January 2025
Water Supply Briefing

Colorado Basin
River Forecast Center
National Weather Service

Presentation Overview

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Observed Weather

Soil Moisture Conditions

Snowpack Conditions

2025 Water Supply Forecasts

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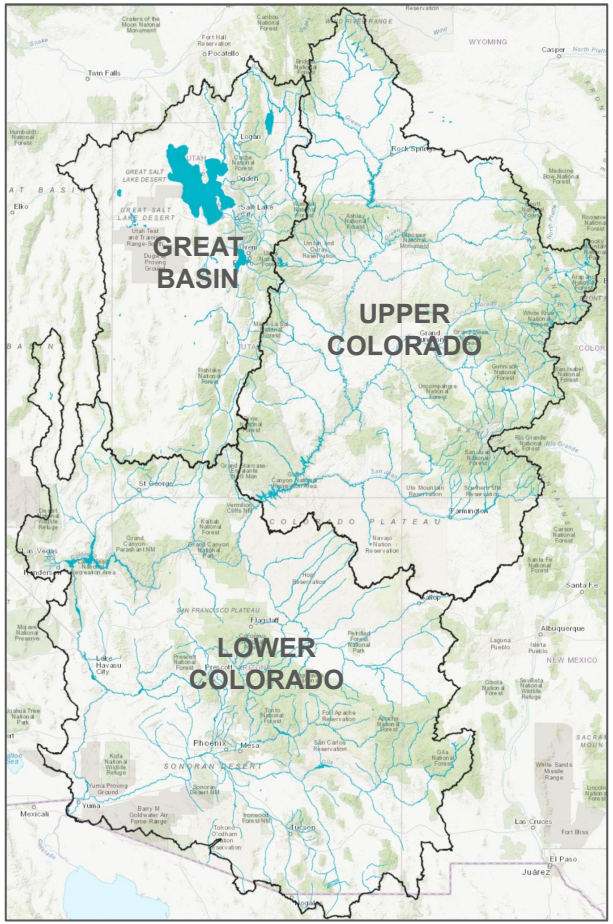
Upcoming Weather

Contacts & Questions



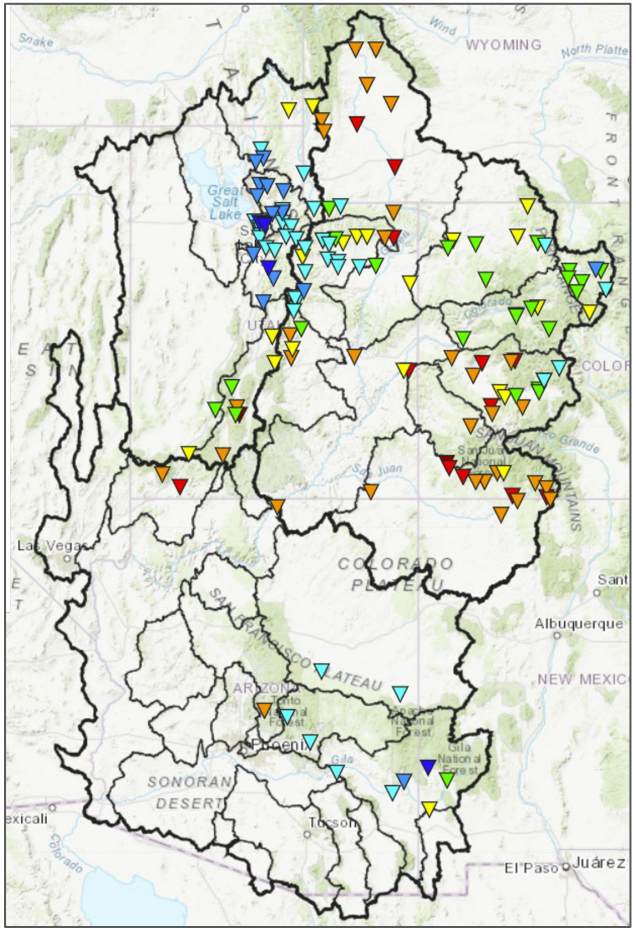
Water Year 2024 Seasonal Runoff Summary

2024 Seasonal Observed Unregulated Streamflow Volumes

	Observed Volume (KAF)	%Normal (1991-2020)	Rank (1=lowest) (1991-2024)	Period
UPPER COLORADO RIVER BASIN				
Lake Powell	5,327	83	16	Apr-Jul
Green River Basin				
Fontenelle Reservoir	516	70	14	Apr-Jul
Flaming Gorge Reservoir	713	74	14	Apr-Jul
Yampa-Deerlodge Park	1,223	103	19	Apr-Jul
White-Watson	263	97	18	Apr-Jul
Duchesne-Randlett	357	102	22	Apr-Jul
Colorado River Headwaters				
Colorado-Kremmling	940	108	21	Apr-Jul
Eagle-Gypsum	333	99	21	Apr-Jul
Roaring Fork-Glenwood Springs	668	102	21	Apr-Jul
Colorado-Cameo	2,299	101	22	Apr-Jul
Southwest Colorado				
Blue Mesa Reservoir	653	103	21	Apr-Jul
Gunnison-Grand Junction	1,134	85	15	Apr-Jul
McPhee Reservoir	114	45	6	Apr-Jul
Dolores-Cisco	255	51	7	Apr-Jul
Navajo Reservoir	447	71	13	Apr-Jul
San Juan-Bluff	873	79	13	Apr-Jul
LOWER COLORADO RIVER BASIN				
Virgin-Virgin (*Regulated)	39	69	19	Apr-Jul
Little Colorado-Chevelon Creek	16.7	120	17	Jan-May
Verde-Above Horseshoe Dam	129	83	16	Jan-May
Salt-Above Roosevelt Lake	282	113	19	Jan-May
Upper Gila-San Carlos Reservoir	83	113	18	Jan-May
GREAT BASIN				
Bear-Woodruff Narrows Reservoir	133	123	23	Apr-Jul
Weber-Gateway	394	143	23	Apr-Jul
Big Cottonwood Creek	40	117	23	Apr-Jul
Provo-Utah Lake	436	141	25	Apr-Jul
Sevier-Hatch (*Regulated)	44	92	24	Apr-Jul

Apr-Jul runoff volumes as a percent of the 1991-2020 average.

Jan-May runoff volumes as a percent of the 1991-2020 median.



Best = Great Basin

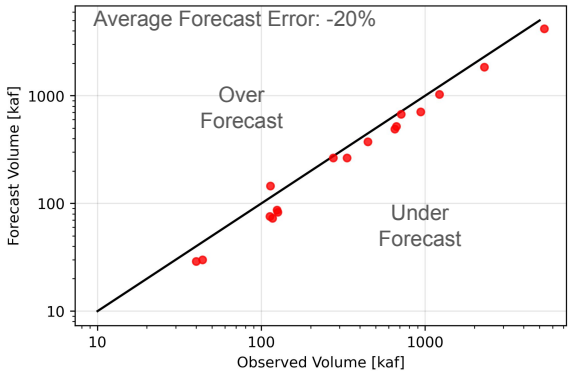
Worst = Dolores

Observed Seasonal Volume %Normal

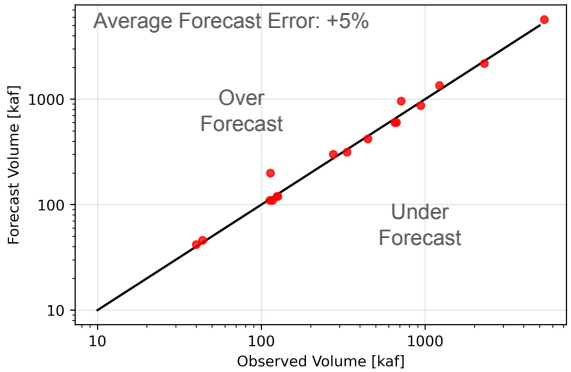
- < 30%
- 30-50%
- 50-70%
- 70-90%
- 90-100%
- 100-110%
- 110-130%
- 130-150%
- 150-200%
- 200-300%
- 300-500
- >500%
- Regulated
- No Forecast

2024 Water Supply Forecast Verification

January 1, 2024 Water Supply Forecast Verification

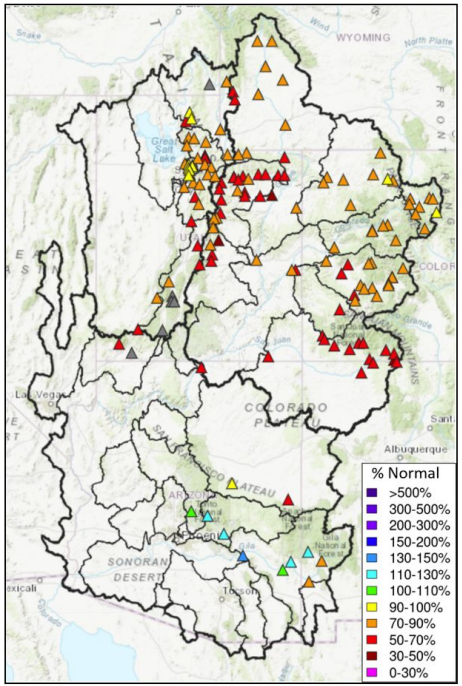


April 1, 2024 Water Supply Forecast Verification

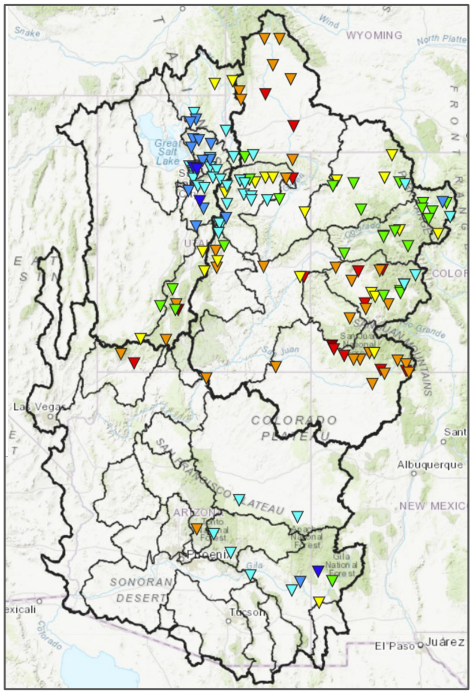


Lake Powell
Green-Flaming Gorge Reservoir
Yampa-Deerlodge
Duchesne-Tabiona
Colorado-Kremmling
Eagle-Gypsum
Roaring Fork-Glenwood Springs
Colorado-Cameo
Gunnison-Blue Mesa Reservoir
Dolores-McPhee Reservoir
San Juan-Navajo Reservoir
Animas-Durango
Bear-UT/WY State Line
Weber-Oakley
Big Cottonwood Creek
Provo-Woodland
Sevier-Hatch (*Regulated)

Jan 1, 2024 Forecasts



Apr-Jul 2024 Observed

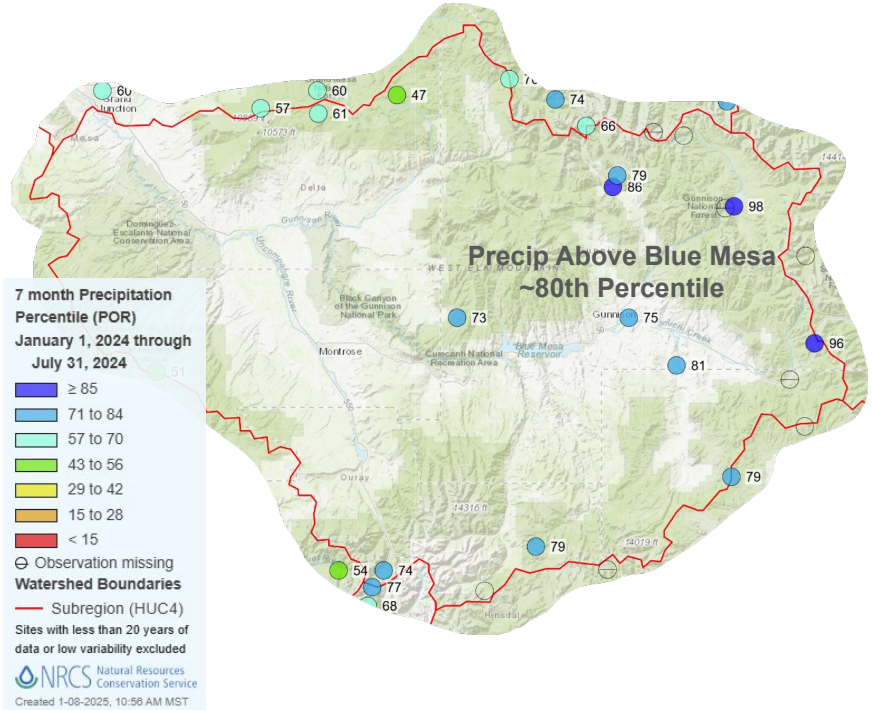


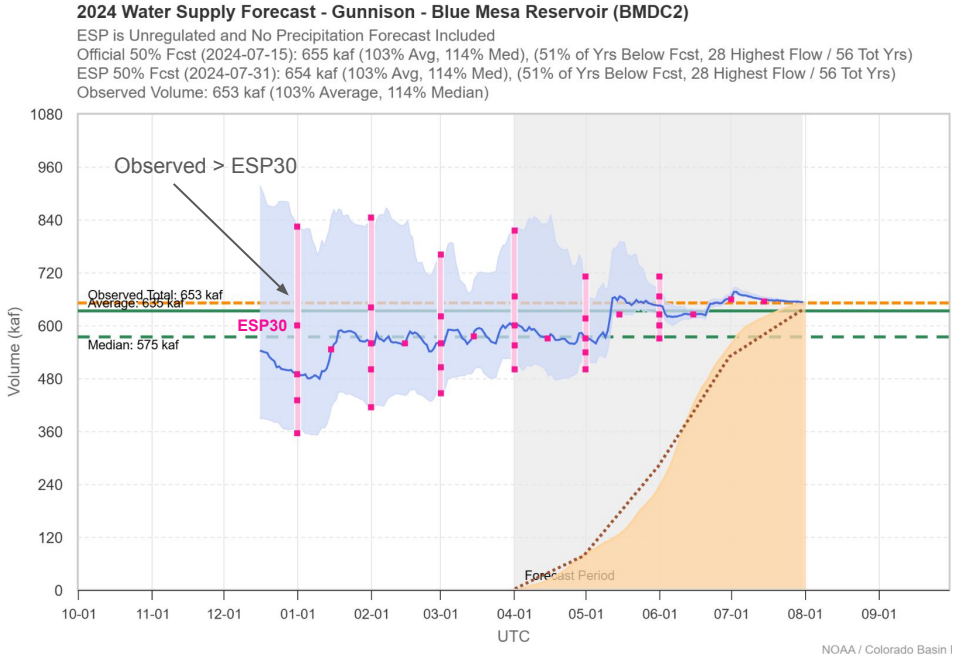
2024 Water Supply Forecast Verification

Many UCRB/GB April-July streamflow observations were at/above the January 1 volume that had a 30% chance of being exceeded.

