

Blackfoot Water Supply Report

February 9, 2018

Montana Water Supply Report as of February 1st, 2018 (from NRCS):

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/snow/waterproducts/basin/?cid=stelprdb1237267>

Overview

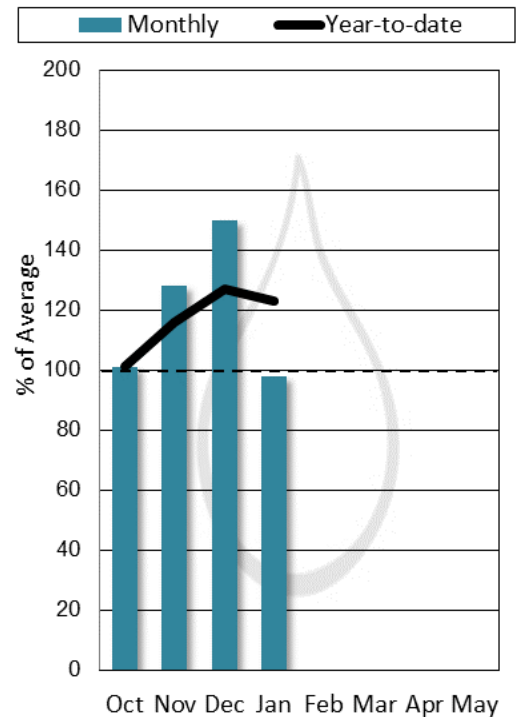
During the month of January, most northwest basins received consistent moisture. Some of these storms came in a little warmer than most would like this time of the year and dropped rain across most elevations. Until this point the snowpack had remained relatively cold, meaning the warm energy from mid-month rain-on-snow event was not enough to cause melt at the lower elevations, and this water was stored in the snowpack for future runoff. Basins west of the divide had a near constant stream of moisture at all elevations, these storms mostly favored the higher elevation the Gallatin and Upper Yellowstone basins.

But fret not, early season snowfall this year has left all basins across the state at normal to well above normal for February 1st. In fact, Montana is the only state in the Western U.S where all basins have a snowpack that is at least near normal for this time of year, with 12 of the 13 major river basins well above normal for snowpack. So where does this leave us? At this point of the snow accumulation season typically 60-75% of the seasonal peak snowpack west of the Divide has accumulated, and east of the Divide 50-70% has accumulated. There is a still lot of time before spring runoff begins for conditions to continue to improve or degrade, but if the current weather patterns persists through the spring water supply should be near to above average.

