

Western States Federal Agency Support Team (WestFAST) is a collaboration between 13 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 (WGA) in coordinating Federal efforts regarding water issues.

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WestFAST News

May 2016

WestFAST Agencies Review Next Steps Toward National Soil Moisture Network

On May 24-26, the USDA's Natural Resources Conservation Service (NRCS), the National Integrated Drought Information System (NIDIS) led by NOAA, DOI's U.S. Geological Survey (USGS), and Texas A&M University held a National Soil Moisture Network (NSMN) workshop in Boulder, Colorado. The purpose of the workshop was to discuss the continued development of a coordinated national network focused on soil moisture. The May workshop was a follow-up to an initial gathering of the participating agencies in Kansas City in November 2013. Participating agencies reviewed the progress made since the Kansas City workshop, approaches to continue and improve coordination of the network and integration of soil moisture data, and identifying both short, mid, and long-term goals.

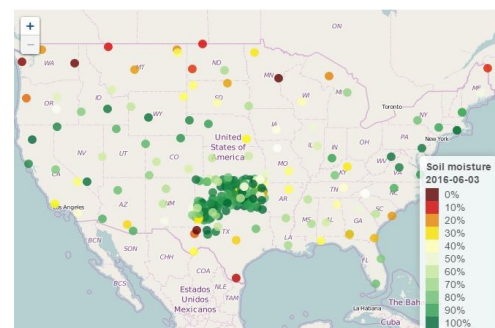
The workshop and development effort is part of the National Drought Resilience Partnership (NDRP), which is part of the President's Climate Action Plan. The NDRP Federal Action Plan calls for Federal Agencies to share data and information related to drought, including soil moisture data, with State, regional, tribal, and local officials to strengthen decision-making to support more adaptive responses to drought and drought risk.

Soil Moisture is a key piece of the hydrologic observational data. These data are critical for assessing not only drought conditions, but also for assessing flood potential, estimating crop yields, developing hydrologic models, and to assess the impacts of climate change.

Significant progress was reported during the workshop on a NSMN pilot study initiated after the 2013 Kansas City workshop. The pilot study looked at ways to deliver information on volumetric water content for use by the U.S Drought Monitor program from multiple data network sources. The pilot study has succeeded in gathering metadata and establishing web services for multiple mesonet and climate networks, and developing an interactive map to disseminate the combined data. The study also found obstacles that need to be overcome in the development of a national network including finding that many major in-situ soil moisture networks do not currently serve soil moisture data via web services and that some existing services have little documentation or easily-

accessible meta data.

Workshop participants discussed future direction and approach for a coordinated NSMN—identifying next steps including potential roles of the coordinating agencies and need for additional support from other Federal, State, and academic entities.



National Soil Moisture Network polite study map interface. Click on the map to learn more about pilot study results.

WestFAST members Mike Strobel, USDA-NRCS Director of the National Water and Climate Center, and Roger Pulwarty, NIDIS Director are key coordinators of this effort.

USGS Study Shows Groundwater Plays Large Roll in Colorado River Basin (USGS, 5/9)

More than half of the streamflow in the Upper Colorado River Basin originates as groundwater, according to a new USGS study published today in the journal *Water Resources Research*.

The entire Colorado River Basin currently supports 50 million people. On average, 90 percent of streamflow in the Colorado River Basin originates in the Upper Basin, which is the area above Lees Ferry, Arizona. This water has a multitude of uses that include irrigation, municipal and industrial purposes, electric power generation, mining activities, recreation, and supporting habitat for livestock, fish and wildlife.

Scientists used a new method to more accurately estimate the percentage of groundwater that supports streamflow. Researchers studied long-term records of water chemistry and streamflow data at 146 sites in the Upper Colorado River Basin in Colorado, Utah, New Mexico and Arizona. These data were then analyzed to create a model to predict and map where streamflow originates in the basin. On average, 56 percent of the streamflow in the basin originated from groundwater.



“These findings could help decision makers effectively manage current and future water resources in the Colorado River Basin,” said Matthew Miller, a USGS scientist and the lead author of the study. “In light of recent droughts, predicted climate changes and human consumption, there is an urgent need for us all to continue to think of groundwater and surface water as a single resource.”



