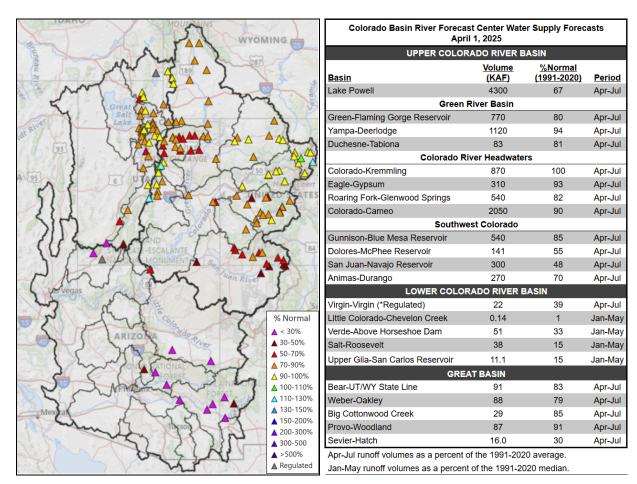


# Water Supply Forecast Discussion April 1, 2025

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**

April 1 water supply forecasts across the CRB and GB are generally below to well below normal and summarized in the figure and table below. Snowpack, soil moisture, and future weather are the primary hydrologic conditions that impact the water supply outlook.



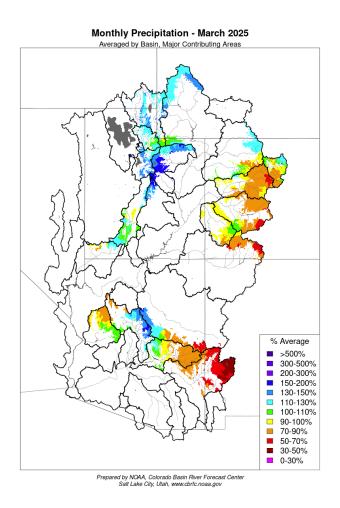
April 1, 2025 seasonal water supply forecast summary. Map | List

#### **March Weather**

March brought stretches of both active and quiet weather for the CBRFC area. Overall, conditions were neither extremely wet nor extremely dry, and most of the significant runoff areas ended the month within 30% of average March precipitation. Generally, the storm track benefitted the western side of the CBRFC area (mountains of UT and central/western AZ) more than the eastern side. Most of the systems were cold in nature with precipitation falling as snow over the high terrain.

In the LCRB, March featured this season's wettest period of weather to-date. For context, Flagstaff, AZ experienced its 16<sup>th</sup> snowiest March on record (out of 126 years) with 35.6 inches of snow. However, if the season were to end today, it would also rank as the 22<sup>nd</sup> least snowy water year on record. A similar story can be applied to much of the rest of the LCRB — while March was beneficially wet, the season as a whole remains historically dry.

Toward the end of the month, a strong ridge of high pressure resulted in well above normal temperatures for the region. Numerous record high maximum and minimum temperatures were observed. This period of warm, sunny weather led to snowmelt in many lower and middle elevation locations. A cold storm system arrived during the final days of the month that reduced snowmelt rates and brought additional snow to higher elevations.