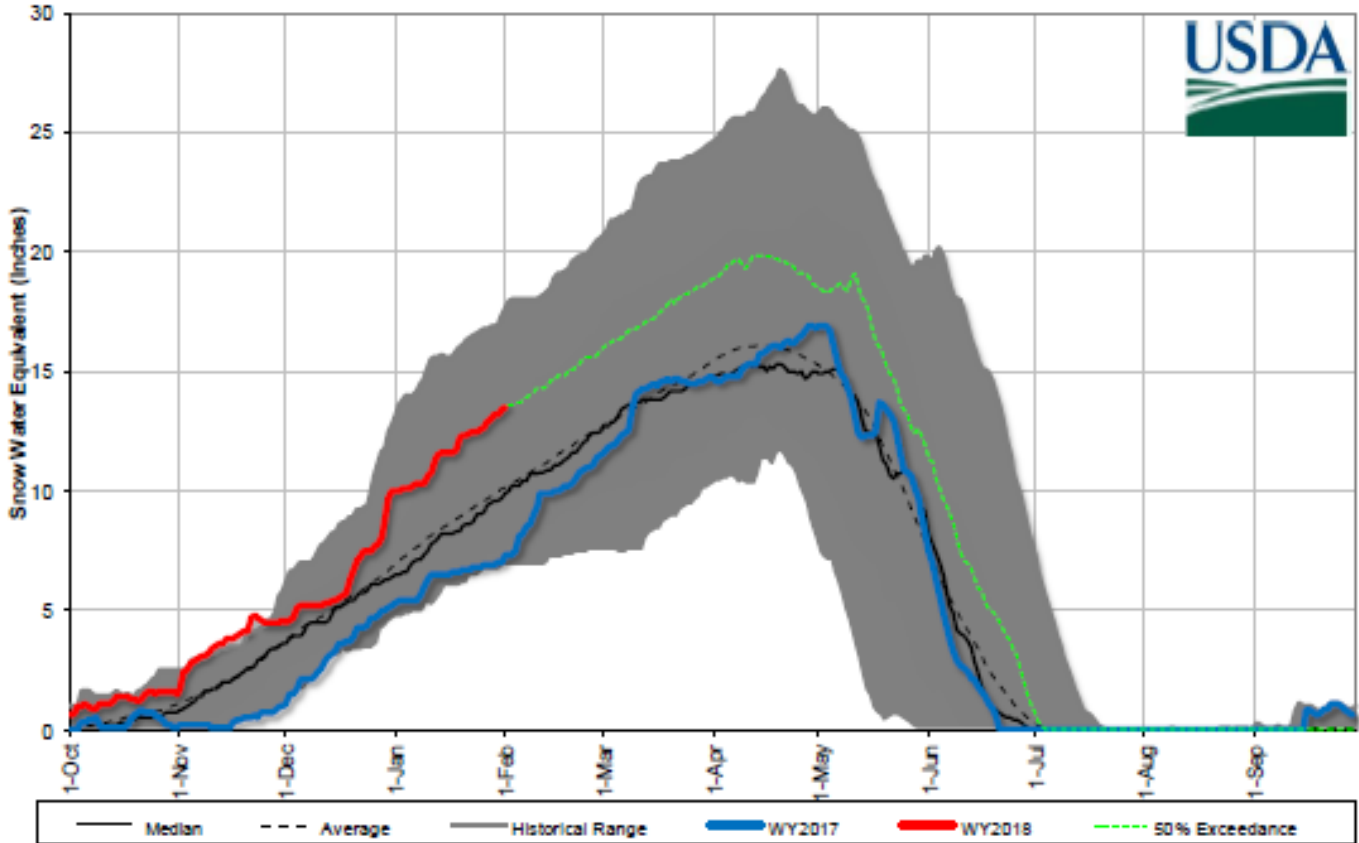
Upper Clark Fork River Basin Overview

January precipitation was near average in the Upper Clark Fork River Basin. The basin did not receive as much precipitation from the storm system that brought several inches to the Lower Clark Fork region. However, the basin does currently have a well above normal snowpack. Nevada Ridge SNOTEL has about 13.3 inches of snow water, which marks its 2nd deepest snowpack in 24 years of record. Low elevation SNOTEL sites have also had significant precipitation this water year. Over half of the basin's SNOTEL sites are above or near their normal seasonal snowpack peak, which normally doesn't occur for about another month. Overall, water year-to-date precipitation in the Upper Clark Fork River basin is above average.

Upper Clark Fork Basin
Mountain and Valley
Precipitation



Upper Clark Fork River Basin Snowpack with Non-Exceedence Projections
Based on provisional SNOTEL daily data as of 2/1/2018



Upper Clark Fork River Basin Data Summary

| <i>Snowpack</i> | Percent of 1981-2010 Normal (Median) | Last Year Percentage of Normal (Median) |
|----------------------------------|--------------------------------------|---|
| <i>CLARK FORK ab FLINT CREEK</i> | 151% | 80% |
| <i>FLINT CREEK</i> | 131% | 81% |
| <i>ROCK CREEK</i> | 128% | 68% |
| <i>CLARK FORK ab BLACKFOOT</i> | 141% | 78% |
| <i>BLACKFOOT</i> | 139% | 80% |
| Basin-Wide | 140% | 78% |

| <i>Precipitation</i> | Monthly Percentage of Average | WYTD Percentage of 1981-2010 Average* | WYTD Last Year Percentage of Average |
|---------------------------------|-------------------------------|---------------------------------------|--------------------------------------|
| Mountain Precipitation | 97% | 121% | 98% |
| Valley Precipitation | 131% | 185% | 126% |
| Basin-Wide Precipitation | 98% | 123% | 98% |

