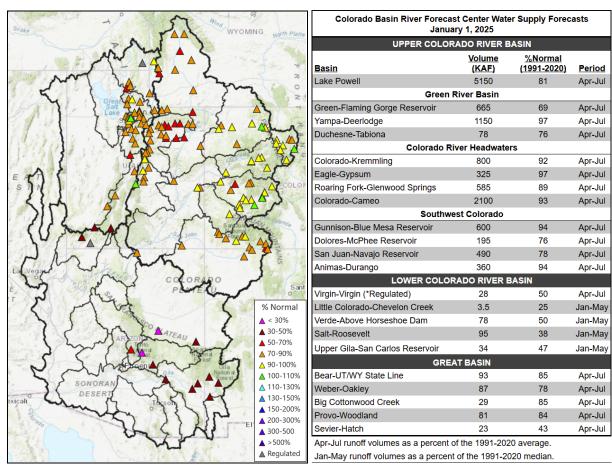


Water Supply Forecast Discussion January 1, 2025

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

January 1 water supply forecasts are summarized in the figure and table below. Snowpack, soil moisture, and future weather are the primary hydrologic conditions that impact the water supply outlook.

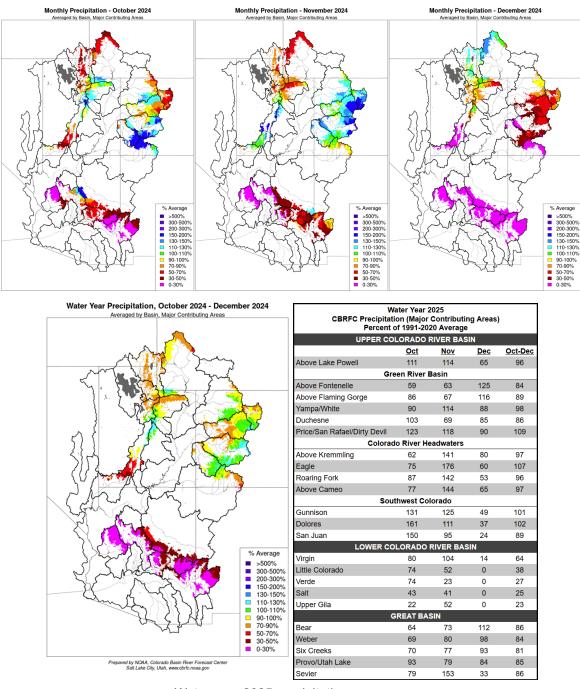


January 1, 2025 seasonal water supply forecast summary.

CBRFC water supply forecast Map | List

Water Year Precipitation

The beginning of water year 2025 featured a persistent northerly storm track. This kept rain and snowfall confined to the UCRB and GB, where water year-to-date (October–December) precipitation totals are near average for most of the area. In the LCRB, it was one of the driest starts to winter on record, with the near entirety of the region picking up zero measurable precipitation in December 2024. Water year precipitation-to-date (October–December) is detailed in the figures below.

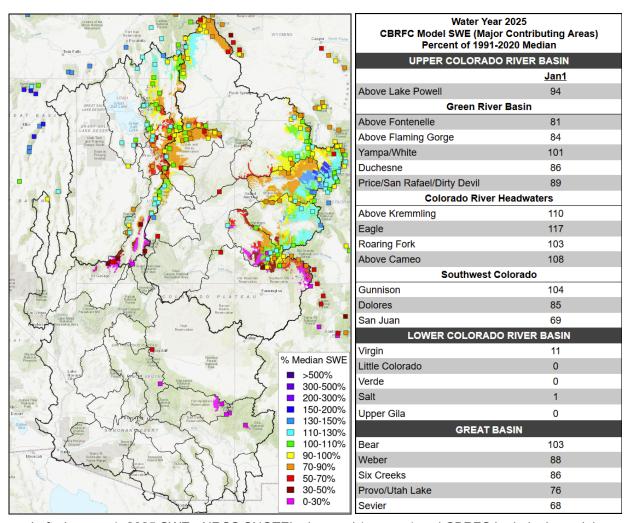


Water year 2025 precipitation summary.

Snowpack Conditions

UCRB January 1 snow water equivalent (SWE) conditions range between 70-115% of normal and are most favorable across west-central CO areas including the White/Yampa, Colorado River headwaters, and Gunnison. SWE is below normal elsewhere across the UCRB, with the least favorable conditions in the San Juan River Basin. UCRB January 1 snow covered area is around 65% of the 2001-2024 median. LCRB January 1 SWE conditions are at or near record low across southwest UT, central AZ, and west-central NM due to much drier than normal winter weather.

GB January 1 SWE conditions range between 70-105% of normal and generally improve from south to north. January 1 snow covered area across UT is around 40% of the 2001-2024 median. SWE conditions are summarized in the figure and table below.



