

114TH CONGRESS  
1ST SESSION

# S. 1481

To direct the Administrator of the Federal Emergency Management Agency to enter into an agreement with the National Academy of Sciences to conduct a study on urban flooding, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 2, 2015

Mr. DURBIN (for himself and Mr. WHITEHOUSE) introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

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## A BILL

To direct the Administrator of the Federal Emergency Management Agency to enter into an agreement with the National Academy of Sciences to conduct a study on urban flooding, 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 “Urban Flooding  
5       Awareness Act of 2015”.

6       **SEC. 2. URBAN FLOODING DEFINED.**

7       (a) IN GENERAL.—In this Act, the term “urban  
8       flooding” means the inundation of property in a built envi-

1 ronment, particularly in more densely populated areas,  
2 caused by rain falling on increased amounts of impervious  
3 surface and overwhelming the capacity of drainage sys-  
4 tems, such as storm sewers.

5 (b) INCLUSIONS.—In this Act, the term “urban flood-  
6 ing” includes—

7 (1) situations in which stormwater enters build-  
8 ings through windows, doors, or other openings;

9 (2) water backup through sewer pipes, showers,  
10 toilets, sinks, and floor drains;

11 (3) seepage through walls and floors;

12 (4) the accumulation of water on property or  
13 public rights-of-way; and

14 (5) the overflow from water bodies, such as riv-  
15 ers and lakes.

16 (c) EXCLUSION.—In this Act, the term “urban flood-  
17 ing” does not include flooding in undeveloped or agricul-  
18 tural areas.

19 **SEC. 3. URBAN FLOODING STUDY.**

20 (a) AGREEMENT WITH NATIONAL ACADEMY OF  
21 SCIENCES.—The Administrator of the Federal Emergency  
22 Management Agency shall enter into an agreement with  
23 the National Academy of Sciences under which the Na-  
24 tional Academy of Sciences will conduct a study on urban  
25 flooding in accordance with the requirements of this sec-

1 tion. The primary focus of the study shall be on urban  
2 areas outside of special flood hazard areas, as defined by  
3 the Federal Emergency Management Agency.

4 (b) CONTENTS.—

5 (1) GENERAL REVIEW AND EVALUATION.—In  
6 conducting the study, the National Academy of  
7 Sciences shall review and evaluate the latest avail-  
8 able research, laws, regulations, policies, best prac-  
9 tices, procedures, and institutional knowledge re-  
10 garding urban flooding.

11 (2) SPECIFIC ISSUE AREAS.—The study shall  
12 include, at a minimum, an examination of the fol-  
13 lowing:

14 (A) The prevalence and costs associated  
15 with urban flooding events across the United  
16 States, with a focus on the largest metropolitan  
17 areas and any clear trends in frequency and se-  
18 verity over the past 2 decades.

19 (B) The adequacy of existing federally pro-  
20 vided flood risk information and the most cost  
21 effective methods and products to identify, map,  
22 or otherwise characterize the risk of property  
23 damage from urban flooding on a property-by-  
24 property basis, whether or not a property is in  
25 or adjacent to a 1-percent (100-year) flood

1 plain, and the potential for training and certi-  
2 fying local experts in flood risk characterization  
3 as a service to property purchasers and owners  
4 and their communities.

5 (C) The causes of urban flooding and its  
6 apparent increase over the past 20 years, in-  
7 cluding the impacts of—

8 (i) global climate change;

9 (ii) increasing urbanization and the  
10 associated increase in impervious surfaces;  
11 and

12 (iii) undersized, deteriorating, and  
13 otherwise ineffective stormwater infrastruc-  
14 ture.

15 (D) The most cost-effective strategies,  
16 practices, technologies, policies, standards, or  
17 rules used to reduce the impacts of urban flood-  
18 ing, with a focus on decentralized, easy-to-in-  
19 stall, and low-cost approaches, such as non-  
20 structural and natural infrastructure on public  
21 and private property. The examination under  
22 this subparagraph shall include an assessment  
23 of opportunities for implementing innovative  
24 strategies and practices on government-con-  
25 trolled land, such as Federal, State, and local

1 roads, parking lots, alleys, sidewalks, buildings,  
2 recreational areas, and open space.

