

Blackfoot Water Supply Report

May 10, 2021

Montana Water Supply Report data as of May 10, 2021 (from NRCS):

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

Following on the heels of a March which yielded well below average mountain and valley precipitation, April delivered the same pattern of dryness with monthly temperatures once again vacillating from well above average to well below average during the month. “April yielded a little bit of everything in the temperature department. The month began with record warmth at mountain locations, which transitioned the low elevation snowpack to melt by the end of the first week,” said Lucas Zukiewicz, water supply specialist for the Natural Resources Conservation Service (NRCS) in Montana. Although temperatures moderated during the second week of the month, prolonging the snowpack at mid and high elevations, low elevations continued their release of snow water during the month.

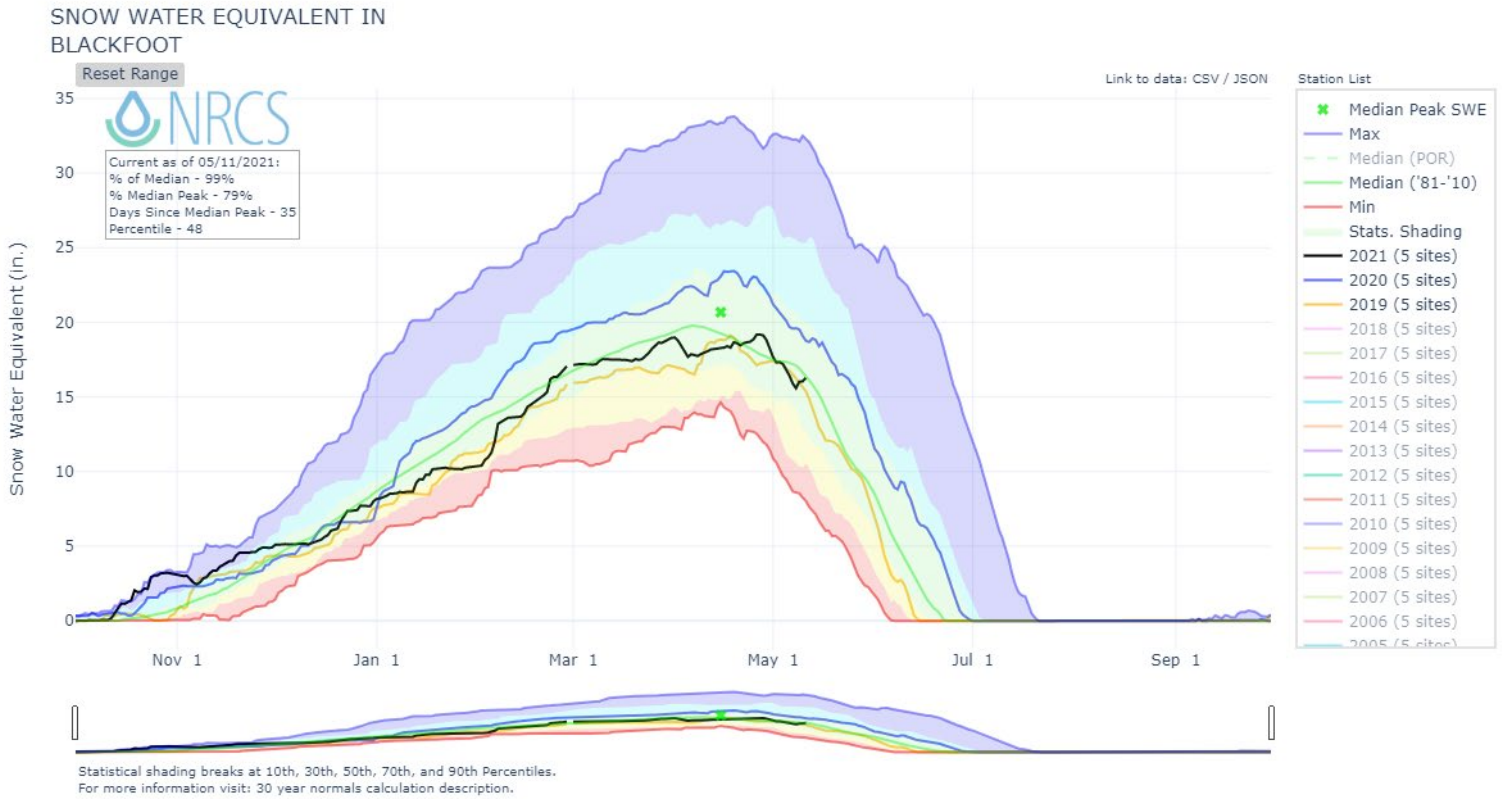
As of May 1, 19 low-elevation SNOTEL sites across Montana have melted out, which is slightly more measurement locations than normal for this date. “The low-, and even mid-elevation, snowpack melt is most notable in southwest Montana where some measurement locations have melted out two to three weeks ahead of schedule,” said Zukiewicz.

