



LONG-TERM DROUGHT  
RESILIENCE

FEDERAL ACTION PLAN  
OF THE  
NATIONAL DROUGHT  
RESILIENCE PARTNERSHIP

MARCH 2016





# Table of Contents

Introduction . . . . .	1
Drought-Resilience Goals . . . . .	3
Goal 1: Data Collection and Integration . . . . .	4
Goal 2: Communicating Drought Risk to Critical Infrastructure . . . . .	6
Goal 3: Drought Planning and Capacity Building . . . . .	7
Goal 4: Coordination of Federal Drought Activity. . . . .	9
Goal 5: Market-Based Approaches for Infrastructure and Efficiency . . . . .	12
Goal 6: Innovative Water Use, Efficiency, and Technology . . . . .	14
Appendix: List of Abbreviations . . . . .	17



# Introduction

Drought poses a serious threat to the resilience and security of communities nationwide and regularly impacts the lives of millions of Americans. Extreme, widespread drought challenges the security of the U.S. food supply and the integrity of critical infrastructure, causes extensive economic impacts, and increases energy costs. The impacts of climate change are expected to increase the frequency, intensity, and duration of droughts in many regions, and persistent drought could force foundational changes in the way communities use and live on the land. The economic impacts of drought can be extensive, with water-intensive industries potentially relocating and agricultural production shifting to other regions. The far-reaching effects of drought impact human and environmental health in many ways, due to factors including compromised water availability and quality, poor air quality, compromised food and nutrition, and increased incidence of illness and disease.

The Administration has built on long-standing drought-resilience initiatives led at the Federal, State, regional, tribal, and local levels to advance national-level drought-resilience capabilities. In doing so, the Federal Government has introduced new measures to anticipate and cope with drought by focusing on both short-term drought-response and long-term drought-resilience issues. In 2012, as part of the work of the White House Rural Council, the USDA led a National Disaster Recovery Framework effort to help communities respond to and recover from the 2012 drought. That effort involved a series of regional



## LONG-TERM DROUGHT RESILIENCE

listening sessions on how Federal and State agencies could collaborate to address regional drought risks. Additionally, the effort drew on previous work, such as the 2000 National Drought Commission Report, and ongoing work of the National Integrated Drought Information System (NIDIS). The NIDIS, relying on its network of government agencies and organizations, conducted drought outlooks around the country, and convened a National Drought Forum in partnership with State governors in Washington, D.C., in December 2012. The NIDIS continues to work across agencies and sectors to link drought monitoring, forecasting, and early warning with risk planning and management. President Obama signed the reauthorization of the NIDIS Act in 2014. He commended Congress for passing bipartisan legislation to ensure timely, effective drought early warning.

In 2013, as part of President Obama's Climate Action Plan, the Administration announced an interagency working group initiative, called the National Drought Resilience Partnership (NDRP) to help communities better prepare for future droughts and reduce the impact of drought events on livelihoods, health, and the economy. Recognizing that the Nation was facing more frequent and intense periods of drought, the NDRP sought to support State and local watershed-scale strategies for building long-term resilience, and to target their resources and expertise at appropriate regional scales. In doing so, State and local watershed-scale strategies are supported by the Federal government to help build a more drought-resilient nation.

The Federal Government can apply a range of authorities and resources for addressing drought. These include significant capacities in weather forecasting, data collection, and research; assistance with State, regional, tribal, and local drought-planning and water-management agreements; construction, operation, and management of water-supply infrastructure; investments in water-efficient energy systems; and programs that promote water-use efficiency and sustainable land and water management. In addition, the Federal Government has responded to stakeholder feedback by dedicating more attention to drought coordination and support of local planning. Federal agencies have also recognized the benefits of regional, watershed-level planning through initiatives like the WaterSMART Basin Study Program. These efforts bring together diverse stakeholders to assess water-supply risks and identify basin-specific adaptation strategies to build resilience. In the context of a changing climate, the likelihood of increased frequency, duration, and intensity of droughts will further necessitate this range of concerted action.

