

Calendar No. 222

113TH CONGRESS }
1st Session }

SENATE

{ REPORT
113-114

DROUGHT INFORMATION ACT OF 2013

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION

ON

S. 376



OCTOBER 28, 2013.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

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DROUGHT INFORMATION ACT OF 2013

OCTOBER 28, 2013.—Ordered to be printed

Mr. ROCKEFELLER, from the Committee on Commerce, Science, and Transportation, submitted the following

R E P O R T

[To accompany S. 376]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 376) to reauthorize the National Integrated Drought Information System, and for other purposes, having considered the same, reports favorably thereon with an amendment (in the nature of a substitute) and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The purpose of S. 376 is to reauthorize the National Integrated Drought Information System (NIDIS) and make a number of improvements, clarifications, and refinements to the program's statutory requirements and authorities.

BACKGROUND AND NEEDS

Drought is a natural phenomenon characterized by below average precipitation and water supply deficiency. Periods of persistent drought can have significant environmental, economic, and social consequences. Unlike other natural disasters, however, droughts can be much more difficult to identify, as they are a creeping phenomenon, developing slowly over large areas and an extended period of time. This slow nature of drought can hinder the recognition of the true impacts, potentially diminishing the urgency that would otherwise trigger a timely and comprehensive response.

Extremely dry conditions can lead to numerous forest and rangeland fires, burning hundreds of thousands of acres of land, destroying homes and communities, and eliminating critical habitats for wildlife and grazing lands for livestock. The subsequent ash and sediment loading threatens stream health. In addition, fires cost hundreds of millions of dollars to fight and put thousands of lives

at risk. Droughts have caused shortages of grain and other agricultural products, resulting in soaring prices for consumers, deteriorating soil conditions, and devastated farming and ranching communities. Further, droughts have threatened municipal water supplies and have caused many communities to develop new water management plans, which institute water restrictions and other water conservation measures. According to the National Oceanic and Atmospheric Administration (NOAA), droughts incur annual losses of nearly \$9 billion in the United States. Damages from the 2012 drought were estimated at \$30 billion to \$35 billion, mostly attributed to crop losses.

Over the last decade, the United States has experienced several severe and long-term droughts. Recent severe drought conditions across the Nation and, in particular, in western and central States have created life-threatening situations, as well as financial burdens for both the Government and individuals. In particular, the Great North American Drought, as it is known, which began in late 2011 and is arguably ongoing, has had catastrophic economic ramifications for much of the continental United States. At its peak in July 2012, approximately 81 percent of the contiguous United States faced at least abnormally dry conditions. Estimates indicate that crop devastation and other impacts from this drought have reduced total U.S. gross domestic product by at least a half percent to 1 percent, equating to a loss of between \$75 billion and \$150 billion. It has exceeded, by most metrics, the impacts of the most recent comparable drought during 1988 and 1989, and is likely to be the most costly natural disaster in U.S. history.

The United States can reduce its vulnerability and, therefore, lessen the risks associated with drought episodes through mitigation and preparedness. According to a recent study, every dollar spent on disaster mitigation by the Federal Emergency Management Agency ultimately results in four dollars in future benefits to the Nation. Planning ahead to mitigate drought therefore provides an opportunity to make cost-effective decisions to address the highest priority problems. Drought preparedness plans contain three critical components:

- (1) a comprehensive early warning system;
- (2) risk and impact assessment procedures; and
- (3) mitigation and response strategies.

These components complement one another and represent an integrated institutional approach that addresses both short- and long-term management and mitigation issues.

To better address drought mitigation planning comprehensively, Congress enacted the National Drought Policy Act of 1998 (112 Stat. 641), which established the National Drought Policy Commission (Commission). The Commission's May 2000 report to Congress recommends moving the country toward a more proactive approach to drought preparedness and response. The Commission recognized the need for a dynamic and accessible drought information system that provides users with the ability to determine the potential impacts of drought and the associated risks they bring, as well as the decision support tools needed to better prepare for and mitigate the effects of drought.

