

## June 1, 2023 Water Supply Forecast Discussion

The [Colorado Basin River Forecast Center \(CBRFC\)](#) geographic forecast area includes the Upper Colorado River Basin (UCRB), Lower Colorado River Basin (LCRB), and Eastern Great Basin (GB).

### Water Supply Forecast Summary

May weather was generally warmer and drier than normal across the UCRB and GB and cooler and wetter than normal across the LCRB. The weather pattern during much of May was unsettled, which resulted in scattered showers and thunderstorms occurring on most days during the month.

May observed unregulated streamflow volumes were above to much above average across the UCRB and GB. At many locations, alternating periods of cooler/cloudier weather and warmer/sunnier weather during May led to multiple, similar sized peaks and/or an extended period of high flows, instead of a well defined seasonal peak.

June 1 CBRFC model SWE conditions across the UCRB range from 65% of normal above Fontenelle Reservoir in southwest WY to 315% of normal across the Price, San Rafael, and Dirty Devil basins in central UT. Snowpack conditions across the western slope of CO are generally more favorable in northwest (White/Yampa) and southwest (Gunnison, Dolores, San Juan) basins compared to Colorado River headwater basins in west-central CO. June 1 CBRFC model SWE in the GB ranges from 160% of normal in the Bear River Basin to 325% in the Sevier River Basin.

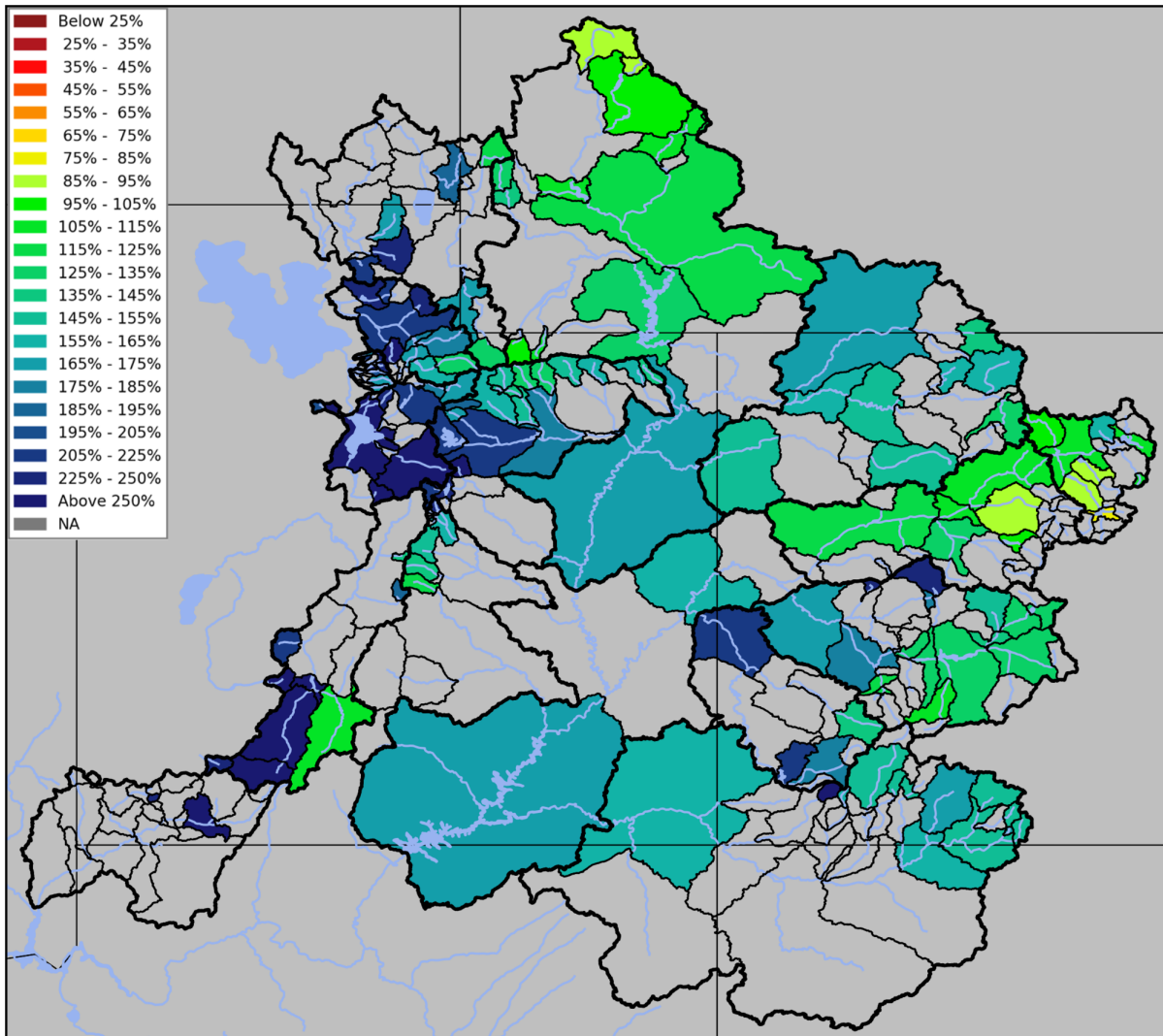
April-July unregulated inflow forecasts for some of the major reservoirs in the UCRB include Fontenelle 830 KAF (113% of average), Flaming Gorge 1280 KAF (133%), Green Mountain 240 KAF (86%), Blue Mesa 845 KAF (133%), McPhee 530 KAF (208%), and Navajo 1010 KAF (160%). The Lake Powell inflow forecast is 10.7 MAF (167% of average), which is a 300 KAF decrease from May.

