March 2025 Water Supply Briefing



Briefing Overview

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Observed Precipitation

Snowpack Conditions

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CBRFC Hydrologic Model Soil Moisture Conditions



Prepared by NOAA, Colorado Basin River Forecast Center Salt Lake City, Utah, www.cbrfc.noaa.gov Prepared by NOAA, Colorado Basin River Forecast Center Salt Lake City, Utah, www.cbrfc.noaa.gov

February 2025 Precipitation

Above normal precipitation for northern reaches of the GB and UCRB. Below normal precipitation elsewhere.





Water Year 2025 CBRFC Precipitation (Major Contributing Areas) Barcent of 1091-2020 Average				
UPPER COLORADO	RIVER B	ASIN		
	Feb	Oct-Feb		
Above Lake Powell	97	89		
Green River	Basin			
Above Fontenelle	204	102		
Above Flaming Gorge	168	100		
Yampa/White	121	100		
Duchesne	94	82		
Price/San Rafael/Dirty Devil	98	95		
Colorado River Headwaters				
Above Kremmling	130	103		
Eagle	119	103		
Roaring Fork	93	87		
Above Cameo	111	96		
Southwest C	olorado			
Gunnison	80	88		
Dolores	69	81		
San Juan	56	69		
LOWER COLORADO	RIVER B	ASIN		
Virgin	44	47		
Little Colorado	37	32		
Verde	36	26		
Salt	27	21		
Upper Gila	15	19		
GREAT B	ASIN			
Bear	175	96		
Weber	149	90		
Six Creeks	150	91		
Provo/Utah Lake	132	88		
Sevier	59	68		

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December-February Precipitation



Numerous SNOTEL sites in AZ, NM, southern UT, and southwest CO observed their driest meteorological winter (December–February) on record.

Early March Weather





Most of the area has seen at least some precipitation so far in March; the Utah mountains (even in the southwest part of the state) have benefitted the most to this point.

Snowpack Conditions

March 6 SWE Conditions NRCS SNOTEL Observed (Squares)

CBRFC Model (Significant Areas)



SWE = Snow Water Equivalent The amount of water in snow.

Water Year 2025 CBRFC Model SWE (Major Contributing Areas) Percent of 1991-2020 Median					
UPPER COLORA	DO RIVER	RBASIN			
	Feb1	Mar1	Change		
Above Lake Powell	86	87	1		
Green Riv	ver Basin				
Above Fontenelle	78	101	23		
Above Flaming Gorge	83	97	14		
Yampa/White	96	102	6		
Duchesne	77	79	2		
Price/San Rafael/Dirty Devil	82	77	-5		
Colorado Rive	er Headwa	aters			
Above Kremmling	111	115	4		
Eagle	110	110	0		
Roaring Fork	92	90	-2		
Above Cameo	102	103	1		
Southwest	t Colorad	0			
Gunnison	92	88	-4		
Dolores	69	59	-10		
San Juan	55	53	-2		
LOWER COLORA	DO RIVE	R BASIN			
Virgin	6	10	4		
Little Colorado	3	1	-2		
Verde	0	0	0		
Salt	6	2	-4		
Upper Gila	2	0	-2		
GREAT BASIN					
Bear	84	105	21		
Weber	73	92	19		
Six Creeks	72	89	17		
Provo/Utah Lake	67	86	19		
Sevier	51	40	-11		

Better Conditions - North Worse Conditions - South

UCRB 55-115%

LCRB 0-10%

40-105%

GB

Near or Record Low March 1 Snowpack Conditions







March 1 observed SWE below the 10th percentile and ranked in the driest 5 at several SNOTEL stations in the Sevier, Gunnison, Dolores, and San Juan basins.

Record low March 1 SWE at most LCRB SNOTEL stations.

