities to mitigate earthquake
5 risks to buildings, structures, lifelines, and com-
6 munities.

7 “(B) DIRECTOR’S DUTIES.—The Director
8 of the Agency shall—

9 “(i) work closely with other relevant
10 Federal agencies, standards and model
11 building code development organizations,
12 architects, engineers, and other profes-
13 sionals, to facilitate the development and
14 adoption of standards, model codes, and
15 design and construction practices to in-
16 crease the earthquake resiliency of new
17 and existing buildings, structures, and life-
18 lines in the—

19 “(I) preparation, maintenance,
20 and wide dissemination of design
21 guidance, model building codes and
22 standards, and practices to increase
23 the earthquake resiliency of new and
24 existing buildings, structures, and life-
25 lines;

1 “(II) development of perform-
2 ance-based design guidelines and
3 methodologies supporting model codes
4 for buildings, structures, and lifelines;
5 and

6 “(III) development of methods
7 and tools to facilitate the incorpora-
8 tion of earthquake engineering prin-
9 ciples into design and construction
10 practices;

11 “(ii) develop tools, technologies, and
12 methods to assist local planners, and oth-
13 ers, to model and predict the potential im-
14 pact of earthquake damage in seismically
15 hazardous areas; and

16 “(iii) support the implementation of a
17 comprehensive earthquake education and
18 public awareness program, including the
19 development of materials and their wide
20 dissemination to all appropriate audiences,
21 and support public access to locality-spe-
22 cific information that may assist the public
23 in preparing for, mitigating against, re-
24 sponding to, and recovering from earth-
25 quakes and related disasters.

1 “(C) STATE ASSISTANCE GRANT PRO-
2 GRAM.—The Director of the Agency shall oper-
3 ate a program of grants and assistance to en-
4 able States to develop mitigation, preparedness,
5 and response plans, compare inventories and
6 conduct seismic safety inspections of critical
7 structures and lifelines, update building and
8 zoning codes and ordinances to enhance seismic
9 safety, increase earthquake awareness and edu-
10 cation, and encourage the development of
11 multistate groups for such purposes. The Direc-
12 tor shall operate such programs in coordination
13 with the all hazards mitigation and prepared-
14 ness programs authorized by the Robert T.
15 Stafford Disaster Relief and Emergency Assist-
16 ance Act (42 U.S.C. 5121 et seq.), in order to
17 ensure that such programs are as consistent as
18 possible. In order to qualify for assistance
19 under this subparagraph, a State must—

20 “(i) demonstrate that the assistance
21 will result in enhanced seismic safety in
22 the State;

23 “(ii) provide 50 percent of the costs of
24 the activities for which assistance is being
25 given, except that the Director may lower

1 or waive the cost-share requirement for
2 these activities in exceptional cases of eco-
3 nomic hardship; and

4 “(iii) meet such other requirements as
5 the Director of the Agency shall prescribe.

6 “(D) FEDERAL EMERGENCY MANAGEMENT
7 AGENCY ROLE AND RESPONSIBILITY.—Nothing
8 in this Act shall be construed to diminish the
9 role and responsibility of the Federal Emer-
10 gency Management Agency with regard to all
11 hazards preparedness, response, recovery, and
12 mitigation.

13 “(4) UNITED STATES GEOLOGICAL SURVEY.—
14 The United States Geological Survey (in this para-
15 graph referred to as the ‘Survey’) shall conduct re-
16 search and other activities necessary to characterize
17 and identify earthquake hazards, assess earthquake
18 risks, monitor seismic activity, and provide real-time
19 earthquake information. In carrying out this para-
20 graph, the Director of the Survey shall—

21 “(A) conduct a systematic assessment of
22 the seismic risks in each region of the Nation
23 prone to earthquakes, including, where appro-
24 priate, the establishment and operation of in-
25 tensive monitoring projects on hazardous faults,

1 detailed seismic hazard and risk studies in
2 urban and other developed areas where earth-
3 quake risk is determined to be significant, and
4 engineering seismology studies;

5 “(B) work with officials of State and local
6 governments to ensure that they are knowledge-
7 able about the specific seismic risks in their
8 areas;

9 “(C) develop standard procedures, in con-
10 sultation with the Director of the Federal
11 Emergency Management Agency, for issuing
12 earthquake alerts, including aftershock
13 advisories, and, to the extent possible, ensure
14 that such alerts are compatible with the Inte-
15 grated Public Alerts and Warning System pro-
16 gram authorized by section 202 of the Robert
17 T. Stafford Disaster Relief and Emergency As-
18 sistance Act (42 U.S.C. 5132);

19 “(D) issue when justified, and notify the
20 Director of the Federal Emergency Manage-
21 ment Agency of, an earthquake prediction or
22 other earthquake advisory, which may be evalu-
23 ated by the National Earthquake Prediction
24 Evaluation Council;

