

**MINUTES
of the
WATER RESOURCES COMMITTEE MEETING
Bluemont Hotel
Manhattan, Kansas
October 8, 2015**

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MEMBERS AND ALTERNATES PRESENT

ALASKA	David W. Schade
ARIZONA	--
CALIFORNIA	Jeanine Jones
COLORADO	Trisha Oeth
IDAHO	Jerry Rigby John Simpson
KANSAS	David Barfield Susan Metzger Tracy Streeter Earl Lewis
MONTANA	Millie Heffner
NEBRASKA	Jeff Fassett Jim Macy
NEVADA	--
NEW MEXICO	Greg Ridgley
NORTH DAKOTA	Jen Verleger
OKLAHOMA	J.D. Strong
OREGON	Tom Byler
SOUTH DAKOTA	Kent Woodmansey
TEXAS	Robert Mace

UTAH

Walter Baker
Eric Millis
Norman Johnson

WASHINGTON

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WYOMING

Pat Tyrrell
Chris Brown
Sue Lowry
Kevin Frederick

GUESTS

Bill DiRienzo, Wyoming Department of Environmental Quality, Cheyenne, WY
Marty Ralph, Scripps Institution of Oceanography, La Jolla, CA
Andy Ziegler, USGS, Kansas Water Science Center, Lawrence, KS
Kathy Flanagan, Southern Nevada Water Authority and Las Vegas Valley Water District, Las Vegas, NV
Anita Thompkins, US Forest Service, Washington, D.C.
Jason Armbruster, US Forest Service, Washington, D.C.
Carmel Walters, U.S. Forest Service, Washington, D.C.
Jean Thomas, U.S. Forest Service, Washington, D.C.
Dave Mitamura, Corps of Engineers, Austin, TX

WESTFAST

Patrick Lambert, Federal Liaison, Murray, UT

WESTERN GOVERNORS' ASSOCIATION

Laura Chartrand, Policy Advisor for Water and Agriculture, Denver, CO

STAFF

Tony Willardson
Michelle Bushman
Sara Larsen
Cheryl Redding

WELCOME AND INTRODUCTIONS

Jeanine Jones chaired the meeting on behalf of Tim Davis, who was unable to attend. Introductions were made around the room.

APPROVAL OF MINUTES

Eric Millis moved approval, and J.D. Strong seconded the motion to accept the minutes of the meeting held in Stateline, Nevada on July 9, 2015. The minutes were unanimously approved.

SUNSETTING POSITIONS

The Committee considered the following positions:

- #345 - regarding federal water and climate data collection and analysis programs;
- #346 - supporting legislation to reauthorize the National Integrated Drought Information System (NIDIS) Act, and accompanying letter to NOAA Administrator Lubchenco; and
- #347 - supporting legislation to reauthorize the Reclamation States Emergency Drought Relief Act.

Each of the three positions, which would have sunset without any further action, were approved with the modifications as recommended by the Executive Committee.

Pat Tyrrell asked the Committee to consider sending a letter to request filling staff positions at the National Water and Climate Center (NWCC) in Portland, Oregon. The Council has long supported the NWCC given its critical mission of monitoring the snow surveys program. He wanted to vet the draft letter with the committee. Pat believes the request falls well within the positions of the Council, although he wants to ensure the Council would not be sending out sensitive material.

Verlon Barnes with NRCS noted he was not fully aware of the conditions at the NWCC in Portland. He noted however, that this past year the agency has undertaken some administrative transformations. All agencies are having some issues with filling positions.

Sue Lowry asked if taking this approach would be helpful. What kind of response might this letter garner? Is the tone okay?

Verlon Barnes responded he was not sure what the response may be, but he recognizes that it doesn't hurt to show support for the center.

Pat Tyrrell: The letter is supportive of the program. It carries the tone that we rely on this important data.

Laura Chartrand: The WGA is also considering this topic. We met 30 days ago and mentioned our concerns about the funding levels for human resources. Jim Ogsbury asked Secretary Vilsack for continued funding.

