



**BRIEF OVERVIEW OF WATER-
RELATED RESOURCES
AVAILABLE TO WRP
PARTNERS**

WRP Natural Resources Committee

2015



Western Regional Partnership (WRP)

The mission of the WRP is to provide *a proactive and collaborative framework for senior-policy level Federal, State and Tribal leadership to identify common goals and emerging issues in the states of Arizona, California, Nevada, New Mexico and Utah and to develop solutions that support WRP Partners and protect natural resources, while promoting sustainability, homeland security and military readiness.*

The Value of WRP

WRP develops solutions that support Partners and protect natural resources, while promoting sustainability, homeland security and military readiness. In the West, there are significant military assets, infrastructure systems such as energy, transportation and wildlife ecosystems. Leveraging of resources and linking of efforts help to avoid duplication of efforts and encourages sharing of best practices. WRP Partners benefit from interagency and cross-state collaboration and use of WRP tools such as the Web Mapping Application.

The Purpose of this Document

The purpose of this document is to highlight the agencies involved in water in the west as it relates to the missions of WRP Partners and to assist in integrating WRP into an ongoing dialogue on water issues. WRP seeks to encourage better information sharing to foster awareness of the interdependencies between Partners and provide for a more symbiotic relationship.

For More Information

For more information on WRP please see www.wrpinfo.org. To participate in a WRP Committee or to receive updates, please complete the information under "mailing list" on the website.

Contents

WRP Intro	1
WRP Natural Resources Committee Efforts	4
WRP Water-Related Webinars	4
Western States Water Council (WSWC) and WestFAST	4
National Drought Resilience Partnership	5
Water-Related Data Resources	5
FEDERAL DATA RESOURCES	5
Federal Toolbox	5
USGS Water Data for the Nation	6
EPA's EnviroAtlas	6
NOAA's National Water Center	6
United States Seasonal Drought Outlook	6
USGS Gap Analysis Program	6
NRCS Snow Survey & Water Supply Forecasting Programs:	6
OTHER DATA RESOURCES	6
National Drought Mitigation Center US Drought Portal	7
Drought Impact Reporter	7
Drought Risk Atlas	7
VegDRI	7
Open Water Data Initiative	7
Open Water Foundation (nonprofit social enterprise)	7
StreamStats	8
Water Data Exchange (WaDE) Program	8
Western Landscapes Explorer	8
Google Earth Engine	8
Available Water-Related Resources	8
FEDERAL RESOURCES	8
Bureau of Reclamation	8
Department of Defense	8
EPA	9
National Oceanic and Atmospheric Administration	9
National Resources Conservation Service	9
Presidential Executive Orders Relevant to Water Issues	9
U.S. Army Corps of Engineers	9
USDA Disaster and Drought Information	10
US Forest Service	10
US Geological Survey	10
WestFAST	10
STATES	11
State of Arizona Department of Water Resources	11
State of California Department of Water Resources	11
State of Nevada Division of Water Resources	11

State of New Mexico Office of the State Engineer 12
State of Utah Division of Water Resources 12
OTHER RESOURCES 12
American Water Resources Association 12
National Drought Resilience Partnership 12
National Integrated Drought Information System (NIDIS) 13
WGA Drought Forum..... 13
Western States Water Council 13
US Water Alliance..... 13
National Tribal Water Council 14

WRP Natural Resources Committee Efforts

At the 2014 WRP Principals' meeting the Principals added water as a WRP Priority for the first time. This priority was deliberated and carefully drafted in order to recognize the WRP agencies already involved in this area and to find the most appropriate role for WRP engagement. The WRP Natural Resources Committee 2014-2015 priority is to "partner with WGA, WSWC and other WRP Partners to provide input on water sustainability as part of an ongoing Western dialogue."

WRP seeks to leverage existing resources and linking of efforts to better support key projects. WRP Partners were asked for their input on how the Committee can best support this priority and not duplicate relevant agency efforts. The consensus was for WRP to focus on two main items:

- Identify water data needs and incorporate authoritative data layers in WRP's Web Mapping Application
- Develop brief summary of available resources such as the WGA Drought Forum, WSWC, WestFAST, and other WRP Partner efforts

To best support efforts, WRP offered webinars by water experts.

