



# Colorado Basin River Forecast Center

National Weather Service

## Water Supply Forecast Discussion February 1, 2024

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 Conditions Summary

An active weather pattern during January resulted in near to above average monthly precipitation across most CRB and GB high elevation areas. Snow water equivalent (SWE) conditions as a percent of normal (median) improved during January, but generally remain below normal. February 1 CBRFC model SWE conditions generally range between 65-95% of normal across the UCRB, 40-75% of normal across the LCRB, and 80-90% of normal across the GB.

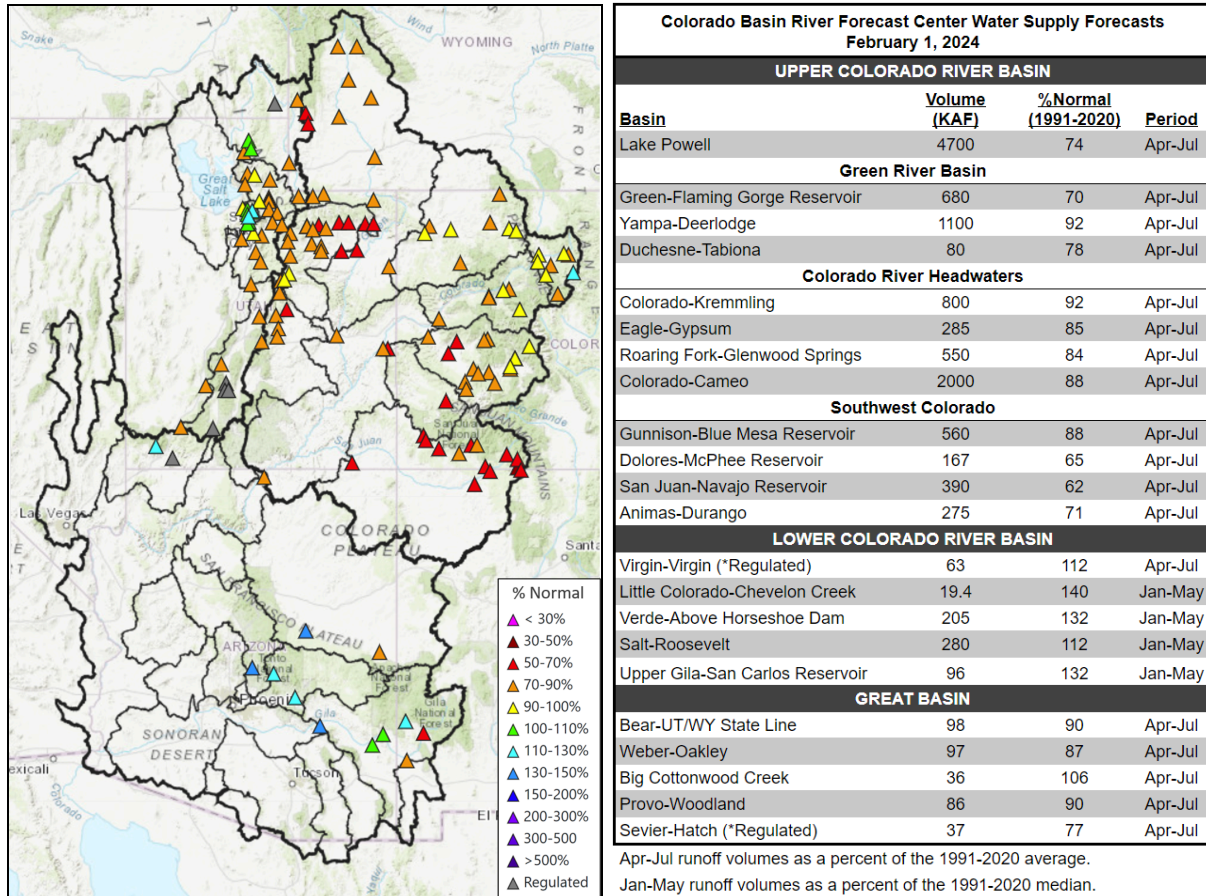
The water supply outlook has improved across the GB and UCRB due to above average January precipitation. However, seasonal (April-July) water supply volumes remain below normal in the UCRB and near to below normal in the GB. LCRB January-May volume forecasts are generally near to above normal and take into account the current El Niño, which is expected to continue through the winter and typically results in increased chances of wetter than average winter weather across the LCRB.