In June 2004, the Western Governors' Association (WGA) issued a report recommending the establishment of such a drought infor-

mation system, led by NOAA, to be implemented regionally, and which would build upon existing tools such as the U.S. Drought Monitor and the U.S. Seasonal Drought Outlook. The National Integrated Drought Information System, or NIDIS, would result in fuller integration of relevant and available data. This would provide a drought “early warning system” capable of providing accurate, timely, and integrated information on drought conditions at the relevant spatial scale. Specifically, the WGA recommended that NIDIS should pursue activities to facilitate proactive decisions that can minimize the economic, social, and ecosystem losses associated with drought, such as:

- (1) developing integration tools to bring together real-time data from a variety of existing networks, including NOAA’s National Mesonet;
- (2) identifying historical data and indices, and developing tools to fill data and forecasting needs with the National Drought Mitigation Center as the principal clearinghouse;
- (3) establishing a methodology to accurately and comprehensively quantify drought impacts;
- (4) establishing an integrated Federal drought research program;
- (5) facilitating drought planning and preparedness; and
- (6) providing a framework for interaction and education with water users, resource managers, and the public.

In 2006, Congress enacted the National Integrated Drought Information System Act (15 U.S.C. 313d), which established NIDIS largely along the lines articulated by the Commission and the WGA. Following enactment, NOAA stood up an implementation team for NIDIS that conducted workshops and meetings with Federal, State, and local agencies, academic researchers, and other stakeholders for the creation of a NIDIS program implementation plan. Submitted to Congress in July 2007, the plan outlined how best to implement an integrated drought monitoring and forecasting system at Federal, State, and local levels; foster and support a research environment focusing on risk assessment, forecasting, and management; create an early warning system for drought to provide accurate, timely, and integrated information; develop interactive systems, such as the online U.S. Drought Portal, as part of the early warning system; and provide a framework for public awareness and education about droughts.

Since the program became operational, NIDIS has provided data that helps decision makers assess the risk of having too little water and prepare for and mitigate the effects of drought. NIDIS is continually developing more robust services and regional decision support resources and integrating basic and applied research performed by NOAA and other agencies into an adaptive decision-support environment for resource managers, farmers, and other water users. Utilizing infrastructure and data available through Federal, State, and tribal partners, NIDIS provides public access to the experience and expertise of NOAA’s Regional Climate Centers and Regional Integrated Sciences and Assessments teams, the Department of Interior, the Department of Agriculture, the National Drought Mitigation Center, and other research groups. NIDIS has also been developing monitoring and forecasting systems as well as education efforts to tailor drought early warning systems for spe-

cific watersheds, coastal zones, and geographic regions. Though the program's work is ongoing and continues to support decision makers, authorization for appropriations for NIDIS expired at the end of 2012.

SUMMARY OF PROVISIONS

S. 376 would amend the National Integrated Drought Information System Act of 2006 to specify that:

- (1) the Under Secretary of Commerce for Oceans and Atmosphere would continue to support the NIDIS program, and
- (2) the program's purpose shall be to better inform and provide for more timely decision-making to reduce drought related impacts and costs.

The bill would also revise NIDIS functions to require that the program:

- (1) provide certain information, forecasts, and assessments described in the Act on both national and regional levels;
- (2) build upon existing forecasting and assessment programs and partnerships of Federal, State, regional, private, public, and academic entities; and
- (3) continue ongoing research activities related to drought and the role of extreme weather events and climate variability in drought.

Additionally, the bill would require the Under Secretary to provide a report to Congress concerning the NIDIS program that includes a list of partners with whom the Under Secretary collaborates on NIDIS implementation and a description of NIDIS outreach activities. Finally, S. 376 would authorize appropriations for fiscal years 2014 through 2018.

LEGISLATIVE HISTORY

The Drought Information Act of 2013 was introduced by Senator Pryor on February 25, 2013, and is cosponsored by Senators Moran, Thune, Udall of New Mexico, and Udall of Colorado. Senator Pryor sponsored similar legislation, S. 3594, the Drought Information Act of 2012, during the 112th Congress, which was also referred to the Committee on Commerce, Science and Transportation.