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage

Basin-wide reservoir storage is near to above average at most locations across the state of Montana. Although demand was high on many irrigator operated reservoirs this summer due to the lack of summer precipitation, many remain in good standing for February 1st. Should the weather patterns continue to deliver above normal snowfall this winter and spring, inflows to reservoirs should be adequate to fill in most locations. Caution should be emphasized though as a dry spring could have major impacts on water supply.

| Reservoir Storage | Percentage of Average | Percentage of Capacity (Total) | Last Year Percentage of Average |
|---------------------------|------------------------------|---------------------------------------|--|
| Basin-Wide Storage | 105% | 72% | 98% |







**See Reservoir Storage Table for storage in individual reservoirs*

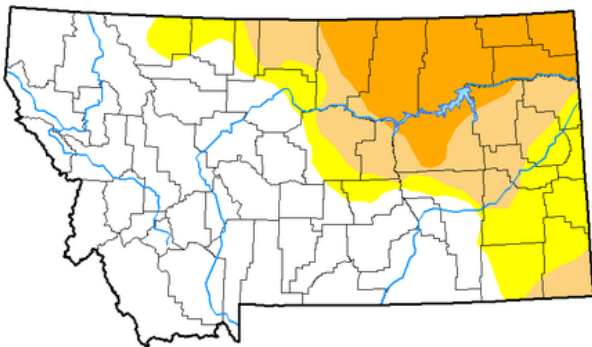
End of Month Storage

| | Current (KAF) | Last Year (KAF) | Average (KAF) | Capacity (KAF) | % Average | % Capacity |
|------------------------------|----------------------|------------------------|----------------------|-----------------------|------------------|-------------------|
| East Fork Rock Creek Res | 7.9 | 8.2 | 7.5 | 15.6 | 106% | 51% |
| Georgetown Lake | 27.6 | 27.9 | 27.8 | 31.0 | 99% | 89% |
| Lower Willow Creek Reservoir | | | 1.9 | 4.9 | | |
| Nevada Creek Res | 6.8 | 3.6 | 5.0 | 12.6 | 137% | 54% |

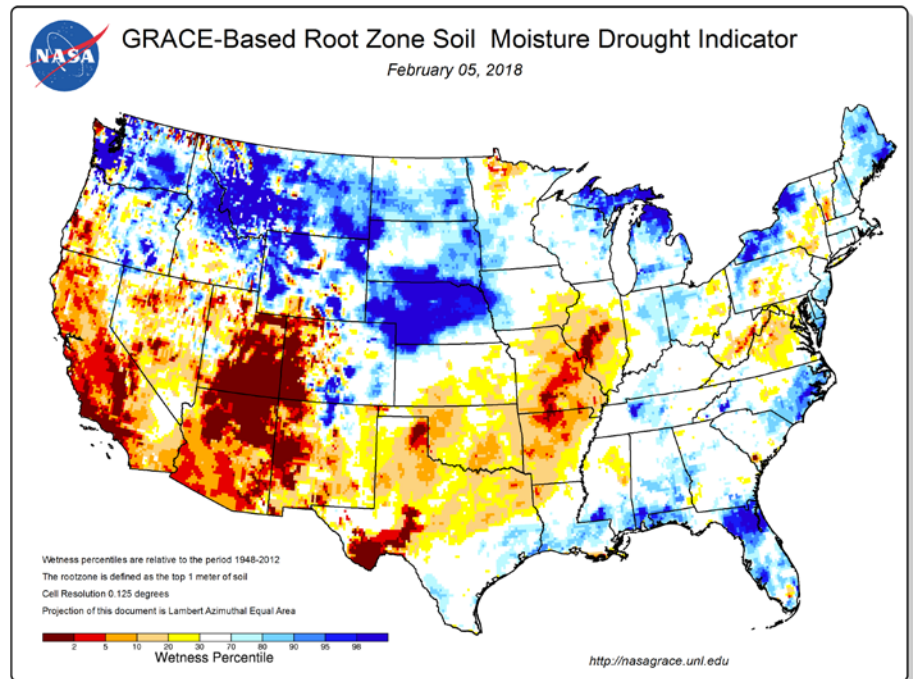
Montana Drought Monitor – Feb. 6, 2018

Drought Intensities

-  None: No Drought
-  D0: Abnormally Dry
-  D1: Moderate Drought
-  D2: Severe Drought
-  D3: Extreme Drought
-  D4: Exceptional Drought



