

**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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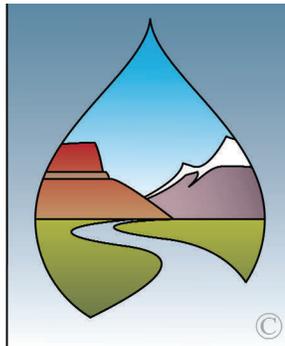


## WSWC Held Fall Meeting in St. George, Utah

(WSWC/WestFAST 10/7/16)

The Western States Water Council (WSWC) held its 182<sup>nd</sup> meetings on September 28-30, in St. George, Utah.

With the departure of J.D. Strong (OK), Tim Davis (MT) was elected as the new Secretary-Treasurer. The WSWC revised and re-adopted three sunseting positions that: (1) urge the Administration and NASA to enhance focus on research for water resources applications; (2) express continuing support for implementation of the SECURE Water Act; and (3) support legislation and administrative solutions to allow the federal government to pay state filing fees in state general stream adjudications. A position urging Congress to enact legislation to clarify that pesticide applications performed in compliance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) are not subject to National Pollutant Discharge Elimination System (NPDES) permitting was allowed to sunset. In addition, there were a number of topics discussed. –Details of the meeting may be found [here](#).



## USGS & USFS Release New Rangeland Fire Science Plan

(USGS & USFS 10/31/17)

The U.S. Department of the Interior released a new [science plan](#) (link is external) that will serve as an action-oriented blueprint for acquiring information needed to make science-based decisions to restore and conserve the imperiled 'sagebrush sea,' a roughly 500,000-square-mile-area of sagebrush steppe habitat across western North America.

The planning team includes experts from the Department of the Interior, the Department of Agriculture (USDA), the Great Basin and the Great Northern Landscape Conservation Cooperatives, the Joint Fire Science Program (link is external), and the Western Association of Fish Wildlife Agencies. The U.S. Geological Survey (USGS), Bureau of Land Management (BLM), and U.S. Fish and Wildlife Service (USFWS) participated from the Department of the Interior. The Forest Service (USFS), Natural Resources Conservation Service (NRCS), and Agriculture Research Service participated from the -USDA.

The science plan identifies 37 priority science needs that address knowledge gaps in five topic areas: fire; invasive plants; restoration; sagebrush and greater sage-grouse; and climate and weather. Led jointly by the USGS and the USFS, the plan is a critical step forward in the implementation of Secretary of the Interior Sally Jewell's 2015 Integrated Rangeland Fire Management Strategy (link is external). The goal of that Strategy is to reduce the size, severity and cost of rangeland fires; address the spread of cheatgrass and other invasive species that exacerbate the threat of fire; position fire-management resources for more effective rangeland fire response and effectively restore healthy rangeland landscapes.

"We know that addressing the threat of rangeland fire is critical to conserving sagebrush habitat and the many species, including the greater sage grouse that depend on it for survival. The science plan unveiled today helps us do just that," said Interior Secretary Sally Jewell. "With so much at stake, both ecologically and economically, we are committed to the plan's successful implementation and continued collaboration with states, scientists, resource managers, western communities, ranchers and farmers."

Across the West, the accelerated invasion of non-native grasses, coupled with the effects of intensified drought and climate change, are creating conditions that lead to large, intense rangeland fires. These fires can easily burn thousands of acres in an hour, destroying livelihoods and crucial sagebrush habitat that is home to the greater sage-grouse and more than 350 other species of wildlife.



Secretary Jewell and USDA Secretary Tom Vilsack have worked closely with western states, federal agencies, ranchers, community leaders and other partners to improve management of sagebrush landscapes, with a particular focus on rangeland fire-fighting capacity and the encouragement of proactive partnerships with ranchers, farmers, rural communities and other landowners.