1 “(E) operate, as integral parts of the Ad-
2 vanced National Seismic Research and Moni-
3 toring System, a National Earthquake Informa-
4 tion Center and a national seismic network, to-
5 gether providing timely and accurate informa-
6 tion on earthquakes world-wide;

7 “(F) support the operation of regional seis-
8 mic networks in areas of higher seismic risk;

9 “(G) develop and support seismic instru-
10 mentation of buildings and other structures to
11 obtain data on their response to earthquakes
12 for use in engineering studies and assessment
13 of damage;

14 “(H) monitor and assess Earth surface de-
15 formation as it pertains to the evaluation of
16 earthquake hazards and impacts;

17 “(I) work with other Program agencies to
18 maintain awareness of, and where appropriate
19 cooperate with, earthquake risk reduction ef-
20 forts in other countries, to ensure that the Pro-
21 gram benefits from relevant information and
22 advances in those countries;

23 “(J) maintain suitable seismic hazard
24 maps in support of building codes for structures
25 and lifelines, including additional maps needed

1 for performance-based design approaches, and,
2 to the extent possible, ensure that such maps
3 are developed consistent with the multihazard
4 advisory maps authorized by section 203(k) of
5 the Robert T. Stafford Disaster Relief and
6 Emergency Assistance Act (42 U.S.C. 5133(k));

7 “(K) conduct a competitive, peer-reviewed
8 process which awards grants and cooperative
9 agreements to complement and extend related
10 internal Survey research and monitoring activi-
11 ties; and

12 “(L) operate, in cooperation with the Na-
13 tional Science Foundation, a Global Seis-
14 mographic Network for detection of earth-
15 quakes around the world and research into fun-
16 damental earth processes.

17 “(5) NATIONAL SCIENCE FOUNDATION.—The
18 National Science Foundation shall be responsible for
19 funding basic research that furthers the under-
20 standing of earthquakes, earthquake engineering,
21 and community preparation and response to earth-
22 quakes. In carrying out this paragraph, the Director
23 of the National Science Foundation shall—

24 “(A) support multidisciplinary and inter-
25 disciplinary research that will improve the resil-

1 iency of communities to earthquakes, includ-
2 ing—

3 “(i) research that improves the safety
4 and performance of buildings, structures,
5 and lifelines, including the use of the large-
6 scale experimental and computational fa-
7 cilities of the George E. Brown, Jr. Net-
8 work for Engineering Earthquake Simula-
9 tion;

10 “(ii) research to support more effec-
11 tive earthquake mitigation and response
12 measures, such as developing better knowl-
13 edge of the specific types of vulnerabilities
14 faced by segments of the community vul-
15 nerable to earthquakes, addressing the bar-
16 riers they face in adopting mitigation and
17 preparation measures, and developing
18 methods to better communicate the risks of
19 earthquakes and to promote mitigation;
20 and

21 “(iii) research on the response of com-
22 munities, households, businesses, and
23 emergency responders to earthquakes;

1 “(B) support research to understand
2 earthquake processes, earthquake patterns, and
3 earthquake frequencies;

4 “(C) encourage prompt dissemination of
5 significant findings, sharing of data, samples,
6 physical collections, and other supporting mate-
7 rials, and development of intellectual property
8 so research results can be used by appropriate
9 organizations to mitigate earthquake damage;

10 “(D) work with other Program agencies to
11 maintain awareness of, and where appropriate
12 cooperate with, earthquake risk reduction re-
13 search efforts in other countries, to ensure that
14 the Program benefits from relevant information
15 and advances in those countries; and

16 “(E) include to the maximum extent prac-
17 ticable diverse institutions, including Histori-
18 cally Black Colleges and Universities, Hispanic-
19 serving institutions, Tribal Colleges and Univer-
20 sities, Alaska Native-serving institutions, and
21 Native Hawaiian-serving institutions.”; and

22 (3) in subsection (c)(1) by inserting “on Nat-
23 ural Hazards Risk Reduction established under sec-
24 tion 301 of the Natural Hazards Risk Reduction Act

1 of 2010” after “Interagency Coordinating Com-
2 mittee”.

3 **SEC. 105. POST-EARTHQUAKE INVESTIGATIONS PROGRAM.**

4 Section 11 of the Earthquake Hazards Reduction Act
5 of 1977 (42 U.S.C. 7705e) is amended by striking “There
6 is established” and all that follows through “conduct of
7 such earthquake investigations.” and inserting “The Pro-
8 gram shall include a post-earthquake investigations pro-
9 gram, the purpose of which is to investigate major earth-
10 quakes so as to learn lessons which can be applied to re-
11 duce the loss of lives and property in future earthquakes.
12 The lead Program agency, in consultation with each Pro-
13 gram agency, shall organize investigations to study the im-
14 plications of the earthquakes in the areas of responsibility
15 of each Program agency. The investigations shall begin
16 as rapidly as possible and may be conducted by grantees
17 and contractors. The Program agencies shall ensure that
18 the results of the investigations are disseminated widely.”.