Tony Willardson: This letter is generated from the WSWC because of our concerns. NRCS has not asked us for this support.

Pat Tyrrell: I'm not sure that we need a vote to send this letter, given it is within the Council's previously supported positions.

Jeanine Jones then noted that the Committee approved sending the letter.

ARMY CORPS OF ENGINEERS' WATER RESOURCES PRIORITIES

Steve Stockton, Director of Civil Works for the Army Corps of Engineers addressed the committee via phone. He noted that the Corps is responsible for a large portfolio of the Nation's water resources infrastructure. The federal budget for infrastructure is not sustainable. The United States is under-investing in its public works infrastructure overall.

The Corps is trying to do the best they can within their portfolio to recapitalize. They are determining which projects are no longer serving a useful purpose in order to maximize the use of federal funding. They are looking at mechanisms to use private funds to manage and to build water resources infrastructure.

Between 1962 and 2010, total spending for water infrastructure increased, yet federal funding decreased. The Corps has been working to characterize and document the value to the Nation provided by the Civil Works program, based on economic return on investment as measured by National Economic Development (NED) benefits produced, and the financial measure of revenues that flow back to the U.S. Treasury. \$34 billion goes back into the Treasury in real dollars. This seems like something the nation would want to invest in more.

Currently, the Congress is in a "no earmark" budget-constrained environment. There are too many studies and projects all funded uncertainly and inefficiently. Projects and studies take too long to complete and cost too much. Sponsors and stakeholders are frustrated and dissatisfied by the lack of progress, increased time, and costs. The Corps is trying to do fewer projects and studies so they can move on. In this budget-constrained environment, we waste too much money because we break projects into uneconomical chunks and separable elements. It is much more efficient to have reliable, predictable funding streams.

External challenges face the Corps. Politics shades nearly everything we do. There is much speculation on what will happen after December 11, 2015, whether or not Congress passes another continuing resolution. It is not an ideal way to do business, but it is not unfamiliar. This affects contract awards.

The Water Resources Reform & Development Act (WRRDA) 2014 was basically a policy bill. Chairman Shuster did a remarkable job of educating members of Congress, so that WRRDA 2014 passed overwhelmingly. Under WRRDA, non-federal entities can conduct projects authorized by Congress on their own. Non-federal entities can also contribute funds for any study or project the Corps deems in the public interest. Under the Act, the Corps was authorized to enter into agreements with non-federal interests, including private entities, to finance at least 15 water projects. However, we did not get any new authorities, and we are constrained by existing authority to come up with pilot projects under WRRDA. The Corps has not brought any of the pilot projects to closure yet.

Other provisions of the Water Resources Reform & Development Act included that the Environmental Impact Statement (EIS) process must be timely and concurrent with other federal, state, local or tribal reviews. In addition, the EIS includes nonstructural alternatives for flood control projects. We can use resources to implement major initiatives.

The Corps was given \$18B, and we came up with a list of \$14.8B. This came out in the Federal Register yesterday. There are projects that are being selected for deauthorization. The final list will be sent to Congress. It will be similar to a military base closure process.

The Water Infrastructure Finance and Innovation Act (WIFIA) creates a loan program. No money was appropriated, however. It creates a pilot program to promote private-sector investment by offering government-sponsored financing at below-market cost of capital. If funds are appropriated, EPA has infrastructure in place to administer a loan program.

With respect to infrastructure construction and maintenance challenges, the Corps will apply asset management. There needs to be prioritization and end of life decisions made.

As far as the Administration's priorities, Steve noted that the Red Book was recently updated and revised to synchronize the permitting process for the three permitting agencies. Some permits take many years to get through the process. We are struggling with how to expedite the permitting process. Infrastructure projects will be put on a dashboard, including Section 404 under the CWA projects, and Section 408 modifications for civil works projects. Build America is one of the President's initiatives.

Questions:

Question: What are the criteria for deauthorization?

Steve Stockton: Section 6001 directed the Secretary to develop criteria. The criteria that were authorized for 2007, but they did not want to capture all of the projects that were authorized in 2007. There have been no funds for post-authorization studies in the past six fiscal years. The next report will capture all 2007 projects.