A long wave trough is moving ashore into the Western US and is expected to remain over the region through Saturday, February 10. Associated with this trough, a series of disturbances will move across the region, resulting in daily chances of precipitation over the next five days. Precipitation totals are highest in the LCRB, where 2-4 inches of precipitation are expected, with locally higher amounts possible along the Mogollon Rim. In the GB and UCRB, 1-2 inches of precipitation are expected, with 2-3 inches of precipitation possible across the higher terrain of UT and CO.

## Water Supply Forecasts

The water supply outlook has improved across the GB and UCRB due to above average January precipitation. However, seasonal (April-July) water supply volumes remain below normal in the UCRB and near to below normal in the GB. LCRB January-May volume forecasts are generally near to above normal and take into account the current El Niño, which is expected to continue through the winter and typically results in increased chances of wetter than average winter weather across the LCRB.

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

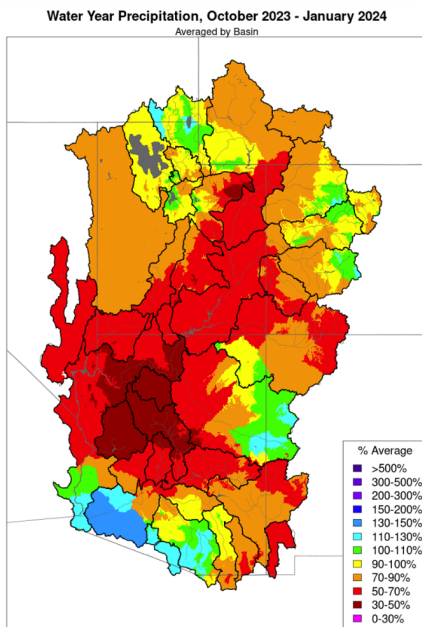
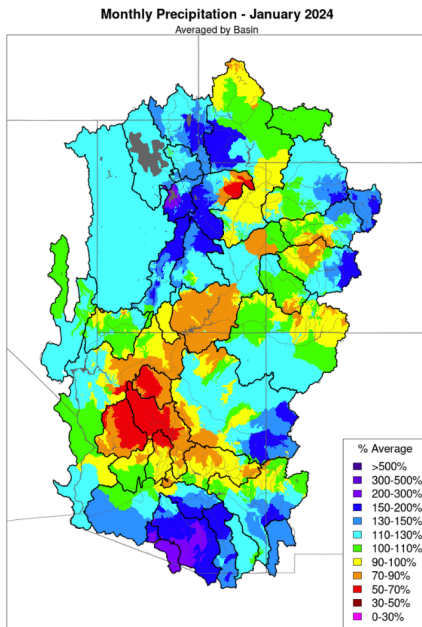


February 1, 2024 seasonal water supply forecast summary.

CBRFC water supply forecast [Map](#) | [List](#)

## Water Year Precipitation

Precipitation during the first three months (October-December) of water year 2024 was below average across the region. An active weather pattern during January resulted in near to above average monthly precipitation across most CRB and GB high elevation areas. Water year 2024 precipitation (October-January) is near to below normal and summarized in the figures and table below.



