To establish a National Flood Research and Education Consortium to plan, coordinate, conduct, and share research on flooding, flood prevention, and other flood-related issues, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JUNE 23, 2011

Mr. LOEBSACK introduced the following bill; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committee on Transportation and Infrastructure, 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 Flood Research and Education Consortium to plan, coordinate, conduct, and share research on flooding, flood prevention, and other flood-related issues, 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 Flood Re-
5 search and Education Act of 2011”.

6 SEC. 2. FINDINGS.

7 Congress finds the following:
(1) According to the National Oceanic and Atmospheric Administration (NOAA) three-fourths of all presidential disaster declarations are associated with flooding.

(2) According to NOAA, in most years flooding causes more damage in the United States than any other severe weather related event, an average of $5.3 billion a year for the 30-year period, 1975–2004.

(3) Flooding, flood prevention, and flood-related socio-economic, environmental, health and policy issues are highly complex with implications for loss of life and billions in damage to all sectors of our economy.

(4) There is not currently a national-level comprehensive effort to research flooding, flood prevention, and flood-related issues.

(5) Flooding, flood prevention, and flood-related issues require a national-level comprehensive and collaborative research effort to help advance understanding of the variety of issues on causes of flooding, and implementation of prediction methods as well as policies that would help prevent future damage and natural disasters.
(6) A national-level effort should include partnerships between the Federal Government and institutions of higher education all with expertise in the areas of physical and environmental science, including hydrology, hydraulics, hydrometeorology, climate, as well as in engineering, sociology and economics.

(7) A national-level effort should include research on climate and weather and any other area related to flooding, flood prevention, and other flood-related issues, including—

(A) analysis of the economic effects of flooding;

(B) evaluation and development of strategies, techniques, and technologies to reduce, manage, monitor, and prevent flooding;

(C) analysis of Federal, State, regional, and local flood policy;

(D) and development of risk-assessment tools, methods, and models.

(8) A national-level effort should also include development of recommendations and identification of best practices for predicting, preventing, and minimizing flooding and its effects, including—

(A) risk-assessment tools, methods, and models;
(B) strategies and techniques for monitoring and predicting flooding;

(C) strategies and techniques for flood management and prevention;

(D) the adoption and use of relevant technologies;

(E) Federal, State, regional, and local flood policies; and

(F) coordination and cooperation among local, State, and Federal flood-related efforts.

(9) Research, recommendations, and best practices should be developed by taking into account regional differences in hydrology, weather, geography, economy, and population density while ensuring inland and non-oceanic flooding situations, among others, are represented.

(10) Demonstration projects should be used to test the efficacy of new strategies, techniques and technologies for assessing flood risk, monitoring, and predicting and provide local governments the opportunity to participate in areas where new strategies are needed.

(11) There are multiple areas of Federal, State, and local government responsibility for flooding and water-related issues. Thus, a national-level research
effort should involve the development of collaborative networks on regional flooding, flood prevention, and flood-related issues, including the following entities—

(A) relevant Federal departments and agencies, including water-research efforts within NOAA and other Federal entities;

(B) State, county, and local governments;

(C) local Councils of Governments or regional and Metropolitan Planning Organizations;

(D) State agriculture, natural resource, environment, economic development, homeland security, and water agencies;

(E) county disaster recovery coordinators, emergency management personnel, and first responders;

(F) public or private colleges and universities;

(G) floodplain managers;

(H) watershed organizations and boards;

(I) agriculture and commodity Organizations;

(J) resource, conservation, preservation and environmental organizations;
(K) homeowners associations and organizations; and

(L) business and development organizations.

SEC. 3. OFFICE OF FLOOD RESEARCH AND POLICY.

(a) Establishment.—

(1) In general.—There is hereby established within the National Oceanic and Atmospheric Administration (NOAA) an Office of Flood Research and Policy.

(2) Director.—

(A) In general.—The Office shall be headed by a Director, who shall be appointed by the Administrator of NOAA.

(B) Salary.—The rate of pay for the Director shall not exceed the rate payable for level IV of the Executive Schedule under section 5316 of title 5, United States Code.

(3) Staff.—

(A) In general.—The Director may appoint and fix the pay of personnel as the Director considers appropriate.

(B) Detail of Government employees.—Upon request of the Director, the head of any Federal department or agency may de-
tail, on a reimbursable basis, any of the person-

nel of that department or agency to the Of-

fice to assist the Director in carrying out his

duties under this Act.

