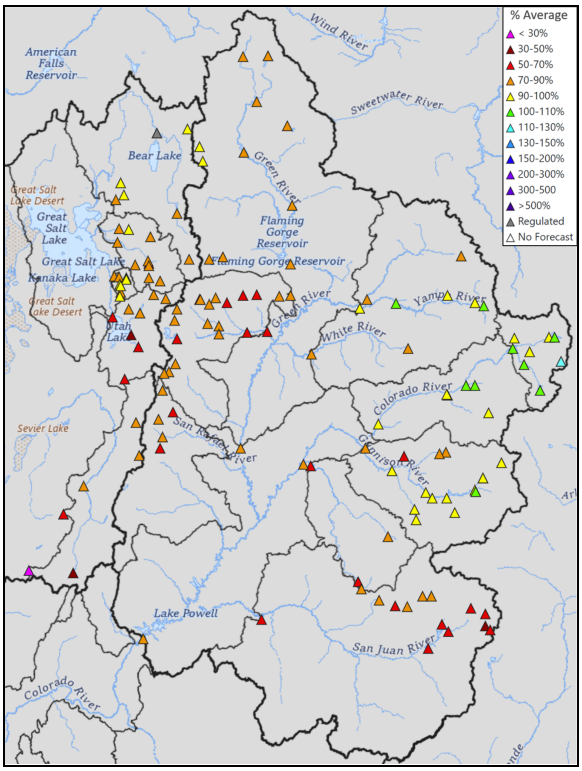
Colorado Basin
River Forecast Center
National Weather Service

Water Supply Forecast Discussion
February 18, 2025

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 Forecasts

The mid-February water supply outlook is summarized in the figure and table below. Snowpack, soil moisture, and future weather are the primary hydrologic conditions that impact the water supply outlook.



Colorado Basin River Forecast Center Mid-February 2025 Water Supply Outlook			
UPPER COLORADO RIVER BASIN			
Basin	**Volume (KAF)**	**%Average (1991-2020)**	**Period**
Lake Powell	4450	70	Apr-Jul
Green River Basin			
Green-Flaming Gorge Reservoir	700	72	Apr-Jul
Yampa-Deerlodge	1150	97	Apr-Jul
Duchesne-Tabiona	78	76	Apr-Jul
Colorado River Headwaters			
Colorado-Kremmling	900	104	Apr-Jul
Eagle-Gypsum	340	101	Apr-Jul
Roaring Fork-Glenwood Springs	580	89	Apr-Jul
Colorado-Cameo	2150	95	Apr-Jul
Southwest Colorado			
Gunnison-Blue Mesa Reservoir	550	86	Apr-Jul
Dolores-McPhee Reservoir	160	63	Apr-Jul
San Juan-Navajo Reservoir	345	55	Apr-Jul
Animas-Durango	300	78	Apr-Jul
GREAT BASIN			
Bear-UT/WY State Line	93	86	Apr-Jul
Weber-Oakley	87	78	Apr-Jul
Big Cottonwood Creek	29	87	Apr-Jul
Provo-Woodland	85	88	Apr-Jul
Sevier-Hatch	18.2	34	Apr-Jul

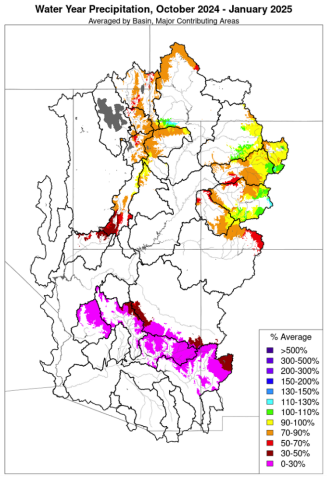
Mid-February water supply summary. Map | List