Water Year 2025 UCRB Snowpack Evolution

CBRFC Hydrologic Model SWE Above Lake Powell (Major Contributing Areas)



March 1 Water Supply Forecasts



Colorado Basin River Forecast Center Water Supply Forecasts March 1, 2025					
UPPER COLOR	ADO RIVER B	ASIN			
Basin	<u>Volume</u> (KAF)	<u>%Normal</u> (1991-2020)	Period		
Lake Powell	4300	67	Apr-Jul		
Green	River Basin				
Green-Flaming Gorge Reservoir	660	68	Apr-Jul		
Yampa-Deerlodge	1100	92	Apr-Jul		
Duchesne-Tabiona	72	70	Apr-Jul		
Colorado Ri	ver Headwate	rs			
Colorado-Kremmling	855	98	Apr-Jul		
Eagle-Gypsum	320	96	Apr-Jul		
Roaring Fork-Glenwood Springs	540	82	Apr-Jul		
Colorado-Cameo	2050	90	Apr-Jul		
Southwe	est Colorado				
Gunnison-Blue Mesa Reservoir	550	87	Apr-Jul		
Dolores-McPhee Reservoir	135	53	Apr-Jul		
San Juan-Navajo Reservoir	325	52	Apr-Jul		
Animas-Durango	285	74	Apr-Jul		
LOWER COLOF	RADO RIVER E	ASIN			
Virgin-Virgin (*Regulated)	24	43	Apr-Jul		
Little Colorado-Chevelon Creek	0.8	6	Jan-May		
Verde-Above Horseshoe Dam	58	37	Jan-May		
Salt-Roosevelt	50	20	Jan-May		
Upper Gila-San Carlos Reservoir	13.7	19	Jan-May		
GRE	AT BASIN				
Bear-UT/WY State Line	86	79	Apr-Jul		
Weber-Oakley	83	75	Apr-Jul		
Big Cottonwood Creek	29	85	Apr-Jul		
Provo-Woodland	80	83	Apr-Jul		
Sevier-Hatch	15.0	28	Apr-Jul		
Apr-Jul runoff volumes as a percent of	of the 1991-202	0 average.			
Jan-May runoff volumes as a percent of the 1991-2020 median.					

Water supply forecasts are generally below to well below normal.

Forecasts more favorable in areas with: -better soil moisture conditions -better snowpack conditions

Feb 1 \rightarrow Mar 1 Trend in the Water Supply Outlook



New CBRFC web map layer shows trend in the water supply outlook: -some increases in northern basins -decreases in southern basins Water Supply Forecasts Official Model Compare Observed Hide Other Show Percent Difference Between Official 2025-02-01 and Data 🔻 Label • Official 2025-03-01 ▼ <-25% Forecast Difference ? ▼ -20% to -25% ▼ -15% to -20% 02/01/2025 🗖 Start ▼ -10% to -15% Official ▼ -5% to -10% V 0% to -5% Little Model ▲ 0% to 5% Change 03/01/2025 🗖 End ▲ 5% to 10% ▲ 10% to 15% O Official ▲ 15% to 20% Model ▲ 20% to 25% ▲ >25%% Regulated

□ No Forecast

Upper Colorado River Basin Water Supply Summary



Lake Powell Water Supply Forecast

2025 Water Supply Forecast - Colorado - Lake Powell, Glen Cyn Dam, At (GLDA3)

ESP is Unregulated and No Precipitation Forecast Included Official 50% Fcst (2025-03-01): 4300 kaf (67% Avg, 70% Med), (24% of Yrs Below Fcst, 47 Highest Flow / 61 Tot Yrs) ESP 50% Fcst (2025-03-06): 4428 kaf (69% Avg, 72% Med), (29% of Yrs Below Fcst, 44 Highest Flow / 61 Tot Yrs) No Observed



New Water Supply Plot Option: Observations for Recent Years



Upper Green River Basin - Flaming Gorge Reservoir



2025 Water Supply Forecast - Green - Flaming Gorge Reservoir (GRNU1)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 660 kaf (68% Avg, 67% Med), (27% of Yrs Below Fcst, 46 Highest Flow / 62 Tot Yrs) ESP 50% Fcst (2025-03-05): 651 kaf (67% Avg, 66% Med), (27% of Yrs Below Fcst, 46 Highest Flow / 62 Tot Yrs) No Observed



Model Group SWE Plot UC-gn_abv_fg.csv



White/Yampa River Basin - Yampa-Deerlodge



2025 Water Supply Forecast - Yampa - Deerlodge Park (YDLC2)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 1100 kaf (92% Avg, 99% Med), (47% of Yrs Below Fcst, 22 Highest Flow / 40 Tot Yrs) ESP 50% Fcst (2025-03-05): 1087 kaf (91% Avg, 98% Med), (45% of Yrs Below Fcst, 23 Highest Flow / 40 Tot Yrs) No Observed