Tony Willardson: Can you talk about the status of WOTUS and implementation, as well as the surplus water rule?

Steve Stockton: As you know, it has been pretty contentious. We have had a lot of dialogue between entities. We tried to ensure our voices were heard before the final rule was prepared. We are moving out with implementation in 37 states, but not in the 13 states in the Western where there is an injunction.

The entire surplus water rule has been revamped. It does not link to tribal water rights. The pricing of surplus water has been delinked from storage. We are talking about the water that is not needed for any authorized purposes. We are going through the interagency coordination process before starting the public review process with the proposed rule. This has not been initiated yet, but we are close. Any access to surplus water will be very minimal. We would like to have active engagement from the states in the rule during the comment period, and get your ideas and comments. We are trying to improve access to all of our facilities for all who want to use them.

Jen Verleger: Do you know about timing on this?

Steve Stockton: I've learned not to speculate on timing. The chief counsel has worked hard on this for the past three years, explaining to non-attorneys how to make sense of some old statutes. We are trying to come up with consistent rules that are understandable. We want to be sure we get it right.

Jen Verleger: Thank you.

Steve thanked Tony for the time to be on the agenda.

RECLAMATION DROUGHT RESPONSE PROGRAMS IN THE WEST

Dionne Thompson, Deputy Commissioner for External and Intergovernmental Affairs, U.S. Bureau of Reclamation, addressed the Committee via phone and used a powerpoint presentation.

As background, Congress passed the Reclamation States Emergency Drought Relief Act in 1991. This Initial drought program was used primarily for emergency response actions. In FY 2015, \$5.6 million was allocated to the Drought Response (DR) Program. This new DR Program enhances Reclamation's ability to assist in preparing for and addressing drought in advance of a crisis. The new program consists of three elements: (1) Drought Contingency Planning; (2) Drought Resiliency Projects; and (3) Emergency Response Actions.

The DR Program assistance is available to a wide variety of applicants.

Funding is competitively awarded to assist in development and updating drought contingency plans and includes a minimum 50% non-federal cost-share. The Federal share is up to a stated maximum.

For the Drought Resiliency Projects, funding is also competitively awarded to assist with projects that build resiliency to drought by: (1) increasing the amount and reliability of water supplies; (2) improving water management; (3) facilitating the sale, transfer, or exchange of water; and (4) providing benefits for fish and wildlife and the environment.

Water conservation activities are eligible for funding under the WaterSMART Grants and Water Conservation Field Services Programs.

The results of the FY2015 FOAs, may be found at:
http://www.westernstateswater.org/wp-content/uploads/2015/07/Thompson_10.08.15.pdf.

A couple of examples of drought contingency plans in California include the East Bay Municipal Utility District and Bay Area Regional Reliability Drought Contingency Plan. The plan will involve nine counties in the San Francisco Bay area, and will serve six million customers.

As an example of a Drought Resiliency Project, Dionne used the Merced Irrigation District in California. The District estimates it will help them better manage water during drought.

Drought Response Program contact information: Website - www.usbr.gov/drought.
Program Coordinator, Avra Morgan: aomorgan@usbr.gov; 303-445-2906.

Questions

Marty Ralph: Is this a continuing program or only this year?

Dionne Thompson: Yes, it will continue.

NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WATER PROGRAMS

Verlon Barnes, NRCS Missouri River Basin Coordinator, based in Nebraska, said their mission is helping people help the land. All of their programs are designed to help farmers and the agricultural community, while maintaining the land as well. It is a systems approach. There are over 150 conservation practices that address natural resources such as fencing, watering facilities, irrigation management, pipelines for delivery systems, conservation cropping, nutrient management, soil erosion and a variety of other practices. Mr. Barnes covered the following during his presentation:

Conservation Technical Assistance – CTA assists land users plan to implement practices on the ground to improve the environment. The NRCS has staff and offices in nearly every county across the nation. These folks live in the counties, which enables them to know what is going on in that area.

