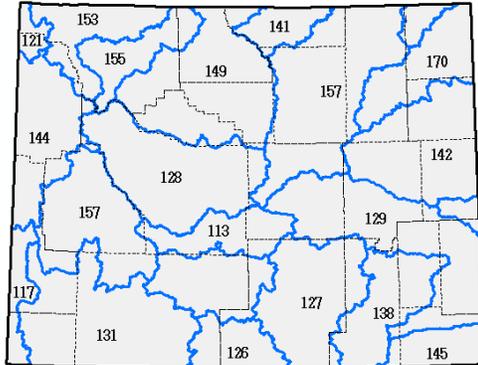


# Water News

## Snow News is Good News

SWE % of Median as of Wednesday, 09 April 2014



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agencies, both state and federal, as well as private entities involved in measuring snow. Every Monday throughout the winter and spring the Natural Resources Conservation

Service releases the Wyoming State Engineer's Office, Division One, personnel conduct manual snow course measurements and combine that with SNOTEL measurements to provide a complete look at the snow pack and snow water equivalent for all the Platte River Sub-basins.

The importance of snow in Wyoming and the west makes it a topic of interest and research. For more information, visit the websites presented below.

As of April 9, 2014 all of the reporting basins in Wyoming were above 100% of the 30 year median value in snow pack. This means there should be ample water for municipalities, irrigators and industries this year. Measuring snow pack is important to help water resource planners estimate the amount of water available for use, and at times to predict the potential for flooding.

Snow is important in Wyoming and all of the Western U.S. since snow dominates the precipitation patterns and accumulates in the mountains. Because measuring snow pack is important, there are many

reservoir management. The agencies, both state and federal, as well as private entities involved in measuring snow. Every Monday throughout the winter and spring the Natural Resources Conservation Service releases the "Monday Morning Snow Report." This report provides the average "Snow Water Equivalent (SWE)" for all the reporting basins in Wyoming. These reports are posted on the Water Resources Data System website, which makes them easy to access by all interested parties. The National Water and Climate Center produces a quarterly Snow News and it covers all things snow in the Western U.S.

Snow pack and reporting is especially important in the Wyoming Platte River Basin due to large irrigation demands and



*Matt Hoobler, SEO; Fiona Smith, Colorado Water Congress; Dave Kanzler, Colorado River District, discuss snow morphology*

The newsletter is available online at (<http://wwdc.state.wy.us/newsletter/>)

- \* <http://snow.wyo.gov/snow-data/seo-snowpack-reports-by-drainage>
- \* <http://snow.wyo.gov/>
- \* <http://www.wrds.uwyo.edu/wrds/nrcs/snowrept/snowrept.html>
- \* <http://www.netnebraska.org/article/news/science-measuring-snow>
- \* <http://www.exploreutahscience.org/science-topics/environment/item/144-desert-dust-events-could-trigger-early-wasatch-snowmelt>
- \* <http://www.codos.org/>
- \* <http://www.wcc.nrcs.usda.gov/>

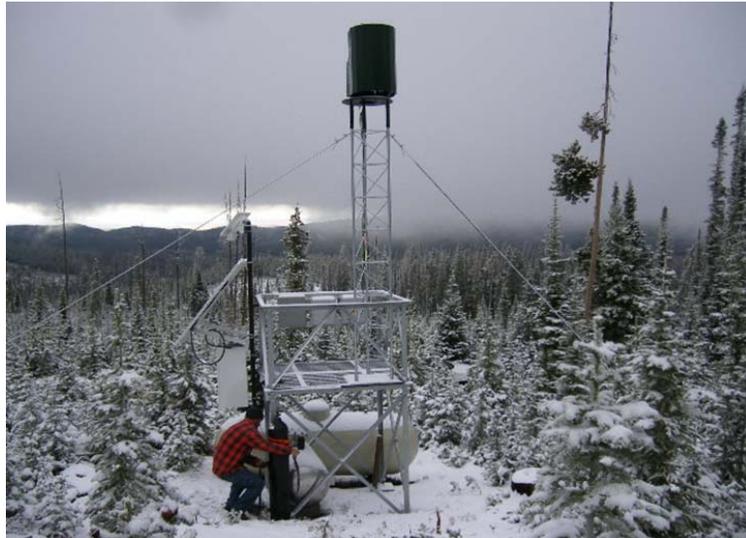
## Weather Modification Study Wrapping Up

The Wyoming Weather Modification Pilot Program (WWMPP) is in the process of wrapping up the final year of studies to assess and evaluate cloud seeding as a strategy for winter snowpack augmentation in the Medicine Bow, Sierra Madre and Wind River Ranges. Cloud seeding operations were suspended on April 2, 2014 in the Medicine Bows and Sierra Madres due to high snowpack conditions. Above average snow water equivalent values in the Medicine Bow Range were reached, and have exceeded, established operational criteria, which forced the immediate suspension of operations in that Range. Due to the randomized nature of the study's experimental design, shutting down one range causes the other range to be shut down as well.