“It is imperative that our producers have the best science available to inform their decisions, and that our federal plans are also based upon well-vetted research,” said Secretary Vilsack. “Balancing conservation with agricultural demands is no easy task. The decisions Western farmers and ranchers and other private landowners make every day about what to do on their land have a critical impact on sage grouse. Thanks to the commitment of more than 1,300 ranchers, we have already conserved over 5 million acres of land as a part of this effort and USDA has invested more than \$400 million to reach \$760 million with our partners through 2018. By ensuring we are collecting the best science, we can be sure that our dollars are being put to their best use for this effort.”

“The USGS is proud to be part of the collaborative process toward improving the management of sagebrush landscapes,” said Suzette Kimball, Director of the USGS. “Research and management partnerships are critical to ensure science is addressed in a manner that is both relevant to management and scientifically credible.”

For example, this science plan identifies research activities to continue improvement of native plant restoration and landscape rehabilitation after fires, including new and improved seeding methods. Greater sage-grouse and other wildlife depend on native plant communities for food and habitat. The interagency team incorporated research planning already completed over the past five years, and invited broad community participation toward identifying science priorities. For each of the 37 science needs that were identified, sub categories of those needs have been further outlined, including a presentation of recently completed science, related science, science that is lacking but needed for more effective management and then recommendations for next steps.

The Integrated Rangeland Fire Management Strategy Actionable Science Plan can be viewed [here](#). ([link is external](#))

Greater sage-grouse inhabit parts of 11 U.S. states and 2 Canadian provinces in western North America. Implementation of effective management actions for the benefit of sage-grouse continues to be a focus of Interior agencies following the 2015 decision by the USFWS that the species is not warranted for listing under the Endangered Species Act.

**The entire news release can be read at the [DOI Newsroom](#) ([link is external](#))**

## NOAA’s GOES-R Weather Satellite Readies for Historic Launch *(NOAA 10/4/16)*

October 4, 2016, in just 30 days, the first of NOAA’s long-awaited, next-generation geostationary weather satellites launches into space, paving the way for faster, more accurate forecasts and warnings. The Geostationary Operational Environmental Satellite-R, known as GOES-R, is scheduled to launch Nov. 4 at approximately 5:40 p.m. EDT from Cape Canaveral, Florida, aboard an Atlas V 541 rocket.



*Atlas V / GOES-R (Spaceflight 101)*

Full article here <http://www.noaa.gov/media-release/noaa-s-goes-r-weather-satellite-readies-for-historic-launch>.

## High Flow Experiment at Glen Canyon Dam *(BOR 10/27/16)*

Page, Ariz. – The Bureau of Reclamation will increase water releases from Glen Canyon Dam beginning on Monday, November 7, 2016 to support a high flow experiment (HFE) in partnership with the National Park Service (NPS), USFWS and USGS -. This high flow experiment will include a peak magnitude release of approximately 36,000 cubic feet per second (cfs) for 96 hours to move accumulated sediment downstream to help rebuild beaches and backwater habitats. The decision to conduct this HFE was made following substantial consultation with Colorado River Basin states, American Indian tribes and involved federal and state agencies.

Reclamation and NPS officials remind recreational users to use caution along the Colorado River through Glen and Grand Canyons during the entire week of November 7. Flow level information will be posted at multiple locations in both Glen Canyon National Recreation Area and Grand Canyon National Park. Note that it will take several hours following



the beginning to end of the HFE for high flow waters to reach and then recede at downstream locations in the canyons.

HFE benefit the Colorado River ecosystem through Glen and Grand Canyons by moving sand in the river channel and re-depositing it in downstream reaches as sandbars and beaches. Those sandbars provide habitat for wildlife, serve as camping beaches for recreationists and supply sand needed to protect archaeological sites. High flows may also create



*Glen Canyon Dam bypass tubes during 2008 HFE (BOR)*

backwater areas used by young native fishes, particularly the endangered humpback chub.

The HFE will not change the total annual amount of water released from Lake Powell to Lake Mead. Releases later in the water year will be adjusted to compensate for the high volume released during this HFE.