Model Group SWE Plot



Colorado River Headwaters - Cameo



2025 Water Supply Forecast - Colorado - Cameo, Nr (CAMC2)

Gunnison River Basin - Blue Mesa Reservoir

2025 Water Supply Forecast - Gunnison - Blue Mesa Reservoir (BMDC2)

Model Group SWE Plot gun_abv_bluemesa.cur.csv

Dolores River Basin - McPhee Reservoir

14

12

- 2025

- 2024

· · 91-20 Median

San Juan River Basin - Navajo Reservoir

2025 Water Supply Forecast - San Juan - Navajo Reservoir, Archuleta, Nr (NVRN5)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 325 kaf (52% Avg, 52% Med), (18% of Yrs Below Fcst, 45 Highest Flow / 54 Tot Yrs) ESP 50% Fcst (2025-03-05): 331 kaf (53% Avg, 53% Med), (20% of Yrs Below Fcst, 44 Highest Flow / 54 Tot Yrs) No Observed

Model Group SWE Plot

Great Basin: Bear & Weber River Basins

2025 Water Supply Forecast - Bear - Utah-Wyoming State Line, Nr (BERU1)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 86 kaf (79% Avg, 85% Med), (29% of Yrs Below Fcst, 59 Highest Flow / 82 Tot Yrs) ESP 50% Fcst (2025-03-06): 86 kaf (79% Avg, 85% Med), (29% of Yrs Below Fcst, 59 Highest Flow / 82 Tot Yrs) No Observed

Model Snow Plot - Bear - Utah-Wyoming State Line, Nr (BERU1) - NOAA/CB Created: 2025-03-06 20:43Z

2025 Water Supply Forecast - Weber - Oakley, Nr (OAWU1)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 83 kaf (75% Avg, 86% Med), (18% of Yrs Below Fcst, 98 Highest Flow / 119 Tot Yrs) ESP 50% Fcst (2025-03-06): 85 kaf (77% Avg. 88% Med). (21% of Yrs Below Fcst. 95 Highest Flow / 119 Tot Yrs) No Observed

Model Snow Plot - Weber - Oakley, Nr (OAWU1) - NOAA/CBRFC Created: 2025-03-06 20:50Z

ASTD

NOAA / Colorado Basin

Great Basin: Big Cottonwood Creek & Provo River Basin

2025 Water Supply Forecast - Big Cottonwood Ck - Salt Lake City, Nr (BCTU1)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 29 kaf (65% Avg, 100% Med), (32% of Yrs Below Fcst, 64 Highest Flow / 94 Tot Yrs) ESP 50% Fcst (2025-03-06): 28 kaf (62% Avg, 96% Med), (30% of Yrs Below Fcst, 66 Highest Flow / 94 Tot Yrs) No Observed

2025 Water Supply Forecast - Provo - Woodland, Nr (WOOU1)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 80 kaf (83% Avg, 95% Med), (38% of Yrs Below Fcst, 38 Highest Flow / 60 Tot Yrs) ESP 50% Fcst (2025-03-06): 82 kaf (86% Avg, 98% Med), (38% of Yrs Below Fcst, 38 Highest Flow / 60 Tot Yrs) No Observed

Model Snow Plot - Big Cottonwood Ck - Salt Lake City, Nr (BCTU1) - NOAA/CB Created: 2025-03-06 21:04Z

Model Snow Plot - Provo - Woodland, Nr (WOOU1) - NOAA/CBRFC Created: 2025-03-06 21:09Z

Historical Forecast Verification

March Forecast Error: April-July Volume

Location	Avg March Forecast Error
Green River - Warren Bridge	14%
Fontenelle Reservoir	23%
Yampa River - Deerlodge	23%
Blue River - Dillon Reservoir	17%
Colorado River - Cameo	20%
Blue Mesa Reservoir (Gunnison)	19%
McPhee Reservoir (Dolores)	26%
Navajo Reservoir (San Juan)	22%
Lake Powell	24%
Virgin River at Virgin	18%

Error tends to decrease each month into the spring -

Where Forecasts are Better:

-Headwaters

-Primarily snow melt basins

-Known diversions / demands

Where Forecasts are Worse:

-Lower elevations (rain or early melt) -Downstream of diversions / irrigation

-Little is known about diversions / demands

Future weather is the primary source of water supply forecast error/uncertainty.

