

Blackfoot Water Supply Report

March 6, 2020

Montana Water Supply Report as of March 1, 2020 (from NRCS):

<https://www.nrcs.usda.gov/wps/portal/nrcs/mt/snow/waterproducts/basin/>

Overview

January and February snowfall provided quite the turnaround for snowpack in Montana.

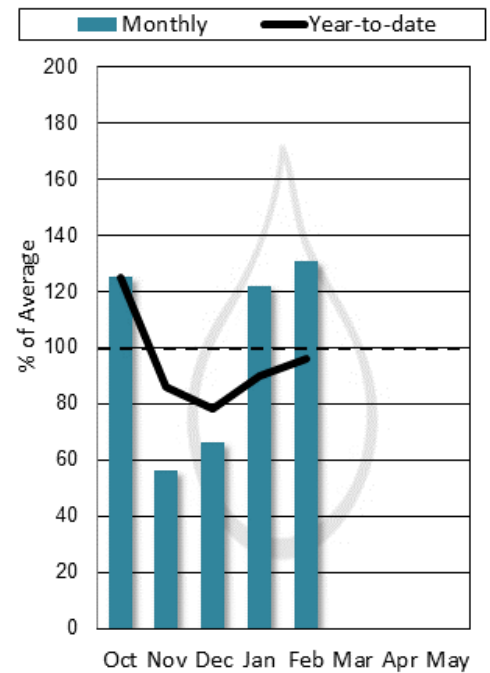
Compared to January 1, when it seemed like the 2020 winter season was on track to be a bust along the Idaho/Montana border, snowpack conditions have vastly improved across the state.

Unstable northwest flow during the first three weeks of February favored north-facing ranges, where well above normal to record-setting snowfall occurred during the month. Streamflow forecasts issued on March 1 for the April 1 through July 31 period indicate near to slightly above average streamflows could occur in many locations across Montana should favorable weather patterns persist into spring and summer.

Snowpack totals for March 1 improved in all river basins except the Kootenai from February 1. The news is good on March 1, and all river basins are now reporting normal to above-normal snowpack for this date. However, it's not time to assume we will have sufficient snowpack for spring and summer water supply just yet. At this point, roughly 75 to 85 percent of the peak snowpack has accumulated in basins west of the Divide, and 70 to 80 percent has accumulated east of the Divide. The remaining months of March and April are vital in helping to top off the mountain snowpack reservoir, which provides a prolonged release of water into rivers and streams during the spring and summer.

