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

January 2015

WestFAST Kicks Off New 2015 Web Seminar Series

The WestFAST collaboration looks for opportunities to improve the execution of Federal and State water policies and programs to better preserve and manage water in the West. As part of an effort to improve awareness and coordination of federal interagency cooperative work in these areas, WestFAST has initiated a monthly "Special Topics" online seminar series.

The new webinar series will provide updates and allow discussion on a range of federal agency water-resource activities. WestFAST is currently working on a number of high-priority projects including building resilience for drought, better coordination on data availability and interoperability, and facilitating better communication over all among federal partners. This new series is an opportunity for interagency exchange, education and outreach on programs pertaining to priority water resources availability, development and utilization issues.

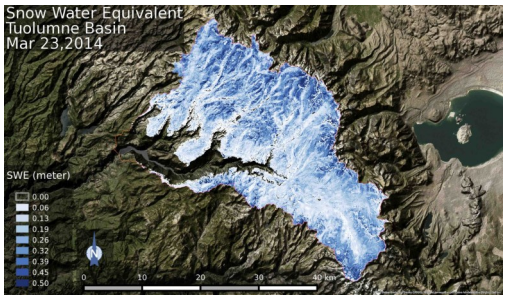
The new series kicked off January 29th, 2015 with an update and look at future directions of the National Integrated Drought Information System or NIDIS. Roger Pulwarty, NIDIS Director, led the presentation reviewing accomplishments and progress including supporting cross-regional efforts to assess drought information needs and testing drought-focused decision support tools. Dr. Pulwarty also reported on ongoing work and new directions in NIDIS to develop new pathways to drought monitoring and predictability, concepts for a coordinated national soil moisture network, and enhancements to the U.S. Drought Portal. Dr. Pulwarty was assisted in the presentation by Veva Deheza NIDIS Deputy Director, and Kevin Werner, NOAA National Climate Data Center Western Regional Climate Services Director.

In 2015, WestFAST will host Special Topic Webinars on the last Thursday of the month. Announcements of seminar topics will be distributed by WestFAST team members. If you are interested in attending these presentations, you may contact any of the WestFAST members or Patrick Lambert the WestFAST Federal Liaison (patlambert@wswc.utah.gov).

NASA's Jet Propulsion Laboratory: Providing Crucial Water Data

NASA's Jet Propulsion Laboratory (JPL), known to the world for planetary science and fantastic Martian rovers, also produces science and data for those of us here on Earth. Along with observations of earthquakes, volcanoes, vegetation and other features on the Earth, JPL utilizes satellite and airborne sensors to study global water resources. These sensors provide observations across the water cycle that can complement existing networks to fill gaps in information, adjust models, monitor trends and understand changes over all landscapes, no matter how remote.

In order to realize the societal benefit of these data, NASA-JPL research scientists are working with stakeholders in the western U.S. to better understand regional water management challenges and where NASA earth science observations can be used to provide value in water resources decision-making. Two recent examples of inter-agency cooperation include monitoring and assessing subsidence rates in California's Central Valley in support of California drought response efforts and the Airborne Snow Observatory (ASO). The Central Valley subsidence project processes data from a radar sensor to measure very small changes in the height of the earth's surface. This change shows rising or falling of the surface and is being used by the California Department of Water Resources to estimate rates of subsidence in the Central Valley and to identify new regions of subsidence. This work was recently featured in the California Drought Response report and press release, and in a Chapman conference report.



Example of ASO Snow-Water-Equivalent data from the Tuolumne Basin, CA during the 2014 snow year.

Not only is NASA-JPL keeping an eye on the disappearing water table but also providing data about water to come, i.e. snow. Recent

droughts highlight the need for better information, especially at higher elevations where in situ sensors are sparse or non-existent. The NASA-JPL Airborne Snow Observatory is a joint NASA-JPL project with the California Department of Water Resources, Denver Water, and NOAA's Colorado River Basin Forecast Center. The ASO took data over the Tuolumne Basin during the 2014 snow year and has since expanded its geographic extent to include the Uncompahgre Basin in the Rockies. More information can be found at the ASO website.

In part because of the success of the projects mentioned above, NASA-JPL is in the planning stages of launching an a new initiative on Snow and Water Availability to apply NASA science and observations to management challenges in the western U. S. One of the primary objectives of the initiative is to interact with water agency stakeholders in the western U. S. to better respond to needs and requirements of management agencies. The initiative is expected to launch in October 2015 and the developers are looking for feedback and input from the user community, this is an excellent opportunity to help inform the creation of the initiative.

USGS Completes Summary of the Quality of the Nation's Groundwater

The recently completed national summary report of the quality of the Nation's groundwater is now available online. Nine associated reports (USGS circulars) detail regional-scale assessments of groundwater quality in about 30 of the most heavily used principal aquifers across the U. S.