The weather pattern that has been in place will largely remain the same through the next ten days. An upper low over California will slowly move to the northeast through the week maintaining below normal temperatures across the area. Moisture lingering across the northern half of the area will result in afternoon showers and thunderstorms across northern UT and northwest CO. There will be some variation in the coverage and extent of showers as moisture ebbs and flows, but in general, afternoon convection will be the norm moving into next week. While some storms will produce heavy rain, daily precipitation totals will generally be less than half of an inch. Near to below normal temperatures and wetter than normal conditions are expected to continue into the middle of June across the majority of the area.

## Seasonal Water Supply Forecasts

June 1 water supply forecast ranges (percent of normal) by basin:

April-July Water Supply Forecast Ranges Percent of 1991-2020 Average	
UPPER COLORADO RIVER BASIN	
<u>Basin</u>	<u>Forecast Range</u>
Lake Powell	167
Green River Basin	
Upper Green	90-140
Duchesne	130-220
Yampa/White	125-170
Price/San Rafael/Dirty Devil	120-255
Colorado River Headwaters	
Above Kremmling	80-165
Kremmling to Cameo	90-125
Southwest Colorado	
Gunnison	110-245
Dolores	140-210
San Juan	145-265
GREAT BASIN	
Bear	120-235
Weber	135-270
Six Creeks	170-245
Provo/Utah Lake	165-350
Sevier	115-475



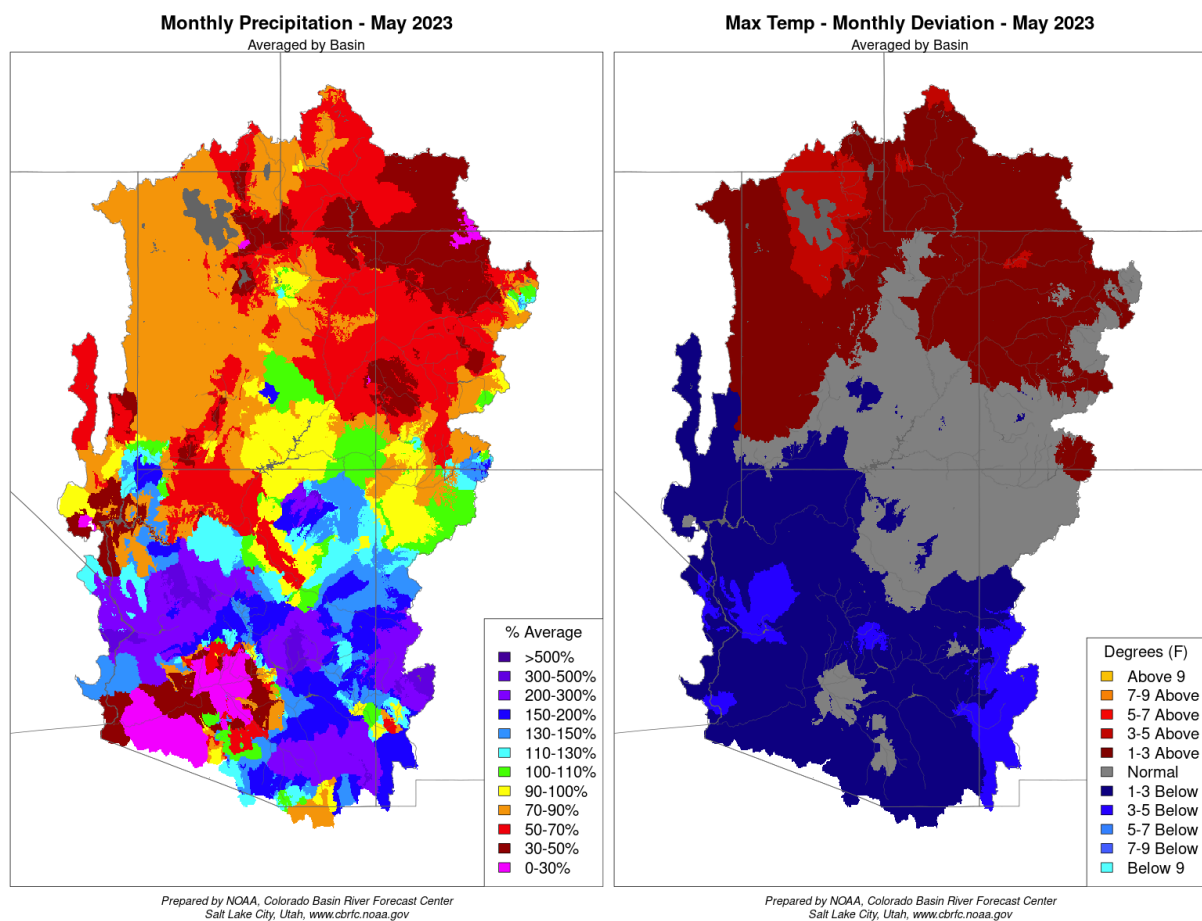
Upper Colorado, Great Basin, and Virgin River Basins  
2023 April-July forecast volumes as a percent of 1991-2020 average  
(50% exceedance probability forecast).