In accordance with the President's Memorandum on Building National Capabilities for Long-Term Drought Resilience, this Action Plan lays out a series of activities to fulfill the President's drought-resilience goals. Furthermore, this Action Plan outlines the ways in which the member departments and agencies of the National Drought Resilience Partnership can use existing resources to take additional steps to work with State, regional, tribal, and local partners to respond to drought and lay the foundation for long-term resilience within existing authorities. This Action Plan brings together a wide range of initiatives and concepts to build stronger drought-resilience capabilities. To assist the reader, an Appendix has been included to provide a list of acronyms used throughout the Action Plan.



# Drought-Resilience Goals

Aligned with the President’s Memorandum on Long-Term Drought Resilience, the goals laid out below—and their corresponding actions—are intended to help build national drought-resilience capabilities. The activities described in this Action Plan are intended to build on the President’s directives in the aforementioned Memorandum. Additionally, these actions are intended to be undertaken in Fiscal Year (FY) 2016 or FY 2017 and will be carried out using existing resources and under existing authorities. As funding situations change, agencies will re-evaluate and re-prioritize their drought-resilience activities. The NDRP will update this Action Plan as needed to adapt to changing conditions and support an ongoing focus on building resilience to drought.

**Goal 1:** Data Collection and Integration

**Goal 2:** Communicating Drought Risk to Critical Infrastructure

**Goal 3:** Drought Planning and Capacity Building

**Goal 4:** Coordination of Federal Drought Activity

**Goal 5:** Market-Based Approaches for Infrastructure and Efficiency

**Goal 6:** Innovative Water Use, Efficiency, and Technology





# Goal 1: Data Collection and Integration

## Objective:

Agencies shall share data and information related to drought, water use, and water availability, including data on snowpack, groundwater, stream flow, and soil moisture with State, regional, tribal, and local officials to strengthen decisionmaking to support more adaptive responses to drought and drought risk.

## Implementation Actions:

### *Integrate Existing Data and Information Sources for Regional-Level Use*

- 1. Integrate Data from Key Platforms:** Assess, strengthen, and connect existing space-based, airborne, and terrestrial data-collection and monitoring capabilities for water use and availability (e.g., capabilities at DOI-USGS, USDA, DOC-NOAA, EPA, NASA, and free and open data from the private sector). Major data-collection and monitoring capabilities should include capabilities for assessing: (1) groundwater, including quality and connections with surface waters; (2) soil moisture; (3) snowpack; (4) water use; and (5) surface water, including quality. Using principles of the Open Water Data Initiative, enhance the interoperability of information obtained through these capabilities with data obtained through surveys and reporting, to better characterize water supplies and drought-risk conditions, and to identify information gaps. Make data and information easily accessible to stakeholders in formats compatible for inclusion into existing geospatial data platforms. Integrate data on drought into health platforms, such as the Environmental Public Health Tracking Network.
  - **Lead Coordinating Agencies:** DOI-USGS, DOC-NOAA, USDA, and OSTP
  - **Supporting Agencies:** EPA, NASA, DOE, HHS-CDC
- 2. Improve Modeling and Prediction:** DOC-NOAA will develop a national water-prediction capability at the National Water Center, which will support greater understanding of hydrologic science intended to strengthen observations, modeling, and forecasting. DOC-NOAA will also improve seasonal and sub-seasonal prediction for temperature, precipitation, and associated regional-information products.
  - **Lead Coordinating Agency:** DOC-NOAA
  - **Supporting Agencies:** DOI, EPA, NASA, USACE, DHS-FEMA, USDA

### *Enhance National Data Coverage*

- 1. Facilitate Citizen Science:** Provide guidelines and disseminate best practices and consistent protocols for crowdsourced data and other data collected through citizen-science initiatives related to water availability. The goal of this action is to foster solutions from a range of sources and to expand spatial and temporal data coverage. As an example, the Community Collaborative

Rain, Hail, and Snow rainfall network is expanding into tribal lands in the southwest, where available data are typically sparse. Data resources collected from these sources should be shared using principles of the Open Water Data Initiative.