Twenty-nine seeding cases were achieved as part of the 2013-14 winter field campaign and compares favorably to fifteen and seventeen cases in the two previous years. It is unlikely conditions will change such that operations would be reactivated this season. Operations in the central and southern portion of the Wind River Range will continue until the suspension criteria is hit or until the end of the season on April 30th. Until that time, snowpack conditions will continue to be monitored around the clock, against a very conservative set of operational criteria.

Wyoming's project is specifically designed to assess "cloud seeding" as a long-term water manage-

ment strategy in water short basins. Key to the Wyoming project is a strong independent physical and



*An electronics technician with Weather Modification, Inc., Fargo, ND services the Mullison Ridge ground-based cloud seeding generator in the Medicine Bow Range in southeastern Wyoming.*

statistical evaluation of the program's results by the National Center for Atmospheric Research (NCAR). With the completion of the 2013-2014 field campaign and analyses of results, the WWMPP will be uniquely successful in completing a robust experiment testing to determine the efficacy of winter-time cloud seeding from ground-based generators. All ground based seeding generators are scheduled for dismantling and removal during the Summer of 2014. While results of the study won't be available until 2015, interest exists in continuing the program in the Wind River Range target area for the Winter of 2014-15. This would continue the program while waiting for results of the WWMPP, which could be important as part of a larger multi-state Colorado

River Basin Flow Augmentation initiative.

The recently completed Colorado River Basin Wa-

ter Supply and Demand Study defined current and future imbalances in water supply and demand; and in all flow augmentation portfolios, weather modification figured prominently as a strategy for increasing water supplies. As such, a great deal of interest exists (both within and outside the State) in maintaining the significant investment the State of Wyoming has made in the permitting, siting and deployment of facilities for cloud seeding operations targeting the Wind River Range.

Dialogue in this matter will be continuing and a firm decision has yet to be made regarding continued operations and cost sharing in the Wind River Range. Proponents have voiced concerns about "losing traction" should dismantling occur. The Wyoming Water Development Office (WWDO) believed it necessary to prepare a budget

request for this cost sharing scenario should the decision be made to continue during Winter of 2014-15. That project was part of the "Omnibus Water Bill - Construction" recently approved by the 2014 Wyoming State Legislature.

These newly appropriated funds can only be expended once formal agreements are in place with cooperators. Wyoming's cost share amount is capped at 25% with other water users providing 75% of the program's costs. For this program to go forward next winter, agreements would need to be in place prior to August 1, 2014, the deadline established for notification of intent to continue operations in the Wind River Range. The WWDO will be working to determine interest in the program and to secure the needed agreements.



For more information regarding this, or any program of the Wyoming Water Development Office :  
<http://wwdc.state.wy.us/>  
 307-777-7626



## River Basin Planning Update

There have been many activities underway in the WDO River Basin Planning Section in 2013 and early 2014. Work on the river basin plan updates continues. The Snake/Salt River Basin Plan Update will be completed in early 2014, and a draft will be available for review in April. The planning team will select a consultant to update the Platte River Basin Plan in May, with work to begin in July. Additionally, the river basin planning team, including staff from the

WDO, the State Engineer's Office and the UW Water Resources Dates System, will begin work on the Northeast River Basin Plan Update this summer. This will leave only the Powder/Tongue River Basin Plan update to be completed and that update should be initiated in 2015.

In this second phase of basin planning, studies of the state's groundwater resources are being conducted. The WDO has developed inter-

agency agreements with the Wyoming State Geological Survey (WSGS) to complete the studies, and they have worked with the U.S. Geological Survey on the projects. The Green River Basin and Wind/Bighorn River Basin groundwater studies have been completed, and the Platte River Basin groundwater study has just recently been finalized. The WSGS is currently completing groundwater reports for the Bear River Basin and the Snake/Salt River Basin. These reports

will be available in the near future. The last groundwater project to be undertaken will be the combined Powder/Tongue River Basin and the Northeast River Basin study. These surface water basins are being combined because groundwater resources are controlled more by the Powder River geologic structural basin than by surface water drainages. This final groundwater study should be initiated in 2015.