Most SNOTEL sites received Jan-Mar precipitation >70th percentile.

Forecasts verified reasonably well; demonstrates value of probabilistic (ensemble) water supply forecasts.

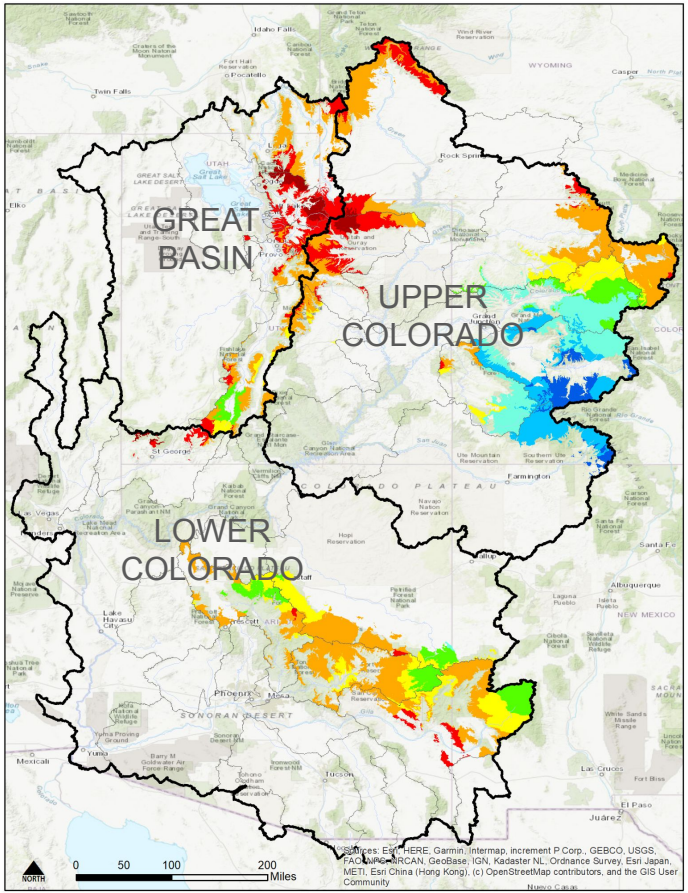




June-September 2024 Precipitation & Temperature

June-September 2024
%Average Precipitation

- 0 - 30
- 31 - 50
- 51 - 70
- 71 - 90
- 91 - 100
- 101 - 110
- 111 - 130
- 131 - 150
- > 150

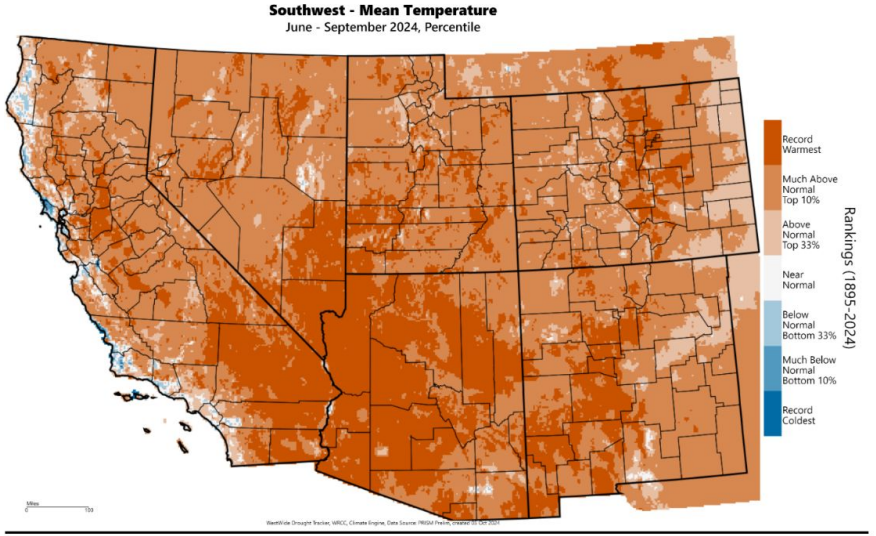


Above average 2024 monsoon season precipitation across southwest Colorado:

-Roaring Fork, Gunnison, Dolores, San Juan

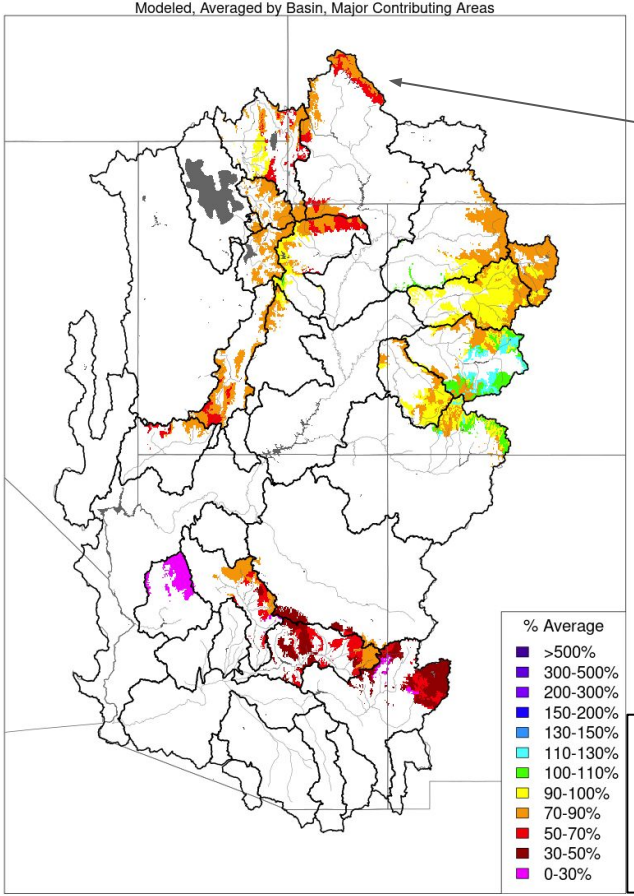
Well above normal temperatures across southwest US.

Temperature Percentile* (June-September 2024) Record warmest 4 month stretch for much of the southern Great Basin and Mojave Desert).



CBRFC Hydrologic Model Soil Moisture Conditions

Soil Moisture - Fall - 2024 (November 15)
Modeled, Averaged by Basin, Major Contributing Areas



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

Below Normal + Worse
Upper Green, Utah

Near/Below Normal + Similar
White/Yampa, Colorado River Headwaters

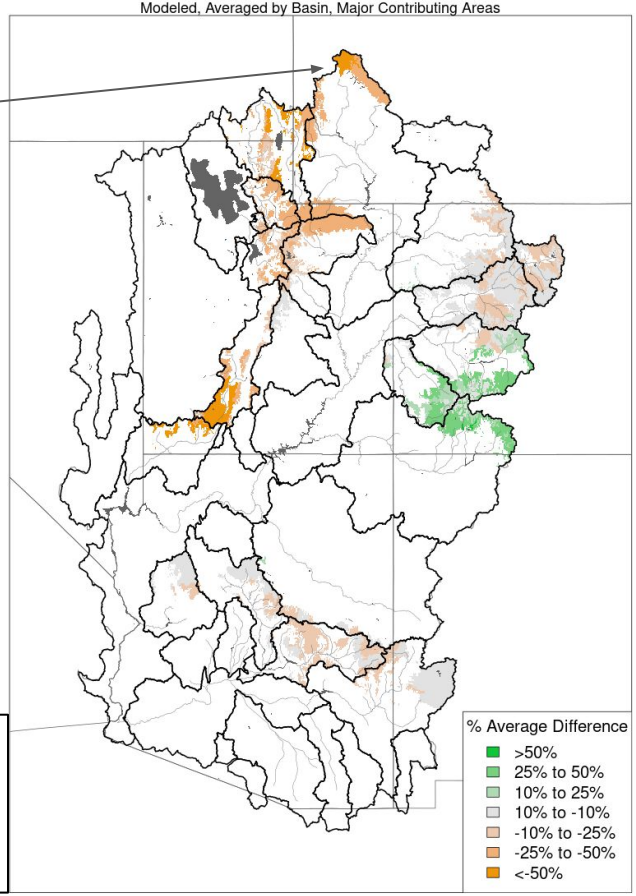
Near/Above Normal + Better
Gunnison, Dolores, San Juan

Below Normal + Similar
Lower Colorado

Soil Moisture Impacts on Water Supply / Runoff
Above normal → positive impact (increased runoff efficiency)
Below normal → negative impact (decreased runoff efficiency)

Spring runoff timing and magnitude factors:
snowpack conditions, spring weather, soil moisture conditions

Soil Moisture - Fall - 2024 vs 2023
Modeled, Averaged by Basin, Major Contributing Areas

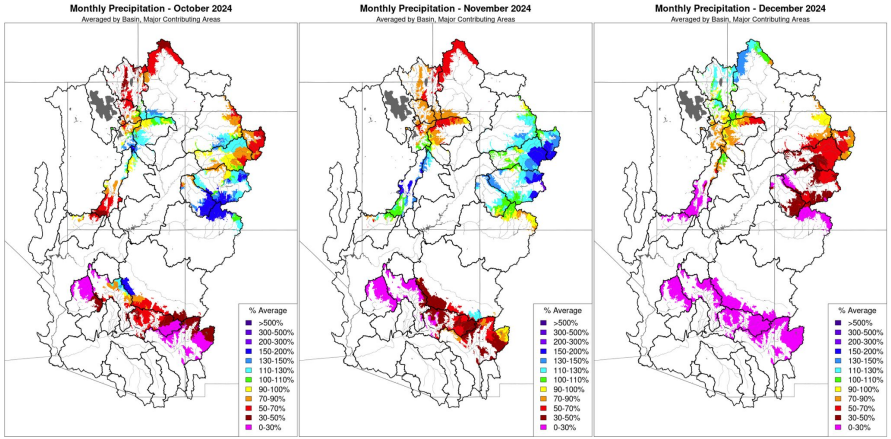


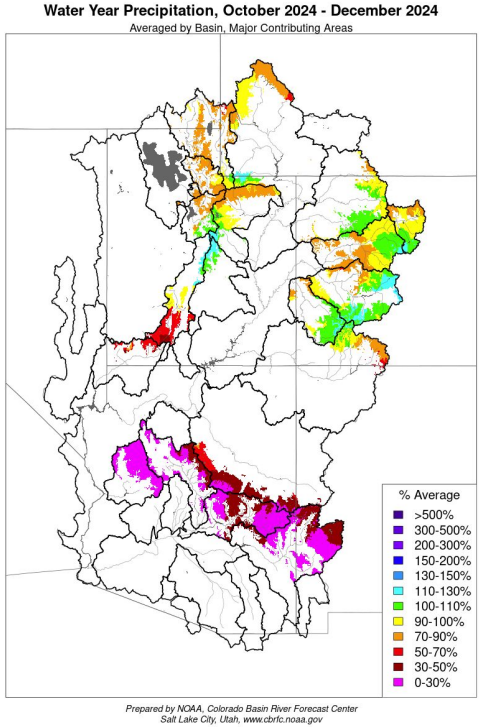
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Water Year 2025 (October-December) Precipitation Summary

A persistent northerly storm track kept rain and snowfall confined to the UCRB and GB, where water year-to-date 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.





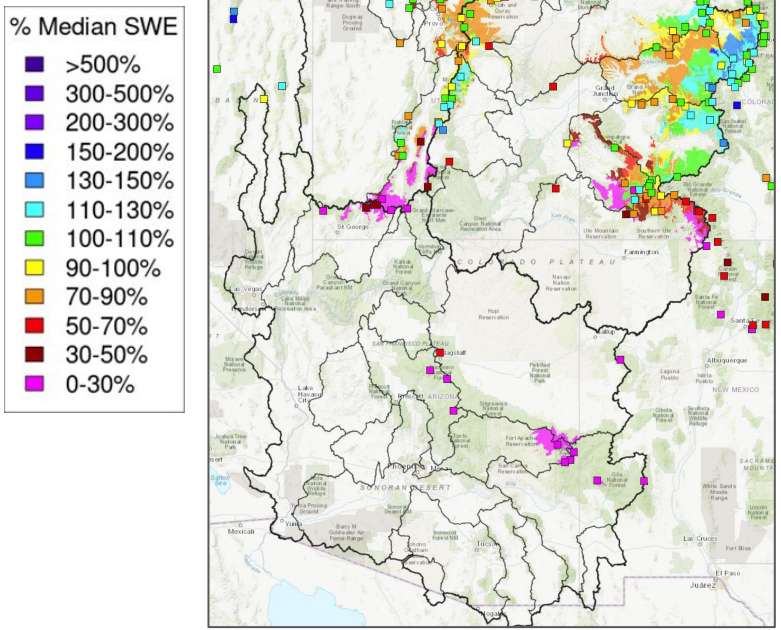
Water Year 2025
CBRFC Precipitation (Major Contributing Areas)
Percent of 1991-2020 Average

	Oct	Nov	Dec	Oct-Dec
UPPER COLORADO RIVER BASIN				
Above Lake Powell	111	114	65	96
Green River Basin				
Above Fontenelle	59	63	125	84
Above Flaming Gorge	86	67	116	89
Yampa/White	90	114	88	98
Duchesne	103	69	85	86
Price/San Rafael/Dirty Devil	123	118	90	109
Colorado River Headwaters				
Above Kremmling	62	141	80	97
Eagle	75	176	60	107
Roaring Fork	87	142	53	96
Above Cameo	77	144	65	97
Southwest Colorado				
Gunnison	131	125	49	101
Dolores	161	111	37	102
San Juan	150	95	24	89
LOWER COLORADO RIVER BASIN				
Virgin	80	104	14	64
Little Colorado	74	52	0	38
Verde	74	23	0	27
Salt	43	41	0	25
Upper Gila	22	52	0	23
GREAT BASIN				
Bear	64	73	112	86
Weber	69	80	98	84
Six Creeks	70	77	93	81
Provo/Utah Lake	93	79	84	85
Sevier	79	153	33	86