## Every Kid in a Park (NPS/WestFAST 10/1/16)

If you have a fourth grader (or home-school equivalent and 10 years old), he/she can participate in a fun online activity and receive a voucher for a free 4th Grade Annual Pass. Print out the voucher and take it with you and your family to a national park, where they can serve as an ambassador and introduce your family to the National Park System. This program, called Every Kid in a Park, begins September 1st of their fourth grade year and runs until August 31st of that year. National parks and other federal lands and waters all across America are excited to share their heritage with young people.

Get your pass here:  
<https://www.nps.gov/kids/features/2015/everyKid.cfm>.



## NASA Awards Contract for Sustainable Land Imaging Spacecraft (NASA 10/25/16)

The National Aeronautics and Space Administration (NASA) has awarded a delivery order under the Rapid Spacecraft Acquisition III (Rapid III) contract to Orbital Sciences Corporation of Dulles, Virginia, known publicly as Orbital ATK, for the [Landsat 9](#) spacecraft.

This contract is a 5-year, firm fixed-price delivery order for the purchase of the Landsat 9 spacecraft in the amount of \$129.9 million. Orbital will design and fabricate the spacecraft, integrate the mission's two government-furnished instruments, and conduct satellite-level testing, in-orbit satellite checkout, and mission operations support. The work will be performed at the contractor's facilities and at the launch site at Vandenberg Air Force Base in California.

The spacecraft will extend the [Landsat](#) program's record of land images to half a century. Landsat has provided accurate, 98-foot (30-meter) resolution, multi-spectral, global measurements of Earth's land cover since 1972, building a freely available archive of more than six million satellite images. With data from Landsat satellites, ecologists have tracked deforestation in South America, water managers have monitored irrigation of farmland in the American West, and researchers have watched the growth of cities worldwide.





Landsat 9 is a cornerstone of our nation's multi-satellite, multi-decadal, Sustainable Land Imaging (SLI) program. SLI is a NASA (USGS) partnership to develop, launch, and operate a spaceborne system that will provide researchers and other users with high-quality, global, continuous land-imaging measurements. These data are compatible with the 44-year Landsat record and will evolve through introduction of new sensor and system technologies.

NASA will build, launch, and perform the initial check-out and commissioning of the satellite. USGS will operate Landsat 9 and process, archive, and freely distribute the mission's data. The Rapid III contract provides a rapid and flexible means to procure spacecraft in support of the scientific and technology development goals of NASA and other federal government agencies.



*Landsat Thematic Mapper (USGS)*

For information on NASA and agency programs, visit: <https://www.nasa.gov>

## Large Precipitation Events Critical in Replenishing Groundwater *(USGS 10/11/16)*

Large precipitation events that occur about every 10 years are a critical source of recharge for replenishing groundwater resources, according to a [new study](#) by the USGS and the Bureau of Reclamation. Groundwater is a vital source of water in the western United States, and will be increasingly important with continued population growth and climate variability. Understanding the role of these large recharge events in replenishing aquifers and sustaining water supplies is crucial for long-term groundwater management.

This is one of the first studies in the region to investigate the effects of climate on groundwater resources. USGS scientists identified and analyzed large, multi-year, quasi-decadal groundwater recharge events in the northern Utah portion of the Great Basin from 1960 to 2013. Researchers evaluated groundwater levels and climate information and identified five large recharge events with a frequency of about 11 to 13

years. Findings show these events provide a significant amount of groundwater recharge and storage across the northern Great Basin, causing water levels to rise in aquifers.

"Informed decisions for water management now and in the future rely on understanding the surface and groundwater resources within a river basin," Reclamation's Subhrendu Gangopadhyay said. "Understanding historical groundwater recharge provides context to better manage groundwater in the future under a variable climate."

There has been a considerable amount of research linking climatic variability to hydrologic responses; however, most of these studies focus on surface-water resources. The implications of this work indicate if the magnitude or frequency of these recharge events change there will be significant im-



*Great Basin area in the northern Snake Range near the Utah/Nevada border. (USGS)*

pacts on groundwater, specifically long-term availability, use and sustainability.

