Blackfoot Water Supply Report
February 12, 2017

Montana Water Supply Report as of February 1st, 2017 (from NRCS):
https://www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/waterproducts/basin/

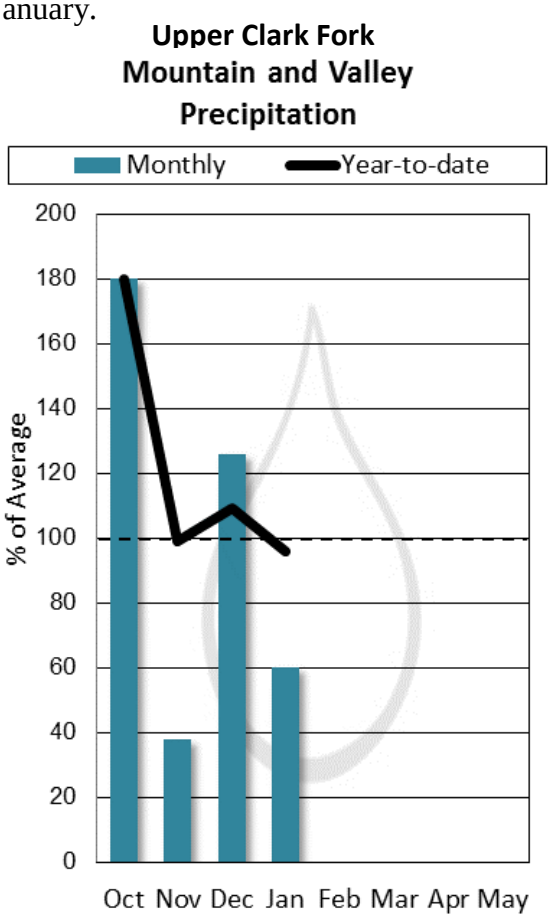
Overview

The February water supply report was released just before a blast of precipitation hit Western Montana. Those recent weather events brought snowpack and snow water equivalent much closer to normal for this time of the season. However as of the end of January, the state was lagging behind as stated in the NRCS report released on February 5:

Only two meaningful storms impacted most of the state during the month of January, the remaining periods were dominated by high pressure with well below average temperatures. So far this winter there has been a lot of national talk about the "Atmospheric River", which has been a direct stream of moisture that has been focused on the states south of us. The high pressure which has steered this river left the northern and central basins "high and dry", while southern basins along the edge of the systems have seen some increase in basin percentages over the month. Northern basins east and west of the divide saw significant decreases in snowpack percentages from January 1st due to the lack of snowfall during January.

The southern basins (Upper Yellowstone, Lower Yellowstone) are near to above normal for this date, due to the favored location along the southern border. All other basins in the state are well below normal for snowpack on Feb 1st. Compared to last year the southern basins are well above Feb 1 totals, while the remaining basins are below last year at this time. The one exception is the Sun-Teton-Marias River basin which is above last year (record low Feb 1 totals in 2016), but still well below normal for this date.