The mid- and high-elevation snowpack in the state began the transition to melt during the last week of the April, when temperatures once again rose to above seasonal normal. “The temperatures at the end of April and beginning of May were the tipping point for the snowpack at the mid and high elevations,” said Zukiewicz. “As of now, all elevations are melting at a pretty good clip. Now that the bulk of mountain snowpack reservoir is pouring out of mountain locations, rivers and streams will begin their big seasonal increases in flows.”

This year, both the peaks in Montana’s rivers and the overall volume of runoff are likely to be impacted by the weather experienced during March and April. “Since the low elevation snowpack has melted out across the state, and the mid and high elevations didn’t add the expected amount of water to the snowpack during April, the resulting seasonal volumes for the remainder of the runoff season are forecasted to be below what was expected on April 1,” said Zukiewicz.

Streamflow forecasts issued by NRCS on May 1 indicate that while March and April yielded below normal precipitation, near to slightly below average streamflows are still possible for many of Montana’s rivers. “October and February saved snowmelt driven runoff in these basins. Without those two months of above normal snowfall, we would be facing the prospect of below normal runoff across the state,” said Zukiewicz.

BLACKFOOT RIVER BASIN SNOW WATER EQUIVALENT (May 11, 2021)



Black line: 2021 Water Year

Green line: 30-year median

Blue line: 2020 Water Year

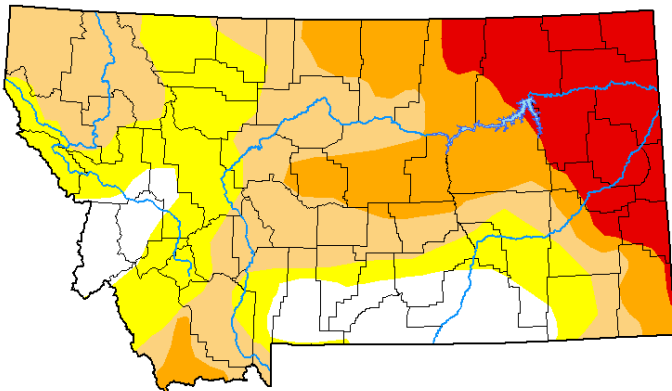
Gold line: 2019 Water Year

Reservoir Storage

Reservoir storage is currently above average for this time of year in Western Montana reservoirs and about equal to the levels at this time last year.

UPPER CLARK FORK RIVER BASIN	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity	Average % Capacity	Current % Average	Last Year % Average
East Fork Rock Creek Res	10.1	10.4	9.2	16.0	63%	65%	57%	109%	113%
Georgetown Lake	27.5	27.7	28.2	31.0	89%	89%	91%	98%	98%
Lower Willow Creek Reservoir			4.1	4.9			84%		
Nevada Creek Res	11.3	11.4	9.9	12.6	90%	91%	79%	114%	116%
Basin-wide Total	48.9	49.6	47.3	59.6	82%	83%	79%	103%	105%
# of reservoirs	3	3	3	3	3	3	3	3	3