Snowpack Conditions

January 9 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 COLORADO RIVER BASIN			
	Jan1	Jan9	Change
Above Lake Powell	94	94	0
Green River Basin			
Above Fontenelle	81	90	9
Above Flaming Gorge	84	91	7
Yampa/White	101	105	4
Duchesne	86	88	2
Price/San Rafael/Dirty Devil	89	95	6
Colorado River Headwaters			
Above Kremmling	110	114	4
Eagle	117	114	-3
Roaring Fork	103	101	-2
Above Cameo	108	108	0
Southwest Colorado			
Gunnison	104	101	-3
Dolores	85	77	-8
San Juan	69	63	-6
LOWER COLORADO RIVER BASIN			
Virgin	11	9	-2
Little Colorado	0	1	1
Verde	0	0	0
Salt	1	0	-1
Upper Gila	0	0	0
GREAT BASIN			
Bear	103	106	3
Weber	88	96	8
Six Creeks	86	96	10
Provo/Utah Lake	76	85	9
Sevier	68	65	-3

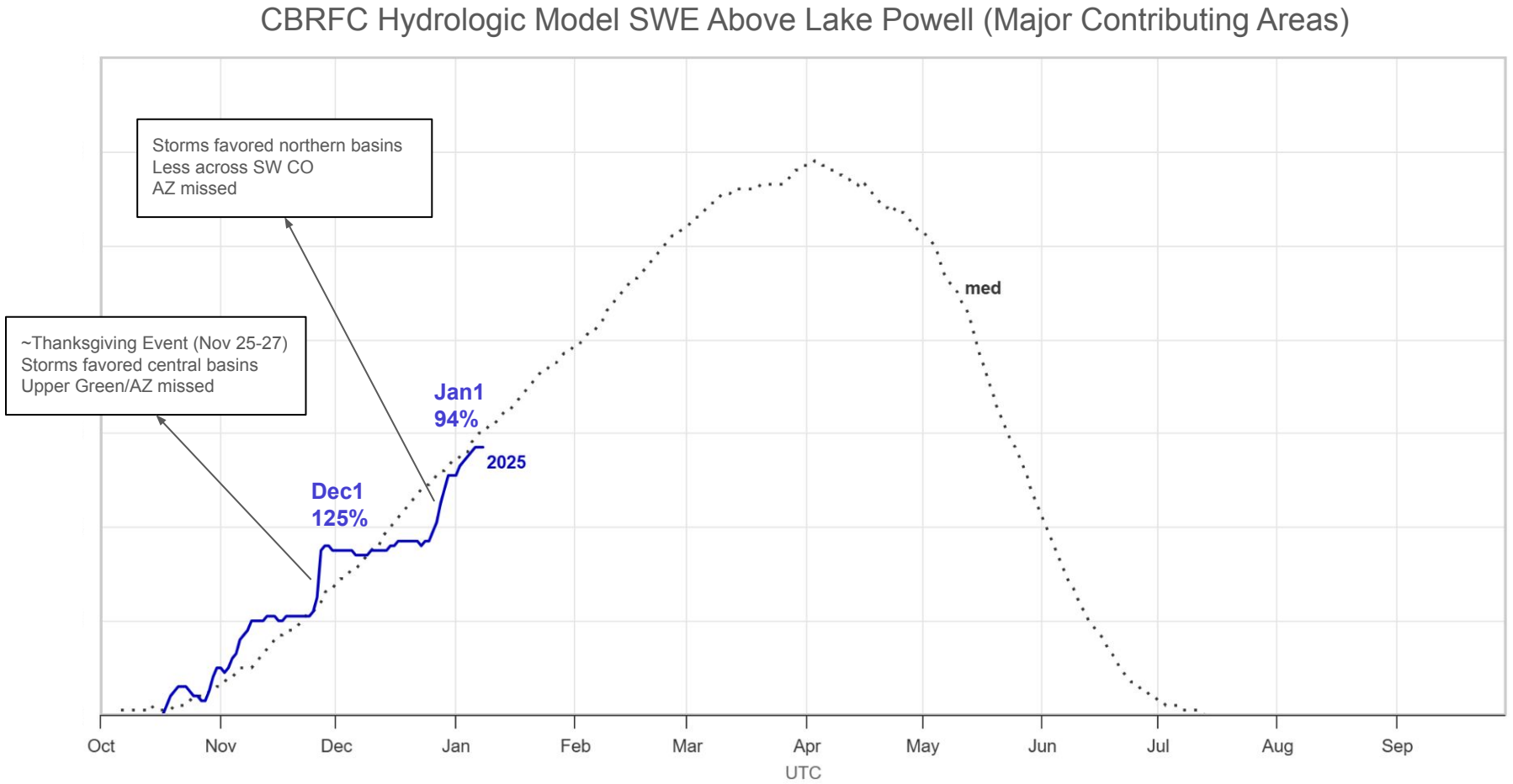
Minor gains in SWE since Jan 1 across northern areas.

UCRB 65-115%

LCRB 0-10%

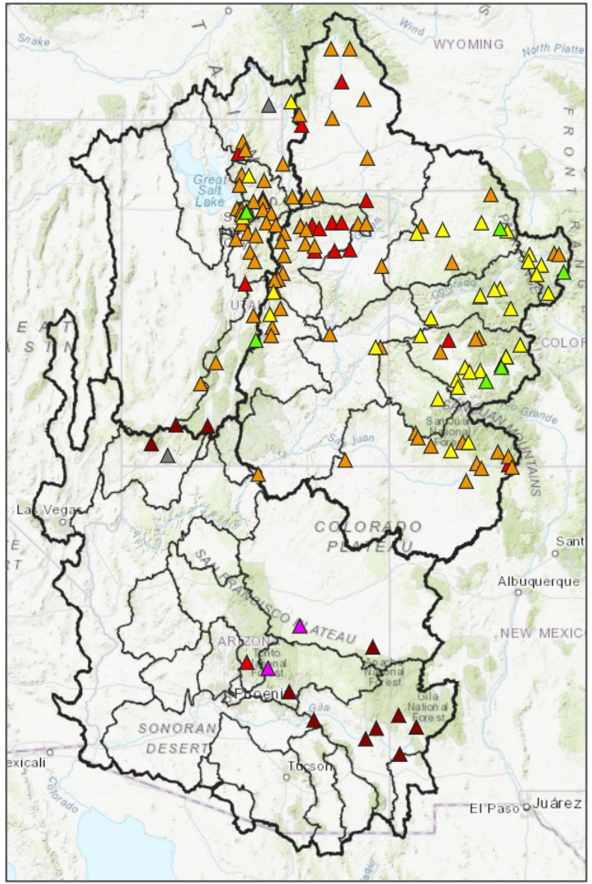
GB 65-105%

Water Year 2025 UCRB Snowpack Evolution



CBRFC January 1 Water Supply Forecasts

% Normal
- < 30%
- 30-50%
- 50-70%
- 70-90%
- 90-100%
- 100-110%
- 110-130%
- 130-150%
- 150-200%
- 200-300%
- 300-500
- >500%
- Regulated



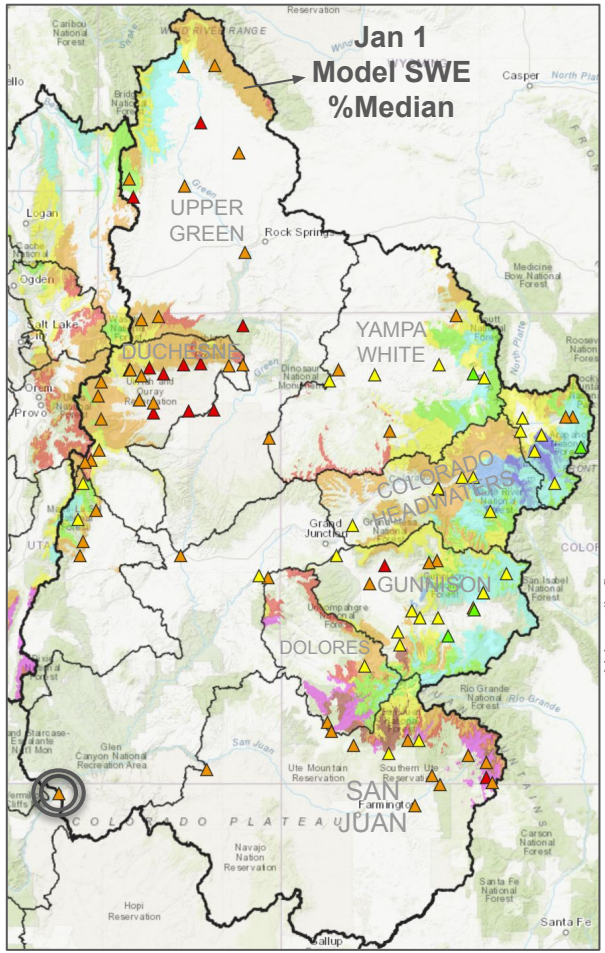
Colorado Basin River Forecast Center Water Supply Forecasts
January 1, 2025

Basin	Volume (KAF)	%Normal (1991-2020)	Period
UPPER COLORADO RIVER BASIN			
Lake Powell	5150	81	Apr-Jul
Green River Basin			
Green-Flaming Gorge Reservoir	665	69	Apr-Jul
Yampa-Deerlodge	1150	97	Apr-Jul
Duchesne-Tabiona	78	76	Apr-Jul
Colorado River Headwaters			
Colorado-Kremmling	800	92	Apr-Jul
Eagle-Gypsum	325	97	Apr-Jul
Roaring Fork-Glenwood Springs	585	89	Apr-Jul
Colorado-Cameo	2100	93	Apr-Jul
Southwest Colorado			
Gunnison-Blue Mesa Reservoir	600	94	Apr-Jul
Dolores-McPhee Reservoir	195	76	Apr-Jul
San Juan-Navajo Reservoir	490	78	Apr-Jul
Animas-Durango	360	94	Apr-Jul
LOWER COLORADO RIVER BASIN			
Virgin-Virgin (*Regulated)	28	50	Apr-Jul
Little Colorado-Chevelon Creek	3.5	25	Jan-May
Verde-Above Horseshoe Dam	78	50	Jan-May
Salt-Roosevelt	95	38	Jan-May
Upper Gila-San Carlos Reservoir	34	47	Jan-May
GREAT BASIN			
Bear-UT/WY State Line	93	85	Apr-Jul
Weber-Oakley	87	78	Apr-Jul
Big Cottonwood Creek	29	85	Apr-Jul
Provo-Woodland	81	84	Apr-Jul
Sevier-Hatch	23	43	Apr-Jul

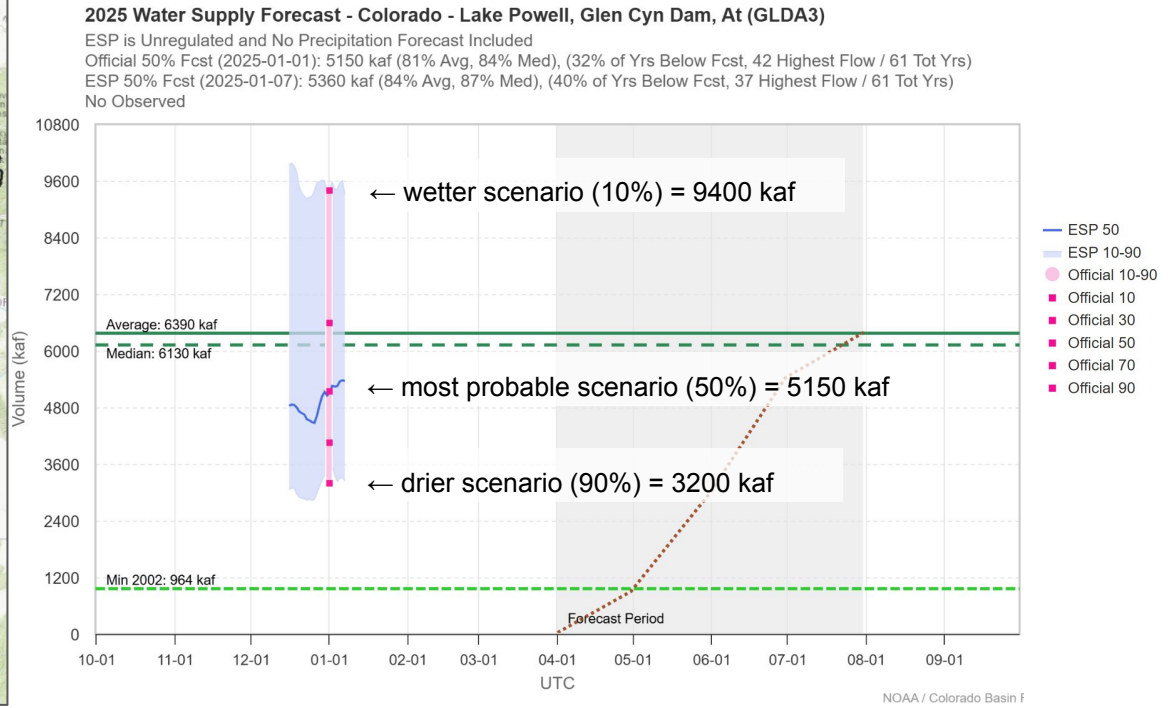
Apr-Jul runoff volumes as a percent of the 1991-2020 average.
Jan-May runoff volumes as a percent of the 1991-2020 median.

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

Lake Powell Water Supply Forecast



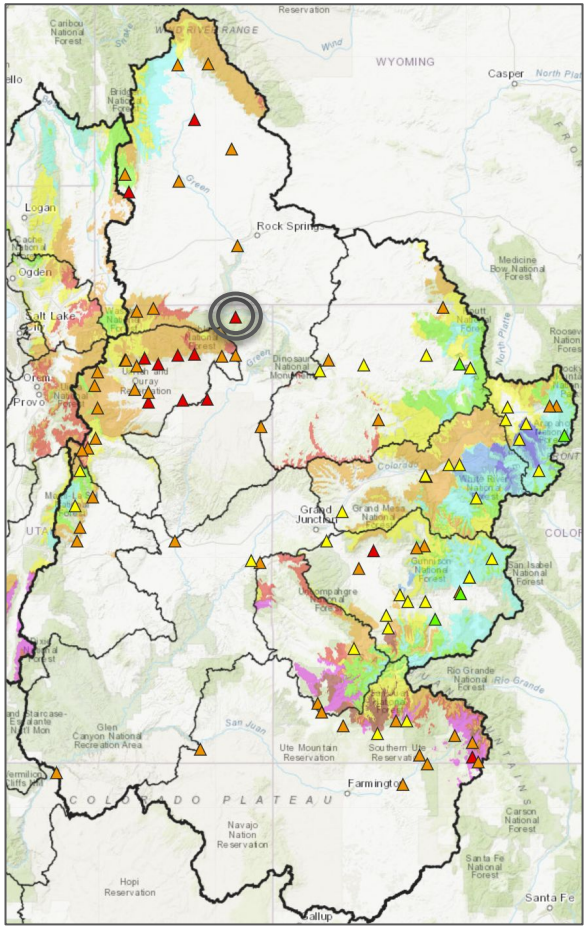
Lake Powell summarizes the hydrologic conditions throughout the Upper Colorado River Basin.