19 **SEC. 106. AUTHORIZATION OF APPROPRIATIONS.**

20 (a) IN GENERAL.—Section 12 of the Earthquake
21 Hazards Reduction Act of 1977 (42 U.S.C. 7706) is
22 amended—

23 (1) by adding at the end of subsection (a) the
24 following:

1 “(9) There are authorized to be appropriated to the
2 Federal Emergency Management Agency for carrying out
3 this Act—

4 “(A) \$10,238,000 for fiscal year 2010;

5 “(B) \$10,545,000 for fiscal year 2011;

6 “(C) \$10,861,000 for fiscal year 2012;

7 “(D) \$11,187,000 for fiscal year 2013; and

8 “(E) \$11,523,000 for fiscal year 2014.”;

9 (2) by adding at the end of subsection (b) the
10 following:

11 “(3) There are authorized to be appropriated to the
12 United States Geological Survey for carrying out this
13 Act—

14 “(A) \$90,000,000 for fiscal year 2010, of which
15 \$36,000,000 shall be made available for completion
16 of the Advanced National Seismic Research and
17 Monitoring System;

18 “(B) \$92,100,000 for fiscal year 2011, of which
19 \$37,000,000 shall be made available for completion
20 of the Advanced National Seismic Research and
21 Monitoring System;

22 “(C) \$94,263,000 for fiscal year 2012, of which
23 \$38,000,000 shall be made available for completion
24 of the Advanced National Seismic Research and
25 Monitoring System;

1 “(D) \$96,491,000 for fiscal year 2013, of which
2 \$39,000,000 shall be made available for completion
3 of the Advanced National Seismic Research and
4 Monitoring System; and

5 “(E) \$98,786,000 for fiscal year 2014, of which
6 \$40,000,000 shall be made available for completion
7 of the Advanced National Seismic Research and
8 Monitoring System.”;

9 (3) by adding at the end of subsection (c) the
10 following:

11 “(3) There are authorized to be appropriated to the
12 National Science Foundation for carrying out this Act—

13 “(A) \$64,125,000 for fiscal year 2010;

14 “(B) \$66,049,000 for fiscal year 2011;

15 “(C) \$68,030,000 for fiscal year 2012;

16 “(D) \$70,071,000 for fiscal year 2013; and

17 “(E) \$72,173,000 for fiscal year 2014.”; and

18 (4) by adding at the end of subsection (d) the
19 following:

20 “(3) There are authorized to be appropriated to the
21 National Institute of Standards and Technology for car-

22 rying out this Act—

23 “(A) \$7,000,000 for fiscal year 2010;

24 “(B) \$7,700,000 for fiscal year 2011;

25 “(C) \$7,931,000 for fiscal year 2012;

1 which are especially vulnerable to windstorm damage
2 and disruption, and the dissemination of information
3 on methods to reduce those risks;

4 “(2) the development of technologically and eco-
5 nomically feasible design and construction methods
6 and procedures to make new and existing structures,
7 in areas of windstorm risk, windstorm resilient, giv-
8 ing high priority to the development of such methods
9 and procedures for lifelines, structures associated
10 with a potential high loss of life, and structures that
11 are especially needed in times of disasters, such as
12 hospitals and public safety and shelter facilities;

13 “(3) the implementation, in areas of major
14 windstorm risk, of instrumentation to record and
15 gather data on windstorms and the characteristics of
16 the wind during those events, and continued re-
17 search to increase the understanding of windstorm
18 phenomena;

19 “(4) the development, publication, and pro-
20 motion, in conjunction with State and local officials
21 and professional organizations, of model building
22 codes and standards and other means to encourage
23 consideration of information about windstorm risk in
24 making decisions about land use policy and construc-
25 tion activity; and

1 cially to lessen the risk to existing structures and
2 lifelines;

3 “(2) improve the understanding of windstorms
4 and their impacts on households, businesses, com-
5 munities, buildings, structures, and lifelines, through
6 interdisciplinary and multidisciplinary research that
7 involves engineering, natural sciences, and social
8 sciences; and

9 “(3) facilitate the adoption of windstorm risk
10 reduction measures by households, businesses, com-
11 munities, local, State and Federal governments, na-
12 tional standards and model building code organiza-
13 tions, architects and engineers, building owners, and
14 others with a role in planning for disasters and plan-
15 ning, constructing, retrofitting, and insuring build-
16 ings, structures, and lifelines through—

17 “(A) grants, contracts, cooperative agree-
18 ments, and technical assistance;

19 “(B) development of hazard maps, stand-
20 ards, guidelines, voluntary consensus standards,
21 and other design guidance for windstorm risk
22 reduction for buildings, structures, and lifelines;

23 “(C) outreach and information dissemina-
24 tion to communities on site specific windstorm

1 hazards and ways to reduce the risks from
2 those hazards; and

3 “(D) development and maintenance of a
4 repository of information, including technical
5 data, on windstorm hazards and risk reduction;