National Root Zone Soil Moisture – Feb. 5, 2018



Snow Water Equivalent: February 9, 2018

February 1 snowpack totals across the state of Montana are near to well above normal across all of the state's major river basins. The forecasted La Nina for this winter seems to be holding up and has delivered consistent moisture to mountain and valley locations across the state this water year. Long-term forecasts call for a continuation of this pattern into the end of winter, indicating below normal temperatures and above average precipitation for the February – April time period. Hopefully this stands true, it would be great news for water users across the state, and would continue to build on our already above normal snowpack.

| Montana SNOTEL Snow/Precipitation Update Report | | | | | | | |
|--|-----------|-----------------------|-------------------|---------------|----------------------------------|-------------------|----------------|
| Based on Mountain Data from NRCS SNOTEL Sites | | | | | | | |
| **Provisional data, subject to revision** | | | | | | | |
| Data based on the first reading of the day (typically 00:00) for Friday, February 09, 2018 | | | | | | | |
| Basin Site Name | Elev (ft) | Snow Water Equivalent | | | Water Year-to-Date Precipitation | | |
| | | Current (in) | Median (in) | Pct of Median | Current (in) | Average (in) | Pct of Average |
| UPPER CLARK FORK RIVER BASIN | | | | | | | |
| Barker Lakes | 8250 | 14.5 | 8.5 | 171 | 11.0 | 10.4 | 106 |
| Basin Creek | 7180 | 7.7 | 4.8 | 160 | 5.2 | 6.0 | 87 |
| Black Pine | 7210 | 11.4 | 6.6 | 173 | 14.0 | 9.0 | 156 |
| Combination | 5600 | 4.8 | 3.4 | 141 | 8.9 | 6.5 | 137 |
| Copper Bottom | 5200 | 9.6 | N/A | * | 18.0 | 11.6 | 155 |
| Copper Camp | 6950 | -M | N/A | * | -M | 22.8 | * |
| Lubrecht Flume | 4680 | 7.7 | 4.0 | 192 | 12.3 | 7.3 | 168 |
| Nevada Ridge | 7020 | -M | 9.4 _c | * | -M | 11.4 _c | * |
| N Fk Elk Creek | 6250 | 12.0 | 7.2 | 167 | 14.5 | 9.5 | 153 |
| North Fork Jocko | 6330 | 43.3 | 28.5 | 152 | -M | 35.2 | * |
| Peterson Meadows | 7200 | 10.3 | 5.8 | 178 | 10.7 | 7.5 _c | 143 |
| Rocker Peak | 8000 | 16.0 | 8.7 | 184 | -M | 9.0 | * |
| Skalkaho Summit | 7250 | 19.9 | 14.7 | 135 | 19.0 | 15.7 | 121 |
| Stuart Mountain | 7400 | 30.8 | 21.7 _c | 142 | 29.5 | 22.6 _c | 131 |
| Warm Springs | 7800 | 25.4 | 13.0 | 195 | 22.2 | 15.1 | 147 |
| Basin Index (%) | | 161 | | | 136 | | |

February 9, 2018, USGS Real Time Flow Conditions

Nevada Creek

Discharge, cubic feet per second

NO READINGS DUE TO ICE

North Fork Blackfoot

Discharge, cubic feet per second

NO READINGS DUE TO ICE

Blackfoot River at Bonner

Discharge, cubic feet per second

NO READINGS DUE TO ICE

Three-Month Outlook February 9, 2018

From
National Weather Service Climate Prediction Center

<http://www.cpc.ncep.noaa.gov/>

Higher chance for above average precipitation
for February through April.

Higher chance to experience below normal
temperatures from February through April.