On July 30, 2013, the Committee met in open Executive Session and, by voice vote, ordered S. 376 reported favorably with an amendment in the nature of a substitute.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

S. 376—Drought Information Act of 2013

Summary: S. 376 would amend the National Integrated Drought Information System Act of 2006. The bill would authorize the appropriation of \$14.5 million annually over the 2014–2018 period for the National Oceanic and Atmospheric Administration (NOAA) to maintain a system to provide early warnings of droughts by collecting and disseminating information and coordinating research on

drought conditions. In 2013, the agency received \$12 million to carry out similar activities.

Assuming appropriation of the authorized amounts, CBO estimates that implementing the legislation would cost \$65 million over the 2014–2018 period and \$8 million after 2018. Enacting S. 376 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

S. 376 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA).

Estimated cost to the federal government: The estimated budgetary impact of S. 376 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment).

	By fiscal year, in millions of dollars—					2014– 2018
	2014	2015	2016	2017	2018	
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Authorization Level	15	15	15	15	15	73
Estimated Outlays	9	12	14	15	15	65

Note: Amounts may not sum to totals because of rounding.

Basis of estimate: For this estimate, CBO assumes that the legislation will be enacted near the end of fiscal year 2013 and that the authorized amounts will be appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for this program.

Pay-As-You-Go considerations: None.

Intergovernmental and private-sector impact: S. 376 contains no intergovernmental or private-sector mandates as defined in UMRA.

Estimate prepared by: Federal Costs: Jeff LaFave, Impact on State, Local, and Tribal Governments: Melissa Merrell, Impact on the Private Sector: Amy Petz.

Estimate approved by: Theresa Gullo, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

S. 376 would modify certain statutory requirements and authorities of the NIDIS program. The bill encourages NIDIS to build upon existing forecasting and assessment partnerships within the Federal, State, regional, private, public, and academic sectors, and requires the listing of such partners in a report to Congress. To the extent NIDIS staff members are currently affected by existing law, the bill does not impose any burdens on any additional persons.

ECONOMIC IMPACT

S. 376 is not expected to have an adverse impact on the Nation's economy. The bill would reauthorize the NIDIS program, the purpose of which is to better inform and provide for timelier decision-making to reduce drought-related impacts and costs. Because droughts have costly impacts to both public and private entities,

this bill may have a positive net economic impact, especially on those sectors of the U.S. economy most vulnerable to drought impacts. S. 376 would authorize \$14.5 million to be appropriated for the NIDIS program for fiscal years 2014 through 2018. These funding levels are not expected to have an inflationary impact on the Nation's economy.

PRIVACY

The reported bill would not have any adverse impact on the personal privacy of individuals.

PAPERWORK

The Committee does not anticipate a major increase in paperwork resulting from the passage of this legislation. The bill would require the Under Secretary of Commerce for Oceans and Atmosphere to submit a report to Congress on the NIDIS program within a year and a half of enactment of this Act.

CONGRESSIONALLY DIRECTED SPENDING

In compliance with paragraph 4(b) of rule XLIV of the Standing Rules of the Senate, the Committee provides that no provisions contained in the bill, as reported, meet the definition of congressionally directed spending items under the rule.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title.

This section would provide that the Act be cited as the Drought Information Act of 2013.

Section 2. Reauthorization of National Integrated Drought Information System.

Sec. 2(a). System Amendments.

This subsection would amend the National Integrated Drought Information System Act of 2006 (15 U.S.C. 313d) to update the purposes and functions of NIDIS. This subsection would require NIDIS to build upon existing Federal, State, regional, private, public, and academic forecasting and assessment programs and partnerships to support ongoing monitoring and dissemination of weather and climate information.

Sec. 2(b). Authorization of Appropriations.

This subsection would authorize \$14.5 million to be appropriated for each of the fiscal years 2014 through 2018 for NIDIS.

Sec. 2(c). Report.