6 “(c) RESPONSIBILITIES OF PROGRAM AGENCIES.—

7 “(1) LEAD AGENCY.—The National Institute of
8 Standards and Technology (in this section referred
9 to as the ‘Institute’) shall be responsible for plan-
10 ning and coordinating the Program. In carrying out
11 this paragraph, the Director of the Institute shall—

12 “(A) ensure that the Program includes the
13 necessary components to promote the imple-
14 mentation of windstorm risk reduction meas-
15 ures by households, businesses, communities,
16 local, State, and Federal governments, national
17 standards and model building code organiza-
18 tions, architects and engineers, building owners,
19 and others with a role in planning and pre-
20 paring for disasters, and planning constructing,
21 and retrofitting, and insuring buildings, struc-
22 tures, and lifelines;

23 “(B) support the development of perform-
24 ance-based engineering tools, and work with the
25 appropriate groups to promote the commercial

1 application of such tools, through wind-related
2 building codes, standards, and construction
3 practices;

4 “(C) ensure the use of social science re-
5 search and findings in informing the develop-
6 ment of technology and research priorities, in
7 communicating windstorm risks to the public,
8 in developing windstorm risk mitigation strate-
9 gies, and in preparing for windstorm disasters;

10 “(D) coordinate all Federal post-windstorm
11 investigations; and

12 “(E) when warranted by research or inves-
13 tigative findings, issue recommendations for
14 changes in model codes to the relevant code de-
15 velopment organizations, and report back to
16 Congress on whether such recommendations
17 were adopted.

18 “(2) NATIONAL INSTITUTE OF STANDARDS AND
19 TECHNOLOGY.—In addition to the lead agency re-
20 sponsibilities described under paragraph (1), the In-
21 stitute shall be responsible for carrying out research
22 and development to improve model codes, standards,
23 design guidance and practices for the construction
24 and retrofit of buildings, structures, and lifelines. In

1 carrying out this paragraph, the Director of the In-
2 stitute shall—

3 “(A) support the development of instru-
4 mentation, data processing, and archival capa-
5 bilities, and standards for the instrumentation
6 and its deployment, to measure wind, wind
7 loading, and other properties of severe wind and
8 structure response;

9 “(B) coordinate with other appropriate
10 Federal agencies to make the data described in
11 subparagraph (A) available to researchers,
12 standards and code developers, and local plan-
13 ners;

14 “(C) support the development of tools and
15 methods for the collection of data on the loss of
16 and damage to structures, and data on sur-
17 viving structures after severe windstorm events;

18 “(D) improve the knowledge of the impact
19 of severe wind on buildings, structures, lifelines,
20 and communities;

21 “(E) develop cost-effective windstorm im-
22 pact reduction tools, methods, and technologies;

23 “(F) work, in conjunction with other ap-
24 propriate Federal agencies, to support the de-

1 velopment of wind standards and model codes;
2 and

3 “(G) in conjunction with other appropriate
4 Federal agencies, work closely with standards
5 and model code development organizations, pro-
6 fessional societies, and practicing engineers, ar-
7 chitects, and others involved in the construction
8 of buildings, structures, and lifelines, to pro-
9 mote better building practices, including by—

10 “(i) supporting the development of
11 technical resources for practitioners to im-
12 plement new knowledge; and

13 “(ii) supporting the development of
14 methods and tools to incorporate wind en-
15 gineering principles into design and con-
16 struction practices.

17 “(3) FEDERAL EMERGENCY MANAGEMENT
18 AGENCY.—The Federal Emergency Management
19 Agency, consistent with the Agency’s all hazards ap-
20 proach, shall support the development of risk assess-
21 ment tools and effective mitigation techniques, assist
22 with windstorm-related data collection and analysis,
23 and support outreach, information dissemination,
24 and implementation of windstorm preparedness and

1 mitigation measures by households, businesses, and
2 communities, including by—

3 “(A) working to develop or improve risk-
4 assessment tools, methods, and models;

5 “(B) work closely with other appropriate
6 Federal agencies to develop and facilitate the
7 adoption of windstorm impact reduction meas-
8 ures, including by—

9 “(i) developing cost-effective retrofit
10 measures for existing buildings, structures,
11 and lifelines to improve windstorm per-
12 formance;

13 “(ii) developing methods, tools, and
14 technologies to improve the planning, de-
15 sign, and construction of new buildings,
16 structures, and lifelines;

17 “(iii) supporting the development of
18 model wind codes and standards for build-
19 ings, structures, and lifelines; and

20 “(iv) developing technical resources
21 for practitioners that reflect new knowl-
22 edge and standards of practice; and

23 “(C) develop and disseminate guidelines
24 for the construction of windstorm shelters.

1 Nothing in this Act shall be construed to diminish
2 the role and responsibility of the Federal Emergency
3 Management Agency with regard to all hazards pre-
4 paredness, response, recovery, and mitigation.