## Water Resources Data System (WRDS) News

### 2013 WWDO Public Water System Survey Completed

During 2013, the Wyoming Water Development Office (WDO) in conjunction with the Water Resources Data System (WRDS) conducted a biennial survey of municipal and non-municipal community public water systems in the State of Wyoming. A sincere "thanks" to all the contributing entities for boosting participation from 52% in 2011 to 70% (143 out of a potential 204 surveys in 2013)!

Results from the 2013 Public Water System Survey are compiled in a report on the WWDC website (<http://wwdc.state.wy.us/watsys/2013/raterept.html>). Below is some information from the completed survey:

- Total Population Served: 524,437
- Residential Tap Fees: \$1,295\*
- Residential Base Water Rate: \$26\*/per month
- Commercial Tap Fees: \$1,426\*
- Commercial Base Water Rate: \$32\*/per month
- Monthly Water Bill: \$42\*

**\*Denotes Average**

### 2014 WWDO Irrigation District/ Canal Company Survey

The previous (2012) Irrigation Survey resulted in 65 responses (51%) out of a total distribution of 127 surveys, and included some great suggestions for the 2014 Irrigation System Survey. One such suggestion was to conduct the survey during a time of year most favorable for irrigators to complete the survey. Taking this suggestion to heart, the survey will be initiated later this fall.

The WWDO Irrigation/Canal Company Database contains information on 48 entities who have never responded to the irrigation survey. Information from this database will be reviewed and, when possible, updated. For the list of non-responding entities see <http://wwdc.state.wy.us/irrsys/2012/raterept.html>. Please contact Michelle Ogden, WRDS Project Coordinator (mogden1@uwo.edu, 307-766-2741) or, WDO (307-777-7626) if you have information to help with the database update.

### WRDS Staff

- Chris Nicholson - Director
- Tony Bergantino - Service Climatologist/Executive Programmer Analyst
- Barbara Muller - Water Librarian
- Michelle Ogden - Project Coordinator
- Kira Olson - Office Assistant, Sr.



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## Calendar of Water Events

April 23, 2014 Wind/Big Horn River BAG - Fremont County Library 6pm - Riverton, WY.

April 24, 2014 Platte River BAG - AnSci/Molb Bldg 6 pm - Laramie, WY

May 6, 2014 SEO Water Forum - Western Water Assessment Cheyenne, WY

May 6-8, 2014 WWDC consultant selection interviews, Cheyenne, WY

May 9, 2014 WWDC Meeting - Cheyenne, WY

May 12-16 Board of Control Meeting - Cheyenne, WY

May 20, 2014 Green River BAG - Joint Powers Water Board Office 6pm - Green River, WY

May 21, 2014 Bear River BAG - Uinta County Library 6pm - Evanston, WY

May 22, 2014 Snake/Salt BAG - Alpine Town Hall 6pm - Alpine, WY

May 20-22 Missouri River Recovery Implementation Committee (MRRIC) meeting - Rapid City, SD

May 22-23 Mud Lake Symposium - Bear Lake

June 4-5, 2014 WWDC/SWC joint meeting, Cheyenne, WY

June 10-11, 2014 Platte River Recovery and Implementation Program - Govern-

ance Committee - WWDO, Cheyenne, WY

June 12-13, 2014 Salinity Control Forum - Jackson, WY

June 11, 2014 Northeast River Basins BAG - Gillette, WY- TBD

June 12, 2014 Powder Tongue River BAG - Sheridan, WY - TBD

June 16-17, 2014 Upper Colorado River Commission Meeting - Jackson, WY

June 19, 2014 - Wyoming Water Association Tour - Powell, WY

August 15, 2014 New Project Applications due

August 18-22, 2014 Board of Control Meeting - Water Division 3

August 19-21 Missouri River Implementation Committee (MRRIC) meeting - Casper, WY

August 20-22, 2014 WWDC/SWC joint meeting/Tour - Sheridan, WY

November 6-7, 2014 - WWDC/SWC joint meeting, Casper, WY

Beginning in September 2014 SEO Water Forum meetings will be held the second Tuesday of the month from September though May in the SEO conference room - check with the SEO regarding programs, (307-777-6150)