For specific site water supply forecasts click [here](#).

## Water Supply Discussion

### May Weather

May weather was generally warmer and drier than normal across the UCRB and GB and cooler and wetter than normal across the LCRB. The weather pattern during much of May was unsettled, which resulted in scattered showers and thunderstorms occurring on most days during the month. UCRB areas that received above normal May precipitation were limited to portions of the Colorado River headwaters (Fraser, Williams Fork basins) and San Juan River headwater basins above Navajo Reservoir. Water year to date precipitation (October-May) is near to above average across the CRB and GB. Monthly and water year precipitation is summarized below.



May 2023 percent of normal precipitation (left) and maximum temperature departure (right).  
(Averaged by basins defined in the CBRFC hydrologic model)

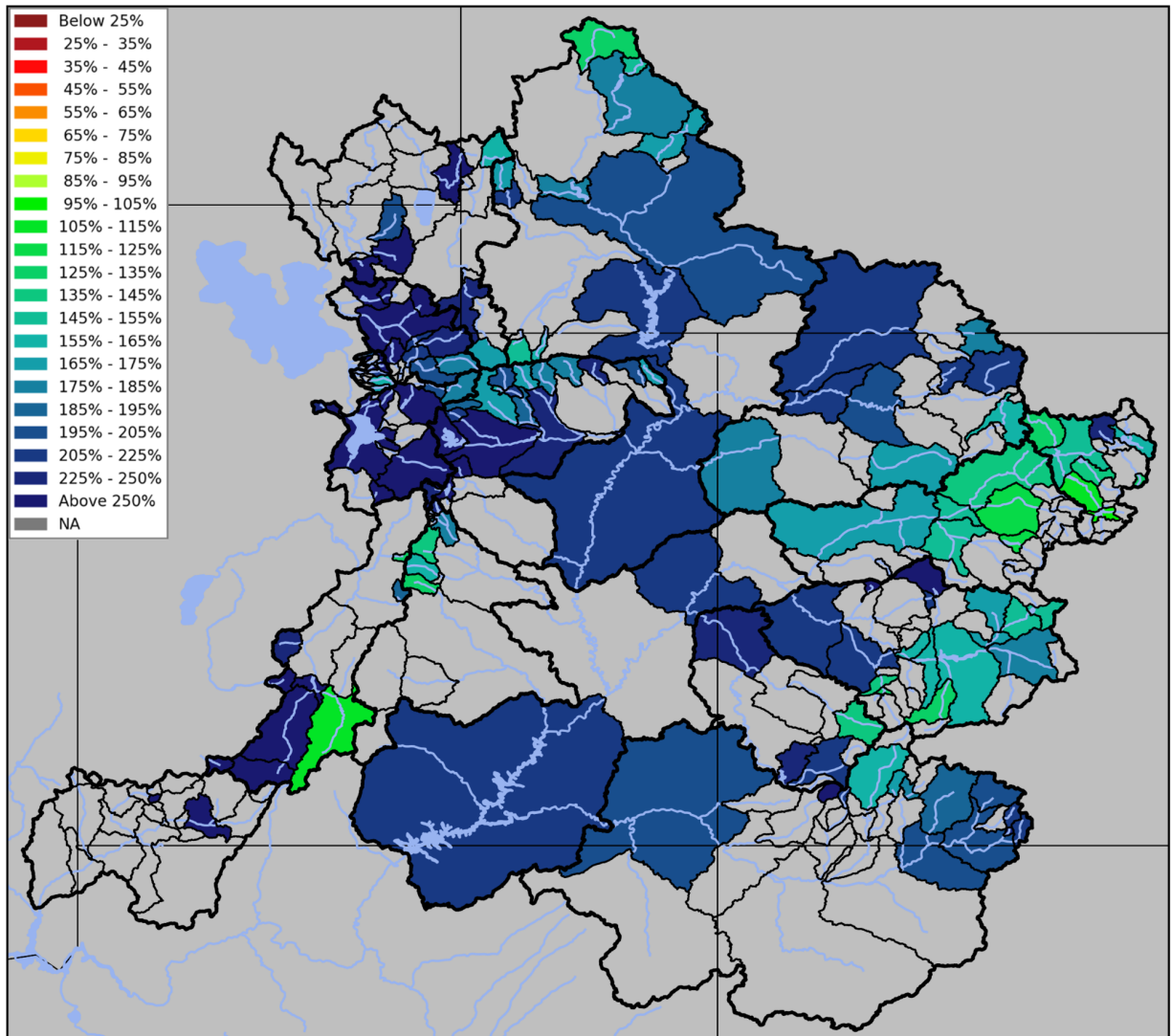
For CBRFC monthly precipitation maps click [here](#).