Financial Assistance – Agricultural Management Assistance (AMA), helps agricultural producers use conservation to manage risk and address natural resource issues by providing financial and technical assistance to help farmers voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation. The Conservation Stewardship Program (CSP) helps maintain and improve existing conservation programs, and get to the next level, adding practices where possible. They hope to roll out a new program under the CSP in 2016. The Environmental Quality Incentives Program (EQIP) is the bread and butter program which improves practices on the ground. EQIP is a voluntary program that provides financial and technical assistance. Owners of land in ag or forest production are eligible to participate in the program. It helps producers meet regulatory conditions and develop a plan of operations. The Landscape Conservation Initiatives (LCI) deal with resource concerns on a landscape scale. LCIs accelerate getting conservation on the land. The initiatives are driven primarily by grassroots level input. They deal with landscape issues such as in the Ogallala Aquifer and the California Bay Delta. A good example of these initiatives is the sage grouse program.

Easements Programs – The 2014 Farm Bill changed the easement programs. There is a new Agricultural Conservation Easement Program (ACEP). These activities are often to protect agricultural use and to conserve values of the eligible land. These include the Agricultural Lands Easements (ALE), Healthy Forest Reserve Program (HFRP), and Wetland Reserve Easements (WRE).

Partnerships – The Regional Conservation Partnership Program is a more flexible, comprehensive program that uses partnerships to stretch and multiply conservation investments and reach conservation goals on a regional or watershed scale.

Other Programs -- Conservation Innovation Grants stimulate and accelerate development and adoption of innovative programs and technologies. The Emergency Watershed Protection Program deals with natural disaster emergency response to relieve imminent hazards to life and property. The Small Watershed Rehabilitation Program provides \$1.5B in benefits to local areas for infrastructure for structures (dams) coming to the end of their life that need updating, as well as things such as tubes rusting out, primary spillway replacements, and funding to implement updates.

Questions:

Pat Tyrrell: The Regional Conservation Partnership Program (RCPP) program has essentially replaced the Agricultural Water Enhancement Program (AWEP)?

Verlon Barnes: It somewhat replaces it.

Pat Tyrrell: RCPP requires a match in funding. People who were previously using the AWEP program cannot qualify for RCPP as they don't have a match in funding. Would there be any way to get funding?

Verlon Barnes: You could contact the agency to find out if there is any way to get additional funding.

WESTWIDE WEATHER & WATER MONITORING SYSTEM NEEDS

Marty Ralph, Director, CW3E, University of California at San Diego, Scripps Institution of Oceanography addressed members of the Water Resources Committee with respect to westwide weather and water monitoring system needs and provided a summary of a concept for Forecast-Informed Reservoir Operations (FIRO). He utilized a powerpoint presentation, which is posted on our [website](#).

He referenced a publication entitled, "A Vision for Future Observations for Western U.S. Extreme Precipitation and Flooding," published in the Universities Council on Water Resources (UCWR) Journal of Contemporary Water Research and Education in April 2014.

Marty noted that in 2011, the WSWC passed a resolution that supported development of an improved observing system for Western extreme precipitation events to aid in monitoring, prediction, and climate trend analysis associated with extreme weather events. NOAA's Hydrometeorology Testbed and other efforts have improved understanding of how extreme events occur, have identified gaps, and helped prototype solutions, which are the foundation of this Vision. Key in developing and informing the Vision were various reports, meetings, papers, etc. The sources were shown on a slide.

CW3E tried to figure out the nature of the extreme precipitation events. The key weather phenomena includes the atmospheric river events. The southwest monsoon affects the Desert Southwest. Front Range Upslope storms and Great Plains Deep Convection storms are the culprits that affect extreme events in the Midwest.

The western U.S. annual precipitation is 2-3 times more variable than in the eastern U.S. The variability means that special observations are needed. Atmospheric river events have a crucial role in both water supply and flooding across much of the U.S. West Coast.

California has put a major observing sensor network in place. They have deployed key land-based sensors across the state. The sensors measure water vapor, soil moisture, snow levels, etc. This is part of a 5-year project.