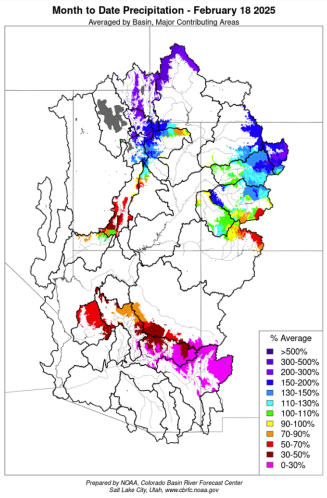
February Weather

The beginning of February featured an atmospheric river regime, which funneled anomalously warm and moist Pacific air into the Rockies. This resulted in a stretch of heavy precipitation in the northern reaches of the GB and UCRB. Precipitation fell mostly as snow over the critical runoff areas, but given the oceanic origins of the air mass, snow levels became quite high (over 8,000 feet at times). Unfortunately, these atmospheric river events missed the Lower Basin and adjacent portions of the GB (Sevier) and UCRB (San Juan, Dolores) entirely.

After a relatively brief dry spell, active weather returned to the CBRFC area in the middle of the month. The low pressure system that moved in marked the first truly basin-wide precipitation event of the winter. Although the accumulations were beneficial, totals in the LCRB were a far cry from what is needed to change the trajectory of this season. Several SNOTEL sites in Arizona, southern Utah, and southwest Colorado are still facing one of their driest winters on record.

As a result, February-to-date has presented well-above normal (>200% of average) precipitation for northern portions of the GB and UCRB, with conditions progressively and dramatically deteriorating further south. Unless a relentless southern storm track develops, the LCRB is unlikely to make up for its seasonal precipitation deficits. Water year 2025 precipitation is summarized in the figures below.



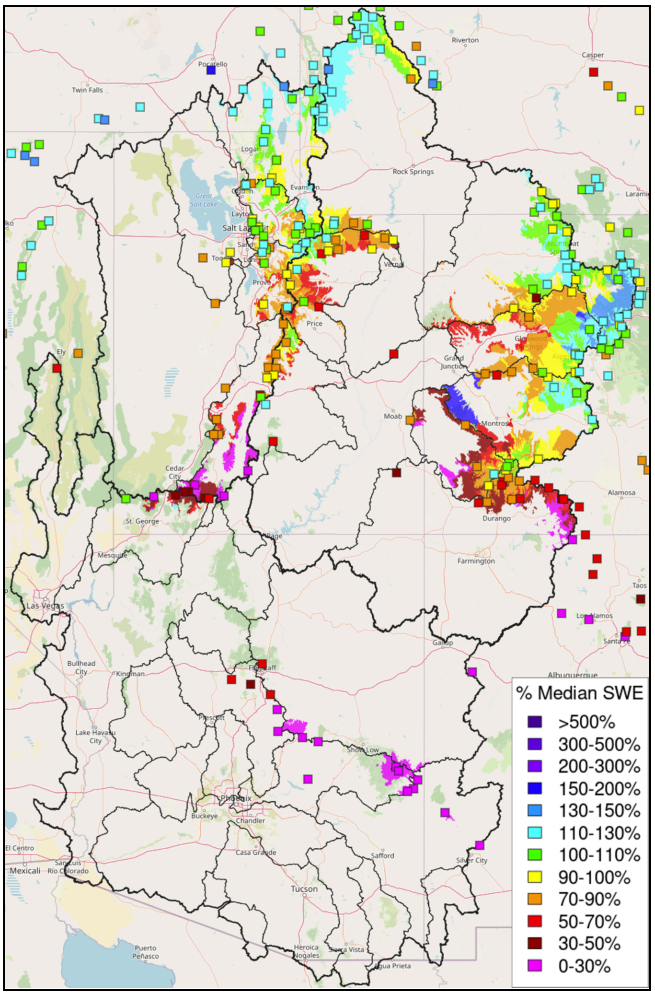


Water Year 2025 CBRFC Precipitation (Major Contributing Areas) Percent of 1991-2020 Average		
UPPER COLORADO RIVER BASIN		
	Oct-Jan	Feb1-Feb17
Above Lake Powell	87	135
Green River Basin		
Above Fontenelle	78	293
Above Flaming Gorge	84	244
Yampa/White	95	160
Duchesne	79	133
Price/San Rafael/Dirty Devil	95	117
Colorado River Headwaters		
Above Kremmling	96	172
Eagle	100	155
Roaring Fork	85	127
Above Cameo	92	149
Southwest Colorado		
Gunnison	90	116
Dolores	85	104
San Juan	73	80
LOWER COLORADO RIVER BASIN		
Virgin	49	90
Little Colorado	31	49
Verde	23	56
Salt	19	31
Upper Gila	20	7
GREAT BASIN		
Bear	76	249
Weber	76	214
Six Creeks	76	223
Provo/Utah Lake	76	170
Sevier	71	66

