

Missouri River Basin Mountain Snowpack Report

2020-2021 Winter Season

Winter of 2020-2021. The July 1 forecasted runoff for the Missouri River Basin above Sioux City, IA for calendar year 2021 (CY 2021) is 15.9 million acre-feet (MAF), 62% of average. On July 1, 2021 the mountain snowpack in both reaches the Above Fort Peck and the Peck to Garrison has melted. The mountain snowpack peaked in the Above Fort Peck reach on March 31, 2021 and 86% of the normal April 15 peak and the Fort Peck to Garrison reach on April 26, 2021 and 96% of the normal April 15 peak. The following tabulation is a summary of this year's mountain SWE accumulations and the CY 2021 runoff forecast for the first of each month.

CY 2021 Mountain Snowpack Accumulations in Percent of Average SWE									
Reach	Jan 1	Feb 1	Mar 1	Apr 1	May 1	Jun 1*	Jul 1*	Peak Accum.*	Peak Date
Above Fort Peck	78%	78%	94%	88%	78%	28%	0%	86%	Mar 31
Fort Peck to Garrison	82%	78%	94%	94%	91%	27%	0%	96%	Apr 26

*Percent of Normal April 15 Peak

Forecasted CY 2021 Upper Missouri River Basin Annual Runoff in MAF									
Location	Jan 1	Feb 1	Mar 1	Apr 1	May 1	Jun 1	Jul 1	Aug 1	Sep 1
Above Sioux City, Iowa	23.1	22.9	21.7	21.3	17.8	17.9	15.9		
Percent of Average (25.8 MAF)	90%	89%	84%	83%	69%	69%	62%		

For comparison purposes, the mountain SWE for the previous two years were:

CY 2020 Mountain Snowpack Accumulations in Percent of Average SWE								
Reach	Jan	Feb	Mar	Apr	May		Peak Accum*	Peak Date
Above Fort Peck	91%	96%	104%	106%	96%		Apr 16	Apr 16
Fort Peck to Garrison	95%	96%	105%	106%	96%		112%	Apr 19

*Percent of Normal April 15 Peak

CY 2019 Mountain Snowpack Accumulations in Percent of Average SWE								
Reach	Jan	Feb	Mar	Apr	May		Peak Accum*	Peak Date
Above Fort Peck	80	84	108	97	101		105	Apr 18
Fort Peck to Garrison	83	86	99	93	97		104	Apr 17

*Percent of Normal April 15 Peak

SNOTEL Mountain snowpack SWE station data is provided by the USDA Natural Resource Conservation Service (NRCS). Normally by April 15, 100% of the peak mountain snowpack SWE accumulation has occurred. The snow melts during the May through July timeframe and provides significant Mainstem inflow, which is stored to prevent downstream flooding and later used to meet the Mainstem's authorized project purposes. Knowing the amount of mountain SWE at the first of each month for selected mountain snowpack areas does not reduce the considerable runoff variability because the weather conditions during the melt period greatly influences the runoff yield. The total percent of average SWE accumulation are shown for the first of each month through May. For the period of May through July, the percentages recorded are a percent of the peak SWE accumulation for the year. This indicates the remaining amount of snow to melt in the mountains.