There is a highly variable seasonality of annual peak daily streamflows and run-off. The core observing system concepts include:

- The lower 5,000 feet of the atmosphere is where much of the “action” takes place, but it is poorly observed.
- Mountains complicate the use of radars in the West, requiring special attention to siting, scanning and profiles. The radars scan outward, but with mountains, the earth curves away very quickly. A few big radars are helpful, but they need more smaller radars in mountainous areas.
- Many important storms initially take form over the Pacific Ocean, where satellites help, but major gaps remain.
- Soil and snowpack conditions in mountains impact floods.

SNOTEL and related sites across the West measure precipitation, water vapor, winds, temperature and snow surface conditions. Proposed high-altitude network enhancements and upgrades would achieve observation of snow depth, precipitation, air temperatures, wet-bulb temperatures, and solar radiation, among others. Albedo is the reflection of sunlight back to space without absorbing energy, which leaves snowpack staying frozen longer.

CW3E envisions a network of scanning radars that are smaller, even smaller scanning X-band radars, as well as snow-level radars. A slide illustrates a schematic “strawman” of the network.

Some progress has been made since this vision was conceptualized. There is a major proposal for California in the San Francisco Bay Area following on the concepts of this plan. The state is trying to implement some of these ideas.

NEXRAD radars cost about \$10M each. California has an Atmospheric Rivers Network consisting of about 90 sites, using approximately four sensor types. The complete western network would cost about \$65 M to develop, acquire and deploy. The yearly cost to operate, maintain and optimize the system is about \$35M. This is likely less than much of the damage caused from extreme events.

The next step is implementation planning. It is important to identify some alternative funding approaches and have each governmental entity (federal, state, local) support what they can. The hope is to create a master plan with integrated federal appropriation(s).

Some alternative execution strategies include: (1) to use and better support existing expertise; (2) to develop regional centers coordinated across agencies; and (3) a single center coordinating and filling the remaining gaps.

The Lake Mendocino Forecast-Informed Reservoir Operations (FIRO) Viability Assessment is a coalition of federal, state, & regional agencies comprised of scientists and water managers. They are seeking to save roughly 10,000 acre-feet of water. They have created a work plan that describes an approach for using modeling, forecasting tools and information to determine whether the Lake Mendocino Water Control Manual can be adjusted to improve control and water supply operations. This proof of concept model could have applicability to other reservoirs.

The FIRO Steering Committee has developed a work plan to take advantage of current science and technology. FIRO envisions modern observation prediction technology that could provide water managers more lead time to selectively retain or release water from reservoirs based on longer-term forecasts.

There are challenges to forecasting large precipitation amounts and events. Within 5-7 days, forecasts are sometimes accurate, especially on a watershed-wide scale, meaning the storm hits somewhere in the watershed. At other times, forecasts are simply not accurate. Marty discussed an example of how floods can happen in the midst of a drought and used graphs of an atmospheric river (AR) event in December 2014 that affected Lake Mendocino and the Russian River.

Questions:

Tony Willardson: Is California the only area where you are seeing them working on the reservoir operations?

Marty Ralph: Lake Mendocino is one example, since there are many who are very familiar with the reservoir and the levels, etc.

David Schade: How far into the ocean are you operating?

Marty Ralph: We are exploring some of the concepts in the ocean domain. There was a site in Southeast Alaska that contributed to an AR event in 2012.

Jeanine Jones: A workshop, cosponsored by the WSWC and CDWR, held in May 2015 included discussion of reservoir operations. California is starting to tip-toe through the political minefield of operating reservoirs more efficiently. The observing system is where we need to talk to our Congressional folks for funding to maintain the key weather networks.

WGA WATER-RELATED ACTIVITIES

Laura Chartrand, provided a self-introduction. As of today, she has only been on the job at the Western Governors' Association (WGA) for 56 days. She fills the position previously held by Carlee Brown, who is now working in WGA's Washington, D.C. office as Manager of Federal Relations. Laura oversees implementation of the Western Governors' Drought Forum, as well as managing a portfolio of regulatory, legislative, and in-region water management issues. Laura came to WGA from the Tri-State Generation and Transmission Association, where she analyzed water resource issues affecting Tri-State's 44 member cooperatives in Colorado, Nebraska, New Mexico and Wyoming.

