

Water Supply Forecast Discussion June 1, 2024

The <u>Colorado Basin River Forecast Center (CBRFC)</u> geographic forecast area includes the Upper Colorado River Basin (UCRB), Lower Colorado River Basin (LCRB), and Eastern Great Basin (GB).

Water Supply Forecasts

Forecasted seasonal (April-July) water supply volumes are most favorable in the GB, where water supply forecasts are generally near to above normal. UCRB seasonal volumes are variable and generally near to above normal across central areas, below normal in northern areas, and well below normal in southern basins.

June 1 water supply forecasts are summarized in the figure and table below.



June 1, 2024 seasonal water supply forecast summary. CBRFC water supply forecast <u>Map</u> | <u>List</u>

Water Year Precipitation

Precipitation during the first three months (October-December) of water year 2024 was below average across the region. Active weather picked up in January and continued through March, resulting in three consecutive months with above average precipitation. April precipitation was generally below average across the region, the exceptions being the Colorado River headwaters above Kremmling and the Verde basins, where monthly precipitation was around average. May precipitation was generally near normal across northern areas and well below normal across southern areas, with a few areas including the Uintas, Roaring Fork, and Gunnison receiving above average precipitation during May. Water year 2024 precipitation across significant runoff producing areas is generally near normal across northern basins and below normal across southern basins, and summarized in the figures and table below.



Water Year 2024 CBRFC Precipitation (Major Contributing Areas) Percent of 1991-2020 Average UPPER COLORADO RIVER BASIN		
Above Lake Powell	95	97
Green River Basin		
Above Fontenelle	82	93
Above Flaming Gorge	96	97
Yampa/White	99	107
Duchesne	107	99
Price/San Rafael/Dirty Devil	92	104
Colorado River Headwaters		
Above Kremmling	79	100
Eagle	102	105
Roaring Fork	141	104
Above Cameo	97	101
Southwest Colorado		
Gunnison	124	97
Dolores	48	83
San Juan	56	83
LOWER COLORADO RIVER BASIN		
Virgin	27	77
Little Colorado	0	92
Verde	0	88
Salt	17	92
Upper Gila	0	93
GREAT	BASIN	
Bear	82	106
Weber	102	108
Six Creeks	109	111
Provo/Utah Lake	88	102
Sevier	58	89

May and water year 2024 precipitation summary.

Observed Streamflow / Antecedent Soil Moisture

Observed unregulated streamflow volumes during May were generally near average across the GB and central UCRB, and below average across northern and southern portions of the UCRB. May 2024 observed unregulated streamflow and antecedent soil moisture conditions are shown in the figures below.





Top: May 2024 observed unregulated streamflow as a percent of average. Bottom: Antecedent (mid-November 2023) CBRFC model soil moisture conditions.

Snowpack Conditions

Percent of normal (median) snow water equivalent (SWE) conditions can vary significantly this time of year as June historical median SWE values are generally small and it is not uncommon for areas to have little or no snow remaining. With that said, June 1 SWE conditions are above normal in most areas as a result of additional snow accumulation during May and mild/cloudy weather during much of May helping to restrain snowmelt. June 1 SWE conditions as a percent of normal range between 65-150% across the UCRB and 80-160% of normal across the GB. SWE conditions are summarized in the figure and table below.



Left: June 1, 2024 CBRFC hydrologic model SWE. Right: trend in CBRFC hydrologic model SWE conditions.

Upcoming Weather

The development of high pressure ridging over the Mountain West has kept the CBRFC area largely dry and increasingly hot since the start of June. This pattern will generally continue over the next week (through June 14th), according to the model ensemble consensus. Beyond that, forecast uncertainty increases. It is possible that significant troughing (cooler, moister weather) develops during the third week of June, but confidence in this change remains low.

An early season heat wave afflicting the CBRFC area will likely continue to bring widespread above average temperatures through June 14th. At the same time, chances for significant precipitation across the area remain suppressed. However, diurnal heating under the ridge of high pressure will be enough to fire off a few showers and thunderstorms each day. The best chances for precipitation will occur over the high terrain of the GB and UCRB. At the easternmost fringes of the UCRB in the Colorado Rockies, isolated spots may receive up to an inch of rainfall over the course of the next week. The precise locations of these spots will be difficult to forecast given the nature of these thunderstorms.

In general, expect mostly hot and dry conditions to continue through mid-June. Locations that receive a wetting rainfall will be few and far between.



7-day precipitation forecast for June 6-13, 2024.



CBRFC Web Links

Official Water Supply Forecasts: <u>Map | List</u> Latest Water Supply Model Guidance: <u>Map | List</u> Snowpack Conditions: <u>SNOTEL | CBRFC Model</u> Monthly Precipitation: <u>Map | Image</u> Soil Moisture: <u>Map | Image</u> 7-Day Precipitation Forecast: <u>Map | Image</u> Climate Forecasts: <u>Image</u> Water Supply Briefing Webinars: <u>Registration</u>

Acronyms & Abbreviations

CBRFC - Colorado Basin River Forecast Center CODOS - Colorado Dust-on-Snow Program **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 USGS - United States Geological Survey WPC - Weather Prediction Center