- **Lead Coordinating Agencies:** DOC-NOAA and OSTP
  - **Supporting Agencies:** DOI-USGS, EPA, NASA, USACE, DHS-FEMA, USDA
2. **Encourage Federal Reservoir Surveys:** Take advantage of drought-induced low reservoir levels to increase knowledge of the state of reservoir sedimentation. Identify and pursue ways to reduce the cost of reservoir surveys, and to share data from these surveys.
- **Lead Coordinating Agency:** USACE
  - **Supporting Agency:** DOI-BOR

### *Develop Data Models to Identify Populations at Risk to the Health Effects of Drought*

For selected infectious and non-infectious contaminants, develop predictive models that will identify highly vulnerable locations and populations in order to initiate protective measures. The health impacts of drought include infectious and non-infectious diseases as well as mental-health conditions. Models can help characterize the risk of these health impacts and can be used to plan for and respond to drought. Models will assess risks for non-infectious contaminants in well water (such as arsenic, nitrates, and uranium) that can change based on water level. Models will also predict locations vulnerable to drought-related infectious diseases, such as valley fever and hantavirus. Many of the issues associated with drought can occur after substantial periods of time, so long-term surveillance of these outcomes is required to accurately capture health effects.

- **Lead Coordinating Agency:** HHS-CDC
- **Supporting Agencies:** DOI-USGS, DOC-NOAA, NASA



## Goal 2: Communicating Drought Risk to Critical Infrastructure

### Objective:

Agencies shall communicate with State, regional, tribal, local, and critical infrastructure officials, targeted information about drought risks, including specific risks to critical infrastructure.

### Implementation Actions:

#### *Study Long-Term Drought Impacts on Critical Infrastructure*

Conduct an in-depth study on the impacts of long-term drought on critical infrastructure. The study will examine the broad implications of a prolonged drought in California, based on a hydrological drought scenario of a five-year extension of drought conditions. This effort will be conducted in phases, in order to address highest-priority risks first, and results will be shared with State, local, and private-sector partners as results become available. The study will seek to identify potential strategies to mitigate and adapt to sector-specific long-term drought impacts to critical infrastructure. The study will help State, regional, tribal, local, and private-sector partners understand the risks of long-term drought to critical infrastructure.

- **Lead Coordinating Agency:** DHS-NPPD
- **Supporting Agencies:** DOC-NOAA, DOI, EPA, USACE, DOE, DOT, USDA

#### *Create Drought Decision-Support Guides for Critical-Infrastructure Stakeholders*

Use existing resources from USDA, DOI, DHS-FEMA, HHS-CDC, and EPA to compile sector-specific guides that provide technical assistance on how to protect and prepare critical infrastructures for the impacts of long-term drought. Leverage the experience of hazard-communication campaigns such as Ready.gov in effectively communicating with diverse stakeholder groups (including, but not limited to, the private sector; State, local, tribal, and territorial governments; the media; health departments and healthcare facilities; and the general public), to ensure the guides are effective in communicating risks and mitigation options to a wide range of drought stakeholders.

- **Lead Coordinating Agency:** DHS-NPPD
- **Supporting Agencies:** DOC-NOAA, DOI-USGS, EPA, USACE, DHS-FEMA, DOE, DOT, USDA, HHS-CDC





# Goal 3: Drought Planning and Capacity Building

## Objective:

Agencies shall assist State, regional, tribal, and local officials in building local planning capacity for drought preparedness and resilience.

## Implementation Actions:

### *Coordinate Planning and Capacity-Building Programs*

Multiple Federal agencies, including EPA, USDA-NRCS, and DOI, have programs to facilitate or support locally led watershed-level planning. These agencies will enhance the existing drought-plan clearinghouse<sup>1</sup> with increased geospatial capabilities, making it easier to connect existing NIDIS sponsored Federal programs and enabling more effective sharing and coordination of State, regional, tribal, and local drought plans. This activity also involves increased coordination of drought planning in hazard-mitigation strategies.