Laura explained that the Governors operate using resolutions similar to the WSWC's policies. At the WGA Annual Meeting held in June, the Water Resource Management Policy was revised. The changes incorporated: (1) inclusion of water quality (i.e., water planning,

water transfers, infrastructure); (2) an added explicit references to the Clean Water Act, Endangered Species Act and Safe Drinking Water Act; (3) federal priority on improving sub-seasonal and seasonal precipitation forecasting abilities; (4) federal involvement with state water planning – investments to support implementation, financial and technical support; (5) the Drought Forum kicked off by Governor Sandoval; and (6) recognized infrastructure needs for existing as well as new users.

Further, Laura noted that WGA's Work Plan drives the Governors' attention. The current issues include: (1) funding for data collection (SNOTEL, and others); (2) GIS mapping of drought, wildfire and invasive species information to better equip states; (3) produced, reused and brackish water, for which Laura has been asked to review for some policy suggestions; (4) managing dual disasters and giving an opportunity for wildfire folks to meet with drought folks. A conference will be held on this topic on October 21-22 in Boise, Idaho; (5) online resource library - - case studies showcasing the areas where the prior appropriation system works; and (6) a Drought Task Forces survey, to determine what data they are missing that they need.

Governor Mead of Wyoming wants to increase the efficacy of the Endangered Species Act. He intends to hold four forums across the West during his WGA chairmanship. A kick-off meeting will be held November 12-13, in Cody, Wyoming.

WGA's bipartisan nature will help manage the ESA Initiative. WGA has met with the Senate Committee on Environment and Public Works, Subcommittee on Fisheries, Water and Wildlife, and they talked about how to improve the ESA. They also met with the House Natural Resources Committee on "respecting state authorities."

Future meetings on their calendar include the Winter Meeting held December 4-5, in Las Vegas, Nevada. The Annual Summer Meeting will be held in Jackson Hole, Wyoming on June 11-14, 2016.

Laura commented that she is looking forward to a demonstration of the WaDE program at an upcoming WGA meeting. She needs to be equipped with policy making information as well.

WGA is encouraging state involvement in Federal decision-making. WGA Resolution 2014-09 – Respecting State Authority and Expertise -- addresses consultation with states, as well as land planning and delegated authority to states.

WGA agrees that with respect to the Corps' new and improved water supply rule, it should be sent to the states for review before being sent to the Office of Management and Budget. This would allow for consultation with the states prior to receiving public comment. Doing so would help prevent future litigation.

Regarding Good Samaritan legislation and clean-up of abandoned mines, the recent issues with the Gold King Mine create an opportunity to talk about a Good Sam Act. The WGA does not want this to be about bashing the Environmental Protection Agency (EPA). Legislation

may be needed to “fix” the Clean Water Act (CWA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Questions:

Robert Mace: What are you doing on brackish water?

Laura Chartrand: We are looking at the system of state laws that allow for the use of brackish water, and possibly drafting some policy recommendations.

Robert Mace: The governors are looking at this at an overview level?

Laura Chartrand: Right. It is an overview to find out whether the state has been confronted with the issue or not. We have to get 19 governors to come to agreement.

WATER DATA EXCHANGE (WaDE) UPDATE

Sara Larsen provided an overview of the work relative to the Water Data Exchange (WaDE). Sara described the WSWC’s website. Under the WaDE tab, there is a link to the WaDE Central Portal (Beta). She described an issue that will need to be tackled.

The WSWC has received approval for a second EPA Exchange Network (EN) grant.

Idaho has worked really hard, and assisted Sara in getting their state’s information available on the portal. Four states are flowing data, while other states are working toward that end. Sara gave a live demonstration of the WaDE portal. She noted that the information is searchable, allowing one to query for units, counties, or whatever reporting unit one is seeking information about.