This subsection would require that within a year and a half of the enactment of this Act the Under Secretary of Commerce for Oceans and Atmosphere submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives regarding NIDIS. The report would be required to include an assessment of the implementation of NIDIS, including how the information, forecasts, and assessments produced are utilized in drought policy planning and response activities; specific plans for continued development of the system, including future

milestones; identification of research, monitoring, and forecasting needs to enhance the predictive capability of drought early warnings, the length and severity of droughts, and the contribution of weather events to reducing the severity or ending drought conditions; a list of partners with whom the Under Secretary collaborates to implement NIDIS; and a description of the outreach activities conducted by the Under Secretary regarding NIDIS. This subsection would require the Under Secretary to consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector in the development of this report.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman):

NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM ACT OF 2006

[15 U.S.C. 313d]

SEC. 3. NIDIS PROGRAM.

(a) IN GENERAL.—The Under Secretary, through the National Weather Service and other appropriate weather and climate programs in the National Oceanic and Atmospheric Administration, shall establish *and continue to support* a National Integrated Drought Information System *to better inform and provide for more timely decisionmaking to reduce drought related impacts and costs.*

[(b) SYSTEM FUNCTIONS.—The National Integrated Drought Information System shall—

[(1) provide an effective drought early warning system that—

[(A) is a comprehensive system that collects and integrates information on the key indicators of drought in order to make usable, reliable, and timely drought forecasts and assessments of drought, including assessments of the severity of drought conditions and impacts;

[(B) communicates drought forecasts, drought conditions, and drought impacts on an ongoing basis to—

[(i) decisionmakers at the Federal, regional, State, tribal, and local levels of government;

[(ii) the private sector; and

[(iii) the public, in order to engender better informed and more timely decisions thereby leading to reduced impacts and costs; and

[(C) includes timely (where possible real-time) data, information, and products that reflect local, regional, and State differences in drought conditions;

[(2) coordinate, and integrate as practicable, Federal research in support of a drought early warning system; and

[(3) build upon existing forecasting and assessment programs and partnerships.]

(b) SYSTEM FUNCTIONS.—*The National Integrated Drought Information System shall—*

- (1) *provide an effective drought early warning system that—*
 - (A) *collects and integrates information on the key indicators of drought and drought impacts, including water supplies and soil moisture, in order to make usable, reliable, and timely forecasts of drought, including assessments of the severity of drought conditions and impacts; and*
 - (B) *provides such information, forecasts, and assessments on both national and regional levels;*
- (2) *communicate drought forecasts, drought conditions, and drought impacts on an ongoing basis to stakeholders and entities engaged in drought planning, preparedness, and management, including—*
 - (A) *decisionmakers at the Federal, regional, State, tribal, and local levels of government;*
 - (B) *the private sector; and*
 - (C) *the public;*
- (3) *provide timely data, information, and products that reflect local, regional, and State differences in drought conditions;*
- (4) *coordinate, and integrate as practicable, Federal research and monitoring in support of a drought early warning system;*
- (5) *build upon existing Federal, State, regional, private, public, and academic forecasting and assessment programs and partnerships; and*
- (6) *continue ongoing research and monitoring activities related to drought, including research activities relating to length, severity, and impacts of drought and the role of extreme weather events and climate variability in drought.*

(c) **CONSULTATION.**—The Under Secretary shall consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector in the development of the National Integrated Drought Information System.

(d) **COOPERATION FROM OTHER FEDERAL AGENCIES.**—Each Federal agency shall cooperate as appropriate with the Under Secretary in carrying out this Act.

SEC. 4. AUTHORIZATION OF APPROPRIATIONS.

[15 U.S.C. 313d note]

There are authorized to be appropriated to carry out this Act—

- (1) \$11,000,000 for fiscal year 2007;
- (2) \$12,000,000 for fiscal year 2008;
- (3) \$13,000,000 for fiscal year 2009;
- (4) \$14,000,000 for fiscal year 2010;
- (5) \$15,000,000 for fiscal year 2011; **[and]**
- (6) \$16,000,000 for fiscal year 2012**[.];** and
- (7) \$14,500,000 for each of fiscal years 2014 through 2018.