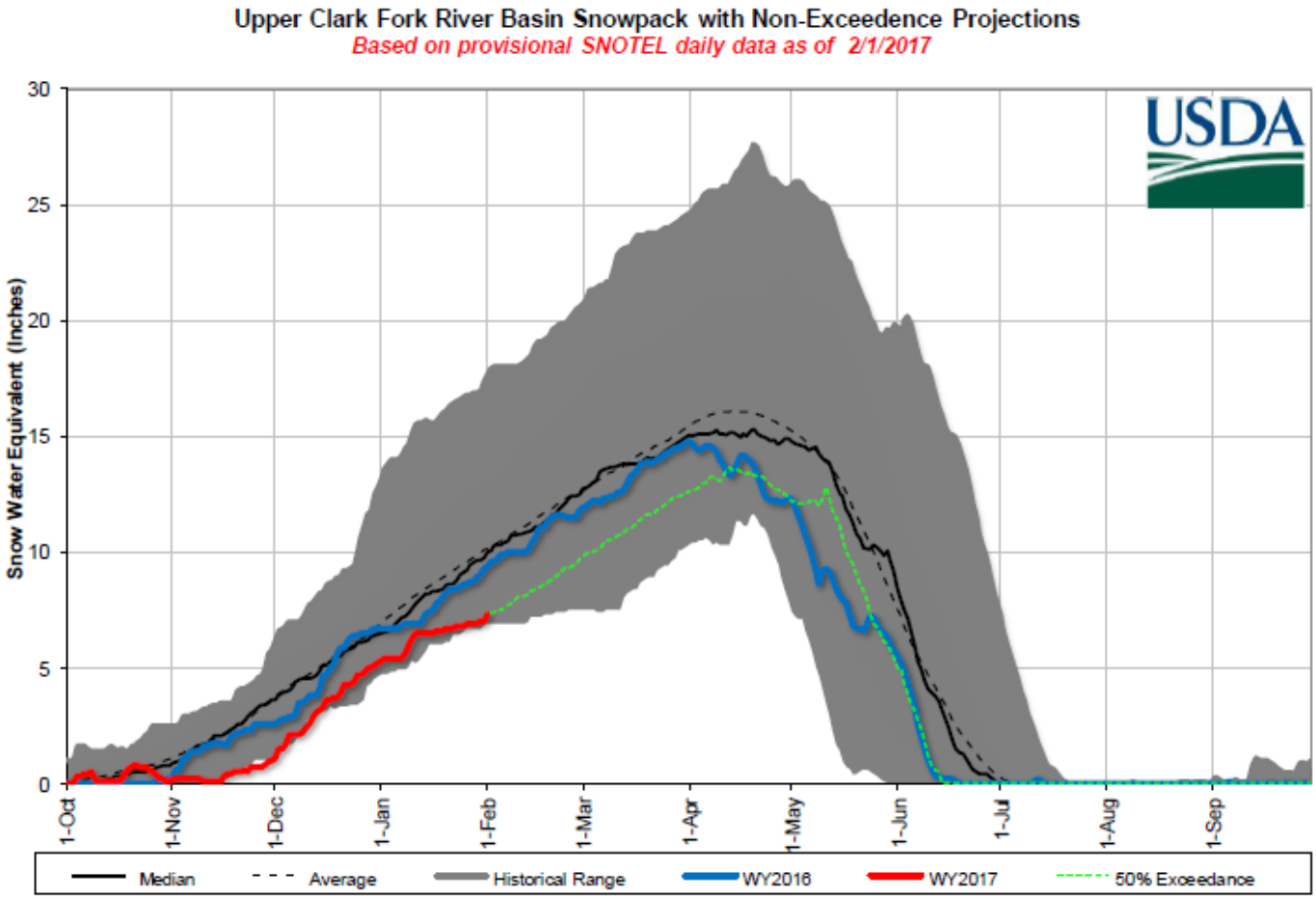
On Feb 1st typically 55 to 65% of our peak seasonal snowpack has accumulated in the mountains of Montana. While this leaves some room for improvement, and a major change will need to occur and yield above average snowfall for the remainder of winter, and through the spring months.



Upper Clark Fork River Basin Overview

Storms mostly overlooked the Upper Clark Fork River basin during the month of January, there was only one major storm at the beginning of the second week of the month and this storm added 1.0" to 1.5" of snow water equivalent to the snowpack. During the latter half of January from the 11th until the 31st only 0.5" to 1.0" of snow water accumulated in the basin, well below normal for this time of year. Monthly snowfall was 50% to 80% of normal across the basin, and varied greatly within the sub-basins. Of note this month are

the SNOTEL sites in the Pintler Range and Flint Creek Range. The Warm Springs SNOTEL and Discovery Basin snow course in the southern Flint Creek Range are the 2nd lowest for Feb 1st in the last 40 years. The Storm Lake snow course (56% POR average) and Barker Lakes SNOTEL site (60% POR average), two higher elevation measurement locations in the Pintler Range, are the lowest on record for those sites. Snowpack for this date across the basin is well below normal, and is down substantially from Jan 1.



Snowpack Analysis

Although January wasn't especially productive with regards to snowfall, substantial fall and early winter precipitation has left water year-to-date precipitation totals close to average in most sub-basins at this time. A return to more favorable weather patterns could help to make up the snowpack deficits experienced so far this winter, but above average snowfall will be needed this winter and spring.

Upper Clark Fork River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
CLARK FORK ab FLINT CREEK	76%	111%
FLINT CREEK	81%	110%
ROCK CREEK	68%	103%
CLARK FORK ab BLACKFOOT	76%	107%
BLACKFOOT	79%	87%
Basin-Wide	**77%**	**98%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	59%	95%	95%
Valley Precipitation	153%	126%	144%
Basin-Wide Precipitation	**60%**	**96%**	**96%**

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

Reservoir Storage

Most Reservoirs across the state are near or slightly above average for Feb 1st, however, some reservoirs in the Sun-Teton-Marias River basin remain below average.