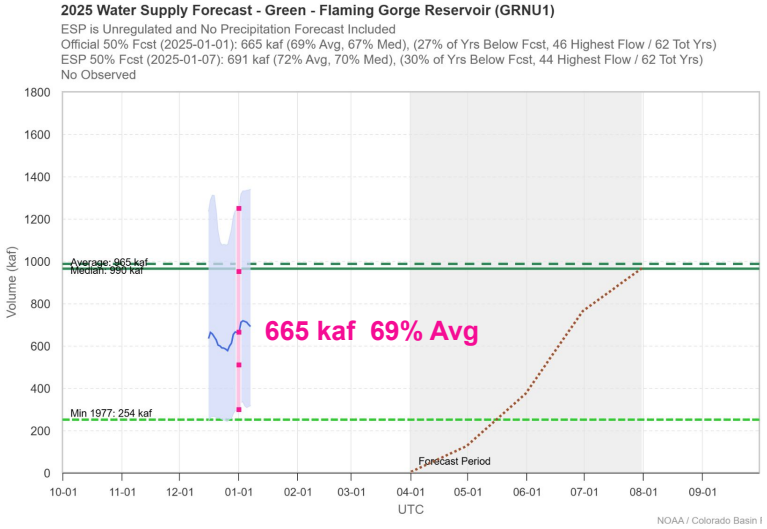


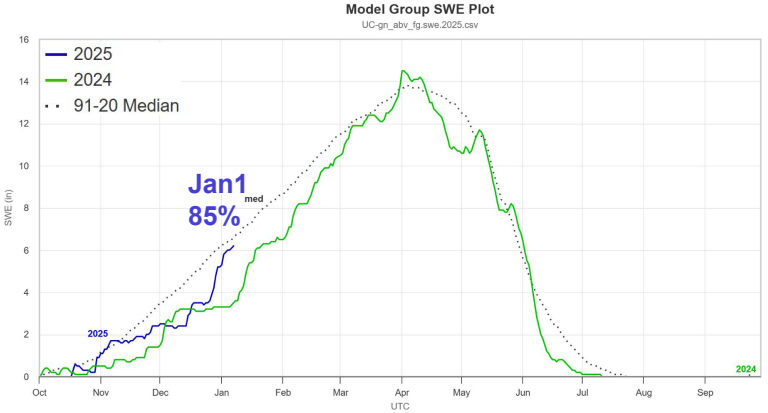
Upper Green River Basin - Flaming Gorge Reservoir

△ Water Supply Forecast

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%



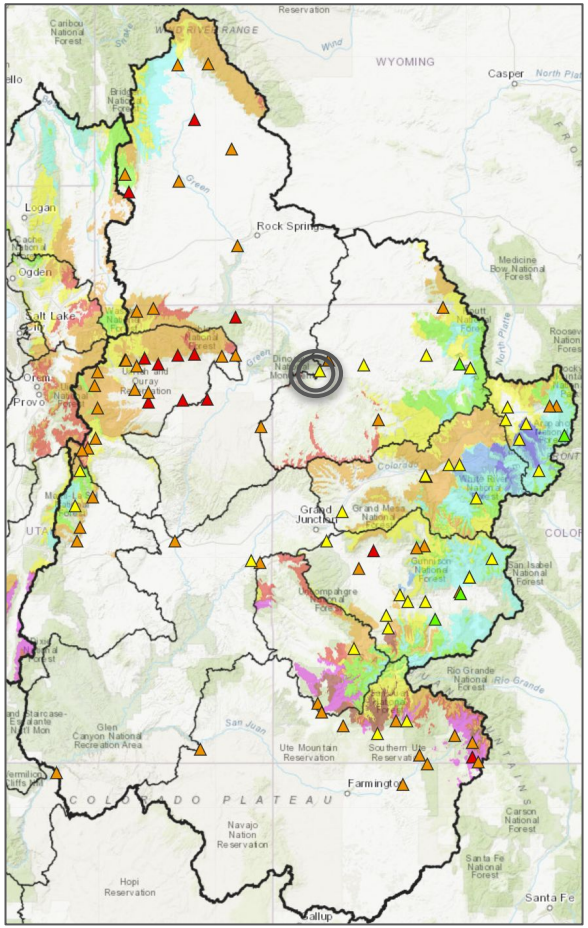


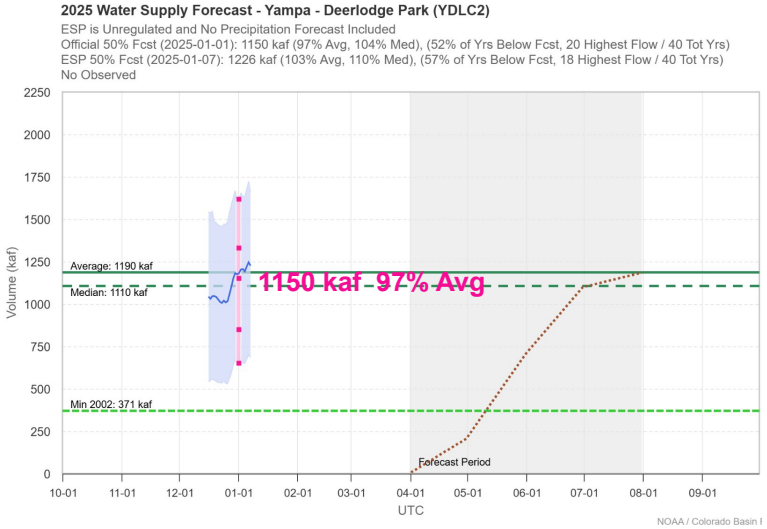


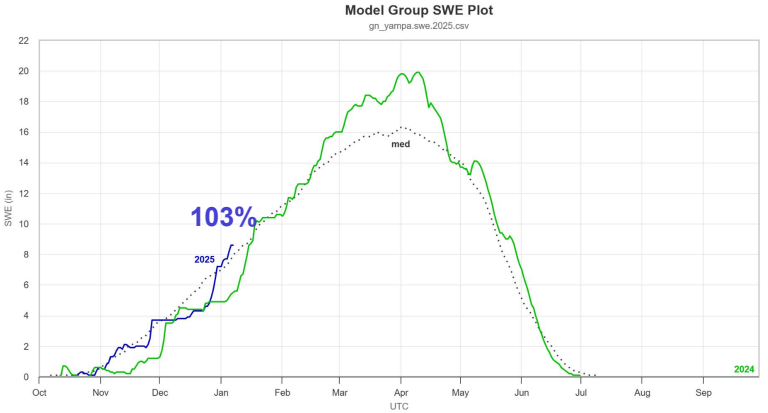
White/Yampa River Basin - Yampa-Deerlodge

△ Water Supply Forecast

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%



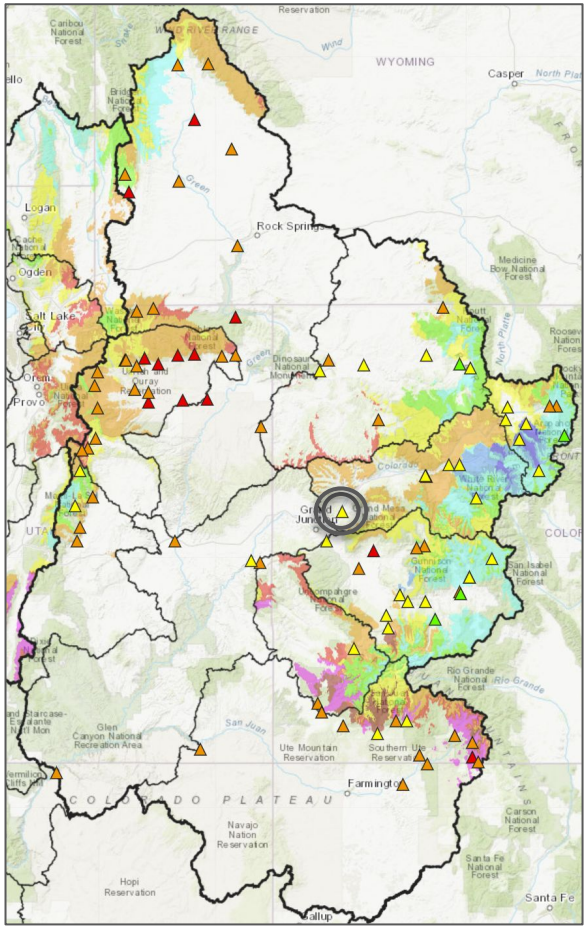


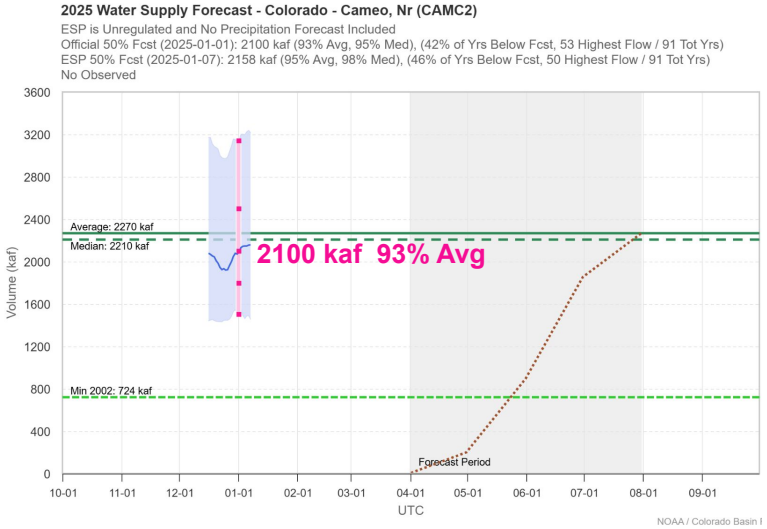


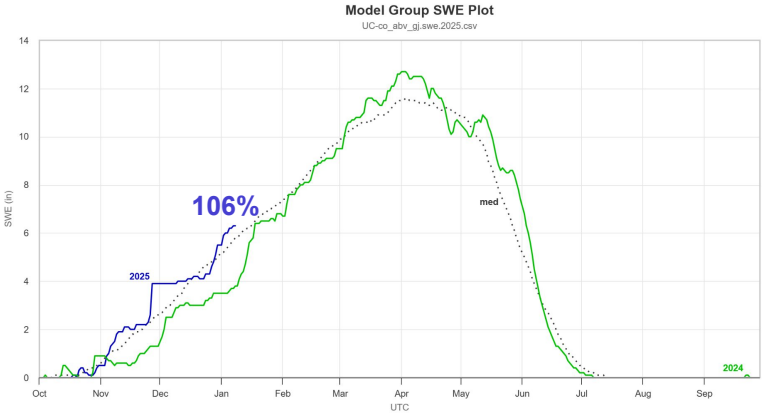
Colorado River Headwaters - Cameo

△ Water Supply Forecast

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%



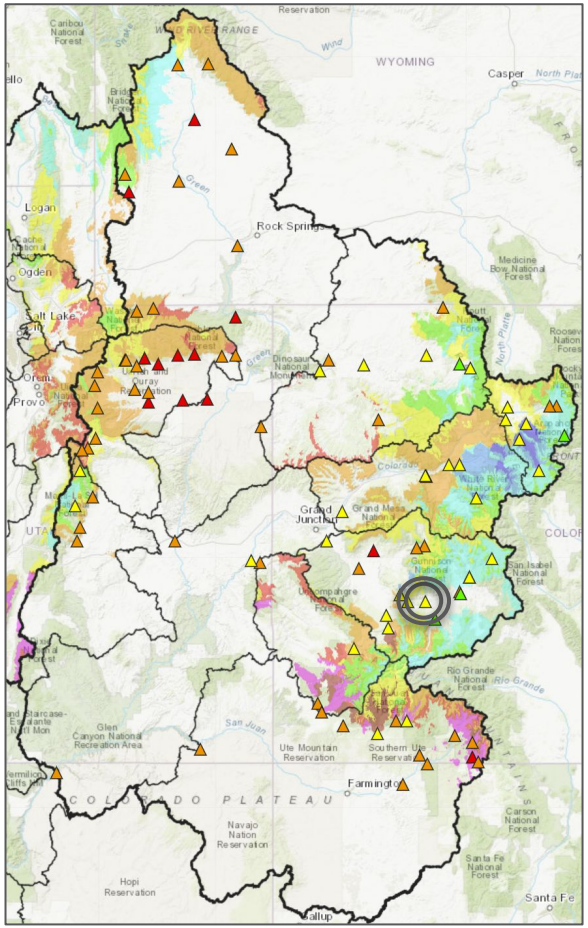


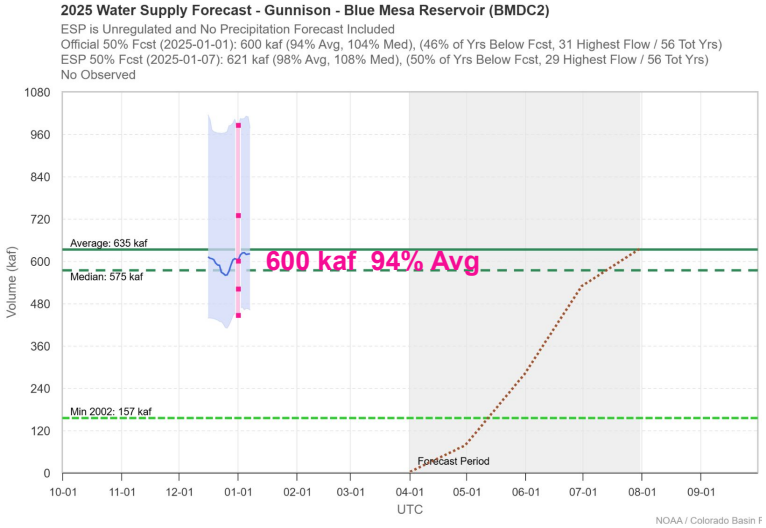


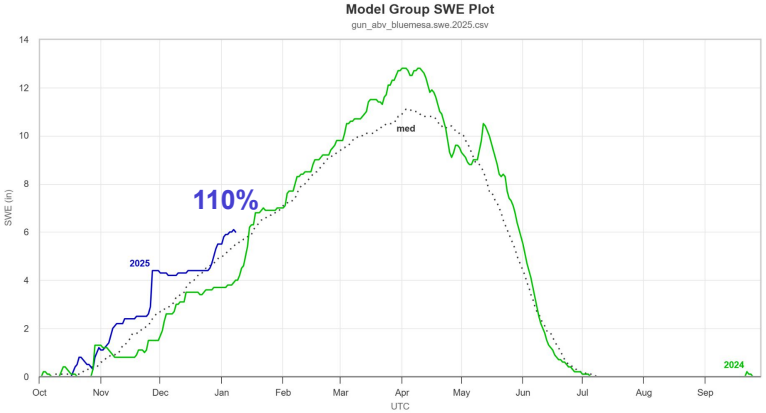
Gunnison River Basin - Blue Mesa Reservoir