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

<b>Water Year 2024 CBRFC Precipitation (Major Contributing Areas) Percent of 1991-2020 Average</b>		
<b>UPPER COLORADO RIVER BASIN</b>		
	<b>Jan</b>	<b>Oct-Jan</b>
Above Lake Powell	120	86
<b>Green River Basin</b>		
Above Fontenelle	97	81
Above Flaming Gorge	111	85
Yampa/White	133	96
Duchesne	124	76
Price/San Rafael/Dirty Devil	152	91
<b>Colorado River Headwaters</b>		
Above Kremmling	145	91
Eagle	125	96
Roaring Fork	110	94
Above Cameo	126	93
<b>Southwest Colorado</b>		
Gunnison	118	90
Dolores	101	72
San Juan	94	67
<b>LOWER COLORADO RIVER BASIN</b>		
Virgin	112	59
Little Colorado	94	63
Verde	79	48
Salt	92	67
Upper Gila	107	72
<b>GREAT BASIN</b>		
Bear	126	97
Weber	131	92
Six Creeks	130	98
Provo/Utah Lake	134	90
Sevier	129	71

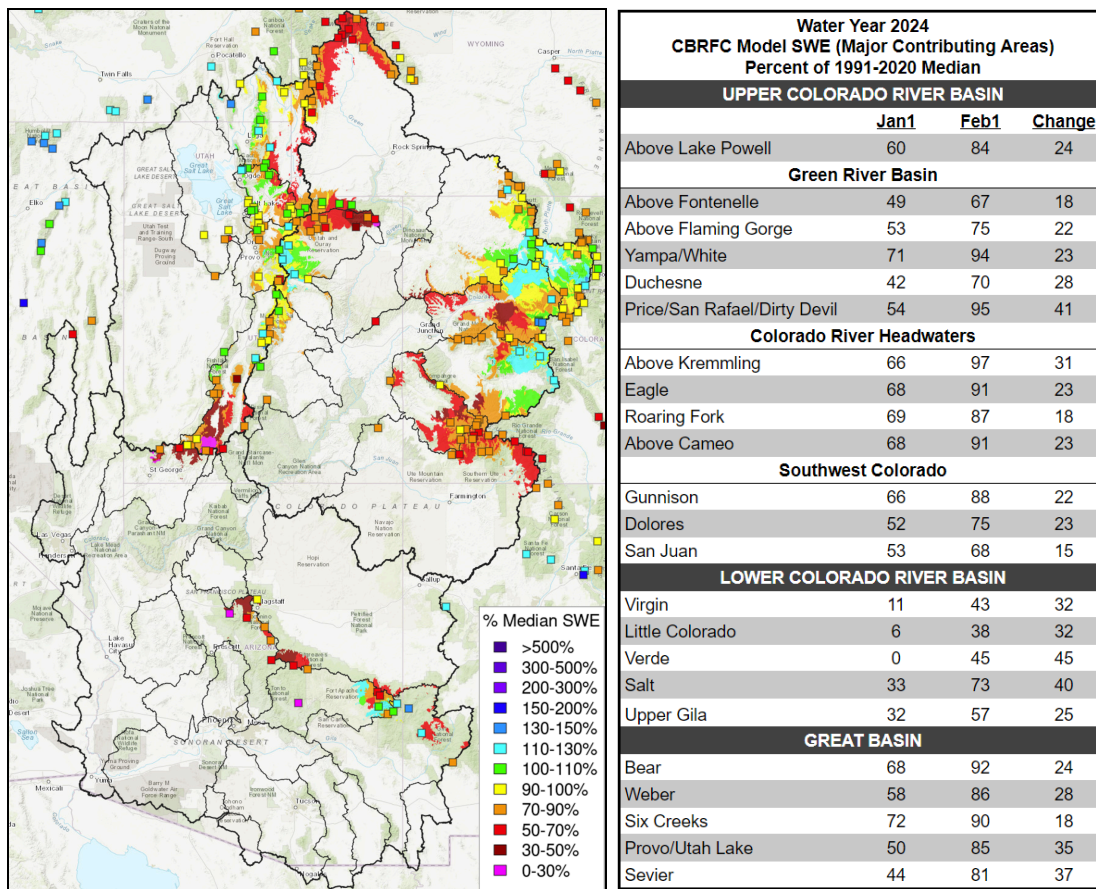
CBRFC observed precipitation maps: [Daily](#) | [Monthly](#) | [Water Year](#)