Reservoir Storage	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
East Fork Rock Creek Res	8.2	7.6	7.5	15.6	**109%**	**109%**
Georgetown Lake	27.9	28.4	27.8	31.0	**100%**	**100%**
Lower Willow Creek Reservoir		1.9		4.9		
Nevada Creek Res	3.6	7.5	5.0	12.6	**72%**	**72%**

Streamflow Forecast

Forecast Point	Period	0% (KAF)	%of avg	max (KAF)	30% (KAF)	70% (KAF)	min (KAF)	30-yr avg
Ltl Blckft nrGarrison	APR-JUL	59	84	88	71	47	29	70
	APR-SEP	65	84	97	78	52	33	77
Flint Ck nr So. Cross	APR-JUL	10.7	86	17.2	13.4	8.1	4.2	12.4
	APR-SEP	12.5	86	21	15.8	9.2	4.3	14.6
Flint Ck bl BoulderCk	APR-JUL	46	88	71	56	36	21	52
	APR-SEP	58	88	89	71	46	28	66
Rock Ck nr Philipsburg	APR-JUL	48	83	65	55	41	31	58
	APR-SEP	55	85	73	62	47	36	65
Rock Ck nr Clinton	APR-JUL	200	80	285	235	165	114	250
	APR-SEP	235	84	325	270	195	140	280
Nevada Ck nr Helmville	APR-MAY	7.2	86	12.7	9.4	5.0	1.69	8.4
	APR-JUL	12.5	88	21	16.1	8.9	3.5	14.2
Blackfoot R nr Bonner	APR-JUL	580	81	780	665	500	385	720
	APR-SEP	655	82	870	740	570	440	800
Clark Fork ab Milltown	APR-JUL	425	80	670	525	325	176	530
	APR-SEP	510	83	780	620	400	240	615
Clark Fork ab Missoula	APR-JUL	1010	81	1430	1180	840	590	1250
	APR-SEP	1170	82	1620	1350	990	725	1420
Clark Fork bl Missoula	APR-JUL	2030	85	2730	2310	1750	1340	2400
	APR-SEP	2290	86	3030	2590	1990	1550	2670

Snow Water Equivalent: February 13, 2017

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 Monday, February 13, 2017

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	7.2	8.8	82	9.3	10.6	88
Basin Creek	7180	3.6	4.9	73	5.9	6.2	95
Black Pine	7210	8.4	6.9	122	9.9	9.3	106
Combination	5600	4.3	3.5	123	7.6	6.6	115
Copper Bottom	5200	7.8	N/A	*	15.7	11.8	133
Copper Camp	6950	22.5	N/A	*	22.0	23.3	94
Lubrecht Flume	4680	4.9	4.2	117	9.6	7.5	128
Nevada Ridge	7020	11.0	9.5_C	116	13.8	11.7_C	118
N Fk Elk Creek	6250	6.3	7.6	83	10.9	9.7	112
North Fork Jocko	6330	21.3	29.7	72	37.1	36.2	102
Peterson Meadows	7200	6.6	6.1	108	9.6	7.7_C	125
Rocker Peak	8000	8.0	9.0	89	8.7	9.3	94
Skalkaho Summit	7250	14.3	15.0	95	18.7	16.1	116
Stuart Mountain	7400	20.8	22.5_C	92	26.6	23.2_C	115
Warm Springs	7800	12.6	13.5	93	16.5	15.6	106
Basin Index (%)				**92**			**108**

February 13, 2017, USGS Real Time Flow Conditions

Blackfoot River above Nevada Creek Near Helmville
Discharge, cubic feet per second
NO READINGS DUE TO ICE

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

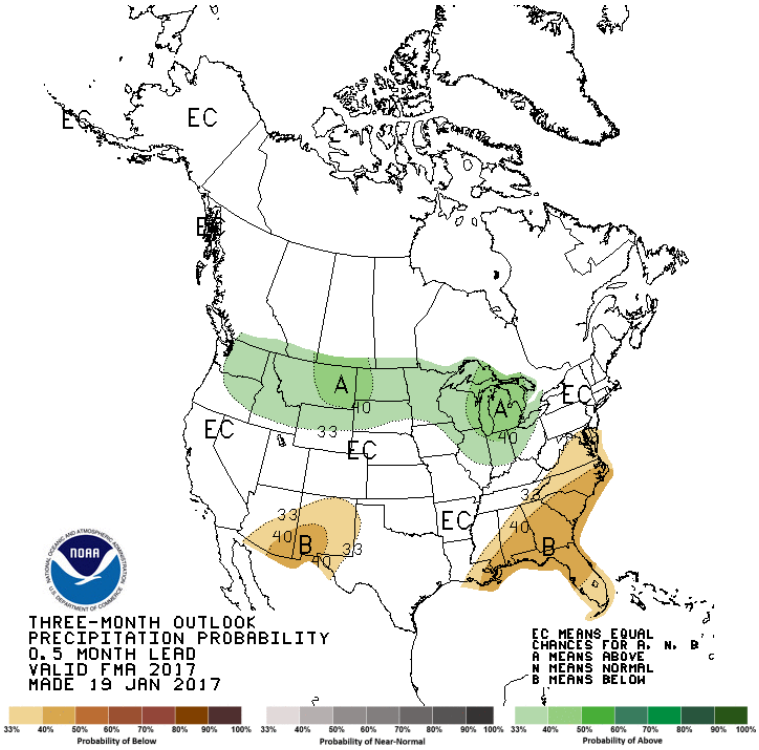
Three-Month Outlook
February 12, 2017

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.