"These large recharge events are vital in replenishing and maintaining groundwater storage, especially after multiple years of below average precipitation across the region," said USGS scientist and lead author of the study, Melissa Masbruch. "Without them, groundwater resources become depleted."

Large groundwater recharge events are characterized by above-average annual precipitation and below-average seasonal temperatures, especially during the spring (April through June). Existing groundwater flow models were used to simulate changes in groundwater storage in several basins throughout the study area from these events.



## It's Called a Remote Automated Weather Station, or RAWS *(KBOI/WestFAST 10/4/16)*

The Remote Automatic Weather Stations (RAWS) system is a network of weather stations run by the USFS and BLM and monitored by the National Interagency Fire Center, mainly to observe potential wildfire conditions. The information from these weather stations is also made available to the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service and firefighters from interagency teams in real time. Unlike the automated airport weather stations which are located at nearly every airport large and small, RAWS stations are often located in remote areas, particularly in national forests. Because of this, they usually are not connected to the electrical grid, but rather have their own solar panels, and a battery to store power for overnight reporting. Some instead run on an generator. In both cases, data important to operating the station itself, such as battery voltage or fuel level, is often included in the hourly reports. The data are also posted to the internet to be used publicly.



*RAWS Weather Station - KBOI, Boise, ID*

## Federal News

[10/03: Reclamation Provides Technical Assistance Funding Opportunity to Tribes](#)

[10/3: Reclamation Provides Technical Assistance Funding Opportunity to Tribes](#)

[10/04: C Flume Groundbreaking Held in Klamath](#)

[10/05: Study finds fossil fuel methane emissions greater than previously estimated](#)

[10/05: Bureau of Reclamation Science and Technology Investments Total \\$10.9 Million in 2017](#)

[10/5: Bureau of Reclamation Science and Technology Investments Total \\$10.9 Million in 2017](#)

[10/6: U.S. EPA recognizes five WaterSense award winners in California and Nevada for 2016](#)

[10/11: Large Precipitation Events are Critical in Replenishing Groundwater Resources](#)

[10/14: Corps and Reclamation Release Final Environmental Impact Statement for Lower Yellowstone Fish Passage](#)

[10/17 BLM Completes Comprehensive Update of Its Oil and Gas Measurement Rules](#)

[10/17: Scientists Assess 100 years of Los Angeles Groundwater Replenishment](#)

[10/19: USDA Publishes Final Rule for the Agricultural Conservation Easement Program](#)

[10/19: USDA Publishes Final Rule for the Agricultural Conservation Easement Program](#)

[10/20: California Forests, Air, Wildlife and More Benefit from \\$88 Million EQIP Investment](#)

[10/21: Stop logs installed at Hoover Dam](#)

[10/22: Dotsero Landing project secures additional funding through Land and Water Conservation Fund](#)

[10/24: U.S. EPA approves Pala Band of Mission Indians authority to develop water quality standards](#)

[10/25: EPA announces \\$5.6 Million for Environmental Improvements on Tribal Lands in Nevada](#)

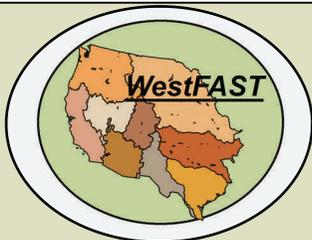
[10/25: EPA announces \\$13 Million for Environmental Improvements on Tribal Lands in Arizona](#)

[10/25: U.S. EPA Announces \\$28 Million for Environmental Improvements on Tribal Lands in California](#)

[10/25: EPA announces \\$16 Million for Environmental Improvements on Navajo Nation](#)

[10/25: NOAA awards \\$10.44 million in coastal science research funding](#)

[10/27: EPA Launches New Guide for Long-Term Stormwater Planning, Names Five Pilot Communities](#)



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