Sara has done a lot of onsite visits, and if this is what seems necessary to get your state online, please let her know, and she can set up a visit.

WaDE is an integral part of the Open Data Water Initiative (ODWI). Once we receive the survey results from the Interstate Council on Water Policy (ICWP), the WSWC can decide if they want to pursue some partnerships, and making sure that guidelines are a top priority for USGS is an effort to be completed by February 2016-ish.

FEDERAL WATER DATA COORDINATION

Pat Lambert, WestFAST Liaison, reported that the U.S. Geological Survey (USGS) has funding to provide financial assistance through cooperative agreements. The USGS Water Use Data and Research (WUDR) program will provide financial assistance, through cooperative

agreements with State water resource agencies, to improve the availability, quality, compatibility and delivery of water-use data that is collected and/or estimated by States. The data must be integrated with appropriate datasets that are developed and/or maintained by the USGS.

USGS has \$12.5 million in grant funding they can provide over five years. It is not a matching agreement. It is for the estimation of water use in the states. There are three tier objectives. Each state has received \$26,000 to write a workplan proposal. There is \$1.5 million for 2016 and beyond (pending). The workplan proposals can include data management. It's not a lot of money, but there is momentum gaining in the water arena. WestFAST has an interest in WaDE and linking federal data with state data.

The National Ground Water Monitoring Network (NGWMN) is a network of networks operated by many Federal, State, Tribal, and local agencies. There are many groundwater networks across the nation. Groundwater monitoring is done in many places and at many scales. There is no ready access to these data at the national level and there are no standards that address consistent data structure and quality. The goal of the USGS is to create a voluntary cooperative that operates to show the monitoring network of wells. The data being collected by these many entities will provide a relatively comprehensive picture of the Nation's ground-water resources.

Six cooperative agreements were issued in FY2015 to help support data providers. The goal is to provide funding to five additional states in early FY2016. Proposals for Cooperative Funding for the NGWMN were due by December 21st.

Pat also reported that NASA has released a report on subsidence issues in the Central Valley in California. They have taken remotely sensed data and taken the phase change which allows you to actually see reservoirs "breathe". Although the data comes at a cost to the State, the information is freely available.

Jeanine Jones commented that with satellite and aircraft images, they have determined there has been about a foot of subsidence with the irrigation season this year. Levees in the Central Valley are also experiencing a lot of subsidence. The satellite data is inexpensive. The aircraft data is not inexpensive, but it is "cool."

CDWR/WSWC SEASONAL PRECIPITATION FORECASTING CONTRACT

Jeanine Jones briefly described a contract between the California Department of Water Resources and the Western States Water Council. The effort is to see if NOAA can provide funding to move the technology with respect to sub-seasonal to seasonal precipitation forecasting forward. A series of workshops are contemplated and a basic outline follows: (a) San Diego Workshop Report – May 2015; (b) NWS/NOAA October Workshop – October 21-22, 2015; (c) Colorado River Water Users Workshop – December 14-15, 2015; and (d) NWS/NOAA Headquarters Briefing in Washington, DC – March 2016.

CDWR/WSWC CIMIS AGRICULTURAL WATER CONSERVATION CONTRACT

Jeanine Jones reported that the California Department of Water Resources and the Western States Water Council have entered into an agreement to assist the California Department of Water Resources in implementing the Governor's emergency drought proclamation regarding improving agricultural water use efficiency and water conservation, through scoping expansion of the California Irrigation Management Information System (CIMIS) into interstate watersheds. The Council proposes, in cooperation with CDWR, to organize, host, and report on a series of workshops intended to bring together other operators of agricultural weather station networks, including the U.S. Bureau of Reclamation (USBR) and the U.S. Department of Agriculture (USDA) to evaluate possible approaches and the feasibility of extending CDWR's existing Spatial CIMIS network. Such an expansion into interstate watersheds would mutually benefit all participants and help with "ground-truthing" satellite data.

OTHER MATTERS

There being no further matters, the meeting was adjourned.