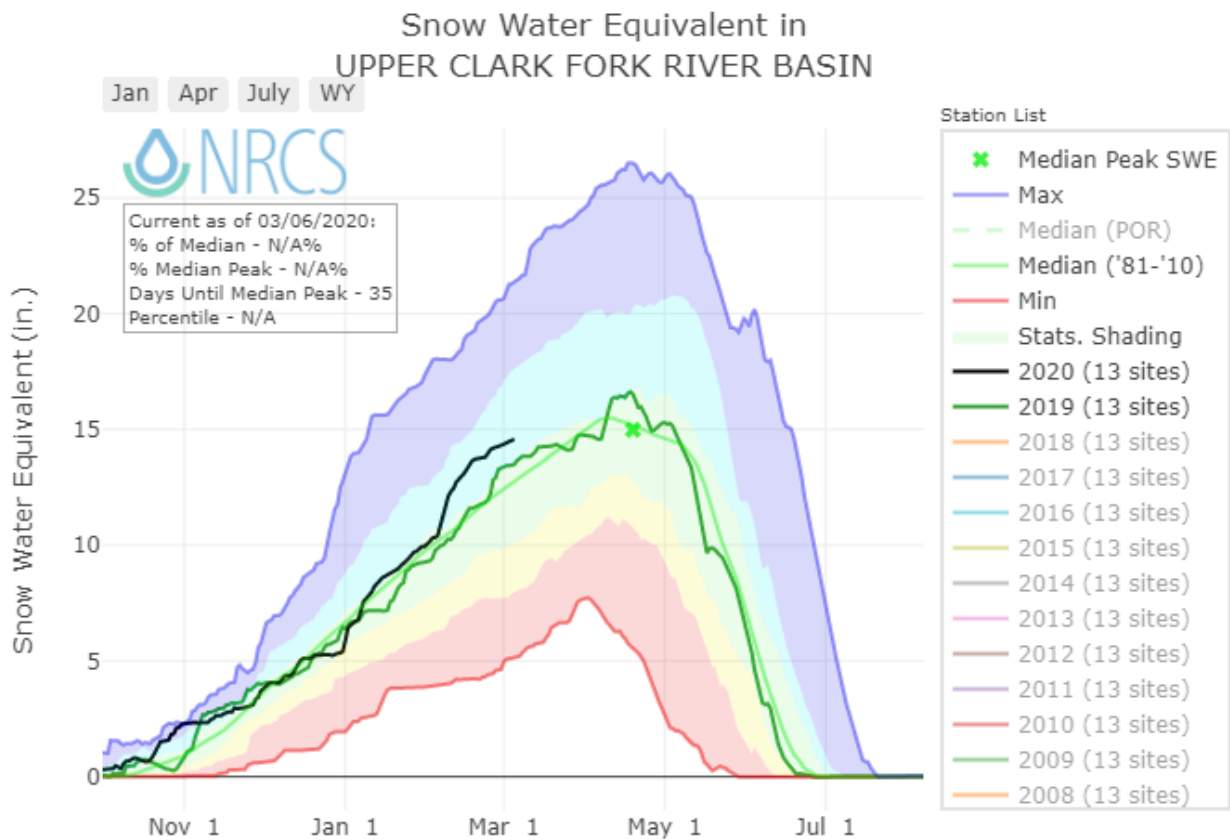
Mountain precipitation totals for February mimic the snowpack accumulation during the month, with most regions experiencing above-normal precipitation. However, the Kootenai River basin, parts of the Flathead River basin, and valley/plains locations in north-central Montana received below-normal precipitation. Looking back in time, there were substantial deficits in water year (beginning October 1) totals on January 1. While these deficits were made up in some locations due to the abundant moisture in January and February, overall water year deficits remain in some areas. The impact of the lack of early-season moisture remains somewhat uncertain when it comes to spring and summer runoff, but the low totals did impact the forecasts in some regions. While snowpack in certain areas is near or above normal for this date, the low overall precipitation totals decreased the volumes forecasted for some rivers and streams.

Upper Clark Fork Basin
Mountain and Valley
Precipitation



Upper Clark Fork River Basin Overview

Storm patterns throughout the month were favorable for the mountain ranges feeding the Upper Clark Fork River basin. Monthly snowfall was well above normal across all the sub-basins feeding the Upper Clark Fork. SNOTEL sites in the Pintler Range received over 225 percent of normal snow accumulation for February, and this would set a new record for February snowfall at the high-elevation Barker Lakes SNOTEL site. Elsewhere, while snowpack wasn't record-setting, it was sufficient to help the basin snowpack totals to further improve from February 1. Basin-wide snowpack is now above normal within the basin for this date. The abundance of moisture during the last two months has also helped to erase water year precipitation deficits that existed on February 1 due to the dry November and December at mountain locations. Most mountain sites are now reporting near to slightly above average water year precipitation. Near to above normal snowpack has resulted in Upper Clark Fork River basin forecasts which are near to slightly above average for the April 1 – July 31 period.



Black line: 2020 Dark Green line: 2019 Light Green line: 30-year median

Reservoir Storage

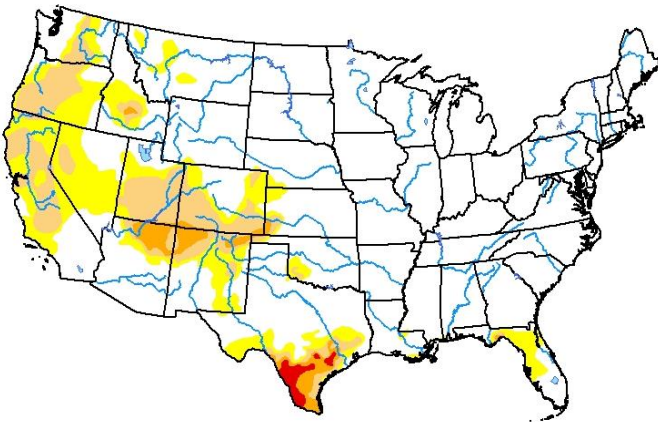
Similar to last month, reservoir contents in the state are near to above average for most locations across Montana. Only a few reservoirs in north-central Montana are reporting below average contents for this date. However, the above-normal snowpack in the river basins that feed these reservoirs looks to be more than adequate to fill them before irrigation season this summer.