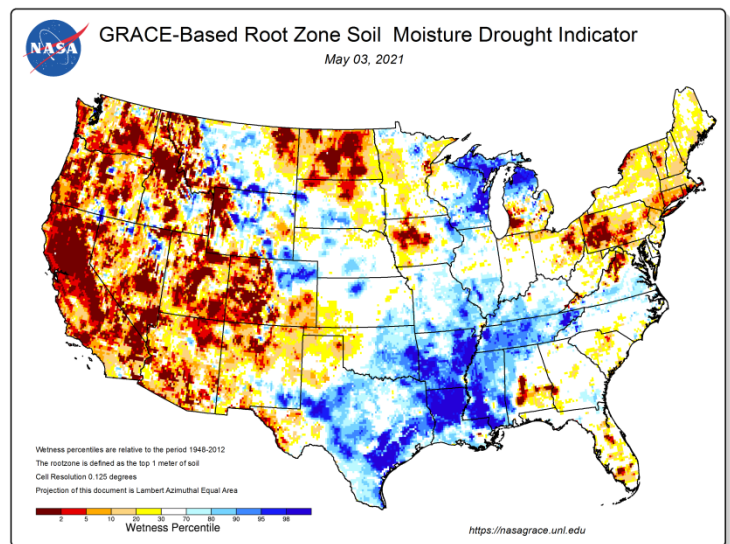
Montana Drought Monitor – May 4, 2021



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 – May 3, 2021



Montana SNOTEL Snow Water Equivalent: May 6, 2021

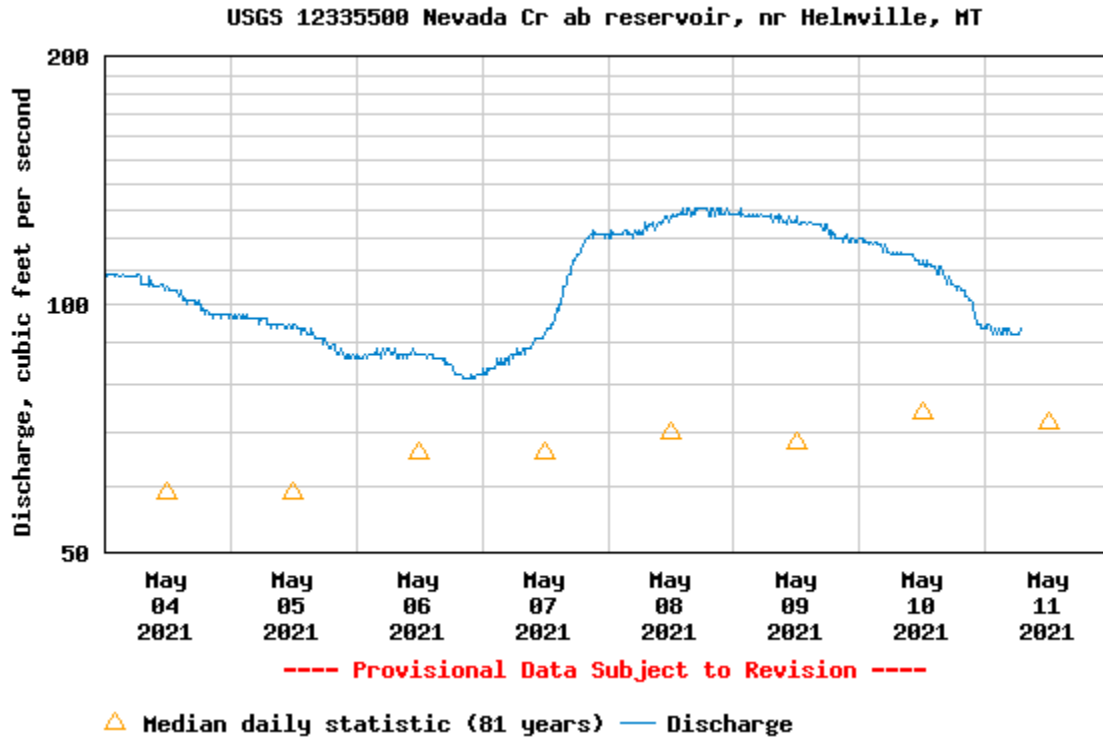
Montana SNOTEL Snow/Precipitation Update Report								
Based on Mountain Data from NRCS SNOTEL Sites								
Provisional data, subject to revision								
Data based on the first reading of the day (typically 00:00) for Thursday, May 06, 2021								
Basin Site Name	Elev (ft)	Snow Water Equivalent			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	14.0	15.8	89	14.9	20.3	73	
Basin Creek	7180	2.9	9.0	32	7.1	12.7	56	
Black Pine	7210	6.0	7.3	82	14.6	16.0	91	
Combination	5600	0.0	0.0	*	10.1	11.0	92	
Copper Bottom	5200	0.0	N/A	*	18.6	17.3	108	
Copper Camp	6950	20.4	N/A	*	27.4	34.7	79	
Lubrecht Flume	4680	0.0	0.0	*	13.1	11.7	112	
Nevada Ridge	7020	12.8	11.7 _c	109	17.7	18.4 _c	96	
N Fk Elk Creek	6250	7.2	5.8	124	17.7	16.2	109	
North Fork Jocko	6330	32.0	38.4	83	47.5	51.8	92	
Peterson Meadows	7200	6.6	10.4	63	12.2	15.2 _c	80	
Skalkaho Summit	7250	15.6	21.7	72	26.3	25.4	104	
Stuart Mountain	7400	30.1	30.5 _c	99	30.0	34.7 _c	86	
Warm Springs	7800	24.8	21.7	114	22.2	26.2	85	
Basin Index (%)					88			90