(C) EXPERTS AND CONSULTANTS.—The

Director may procure temporary and intermit-
tent services under section 3109(b) of title 5,

United States Code.

(b) DUTIES.—The Director shall—

(1) establish and oversee the National Flood

Research and Education Consortium described in

section 4;

(2) make recommendations and identify best

practices for predicting, preventing, and minimizing

flooding and its effects in accordance with sub-

section (e);

(3) submit to Congress an annual report in ac-

cordance with subsection (d);

(4) establish and maintain a page on the public

NOAA Web site in accordance with subsection (e);

and

(5) review applications that have been approved

by the Lead Partner Institution (LPI) and award

grants for demonstration projects in accordance with

section 6.
(c) Recommendations and Best Practices.—

(1) In general.—The Director, in consultation with the Director of the United States Geological Survey, the Commanding General of the United States Army Corps of Engineers, and the heads of other relevant Federal agencies, shall develop recommendations and identify best practices for predicting, preventing, and minimizing flooding and its effects, including—

(A) risk-assessment tools, methods, and models;

(B) strategies and techniques for monitoring and predicting flooding;

(C) strategies and techniques for flood management and prevention;

(D) the adoption and use of relevant technologies;

(E) Federal, State, regional, and local flood policies; and

(F) coordination and cooperation among local, State, and Federal flood-related efforts.

(2) Additional considerations.—In developing the recommendations and best practices described in paragraph (1), the Director shall consider—
(A) the annual report submitted by the LPI in accordance with section 4(f); and

(B) regional differences in hydrology, weather, geography, economy, and population density.

(d) REPORT.—The Director shall submit to Congress an annual report on the activities of the Office and the Consortium.

(e) WEBSITE.—The Director shall establish and maintain a page on the public NOAA Web site on which the Director shall publish—

(1) the recommendations and best practices described in subsection (e); and

(2) the annual report described in subsection (d).

(f) OVERSIGHT.—

(1) RESEARCH.—The Director shall establish procedures to ensure that there is full and effective review of the research conducted by the Consortium.

(2) PERIODIC REVIEW.—Periodically (and not less than every year), the Director shall review the activities of the Consortium to ensure that—

(A) Consortium members are fulfilling their duties under section 3; and
(B) funds received under this Act are used solely for such purposes.

(3) INFORMATION.—Consortium members shall provide the Director with any information that the Director considers necessary to carry out his responsibilities under this section.

SEC. 4. NATIONAL FLOOD RESEARCH AND EDUCATION CONSORTIUM.

(a) Establishment.—

(1) IN GENERAL.—The Director shall establish a National Flood Research and Education Consortium.

(2) MEMBERS.—

(A) COMPOSITION.—The Consortium shall consist of—

(i) a LPI selected by the Director as described in section 5(a); and

(ii) additional partner institutions selected by the Director and LPI as described in section 5(b).

(B) LIMITATION TO INSTITUTIONS OF HIGHER EDUCATION.—Members of the Consortium shall be institutions of higher education.

(b) DUTIES OF CONSORTIUM MEMBERS.—Each Consortium member shall—
(1) conduct research on flooding, flood prevention, and other flood-related issues, including—

(A) analysis of the economic effects of flooding;

(B) evaluation and development of strategies, techniques, and technology to reduce, manage, monitor, and prevent flooding;

(C) analysis of Federal, State, regional, and local flood policy; and

(D) development of risk-assessment tools, methods, and models; and

(2) develop undergraduate and graduate courses on flooding, flooding prevention, and other flood-related issues.

(c) ADDITIONAL DUTIES OF LEAD PARTNER INSTITUTION.—In addition to fulfilling the duties described in subsection (b), the LPI shall—

(1) establish a center to plan, coordinate, and facilitate research and information sharing among the Consortium members;

(2) review and approve applications for grants under section 6;

(3) oversee demonstration projects funded by grants awarded under section 6;
(4) submit to the Director an annual report in accordance with subsection (f); and

(5) establish and maintain an Internet Web site in accordance with subsection (g).

(d) Improvement of Lead Partner Institution Facilities.—

(1) In general.—Subject to the requirements of paragraph (2), the LPI may use funds authorized pursuant to section 7(a)(2) to improve facilities used by the LPI in carrying out its duties under this section.