## Snow

Snow water equivalent (SWE) conditions as a percent of normal (median) improved during January, but generally remain below normal. UCRB February 1 SWE conditions range between 65-95% of normal and are most favorable (85-95%) across portions of central and northwest CO including the Gunnison, Colorado River headwaters, and White/Yampa basins. SWE conditions are less favorable (65-75% of normal) across the Upper Green, Duchesne, Dolores, and San Juan basins. February 1 SWE at a number of SNOTEL stations in the Upper Green and Duchesne basins is below the 10<sup>th</sup> percentile and ranked in the driest five on record.

LCRB February 1 CBRFC model SWE conditions range between 40-75% of normal. LCRB SWE conditions are most favorable (55-75%) across portions of the Salt and Upper Gila River Basins in higher elevation areas near the AZ/NM border. LCRB SWE conditions are well below normal and generally around the 25<sup>th</sup> percentile at SNOTEL stations across central AZ and southwest UT.

GB February 1 SWE conditions are slightly below normal and range between 80-90% of normal. GB snowpack conditions are more evenly distributed and generally better when compared to the UCRB. SWE conditions are summarized in the figure and table below.



Left: February 1, 2024 SWE - NRCS SNOTEL observed (squares) and CBRFC hydrologic model.

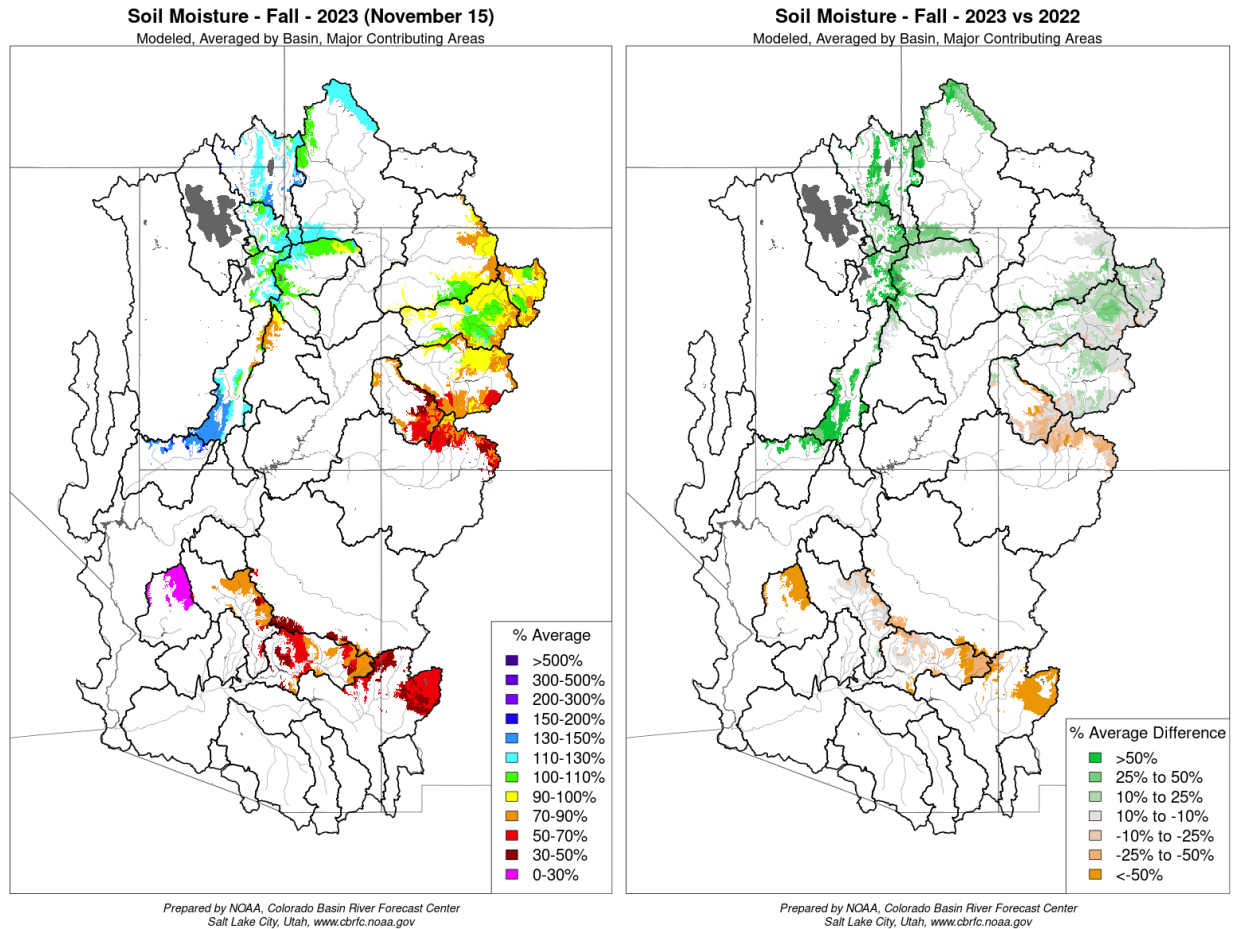
Right: trend in CBRFC hydrologic model SWE conditions.