May 11, 2021, USGS Real Time Flow Conditions

Nevada Creek above Reservoir

Discharge, cubic feet per second

Most recent instantaneous value: 93.4 05-11-2021 06:45 MDT



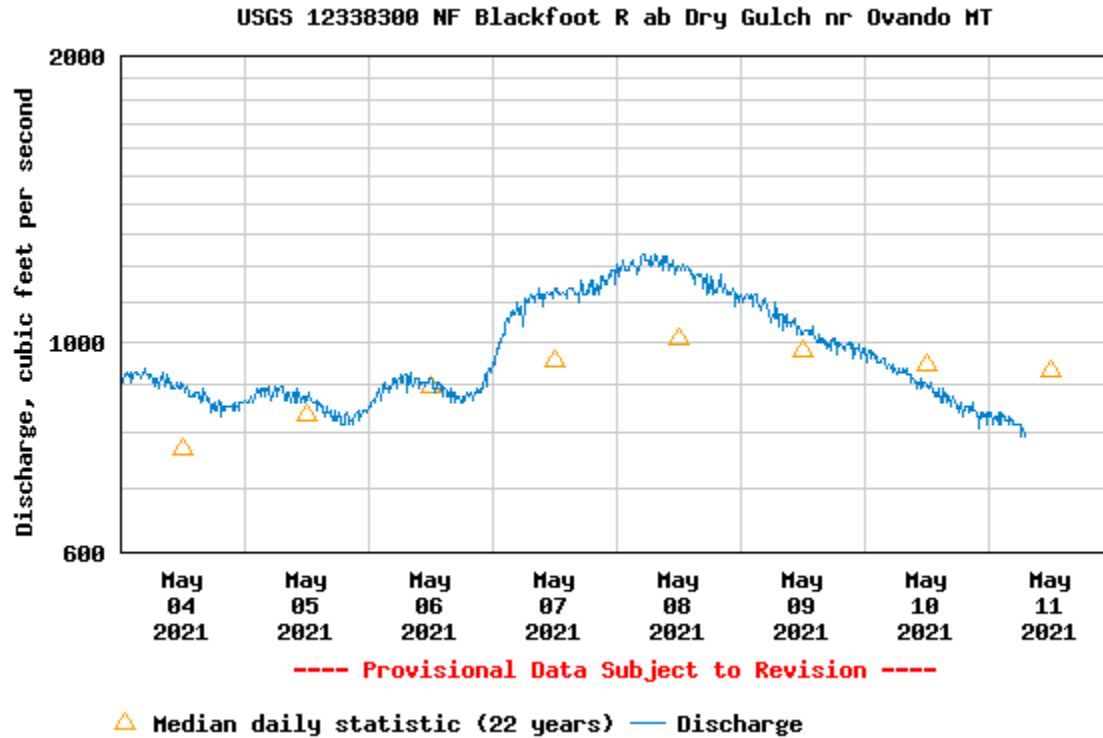
Daily discharge, cubic feet per second -- statistics for May 11 based on 81 water years of record [more](#)

Min (1977)	25th percentile	Median	Most Recent Instantaneous Value May 11	Mean	75th percentile	Max (2018)
12.0	44	72	93.4	100	131	624