LCRB: Jan-May Water Supply forecasts

Forecast Range: 5-35%

LCRB January-May volume forecasts are well below normal.

Many locations in the LCRB have experienced their driest winter to-date on record.

ID	Vol	%Avg	%Med	%ile	Description
CHWA3	0.8	4	6	9	Chevelon Ck - Winslow Nr Wildcat Cyn Blo
CLDA3	13.7	7	19	15	Gila - San Carlos Reservoir Coolidge Dam At
<u>GILN5</u>	<mark>16.5</mark>	23	32	6	Gila - Gila Nr
GLHA3	29	13	27	3	Gila - Solomon Nr Head Of Safford Vly
GSFN5	5.8	15	31	10	San Francisco - Glenwood Nr
GVRN5	17.4	17	27	6	Gila - Virden Nr Blue Ck Blo
LCLA3	1.48	18	25	16	Little Colorado - Lyman Lk Abv St. Johns Nr
SFCA3	12.8	14	29	3	San Francisco - Clifton
SLRA3	50	13	20	2	Salt - Roosevelt Nr
TNRA3	3.6	4	9	2	Tonto Ck - Roosevelt Nr Gun Ck Abv
VDTA3	58	21	37	3	Verde - Tangle Ck Blo Horseshoe Dam Abv

Salt River Basin

2025 Water Supply Forecast - Salt - Roosevelt, Nr (SLRA3)

ESP is Unregulated and No Precipitation Forecast Included

Official 50% Fcst (2025-03-01): 50 kaf (13% Avg, 20% Med), (2% of Yrs Below Fcst, 109 Highest Flow / 111 Tot Yrs) ESP 50% Fcst (2025-03-06): 42 kaf (11% Avg, 17% Med), (0% of Yrs Below Fcst, 112 Highest Flow / 111 Tot Yrs) Observed Volume: 14.9 kaf (4% Average, 6% Median)

Upcoming Weather: 7-Day Precipitation Forecast (March 8–13)

An active southerly storm track will continue to bring periods of precipitation for the entire CBRFC area. The strongest system looks to arrive toward the end of next week.

This is the best pattern for the LCRB that we have seen this season so far. Cold temperatures mean precipitation will fall as snow over the high elevations.

7-day QPF includes a broad area of 1–3 inches for the high terrain of central Arizona. Over an inch is expected for the mountains of the GB and UCRB.

Upcoming Weather: 8–14 Day Outlook (March 14–20)

Summary

March 1 Water Supply Forecasts

CBRFC Peak Flow Forecasts

Peak flow information is currently available for forecast points with minimal/no upstream regulation.

> Percent Average ♦ No Forecast No Stats ♦ < 30% ♦ 30-50% ♦ 50-70% ♦ 70-90% ♦ 90-100% ♦ 100-110% ♦ 110-130% ♦ 130-150% ♦ 150-200% ♦ 200-300% ♦ 300-500 ♦ >500%

Peak flow forecasts at forecast points on mainstem rivers downstream of significant regulation will be issued next week, including:

> Green River Colorado River **Gunnison River** San Juan River

2025 Water Supply Briefings

CBRFC Water Supply Briefings - Webinar Schedule & Registration - Water Year 2025

The Colorado Basin River Forecast Center (CBRFC) produces water supply forecasts for the Colorado River Basin and eastern Great Basin. CBRFC briefings provide information on water supply forecasts and current hydrologic conditions.

Register for a webinar using the links below.

Colorado River & Great Basin Water Supply Briefing Webinars @ 10:00 am MT

- Friday January 10
- Friday February 7
- Friday March 7
- Monday April 7
- Wednesday May 7

Spring Peak Flow Briefing Webinar @ 10:00 am MT

• Wednesday March 19

Briefing material is available on the CBRFC presentations page.

A notification email will be sent if a date or time change occurs. Additional webinars are scheduled as needed.

Basin Focal Points (Forecasters)

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CBRFC Webpage https://www.cbrfc.noaa.gov/

CBRFC Water Supply Presentations https://www.cbrfc.noaa.gov/present/present.html

QUESTIONS?