△ Water Supply Forecast

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%



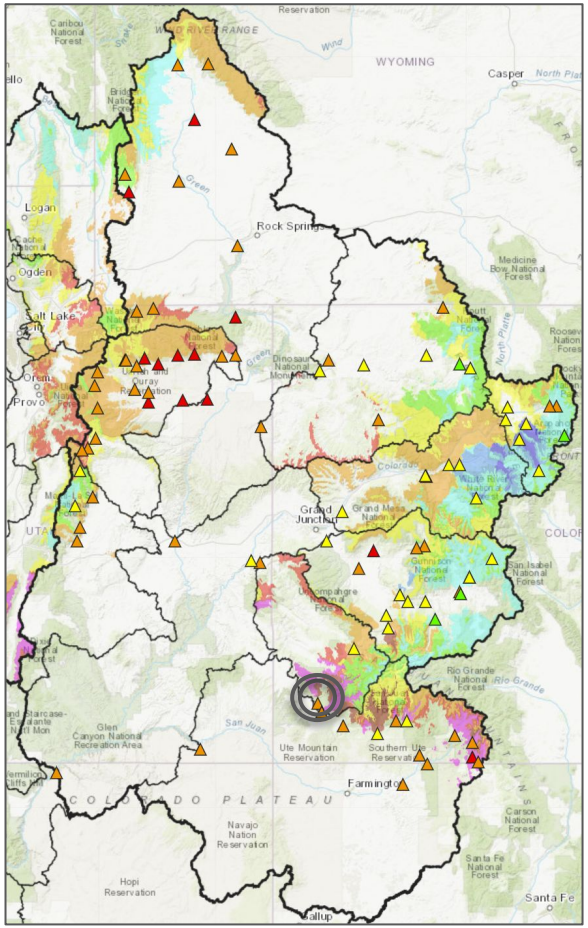


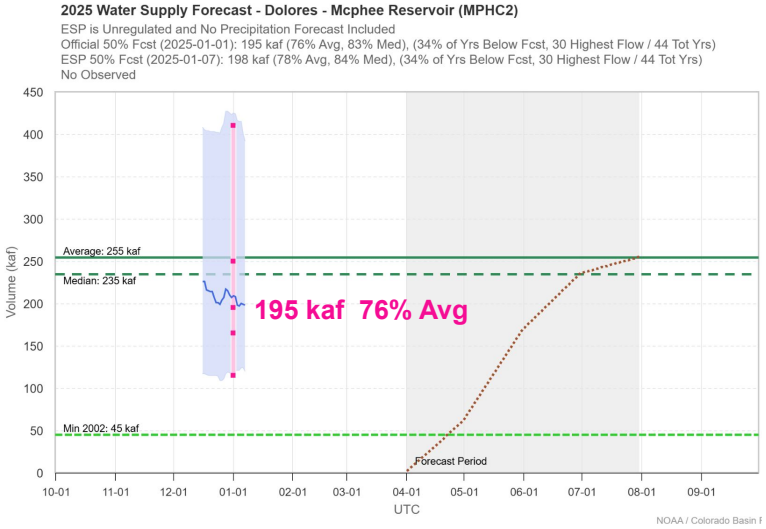


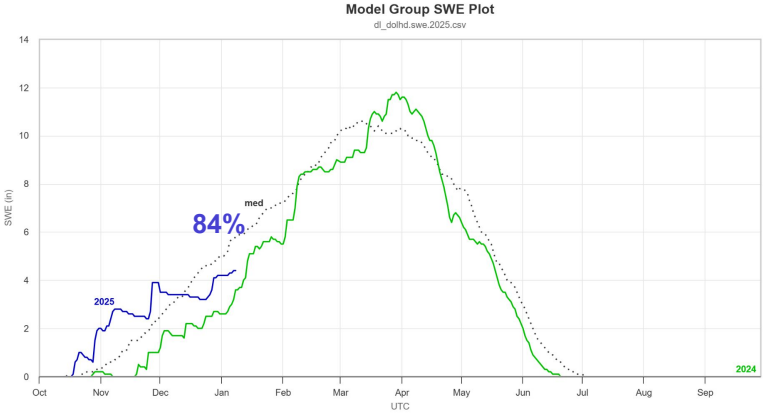
Dolores River Basin - McPhee Reservoir

△ Water Supply Forecast

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%



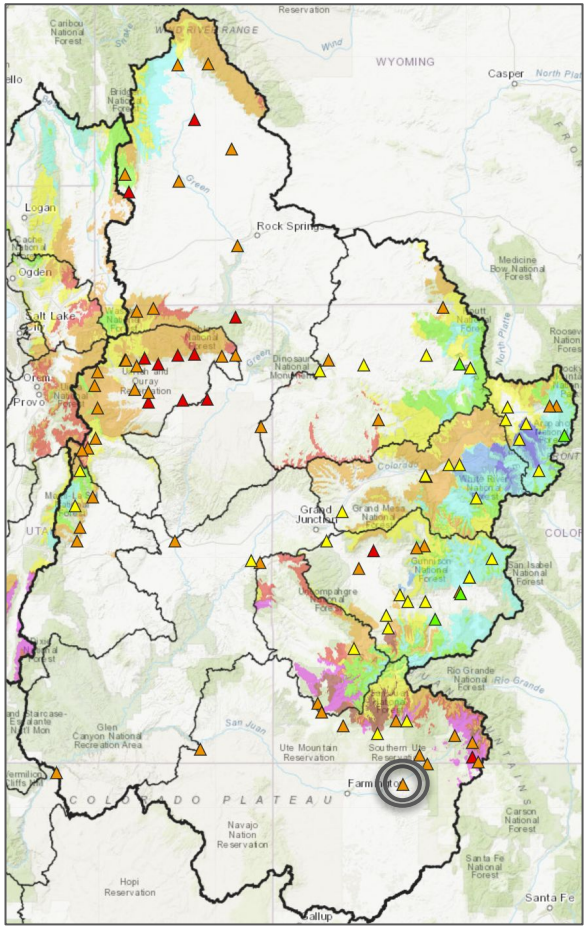


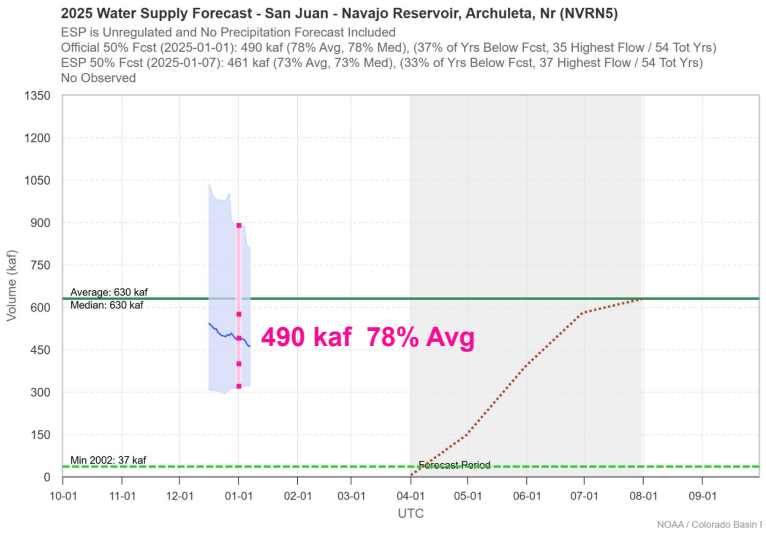


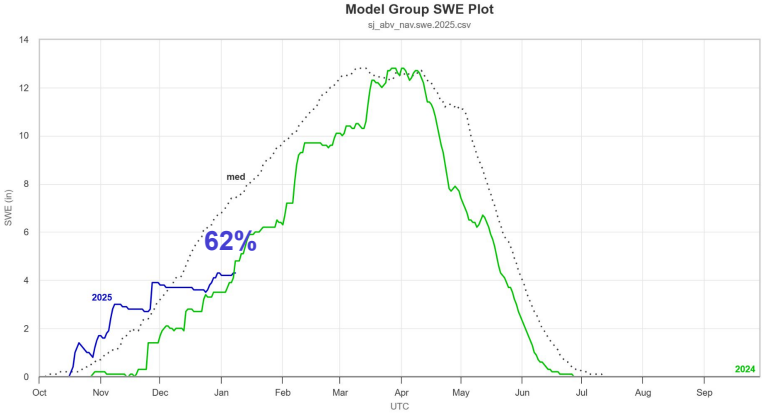
San Juan River Basin - Navajo Reservoir

△ Water Supply Forecast

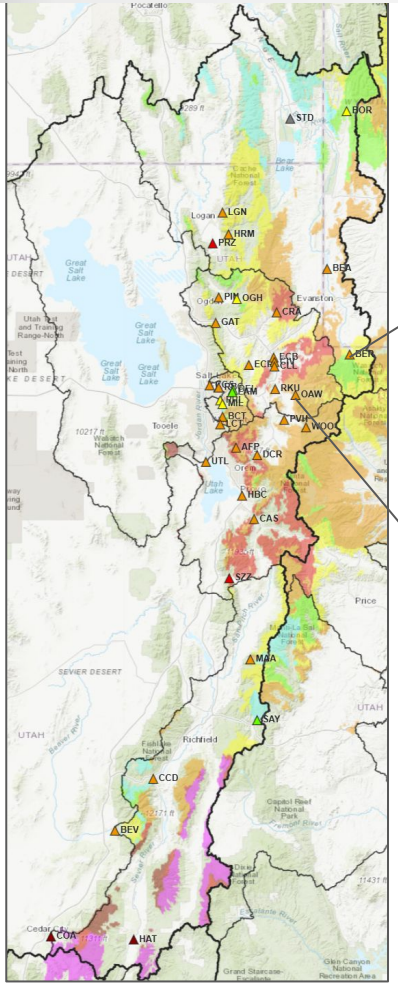
- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%