The Colorado River near Moab, Utah (M. Miller Matt Miller, USGS)

The model estimates the amount of water lost during stream transport to the Lower Colorado River Basin, which is due largely to withdrawals for irrigation and evaporation to the atmosphere. In the high elevation headwaters of the Colorado River Basin, there is a great-

er percentage of snowmelt and precipitation contributing to the surface-water streamflow. As water flows further into the basin at lower elevations, a greater percentage of streamflow is from groundwater.

These results provide a modeled snapshot of present-day groundwater and surface water conditions at a regional scale and will serve as a foundation for future studies that predict groundwater response to climate and human induced change.

“This is a step in the right direction to further our ability to address regional to global scale water management challenges in both the Upper Colorado River Basin and other watersheds throughout the world,” said Miller.

Water data were analyzed using the USGS Spatially Referenced Regressions on Watershed attributes (SPARROW) water-quality modeling framework. Information on SPARROW modeling applications, data and documentation can be accessed online.

The study was conducted by the USGS WaterSMART initiative and the USGS National Water Quality Assessment Project of the National Water Quality Program.

WestFAST provided a briefing on study results to Federal Water Resource Agencies and to the Western States Water Council (WSWC) staff and members in a briefing in it's May Special Topics Webinar. The presentation, lead by principal study author Matt Miller, was recorded and is available at the [WestFAST webpage](#).

EPA Report Shows Nearly Half of Nation's Wetlands in Good Health *(EPA, 5/11)*

The U.S. Environmental Protection Agency (EPA) released the first-ever National Wetland Condition Assessment, showing that nearly half of the nation's wetlands are in good health, while 20 percent are in fair health and the remaining 32 percent in poor health.

The National Wetland Condition Assessment is part of a series of National Aquatic Resource Surveys designed to advance the science of coastal monitoring and answer critical questions about the condition of waters in the United States.

“America's wetlands are vital for reducing water pollution, reducing flooding, providing habitat for fish and wildlife, offering recreation-

al opportunities, and contributing goods to economy,” said Joel Beauvais, Deputy Assistant Administrator for EPA's Office of Water. “We know that protecting our wetlands is a critical component of adapting to climate change impacts like flooding and managing pollution and nutrients damaging our country's water quality,”

Physical disturbances to wetlands and their surrounding habitat such as compacted soil, ditching, or removal of plants, are the most widespread problems across the country, and nonnative plants are also an issue particularly in the Interior Plains and West.

EPA conducted the National Wetland Condition Assessment in partnership with state environmental agencies and other federal agencies, including the Natural Resource Conservation Service and U.S. Fish and Wildlife Service. The assessment supplements the U.S. Fish and Wildlife Service's Status &



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Trends program, which has been documenting changes to the extent of wetland area in the U.S. for more than 30 years. EPA's collaboration with states and other federal agencies on the National Wetland Condition Assessment catalyzed and dramatically accelerated state efforts to monitor and assess wetlands.

Taken together, these surveys increase understanding of these dynamic, extremely important ecosystems that were once actively removed throughout much of the U.S. With new insight gained over time, the assessment will enable EPA and partners to more effectively manage and protect existing wetlands and hopefully restore some of those that have been lost.

EPA is also launching the National Wetland Condition Assessment Campus Research Challenge today to encourage graduate students to identify and use the data to address one or more key and innovative questions and hypotheses on water quality, wetland health, or wetland ecology. The research may examine relationships nationally, eco-regionally, or for other subpopulations of interest. The challenge closes January 2017 and the winners will be announced March 17, 2017.

Click [here](#) for more information on the assessment.

WestFAST Special Topics Webinar Series Continues in June with Look at “S2S” Precipitation Forecasting

WestFAST representatives collaborate among themselves to improve efficiency in carrying out their agencies' water-related missions. In this role, WestFAST initiated a “Special Topics” Webinar Series to present, and allow discussion on a range of WestFAST federal agency water-resource activities with the objective of improving awareness of and collaboration in water programs.