3 (E) The role of the Federal Government  
4 and State governments, as conveners, funders,  
5 and advocates, in spurring market innovations  
6 based on public-private-nonprofit partnerships.  
7 Such innovations may include smart home tech-  
8 nologies for improved flood warning systems  
9 connected to high-resolution weather forecast  
10 data and Internet- and cellular-based commu-  
11 nications systems.

12 (F) The most sustainable and effective  
13 methods for funding flood risk and flood dam-  
14 age reduction at all levels of government, in-  
15 cluding—

16 (i) the potential for establishing a  
17 State revolving fund program for flood pre-  
18 vention projects similar to the revolving  
19 fund programs under the Federal Water  
20 Pollution Control Act and the Safe Drink-  
21 ing Water Act;

22 (ii) stormwater fee programs using  
23 impervious surface as the basis for fee  
24 rates and providing credits for the installa-

1                   tion of flood prevention or other  
2                   stormwater management features;

3                   (iii) grant programs; and

4                   (iv) public-private partnerships.

5                   (G) Information and education strategies  
6                   and practices, including nontraditional ap-  
7                   proaches such as the use of community colleges  
8                   and social media, for community leaders, gov-  
9                   ernment staff, and property owners on—

10                   (i) flood risks;

11                   (ii) flood risk reduction strategies and  
12                   practices; and

13                   (iii) the availability and effectiveness  
14                   of different types of flood insurance poli-  
15                   cies.

16                   (H) The relevance of the National Flood  
17                   Insurance Program and Community Rating  
18                   System to urban flooding areas outside tradi-  
19                   tional flood plains, and strategies for improving  
20                   compliance, broadening coverage, and increas-  
21                   ing participation under the programs.

22                   (I) Strategies for protecting communities  
23                   in the lower elevations of a watershed or drain-  
24                   age area from the flooding impacts of develop-

1           ment in upstream communities, including a re-  
2           view of—

3                   (i) potential standards for watershed-  
4                   wide flood protection planning; and

5                   (ii) cost-effective and equitable legal  
6                   options for a downstream community when  
7                   upstream communities act in a way that  
8                   increases flooding downstream.

9           (J) Cost-effective strategies for reducing  
10           infiltration/inflow into combined and separate  
11           sewer systems.

12           (K) Opportunities to increase coordination  
13           between stormwater management programming  
14           under the Federal Water Pollution Control Act  
15           (33 U.S.C. 1251 et seq.) and flood risk man-  
16           agement and mitigation programming under  
17           various laws, including the Robert T. Stafford  
18           Disaster Relief and Emergency Assistance Act  
19           (42 U.S.C. 5121 et seq.) and the National  
20           Flood Insurance Act of 1968 (42 U.S.C. 4001  
21           et seq.).

22           (c) CONSULTATION.—

23                   (1) IN GENERAL.—The Administrator of the  
24           Federal Emergency Management Agency shall carry  
25           out this section in consultation with the Secretary of

1 the Army (acting through the Chief of Engineers),  
2 the Secretary of Housing and Urban Development,  
3 the Administrator of the Environmental Protection  
4 Agency, the Director of the United States Geological  
5 Survey, the Chief of the Natural Resources Con-  
6 servation Service, the Small Business Administra-  
7 tion, State, regional, and local stormwater manage-  
8 ment agencies, State insurance commissioners, and  
9 such other interested parties as the Administrator of  
10 the Federal Emergency Management Agency con-  
11 siders appropriate.

12 (2) COOPERATION.—The head of each Federal  
13 agency referred to in paragraph (1) shall cooperate  
14 with the Administrator of the Federal Emergency  
15 Management Agency in carrying out this section as  
16 requested by the Administrator.

17 (d) REPORT TO CONGRESS.—Not later than Decem-  
18 ber 31, 2016, the Administrator of the Federal Emergency  
19 Management Agency shall submit to the Committee on Fi-  
20 nancial Services and the Committee on Appropriations of  
21 the House of Representatives and the Committee on  
22 Banking, Housing, and Urban Affairs and the Committee  
23 on Appropriations of the Senate a report containing the  
24 findings of the National Academy of Sciences based on  
25 the results of the study, including recommendations for



- 1 implementation of strategies, practices, and technologies
- 2 relating to urban flooding by Congress and the executive
- 3 branch.