Current snow conditions: [SNOTEL](#) | [CBRFC Model](#)



## Soil Moisture

Above normal spring 2023 runoff was followed by a drier than normal Southwest monsoon season across much of the region. June-October precipitation was generally below the 15<sup>th</sup> percentile across most of AZ and southwest CO, resulting in below normal fall (antecedent) soil moisture conditions that are worse compared to a year ago. However, northern areas including the GB, Upper Green, and much of northwest CO received above normal summer/fall precipitation, leading to above normal fall soil moisture conditions that are improved from a year ago.



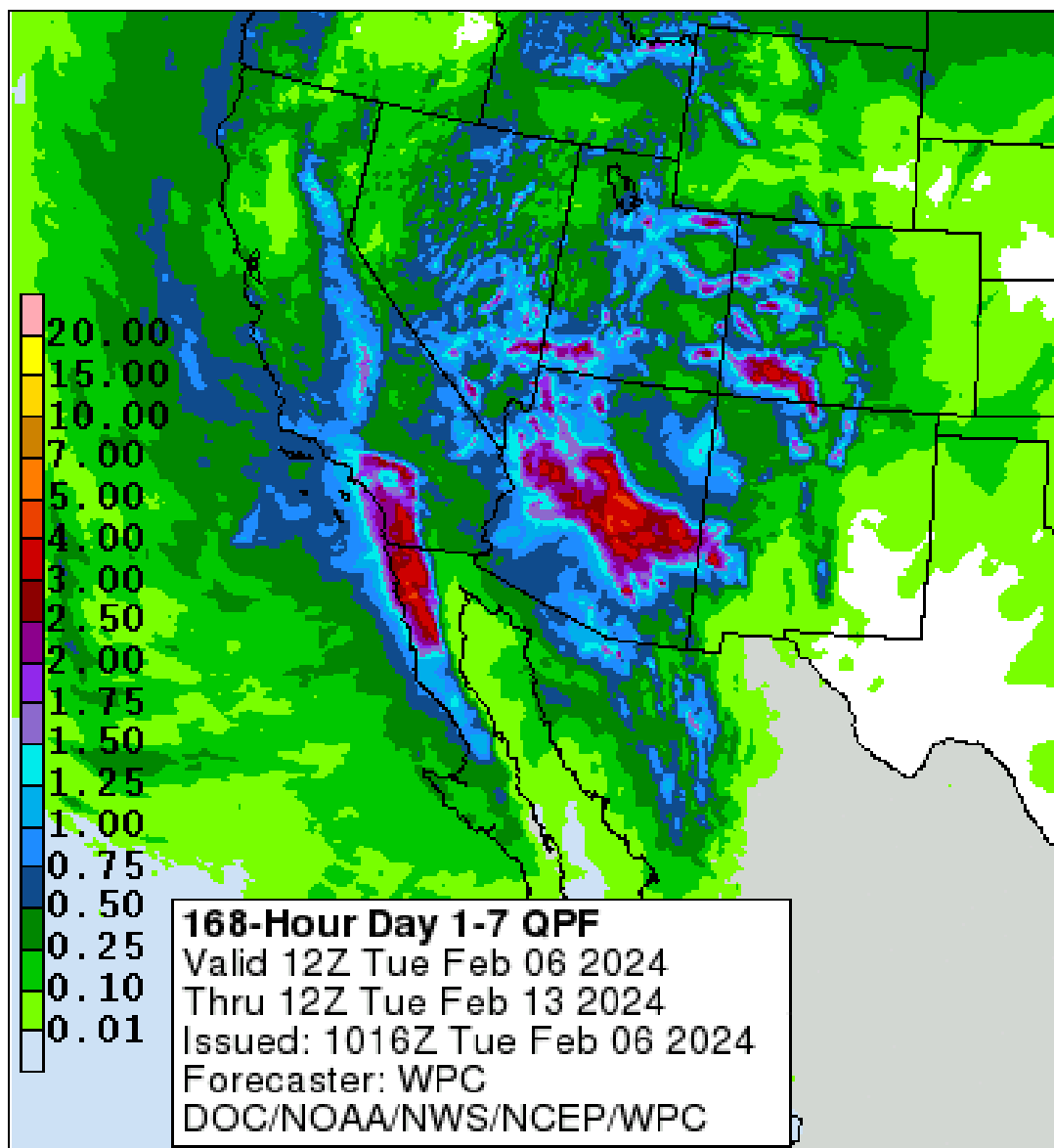
November 2023 CBRFC hydrologic model soil moisture conditions - as a percent of the 1991-2020 average (left) and compared to November 2022 (right).