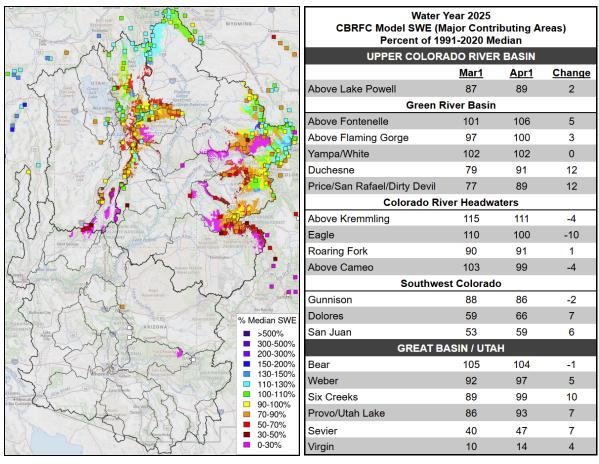


Water Year 2025 CBRFC Precipitation (Major Contributing Areas) Percent of 1991-2020 Average UPPER COLORADO RIVER BASIN		
Above Lake Powell	99	91
Green Riv	er Basin	
Above Fontenelle	126	106
Above Flaming Gorge	123	105
Yampa/White	106	101
Duchesne	131	91
Price/San Rafael/Dirty Devil	153	105
Colorado River	r Headwaters	3
Above Kremmling	97	102
Eagle	78	98
Roaring Fork	89	87
Above Cameo	89	95
Southwest	Colorado	
Gunnison	88	88
Dolores	94	83
San Juan	73	70
LOWER COLORAD	OO RIVER BA	ASIN
Virgin	95	58
Little Colorado	104	45
Verde	133	47
Salt	90	33
Upper Gila	66	26
GREAT	BASIN	
Bear	123	100
Weber	116	94
Six Creeks	132	98
Provo/Utah Lake	137	96
Sevier	113	78

#### **Snowpack Conditions**

Snow water equivalent (SWE) conditions as a percent of normal remained relatively steady during the past month due to near normal March precipitation. UCRB April 1 SWE conditions range between 60-110% of normal and are most favorable across northern areas including the Upper Green, White/Yampa, and Colorado River headwaters. SWE conditions across southern basins including the Dolores and San Juan are well below normal, with April 1 SWE at several SNOTEL stations ranked in the driest three on record. UCRB April 1 snow covered area is around 103% of the 2001-2024 median. LCRB SWE conditions this season have been at or near record low across southwest UT, central AZ, and west-central NM as a result of near record dry winter weather.

GB April 1 SWE conditions range between 45-105% of normal and generally improve from south to north. SWE is near normal across most of the GB, with the least favorable snowpack conditions in the Sevier River Basin, where April 1 SWE ranks in the driest three on record at several SNOTEL stations. UT snow covered area is around 125% of the 2001-2024 median. SWE conditions are summarized in the figure and table below.



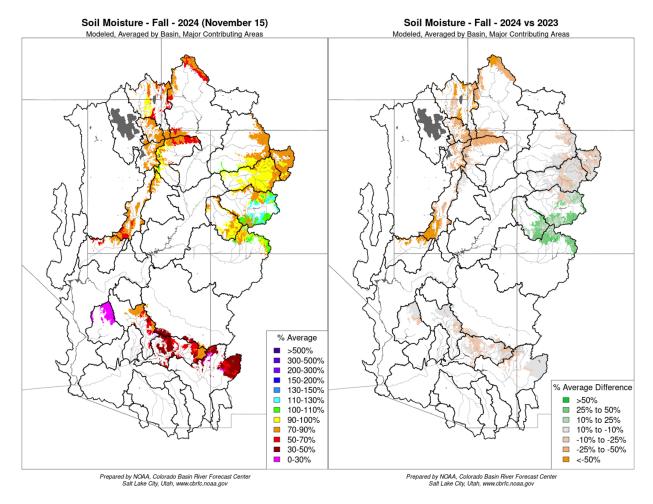
Left: April 1, 2025 SWE - NRCS SNOTEL observed (squares) and CBRFC hydrologic model.

Right: CBRFC hydrologic model SWE conditions summary.

#### **Soil Moisture**

CBRFC hydrologic model fall (antecedent) soil moisture conditions impact water supply forecasts and the efficiency of spring runoff. Basins with above average soil moisture conditions can be expected to experience more efficient runoff from rainfall or snowmelt while basins with below average soil moisture conditions can be expected to have lower runoff efficiency until soil moisture deficits are fulfilled. The timing and magnitude of spring runoff is impacted by snowpack conditions, spring weather, and soil moisture conditions.