<b>Water Year 2023</b> <b>CBRFC Precipitation (Significant Runoff Areas)</b> <b>Percent of 1991-2020 Average</b>		
<b>UPPER COLORADO RIVER BASIN</b>		
	<b><u>May</u></b>	<b><u>Oct-May</u></b>
Above Lake Powell	68	115
<b>Green River Basin</b>		
Above Fontenelle	67	97
Above Flaming Gorge	65	105
Yampa/White	40	117
Duchesne	64	122
Price/San Rafael/Dirty Devil	78	128
<b>Colorado River Headwaters</b>		
Above Kremmling	85	92
Eagle	74	95
Roaring Fork	63	110
Above Cameo	73	102
<b>Southwest Colorado</b>		
Gunnison	64	117
Dolores	73	133
San Juan	87	124
<b>LOWER COLORADO RIVER BASIN</b>		
Virgin	85	153
Little Colorado	185	145
Verde	215	156
Salt	189	129
Upper Gila	230	123
<b>GREAT BASIN</b>		
Bear	70	126
Weber	53	131
Six Creeks	44	141
Provo/Utah Lake	65	139
Sevier	70	129

## May Observed Streamflow

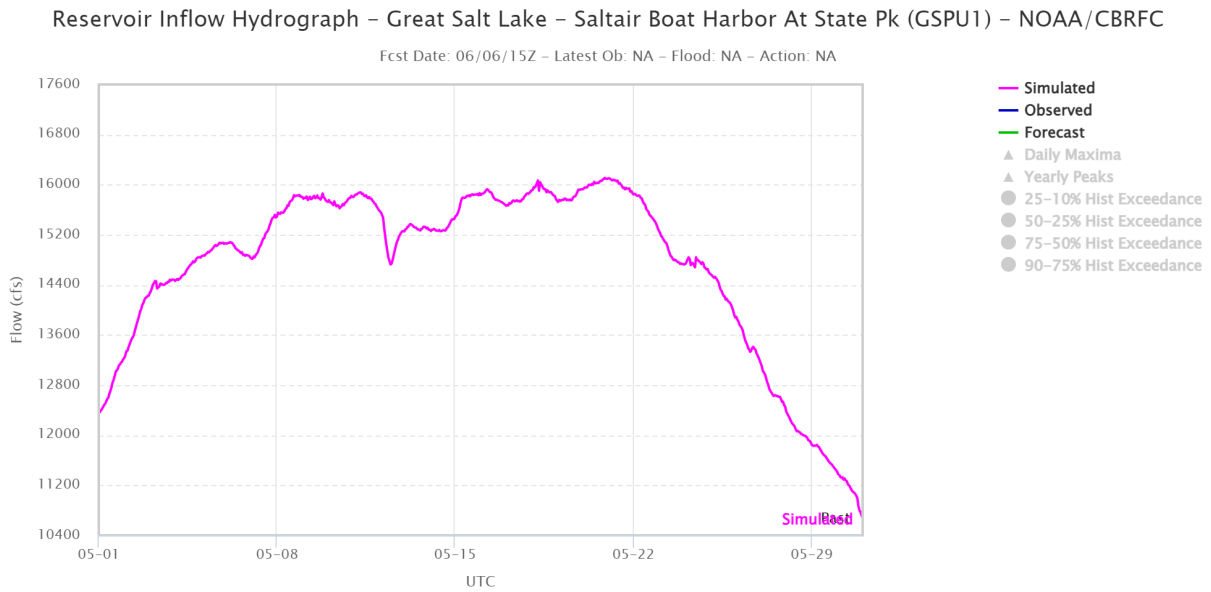
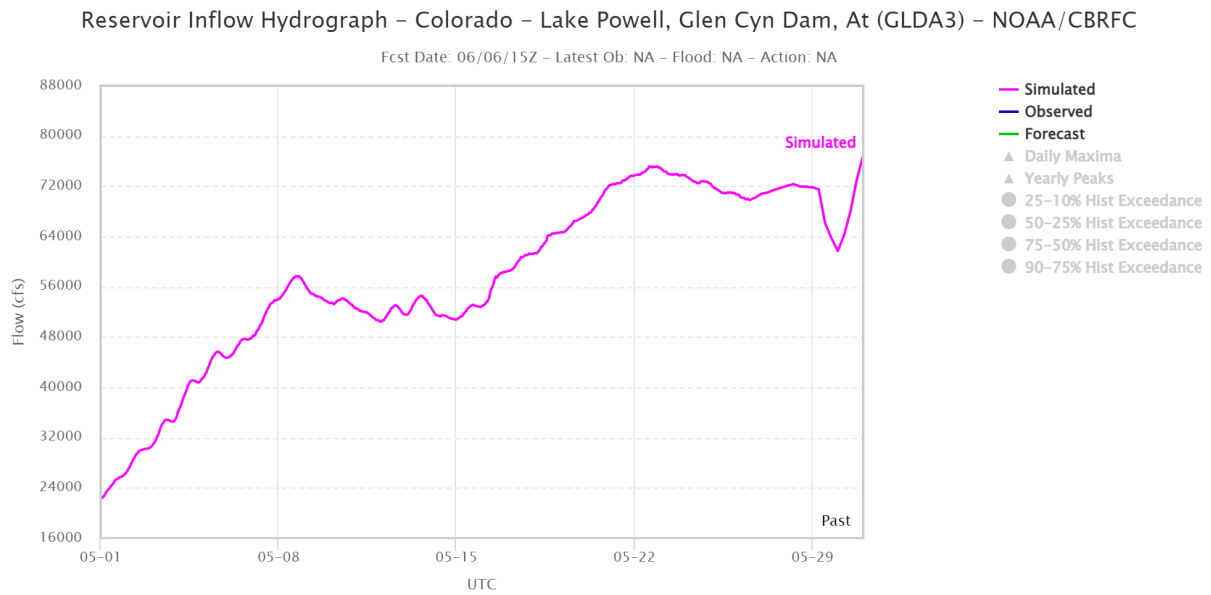
May observed unregulated streamflow volumes (image below) were above to much above average across the UCRB and GB. Above average May streamflow volumes were a result of above normal snowpack conditions at the beginning of May and near to above normal temperatures during the month. Snowmelt rates were higher on days with less cloud cover and days when dust was at/near the surface of the snowpack. At many locations, alternating periods of cooler/cloudier weather and warmer/sunnier weather during May led to multiple, similar sized peaks and/or an extended period of high flows, instead of a well defined seasonal peak.