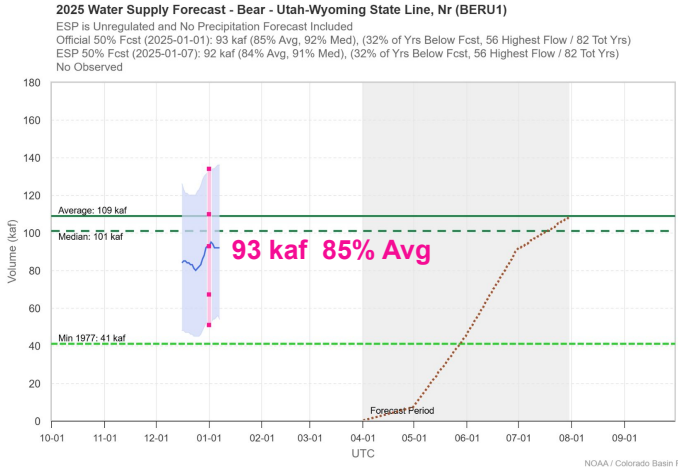


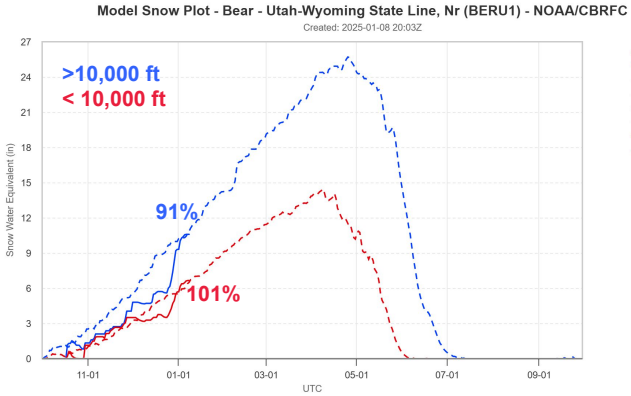


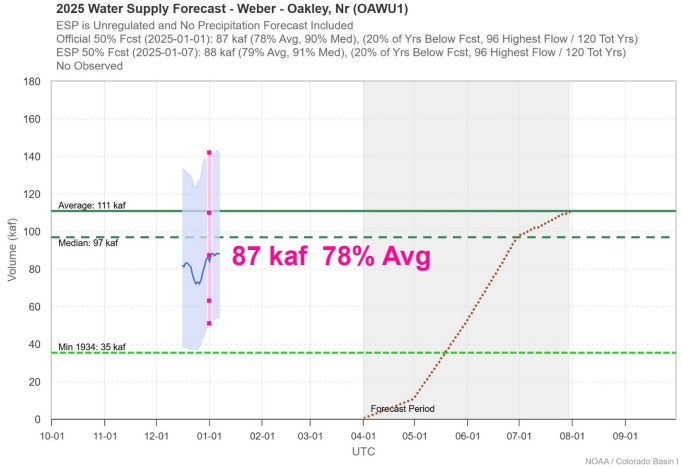


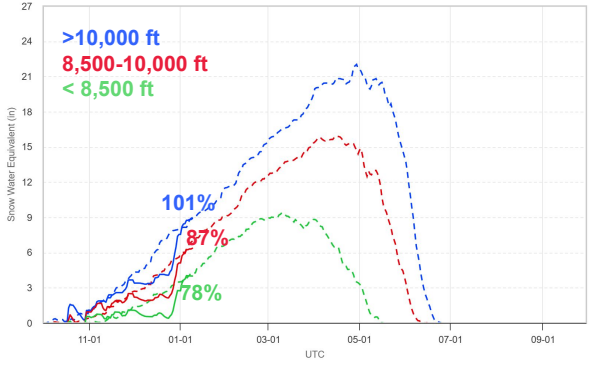
Great Basin: Bear & Weber River Basins



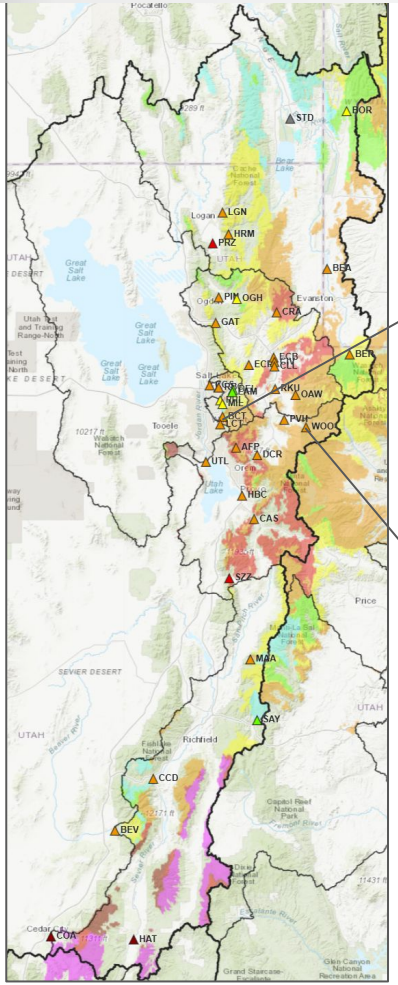


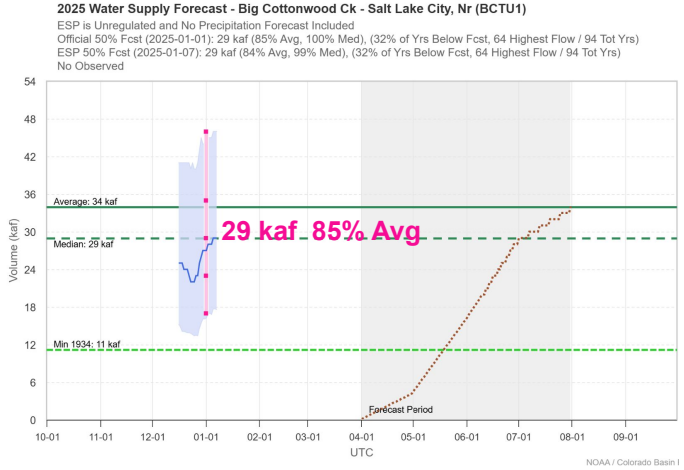


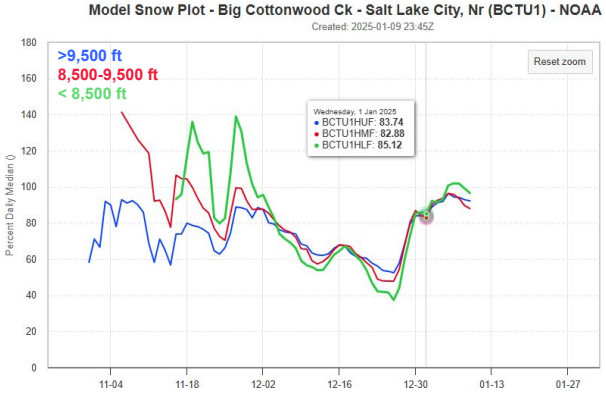


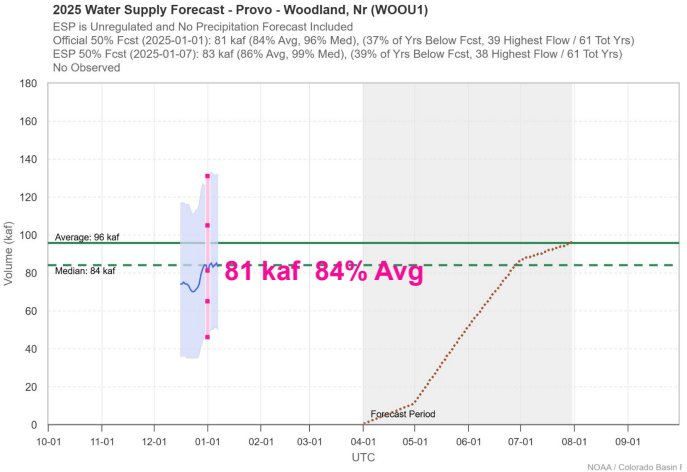


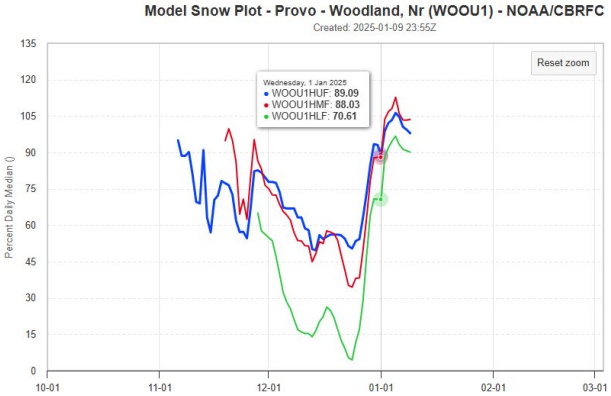
Great Basin: Big Cottonwood Creek & Provo River Basin





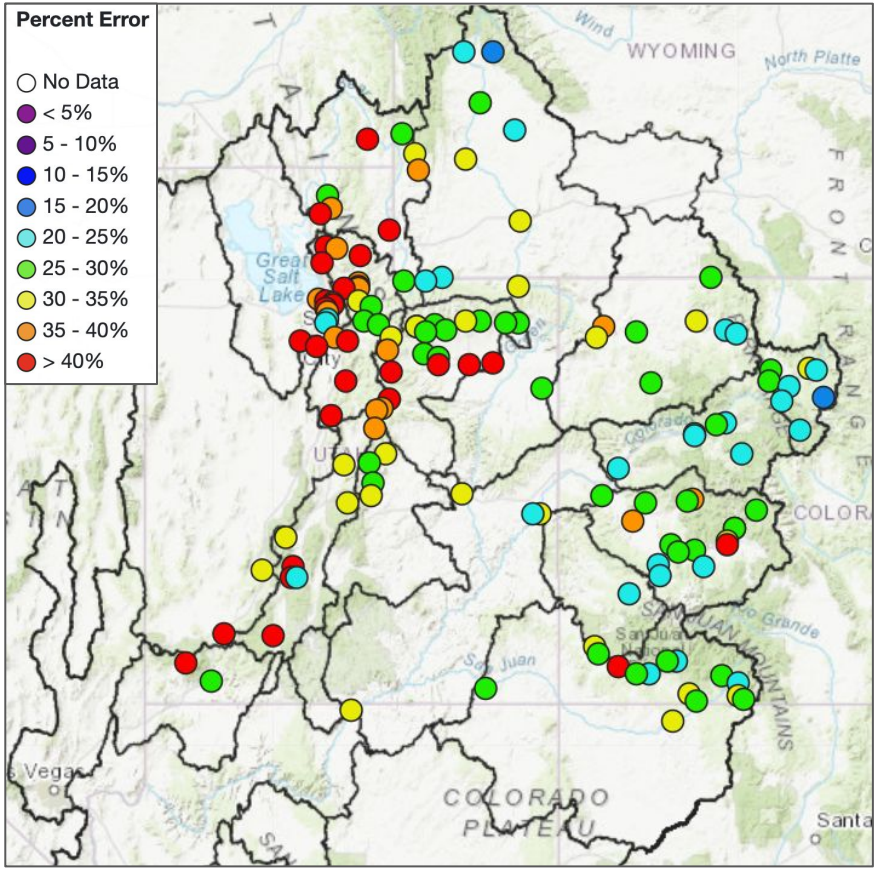






Historical Forecast Verification

January Forecast Error: April-July Volume



Location	Avg January Forecast Error
Green River - Warren Bridge	20%
Fontenelle Reservoir	31%
Yampa River - Deerlodge	30%
Blue River - Dillon Reservoir	23%
Colorado River - Cameo	23%
Blue Mesa Reservoir (Gunnison)	28%
McPhee Reservoir (Dolores)	30%
Navajo Reservoir (San Juan)	31%
Lake Powell	32%
Virgin River at Virgin	25%

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 early season water supply forecast error/uncertainty.

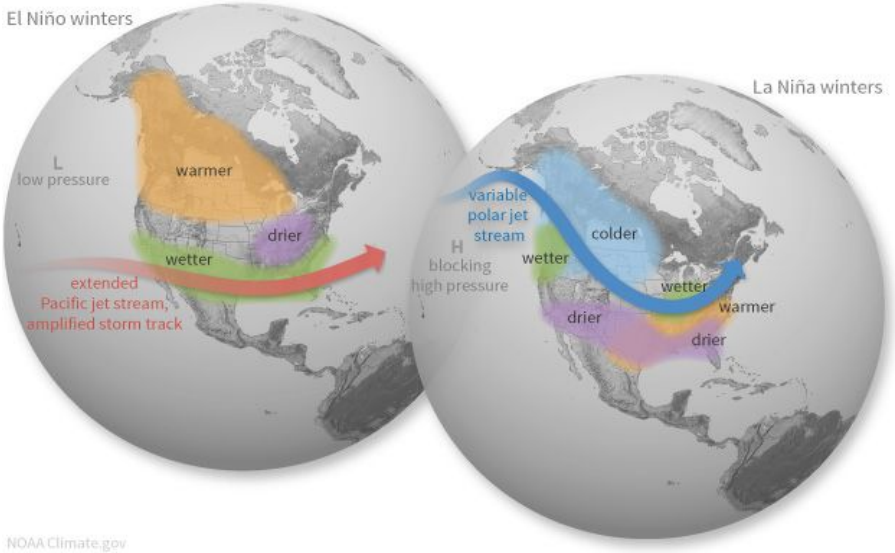
EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by
CLIMATE PREDICTION CENTER/NCEP/NWS

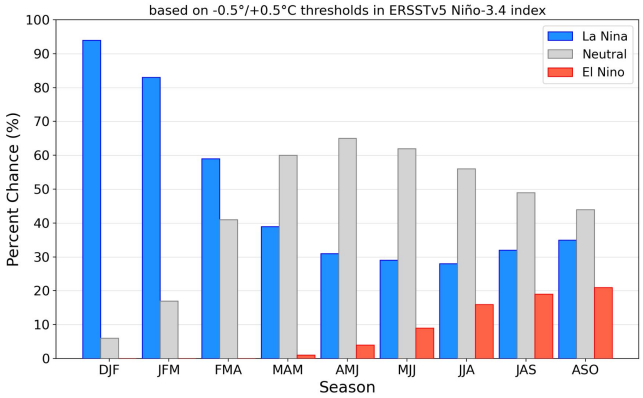
9 January 2025

ENSO Alert System Status: La Niña Advisory

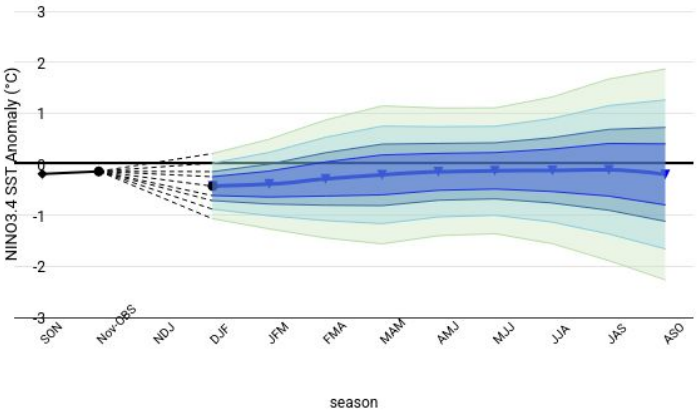
- **La Niña conditions expected to persist through Feb-Apr (59% chance)**
- **A transition to ENSO-neutral likely during Mar-May (60% chance)**



Official NOAA CPC ENSO Probabilities (issued January 2025)