Upper Clark Fork Storage

<i>Reservoir Storage</i>	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	111%	78%	107%

Nevada Creek Reservoir Storage, March 1 = 6,885 ac/ft

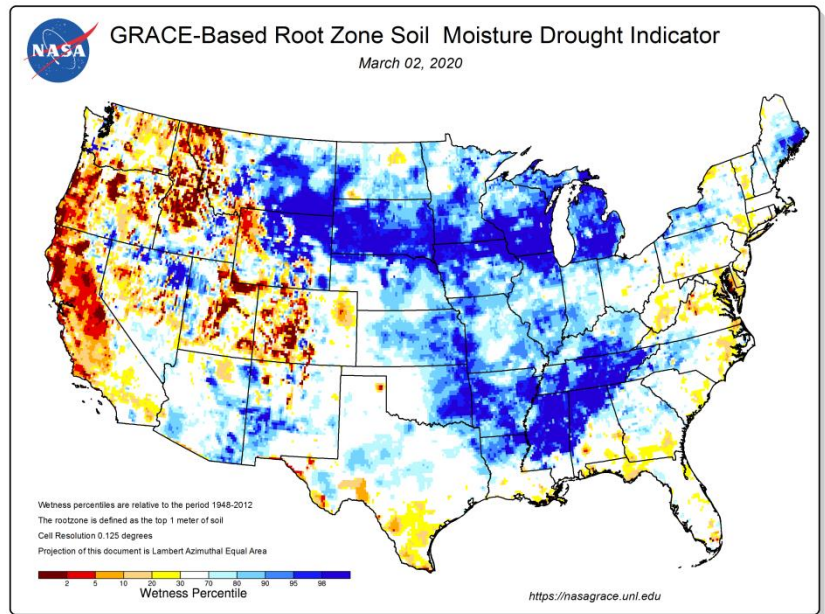
Montana Drought Monitor – March 3, 2020



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 – March 2, 2020



Montana SNOTEL Snow Water Equivalent: March 6, 2020

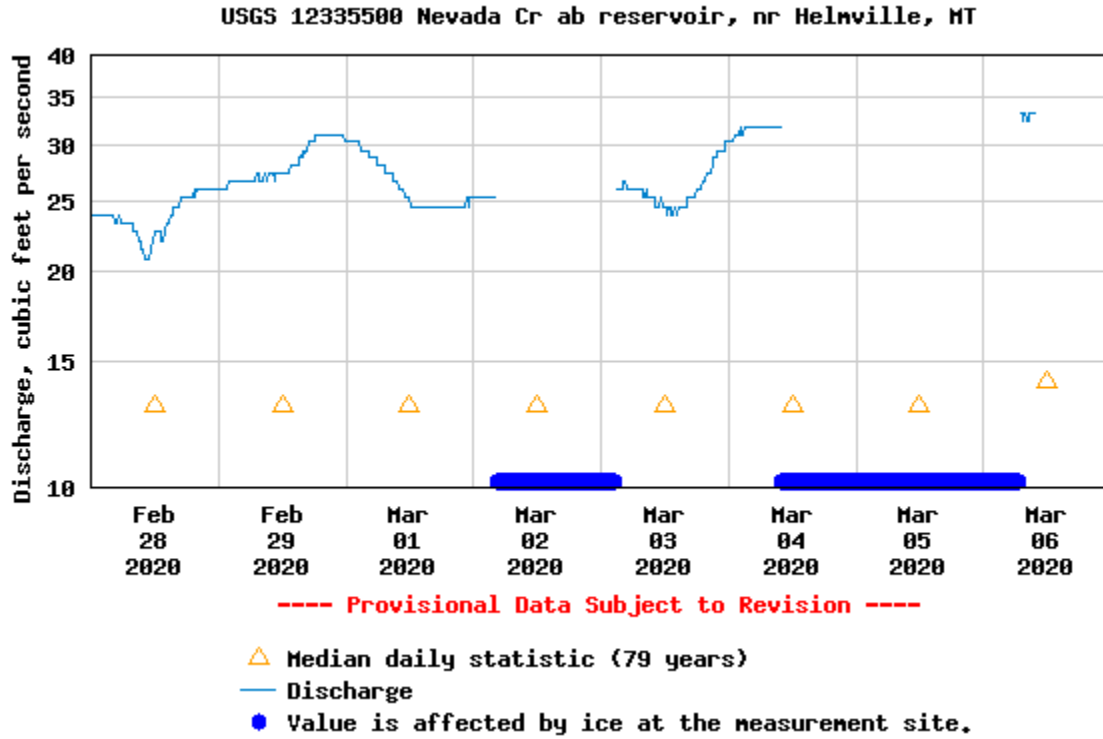
Montana SNOTEL Snow/Precipitation Update Report							
Based on Mountain Data from NRCS SNOTEL Sites							
Provisional data, subject to revision							
Data based on the first reading of the day (typically 00:00) for Friday, March 06, 2020							
Basin Site Name	Elev (ft)	Snow Water Equivalent			Water 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	12.1	10.9	111	11.4	12.5	91
Basin Creek	7180	6.4	5.8	110	7.4	7.2	103
Black Pine	7210	9.4	8.6	109	10.2	10.8	94
Combination	5600	4.4	4.2	105	5.3	7.6	70
Copper Bottom	5200	-M	N/A	*	-M	13.6	*
Copper Camp	6950	-M	N/A	*	-M	26.8	*
Lubrecht Flume	4680	5.0	4.8	104	7.7	8.5	91
Nevada Ridge	7020	13.7	11.7 _C	117	13.2	13.3 _C	99
N Fk Elk Creek	6250	9.6	9.2	104	9.9	11.2	88
North Fork Jocko	6330	41.6	34.6	120	46.3	40.8	113
Peterson Meadows	7200	9.3	7.4	126	9.7	9.1 _C	107
Rocker Peak	8000	12.6	10.3	122	10.6	10.8	98
Skalkaho Summit	7250	18.2	18.0	101	16.9	18.8	90
Stuart Mountain	7400	30.0	26.2 _C	115	27.7	26.3 _C	105
Warm Springs	7800	17.9	15.5	115	16.7	18.0	93
Basin Index (%)		114			99		

