

October 27, 2014

Drought Policy, Response, and Preparedness

Congress and other federal, state, and local policymakers are considering whether to maintain or alter current drought policies and programs. At issue are how to prepare for and respond to drought; how to coordinate actions and assign responsibilities; and who bears the costs of impacts, disaster response, and long-term adjustment to drought.

State and Local Roles in Water Supply

The federal government generally defers to state primacy in surface and groundwater allocation; and states and local water entities typically lead efforts to prepare for drought. As of late 2014, 44 states had drought plans. Most plans center on actions to take during a crisis. Only 13 plans incorporate efforts to reduce vulnerabilities to drought. The reactive nature and inconsistent implementation of many state plans raise questions about their current effectiveness in improving drought resilience. Some states and communities also have invested in reducing water demand and expanding drought-resilient supplies (e.g., through wastewater reuse, desalination, groundwater recharge, groundwater management districts). California, Idaho, and Texas also have facilitated water banks and water transfers. In contrast, community-level drought plans are less widespread than state plans, and research indicates that the majority of the fastest-growing counties do not integrate drought into their comprehensive or land use plans.

Research shows that most U.S. cities are relatively water-resilient, but some are vulnerable because of low storage per capita, sources shared with other cities or large users, or location in arid regions. Among cities regularly identified as being at risk of supply challenges are Atlanta, GA; Cleveland, OH; El Paso, TX; Lincoln, NE; Los Angeles, CA; Miami, FL; San Antonio, TX; and Salt Lake City, UT (see, e.g., <http://soils.ifas.ufl.edu/hydrology/cities/>). Notably, some of these cities are leaders in new water supply development and demand management.

Federal Assistance and Operations

Most federal drought assistance is for the agricultural economy and rural water supplies. With enactment of the 2014 farm bill (P.L. 113-79), nearly all segments of the farm sector are covered by either federal crop insurance or a disaster program administered by the U.S. Department of Agriculture (USDA), as described in CRS Report RS21212. For example, Livestock Forage Program payments to producers are triggered by a county's drought intensity level as published in the U.S. Drought Monitor. This is a weekly map of drought conditions created by multiple entities and federally led by the National Oceanic and Atmospheric Administration through the National Integrated Drought Information System (NIDIS). Other USDA programs, such as conservation programs discussed in CRS Report R40763, may influence drought adaptation.

States and local entities typically lead drought preparations. Most federal drought assistance is for the agricultural economy and rural water supplies.

Federal assistance for emergency community water supplies is authorized; however, the authorities are limited in scope or funding, or are infrequently used, as discussed in CRS Report R43408. Some federal agencies have programs to promote water efficiency, which may improve drought resilience (e.g., product labeling by the U.S. Environmental Protection Agency, Bureau of Reclamation water efficiency grants). However, state and local entities retain most of the authority and resources for influencing municipal and industrial water use.

Timely drought information, like the U.S. Drought Monitor, relies on federal investments in data from remote observations (e.g., satellites), surface observations (e.g., streamgages, and soil moisture and precipitation measurements), and complex models, and on dissemination and research through NIDIS. As described in CRS Report R43407, monitoring and improved technologies have resulted in better understanding of drought frequency, intensity, and duration due to climate and weather conditions.

Federal Facilities and Drought

The Bureau of Reclamation and the U.S. Army Corps of Engineers store irrigation water and municipal and industrial water on a reimbursable basis at federally owned multipurpose dams. The Water Supply Act of 1958 (72 Stat. 320; 43 U.S.C. §390b) declared that Congress recognizes “the primary responsibilities of the States and local interests in developing water supplies for domestic, municipal, industrial, and other purposes and that the Federal Government should participate and cooperate” in developing these supplies at federal flood control, navigation, and irrigation projects. For the more than 1,000 federally owned dams and related infrastructure, operations are at times entangled in arguments over managing limited supplies during drought. These dams often serve multiple sectors and groups that are particularly dependent on their flow regulation services during drought. Dam operations also must comply with federal laws (Endangered Species Act, Clean Water Act, etc.) aimed at protecting species and other environmental values. Operational challenges have increased as water demands have grown, creating conflicts among water in storage, water delivered under contract or settlement, and flows for in-stream purposes (e.g., power plant cooling, fishing and recreation industries, water quality, and species needs).