- **Lead Coordinating Agency:** DOC-NOAA
- **Supporting Agencies:** DOI, USDA, DHS-FEMA, EPA, USACE

### *Examine the Ecological Impacts of Drought Across the United States*

The DOI-USGS will lead a study with Federal, academic, and non-profit ecological-sciences experts to synthesize the current understanding of drought impacts on ecosystems. This effort will lead to better-informed decisionmaking with respect to the regional effects of drought on wildlife and ecosystems; identify potential threats to valued resources; and prioritize research needs regarding the ecological impacts of drought. Additionally, the study will examine sets of management options that are relevant at the national, State, regional, tribal, and local levels.

- **Lead Coordinating Agency:** DOI
- **Supporting Agencies:** DOC-NOAA, USDA

### *Strengthen Rural Drinking Water Contingency Plans*

USDA will work with States and tribes to identify rural communities most at risk for compromised drinking-water supplies as a result of drought, including those that are at risk as a result of depleted or contaminated groundwater. Additionally, USDA will make inclusion of drought-impact planning in

---

1. The clearinghouse is currently hosted by the National Drought Mitigation Center

## LONG-TERM DROUGHT RESILIENCE

emergency-response plans a condition of funding for new water and waste infrastructure projects. USDA will train technical assistance providers, as needed, to facilitate development and updating of vulnerability plans and emergency-response plans, and to ensure that plans include procedures for monitoring and reporting in order to evaluate conditions and rapidly conduct vulnerability assessments.

- **Lead Coordinating Agency:** USDA
- **Supporting Agencies:** DOI, EPA, DHS-FEMA, HHS-CDC

### *Support State, Tribal, Local, and Territorial Health Departments*

Develop a drought-resource guide for health departments that focuses on planning for and responding to the health effects of drought. Expand existing work with State, local, tribal and territorial health departments to identify the health effects of drought; identify at-risk populations in those communities; and develop and implement activities to decrease the risk of drought-related health effects.

- **Lead Coordinating Agency:** HHS-CDC
- **Supporting Agencies:** DOC-NOAA, DOI, and USDA





# Goal 4: Coordination of Federal Drought Activity

## Objective:

Agencies shall improve the coordination and integration of drought-related activities to enhance the collective benefits of Federal programs and investments.

## Implementation Actions:

### *Drive Coordination and Sharing of Information Related to Federal Investments in Water Infrastructure*

Federal agencies will pilot, at the watershed, level an effort to compile and share information on federally funded grant and loan projects; non-sensitive application information for requested projects; and locations of planned infrastructure investments through creation of an information-sharing tool. This tool will be used by Federal officials to prompt collaboration among agencies by providing visibility on existing Federal investments and relevant pending applications within a watershed. The effort will consider public-facing options to support existing intact watershed-planning processes like the DOI Basin Studies. The criteria for inclusion of data in the tool shall be thoughtfully and carefully evaluated so as to not contradict Congressional action or the President's Budget.

- **Lead Coordinating Agencies:** DOI and USDA
- **Supporting Agencies:** EPA, USACE, DOC-EDA, HUD, DOC-NOAA, OMB

### *Extend Best Practices of Coordinated Federal Water-Resource Programs*

USDA and DOI-BOR will extend the successful cross-program coordination practices from programs such as the DOI-BOR WaterSMART and USDA EQIP water-efficiency grants currently underway in California to other basins suffering from or at risk for drought. In 2011, DOI-BOR and USDA began a partnership to leverage funding for water-delivery agencies and agricultural producers in California. Through a competitive process, DOI-BOR makes funding available to irrigation districts and other entities so that improvements that save water or improve water management can be made in the systems that deliver water to farmers. USDA-NRCS, in turn, makes funding available to farmers who receive water from those districts so that on-farm conservation improvements can also be made throughout those districts.