Snowpack Conditions

Well above normal precipitation across northern basins led to improved snow water equivalent (SWE) conditions during the first two and half weeks of February. SWE as a percent of normal has remained relatively steady during February across central and southern areas. UCRB mid-February SWE conditions range between 60-120% of normal and are most favorable across the Upper Green, White/Yampa, and Colorado River headwaters. UCRB SWE conditions are least favorable in southern areas including the Dolores and San Juan basins. UCRB February 18 snow covered area is around 88% of the 2001-2024 median.[1] LCRB mid-February SWE conditions are well below normal with a few SNOTEL stations reporting record low SWE values in southwest UT and near the central AZ/NM border.

GB SWE conditions have improved across most basins since the beginning of February. Mid-February SWE conditions range between 50-110% of normal, and conditions generally improve from south to north. February 17 snow covered area across UT is around 79% of the 2001-2024 median.[1] SWE conditions are summarized in the figure and table below.



Water Year 2025
CBRFC Model SWE (Major Contributing Areas)
Percent of 1991-2020 Median

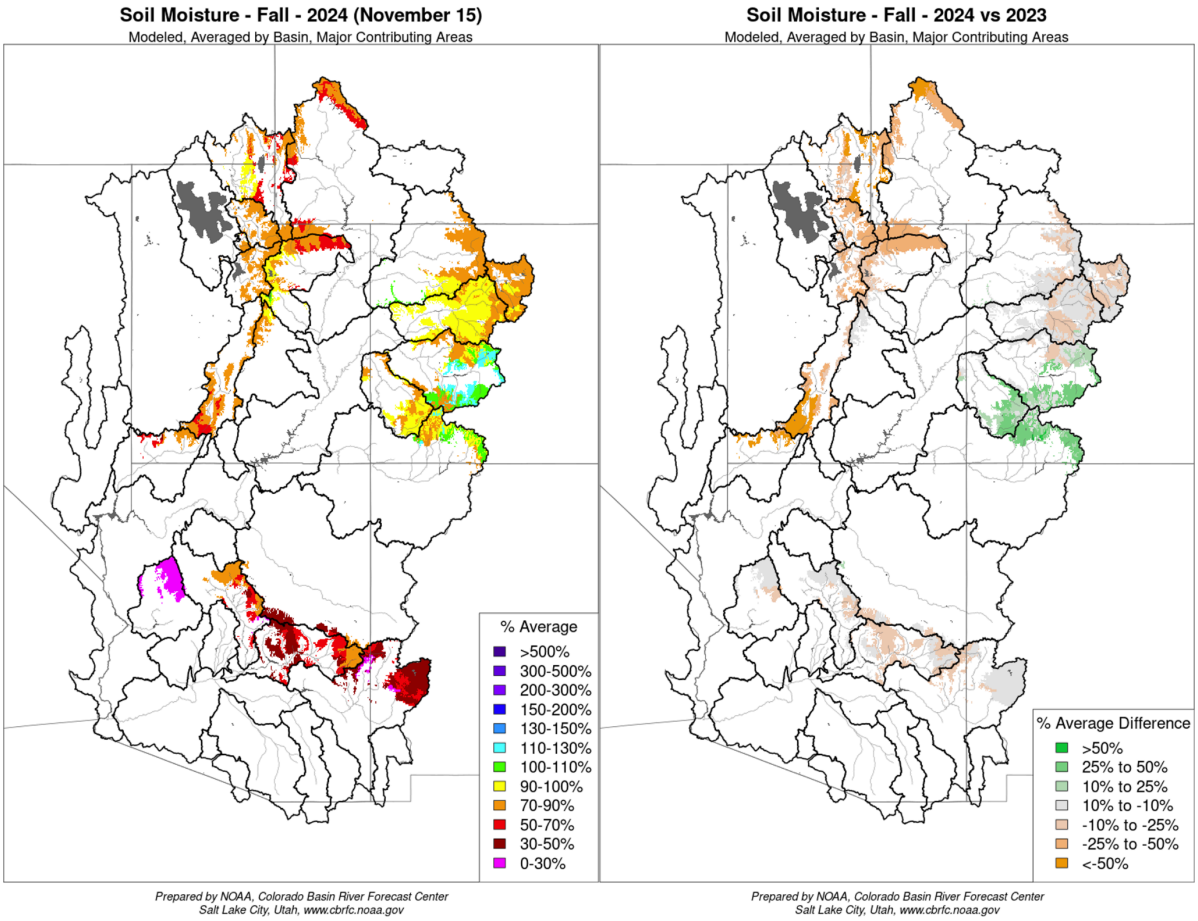
	Feb1	Feb18	Change
UPPER COLORADO RIVER BASIN			
Above Lake Powell	86	94	8
Green River Basin			
Above Fontenelle	78	109	31
Above Flaming Gorge	83	105	22
Yampa/White	96	106	10
Duchesne	77	87	10
Price/San Rafael/Dirty Devil	82	83	1
Colorado River Headwaters			
Above Kremmling	111	120	9
Eagle	110	115	5
Roaring Fork	92	99	7
Above Cameo	102	109	7
Southwest Colorado			
Gunnison	92	97	5
Dolores	69	72	3
San Juan	55	61	6
LOWER COLORADO RIVER BASIN			
Virgin	6	36	30
Little Colorado	3	14	11
Verde	0	0	0
Salt	6	10	4
Upper Gila	2	0	-2
GREAT BASIN			
Bear	84	109	25
Weber	73	97	24
Six Creeks	72	94	22
Provo/Utah Lake	67	91	24
Sevier	51	51	0