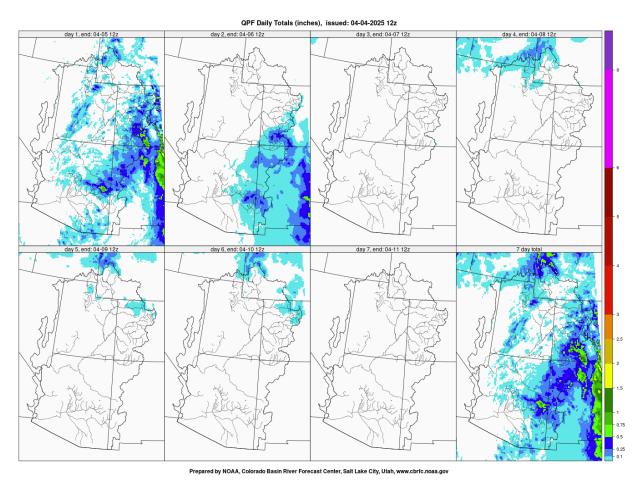
A very dry June-October 2024 across southwest WY and UT resulted in soil moisture conditions that are below normal and worse compared to a year ago. NW CO soil moisture conditions are near to below normal and similar compared to a year ago. SW CO soil moisture conditions are closer to average and improved from a year ago due to a wetter than normal monsoon (mid-June through September). Monsoon precipitation was near/below normal across the LCRB, where soil moisture conditions are below average and similar compared to last year. CBRFC hydrologic model soil moisture conditions are shown in the figures below.



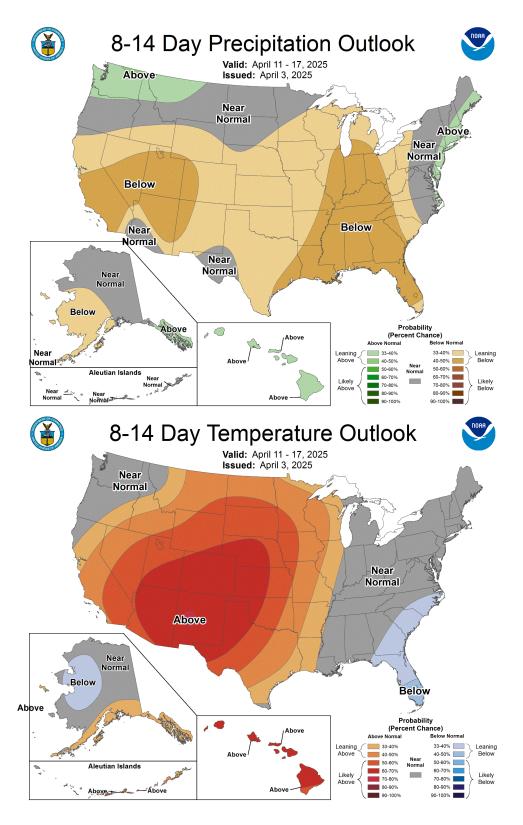
November 2024 CBRFC hydrologic model soil moisture conditions - as a percent of the 1991-2020 average (left) and compared to November 2023 (right).

# **Upcoming Weather**

The next two days (April 4-5) will continue to bring cool and unsettled weather across much of the region before a warming and drying trend takes hold at the beginning of next week. Precipitation amounts through Sunday, April 6, will be highest along the Continental Divide and into eastern portions of the Mogollon Rim in AZ, however, maximum precipitation totals will likely be less than an inch. Temperatures across the region are expected to warm to around 10 degrees above normal by the middle of next week, with mostly dry conditions. The only exception to this will be the far northern portions of the GB and UCRB, where a passing disturbance will bring a chance of light precipitation to higher terrain. Above average temperatures and drier than normal conditions are expected to persist into mid-April.



7-day precipitation forecast for April 4 - 11, 2025.



Climate Prediction Center temperature and precipitation probability forecasts for April 11–17, 2025.

#### **CBRFC Web Links**

Official Water Supply Forecasts: Map | List Latest Water Supply Model Guidance: Map | List Snowpack Conditions: SNOTEL | CBRFC Model

Monthly Precipitation: Map | Image

Soil Moisture: Map | Image

7-Day Precipitation Forecast: Map | Image

Climate Forecasts: Image

Water Supply Briefing Webinars: Registration

# **Acronyms & Abbreviations**

ASO - Airborne Snow Observatories, Inc.

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

NOAA - National Oceanic and Atmospheric Administration

NRCS - Natural Resources Conservation Service

NSIDC - National Snow and Ice Data Center

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

### References

1. Rittger, K., Lenard, S.J.P., Palomaki, R.T. (2025). Snow Today. Boulder, Colorado USA. National Snow and Ice Data Center. Data source: MODIS/Terra/SPIRES.