North Fork Blackfoot

Discharge, cubic feet per second

Most recent instantaneous value: 796 05-11-2021 07:00 MDT



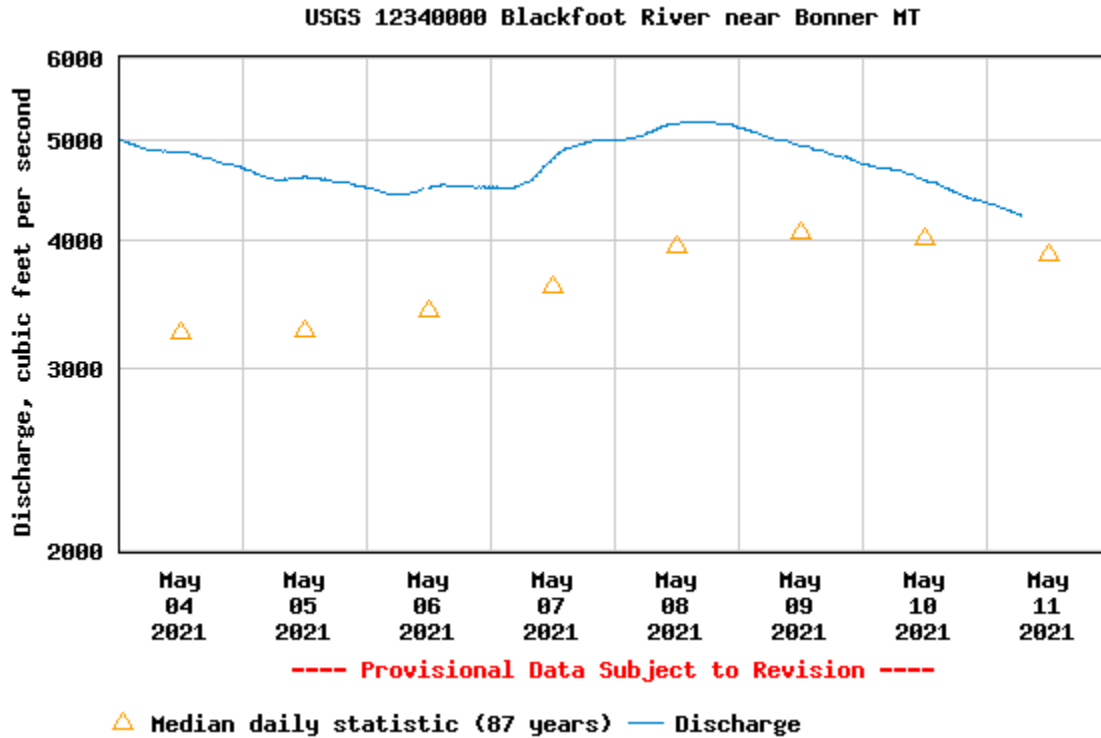
Daily discharge, cubic feet per second -- statistics for May 11 based on 22 water years of record [more](#)

Min (2010)	25th percentile	Most Recent Instantaneous Value May 11	Median	Mean	75th percentile	Max (2017)
277	759	796	934	1030	1220	2130