Left: February 18, 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.

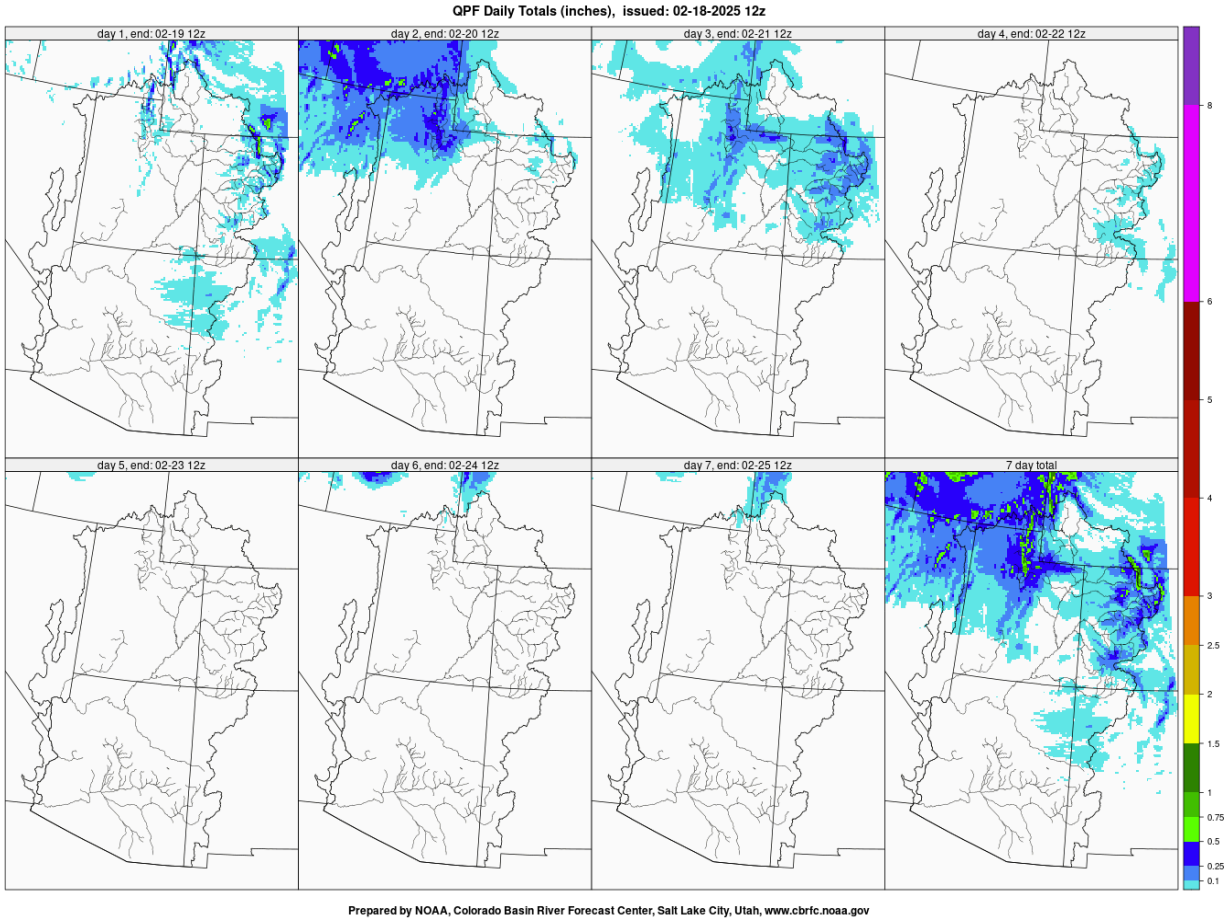
A very dry June-October 2024 across southwest WY and UT resulted in soil moisture conditions that are below normal and worse compared to a year ago. NW CO soil moisture conditions are near to below normal and similar