5 “(4) NATIONAL OCEANIC AND ATMOSPHERIC
6 ADMINISTRATION.—The National Oceanic and At-
7 mospheric Administration shall support atmospheric
8 sciences research and data collection to improve the
9 understanding of the behavior of windstorms and
10 their impact on buildings, structures, and lifelines,
11 including by—

12 “(A) working with other appropriate Fed-
13 eral agencies to develop and deploy instrumen-
14 tation to measure speed and other characteris-
15 tics of wind, and to collect, analyze, and make
16 available such data;

17 “(B) working with officials of State and
18 local governments to ensure that they are
19 knowledgeable about, and prepared for, the spe-
20 cific windstorm risks in their area;

21 “(C) supporting the development of suit-
22 able wind speed maps and other derivative
23 products that support building codes and other
24 hazard mitigation approaches for buildings,
25 structures, and lifelines, and, to the extent pos-

1 sible, ensure that such maps and other deriva-
2 tive products are developed consistent with the
3 multihazard advisory maps authorized by sec-
4 tion 203(k) of the Robert T. Stafford Disaster
5 Relief and Emergency Assistance Act (42
6 U.S.C. 5133(k));

7 “(D) conducting a competitive, peer-re-
8 viewed process which awards grants and cooper-
9 ative agreements to complement the National
10 Oceanic and Atmospheric Administration’s
11 wind-related and storm surge-related research
12 and data collection activities;

13 “(E) working with other appropriate Fed-
14 eral agencies and State and local governments
15 to develop or improve risk-assessment tools,
16 methods, and models; and

17 “(F) working with other appropriate Fed-
18 eral agencies to develop storm surge models to
19 better understand the interaction between wind-
20 storms and bodies of water.

21 “(5) NATIONAL SCIENCE FOUNDATION.—The
22 National Science Foundation shall be responsible for
23 funding basic research that furthers the under-
24 standing of windstorms, wind engineering, and com-
25 munity preparation and response to windstorms. In

1 carrying out this paragraph, the Director of the Na-
2 tional Science Foundation shall—

3 “(A) support multidisciplinary and inter-
4 disciplinary research that will improve the resil-
5 iency of communities to windstorms, includ-
6 ing—

7 “(i) research that improves the safety
8 and performance of buildings, structures,
9 and lifelines;

10 “(ii) research to support more effec-
11 tive windstorm mitigation and response
12 measures, such as developing better knowl-
13 edge of the specific types of vulnerabilities
14 faced by segments of the community vul-
15 nerable to windstorms, addressing the bar-
16 riers they face in adopting mitigation and
17 preparation measures, and developing
18 methods to better communicate the risks of
19 windstorms and to promote mitigation; and

20 “(iii) research on the response of com-
21 munities to windstorms, including on the
22 effectiveness of the emergency response,
23 and the recovery process of communities,
24 households, and businesses;

1 “(B) support research to understand wind-
2 storm processes, windstorm patterns, and wind-
3 storm frequencies;

4 “(C) encourage prompt dissemination of
5 significant findings, sharing of data, samples,
6 physical collections, and other supporting mate-
7 rials, and development of intellectual property
8 so research results can be used by appropriate
9 organizations to mitigate windstorm damage;

10 “(D) work with other Program agencies to
11 maintain awareness of, and where appropriate
12 cooperate with, windstorm risk reduction re-
13 search efforts in other countries, to ensure that
14 the Program benefits from relevant information
15 and advances in those countries; and

16 “(E) include to the maximum extent prac-
17 ticable diverse institutions, including Histori-
18 cally Black Colleges and Universities, Hispanic-
19 serving institutions, Tribal Colleges and Univer-
20 sities, Alaska Native-serving institutions, and
21 Native Hawaiian-serving institutions.”.

22 **SEC. 205. AUTHORIZATION OF APPROPRIATIONS.**

23 Section 207 of the National Windstorm Impact Re-
24 duction Program of 2004 (42 U.S.C. 15706) is amended
25 to read as follows:

1 **“SEC. 207. AUTHORIZATION OF APPROPRIATIONS.**

2 “(a) FEDERAL EMERGENCY MANAGEMENT AGEN-
3 CY.—There are authorized to be appropriated to the Fed-
4 eral Emergency Management Agency for carrying out this
5 title—

6 “(1) \$9,682,000 for fiscal year 2010;

7 “(2) \$9,972,500 for fiscal year 2011;

8 “(3) \$10,271,600 for fiscal year 2012;

9 “(4) \$10,579,800 for fiscal year 2013; and

10 “(5) \$10,897,200 for fiscal year 2014.

11 “(b) NATIONAL SCIENCE FOUNDATION.—There are
12 authorized to be appropriated to the National Science
13 Foundation for carrying out this title—

14 “(1) \$9,682,000 for fiscal year 2010;

15 “(2) \$9,972,500 for fiscal year 2011;

16 “(3) \$10,271,600 for fiscal year 2012;

17 “(4) \$10,579,800 for fiscal year 2013; and

18 “(5) \$10,897,200 for fiscal year 2014.