Blackfoot River at Bonner

Discharge, cubic feet per second

Most recent instantaneous value: 4220 05-11-2021 06:45 MDT



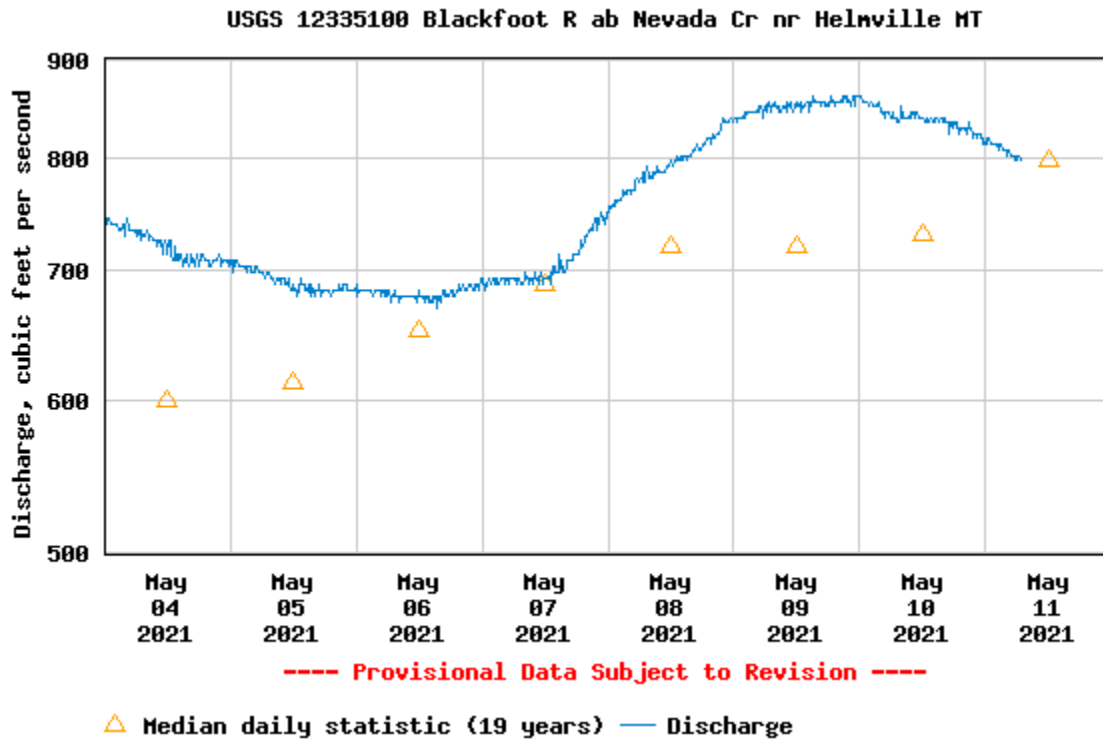
Daily discharge, cubic feet per second -- statistics for May 11 based on 87 water years of record [more](#)

Min (1941)	25th percentile	Median	Most Recent Instantaneous Value May 11	Mean	75th percentile	Max (2018)
865	2950	3870	4220	4580	5540	18600

Blackfoot River above Nevada Creek

Discharge, cubic feet per second

Most recent instantaneous value: 798 05-11-2021 06:45 MDT



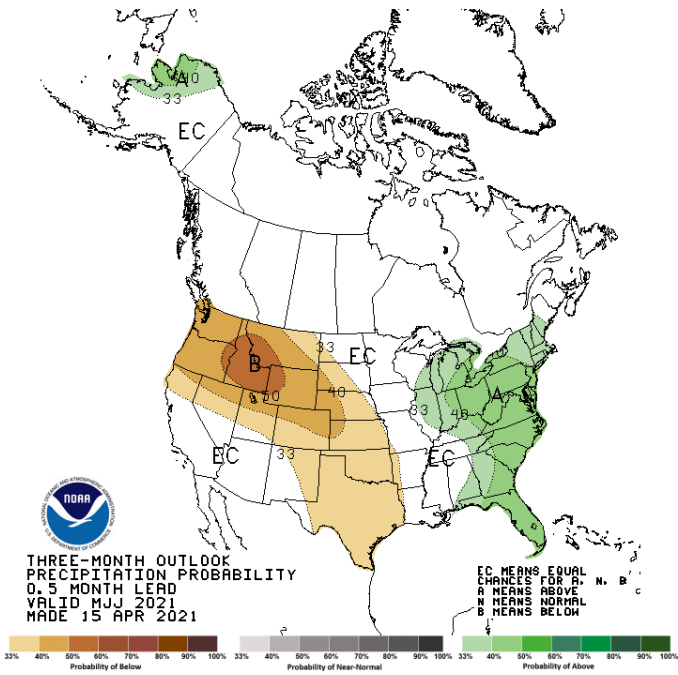
Daily discharge, cubic feet per second -- statistics for May 11 based on 19 water years of record [more](#)

Min (2002)	25th percentile	Most Recent Instantaneous Value May 11	Median	Mean	75th percentile	Max (2017)
186	548	798	798	810	1100	1410

Three-Month Outlook May 2021

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

Higher chance for below average precipitation
for May through July.



Higher chance for normal to above normal
temperatures from May through July.