- **Lead Coordinating Agencies:** DOI-BOR and USDA
- **Supporting Agency:** EPA

### *Launch a Prize Competition or Ideation Challenge*

DOI is currently leading an FY 2016 effort with multiple agencies to help incentivize new technologies or scale up existing methods of water-use innovation through prize competitions and/or ideation challenges. Those efforts could be focused on complex and pressing water-related problems such as: (1) detecting and repairing leaks in water-conveyance systems; (2) forecasting drought and water supply; (3) managing desalination concentrate; (4) suppressing reservoir evaporation; and (5) investigating and proposing cost-effective solutions for grey water reuse in existing urban buildings. Explore opportunities to match prize competitors with Federal business-assistance resources to accelerate commercialization of promising solutions to the marketplace.

- **Lead Coordinating Agency:** DOI
- **Supporting Agencies:** USACE, USDA, NSF, NASA, DOC, EPA, SBA

### *Manage Federal Assets to Promote Local Drought Resilience*

**1. Increasing Water-Management Flexibility:** Improve drought preparedness by developing and implementing new processes and considerations into reservoir management. Develop and implement a new process for streamlining preparation, review, and approval of USACE Water Control Plan deviations. Deviations from an approved USACE Water Control Plan in certain circumstances can create opportunities to alleviate critical drought impacts consistent with legislated facility purposes. DOI-BOR will begin implementation of five pilot activities at DOI-BOR reservoirs. These pilots will explore both the tracking of water supplies affected by climate change as well as other reservoir operations opportunities. DOI-BOR will also coordinate with USACE in cases where storage is co-managed for water supply and flood control to identify opportunities to leverage deviation requests.

- **Lead Coordinating Agencies:** USACE and DOI-BOR
- **Supporting Agencies:** N/A

**2. Promoting Stronger Drought Resilience on Federal Lands:** Through work with water users and interagency efforts such as the Western Watershed Enhancement Partnership, foster public-private partnerships to address risks from wildfire, insects and disease, invasive species, and other risks impacting water availability in drought-prone regions. Continue to improve drought monitoring, forecasting, and response in Federal land-management programs and decisions.

- **Lead Coordinating Agencies:** DOI and USDA
- **Supporting Agencies:** EPA, USACE, DOC-NOAA

### *Enhance Federal Drought Resilience Investments at the Watershed Scale:*

USDA-NRCS conservation programs targeted in a strategic manner, such as through the Regional Conservation Partnership Program (RCPP), create opportunities for partners to develop regionally appropriate strategies to address conservation challenges across the country, including challenges created by water scarcity. USDA-NRCS will encourage Federal agencies to join State, regional, tribal and local part-

#### GOAL 4: COORDINATION OF FEDERAL DROUGHT ACTIVITY

ners in drafting project proposals for innovative approaches to enhancing drought resilience on farms, ranches, and private forest lands. Applicants will be encouraged to submit proposals that build on other Federal, state, and private resilience investments—including those made through DOI’s WaterSMART and EPA’s State Revolving Loan programs—that fall within their proposed projects footprint.

- **Lead Coordinating Agency:** USDA-NRCS
- **Supporting Agencies:** DOI, EPA





# Goal 5: Market-Based Approaches for Infrastructure and Efficiency

## Objective:

Agencies shall support the advancement of innovative investment models and market-based approaches to increase resilience, flexibility, and efficiency of water use and water-supply systems.

## Implementation Actions:

### *Explore Innovative Financing Options for Drought Resilience*

Leverage the EPA Water Infrastructure and Resiliency Finance Center, the USDA Rural Opportunity Investment Initiative, and the DOI Natural Resources Investment Center to increase non-Federal and private investment in projects that increase drought resilience. This activity includes leveraging EPA State Revolving Loan Fund program funds to support efficient irrigation infrastructure; seeking contributed funds to increase investment in DOI-BOR assets; leveraging USDA rural water loans to generate new opportunities for private sector investment in rural water infrastructure that would provide co-benefits such as improved water supply, water quality and flood management; and working with municipalities and agricultural sectors to establish partnerships for conservation.