(2) Requirements.—In order for the LPI to be eligible to receive funds under this subsection—

(A) the LPI shall submit to the Director a plan detailing the proposed improvements, including—

(i) the projected cost of such improvements;

(ii) a description of engineering, design, staffing, and equipment needs; and

(iii) such additional information as the Director shall require; and

(B) the Director shall approve such plan.

(e) Annual Report.—
(1) CONTENTS.—For each fiscal year in which
the Consortium is funded under this Act, the LPI
shall prepare a report that includes—

(A) a summary of the research and activi-
ties—

(i) conducted by each Consortium
member during the fiscal year in accord-
ance with this Act; and

(ii) planned by each Consortium mem-
ber for the next fiscal year in accordance
with this Act;

(B) a detailed accounting of the
amounts—

(i) expended by each Consortium
member during the fiscal year in carrying
out this Act; and

(ii) planned to be expended by each
Consortium member for the next fiscal
year in carrying out this Act;

(C) the number of applications for grants
under section 5 received during the fiscal year,
a list of such grants awarded during the fiscal
year, and the status of demonstration projects
funded by such grants; and
(D) such additional information as the Director shall require.

(2) Final report.—In the case of the final annual report, the LPI may exclude the information described in paragraph (1)(A)(ii) and paragraph (1)(B)(ii).

(3) Timing.—The LPI shall submit the report described in paragraph (1) to the Director no later than 30 days after the end of the fiscal year.

(f) Web site.—The LPI shall establish and maintain an Internet Web site for the Consortium on which the LPI shall publish—

(1) information about the purpose of the Consortium;

(2) the location and contact information of Consortium members;

(3) a link to the page of the Office on the public NOAA Web site;

(4) a detailed description of all research conducted by Consortium members in accordance with this Act;

(5) articles on flooding, flood prevention, and flood-related issues published in peer-reviewed academic journals by professors of Consortium members;
(6) information about the grant program described in section 6, including the application and criteria for selection;

(7) the status of demonstration projects funded by the grant program described in section 6; and

(8) such additional information as the Director shall require.

(g) INFORMATION.—Consortium members shall provide the LPI with any information the LPI considers relevant to carry out its responsibilities under this section.

SEC. 5. SELECTION OF CONSORTIUM MEMBERS.

(a) LEAD PARTNER INSTITUTION.—

(1) IN GENERAL.—Not later than 90 days after the date of enactment of this Act, the Director shall select an institution of higher education to serve as the lead partner institution to head the Consortium.

(2) APPLICATION.—An institution of higher education desiring to be selected as the LPI of the Consortium shall submit an application to the Director at such time, in such form, and containing such information and assurances as the Director shall reasonably require. Such application shall include—

(A) a comprehensive prospectus for the operation of the Consortium;

(B) a research proposal;
(C) a description of relevant current and past research conducted by the institution;

(D) a plan to develop undergraduate and graduate courses on flooding, flooding prevention, and other flood-related issues;

(E) a plan to incorporate undergraduate and graduate students in the work of the Consortium;

(F) a proposed budget; and

(G) a certification that the applicant will provide non-Federal matching funds in an amount that is at least equal to 20 percent of any funds received under this Act.

(3) PRIORITY.—In selecting the LPI, the Director shall give priority to an applicant that—

(A) has significant research expertise in the areas of physical and environmental science, flooding, hydraulics, hydroscience, engineering, and meteorology;

(B) is located in a State that frequently experiences non-oceanic and inland flooding;

(C) has previously partnered with or received funds from the Federal Government to research flooding, hydrology, and watershed issues;
(D) has experience operating a flood re-
search center serving the State or region in
which the institution is located;

(E) has the capability to take a leading
role in coordinating and fulfilling the purposes
of the Consortium; and

(F) has the capacity to administer the
demonstration project grant program described
in section 6.

(b) ADDITIONAL MEMBERS.—

(1) IN GENERAL.—Not later than 90 days after
the selection of the LPI, the Director, in coordina-
tion with the LPI, shall select additional institutions
of higher education to participate in the Consortium.

(2) APPLICATION.—An institution of higher
education desiring to be selected as a member of the
Consortium shall submit an application to the Direc-
tor at such time, in such form, and containing such
information and assurances as the Director shall
reasonably require. Such application shall include—

(A) a research proposal;

(B) a description of relevant current and
past research conducted by the institution;
(C) a plan to develop undergraduate and graduate courses on flooding, flooding prevention, and other flood-related issues;

(D) a plan to incorporate undergraduate and graduate students in the work of the Consortium;

(E) a proposed budget; and

(F) a certification that the applicant will provide non-Federal matching funds in an amount that is at least equal to 20 percent of any funds received under this Act.