CBRFC model fall 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 ultimately a result of snowpack conditions, spring weather, and soil moisture conditions.

CBRFC hydrologic model soil moisture conditions are available [here](#).

## Upcoming Weather

A long wave trough is moving ashore into the Western US and is expected to remain over the region through Saturday, February 10. Associated with this trough, a series of disturbances will move across the region, resulting in daily chances of precipitation over the next five days. Precipitation totals are highest in the LCRB, where 2-4 inches of precipitation are expected, with locally higher amounts possible along the Mogollon Rim. In the GB and UCRB, 1-2 inches of precipitation are expected, with 2-3 inches of precipitation possible across the higher terrain of UT and CO. Temperatures during this period will be below normal. Beginning this weekend, a ridge of high pressure will develop over the Pacific Northwest, with below normal mid-level heights further south towards Mexico. This pattern change will result in a decrease in precipitation and drier than normal conditions across northern portions of the GB and UCRB, while an active subtropical jet stream towards the LCRB will result in continued chances of above average precipitation.



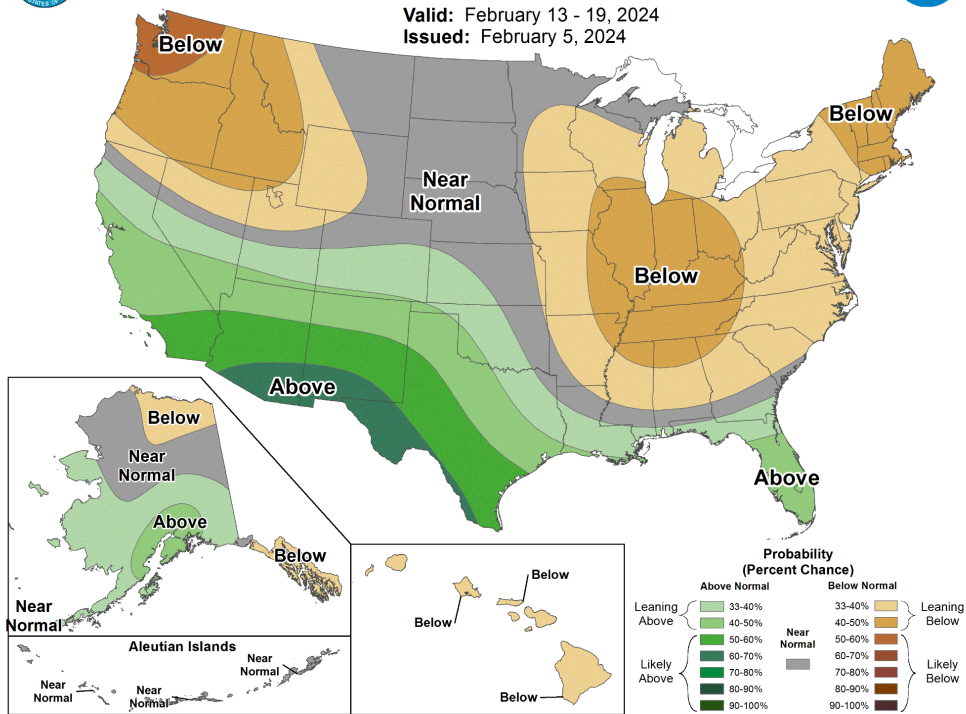
NWS Weather Prediction Center precipitation forecast for February 6-13, 2024.



# 8-14 Day Precipitation Outlook



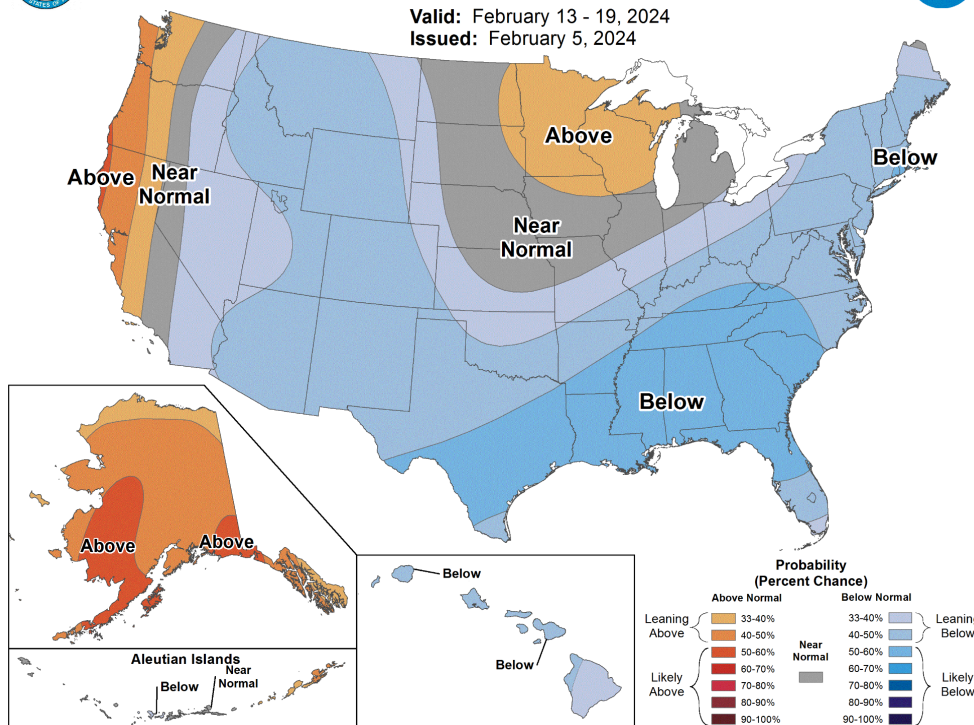
Valid: February 13 - 19, 2024  
Issued: February 5, 2024



# 8-14 Day Temperature Outlook



Valid: February 13 - 19, 2024  
Issued: February 5, 2024



Climate Prediction Center precipitation and temperature probability forecasts for February 13-19, 2024.

### **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**

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