- **Lead Coordinating Agencies:** EPA, USDA, and DOI
- **Supporting Agency:** Treasury

### *Support State and Local Strategies for more Flexible Water Management*

In many cases, States and local water users are exploring new strategies to increase water use flexibility during drought, including the use of water transactions. Given its water-management responsibilities, the Federal Government may have a role in enabling or facilitating those strategies. Identify strategies to facilitate water transfers and water banking to mitigate water shortages, including review of case studies on model projects and alternative administrative regimes. DOI will consider developing guidance to facilitate locally led water transactions and will promote best practices, where appropriate, at DOI-BOR facilities.

- **Lead Coordinating Agency:** DOI
- **Supporting Agencies:** EPA, USDA

*Disseminate Information on Water Pricing and Construction Cost Repayments*

Greater transparency about the per-unit price of water resourced from Federal reservoirs will better inform water users and the other market suppliers about current market pricing for Federally sourced water. DOI-BOR will raise awareness about the availability and accessibility of construction cost repayment statements.

- **Lead Coordinating Agency:** DOI-BOR
- **Supporting Agencies:** USDA, USACE



# Goal 6: Innovative Water Use, Efficiency, and Technology

## Objective:

Agencies shall support efforts to conserve and make efficient use of water by carrying out relevant research, innovation, and international engagements.

## Implementation Actions:

### *Conduct Research to Optimize and Improve Agricultural Water Use*

Convene a workgroup of technical specialists and managers from Federal, State, tribal, local, and academic institutions to identify and promote more efficient agricultural water use. The workgroup will: (1) identify key steps for optimizing agricultural water-use efficiency at the watershed scale while ensuring sustainable agriculture; (2) expand data collection to enable better understanding of agricultural-producer and irrigation-district responses to drought; (3) provide resources to develop the evidence base for understanding the socio-economic drivers of farm-level water use and response to water scarcity, drought risk, and climate variability; (4) develop a decision-support tool to build on this research findings to enable more effective engagement and utilization by agriculture communities; and (5) develop a plan for increasing adoption of technologies that enhance water use, reuse, and production efficiency.

- **Lead Coordinating Agencies:** USDA, NSTC-SWAQ
- **Supporting Agencies:** N/A

### *Conduct Research to Optimize and Improve Energy-Sector Water Use*

Pursue research into technologies that reduce the need for cooling water in thermoelectric generation and related industrial processes. Develop a strategy, with stakeholder input from States and the private sector, to accelerate and improve the deployment of such technologies.

- **Lead Coordinating Agency:** DOE
- **Supporting Agency:** NSF

### *Conduct Research to Improve Performance and Reduce Energy Requirements and Carbon Emissions from Water-Treatment Technologies*

Pursue research into technologies that reduce energy requirements and carbon emissions of water-treatment technologies in order to make alternate water resources more accessible. Publish findings



from this research on the progress and advances in such technologies. The publications will highlight areas for future development and opportunities for deployment of such technologies.

- **Lead Coordinating Agency:** DOE
- **Supporting Agencies:** EPA, DOI, NSF

### *Highlight Resilience Successes from the Municipal Sector*

Utilize the NSTC Sub-Committee on Water Availability and Quality to identify best practices and case studies that highlight municipal-level examples of effective planning, multi-sector collaboration, and financing for drought resilience. Identify common challenges and innovative solutions for how communities can implement effective drought-resilience initiatives. Highlight lessons learned and common challenges via a national platform in order to widespread adoption.