(3) PRIORITY.—In selecting additional members of the Consortium, the Director shall give priority to an applicant that—

(A) has demonstrated research expertise in an area or areas related to flooding; and

(B) has the ability to plan, coordinate, and conduct research related to flooding, flood prevention, and flood-related issues.

SEC. 6. GRANT PROGRAM FOR DEMONSTRATION PROJECTS.

(a) E STABLISHMENT.—From funds made available under section 7(a), the Director shall award grants to States and units of local government for the purpose of funding eligible demonstration projects.
(b) APPLICATION.—To be eligible to receive a grant under this section, a State or unit of local government shall submit an application to the LPI at such time and in such manner as the LPI, in consultation with the Director, shall reasonably require.

(e) APPROVAL OF GRANT.—

(1) IN GENERAL.—The award of a grant under subsection (a) shall require the approval of both the LPI and the Director.

(2) TIMING.—

(A) LPI.—The LPI shall approve or reject an application for a grant under subsection (a) not later than 60 days after receiving the completed application.

(B) DIRECTOR.—If the LPI approves an application for a grant under subsection (a), the Director shall approve or reject such application not later than 30 days after approval by the LPI.

(d) ELIGIBLE DEMONSTRATION PROJECTS.—A State or unit of local government that receives a grant under subsection (a) shall use such grant to fund demonstration projects that—

(1) implement the recommendations and best practices described in section 3(e); or
(2) test new or improved techniques, strategies, technologies, methods, tools, and models for predicting, preventing, and minimizing flooding and its effects.

(c) **Grant Amount.**—

(1) **Limit.**—Except as provided in paragraph (2), a grant under this section shall not exceed $250,000.

(2) **Exception.**—A grant under this section may exceed $250,000 if—

(A) all Consortium members waive the limitation of paragraph (1);

(B) the Director waives the limitation of paragraph (1); and

(C) the demonstration project involves multiple watersheds or jurisdictions and benefits multiple communities.

(3) **Matching Funds.**—States and units of local government that receive funds under this section shall contribute non-Federal funds in an amount equal to or greater than 20 percent of the amount received.

**SEC. 7. Funding.**

(a) **Authorization of Appropriations.**—
(1) In General.—In addition to the funds au-

thorized to be appropriated under paragraph (2), for
each of the fiscal years 2012 through 2017, there is
authorized to be appropriated to the Administrator
of NOAA $11,000,000 to carry out this Act.

(2) Improvement of LPI Facilities.—There
is authorized to be appropriated to the Adminis-
trator of NOAA such sums as may be necessary for
payments to the LPI for the purposes described in
section 4(e).

(b) Availability of Funds.—

(1) Office of Flood Research and Pol-

icy.—Of the amounts made available under sub-
section (a)(1) for a fiscal year, not more than
$2,000,000 may be used to fund the activities of the
Office.

(2) Lead Partner Institution.—Of the
amounts made available under subsection (a)(1) for
a fiscal year, not more than $3,000,000 may be used
to fund the activities of the LPI.

(3) Additional Members of the Consor-
tium.—

(A) In General.—Of the amounts made
available under subsection (a)(1) for a fiscal
year, not more than $3,000,000 may be used to

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fund the activities of the members of the Con-
sortium other than the LPI.

(B) LIMIT PER MEMBER.—Of the amounts
made available under subparagraph (A), not
more than $500,000 may be used to fund the
activities of a member of the Consortium other
than the LPI.

(4) GRANT PROGRAM.—Of the amounts made
available under subsection (a)(1) for a fiscal year,
not more than $3,000,000 may be used to fund the
grant program described in section 6.

SEC. 8. DEFINITIONS.

In this Act:

(1) CONSORTIUM.—The term “Consortium”
means the National Flood Research and Education
Consortium established in section 3.

(2) DIRECTOR.—The term “Director” means
the Director of the Office of Flood Research and
Policy established within NOAA in section 2.

(3) INSTITUTION OF HIGHER EDUCATION.—The
term “institution of higher education” has the
meaning given such term in section 101(a) of the
Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(4) LPI.—The term “LPI” means the Lead
Partner Institution described in section 4(a).
(5) **Office.**—The term “Office” means the Office of Flood Research and Policy established in section 2.