WestFAST News

May 2016

On June 28th, WestFAST will be briefed on WSWC and NOAA collaborative efforts to develop strategies to improve subseasonal to seasonal precipitation forecasts.

The WSWC believes that the current accuracy of forecasts (generally referred to as forecast skill) for the sub-seasonal to seasonal (S2S) time frame is not adequate to support water management decision-making. S2S forecasts include environmental predictions with forecast ranges from 2 weeks to 12 months.

The WSWC has asked that the federal government prioritize additional resources to move forward with more research, observations, and operational weather modeling to provide necessary support for near-term improvement in S2S precipitation forecasting for water management. The WSWC, the California Department of Water Resources (CDWR), and NOAA have cosponsored a series of workshops to explore this issue and possible pathways toward improvement in S2S precipitation forecasting. WestFAST will be briefed on the results of these workshops and on progress on plans to support improved forecasting. WestFAST will review and discuss the potential benefits of efforts to improve S2S forecasting to their water resource and missions and programs and what support those programs might provide to the effort.

For additional information on participating in this webinar and on previous WestFAST Special Topic Webinars click [here](#).

Federal News

4/4: [New Tool and Knowledge to Aid Columbia Basin Water Managers](#)

5/2: [River Food Webs Threatened by Widespread Hydropower Practice](#)

5/4: [A Warming Climate Could Alter the Ecology of the Deepest Lake in the United States](#)

5/6: [Warm April Contributes to Second Warmest Year to Date for Contiguous U.S.](#)

5/9: [Evidence of Unconventional Oil and Gas Wastewater Found in Surface Waters near Underground Injection Site](#)

5/16: [Reclamation Releases Final Environmental Documents for Sacramento Valley Accelerated Water Transfer and Exchange Program](#)

5/17: [USGS Studies the Impact of Insecticides on Northwestern Clackamas County Streams](#)

5/18: [April Marks 12th Consecutive Month of Record Warmth for Globe](#)

5/18: [Warming Due to Carbon Dioxide Jumped by Half in 25 Years](#)

5/20: [NOAA: Arctic Set for Record-Breaking Melt This Summer](#)

5/18: [Changing California Land Uses will Shape Water Demands in 2062](#)

5/24: [U.S. Fish & Wildlife Service Director Dan Ashe Appoints Paul Souza as Pacific Southwest Regional Director](#)

5/25: [Five Projects will Receive Funding Through the Western Watershed Enhancement Program From Reclamation](#)

5/27: [USGS Crews Measure Flooding in Central and Southeast Texas](#)

5/27: [Odds of Hotter Than Usual Summer are Elevated Across Most of the U.S.](#)

5/31: USGS- [New Methods Developed to Assess Climate Model Predictions](#)

5/31: [EPA Awards Water Pollution Grant to New Mexico](#)

State News

5/5: [Best of the West: Alberta Fire Rages, Excellent Colorado Snowpack, Oregon Standoff Defendants Seek Venue Change](#)

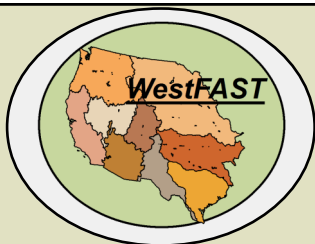
5/10: [Drought Update: California Gov. Brown Cements Some Water Conservation Rules, Eases Others](#)

5/16: [Governors Encourage Development of Western Drought Relief Legislation](#)

5/19: [Best of the West: Lake Mead at Record Low, California Drops Water Rules, Alberta Wildfire Still Spreading, Self-Driving Big-Rigs](#)

Upcoming WSWC Meetings & Events

- June 11-14, 2016, [Western Governors Association Annual Meeting](#), Jackson Hole, WY
- July 12-15 [Western States Water Council 181st \(Summer\) Council Meeting](#), Bismarck, ND



WestFAST News is published monthly. To get an Agency Announcement published or to get added to the WestFAST News distribution list contact:

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Check out the WestFAST Web Site: <http://www.westernstateswater.org/westfast>