- **Lead Coordinating Agencies:** EPA, NSTC-SWAQ
- **Supporting Agencies:** DOC-NOAA, USDA, DOI, DOE

### *Establish a Soil Health Monitoring and Enhancement Network*

Establish a network to provide information on soil health as a significant indicator of agriculture-related demand for water, and identify methods for improving soil health that could increase soil water-holding capacity. Provide guidelines for managing soil health and preventing future degradation. Use the soil-health information generated by the network to inform future investments that improve soil health.

- **Lead Coordinating Agency:** USDA
- **Supporting Agencies:** N/A

### *Develop Municipal Water-Recycling Technical Assistance*

Building upon recently awarded research-grant funding, develop a series of technical-assistance documents that assist States, regions, tribes, and localities as they plan for future water-reuse and recycling projects. The technical-assistance documents will include topics such as: regulated or unregulated contaminants and expected presence in treated water; evaluation of common drinking-water treatment processes and their inactivation/removal efficiency; microbial, chemical, radiological, and emerging contaminants; recommended monitoring of influent and effluent for water-treatment plants; and recommended monitoring of finished water.

- **Lead Coordinating Agency:** EPA
- **Supporting Agencies:** USDA, DOI

### *Maximize Use of Existing Diplomatic Engagement Structures to Advance International Drought-Related Research and Collaboration*

Engage with key countries and multilateral institutions to share best practices and research on drought with U.S. technical experts, through workshops, technical exchanges, and/or joint research leveraged through existing institutional arrangements and diplomatic efforts. Initial bilateral engagement

## LONG-TERM DROUGHT RESILIENCE

began with Australia under the auspices of the Joint Commission Meeting on Science and Technology. Multilateral engagement can be pursued through United Nations (UN) specialized agencies such as the UN Educational, Scientific and Cultural Organization and the World Meteorological Organization, as well as other regional and global partnerships and initiatives. Knowledge gained and opportunities to engage will be shared with relevant experts within the United States through existing platforms such as the U.S. Water Partnership, the Global Water Research Coalition, and the National Integrated Drought Information System.

- **Lead Coordinating Agencies:** DOS, DOI, and USACE
- **Supporting Agencies:** DOC-NOAA, EPA, USDA, DOE





## Appendix: List of Abbreviations

DHS	Department of Homeland Security
DHS-FEMA	Department of Homeland Security, Federal Emergency Management Agency
DHS-NPPD	Department of Homeland Security, National Protection and Programs Directorate
DOC	Department of Commerce
DOC-EDA	Department of Commerce, U.S. Economic Development Administration
DOC-NIST	Department of Commerce, National Institute of Standards and Technology
DOC-NOAA	Department of Commerce, National Oceanic and Atmospheric Administration
DOC-PTO	Department of Commerce, Patent and Trademark Office
DOE	Department of Energy
DOI	Department of the Interior
DOI-BOR	Department of the Interior, United States Bureau of Reclamation
DOI-FWS	Department of the Interior, U.S. Fish and Wildlife Service
DOI-USGS	Department of the Interior, United States Geological Survey
DOS	Department of State
DOT	Department of Transportation
EPA	Environmental Protection Agency
HHS	Department of Health and Human Services
HHS-CDC	Department of Health and Human Services, Centers for Disease Control and Prevention
HUD	Department of Housing and Urban Development
NASA	National Aeronautics and Space Administration
NDRP	National Drought Resilience Partnership
NIDIS	National Integrated Drought Information System
NSF	National Science Foundation
NSTC	National Science and Technology Council
NSTC-SWAQ	National Science and Technology Council, Subcommittee on Water Availability and Quality
OMB	Office of Management and Budget, The White House
OSTP	Office of Science and Technology Policy, The White House

## LONG-TERM DROUGHT RESILIENCE

RCPP	Regional Conservation Partnership Program
SBA	Small Business Administration
Treasury	U.S. Department of the Treasury
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDA EQIP	U.S. Department of Agriculture, Environmental Quality Incentives Program
USDA-NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service
USFWS	U.S. Fish and Wildlife Service
DOI WaterSMART	Department of the Interior, Water (Sustain and Manage American Resources for Tomorrow) Program