19 “(c) NATIONAL INSTITUTE OF STANDARDS AND
20 TECHNOLOGY.—There are authorized to be appropriated
21 to the National Institute of Standards and Technology for
22 carrying out this title—

23 “(1) \$4,120,000 for fiscal year 2010;

24 “(2) \$4,243,600 for fiscal year 2011;

25 “(3) \$4,370,900 for fiscal year 2012;

26 “(4) \$4,502,000 for fiscal year 2013; and

1 “(5) \$4,637,100 for fiscal year 2014.

2 “(d) NATIONAL OCEANIC AND ATMOSPHERIC ADMIN-
3 ISTRATION.—There are authorized to be appropriated to
4 the National Oceanic and Atmospheric Administration for
5 carrying out this title—

6 “(1) \$2,266,000 for fiscal year 2010;

7 “(2) \$2,334,000 for fiscal year 2011;

8 “(3) \$2,404,000 for fiscal year 2012;

9 “(4) \$2,476,100 for fiscal year 2013; and

10 “(5) \$2,550,400 for fiscal year 2014.”.

11 **TITLE III—INTERAGENCY CO-**
12 **ORDINATING COMMITTEE ON**
13 **NATURAL HAZARDS RISK RE-**
14 **DUCTION**

15 **SEC. 301. INTERAGENCY COORDINATING COMMITTEE ON**
16 **NATURAL HAZARDS RISK REDUCTION.**

17 (a) IN GENERAL.—There is established an Inter-
18 agency Coordinating Committee on Natural Hazards Risk
19 Reduction, chaired by the Director of the National Insti-
20 tute of Standards and Technology.

21 (1) MEMBERSHIP.—In addition to the chair,
22 the Committee shall be composed of—

23 (A) the directors of—

24 (i) the Federal Emergency Manage-
25 ment Agency;

- 1 (ii) the United State Geological Sur-
2 vey;
3 (iii) the National Oceanic and Atmos-
4 pheric Administration;
5 (iv) the National Science Foundation;
6 (v) the Office of Science and Tech-
7 nology Policy; and
8 (vi) the Office of Management and
9 Budget; and
10 (B) the head of any other Federal agency
11 the Committee considers appropriate.

12 (2) MEETINGS.—The Committee shall not meet
13 less than 2 times a year at the call of the Director
14 of the National Institute of Standards and Tech-
15 nology.

16 (3) GENERAL PURPOSE AND DUTIES.—The
17 Committee shall oversee the planning and coordina-
18 tion of the National Earthquake Hazards Reduction
19 Program and the National Windstorm Impact Re-
20 duction Program, and shall make proposals for plan-
21 ning and coordination of any other Federal research
22 for natural hazard mitigation that the Committee
23 considers appropriate.

1 (4) STRATEGIC PLANS.—The Committee shall
2 develop and submit to Congress, not later than one
3 year after the date of enactment of this Act—

4 (A) a Strategic Plan for the National
5 Earthquake Hazards Reduction Program that
6 includes—

7 (i) prioritized goals for such Program
8 that will mitigate against the loss of life
9 and property from future earthquakes;

10 (ii) short-term, mid-term, and long-
11 term research objectives to achieve those
12 goals;

13 (iii) a description of the role of each
14 Program agency in achieving the
15 prioritized goals;

16 (iv) the methods by which progress to-
17 wards the goals will be assessed;

18 (v) an explanation of how the Pro-
19 gram will foster the transfer of research
20 results onto outcomes, such as improved
21 building codes;

22 (vi) a description of the role of social
23 science in informing the development of
24 the prioritized goals and research objec-
25 tives; and

1 (vii) a description of how the George
2 E. Brown, Jr. Network for Earthquake
3 Engineering Simulation and the Advanced
4 National Seismic Research and Monitoring
5 System will be used in achieving the
6 prioritized goals and research objectives;
7 and

8 (B) a Strategic Plan for the National
9 Windstorm Impact Reduction Program that in-
10 cludes—

11 (i) prioritized goals for such Program
12 that will mitigate against the loss of life
13 and property from future windstorms;

14 (ii) short-term, mid-term, and long-
15 term research objectives to achieve those
16 goals;

17 (iii) a description of the role of each
18 Program agency in achieving the
19 prioritized goals;

20 (iv) the methods by which progress to-
21 wards the goals will be assessed;

22 (v) an explanation of how the Pro-
23 gram will foster the transfer of research
24 results onto outcomes, such as improved
25 building codes; and

1 (vi) a description of the role of social
2 science in informing the development of
3 the prioritized goals and research objec-
4 tives.