Upper Colorado, Great, Virgin River Basins

May 2023 observed unregulated volumes as a percent of the 1991-2020 average.

May 2023 CBRFC hydrologic model flows at a few locations are shown below.



## Snowpack

Percent normal (median) snow water equivalent (SWE) can be misleading and vary significantly in the spring after peak snowpack has passed. June historical median SNOTEL SWE values are generally small and it is normal for many areas to have little or no snow remaining. With that said, June 1 CBRFC model SWE conditions across the UCRB range from 65% of normal above Fontenelle Reservoir in southwest WY to 315% of normal across the Price, San Rafael, and Dirty Devil basins in central UT. Snowpack conditions across the western slope of CO are generally more favorable in northwest (White/Yampa) and southwest (Gunnison, Dolores, San Juan) basins compared to Colorado River headwater basins in west-central CO.

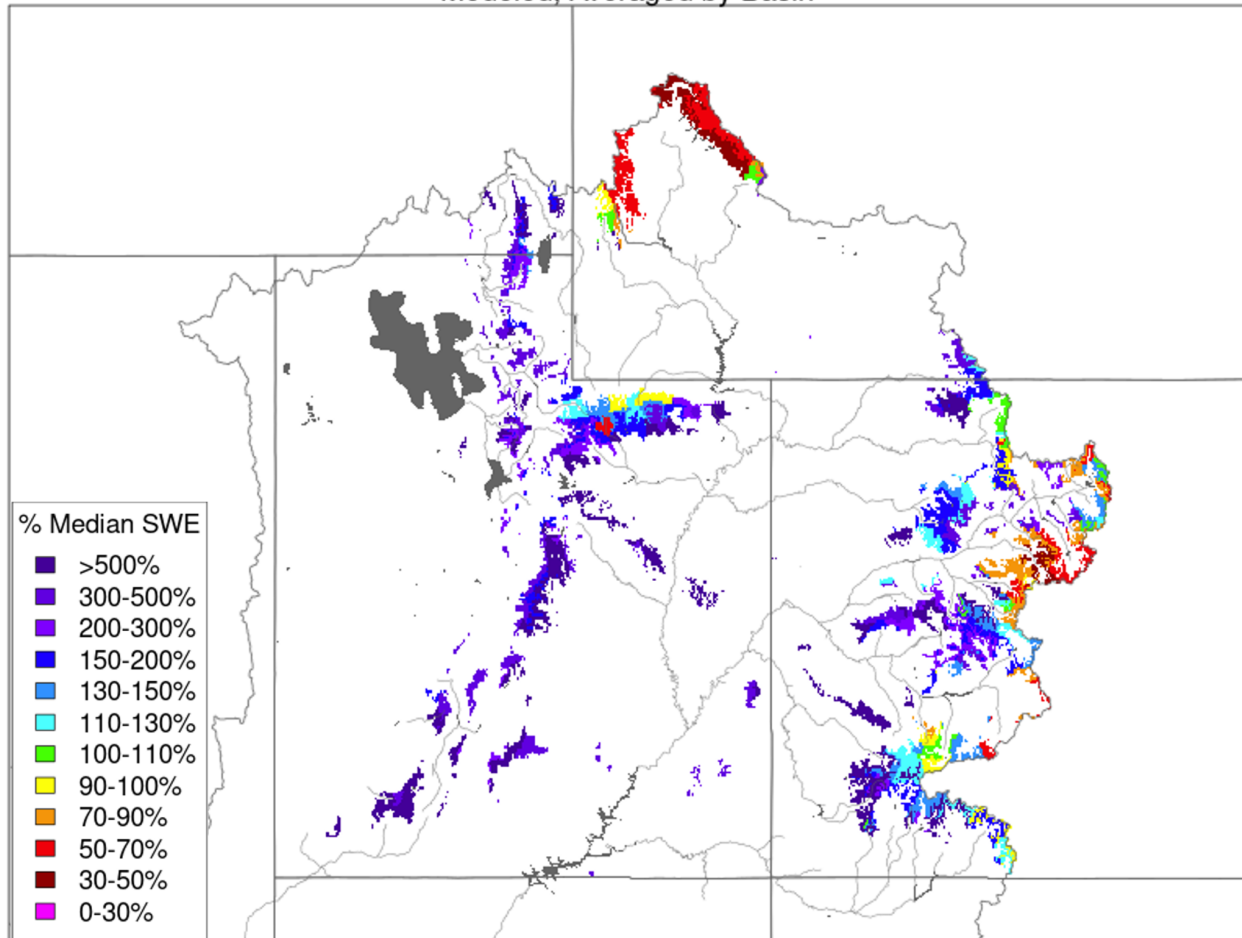
SWE conditions in the GB are generally better when compared to the UCRB, due to more storms and precipitation events targeting UT this winter compared to southwest WY, and western CO. June 1 CBRFC model SWE in the GB ranges from 160% of normal in the Bear River Basin to 325% in the Sevier River Basin.

CBRFC hydrologic model SWE conditions are summarized in the table and figure below.

<b>Water Year 2023</b> <b>CBRFC Model SWE (Significant Runoff Areas)</b> <b>Percent of 1991-2020 Median</b>			
<b>UPPER COLORADO RIVER BASIN</b>			
	<b>May1</b>	<b>Jun1</b>	<b>Change</b>
Above Lake Powell	163	121	-42
<b>Green River Basin</b>			
Above Fontenelle	129	66	-63
Above Flaming Gorge	146	82	-64
Yampa/White	180	126	-54
Duchesne	205	171	-34
Price/San Rafael/Dirty Devil	255	316	61
<b>Colorado River Headwaters</b>			
Above Kremmling	113	80	-33
Eagle	110	75	-35
Roaring Fork	137	120	-17
Above Cameo	129	97	-32
<b>Southwest Colorado</b>			
Gunnison	162	133	-29
Dolores	240	203	-37
San Juan	155	134	-21
<b>GREAT BASIN</b>			
Bear	250	161	-89
Weber	267	211	-56
Six Creeks	275	262	-13
Provo/Utah Lake	310	251	-59
Sevier	225	324	99