compared to a year ago. SW CO soil moisture conditions are closer to average and improved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



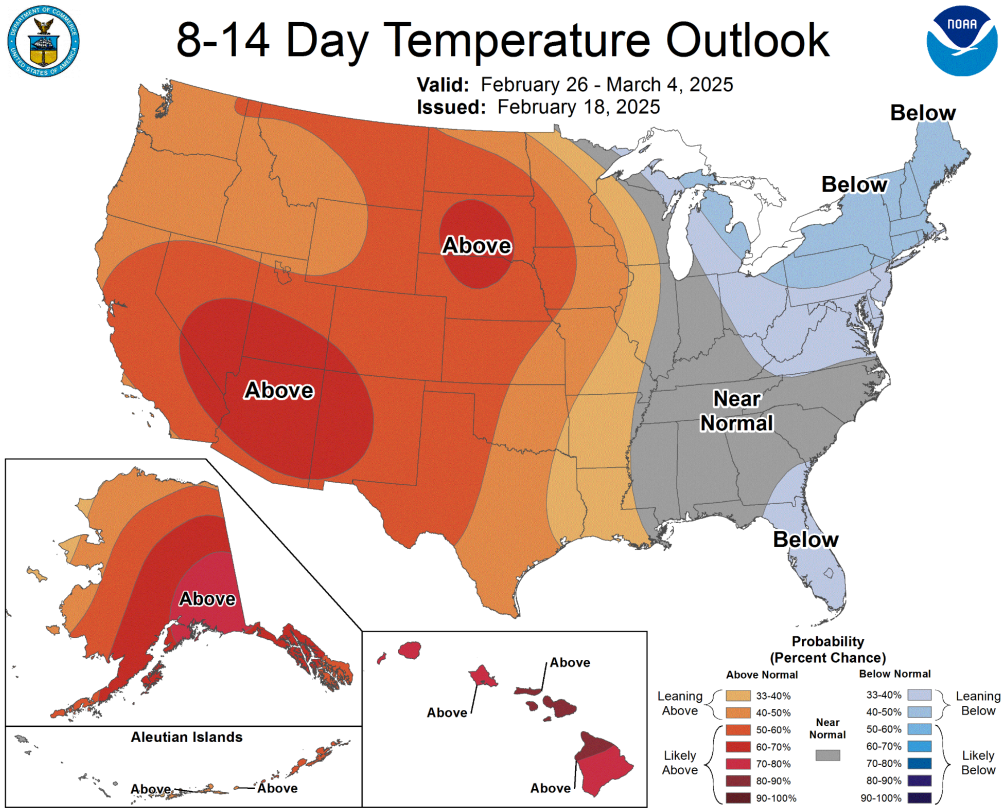
November 2024 CBRFC hydrologic model soil moisture conditions -
as a percent of the 1991-2020 average (left) and compared to November 2023 (right).