"Through the WaterSMART initiative and the National Water-Quality Assessment Program, the Department of the Interior is working to secure sustainable water supplies of sufficient quantity and quality and to identify measures needed to address climate change and future demands," said Jennifer Gimbel, Principal Deputy Assistant Secretary of the U.S. Department of the Interior. "The integrated work that USGS is doing to map groundwater availability, groundwater quality, and the potential for contamination will give us the information we need to understand natural and human effects on groundwater and to take the actions needed to protect this vital natural resource."

Over the last two decades, USGS scientists have assessed water quality in source (untreated) water from 6,600 wells in extensive regional aquifers that supply most of the groundwater pumped for the Nation's drinking water, irrigation, and other uses. This comprehensive sampling, along with detailed information on geology, hydrology, geochemistry, and chemical and water use, can be used to explain how and why aquifer vulnerability to contamination varies across the Nation.

National findings documented in the report include:

- More than one in five (22 percent) groundwater samples contained at least one contaminant at a concentration of potential concern for human health.
- Contaminants from geologic sources—primarily manganese, arsenic, and radon—accounted for about 80 percent of contaminant concentrations that exceeded a human-health benchmark.
- High-volume pumping and irrigation in many areas have profoundly changed groundwater flow and quality. By moving shallow groundwater deeper, irrigation and pumping have increased the vulnerability of drinking-water supplies to contamination from nitrate, pesticides, and other manmade chemicals from the land surface.
- Irrigation, high-volume pumping, and artificial recharge can cause different types of waters to mix, with the unexpected consequence of causing the aquifer rocks and sediment to release naturally occurring contaminants, such as arsenic, selenium, or radium, into the groundwater.

The work found that concentrations of dissolved solids, chloride, and nitrate, indicators of human influence on groundwater quality, increased from the 1990s to 2010 in shallow groundwater in many parts of the Nation. The USGS concludes that similar changes are likely to occur in deeper parts of some aquifers in the future as the shallow water moves downward. Groundwater in permeable, unconfined aquifers, such as the Central Valley aquifer system in California, is especially vulnerable to contamination.

Over the next decade, about 2,300 shallow wells and 1,400 deep public-supply wells will be sampled for a broad range of water-quality constituents as the USGS National Water-Quality Assessment Program continues to address the three central questions (1) what is the quality of the Nation's groundwater, (2) is it getting better or worse, and (3) what factors affect the quality of this vital resource.

Read more at this link

Western Governors Extend Drought Forum through Webinar Series

Beginning in February 2015, the Western Governors' Association will begin a Drought Webinar Series as part of their Drought Forum. The Drought Forum, the 2015 Chairman's Initiative of Gov. Brian Sandoval of Nevada, is designed to foster a regional dialogue in which states and industry can share case studies and best practices on drought policy, preparedness and management. In addition to meetings that have focused on specific sectors, the Western Governors' Drought Forum will create an online resource library that will feature a growing collection of drought resources.

The Drought Forum Webinar Series will offer five in-depth discussions on topics that have arisen during the first six months of the Drought Forum. In addition to providing a closer examination of the emerging challenges in drought management, the webinars will enable the Drought Forum to reach a wider audience of those facing drought in the West.

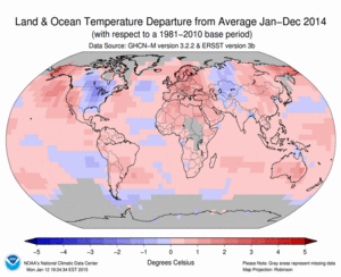
Each of the five webinars will include a 40-minute panel discussion by three expert panelists, followed by a 20-minute opportunity for questions and discussion for all attendees. The schedule is as follows:

- Feb. 11: "Once Marginal, Now Crucial: The Growing Demand for Re-used, Produced, and Brackish Water" will explore the technological and regulatory obstacles to utilizing reused, produced, and brackish water.
- Feb. 25: "Community Outreach and Consumer Technology for Municipal Water Use" will highlight how utilities, technology developers, NGOs, and citizens are teaming up to reduce municipal consumption of water.
- Mar. 11: "Tip of the Spear: The Horizon for Drought Data, Modelling, and Mapping Technology" examines how scientists use data to understand drought and help policymakers anticipate dry conditions.
- Mar. 25: "Managing Forest Health for Water Resources" explains the latest science on forest management for water resource needs as well as best practices to add security to water portfolios.
- Apr. 8: "One Size Doesn't Fit All: Why Variation in Hydrology and Legal Structures means that Drought Looks Different across the West" will highlight how solutions tailored to the needs of specific communities can be utilized across the region.

All webinars start at 11 a.m. MT. You can register for these webinars at this link.