## Snow Conditions - June 01 2023

Modeled, Averaged by Basin



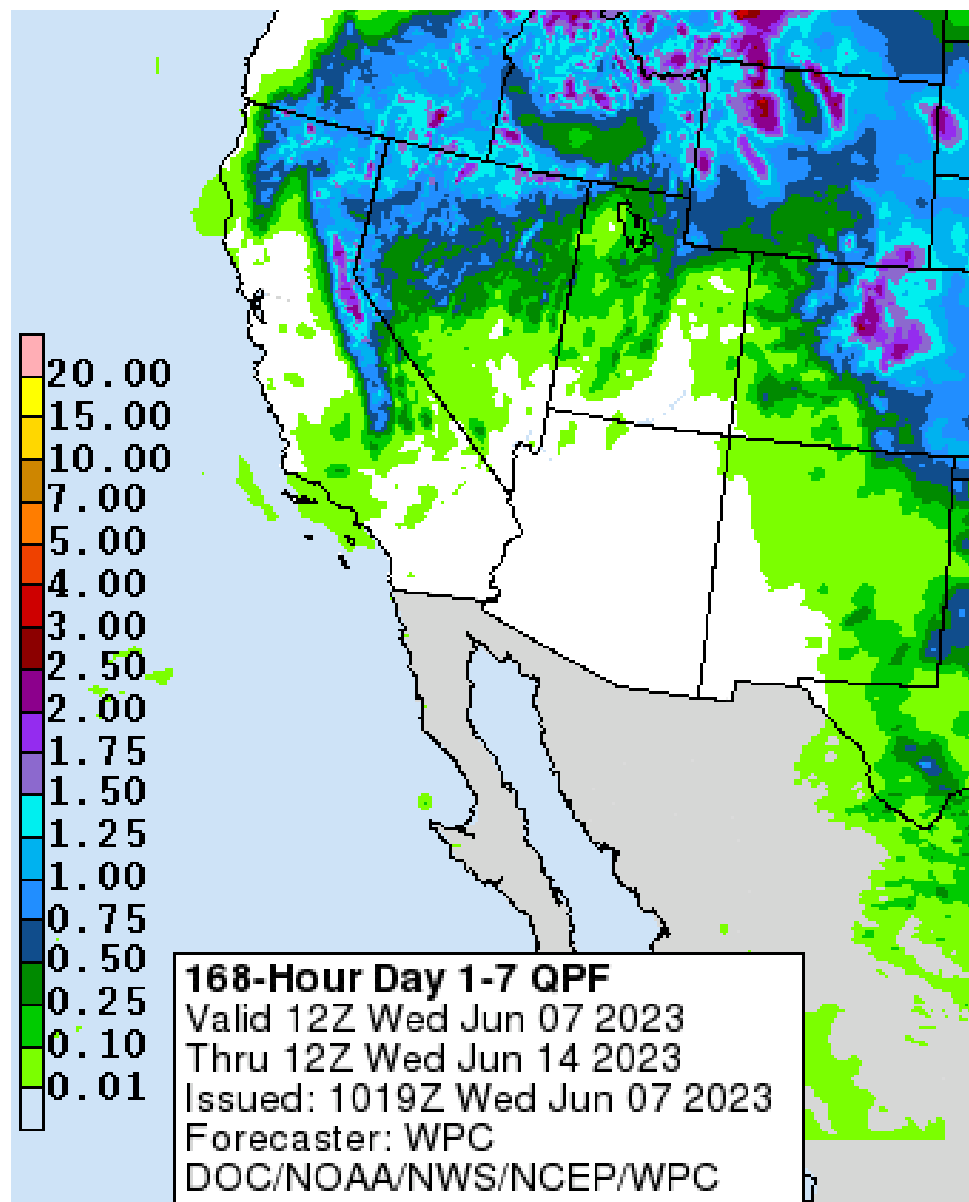
Prepared by NOAA, Colorado Basin River Forecast Center  
Salt Lake City, Utah, [www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

CBRFC hydrologic model percent median SWE - June 1, 2023.

For updated SNOTEL information click [here](#).  
For CBRFC hydrologic model snow click [here](#).

## Upcoming Weather

The weather pattern that has been in place will largely remain the same through the next ten days. An upper low over California will slowly move to the northeast through the week maintaining below normal temperatures across the area. Moisture lingering across the northern half of the area will result in afternoon showers and thunderstorms across northern UT and northwest CO. There will be some variation in the coverage and extent of showers as moisture ebbs and flows, but in general, afternoon convection will be the norm moving into next week. While some storms will produce heavy rain, daily precipitation totals will generally be less than half of an inch. Near to below normal temperatures and wetter than normal conditions are expected to continue into the middle of June across the majority of the area.



Weather Prediction Center precipitation forecast for June 7-14, 2023.