Dec 2024 Model-Based Prediction Distribution:
Percentiles 1 5 15 25 75 85 95 99

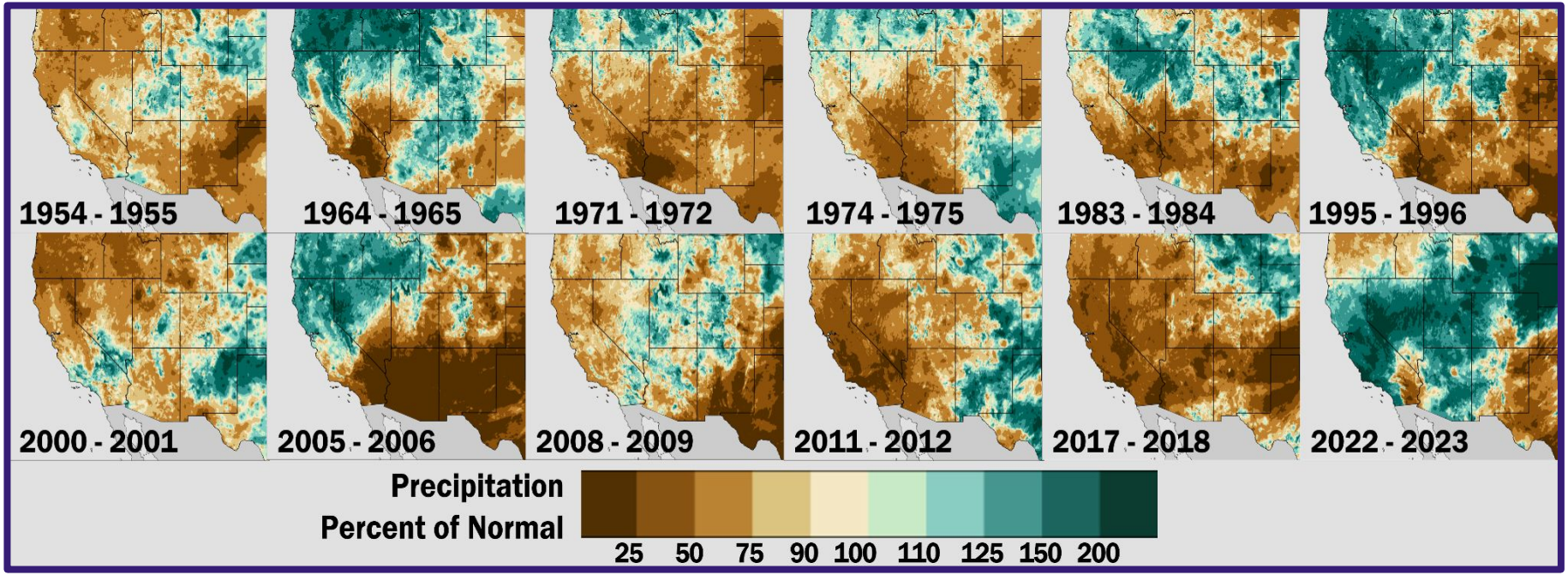


Sources: NOAA, IRI

Past Weak La Nina Events: Dec-Jan-Feb Precipitation

Some correlation with drier winters in the LCRB, but still plenty of variability

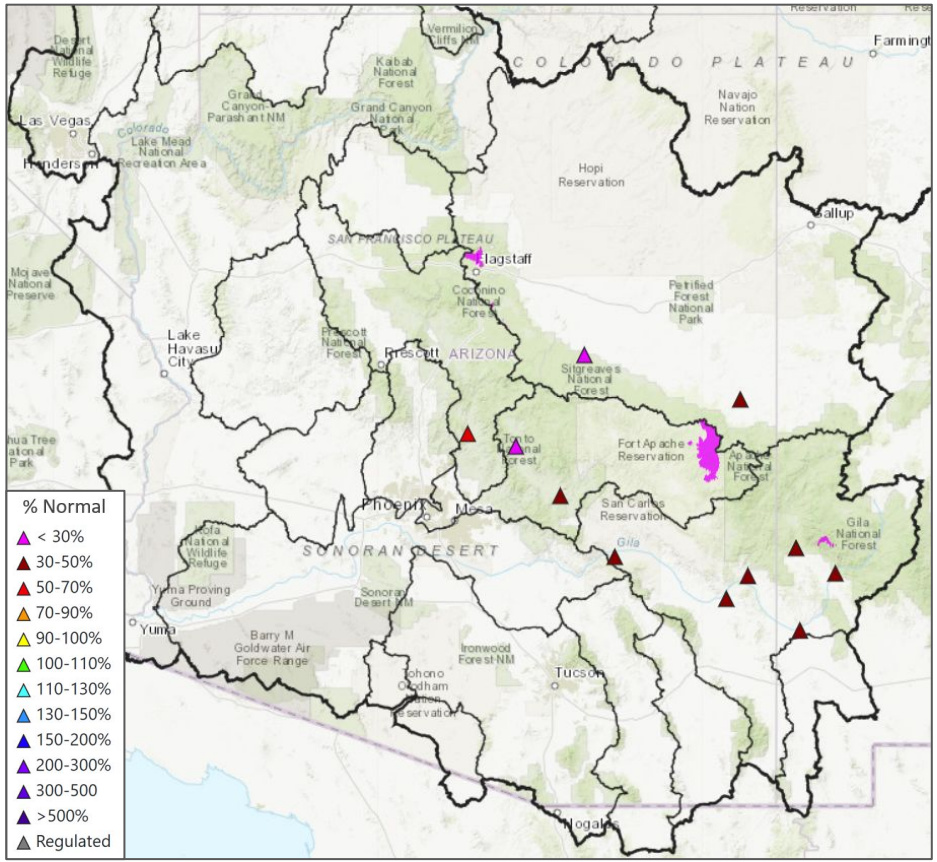
Much weaker correlation/winter weather signal elsewhere in basin (GB/UCRB)



Sources: NOAA, PRISM

LCRB: Jan-May Water Supply forecasts

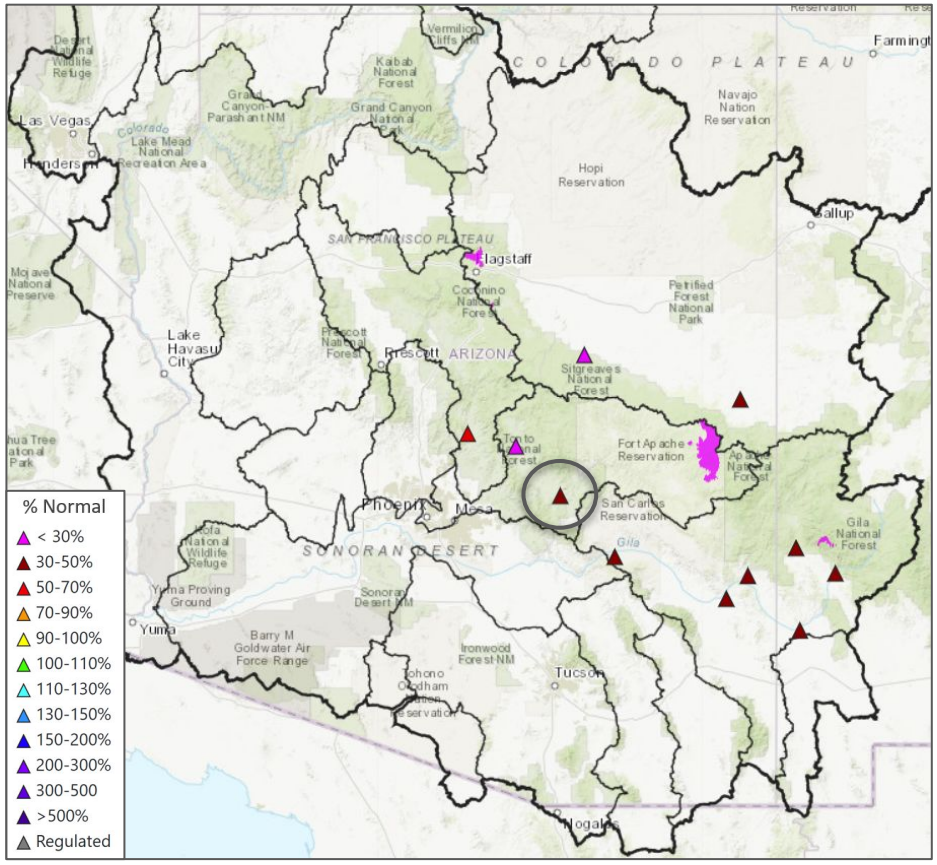
Forecast Range: 25-50%

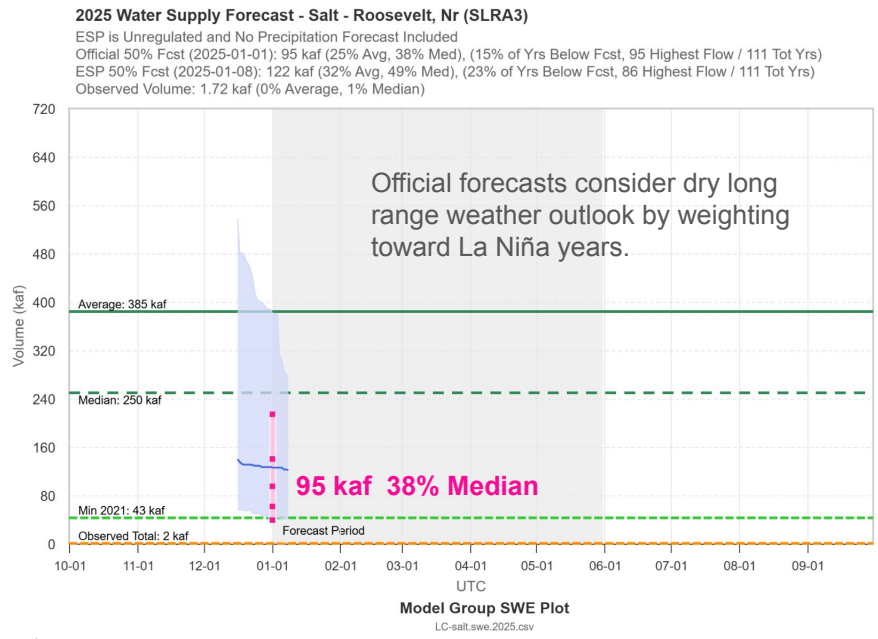


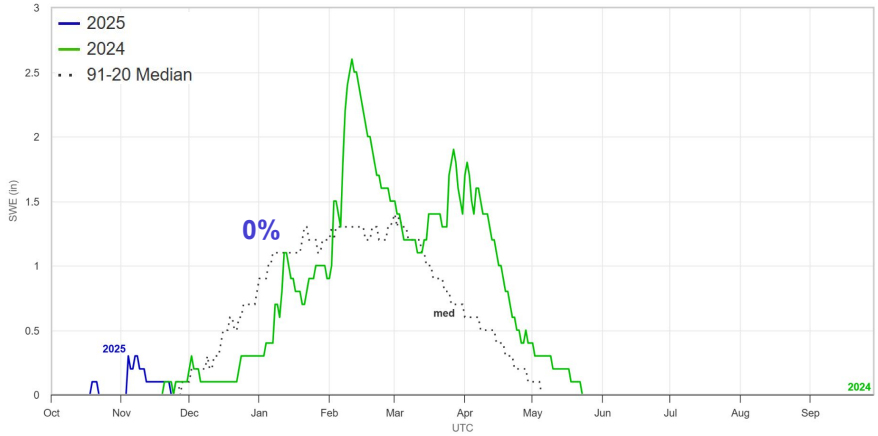
LCRB January-May volume forecasts are well below normal and take into account the current long range weather outlook, which leans dry for the Lower Basin.

	ID	Vol	%Avg	%Med	%ile	Description
▲	CHWA3	3.5	19	25	15	Chevelon Ck - Winslow Nr Wildcat Cyn Blo
▲	CLDA3	34	17	47	38	Gila - San Carlos Reservoir Coolidge Dam At
▲	GILN5	22	31	42	23	Gila - Gila Nr
▲	GLHA3	48	22	45	30	Gila - Solomon Nr Head Of Safford Vly
▲	GSFN5	7.8	21	42	23	San Francisco - Glenwood Nr
▲	GVRN5	26	25	41	29	Gila - Virden Nr Blue Ck Blo
▲	LCLA3	2	25	34	20	Little Colorado - Lyman Lk Abv St. Johns Nr
▲	SFCA3	19.2	21	44	21	San Francisco - Clifton
▲	SLRA3	95	25	38	15	Salt - Roosevelt Nr
▲	TNRA3	9.5	12	24	22	Tonto Ck - Roosevelt Nr Gun Ck Abv
▲	VDTA3	78	28	50	28	Verde - Tangle Ck Blo Horseshoe Dam Abv

Salt River Basin

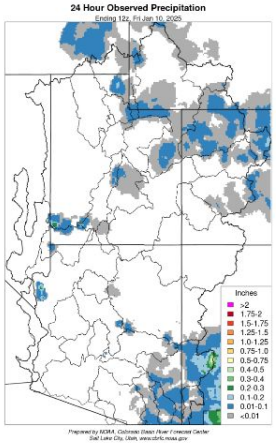




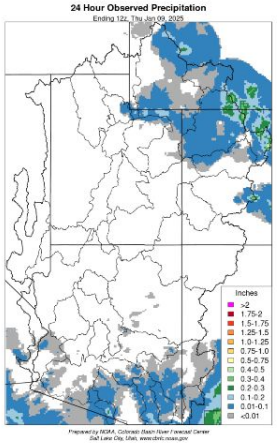


January Observed Precipitation

10 Data File



09 Data File



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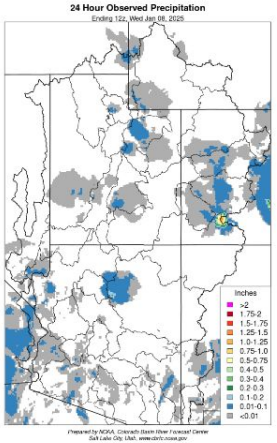

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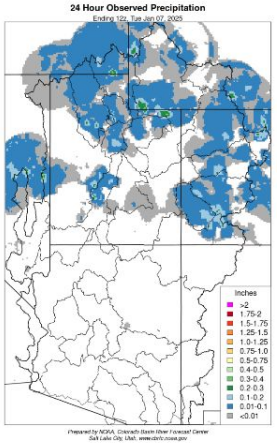

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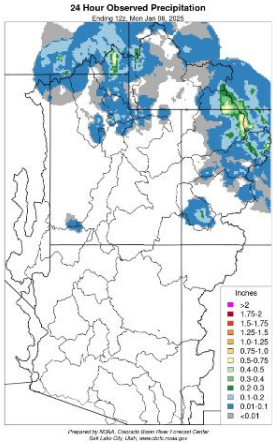

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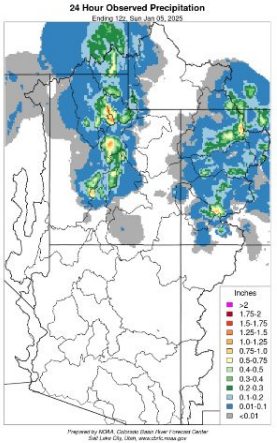

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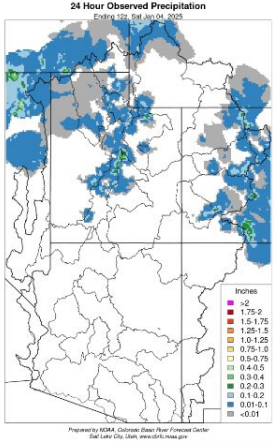

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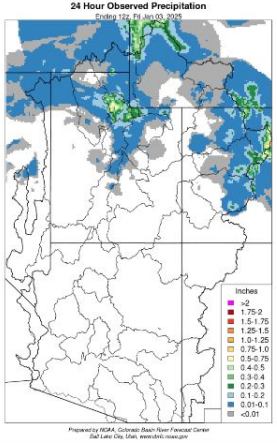

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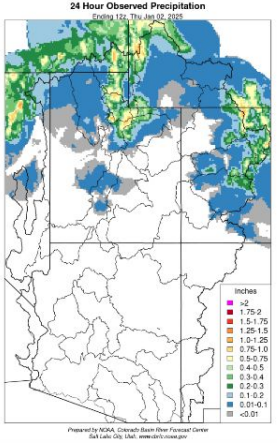
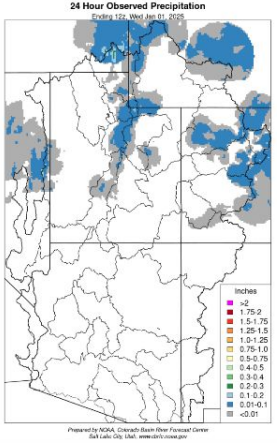


01 Data File



Northerly storm track favoring the UCRB and GB.