March 6, 2020, USGS Real Time Flow Conditions

Nevada Creek above Reservoir

Discharge, cubic feet per second

Most recent instantaneous value: 33.3 03-06-2020 09:45 MST



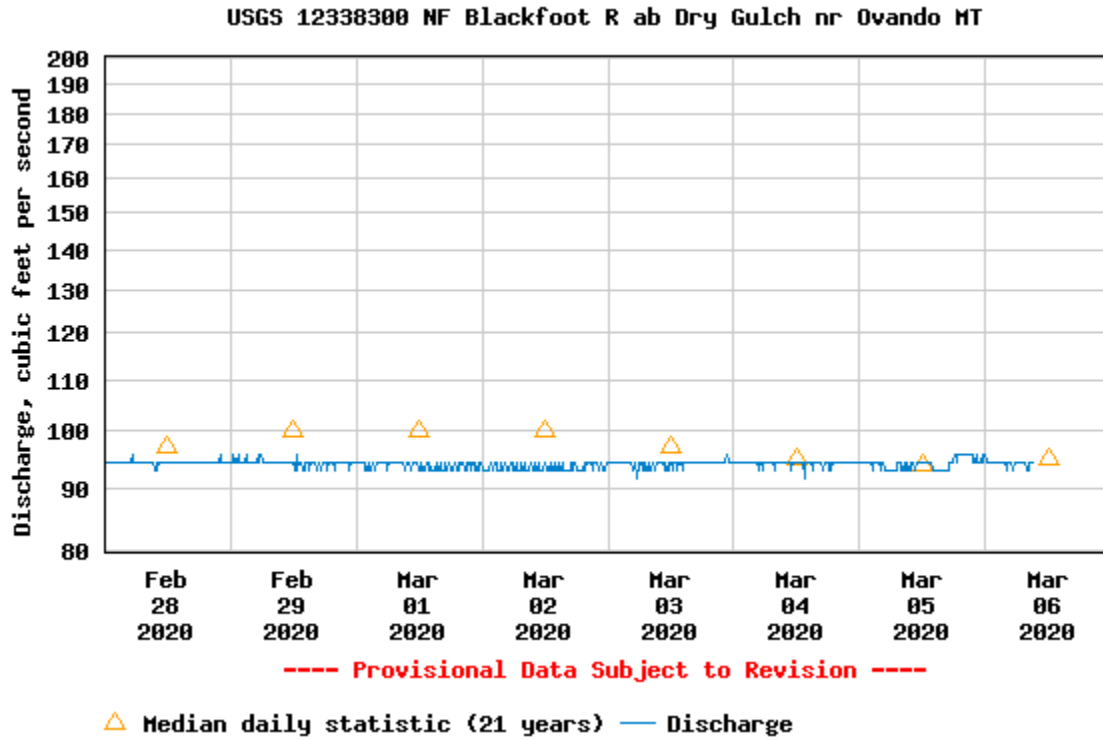
Daily discharge, cubic feet per second -- statistics for Mar 6 based on 79 water years of record [more](#)