2014 Earths Warmest Year on Record *(NOAA National Climate Data Center Global Analysis)*

The average combined global land and ocean surface temperature for January–December 2014 was the highest on record among all years in the 135-year period of record, at 0.69°C (1.24°F) above the 20th century average.



Click on the image to go to the NOAA National Climate Data Center 2014 Global Temperature Analysis

The January–December map of temperature anomalies shows that warmer-than-average temperatures occurred across the vast majority of the globe during 2014, combining to bring overall record warmth for 2014, at 0.69°C (1.24°F) above the 20th century average. This easily surpasses the previous records of 2005 and 2010 by 0.04°C (0.07°F). Notably, global temperatures were not majorly influenced by El Niño Southern Oscillation (ENSO) conditions throughout the year. The last time an annual temperature record was broken with no warm-phase El Niño conditions present during the year was in 1990, as indicated by the Climate Prediction Center Oceanic Niño Index. The record warm (at the time) temperature anomaly for 1990 was 0.40°C (0.70°F) above the 20th century average.

Separately, the 2014 average global ocean surface temperature was also the highest on record, at 0.55°C (0.99°F) above average, breaking the record of 2003 by 0.05°C (0.09°F). With respect to rankings, the land surface temperature was not far behind, at fourth highest on record.

The Northern Hemisphere was also record warm across land and ocean surfaces, while the Southern Hemisphere was second warmest, behind only 1998. Thus, record warmth was spread around the world, including Far East Russia into western Alaska, the western United States, parts of interior South America, most of Europe stretching into northern Africa, parts of eastern and western coastal Australia, much of the northeastern Pacific, notably around the Gulf of Alaska, the central to western equatorial Pacific, large swaths of northwestern and southeastern Atlantic, most of the Norwegian Sea, and parts of the central to southern Indian Ocean. Also noteworthy, it was much warmer than average across for many other land and ocean regions all across the globe. Temperatures were much cooler than average primarily across parts of the eastern half of the United States, part of the Atlantic Ocean south of Greenland, and coastal waters off the Southern tip of South America, with one localized region record cold for the year. Please refer to the NCDC State of the Climate Annual Global Analysis report for more detailed information.

Federal News

1/7: U.S. Fish and Wildlife Service Announces over $21 Million in Grants to Conserve Coastal Wetlands

1/9: BLM Director Highlights Agency Accomplishments in 2014

1/13: Oso Landslide Research Paves Way for Future Hazard Evaluations

1/13: Bureau of Reclamation Releases Funding Opportunity for Title XVI Water Reclamation and Reuse Feasibility Studies

1/14: Landsat Seen as Stunning Return on Public Investment

1/15: Juvenile Quagga Mussels Discovered at Deer Creek Reservoir, Utah

1/16: NASA TV Coverage Set for Launch of Newest Earth-Observing Mission

1/20: Forecasts show drought continuing in California, Southwest

1/20: Melting Glaciers Increase the Flow of Carbon to Downstream Ecosystems

1/20: Drought-Stricken Oklahoma Communities Dealing With Prospect of Dead Lakes

1/21: Urban Waters Federal Partnership Initiates San Antonio River Basin Project

1/22: Uintah Water Conservancy District Obtains Additional Acre-Feet of Central Utah Project Water from Bureau of Reclamation

1/23: Culprit Identified in Decline of Endangered Missouri River Pallid Sturgeon

1/26: Natural Breakdown of Petroleum Underground Can Lace Arsenic into Groundwater

1/26: More Global Topographic Data to Aid Climate Change Research

1/26: Water stress takes toll on California's large trees

1/27: Delta water weed problems called the worst in years

1/27: Historical Hydraulic Fracturing Trends and Data Unveiled in New USGS Publications

State News

1/5: 2015 Montana State Water Plan released

1/12: Drought Update: Lake Mead pumping station considered and cloud-seeding technology tested

1/26: Executive Director's Notebook: WGA's 'Top 10' Bipartisan Policy Efforts in 2014

1/28: New Mexico Drought Forum examines impact of drought on tourism, recreation

Upcoming WSWC Meetings & Events

- **March 17, WSWC/WestFAST Principals Meeting**, Department of the Interior Building, Washington, DC
- **April 15-17 2015, Spring (177th) Council Meeting,** Tulsa, Oklahoma, The Hard Rock Hotel and Casino, Tulsa
- **May 27-29, 2015, WSWC/CDWR Drought Workshop**, San Diego, California, Doubletree San Diego Downtown
- **June 24-26, 2015, WGA Annual Meeting**, Lake Tahoe, Nevada
- **July 8-10, 2015, Summer (178th) Council Meeting and WSWC 50th Anniversary,** Lake Tahoe Nevada

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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