WRP WATER-RELATED WEBINARS

Western States Water Council (WSWC) and WestFAST

In May 2015, a webinar was co-sponsored by the Western States Water Council (WSWC), Western States Federal Agency Support Team (WestFAST) and the Western Regional Partnership's Natural Resources Committee. This webinar set the stage on how western states manage water rights (allocation), water management (water laws and regulations) and water supply and availability.

WestFAST

WestFAST is a collaboration among 12 Federal agencies with water management responsibilities in the West (DOE, NASA, EPA, USFS, NRCS, NPS, NOAA, USACE, F&WS, BLM, USGS, BuRec, DoD.) WestFAST was established to support the WSWC and the Western Governors Association in coordinating Federal efforts regarding water resources. Current projects include optimizing federal/state collaboration, open water data and drought resiliency/response. Please see:

<http://www.westernstateswater.org/westfast/>

WSWC

The WSWC is an organization consisting of representatives appointed by the governors of 18 western states. Council members and staff work closely with the

Western Governors' Association on water policy issues of concern to the governors. It fosters collaboration and provides the states with a collective voice.

The Western Governors' Association (WGA), the U.S. Department of Energy (DOE), the DOE National Labs (led by the Sandia National Lab), WSWC and WestFAST are undertaking a data exchange project to provide better access to water allocation, supply, and demand data that are maintained by the states, known as The Water Data Exchange (WaDE) Program. It also seeks to improve the sharing of federal water datasets that support state water planning efforts. Please see:

<http://www.westernstateswater.org/wade/>

National Drought Resilience Partnership

In June 2015, a webinar regarding the National Drought Resilience Partnership (NDRP) featured Under Secretary Ann Mills, Deputy for Natural Resources and Environment; Deputy Assistant Secretary Tom Iseman, Water and Science, U.S. Department of the Interior; and Mr. Roger Gorke Senior Policy Advisor, Office of Water, US EPA.

As Deputy Under Secretary for Natural Resources and Environment, Ann Mills has responsibility for the Natural Resources Conservation Service (NRCS), the federal agency with primary responsibility for working with private landowners to conserve, maintain and improve their natural resources. America's farms, ranches and forests provide 87% of the surface supply of drinking water in America. USDA programs play a significant role in protecting the nation's supply of clean abundant water.

The NDRP is a federal interagency partnership (of USDA, NOAA, DOI, FEMA, EPA, DOE and USACE) supporting community drought resilience and response strategies in collaboration with and support of state, local and tribal governments. It is not a disaster response effort, but helps local agencies in drought planning and water management. Please see: <http://www.drought.gov/drought/content/ndrp>

WATER-RELATED DATA RESOURCES

FEDERAL DATA RESOURCES

Federal Toolbox

The Federal Support Toolbox is a comprehensive "one-stop-shop" online water resources data portal with direct links to valuable data, state of the art models and tools for utilization in information sharing and collaboration for the water resources community in the U.S. and internationally. For more information please see:

<http://www.watertoolbox.us>

USGS Water Data for the Nation

Provides access to water-resources data collected at approximately 1.5 million sites in all 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands. For more information please see: <http://waterdata.usgs.gov/nwis>

EPA's EnviroAtlas

Collection of interactive tools and resources that allows users to explore the many benefits people receive from nature, often referred to as ecosystem services. For more information please see: <http://enviroatlas.epa.gov/enviroatlas/atlas.html>

NOAA's National Water Center

Integrated Water Resources Science and Services, which consists of NOAA; the US Geological Survey (USGS); and the Army Corps of Engineers as its initial members, will unify and leverage each agency's expertise and investments to improve water resource forecasts, understand how water moves across the land and rivers, and facilitate creative and informed decision. For more information please see: <http://www.nws.noaa.gov/oh/nwc/>

United States Seasonal Drought Outlook

The National Weather Service's Climate Prediction Center provides monthly reports on the outlook for seasonal drought for the following three months. http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html

USGS Gap Analysis Program

The Gap Analysis Program (GAP) is an element of the U.S. Geological Survey. It has three primary goals: identify conservation gaps that help keep common species common; provide conservation information to the public so that informed resource management decisions can be made; and facilitate the application of GAP data and analysis to specific resource management activities. For more information please see: <http://gapanalysis.usgs.gov/>

NRCS Snow Survey & Water Supply Forecasting Programs:

The Natural Resources Conservation Service's Water and Climate Center provides links to information on snow and water surveys in western states. For more information please see: http://www.wcc.nrcs.usda.gov/partnerships/links_wsfs.html

OTHER DATA RESOURCES

National Drought Mitigation Center US Drought Portal

The National Oceanic and Atmospheric Administration (NOAA) took the lead in implementing the National Integrated Drought Information System (NIDIS), which in turn established the Drought Risk Management Research Center at the National Drought Mitigation Center at the University of Nebraska-Lincoln. The center does research to improve drought monitoring, impacts assessment and risk management in close partnership with NIDIS and its federal, state, tribal and local partners. It has a number of useful tools at its website. For more information please see:

<http://www.drought.gov/drought/>

Drought Impact Reporter

The National Drought Mitigation Center also launched the Drought Impact Reporter (DIR) in July 2005 a comprehensive database of drought impacts. It was updated in 2011; please see: <http://droughtreporter.unl.edu/>

Drought Risk Atlas

The National Drought Mitigation Center Drought Atlas project provides historical drought information and a web-based tool to visualize and assess drought risk.

For more information please see: <http://droughtatlas.unl.edu/>

VegDRI

The National Drought Mitigation Center produces VegDRI in collaboration with the US Geological Survey's Center for Earth Resources Observation and Science and the High Plains Regional Climate Center. VegDRI maps are produced every two weeks and provide regional to sub-county scale information about drought's effects on vegetation for the entire country except Alaska and Hawaii; please see:

<http://vegdri.unl.edu/>

Open Water Data Initiative

Integrates currently fragmented water information into a connected, national water data framework and leverage existing systems, infrastructure and tools to underpin innovation, modeling, data sharing, and solution development. For more

information please see: <http://acwi.gov/spatial/owdi/>

Open Water Foundation (nonprofit social enterprise)

The Open Water Foundation (OWF) is a nonprofit social enterprise that is working to to apply an open source software business model to water resource software, so that organizations have well-maintained tools to address important water problems. For

more information please see: <http://openwaterfoundation.org/>

StreamStats

A Web application that incorporates a Geographic Information System (GIS) to provide users with access to an assortment of analytical tools that are useful for a variety of water-resources planning and management purposes, and for engineering and design purposes. For more information please see: <http://streamstats.usgs.gov>

Water Data Exchange (WaDE) Program

The Water Data Exchange (WaDE) Program will enable the western states to share important water data with each other, federal agencies and the public. It also seeks to improve the sharing of federal water datasets that support state water planning efforts. For more information please see: <http://www.westernstateswater.org/wade>

Western Landscapes Explorer

Oregon State University provides its Western Landscapes Map Viewer, which gives access to data and maps of natural resources in the west, please see: <http://westernlandscapesexplorer.info/>

Google Earth Engine

Google Earth Engine satellite imagery and makes satellite imagery available online and provides tools to allowing users to observe changes and trends on the Earth's surface; please see: <https://earthengine.google.org/#intro>

AVAILABLE WATER-RELATED RESOURCES

FEDERAL RESOURCES

Bureau of Reclamation

The largest wholesaler of water in the country, it brings water to more than 31 million people, and provides irrigation water for farmland that produces 60% of the nation's vegetables and 25% of its fruits and nuts. It is also the second largest producer of hydroelectric power in the United States, providing more than 40 billion kilowatt hours annually. Its new Drought Response Program assists water users in drought contingency and resiliency planning. For more information please see: <http://www.usbr.gov/drought/index.html>

Department of Defense

The DoD is taking actions to enhance water security, including investments in energy efficiency, new technologies, and renewable energy sources, that will increase the resiliency of installations and help mitigate the effects of water scarcity. For more

information please see:

www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf

EPA

The Climate Resilience Evaluation and Awareness Tool (CREAT), developed under EPA's Climate Ready Water Utilities initiative, assists drinking water, wastewater, and stormwater utility owners and operators in assessing risks to utility assets and operations. For more information please see:

<http://water.epa.gov/infrastructure/watersecurity/climate/creat.cfm>

National Oceanic and Atmospheric Administration

The NOAA's National Weather Service produces the U.S. Drought Monitor (USDM,) a weekly summary of current drought conditions. The consensus assessment is presented on the USDM map. For more information please see:

<https://www.ncdc.noaa.gov/news/>

National Resources Conservation Service

Part of the U.S. Department of Agriculture, NRCS provides farmers and ranchers with financial and technical assistance to voluntarily employ conservation methods. Its website includes a number of water management and drought-related conservation practices. For more information please see:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/about/>

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/?cid=stelprdb1075332>

Presidential Executive Orders Relevant to Water Issues

Executive Order -- Planning for Federal Sustainability in the Next Decade

<https://www.whitehouse.gov/the-press-office/2015/03/19/executive-order-planning-federal-sustainability-next-decade>

U.S. Army Corps of Engineers

The USACE's Remote Sensing/Geographic Information Systems Center supports Corps Divisions and Districts, ERDC laboratories, DoD, States, Regulatory Agencies, non-governmental organizations and private industry in navigation, flood and coastal storm damage reduction, hydropower, regulatory, environment, emergency management, recreation and water supply. Its Institute for Water Resources studies and evaluates water resources policy issues; conducts national-scope studies on water resources development; examines potential new civil works missions; performs program analysis and evaluation studies; researches and develops techniques to address economic, social, institutional, and environmental issues; trains and technically assists in the use of formulation and evaluation approaches; and develops and maintains navigation planning data bases and models. USACE offers many

different resources to its customers, including reference, interlibrary borrowing, Internet and database searching, regulations and policy, and maps for review and downloading, some of which are open to the public. For more information please see:

<http://www.usace.army.mil/About/CentersofExpertise.aspx>

<http://www.usace.army.mil/Library.aspx>

USDA Disaster and Drought Information

The United States Department of Agriculture is working with producers, communities, affected states and other agencies to help address the current west-coast drought. USDA's website outlines programs and services available through USDA, coordinated with the seven agencies of the National Drought Resilience Partnership. For more information please see:

http://www.usda.gov/wps/portal/usda/usdahome?navid=DISASTER_ASSISTANCE

US Forest Service

USFS manages and protects 154 national forests and 20 grasslands in 44 states and Puerto Rico. It has an elite wildland firefighting team and the world's largest forestry research organization. It provides technical and financial help to state and local government agencies, businesses, private landowners and works government-to-government with tribes to help protect and manage non-federal forest and associated range and watershed lands. USFS manages the largest single source of water in the U.S., with about 18% originating from 193 million acres of land. Water and watershed resource specialists support stewardship to promote healthy, sustainable watersheds. For more information please see:

<http://www.fs.fed.us/biology/watershed/index.html>

US Geological Survey

USGS Water's mission is to collect and disseminate reliable, impartial, and timely information that is needed to understand the Nation's water resources. For more information please see:

<http://www.usgs.gov/water/>

WestFAST

The Western States Federal Agency Support Team (WestFAST) is a collaboration among 12 Federal agencies with water management responsibilities in the West. WestFAST was established to support the Western States Water Council (WSWC), and the Western Governors Association (for more information on both of which, see below) in coordinating Federal efforts regarding water resources; please see:

<http://www.westernstateswater.org/westfast/>

STATES

State of Arizona Department of Water Resources

ADWR ensures long-term, reliable water supplies to support the continued economic prosperity of the State. ADWR's Drought Program takes a statewide approach to drought preparedness and response through several programs: planning and reporting for water providers; drought monitoring; local drought planning; interagency coordination. For more information please see:

<http://www.azwater.gov/azdwr/default.aspx>

<http://www.azwater.gov/AzDWR/StatewidePlanning/Drought/default.htm>

State of California Department of Water Resources

The Department of Water Resources (DWR) is responsible for managing and protecting California's water. It produces The California Water Plan every five years (most recently in 2013) that presents the status and trends of California's water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the plan help identify effective actions and policies for meeting California's resource management objectives both in the near- and long-term. The Department also provides significant information regarding the State's drought conditions. For more information please see:

<http://www.water.ca.gov/>

<http://www.waterplan.water.ca.gov/>

<http://www.water.ca.gov/waterconditions/waterconditions.cfm>

State of Nevada Division of Water Resources

The mission of NDWR is to conserve, protect, manage and enhance the State's water resources through the appropriation and reallocation of the public waters. The Division also quantifies existing water rights; monitors water use; distributes; reviews water availability for new residential development; reviews the construction and operation of dams; appropriates geothermal water; licenses and regulates well drillers and water rights surveyors; reviews flood control projects; monitors water resource data and records; and provides technical assistance to the public and governmental agencies. Its Water Planning Program assisted in the production of the 2012 State Drought Plan. For more information please see:

<http://water.nv.gov/>

<http://water.nv.gov/programs/planning/StateDroughtResponsePlan2012.pdf>

State of New Mexico Office of the State Engineer

The Office of the State Engineer is charged with administering the state's water resources. The State Engineer has authority over the supervision, measurement, appropriation, and distribution of all surface and groundwater in New Mexico, including streams and rivers that cross state boundaries. The State Engineer is chair of the Governor's Drought Task Force and Secretary of the Interstate Stream Commission, which investigates, protects, conserves, and develops both interstate and intrastate stream systems. The Commission also negotiates with other states to settle interstate stream controversies. Its staff analyze, review, and implement projects and analyze streamflow, reservoir, and other data on the stream systems. The Commission also investigates and develops the water supplies of the state. For more information please see:

<http://www.ose.state.nm.us/index.php>

<http://www.nmdrought.state.nm.us/>

<http://www.ose.state.nm.us/ISC/index.php>

State of Utah Division of Water Resources

The Division of Water Resources is part of the Utah Department of Natural Resources and acts as the water resources planning and development lead for the State. The Board of Water Resources is the policy-making body of the Division. The Division protects the State's rights to interstate waters, provides comprehensive water planning and manages water resource project construction programs. The Division produces both statewide and individual basin water plans. For more information please see:

<http://water.utah.gov/>

<http://www.water.utah.gov/Planning/PlanningPage2.html>

OTHER RESOURCES

American Water Resources Association

The principal objectives of the Association are advancing water resources research, planning, development, management, and education; establishing a common meeting ground for physical, biological, and social scientists, engineers, and other persons concerned with water resources; and collecting, organizing, and disseminating ideas and information in the field of water resources science and technology. For more information please see: <http://www.awra.org/>

National Drought Resilience Partnership

The National Drought Resilience Partnership, an interagency partnership, works to help communities, businesses, farmers and ranchers to access Federal drought resources, and to link information such as monitoring, forecasts, outlooks, and early warnings with longer-term drought resilience strategies in critical

sectors such as agriculture, municipal water systems, energy, recreation, tourism and manufacturing. For more information on drought and the National Drought Resilience Partnership, please visit

<http://www.drought.gov/drought/content/ndrp>

National Integrated Drought Information System (NIDIS)

The National Integrated Drought Information System (NIDIS) implementation efforts include: developing the U.S. Drought Portal; integrating and fostering coping strategies through research, preparedness, education and public awareness; integrating data and predictions; and developing pilot programs for design and implementation of early warning systems in selected locations. For more information please see: <http://www.drought.gov/drought/>

WGA Drought Forum

Through the Western Governors' Drought Forum, WGA has collected best practices, case studies and the insights of western leaders on drought response and management. These resources are collected in the Drought Forum online resource library, which is accessible at <http://westgov.org/drought-forum>

Western States Water Council

The Western States Water Council consists of representatives of 18 western states. The Council's purposes are: "(1) to accomplish effective cooperation among western states in the conservation, development and management of water resources; (2) to maintain vital state prerogatives, while identifying ways to accommodate legitimate federal interests; (3) to provide a forum for the exchange of views, perspectives, and experiences among member states; and (4) to provide analysis of federal and state developments in order to assist member states in evaluating impacts of federal laws and programs and the effectiveness of state laws and policies." Please see:

<http://www.westernstateswater.org/>

Available reports:

<http://www.westernstateswater.org/publications/>

- "Water Laws and Policies for a Sustainable Future: A Western States' Perspective" (2008)

<http://www.westernstateswater.org/wp-content/uploads/2012/10/laws-policies-report-final-with-cover.pdf>

US Water Alliance

The U.S. Water Alliance, a 501(c)(3), established in 2008, emphasizes the importance and value of each aspect of the water cycle and promotes more integrated, sustainable management of water and watersheds. For more information please see:

<http://uswateralliance.org/>

National Tribal Water Council

The NTWC was established to advocate for the best interests of federally-recognized Indian and Alaska Native Tribes, and Tribally-authorized organizations, regarding water. It has published a number of white papers on the issue. For more information please see:

<http://nationaltribalwatercouncil.org/>

<http://nationaltribalwatercouncil.org/issues/>