Min (1989)	25th percentile	Median	Mean	75th percentile	Most Recent Instantaneous Value Mar 6	Max (1986)
4.80	9	14	19	20	33.3	133

North Fork Blackfoot

Discharge, cubic feet per second

Most recent instantaneous value: 94.4 03-06-2020 09:00 MST

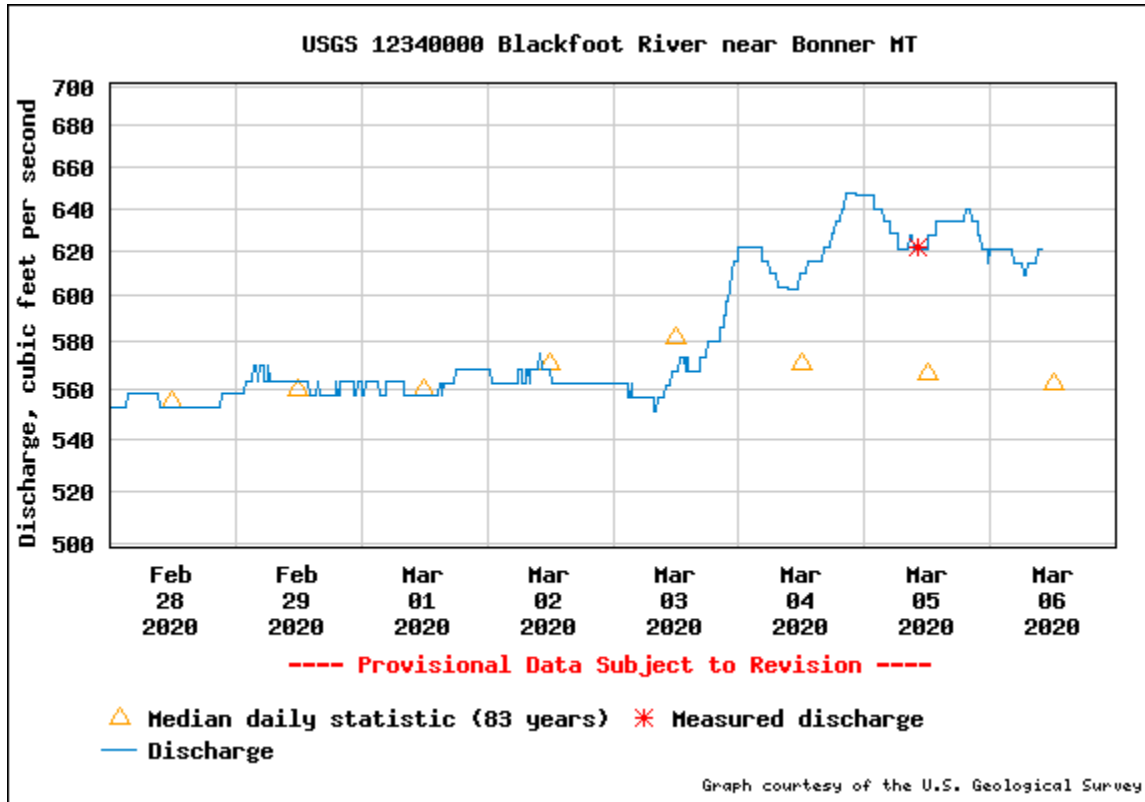


Daily discharge, cubic feet per second -- statistics for Mar 6 based on 21 water years of record [more](#)

Min (2001)	25th percentile	Most Recent Instantaneous Value Mar 6	Median	Mean	75th percentile	Max (2015)
73.0	80	94.4	95	99	108	158

Blackfoot River at Bonner Discharge, cubic feet per second

Most recent instantaneous value: 621 03-06-2020 09:45 MST



Daily discharge, cubic feet per second -- statistics for Mar 6 based on 85 water years of record [more](#)

Min (1945)	25th percentile	Median	Most Recent Instantaneous Value Mar 6	Mean	75th percentile	Max (1986)
260	488	563	621	639	720	2560

Three-Month Outlook March 6, 2020

From
National Weather Service Climate Prediction Center
<http://www.cpc.ncep.noaa.gov/>

Equal to slightly above average precipitation for
March through May.

Equal chance for normal, below or above normal
temperatures from March through May.