5 (5) PROGRESS REPORTS.—Not later than one
6 year after the date of enactment of this Act, and at
7 least once every two years thereafter, the Committee
8 shall submit to the Congress—

9 (A) a report on the progress of the Na-
10 tional Earthquake Hazards Reduction Program
11 that includes—

12 (i) a description of the activities fund-
13 ed for the previous two years of the Pro-
14 gram, a description of how these activities
15 align with the prioritized goals and re-
16 search objectives established in the Stra-
17 tegic Plan, and the budgets, per agency,
18 for these activities;

19 (ii) the outcomes achieved by the Pro-
20 gram for each of the goals identified in the
21 Strategic Plan;

22 (iii) a description of any recommenda-
23 tions made to change existing building
24 codes that were the result of Program ac-
25 tivities; and

1 (iv) a description of the extent to
2 which the Program has incorporated rec-
3 ommendations from the Advisory Com-
4 mittee on Earthquake Hazards Reduction;
5 and

6 (B) a report on the progress of the Na-
7 tional Windstorm Impact Reduction Program
8 that includes—

9 (i) a description of the activities fund-
10 ed for the previous two years of the Pro-
11 gram, a description of how these activities
12 align with the prioritized goals and re-
13 search objectives established in the Stra-
14 tegic Plan, and the budgets, per agency,
15 for these activities;

16 (ii) the outcomes achieved by the Pro-
17 gram for each of the goals identified in the
18 Strategic Plan;

19 (iii) a description of any recommenda-
20 tions made to change existing building
21 codes that were the result of Program ac-
22 tivities; and

23 (iv) a description of the extent to
24 which the Program has incorporated rec-

1 ommendations from the Advisory Com-
2 mittee on Windstorm Impact Reduction.

3 (6) COORDINATED BUDGET.—The Committee
4 shall develop a coordinated budget for the National
5 Earthquake Hazards Reduction Program and a co-
6 ordinated budget for the National Windstorm Im-
7 pact Reduction Program. These budgets shall be
8 submitted to the Congress at the time of the Presi-
9 dent’s budget submission for each fiscal year.

10 (b) ADVISORY COMMITTEES ON NATURAL HAZARDS
11 REDUCTION.—

12 (1) IN GENERAL.—The Director of the National
13 Institute of Standards and Technology shall estab-
14 lish an Advisory Committee on Earthquake Hazards
15 Reduction, an Advisory Committee on Windstorm
16 Impact Reduction, and other such advisory commit-
17 tees as the Director considers necessary to advise
18 the Institute on research, development, and tech-
19 nology transfer activities to mitigate the impact of
20 natural disasters.

21 (2) ADVISORY COMMITTEE ON EARTHQUAKE
22 HAZARDS REDUCTION.—The Advisory Committee on
23 Earthquake Hazards Reduction shall be composed of
24 at least 11 members, none of whom may be employ-
25 ees of the Federal Government, including represent-

1 atives of research and academic institutions, indus-
2 try standards development organizations, emergency
3 management agencies, State and local government,
4 and business communities who are qualified to pro-
5 vide advice on earthquake hazards reduction and
6 represent all related scientific, architectural, and en-
7 gineering disciplines. The recommendations of the
8 Advisory Committee shall be considered by Federal
9 agencies in implementing the National Earthquake
10 Hazards Reduction Program.

11 (3) ADVISORY COMMITTEE ON WINDSTORM IM-
12 PACT REDUCTION.—The Advisory Committee on
13 Windstorm Impact Reduction shall be composed of
14 at least 7 members, none of whom may be employees
15 of the Federal Government, including representa-
16 tives of research and academic institutions, industry
17 standards development organizations, emergency
18 management agencies, State and local government,
19 and business communities who are qualified to pro-
20 vide advice on windstorm impact reduction and rep-
21 resent all related scientific, architectural, and engi-
22 neering disciplines. The recommendations of the Ad-
23 visory Committee shall be considered by Federal
24 agencies in implementing the National Windstorm
25 Impact Reduction Program.

1 (4) ASSESSMENTS.—The Advisory Committee
2 on Earthquake Hazards Reduction and the Advisory
3 Committee on Windstorm Impact Reduction shall
4 offer assessments on—

5 (A) trends and developments in the nat-
6 ural, social, and engineering sciences and prac-
7 tices of earthquake hazards or windstorm im-
8 pact mitigation;

9 (B) the priorities of the Programs’ Stra-
10 tegic Plans;

11 (C) the coordination of the Programs; and

12 (D) and any revisions to the Programs
13 which may be necessary.

14 (5) REPORTS.—At least every two years, the
15 Advisory Committees shall report to the Director of
16 the National Institute of Standards and Technology
17 on the assessments carried out under paragraph (4)
18 and their recommendations for ways to improve the
19 Programs. In developing recommendations for the
20 National Earthquake Hazards Reduction Program,
21 the Advisory Committee on Earthquake Hazards Re-
22 duction shall consider the recommendations of the
23 United States Geological Survey Scientific Earth-
24 quake Studies Advisory Committee.