Recent and Ongoing Drought Response

During the widespread U.S. drought of 2012, the National Disaster Response Framework (NDRF) was used by the Secretary of Agriculture to coordinate the federal drought response. The NDRF is the framework followed to assist disaster-affected communities to recover. In November 2013, the Obama Administration created the National Drought Resilience Partnership as part of the President's Climate Action Plan; the partnership's aim is to align federal drought policies and to facilitate access to drought assistance and information sharing. It has provided a forum for federal coordination during the 2014 drought response.

The Federal Emergency Management Agency (FEMA) and the Department of Homeland Security have been involved in recent interagency drought efforts, but have not played leadership roles. Requests since the 1980s that the President declare a major drought disaster or emergency under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (42 U.S.C. 5121 et seq.), have been denied, generally in deference to USDA authorities. A major declaration that a drought has overwhelmed state or local resources would result in federal aid beyond available agricultural disaster assistance.

Recent Federal Legislation

The ongoing western U.S. drought, which has particularly affected California and Nevada, contributed to legislative proposals in the 113th Congress. In addition to NIDIS reauthorization (P.L. 113-86) and drought-related provisions of the 2014 farm bill, Congress enacted legislation (P.L. 113-121) that authorized the Corps to assess its reservoir operations during drought and expanded EPA loan and loan guarantee opportunities and eligibility for water supply systems, as discussed in CRS Report R43298. Multiple bills in the 113th Congress addressed drought operations of Reclamation facilities (e.g., H.R. 3964, H.R. 4239, S. 2198). Others addressed water efficiency, conservation, and alternative supplies (e.g., H.R. 5363, S. 2771); several would facilitate federal or nonfederal water storage projects (e.g., H.R. 3980, H.R. 5412). Additionally, some bills proposed changes to the Stafford Act (e.g., S. 2016). The majority of these bills consisted of authorizations, with many provisions' implementation contingent upon appropriations; a few bills proposed appropriations to address the western U.S. drought (e.g., H.R. 4039, S. 2016).

Drought Impacts and Policy

Often a disaster's cost is seen as a measure of its significance and a signal of the level of policy response and attention needed. No good methodologies exist to capture a drought's national impact. For example, accounting for agricultural impacts—such as the effect of regional crop loss on the national supply and demand for food, or costs and benefits associated with federal programs—is not straightforward. Identification and quantification of non-agricultural impacts requires assessments of effects on rangelands, wildfire, navigation, tourism, recreation, utilities, industrial operations, species, environmental

quality, and public health. In 2012, the Centers for Disease Control and Prevention released guidance for protecting public health during drought. It reported drought impacts on water quantity and quality, food and nutrition, living conditions, and disease incidence. While few droughts are likely to reach the scale or extent to have broad and severe impacts in all of these areas, droughts—especially multi-year droughts or those affecting critical infrastructure or critical water supplies—can have cascading impacts.

Bills from the 113th Congress reveal a wide variation in perspectives on federal drought response and federal efforts to foster nonfederal drought resilience.

Policy Questions

Recent droughts may result in a discussion of principles and approaches to guide future federal involvement and investment in water resources management. The drought-related bills of the 113th Congress showed a wide variation in the activities supported, the division of responsibilities, and who might bear the costs and impacts of investments.

At issue is how well current federal and nonfederal efforts prevent drought incidents from becoming emergencies. This issue raises questions about federal programs, such as how are federal agricultural programs influencing long-term drought resilience and water use (through improvements from federal agricultural research in varieties or production techniques, or through crop or water subsidization on marginal lands), and how prepared are federal facilities (e.g., federal dams, lands, military bases) and federal emergency response entities and programs. The issue also raises questions about the adequacy of and accountability for state and local drought planning and resilience efforts. Related questions involve the costs and benefits of state and local drought planning, expanded federal assistance in augmenting water supplies (e.g., greater reuse of urban wastewaters and stormwaters), and construction of new or expanded federal water projects.

Like other low-risk but high-consequence events, the specter of an extended disruptive drought raises questions of how to efficiently, effectively, and fairly use limited federal resources to prepare and respond to disasters. The separation of USDA drought assistance from FEMA's federal disaster response during the past 35 years raised uncertainties. What would trigger a federal response under the Stafford Act, and which types of assistance would be available? What, if any, contingency planning and emergency simulation efforts have been performed to prepare and coordinate local, state, and federal drought disaster response efforts? What have these efforts revealed about which investments, activities, logistical preparations, and common operating practices may be most beneficial for reducing societal impacts of a persistent disruptive drought?

Nicole T. Carter, ncarter@crs.loc.gov, 7-0854
Betsy A. Cody, bcody@crs.loc.gov, 7-7229

IF00058