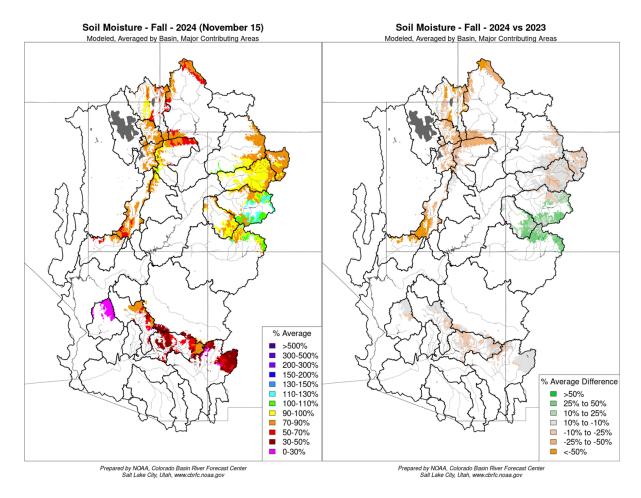
Left: January 1, 2025 SWE - NRCS SNOTEL observed (squares) and CBRFC hydrologic model.

Right: CBRFC hydrologic model SWE condition summary.

Soil Moisture

CBRFC hydrologic model fall (antecedent) soil moisture conditions impact early season 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.

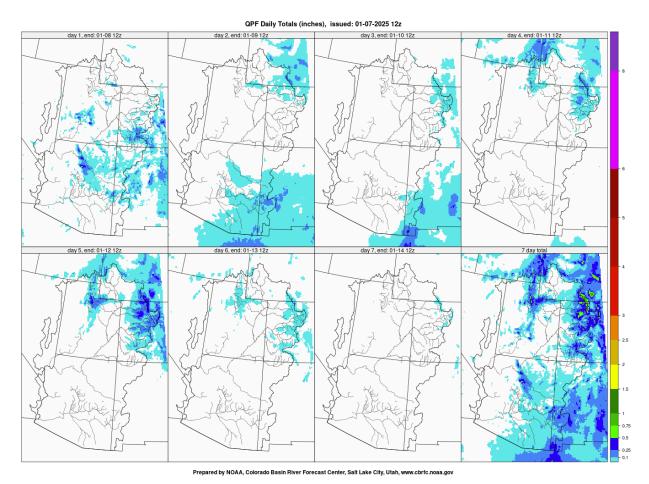
A very dry June-October 2024 across southwest WY and UT resulted in soil moisture conditions that are below normal and worse compared to a year ago. NW CO soil moisture conditions are near to below normal and similar compared to a year ago. SW CO soil moisture conditions are closer to average and improved 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.



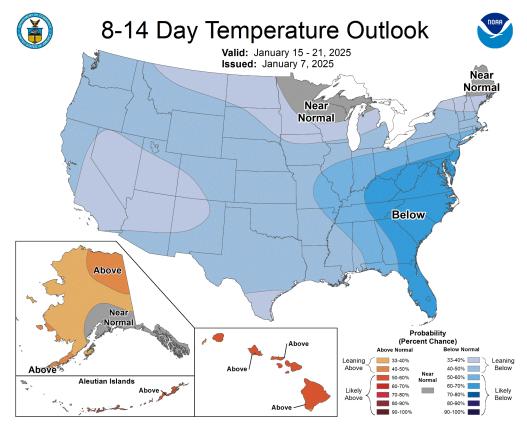
November 2024 CBRFC hydrologic model soil moisture conditions - as a percent of the 1991-2020 average (left) and compared to November 2023 (right).

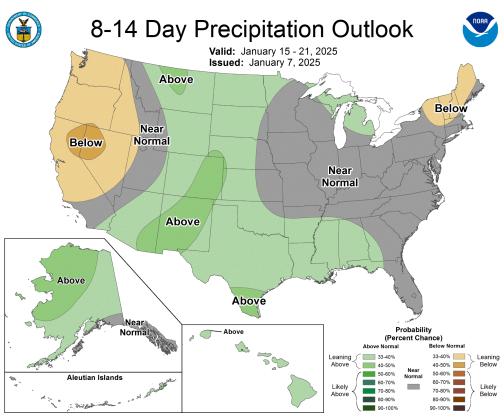
Upcoming Weather

A northerly storm track appears poised to continue through the middle of January. This weather pattern is not conducive for anomalous precipitation events in the CRB or GB, but especially so in the LCRB. It is possible a more southern storm track fueled by subtropical Pacific moisture develops later in the month, but confidence remains low. There is no clear signal that points to above or below normal precipitation for the month of January in the UCRB or GB. In the LCRB, chances lean toward a drier than normal January. The CBRFC QPF for the next week and the CPC 8–14 day temperature and precipitation outlooks are shown in the figures below.



7-day precipitation forecast for January 7–13, 2025.





Climate Prediction Center temperature and precipitation probability forecasts for January 15-21, 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.