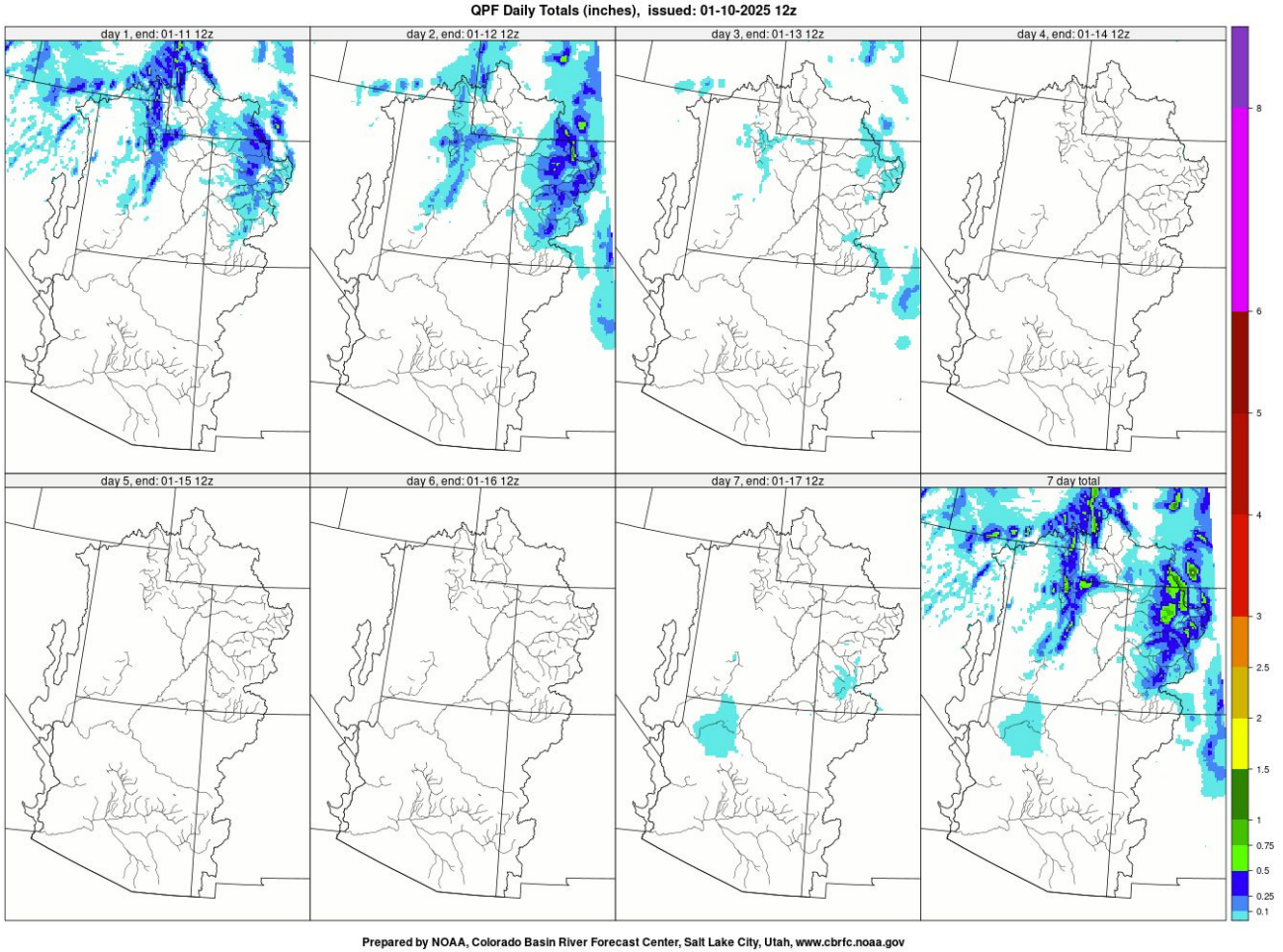
Expected to continue over the next few days.

Upcoming Weather: 7-Day Precipitation Forecast

A few waves of precipitation sweep through from the north, amounting to generally light accumulations.

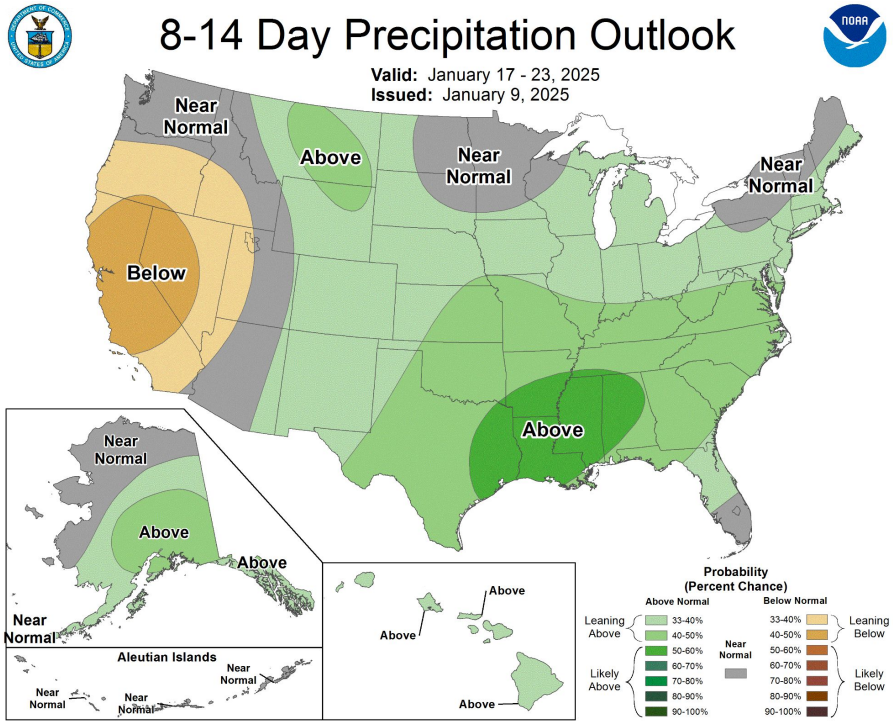
7-Day Forecast Precip totals of 0.25”–0.75” across high elevation portions of UCRB/GB.

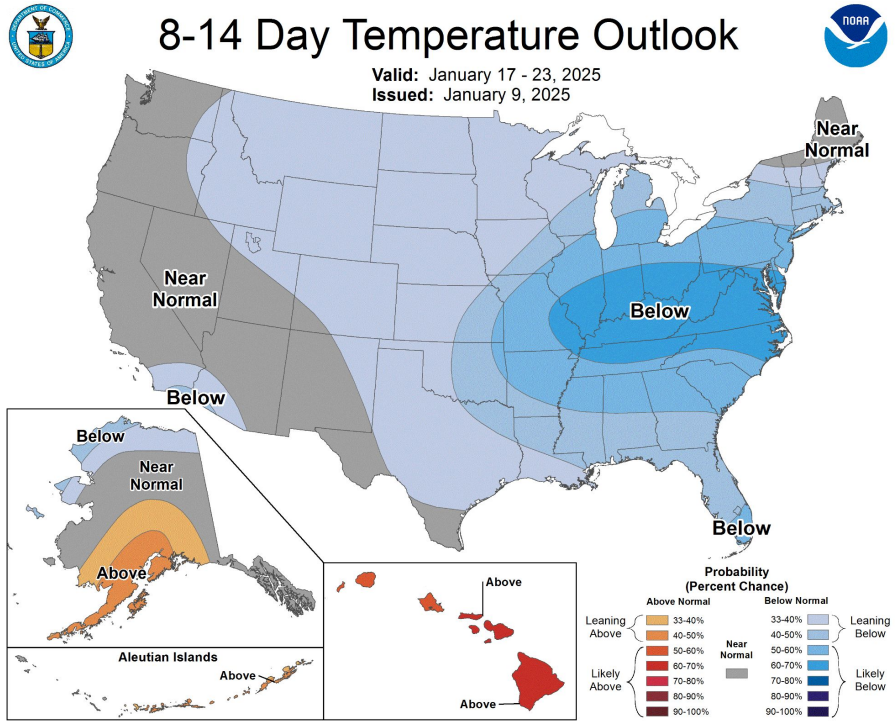
Mostly dry across southern areas. A weak disturbance from the Pacific coast may impact Arizona at the end of next week.



Upcoming Weather: 8-14 Day Outlook (January 17-23)

Northern/Eastern basins: slightly leaning toward above normal precipitation & below normal temperatures.

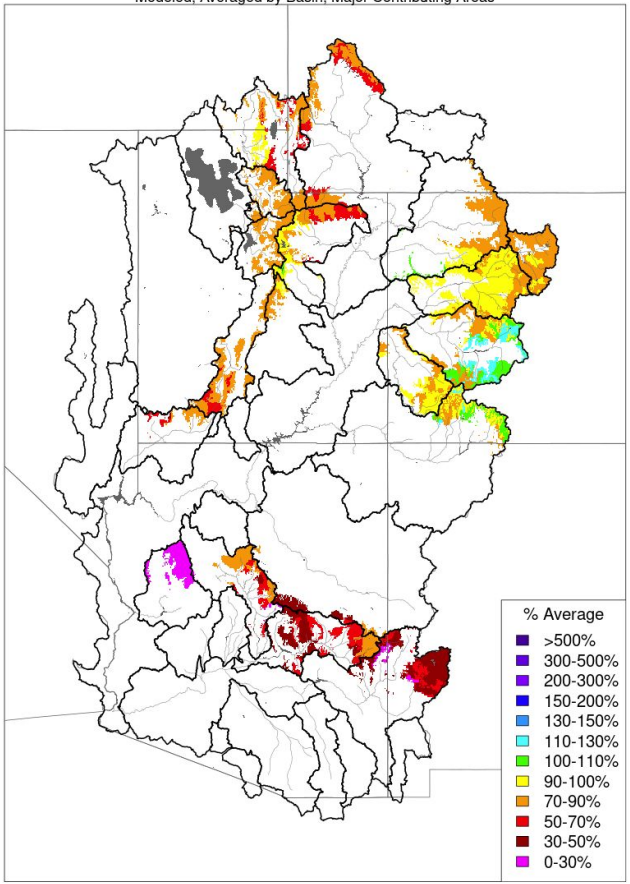




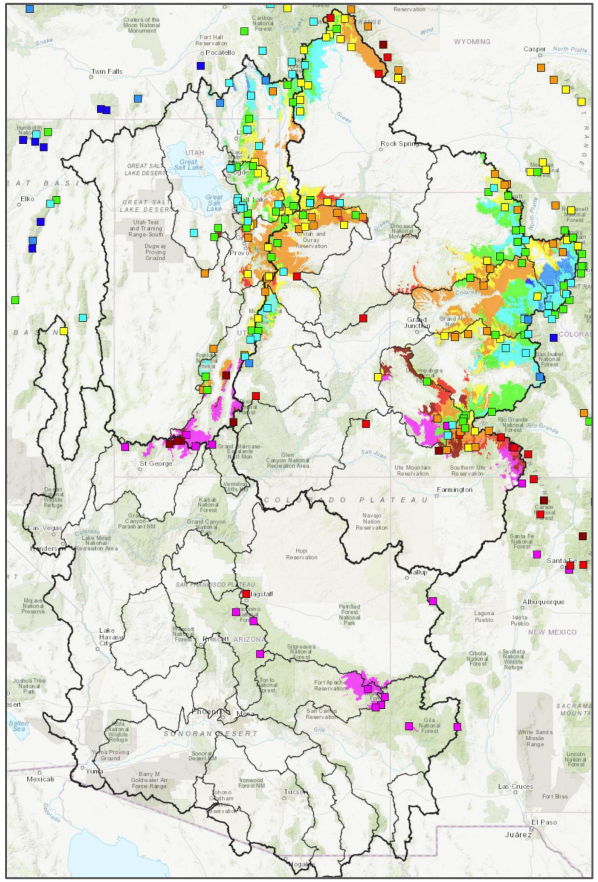
Summary

Soil Moisture - Fall - 2024 (November 15)

Modeled, Averaged by Basin, Major Contributing Areas

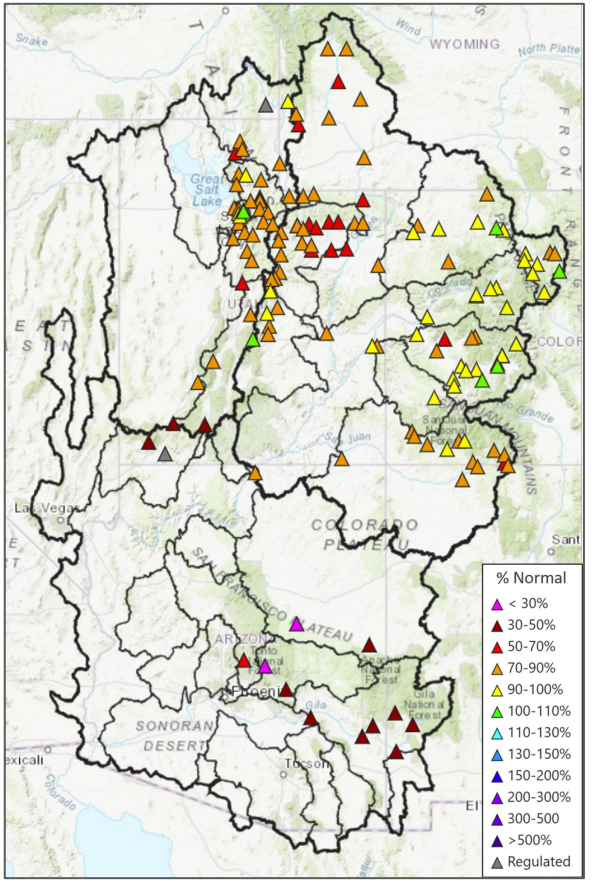


January 9 SWE Conditions



January 1, 2025 Water Supply Forecasts

Percent of 1991-2020 Normal Seasonal Volume



2025 Water Supply Briefings

Colorado Basin River Forecast Center
National Weather Service

cbrfc.noaa.gov

Rivers | Snow | Water Supply | Peak Flow | Reservoirs | Weather | Climate | Help | About | News

Webinars
Email Updates

Friday, January 10, 2025: CBRFC Water Supply Briefing Webinar Registration
CBRFC Lead Hydrologist Job Opening Application Link (Public)
CBRFC Lead Hydrologist Job Opening Application Link (Federal Employees)

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.

CBRFC Contacts & Water Year 2025 Basin Focal Points

Basin Focal Points (Forecasters)

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801-524-4004

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

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

CBRFC Lead Hydrologist Job Opening: Closes January 14

CBRFC Lead Hydrologist Job Opening Application Link (Public)
CBRFC Lead Hydrologist Job Opening Application Link (Federal Employees)