1 (c) COORDINATION OF FEDERAL DISASTER RE-
2 SEARCH, DEVELOPMENT, AND TECHNOLOGY TRANS-
3 FER.—Not later than 2 years after the date of enactment
4 of this Act, the Subcommittee on Disaster Reduction of
5 the Committee on Environment and Natural Resources of
6 the National Science and Technology Council shall submit
7 a report to the Congress identifying—

8 (1) current Federal research, development, and
9 technology transfer activities that address hazard
10 mitigation for natural disasters, including earth-
11 quakes, hurricanes, tornados, wildfires, floods, and
12 the current budgets for these activities;

13 (2) areas of research that are common to two
14 or more of the hazards identified in paragraph (1);
15 and

16 (3) opportunities to create synergies between
17 the research activities for the hazards identified in
18 paragraph (1).

19 **TITLE IV—NATIONAL CON-**
20 **STRUCTION SAFETY TEAM**
21 **ACT AMENDMENTS**

22 **SEC. 401. NATIONAL CONSTRUCTION SAFETY TEAM ACT**
23 **AMENDMENTS.**

24 The National Construction Safety Team Act (15
25 U.S.C. 7301 et seq.) is amended—

1 (1) in section 2(a)—

2 (A) by striking “a building or buildings”
3 and inserting “a building, buildings, or infra-
4 structure”; and

5 (B) by striking “To the maximum extent
6 practicable, the Director shall establish and de-
7 ploy a Team within 48 hours after such an
8 event.” and inserting “The Director shall make
9 a decision whether to deploy a Team within 72
10 hours after such an event.”;

11 (2) in section 2(b)(1), by striking “buildings”
12 and inserting “buildings or infrastructure”;

13 (3) in section 2(b)(2)(A), by striking “building”
14 and inserting “building or infrastructure”;

15 (4) in section 2(b)(2)(D), by striking “build-
16 ings” and inserting “buildings or infrastructure”;

17 (5) in section 2(c)(1), by striking “the United
18 States Fire Administration and”;

19 (6) in section 2(c)(1)(G), by striking “building”
20 and inserting “building or infrastructure”;

21 (7) in section 2(c)(1)(J)—

22 (A) by striking “building” and inserting
23 “building or infrastructure”; and

1 (B) by inserting “and the National Wind-
2 storm Impact Reduction Act of 2004” after
3 “Act of 1977”;

4 (8) in section 4(a), by striking “investigating a
5 building” and inserting “investigating building and
6 infrastructure”;

7 (9) in section 4(a)(1)—

8 (A) by striking “a building” and inserting
9 “a building or infrastructure”; and

10 (B) by striking “building” both of the
11 other places it appears and inserting “building
12 or infrastructure”;

13 (10) in section 4(a)(3), by striking “building”
14 both places it appears and inserting “building or in-
15 frastructure”;

16 (11) in section 4(b), by striking “building” both
17 places it appears and inserting “building or infra-
18 structure”;

19 (12) in section 4(c)(1) and (2), by striking
20 “building” both places it appears and inserting
21 “building or infrastructure”;

22 (13) by amending section 4(d)(1) to read as fol-
23 lows:

24 “(1) IN GENERAL.—Except as otherwise pro-
25 vided in this subsection, a Team investigation shall

1 have priority over any other investigation which is
2 related to the purpose and duties set forth in section
3 2(b) and undertaken by any other Federal agency.”;

4 (14) in section 4(d)(3) and (4), by striking
5 “building” both places it appears and inserting
6 “building or infrastructure”;

7 (15) in section 4, by adding at the end the fol-
8 lowing new paragraph:

9 “(5) INFRASTRUCTURE INVESTIGATIONS.—With
10 respect to an investigation relating to an infrastruc-
11 ture failure, a Federal agency with primary jurisdic-
12 tion over the failed infrastructure which is con-
13 ducting an investigation and asserts priority over the
14 Team investigation shall have such priority. Such
15 priority shall not otherwise affect the authority of
16 the Team to continue its investigation under this
17 Act.”;

18 (16) in section 7(a), by striking “on request
19 and at reasonable cost”;

20 (17) in section 7(c), by striking “building” and
21 inserting “building or infrastructure”;

22 (18) in section 8(1) and (4), by striking “build-
23 ing” both places it appears and inserting “building
24 or infrastructure”;

1 (19) in section 9, by striking “the United
2 States Fire Administration and”;

3 (20) in section 9(2)(C), by striking “building”
4 and inserting “building or infrastructure”;

5 (21) in section 10(3), by striking “building”
6 and inserting “building and infrastructure”;

7 (22) in section 11(a), by striking “the United
8 States Fire Administration and”; and

9 (23) by striking section 12.

10 **TITLE V—FIRE RESEARCH**
11 **PROGRAM**

12 **SEC. 501. FIRE RESEARCH PROGRAM.**

13 Section 16(a)(1) of the National Institute of Stand-
14 ards and Technology Act (15 U.S.C. 278f(a)(1)) is
15 amended—

16 (1) in subparagraph (D), by inserting “fires at
17 the wildland-urban interface,” after “but not limited
18 to,”; and