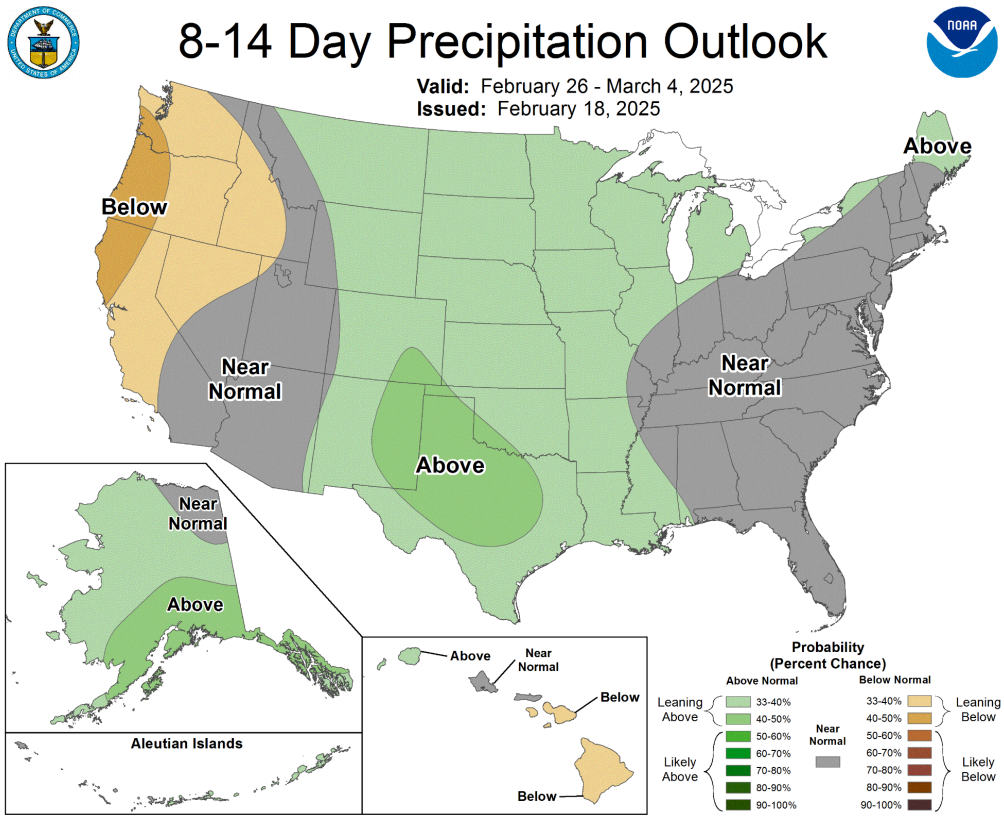
Upcoming Weather

The redevelopment of West Coast ridging will cause mainly dry weather across the CBRFC area for the remainder of the month. Only minor precipitation is forecast in portions of the GB and UCRB over the coming week. This amounts to generally less than one inch of liquid equivalent across the highest elevations of the northern areas. Expect no significant precipitation in the LCRB as long as this undesirable pattern persists; the LCRB is likely to end up with one of its driest December–February periods on record. The best chance for a large scale pattern change is not until March.



7-day precipitation forecast for February 18-24, 2025.





Climate Prediction Center probability forecasts for February 26–March 4, 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.