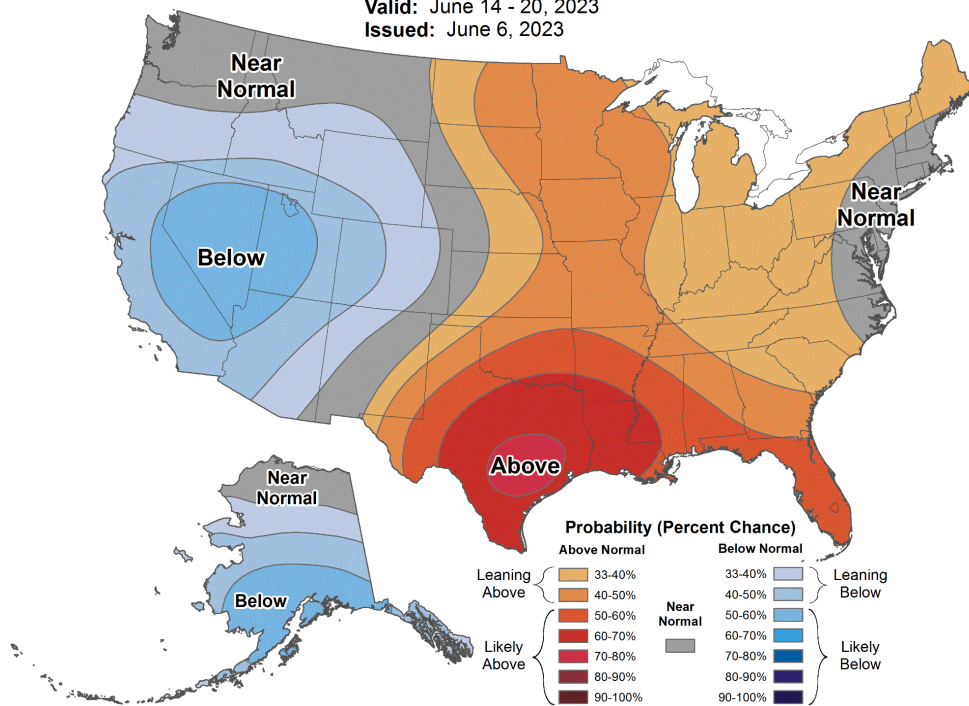


## 8-14 Day Temperature Outlook



Valid: June 14 - 20, 2023

Issued: June 6, 2023



NWS Climate Prediction Center temperature probability forecast for June 14-20, 2023.

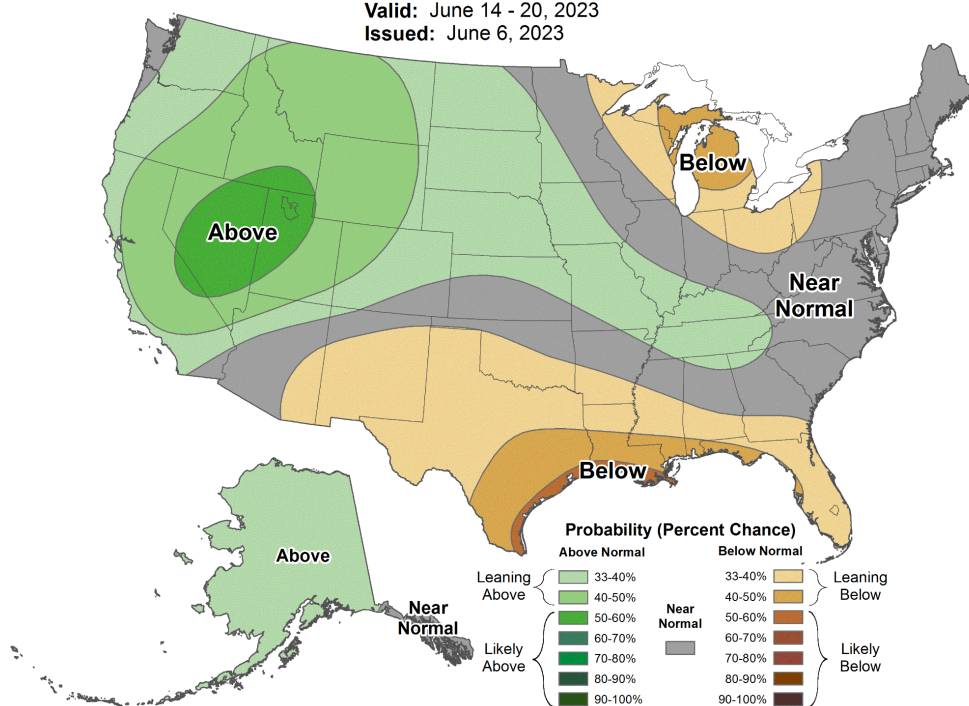


## 8-14 Day Precipitation Outlook



Valid: June 14 - 20, 2023

Issued: June 6, 2023



NWS Climate Prediction Center precipitation probability forecast for June 14-20, 2023.



For CBRFC's beginning of the month online publication that contains basin conditions, summary graphics, and end of month reservoir content tables, refer to the following links.

#### **Basin Conditions and Summary Graphics**

[Green River Basin](#)

[Upper Colorado River Basin](#)

[San Juan River Basin](#)

[Great Salt Lake Basin](#)

[Sevier River Basin](#)

[Virgin River Basin](#)

#### **End Of Month Reservoir Content Tables**

[Green River Basin](#)

[Upper Colorado River Basin](#)

[San Juan River Basin](#)

[Great Salt Lake Basin](#)

[Sevier Basin](#)

#### **Acronyms & Abbreviations**

CBRFC - Colorado Basin River Forecast Center

CPC - Climate Prediction Center

CRB - Colorado River Basin

ENSO - El Niño/Southern Oscillation

ESP - Ensemble Streamflow Prediction

GB - Great Basin

KAF - Thousand Acre-Feet

LCRB - Lower Colorado River Basin

MAF - Million Acre-Feet

NWS - National Weather Service

QPF - Quantitative Precipitation Forecast

SNOTEL - Snow Telemetry

SWE - Snow Water Equivalent

UCRB - Upper Colorado River Basin

WPC - Weather Prediction Center